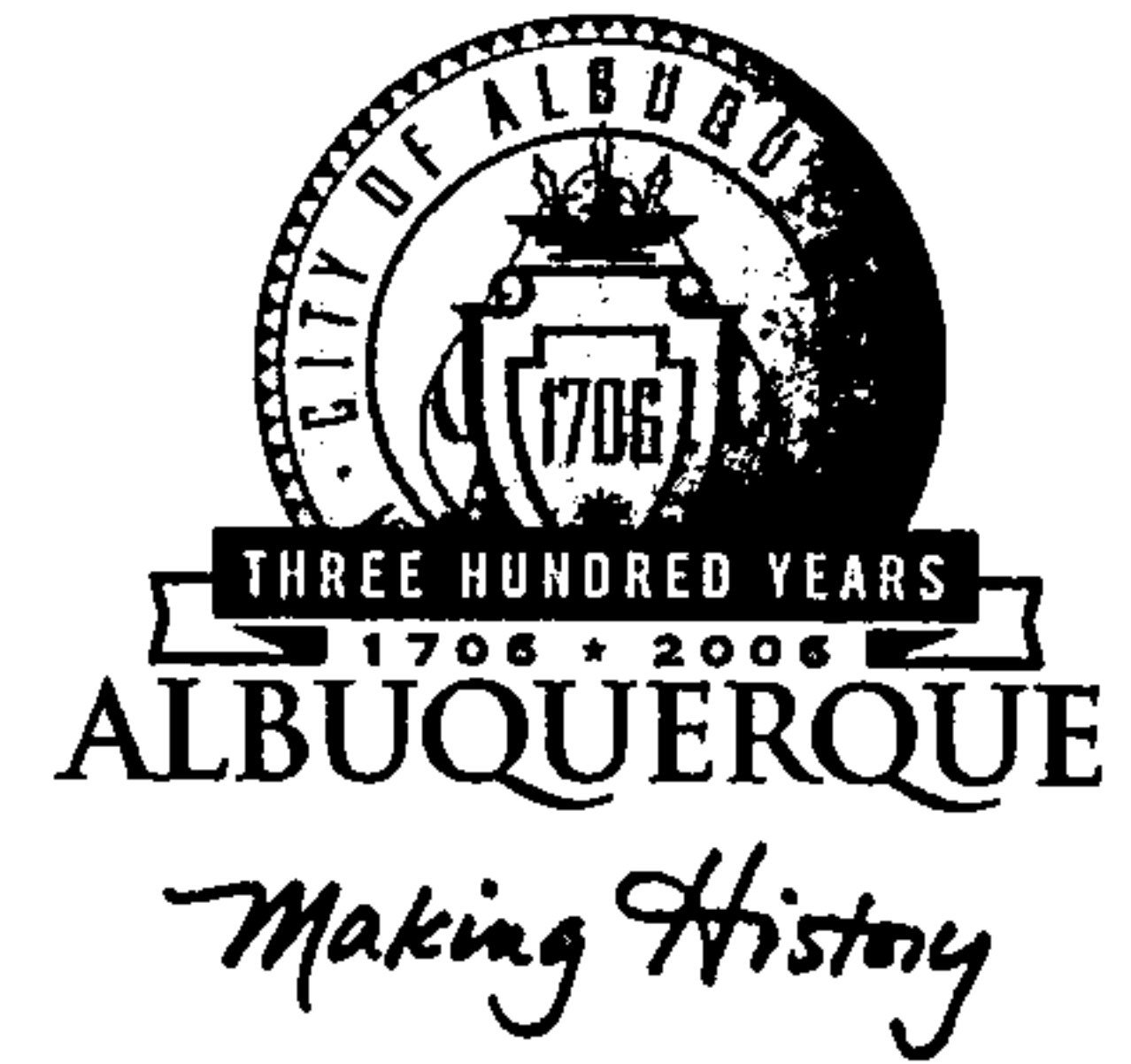


# CITY OF ALBUQUERQUE



**Planning Department  
Transportation Development Services Section**

January 31, 2005

Kent Trauernicht, Registered Architect  
PO Box 3366  
Albuquerque, NM 87190

Re: Certification Submittal for Final Building Certificate of Occupancy for  
Mechenbier Office Warehouse (Bldg A & B), [C-17 / D2A21]  
9019 Washington Street NE  
Architect's Stamp Dated 01/26/05

Dear Mr. Trauernicht:

P.O. Box 1293

The TCL / Letter of Certification submitted on January 28, 2005 is sufficient for acceptance by this office for final Certificate of Occupancy (C.O.). Notification has been made to the Building and Safety Section.

Albuquerque

Sincerely,

New Mexico 87103

Nilo E. Salgado-Fernandez, P.E.  
Senior Traffic Engineer  
Development and Building Services  
Planning Department

[www.cabq.gov](http://www.cabq.gov)

c: Engineer  
~~Hydrology file~~  
CO Clerk



P. O. BOX 3366  
ALBUQUERQUE, NM 87190  
TELE: (505) 281 - 9560  
FAX: (505) 288 - 1055

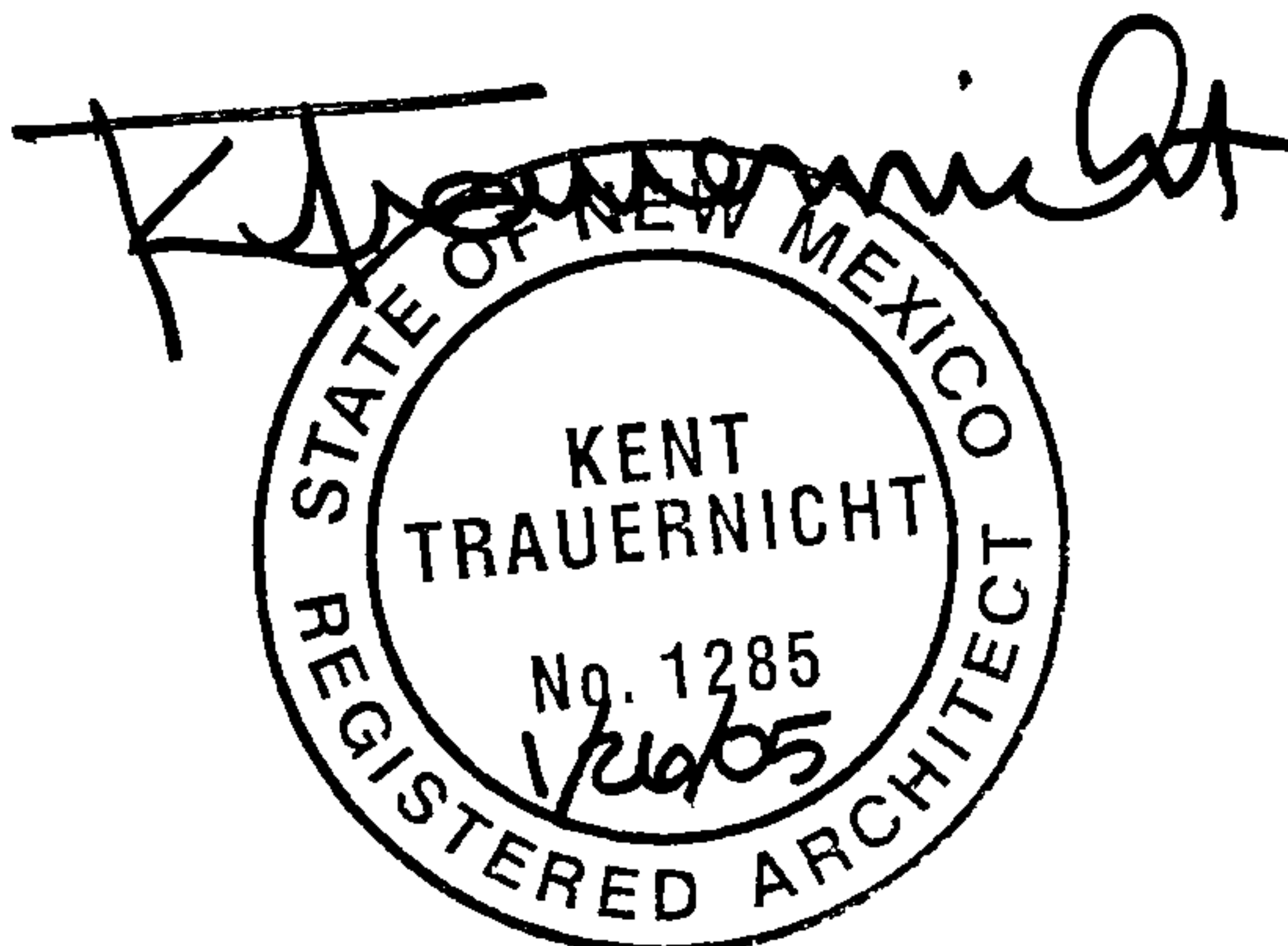
January 26, 2005

City of Albuquerque  
Public Works Department  
Transportation Development Services  
600 2<sup>nd</sup> Street NW  
Albuquerque, NM 87102

RE: Traffic Circulation Layout – Certification  
COA BP# 0404357  
Mechenbier Office Warehouse Building  
9019 Washington NE  
Albuquerque, NM 87113

I have visited the completed project and to the best of my knowledge and information it appears to be in substantial compliance with the intent of the design concepts and the construction documents, as approved by the City for traffic circulation and parking. Minor site changes may have occurred during the construction of this project but have no adverse impact to the site and its ability to comply with the approved plan. Those relying upon this record are advised to obtain independent verification of its accuracy before using it for any other purpose.

This document neither expresses nor implies a warranty.





P. O. BOX 3366  
ALBUQUERQUE, NM 87190  
TELE: (505) 281-9580  
FAX: (505) 286-1055

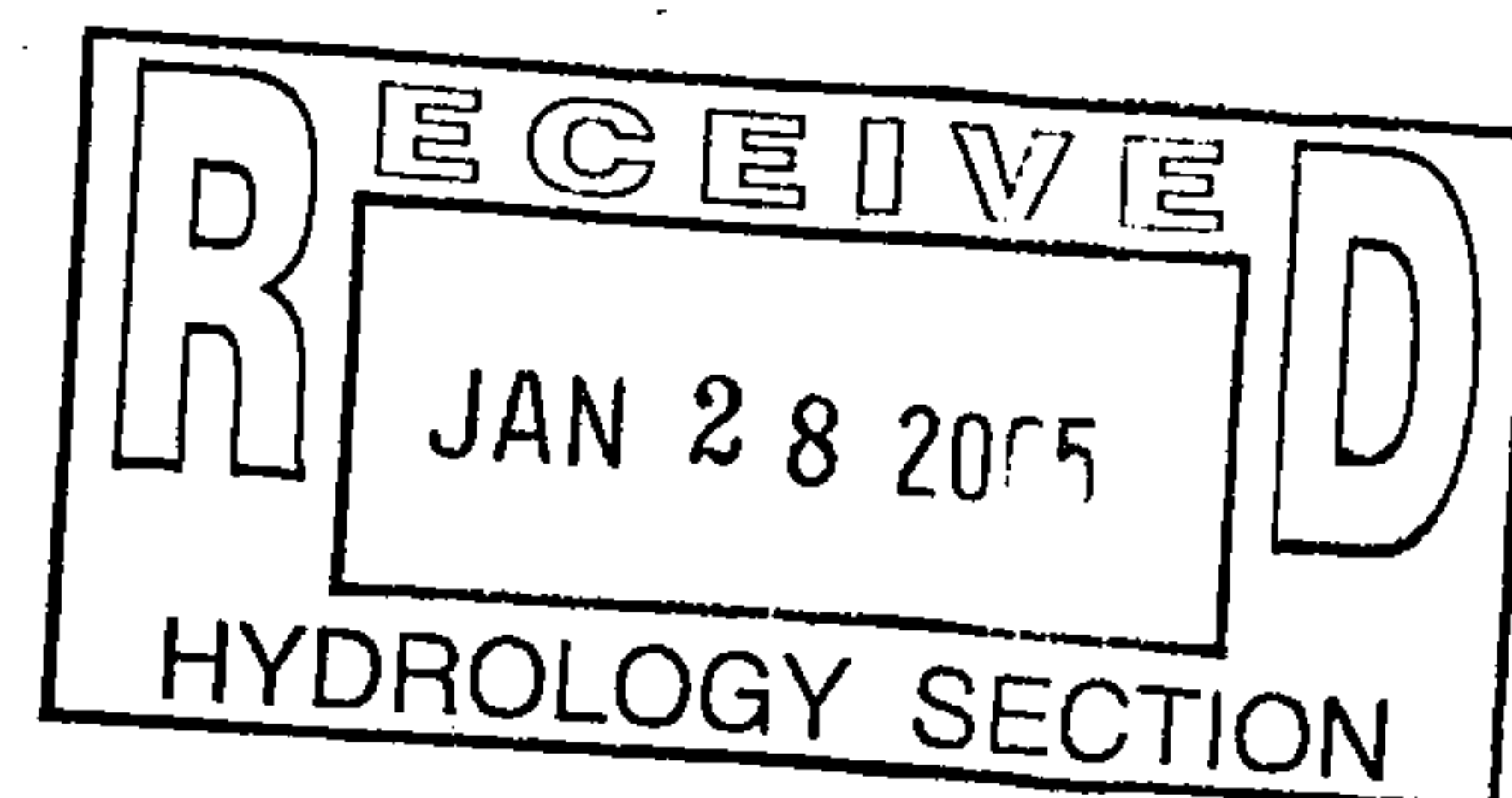
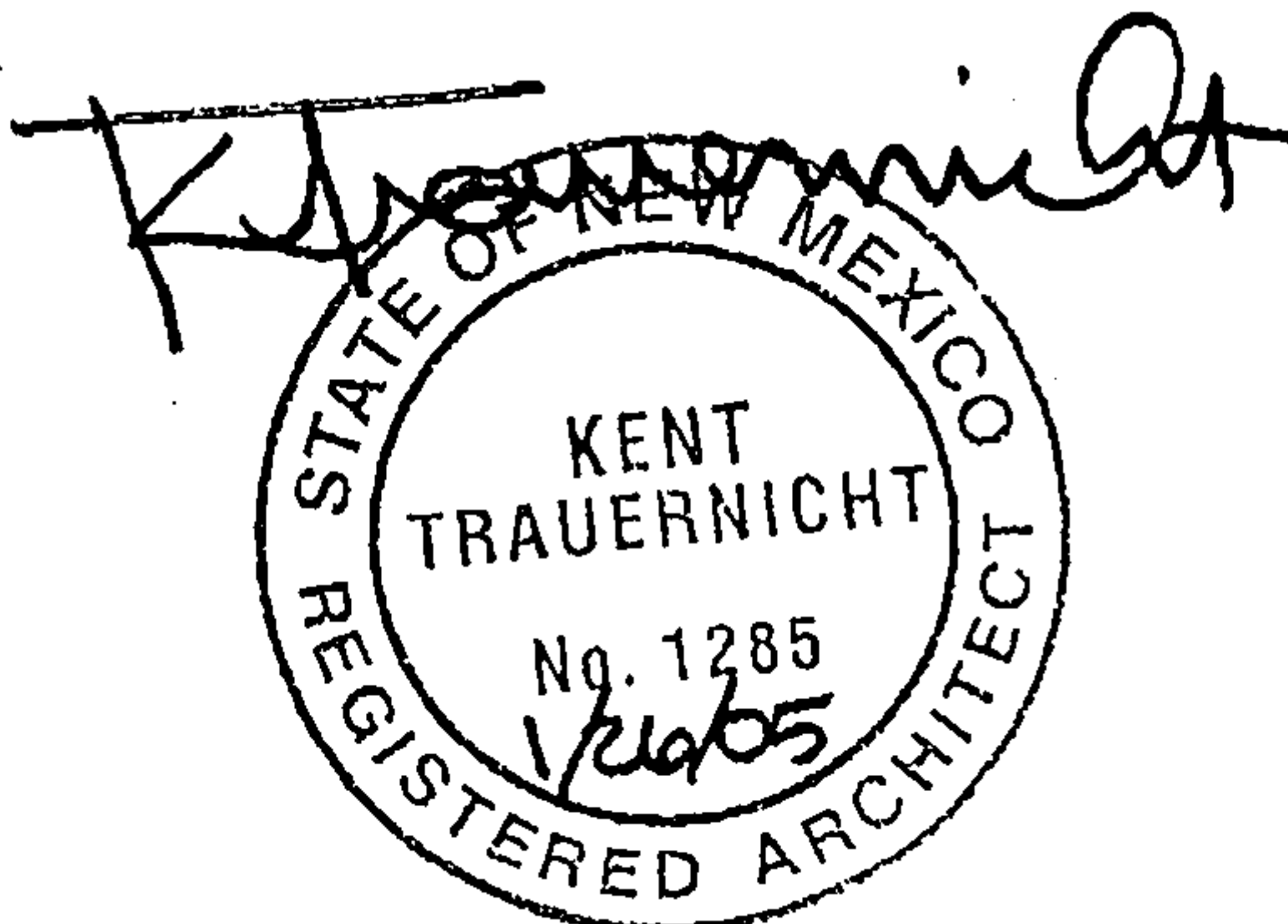
January 26, 2005

City of Albuquerque  
Public Works Department  
Transportation Development Services  
600 2<sup>nd</sup> Street NW  
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RE: Traffic Circulation Layout – Certification  
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This document neither expresses nor implies a warranty.





# DRAINAGE AND TRANSPORTATION INFORMATION SHEET

(REV. 1/28/2003rd)

PROJECT TITLE: 9019 Washington Office/Warehouse ZONE MAP/DRG. FILE #: C-17/D2A21  
 DRB #: 1003054 EPO#: \_\_\_\_\_ WORK ORDER#: \_\_\_\_\_

LEGAL DESCRIPTION: Lot 36 & 37 Richfield  
 CITY ADDRESS: 9019 Washington St NE

ENGINEERING FIRM: \_\_\_\_\_  
 ADDRESS: \_\_\_\_\_  
 CITY, STATE: \_\_\_\_\_

CONTACT: \_\_\_\_\_  
 PHONE: \_\_\_\_\_  
 ZIP CODE: \_\_\_\_\_

OWNER: \_\_\_\_\_  
 ADDRESS: \_\_\_\_\_  
 CITY, STATE: \_\_\_\_\_

CONTACT: \_\_\_\_\_  
 PHONE: \_\_\_\_\_  
 ZIP CODE: \_\_\_\_\_

ARCHITECT: AKT Architects  
 ADDRESS: P.O. Box 3366  
 CITY, STATE: Alb NM

CONTACT: Ken Trenchard  
 PHONE: 281-9560  
 ZIP CODE: 87196

SURVEYOR: \_\_\_\_\_  
 ADDRESS: \_\_\_\_\_  
 CITY, STATE: \_\_\_\_\_

CONTACT: \_\_\_\_\_  
 PHONE: \_\_\_\_\_  
 ZIP CODE: \_\_\_\_\_

CONTRACTOR: Mechenbier Const.  
 ADDRESS: 8804 Washington St NE Suite A  
 CITY, STATE: Alb NM

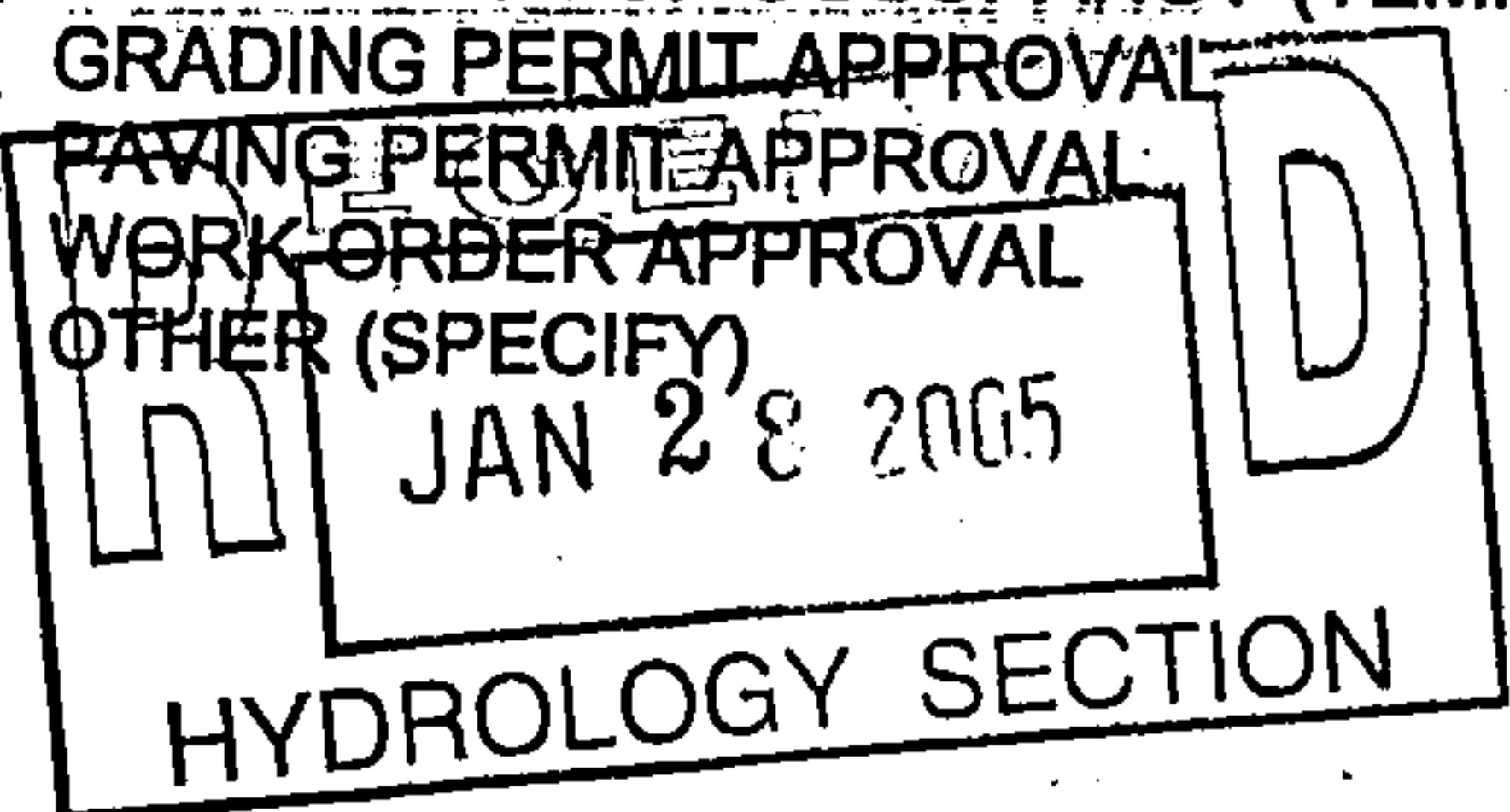
CONTACT: John E. Mechenbier  
 PHONE: 828-1676  
 ZIP CODE: 87113

## CHECK TYPE OF SUBMITTAL:

- ☐ DRAINAGE REPORT
- ☐ DRAINAGE PLAN 1<sup>st</sup> SUBMITTAL, **REQUIRES TCL or equal**
- ☐ DRAINAGE PLAN RESUBMITTAL
- ☐ CONCEPTUAL GRADING & DRAINAGE PLAN
- ☐ GRADING PLAN
- ☐ EROSION CONTROL PLAN
- ☐ ENGINEER'S CERTIFICATION (HYDROLOGY)
- ☐ CLOMR/LOMR
- ☒ TRAFFIC CIRCULATION LAYOUT (TCL)
- ☐ ENGINEERS CERTIFICATION (TCL)
- ☐ ENGINEERS CERTIFICATION (DRB APPR. SITE PLAN)
- ☐ OTHER

## CHECK TYPE OF APPROVAL SOUGHT:

- ☐ SIA / FINANCIAL GUARANTEE RELEASE
- ☐ PRELIMINARY PLAT APPROVAL
- ☐ S. DEV. PLAN FOR SUB'D. APPROVAL
- ☐ S. DEV. PLAN FOR BLDG. PERMIT APPROVAL
- ☐ SECTOR PLAN APPROVAL
- ☐ FINAL PLAT APPROVAL
- ☐ FOUNDATION PERMIT APPROVAL
- ☐ BUILDING PERMIT APPROVAL
- ☒ CERTIFICATE OF OCCUPANCY (PERM.)
- ☐ CERTIFICATE OF OCCUPANCY (TEMP.)
- ☐ GRADING PERMIT APPROVAL
- ☐ PAVING PERMIT APPROVAL
- ☐ WORK ORDER APPROVAL
- ☐ OTHER (SPECIFY)



## WAS A PRE-DESIGN CONFERENCE ATTENDED:

- ☐ YES
- ☐ NO
- ☐ COPY PROVIDED

DATE SUBMITTED: 1/28/05 BY: John Brown

Requests for approvals of Site Development Plans and/or Subdivision Plats shall be accompanied by a drainage submittal. The particular nature, location and scope of the proposed development defines the degree of drainage detail. One or more of the following levels of submittal may be required based on the following:

1. **Conceptual Grading and Drainage Plan:** Required for approval of Site Development Plans greater than five (5) acres and Sector Plans.
2. **Drainage Plans:** Required for building permits, grading permits, paving permits and site plans less than five (5) acres.
3. **Drainage Report:** Required for subdivisions containing more than ten (10) lots or constituting five (5) acres or more.

2:54 pm

1/31/85

left message for

Kent to provide

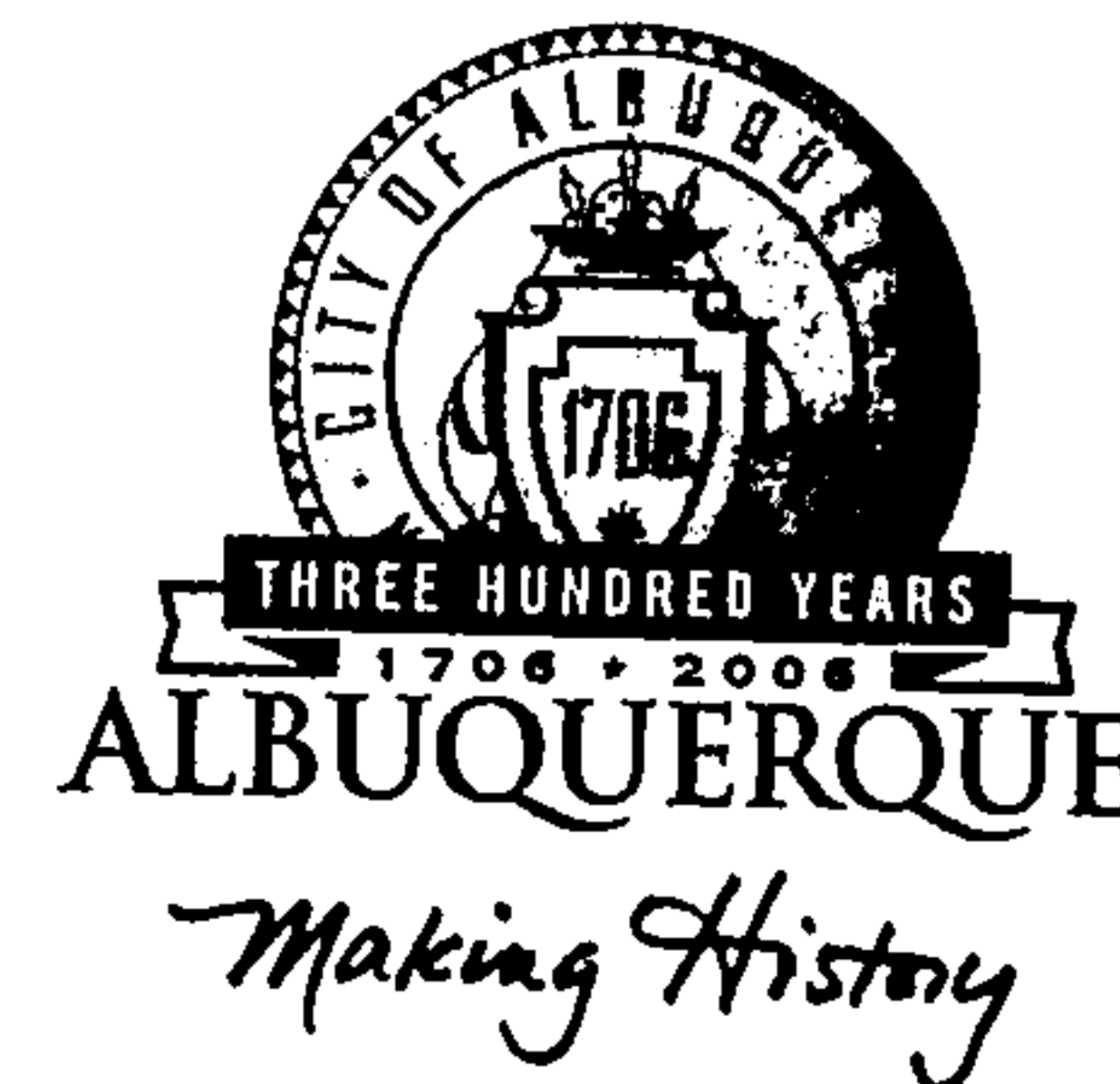
original copy

of letter of cert

ret copy

~~File~~ ~~submit~~ 3:20 pm

# CITY OF ALBUQUERQUE



January 25, 2005

Mark Goodwin, P.E.  
Mark Goodwin & Associates, PA  
P.O. Box 90606  
Albuquerque, NM 87199

**Re: Mechenbier Office Warehouse, 9019 Washington St NE, Certificate of  
Occupancy  
Engineer's Stamp dated 3-02-04 (C17-D2A21)  
Certification dated 1-18-05**

Dear Mr. Goodwin,

P.O. Box 1293

Based upon the information provided in your submittal received 1-24-05, the  
above referenced certification is approved for release of permanent Certificate of  
Occupancy by Hydrology.

Albuquerque

If you have any questions, you can contact me at 924-3981.

Sincerely,

Kristal D. Metro  
Engineering Associate, Planning Dept.  
Development and Building Services

New Mexico 87103

[www.cabq.gov](http://www.cabq.gov)

C: Phyllis Villanueva  
file



DRAINAGE INFORMATION SHEET  
(REV. 1/28/2003rd)

PROJECT TITLE:	<u>Mechenbier Office Warehouse</u>	ZONE MAP/DRG #:	<u>C17/02A21</u>
DRB#:	EPC #:	W.O.#:	
LEGAL DESCRIPTION:	<u>LOTS 36 &amp; 37 Richfield Park Subdivision</u>		
CITY ADDRESS:	<u>9019 Washington St. NE Alb, NM 87113</u>		
ENGINEERING FIRM:	<u>Mark Goodwin &amp; Associates, PA</u>	CONTACT:	
ADDRESS:	<u>PO Box 90606</u>	PHONE:	<u>828-2200</u>
CITY, STATE:	<u>Albuquerque, NM</u>	ZIP CODE:	<u>87199</u>
OWNER:	<u>Mechenbier Construction</u>	CONTACT:	<u>John Mechenbier</u>
ADDRESS:	<u>8804 Washington NE St. A</u>	PHONE:	<u>828-1676</u>
CITY, STATE:	<u>Alb, NM</u>	ZIP CODE:	<u>87113</u>
ARCHITECT:	<u>N/A</u>	CONTACT:	
ADDRESS:		PHONE:	
CITY, STATE:		ZIP CODE:	
SURVEYOR:	<u>Aldrich Land Surveying</u>	CONTACT:	<u>Tim Aldrich</u>
ADDRESS:	<u>P.O. Box 30701</u>	PHONE:	<u>884-1990</u>
CITY, STATE:	<u>Albuquerque, NM</u>	ZIP CODE:	<u>87190-0701</u>
CONTRACTOR:		CONTACT:	
ADDRESS:		PHONE:	
CITY, STATE:		ZIP CODE:	

CHECK TYPE OF SUBMITTAL:

<input type="checkbox"/>	DRAINAGE REPORT
<input type="checkbox"/>	DRAINAGE PLAN 1 <sup>ST</sup> SUBMITTAL, req. TCL or equal
<input checked="" type="checkbox"/>	DRAINAGE PLAN RESUBMITTAL
<input checked="" type="checkbox"/>	<u>REVISED</u> CONCEPTUAL GRADING & DRAINAGE PLAN
<input type="checkbox"/>	GRADING PLAN
<input type="checkbox"/>	EROSION CONTROL PLAN
<input checked="" type="checkbox"/>	ENGINEER'S CERTIFICATION (HYDROLOGY)
<input type="checkbox"/>	CLOMR/LOMR
<input type="checkbox"/>	TRAFFIC CIRCULATION LAYOUT (TCL)
<input type="checkbox"/>	ENGINEER'S CERTIFICATION (TCL)
<input type="checkbox"/>	ENGINEER'S CERTIFICATION (DRB APPR. SITE PLAN)
<input type="checkbox"/>	OTHER

CHECK TYPE OF APPROVAL SOUGHT:

<input type="checkbox"/>	SIA / FINANCIAL GUARANTEE RELEASE
<input type="checkbox"/>	PRELIMINARY PLAT APPROVAL
<input type="checkbox"/>	S. DEV. PLAN FOR SUB'D. APPROVAL
<input type="checkbox"/>	S. DEV. PLAN FOR BLDG. PERMIT APPROVAL
<input type="checkbox"/>	SECTOR PLAN APPROVAL
<input type="checkbox"/>	FINAL PLAT APPROVAL
<input type="checkbox"/>	FOUNDATION PERMIT APPROVAL
<input type="checkbox"/>	BUILDING PERMIT APPROVAL
<input checked="" type="checkbox"/>	CERTIFICATE OF OCCUPANCY (PERM)
<input type="checkbox"/>	CERTIFICATE OF OCCUPANCY (TEMP)
<input type="checkbox"/>	GRADING PERMIT APPROVAL
<input type="checkbox"/>	PAVING PERMIT APPROVAL
<input type="checkbox"/>	WORK ORDER APPROVAL
<input type="checkbox"/>	OTHER (specify)

WAS A PRE-DESIGN CONFERENCE ATTENDED?

☒ YES  
☒ NO  
☐ COPY PROVIDED

DATE SUBMITTED:

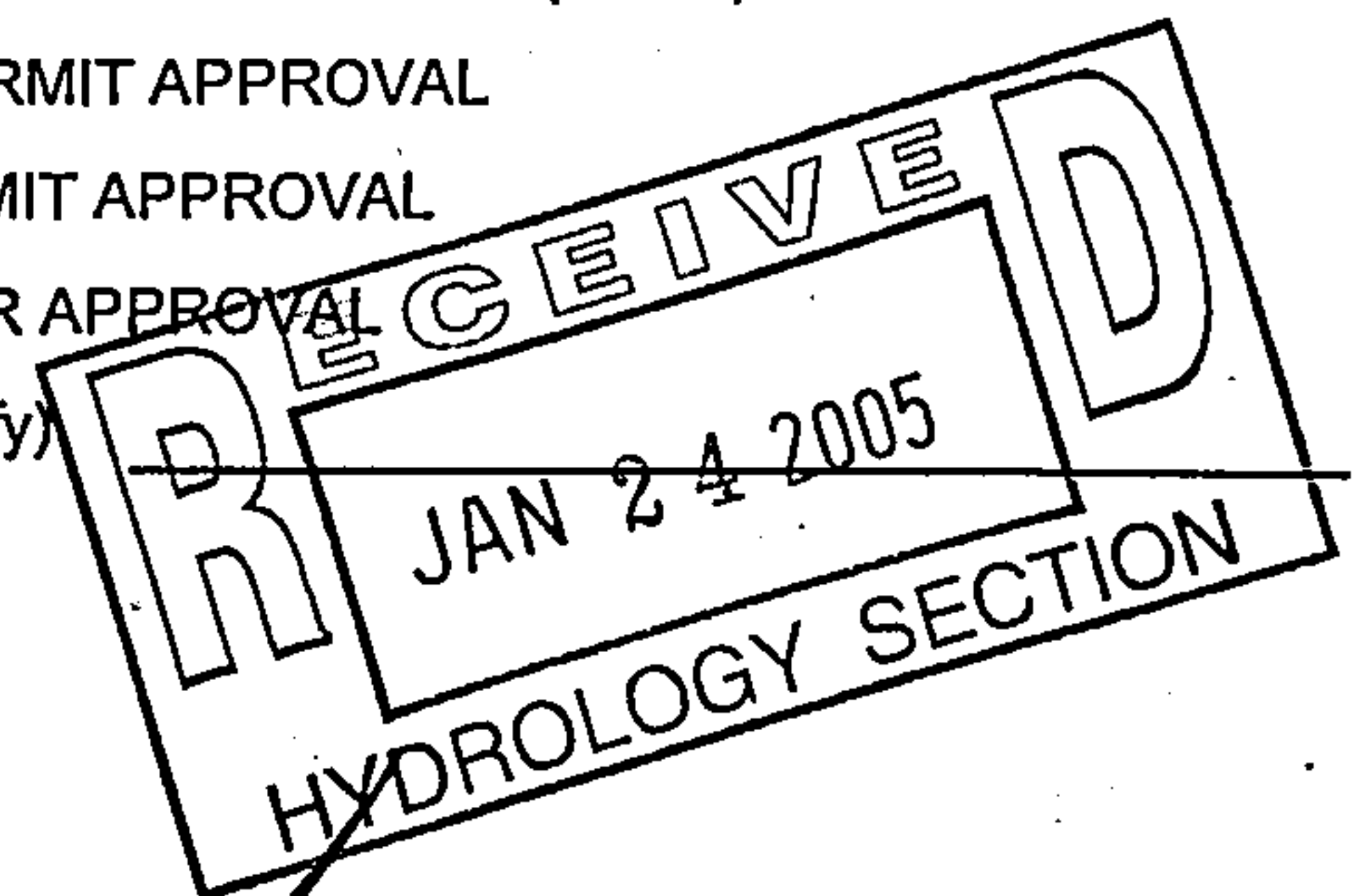
1/24/05

BY:

[Signature]

Requests for approvals of Site Development Plans and/or Subdivision Plats shall be accompanied by a drainage submittal. The particular nature, location and scope of the proposed development defines the degree of drainage detail. One or more of the following levels of submittal may be required based on the following:

1. Conceptual Grading and Drainage Plan: Required for approval of Site Development Plans greater than five (5) acres and Sector Plans.
2. Drainage Plans: Required for building permits, grading permits, paving permits and site plans less than five (5) acres.
3. Drainage Report: Required for subdivisions containing more than ten (10) lots or constituting five (5) acres or more.





D. Mark Goodwin & Associates, P.A.  
Consulting Engineers

P.O. BOX 90606, ALBUQUERQUE, NM 87199  
(505) 828-2200 FAX 797-9539

24 January, 2005

Kristal D. Metro  
Engineering Associate, Planning Dept.  
P.O. Box 1293  
Albuquerque, NM 87103

**Re: (C17/d2a21) Mechenbier Office Warehouse**

Dear Ms. Metro:

In March of last year, the above reference planned was modified slightly from the plan that was originally approved by your office, letter dated 3/5/04. As can be seen from the drawing being forwarded to you, the only change is that the concrete valley gutter across the parking lot, extending from east to west, was removed. Instead, the grades were altered slightly to allow that portion of the onsite generated flow to surface drain to the curb along the south side of the site. As the grades indicate, the flow is then routed west to the Public Street, just as it was on the originally approved plan.

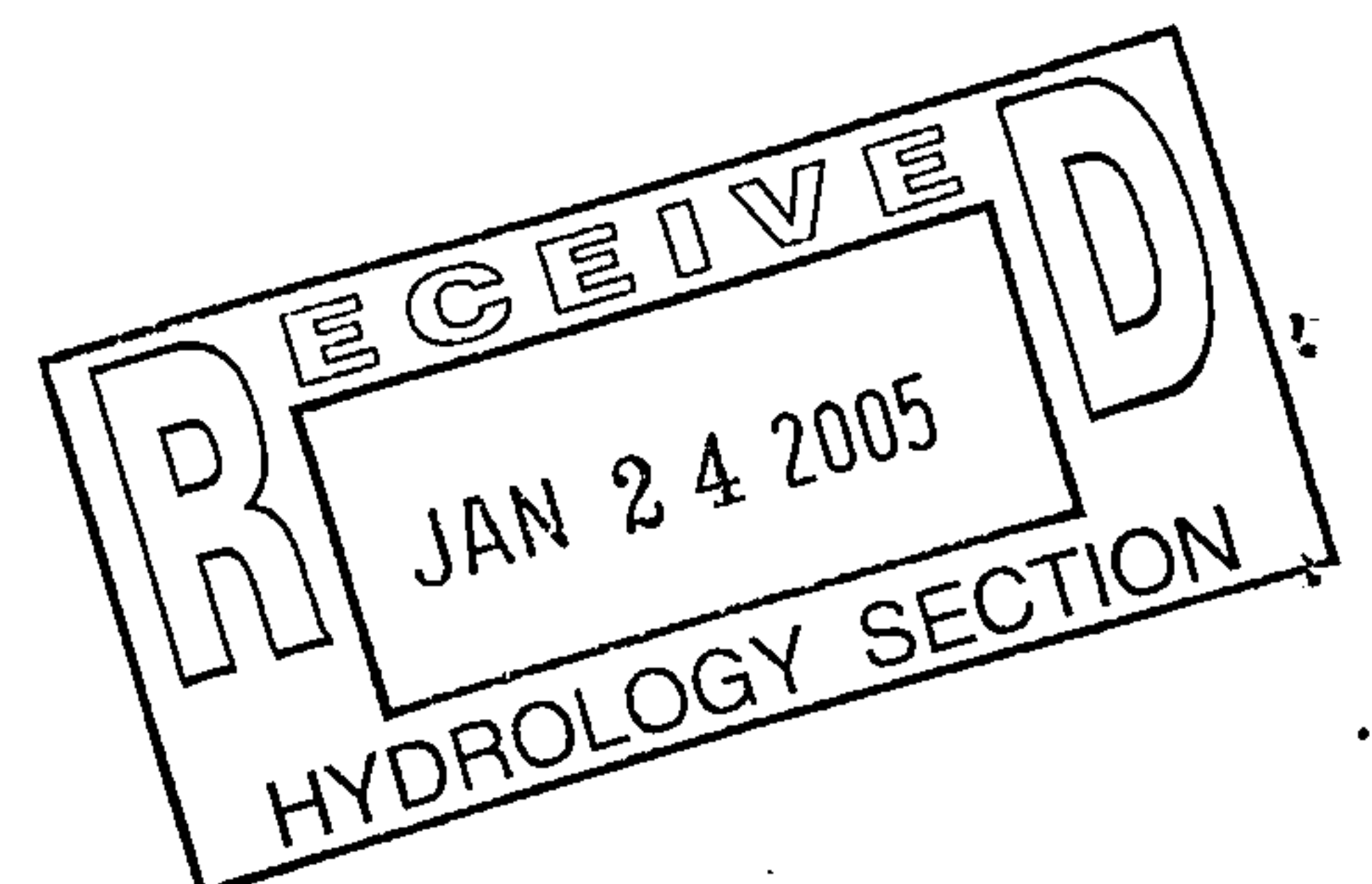
If you have any questions, feel free to call.

Sincerely,

D. MARK GOODWIN & ASSOCIATES, PA

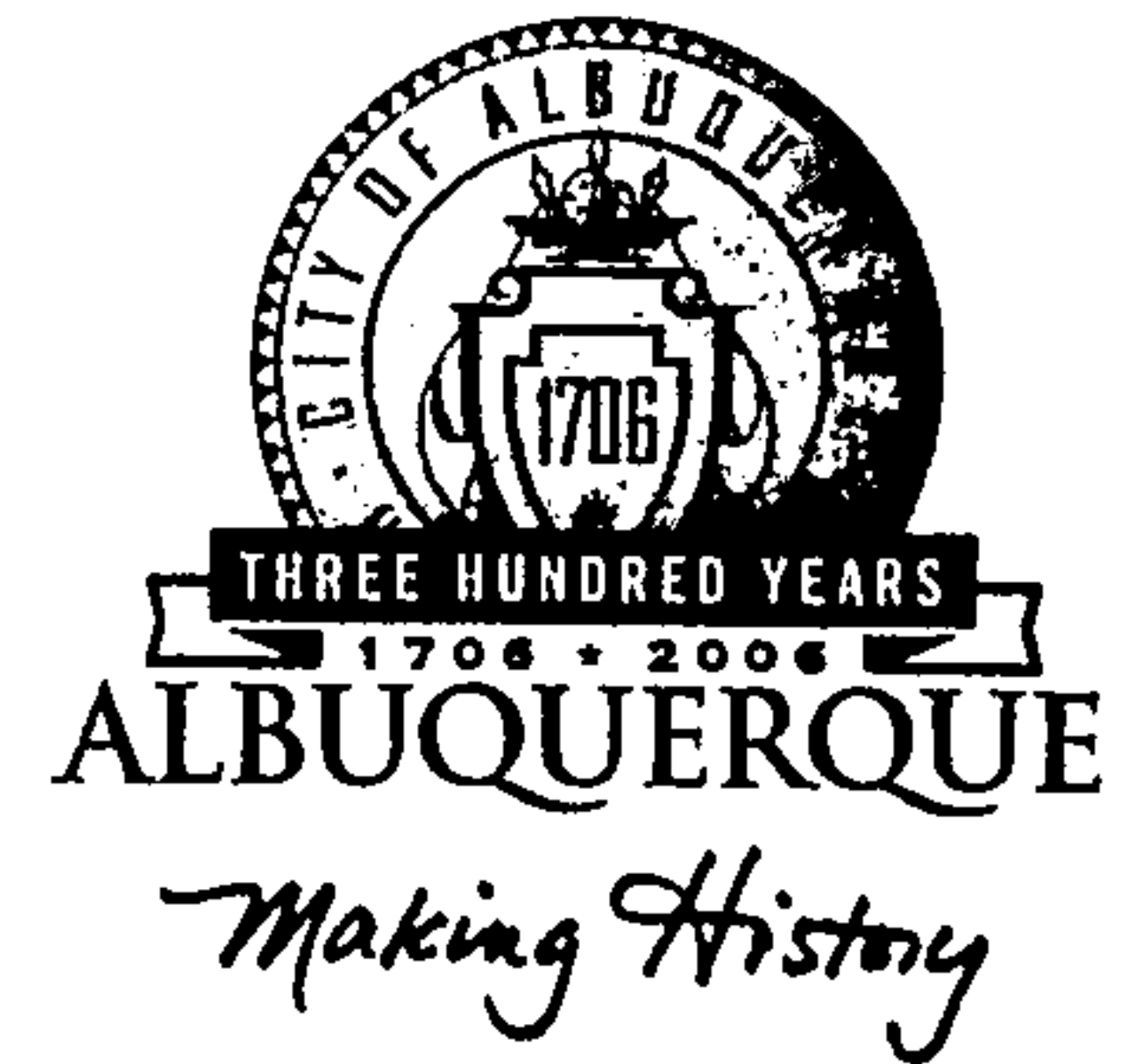
A handwritten signature in black ink, appearing to read 'Scott Davis', is written over the printed name.

Scott Davis  
Project Engineer





# CITY OF ALBUQUERQUE



January 19, 2005

John McKenzie, PE  
MARK GOODWIN & ASSOCIATES  
P.O. Box 90606  
Albuquerque, NM 87199

**Re: MECHENBIER OFFICE WAREHOUSE, (C-17/D2A21)**  
**ADAMS ST. AND WASHINGTON ST. NE**  
**Permanent Certificate of Occupancy Certification dated 01/18/2005**

Dear John:

Based upon the information provided in your submittal received 01/19/2005, the above referenced certification cannot be approved until the following is addressed:

- P.O. Box 1293  
Albuquerque  
New Mexico 87103
1. The approved grading and drainage plan has an Engineer Stamp date of 01/12/2004 not 03/02/2004 as indicated in your submittal. (see attached copy of G/D Report approval letter). Also, the "Drainage Certification" should be submitted with an original signature.
  2. When you resubmit, please include an address for the project on your Drainage & Transportation Information Sheet. The Building & Safety Division will not issue a C.O. without a physical address.

[www.cabq.gov](http://www.cabq.gov)

If you have any questions, you can contact me at 924-3982.

Sincerely,

Arlene V. Portillo  
Plan Checker, Planning Dept. - Hydrology  
Development and Building Services

Attachment

C: file  
Scott Davis

**DRAINAGE INFORMATION SHEET**  
(REV. 1/28/2003rd)

PROJECT TITLE:	<u>Mechenbier Office Warehouse</u>	ZONE MAP/DRG #:	<u>C-17/D2A21</u>
DRB#:	EPC #:	W.O.#:	
LEGAL DESCRIPTION:	<u>Lots 36 &amp; 37 Richfield Park Subdivision</u>		
CITY ADDRESS:			
ENGINEERING FIRM:	<u>Mark Goodwin &amp; Associates, PA</u>	CONTACT:	<u>Scott Davis</u>
ADDRESS:	<u>PO Box 90606</u>	PHONE:	<u>828-2200</u>
CITY, STATE:	<u>Albuquerque, NM</u>	ZIP CODE:	<u>87199</u>
OWNER:	<u>Mechenbier Construction</u>	CONTACT:	<u>John Mechenbier</u>
ADDRESS:	<u>8804 Washington, Suite A</u>	PHONE:	<u>828-1676</u>
CITY, STATE:	<u>Albuq, NM 87113</u>	ZIP CODE:	
ARCHITECT:	<u>N/A</u>	CONTACT:	
ADDRESS:		PHONE:	
CITY, STATE:		ZIP CODE:	
SURVEYOR:	<u>Aldrich Land Surveying</u>	CONTACT:	<u>Tim Aldrich</u>
ADDRESS:	<u>P.O. Box 30701</u>	PHONE:	<u>884-1990</u>
CITY, STATE:	<u>Albuquerque, NM</u>	ZIP CODE:	<u>87190-0701</u>
CONTRACTOR:	<u>N/A</u>	CONTACT:	
ADDRESS:		PHONE:	
CITY, STATE:		ZIP CODE:	

CHECK TYPE OF SUBMITTAL:

- |                                     |  |
|-------------------------------------|--|
| <input type="checkbox"/>            | DRAINAGE REPORT  |
| <input type="checkbox"/>            | DRAINAGE PLAN 1 <sup>ST</sup> SUBMITTAL, req. TCL or equal |
| <input type="checkbox"/>            | DRAINAGE PLAN RESUBMITTAL                                  |
| <input type="checkbox"/>            | CONCEPTUAL GRADING & DRAINAGE PLAN                         |
| <input type="checkbox"/>            | GRADING PLAN   |
| <input type="checkbox"/>            | EROSION CONTROL PLAN                                       |
| <input type="checkbox"/>            | ENGINEER'S CERTIFICATION (HYDROLOGY)                       |
| <input type="checkbox"/>            | CLOMR/LOMR   |
| <input type="checkbox"/>            | TRAFFIC CIRCULATION LAYOUT (TCL)                           |
| <input type="checkbox"/>            | ENGINEER'S CERTIFICATION (TCL)                             |
| <input checked="" type="checkbox"/> | ENGINEER'S CERTIFICATION (DRB APPR. SITE PLAN)             |
| <input type="checkbox"/>            | OTHER  |

CHECK TYPE OF APPROVAL SOUGHT:

- |                                     |  |
|-------------------------------------|--|
| <input type="checkbox"/>            | SIA / FINANCIAL GUARANTEE RELEASE      |
| <input type="checkbox"/>            | PRELIMINARY PLAT APPROVAL              |
| <input type="checkbox"/>            | S. DEV. PLAN FOR SUB'D. APPROVAL       |
| <input type="checkbox"/>            | S. DEV. PLAN FOR BLDG. PERMIT APPROVAL |
| <input type="checkbox"/>            | SECTOR PLAN APPROVAL                   |
| <input type="checkbox"/>            | FINAL PLAT APPROVAL                    |
| <input type="checkbox"/>            | FOUNDATION PERMIT APPROVAL             |
| <input type="checkbox"/>            | BUILDING PERMIT APPROVAL               |
| <input checked="" type="checkbox"/> | CERTIFICATE OF OCCUPANCY (PERM)        |
| <input type="checkbox"/>            | CERTIFICATE OF OCCUPANCY (TEMP)        |
| <input type="checkbox"/>            | GRADING PERMIT APPROVAL                |
| <input type="checkbox"/>            | PAVING PERMIT APPROVAL                 |
| <input type="checkbox"/>            | WORK ORDER APPROVAL                    |
| <input type="checkbox"/>            | OTHER (specify)                        |

WAS A PRE-DESIGN CONFERENCE ATTENDED?

- |                                     |               |
|-------------------------------------|---------------|
| <input type="checkbox"/>            | YES           |
| <input checked="" type="checkbox"/> | NO            |
| <input type="checkbox"/>            | COPY PROVIDED |

DATE SUBMITTED:

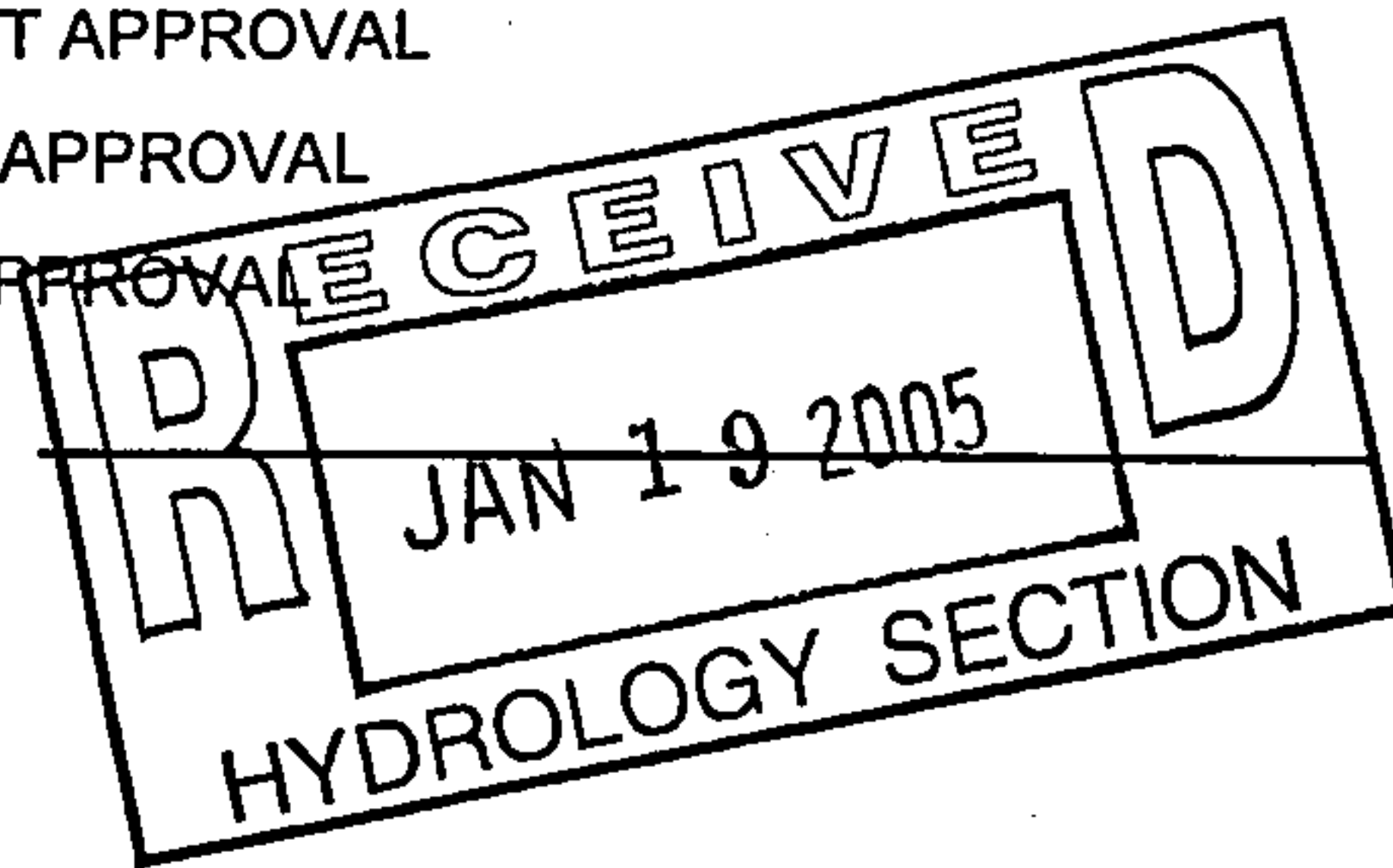
1-17-05

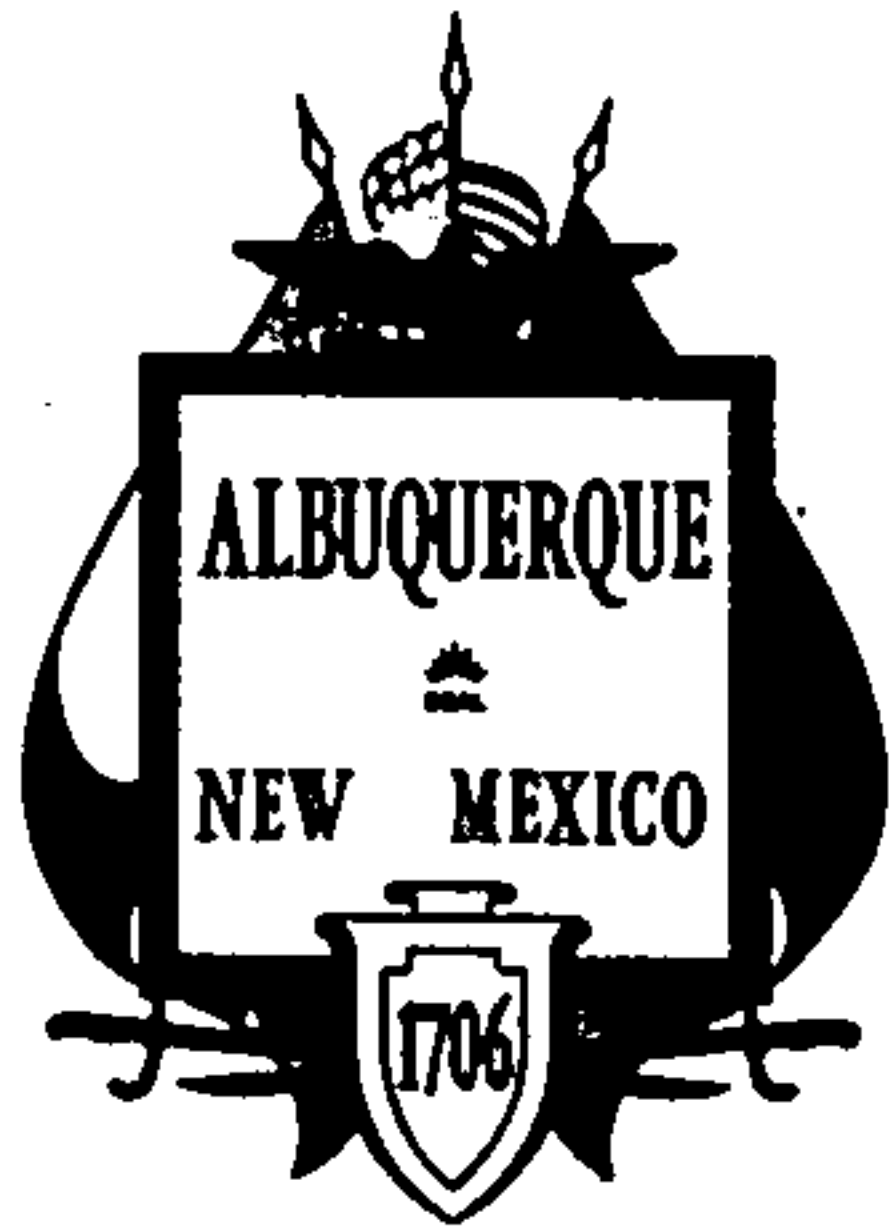
BY:

Scott Davis

Requests for approvals of Site Development Plans and/or Subdivision Plats shall be accompanied by a drainage submittal. The particular nature, location and scope of the proposed development defines the degree of drainage detail. One or more of the following levels of submittal may be required based on the following:

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2. Drainage Plans: Required for building permits, grading permits, paving permits and site plans less than five (5) acres.
3. Drainage Report: Required for subdivisions containing more than ten (10) lots or constituting five (5) acres or more.





# ***City of Albuquerque***

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

March 5, 2004

Mark Goodwin, P.E.  
Mark Goodwin & Associates, PA  
P.O. Box 90606  
Albuquerque, NM 87199

**Re: Mechenbier Office Warehouse, Grading and Drainage Report  
Engineer's Stamp dated 1-12-04 (C17/D2A21)**

Dear Mr. Goodwin,

Based upon the information provided in your submittal received 1-12-04, the above referenced report is approved for Building Permit. Please attach a copy of this approved report to the construction sets prior to sign-off by Hydrology. Prior to Certificate of Occupancy release, Engineer Certification per the DPM checklist will be required.

This project requires a National Pollutant Discharge Elimination System (NPDES) permit. Refer to the attachment that is provided with this letter for details. If you have any questions regarding this permit please feel free to call the Public Works Hydrology section at 768-3654 (Charles Caruso) or 768-3645 (Brian Wolfe).

If you have any questions, you can contact me at 924-3981.

Sincerely,

Kristal D. Metro  
Engineering Associate, Planning Dept.  
Development and Building Services

*KDM*

C: Charles Caruso, DMD Storm Drainage Design  
File



**DRAINAGE INFORMATION SHEET**  
(REV. 1/28/2003rd)

PROJECT TITLE:	Mechenbier Office Warehouse	ZONE MAP/DRG #:	C-17 / D ZAZ1
DRB#:	EPC #:	W.O.#:	
LEGAL DESCRIPTION:	Lots 36 & 37, Richfield Park		
CITY ADDRESS:			
ENGINEERING FIRM:	Mark Goodwin & Associates, PA	CONTACT:	Scott Davis
ADDRESS:	PO Box 90606	PHONE:	828-2200
CITY, STATE:	Albuquerque, NM	ZIP CODE:	87199
OWNER:	Mechenbier Construction	CONTACT:	John Mechenbier
ADDRESS:	8804 Washington NE, Suite A	PHONE:	8281676
CITY, STATE:	Albuquerque, NM	ZIP CODE:	87113
ARCHITECT:		CONTACT:	
ADDRESS:		PHONE:	
CITY, STATE:		ZIP CODE:	
SURVEYOR:	Forstbauer Surveying, L.L.C.	CONTACT:	
ADDRESS:	4116 Lomas Boulevard NE	PHONE:	884-1990
CITY, STATE:	Albuquerque, NM	ZIP CODE:	87110
CONTRACTOR:		CONTACT:	
ADDRESS:		PHONE:	
CITY, STATE:		ZIP CODE:	

CHECK TYPE OF SUBMITTAL:

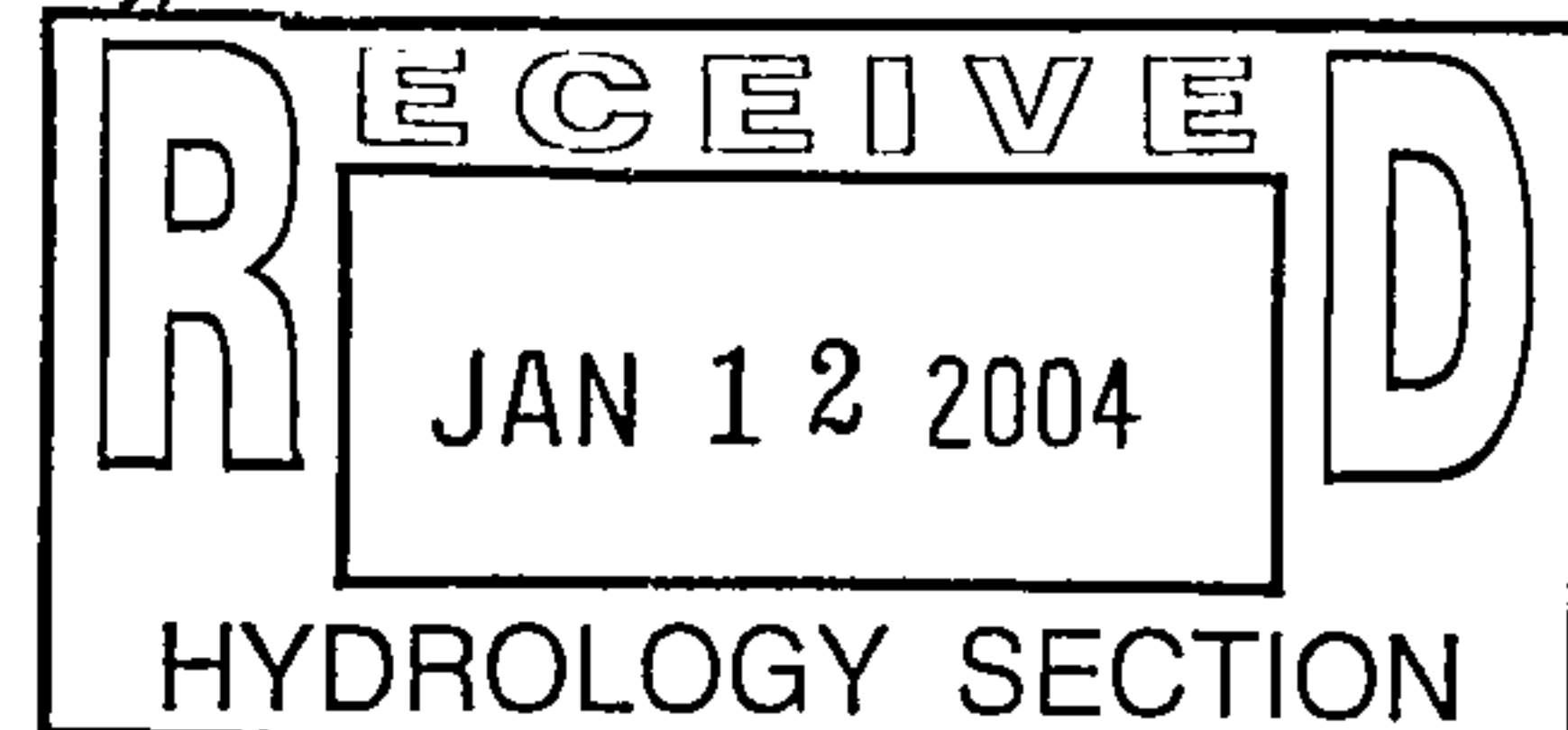
<input type="checkbox"/>	DRAINAGE REPORT
<input checked="" type="checkbox"/>	DRAINAGE PLAN 1 <sup>ST</sup> SUBMITTAL, req. TCL or equal
<input type="checkbox"/>	DRAINAGE PLAN RESUBMITTAL
<input type="checkbox"/>	CONCEPTUAL GRADING & DRAINAGE PLAN
<input checked="" type="checkbox"/>	GRADING PLAN
<input type="checkbox"/>	EROSION CONTROL PLAN
<input type="checkbox"/>	ENGINEER'S CERTIFICATION (HYDROLOGY)
<input type="checkbox"/>	CLOMR/LOMR
<input type="checkbox"/>	TRAFFIC CIRCULATION LAYOUT (TCL)
<input type="checkbox"/>	ENGINEER'S CERTIFICATION (TCL)
<input type="checkbox"/>	ENGINEER'S CERTIFICATION (DRB APPR. SITE PLAN)
<input type="checkbox"/>	OTHER

CHECK TYPE OF APPROVAL SOUGHT:

<input type="checkbox"/>	SIA / FINANCIAL GUARANTEE RELEASE
<input type="checkbox"/>	PRELIMINARY PLAT APPROVAL
<input type="checkbox"/>	S. DEV. PLAN FOR SUB'D. APPROVAL
<input checked="" type="checkbox"/>	S. DEV. PLAN FOR BLDG. PERMIT APPROVAL
<input type="checkbox"/>	SECTOR PLAN APPROVAL
<input type="checkbox"/>	FINAL PLAT APPROVAL
<input type="checkbox"/>	FOUNDATION PERMIT APPROVAL
<input checked="" type="checkbox"/>	BUILDING PERMIT APPROVAL
<input type="checkbox"/>	CERTIFICATE OF OCCUPANCY (PERM)
<input type="checkbox"/>	CERTIFICATE OF OCCUPANCY (TEMP)
<input type="checkbox"/>	GRADING PERMIT APPROVAL
<input type="checkbox"/>	PAVING PERMIT APPROVAL
<input type="checkbox"/>	WORK ORDER APPROVAL
<input type="checkbox"/>	OTHER (specify)

WAS A PRE-DESIGN CONFERENCE ATTENDED?

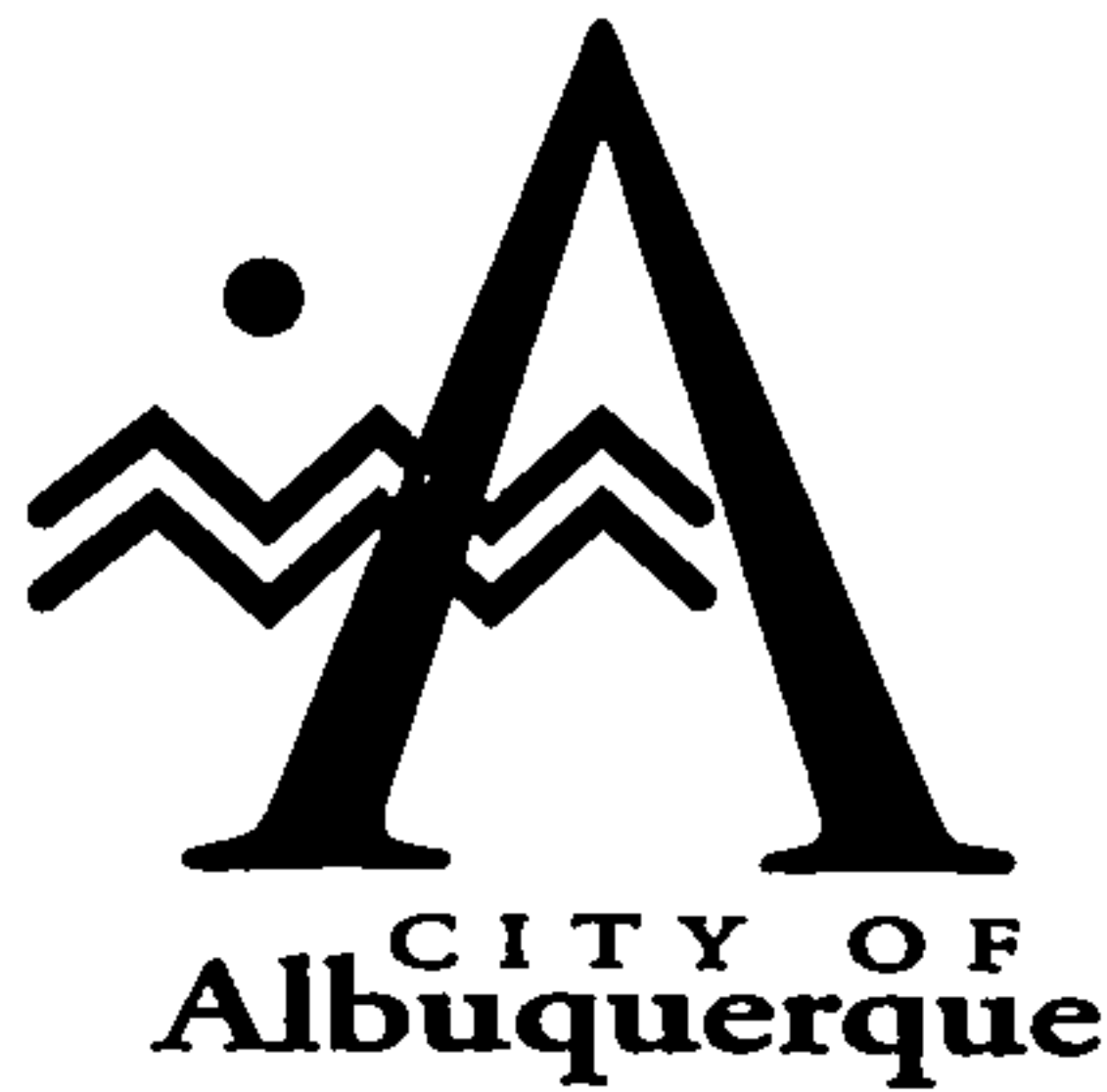
<input type="checkbox"/>	YES
<input checked="" type="checkbox"/>	NO
<input type="checkbox"/>	COPY PROVIDED



DATE SUBMITTED: 1-12-04 BY: Scott Davis

Requests for approvals of Site Development Plans and/or Subdivision Plats shall be accompanied by a drainage submittal. The particular nature, location and scope of the proposed development defines the degree of drainage detail. One or more of the following levels of submittal may be required based on the following:

1. **Conceptual Grading and Drainage Plan:** Required for approval of Site Development Plans greater than five (5) acres and Sector Plans.
2. **Drainage Plans:** Required for building permits, grading permits, paving permits and site plans less than five (5) acres.
3. **Drainage Report:** Required for subdivisions containing more than ten (10) lots or constituting five (5) acres or more.



November 20, 1996

Martin J. Chávez, Mayor

Chris Weiss  
C.L. Weiss Engineering, Inc.  
P.O. Box 97  
Sandia Park, NM 87047

**RE: DRAINAGE PLAN FOR RICHFIELD PARK LOTS 36 & 37, DAVIS  
DEVELOPMENT (C17-D2A21) ENGINEER'S STAMP DATED 11/13/96.**

Dear Mr. Weiss:

Based on the information provided on your November 14, 1996 submittal, the above referenced site is approved for Building Permit.

Please attach a copy of this approved plan to the construction sets prior to sign-off by Hydrology.

Prior to Certificate of Occupancy release, Engineer Certification per the D.P.M. checklist will be required.

Please be advised that any development within lot 37 will require a site specific drainage plan for review. Also, if cross-lot-drainage takes place, an easement will be required.

If I can be of further assistance, please feel free to contact me at 768-2667.

Sincerely,

Bernie J. Montoya, CE  
Engineering Associate

BJM/dl

c: Andrew Garcia

File

---

Good for You, Albuquerque!



## DRAINAGE INFORMATION SHEET

PROJECT TITLE: Lots 36 and 37, Richfield Park Subdivision      ZONE ATLAS / DRNG. FILE #: C-17/4212

LEGAL DESCRIPTION: Lots 36 and 37, Richfield Park Subdivision, Albuquerque NM

CITY ADDRESS: NA

ENGINEERING FIRM: C.L. Weiss Engineering      CONTACT: Chris Weiss

ADDRESS: P.O. Box 97, Sandia Park NM, 87047      PHONE: 281-1800

OWNER: NA      CONTACT: \_\_\_\_\_

ADDRESS: \_\_\_\_\_      PHONE: \_\_\_\_\_

ARCHITECT: DiCamillo / Associates      CONTACT: Roger DiCamillo

ADDRESS: \_\_\_\_\_      PHONE: 828-1739

SURVEYOR: Forstbauer Surveying Co.      CONTACT: Ron Forstbauer

ADDRESS: 1100 Alvarado Dr. NE - 87110      PHONE: 268-2112

CONTRACTOR FIRM: N/A      CONTACT: \_\_\_\_\_

ADDRESS: \_\_\_\_\_      PHONE: \_\_\_\_\_

### PRE-DESIGN MEETING:

☐ YES

☒ NO

☐ COPY OF CONFERENCE RECAP  
SHEET PROVIDED

DRB NO. \_\_\_\_\_

EPC NO. \_\_\_\_\_

PROJ. NO. \_\_\_\_\_

### TYPE OF SUBMITTAL:

☐ DRAINAGE REPORT

☒ DRAINAGE PLAN

☐ CONCEPTUAL GRADING & DRAINAGE PLAN

☒ GRADING PLAN

☐ EROSION CONTROL PLAN

☐ ENGINEER'S CERTIFICATION

### CHECK TYPE OF APPROVAL SOUGHT:

☐ SKETCH PLAT

☐ PRELIMINARY PLAT

☐ SITE DEVELOPMENT PLAN

☐ FINAL PLAT

☒ BUILDING PERMIT

☐ FOUNDATION PERMIT

☐ CERT. OF OCCUPANCY

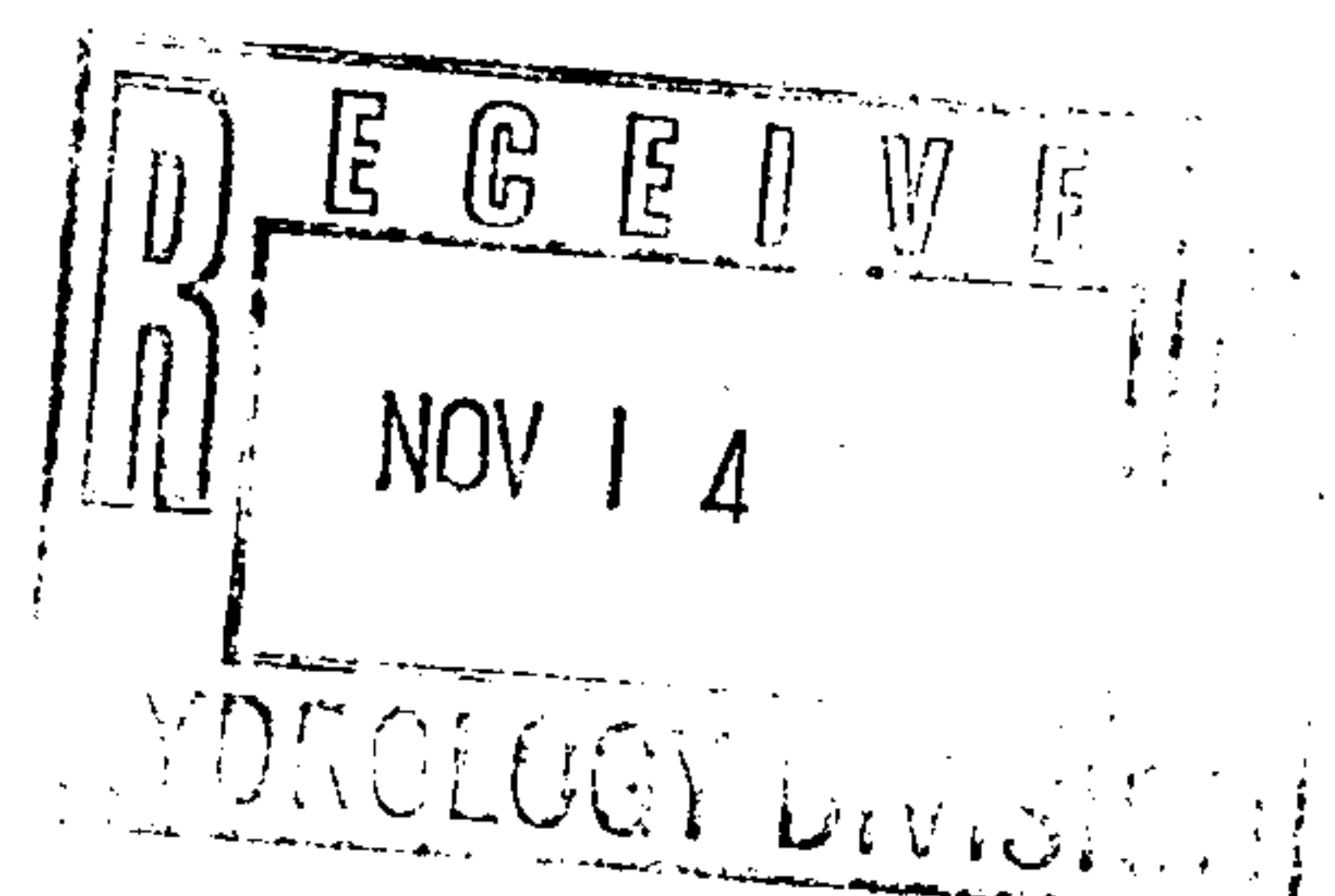
☐ ROUGH GRADING PERMIT

☐ GRADING / PAVING PERMIT

☐ OTHER \_\_\_\_\_

DATE SUBMITTED: November 13, 1996

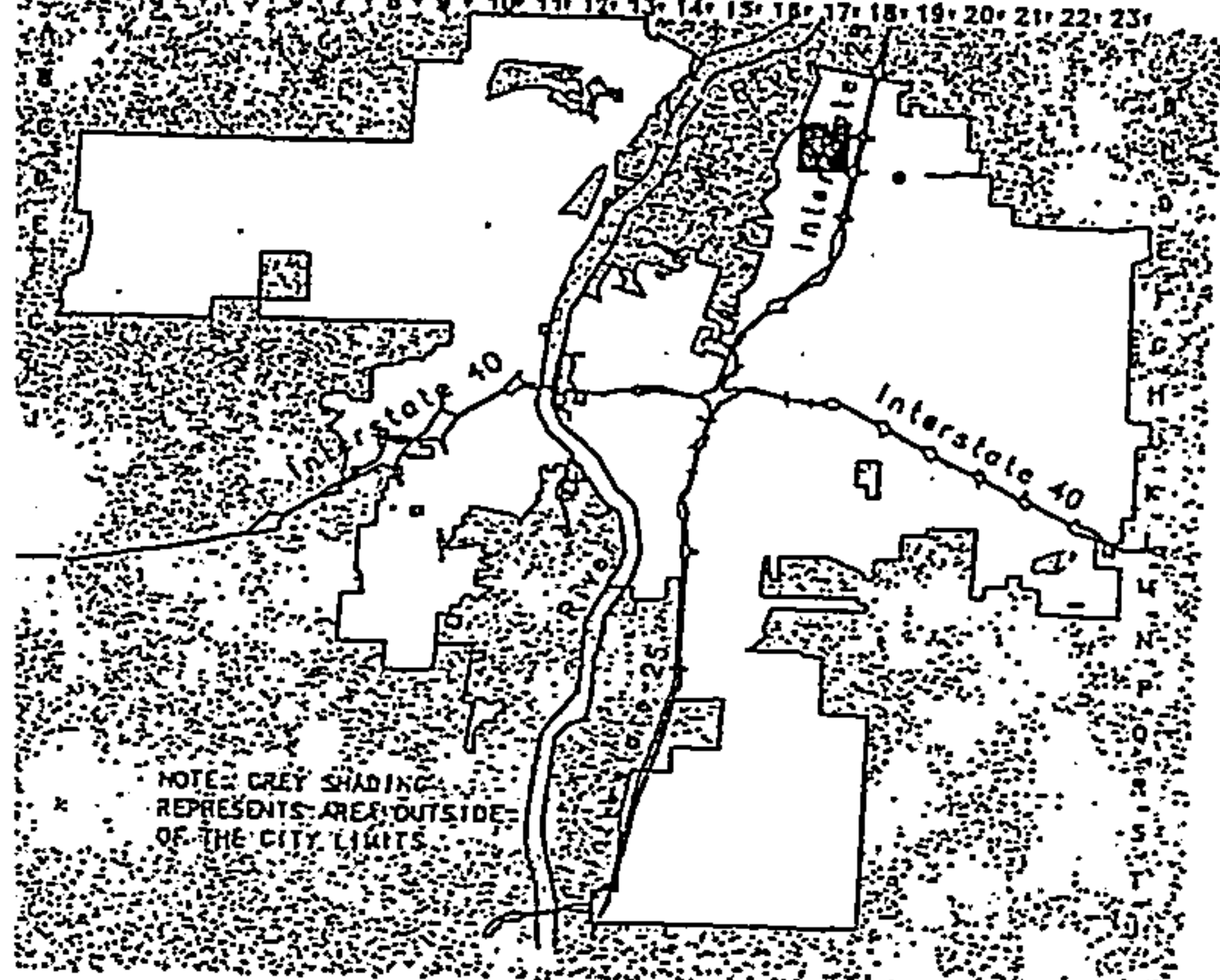
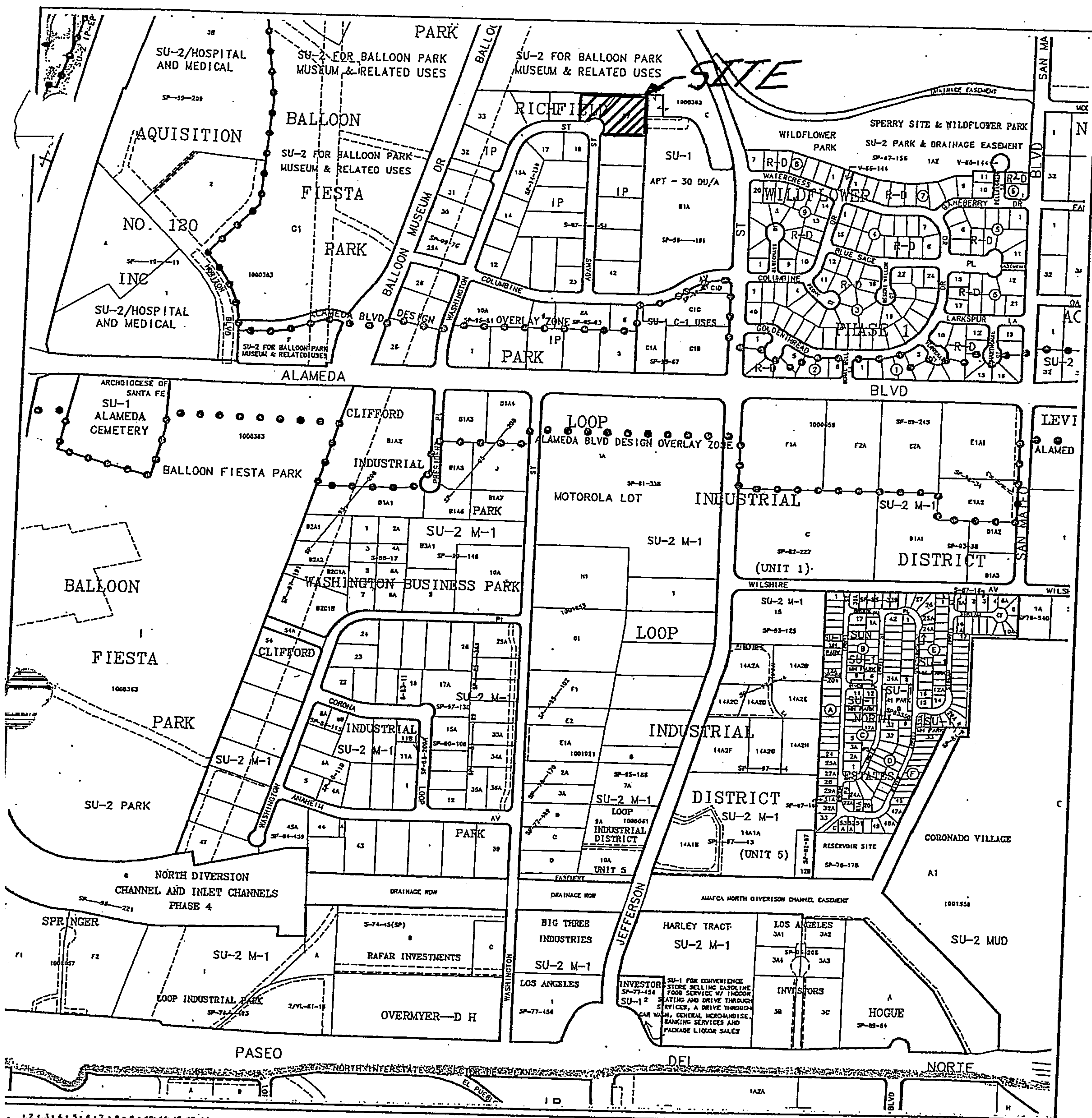
BY: C.L. Weiss Engineering, Inc.





***DRAINAGE REPORT***  
***for***  
***MECHENBIER OFFICE / WAREHOUSE***

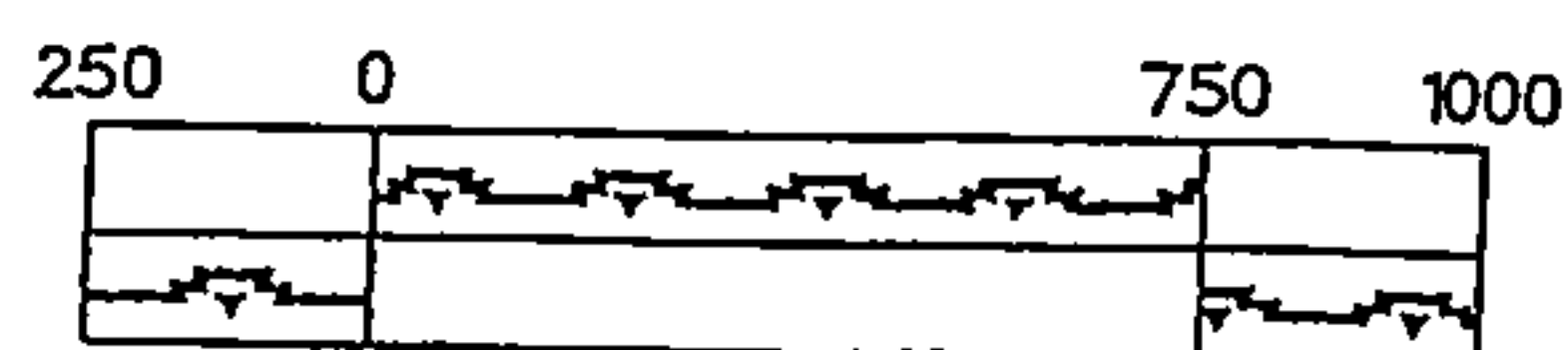
*January 2004*

CITY OF  
Albuquerque

**A**lgebra **G**eographic **I**nformation **S**ystem

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GRAPHIC SCALE IN FEET



Zone Atlas Page

**C-17-Z**

Map Amended through January 21, 2003





D. Mark Goodwin & Associates, P.A.  
Consulting Engineers

P.O. BOX 90606, ALBUQUERQUE, NM 87199  
(505) 828-2200 FAX 797-9539  
e-mail: dmgs@swcp.com

MECHENBIER

PROJECT OFFICE/WAREHOUSE

SUBJECT DRAINAGE ANAL.

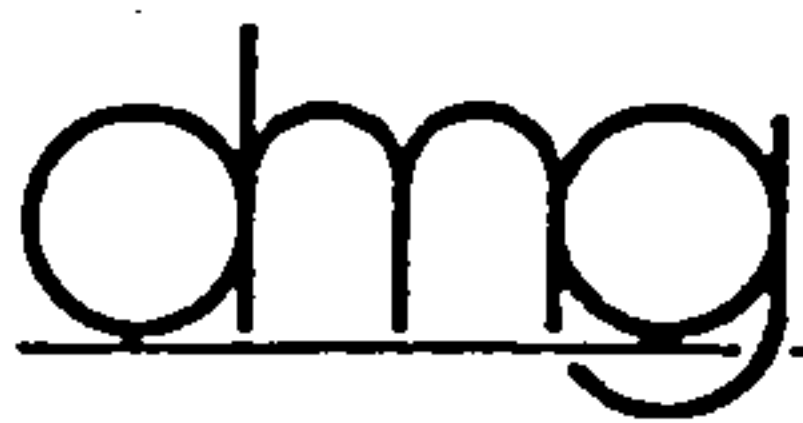
BY TSD DATE 1-8-04

CHECKED \_\_\_\_\_ DATE \_\_\_\_\_

SHEET \_\_\_\_\_ OF \_\_\_\_\_

- A. The proposed site, lots 36 & 37 of the Richfield Park Indust./Comm. Subdivision, encompasses a total of 1.556 acres.
- B. The approved drainage report for Richfield Park, by Espey, Huston & Assoc., Inc. 1986, allows for free discharge from this site to Washington St. (Appendix A).
- C. Site is not located w/in 100-year floodplain.
- D. Small portions of City Open Space areas to the east and north currently impact this site. In order to provide additional waters to the riparian areas, the offsite flows will be within the Open Space areas with the development of this site.
- E. Developed Hydrology:
- $A = 1.556 \text{ ac}$
- $P_1 = 2.05 \text{ in}$ ,  $P_6 = 2.40 \text{ in}$ ,  $P_{24} = 2.70 \text{ in}$ .
- Type "B" = 5%, "C" = 5%, "D" = 90%
- From AHYMO Output:
- $Q = 7.16 \text{ cfs}$
- F. Using a Weighted Average, Flows From the Developed Sub-basins are:
- Sub-basin A:  $Q = 1.00 \text{ cfs}$
  - Sub-basin B:  $Q = 0.54 \text{ cfs}$
  - Sub-basin C:  $Q = 3.07 \text{ cfs}$
  - Sub-basin D:  $Q = 2.53 \text{ cfs}$





D. Mark Goodwin & Associates, P.A.  
Consulting Engineers

P.O. BOX 90606, ALBUQUERQUE, NM 87199  
(505) 828-2200 FAX 797-9539  
e-mail: dmgs@swcp.com

MECHENBIER

PROJECT OFFICE/WAREHOUSE

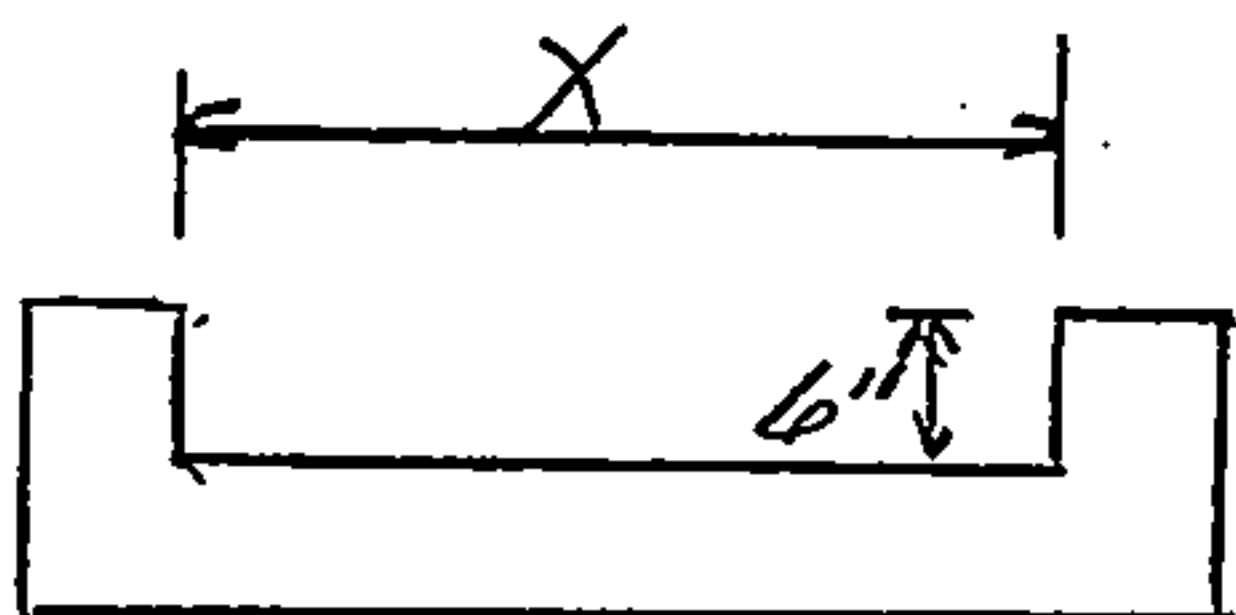
SUBJECT DRAINAGE

BY JSD DATE 1-8-04

CHECKED \_\_\_\_\_ DATE \_\_\_\_\_

SHEET \_\_\_\_\_ OF \_\_\_\_\_

6. Determine adequate width of curb openings/  
run downs:



$$Q = \frac{1}{n} (A) (R)^{2/3} (S)^{1/2}$$

for  $X = 2'$ :  $n = .013$ ,  $A = 15 \text{ ft}$ ,  $R = .33$ ,  $S = .6\%$

$$Q = 2.84 \text{ cfs}$$

$\therefore 2'$  opening adequate for sub-basin A

for  $X = 3'$ :  $n = .013$ ,  $A = 1.55 \text{ ft}$ ,  $R = .38$ ,  $S = .6\%$

$$Q = 4.67 \text{ cfs}$$

$\therefore \underline{3' \text{ opening adequate for sub-basin C}}$

MECHENBIER.DAT

```
START          TIME=0.0
*****
*****        MECHENBIER OFFICE & WAREHOUSE
*****        CALCULATE & ROUTE STORM FLOWS
*****        USE 100 YEAR 24 HOUR STORM EVENT
*****        FILE:  MECHENBIER.DAT    12/30/03  JSD
*****
RAINFALL       TYPE=1 RAIN QUARTER=0.0 IN
               RAIN ONE=2.05 IN RAIN SIX=2.40 IN
               RAIN DAY=2.70 IN DT=0.03333 HR
*****
COMPUTE NM HYD ID=1 HYD NO=101.1 AREA=0.00243 SQ MI
               PER A=0 PER B=5 PER C=5 PER D=90
               TP=0.1333 HR MASS RAINFALL=-1
PRINT HYD      ID=1 CODE=1
FINISH
```

AHYMO PROGRAM (AHYMO\_97) - - Version:  
 1997.02d  
 RUN DATE (MON/DAY/YR) = 12/30/2003  
 START TIME (HR:MIN:SEC) = 14:52:21 USER NO.= AHYMO-I-  
 9702dGoodwinM-AH  
 INPUT FILE = C:\PROGRA~1\AHYMO\_97\vistamag.dat

START TIME=0.0  
 \*\*\*\*\* MECHENBIER OFFICE & WAREHOUSE  
 \*\*\*\*\* CALCULATE & ROUTE STORM FLOWS  
 \*\*\*\*\* USE 100 YEAR 24 HOUR STORM EVENT  
 \*\*\*\*\* FILE: MECHENBIER.DAT 12/30/03 JSD  
 \*\*\*\*\*  
 RAINFALL TYPE=1 RAIN QUARTER=0.0 IN  
 RAIN ONE=2.05 IN RAIN SIX=2.40 IN  
 RAIN DAY=2.70 IN DT=0.03333 HR

COMPUTED 6-HOUR RAINFALL DISTRIBUTION BASED ON NOAA  
 ATLAS 2 - PEAK AT 1.40 HR.  
 DT = .033330 HOURS END TIME = 5.999400

HOURS	.0000	.0017	.0034	.0051	.0069	.0087
.0106	.0125	.0145	.0165	.0185	.0206	.0228
.0250	.0273	.0297	.0321	.0346	.0372	.0399
.0427	.0455	.0485	.0516	.0549	.0583	.0618
.0656	.0695	.0736	.0780	.0836	.0897	.0962
.1101	.1412	.1890	.2578	.3516	.4750	.6323
.8281	1.0671	1.2889	1.3816	1.4598	1.5294	1.5927
1.6509	1.7050	1.7556	1.8030	1.8476	1.8896	1.9294
1.9670	2.0026	2.0364	2.0685	2.0989	2.1278	2.1345
2.1407	2.1466	2.1523	2.1576	2.1628	2.1677	2.1724
2.1770	2.1814	2.1857	2.1898	2.1938	2.1977	2.2015
2.2052	2.2087	2.2122	2.2157	2.2190	2.2222	2.2254
2.2285	2.2316	2.2346	2.2375	2.2404	2.2432	2.2460
2.2487	2.2513	2.2540	2.2566	2.2591	2.2616	2.2641
2.2665	2.2689	2.2712	2.2735	2.2758	2.2781	2.2803
2.2825	2.2847	2.2868	2.2889	2.2910	2.2931	2.2951
2.2971	2.2991	2.3011	2.3030	2.3049	2.3068	2.3087
2.3106	2.3124	2.3142	2.3160	2.3178	2.3196	2.3213
2.3231	2.3248	2.3265	2.3282	2.3298	2.3315	2.3331
2.3348						



2.3457	2.3364	2.3380	2.3395	2.3411	2.3427	2.3442
2.3561	2.3473	2.3488	2.3503	2.3517	2.3532	2.3547
2.3660	2.3576	2.3590	2.3604	2.3618	2.3632	2.3646
2.3754	2.3673	2.3687	2.3701	2.3714	2.3727	2.3740
2.3843	2.3767	2.3780	2.3793	2.3805	2.3818	2.3831
2.3929	2.3856	2.3868	2.3880	2.3893	2.3905	2.3917
	2.3941	2.3953	2.3965	2.3976	2.3988	2.4000

\*\*\*\*\*  
 COMPUTE NM HYD ID=1 HYD NO=101.1 AREA=0.00243 SQ MI  
 PER A=0 PER B=5 PER C=5 PER D=90  
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 SHAPE CONSTANT, N = 7.106420  
 UNIT PEAK = 8.6344 CFS UNIT VOLUME = .9981 B =  
 526.28 P60 = 2.0500  
 AREA = .002187 SQ MI IA = .10000 INCHES INF =  
 .04000 INCHES PER HOUR  
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER  
 METHOD - DT = .033330

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 SHAPE CONSTANT, N = 3.928677  
 UNIT PEAK = .63874 CFS UNIT VOLUME = .9786 B =  
 350.39 P60 = 2.0500  
 AREA = .000243 SQ MI IA = .42500 INCHES INF =  
 1.04000 INCHES PER HOUR  
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER  
 METHOD - DT = .033330

PRINT HYD ID=1 CODE=1

PARTIAL HYDROGRAPH 101.10

RUNOFF VOLUME = 2.04597 INCHES = .2652 ACRE-FEET  
 PEAK DISCHARGE RATE = 7.16 CFS AT 1.500 HOURS BASIN  
 AREA = .0024 SQ. MI.

FINISH

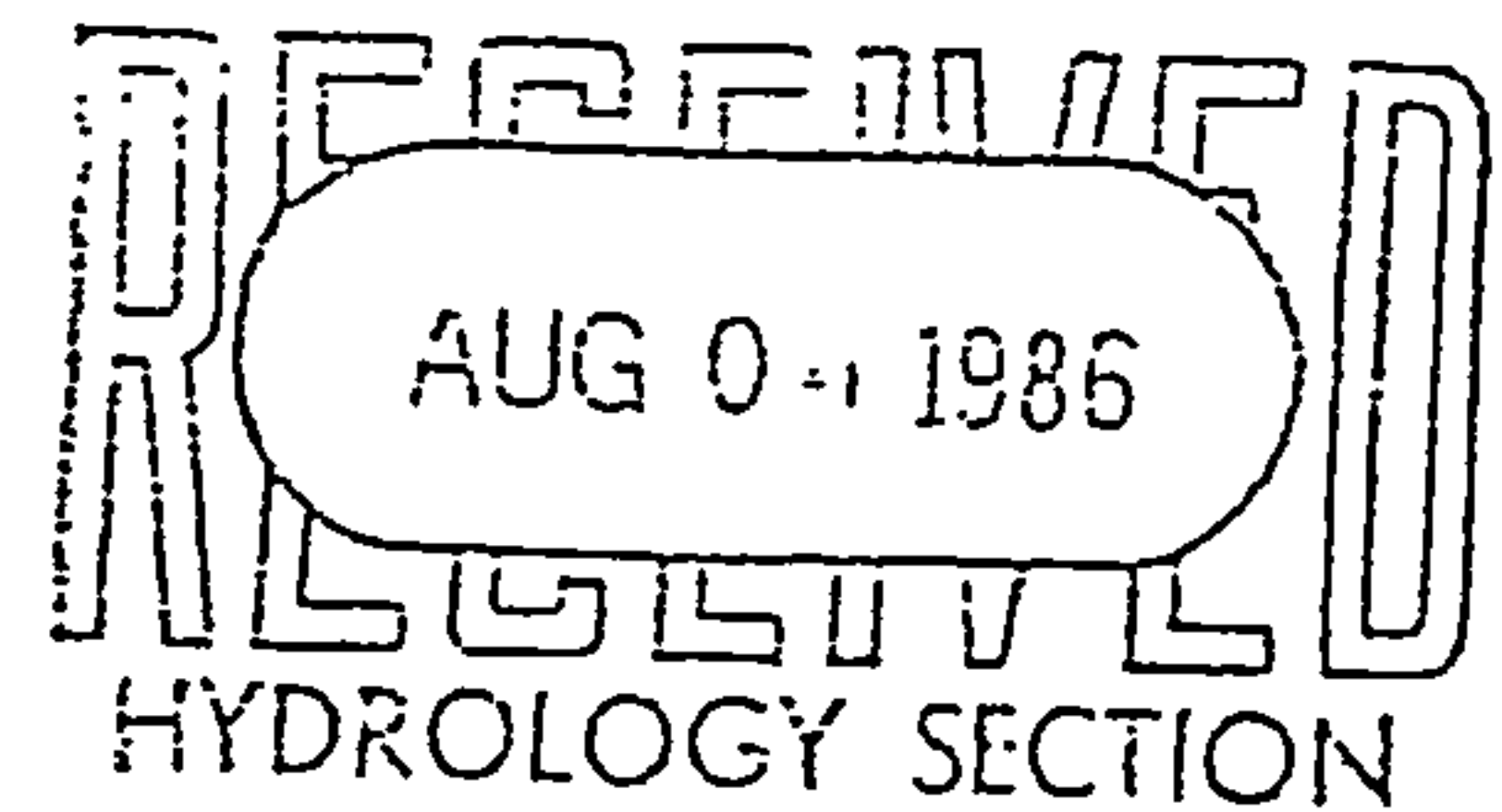
NORMAL PROGRAM FINISH

END TIME (HR:MIN:SEC) = 14:52:21

*Merkerbeir*

DRAINAGE REPORT FOR  
RICHFIELD PARK

Prepared for:  
JACK M. CLIFFORD & COMPANY  
P. O. Box 35640, Station D  
Albuquerque, New Mexico 87176



June 30, 1986  
(Revised August 1, 1986)

PROJECT TITLE: RICHFIELD PARK ZONE ATLAS/DRNG. FILE #: C17/D21  
LEGAL DESCRIPTION: RICHFIELD PARK SUB'N  
CITY ADDRESS: ALAMEDA & JEFFERSON  
ENGINEERING FIRM: ESPEY HUSTON & ASSOC CONTACT: D. LORENZ  
ADDRESS: 4801 INDIAN SCHOOL # 204 PHONE: 255-1625  
OWNER: JACK CLIFFORD CO. CONTACT: R. WHARTON  
ADDRESS: 4200 OSUNA NE PHONE: 345-9011  
ARCHITECT: NA CONTACT: —  
ADDRESS: — PHONE: —  
SURVEYOR: ESPEY HUSTON & ASSOC CONTACT: T. ALDRICH  
ADDRESS: SAME PHONE: —  
CONTRACTOR: NA CONTACT: —  
ADDRESS: — PHONE: —

PRE-DESIGN MEETING:

☒ YES  
☐ NO  
☐ COPY OF CONFERENCE RECAP  
SHEET PROVIDED

DRB NO. 86-154  
EPC NO. —  
PROJ. NO. —

TYPE OF SUBMITTAL:

☒ DRAINAGE REPORT  
☐ DRAINAGE PLAN  
☐ CONCEPTUAL GRADING & DRAINAGE PLAN  
☐ GRADING PLAN  
☐ EROSION CONTROL PLAN  
☐ ENGINEER'S CERTIFICATION

CHECK TYPE OF APPROVAL SOUGHT:

☐ SKETCH PLAT APPROVAL  
☒ PRELIMINARY PLAT APPROVAL  
☐ SITE DEVELOPMENT PLAN APPROVAL  
☒ FINAL PLAT APPROVAL  
☐ BUILDING PERMIT APPROVAL  
☐ FOUNDATION PERMIT APPROVAL  
☐ CERTIFICATE OF OCCUPANCY APPROVAL  
☐ ROUGH GRADING PERMIT APPROVAL  
☐ GRADING/PAVING PERMIT APPROVAL  
☒ OTHER DRC APPL (SPECIFY)

DATE SUBMITTED: AUG 1, 1986  
BY: D. LORENZ



TABLE OF CONTENTS

	<u>PAGE</u>
PURPOSE AND SCOPE	1
LOCATION AND DESCRIPTION	2
EXISTING DRAINAGE CONDITIONS	5
PROPOSED DRAINAGE CONDITIONS	6
CONCLUSIONS	8
CALCULATIONS	9

LIST OF FIGURES & EXHIBITS

VICINITY MAP - FIGURE 1	3
SOILS MAP - FIGURE 2	4
GRADING/DRAINAGE PLAN - SHEET 1	POCKET

PURPOSE AND SCOPE

The purpose of this report is to establish the criteria for controlling surface storm run-off and to study the hydrologic affects of the proposed drainage/grading and infrastructure improvements to the project. The site is presently described as Richfield Industrial Park, Tract A-1, and Richfield Park, Tracts A, B, and C. This plan determines the excess run-off resulting from the 100-year/6-hour and 10-year/6-hour frequency storms falling within the site, historic and developed conditions. This report is prepared to facilitate preliminary and final platting and work order approval.

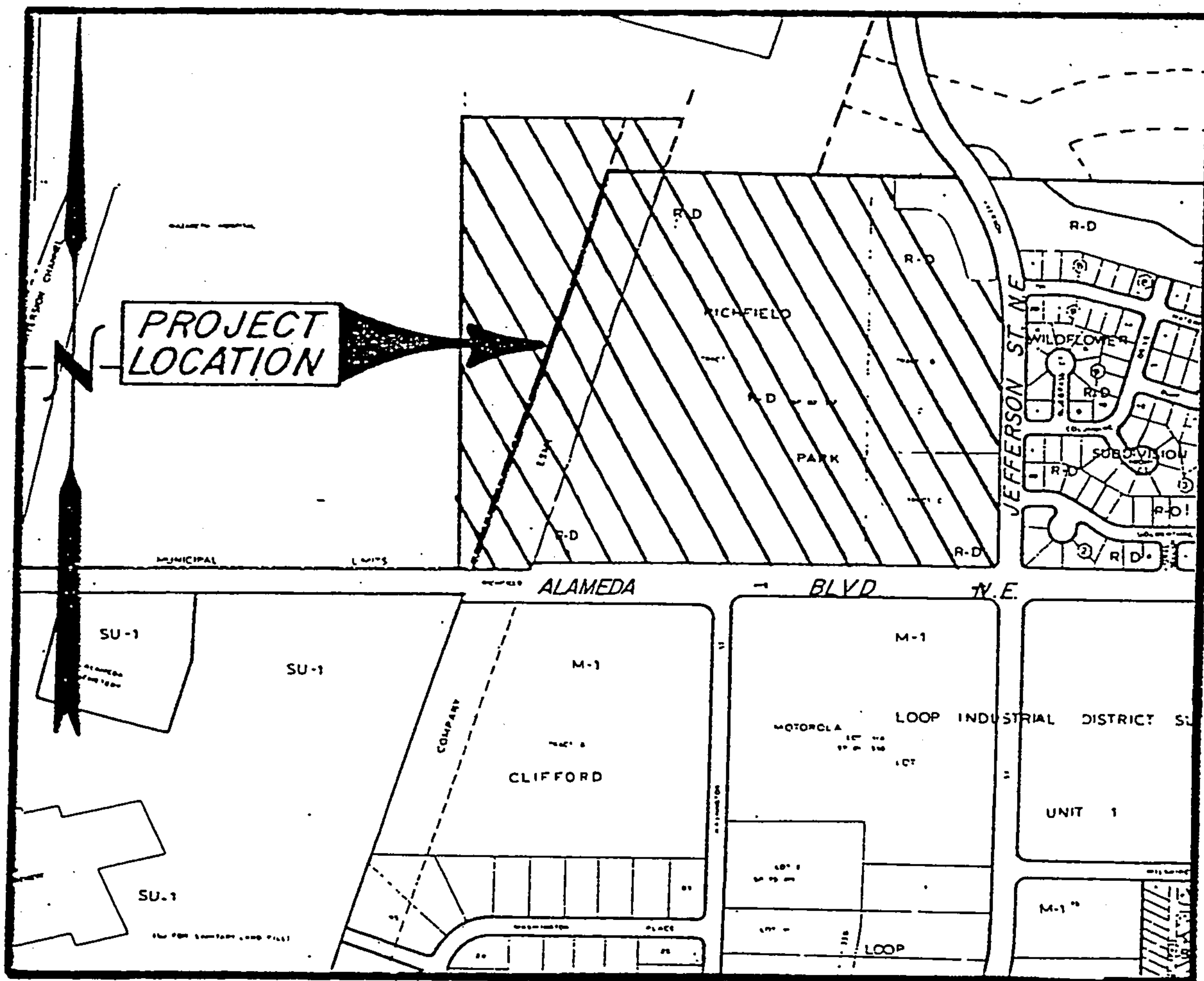
It is proposed that the approximately 82-acre site be developed into an industrial park with lots varying from one-half (1/2) acre to two (2) acres in size. The scope of the proposed plan will not increase the flooding potential to adjacent properties or downstream area. The plan is presented in a manner which is acceptable to the City of Albuquerque, using hydrologic procedures as outlined in Chapter 22, Vol. II, of the Development Process Manual.

LOCATION AND DESCRIPTION

The site is located in the North I-25 sector area in Albuquerque, New Mexico. See Vicinity Map, following page. The site is bounded on the east by improved Jefferson Avenue and on the south by improved Alameda Avenue (formerly Richfield Avenue). The South La Cueva arroyo is adjacent on the north. A portion of the South La Cueva is currently being improved. A 100-foot AMAFCA easement and ditch-dike (earthen) parallels the site on the west.

Presently, the site is undeveloped sloping gradually from east to west, generally at 1-2 percent. The major soils present are EmB, Embudo and EtC, Embudo-Tijeras complex, both gravelly fine sandy loams and classified Type "B" by the Soil Conservation Service (see Soils Map, figure 2, page 4).





VICINITY MAP

SCALE: 1" = 800' ±

B-17,C-17

FIGURE 1





EXISTING DRAINAGE CONDITIONS

Sheet 1, see Pocket, shows the existing undeveloped drainage conditions. Historically, the northern portion of the site has been seriously impacted by the South La Cueva Arroyo. Recent improvements to Jefferson Street as a part of the SAD 201 have removed the site from a 100-year flood plain. No off-site flows enter the site. The storm drainage system within Jefferson and Alameda diverts the 100-year storm around the proposed project to the North Diversion Channel. An existing 54-inch storm drain stub-out from the Alameda system, located near the southwest corner of the site, is provided for draining a portion of the site. The capacity of this pipe is 146 cubic feet per second. As previously stated, an existing 100-foot AMAFCA drainage easement is located along the western boundary for the purpose of maintaining a berm to convey sheet flows north to the La Cueva Arroyo.



PROPOSED DRAINAGE CONDITIONS

Sheet 1, along with existing conditions, shows the proposed flow patterns and proposed drainage infrastructure improvements by 1.) proposed 2-foot interval contours; 2.) continuity between existing and proposed contours; 3.) existing and proposed spot elevations; 4.) proposed basin boundaries; and 5.) public and private easements/drainage structures and systems/streets rights-of-way as proposed by this plan.

As previously stated, this project lies within the SAD 201 area. No approved drainage report was ever published by the consultant, Molzen-Corbin & Associates (MC&A) for the district. Hydraulic grade line calculations, however, are available for the storm drain system in Alameda. Since no drainage report is available, the design engineer for the SAD was approached. On June 11, 1986, a conversation with Hans Coucheron-Aamat of Easterling and Associates, formerly with MC&A, lent the following design criteria:

- 1.) Design of the SAD 201 permitted 0.5 ft. depth in Alameda. Presently Alameda is a four lane divided arterial with standard 2% crown. The depth allowance is contrary to "one-lane dry" drainage ordinance criteria in the present state. If and when Alameda is expanded to six lanes, then the "one-lane dry" criteria would be met.
- 2.) A run-off rate of 40 to 60 cfs was programmed to drain to Alameda along the proposed frontage.
- 3.) The existing 54-inch stub out was programmed for 146 cfs and pressure flow.
- 4.) Mr. Coucheron Aamat confirmed that a drainage report for SAD 201 was never published and that HGL calcs were on file with the City of Albuquerque.

Upon reviewing the site topography and proposed lot and street patterns, it was decided that draining flows to the existing 54-inch stubout would not be cost effective. The next alternative was to check the possibility of draining all or a portion of the site to the existing 60-inch storm drain located in Alameda upstream from the 54-inch stubout. Upon analyzing the hydraulic gradeline for the Alameda storm drain, it was determined that the 60-inch pipe was presently at capacity and any additional flow caused the hydraulic gradeline to rise above street grade. The solution was to drain the entire site overland by public streets and easements to the existing AMAFCA maintained ditch-dike.

On July 31, 1986, Mr. Dan Sabo, AMAFCA Engineer, verbally approved discharging approximately 198 cfs of stormwater from the proposed industrial park to the AMAFCA easement and channel which drains historically to the north. Basins "A", "B", and "C" are shown draining to the northwest corner of the site. The La Cueva improved channel is programmed to ultimately accept approximately 7000 cfs of storm run-off and all flows from the AMAFCA channel. Some minor regrading of the AMAFCA ditch flowline will be required. No improvements, such as "hardlining", to the channel would be required per Mr. Sabo. His only concerns were velocities and their affect on erosion (see Calcs). Erosion protection will be required at all outfall points to the channel, and must be approved by AMAFCA.

CONCLUSIONS

1. The proposed plan will not increase the flooding potential to adjacent properties or downstream areas.
2. During construction, an erosion control berm shall be constructed along the south and portions of the north property lines to ensure that all sediments remain on site.
3. Individual grading and drainage plans shall be required for the tracts created by this development and shall be in compliance with this report.
4. The site shall be allowed to free discharge to the northwest into the AMAFCA facilities.
5. Erosion control measures shall be required at all outfall points into the AMAFCA channel and shall be approved by AMAFCA prior to release of building permit.
6. Development of upstream lots within Richfield Park shall trigger the construction of any required downstream drainage swales.

~~The site shall be allowed to free discharge to the northwest into the AMAFCA facilities.~~

~~The site shall be allowed to free discharge to the northwest into the AMAFCA facilities.~~



CALCULATIONS



RICHFIELD PARK

SHEET 1 OF 4

BY DL

DATE 8-1-86

OK BY

## I. DESIGN CRITERIA

SOILS : EMB, EMBUDO TYPE 'B'  
ETC, EMBUDO-TIERAS - TYPE 'B'

### HYDROLOGIC METHOD:

A. RATIONAL METHOD WILL BE UTILIZED  
FOR FLOWRATES.

B. SCS METHOD WILL BE UTILIZED  
FOR VOLUMES.

RAINFALL:  $P_{100} = 2.2 \text{ IN}$   $P_{10} = 1.44 \text{ IN}$

### RUNOFF COEFFICIENTS:

A. RATIONAL 'C' FACTOR

$C_L = 0.25$   $C_{UND} = 0.40$

$C_R = 0.90$   $C_{PAV'T} = 0.95$

⇒ I.P. AREAS ASSUME ;

$\frac{1}{3}$  ROOF,  $\frac{1}{3}$  LANDS,  $\frac{1}{3}$  PAV'T = USE  $C = 0.74$   
36%, 28%, 36%

⇒ COMMERCIAL AREAS ASSUME ;

$\frac{1}{2}$  ROOF,  $\frac{1}{3}$  PAV'T,  $\frac{1}{6}$  LANDS USE  $C = 0.80$  ✓

B. FOR SCS CN USE PLATE 22.2 C-2

INDUSTRIAL DISTRICTS CN = 8.8 ;  $P_0 = 1.2''$   
100

eh

ESPEY, HUSTON & ASSOCIATES INC.  
Engineering & Environmental Consultants

SUBJECT CALCULATIONS

RICHFIELD PARK

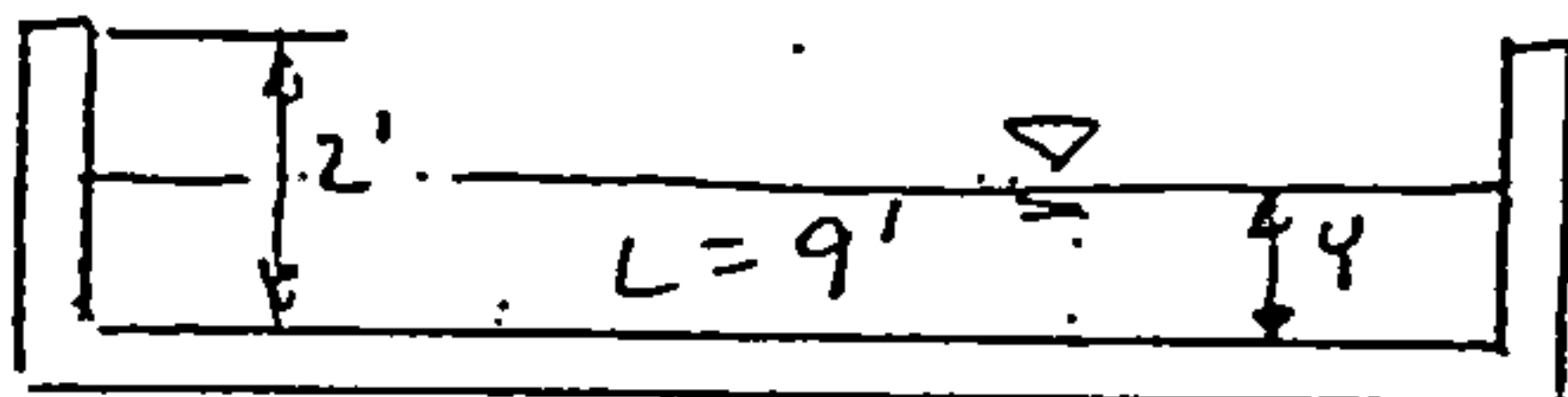
SHEET 2 OF 4 BY D.L.  
DATE 8-1-86 CK BY

## II RUNOFF

BASIN	A	L	H	$t_c$	$C'$	CN	$L_{100}$	$Q_{100}$	$Q_{10}$	$V_{100}$	$V_{10}$
A	31 ac	2400'	39'	15 min	0.74	88	3.78	86.7	57.0	135,040	67,520
B	31	2400	43'	15	0.80	88	3.78	93.7	61.6	135,040	67,520
C	20	2300	21'	18	0.74	88	3.44	50.9	33.4	87,120	43,560
TOTAL	82	3400	43'	21	0.76	88	3.18	198.2	130.2	357,190	178,600

## III SIZE 10' CONCRETE DRAINAGE CHANNEL

## A. CHANNEL SECTION

⇒ USE MANNINGS  
EQN TO CHECK  
DEPTH REQ'DBASIN 'A'

$$Q_{100} = 86.7 \text{ CFS} \quad S = 0.012$$

$$A = 94$$

$$P = 9(24)$$

$$R = 0.5$$

$$n = 0.013$$

$$Q = 86.7 = \frac{1.49}{0.013} (94) (0.5)^{2/3} (0.012)^{1/2}$$

$$Y = 1.2'$$

⇒ 2' CHANNEL YIELDS 0.8' FB.





RICHFIELD PARK

SHEET 3 OF 4 BY DL  
DATE 8-1-86 CK BY \_\_\_\_\_

BASIN 'B'

$$Q_{100} = 93.7 \text{ CFS}$$

$$S = 0.02$$

$$A = 94$$

$$P = 9(24)$$

$$R = 0.5$$

$$n = 0.013$$

$$Q = 93.7 = \frac{1.49}{0.013} (94)(0.5)^{2/3} (0.02)^{1/2}$$

$$Y = 1.3'$$

⇒ 2' CHANNEL YIELDS 0.7' FB

B. SIZE INLET WIDTH

BY WEIR EQN USING MAX DEPTH IN

$$\text{STREET} = 1.0'$$

BASIN 'A'

$$L = \text{CH}$$

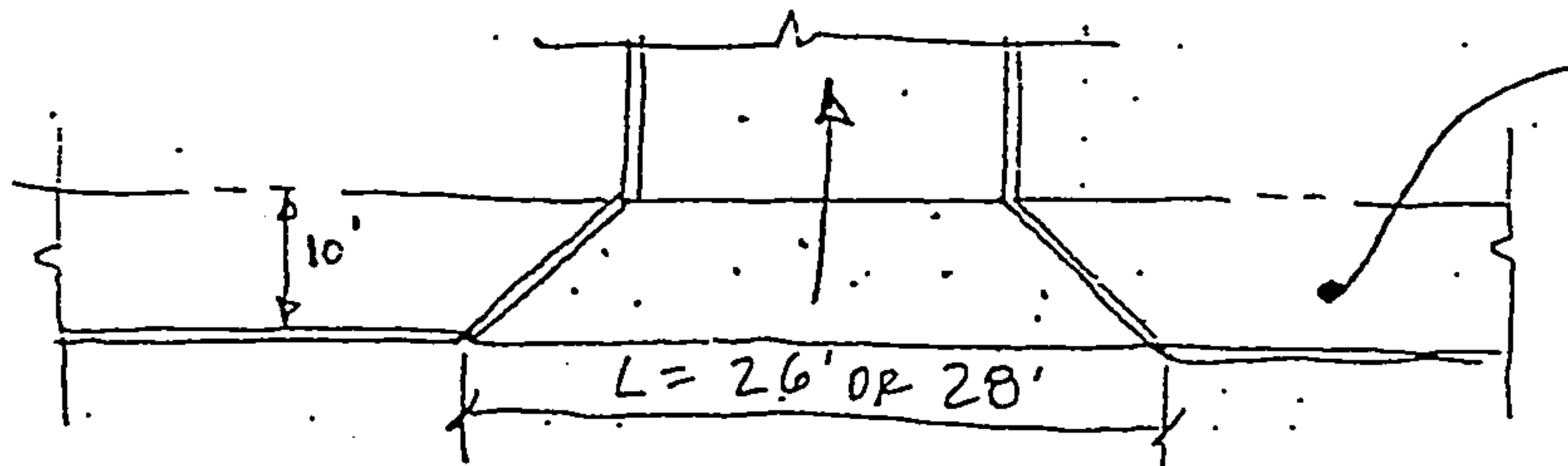
$$Q_{100} = 86.7 \text{ CFS}$$

$$L = \frac{86.7}{3.33} = 26'$$

BASIN 'B'

$$Q_{100} = 93.7 \text{ CFS}$$

$$L = \frac{93.7}{3.33} = 28'$$



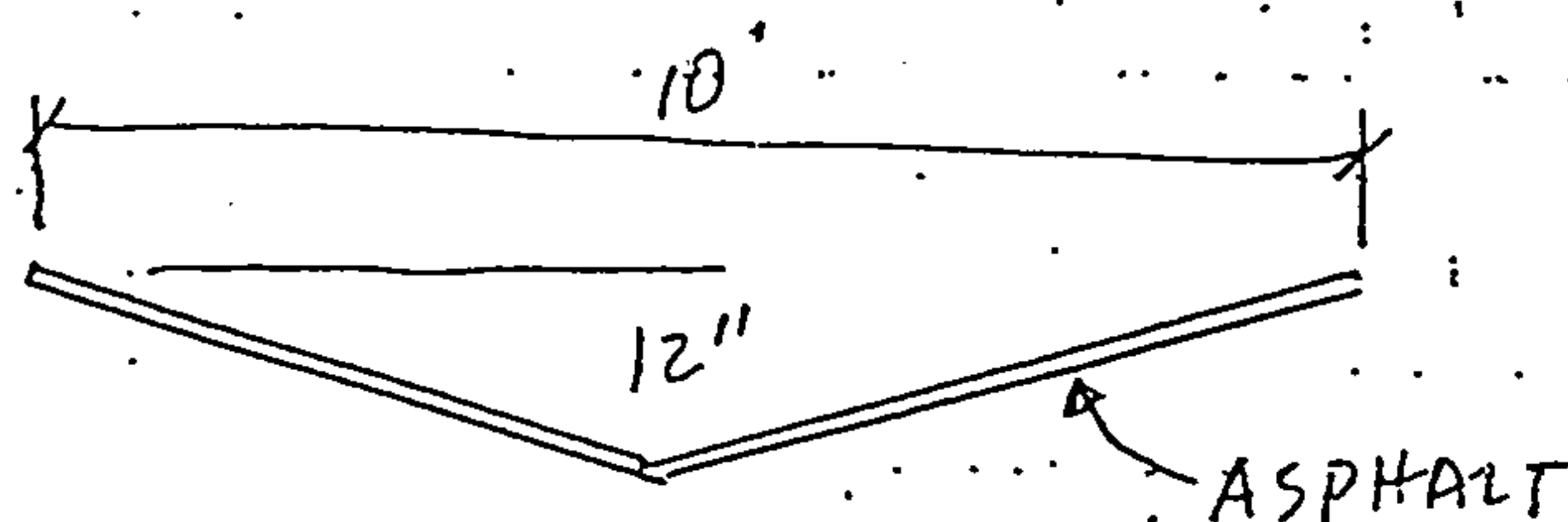
NO S/W PER  
APPROVED VARIANCE



RICHFIELD PARK

SHEET 4 OF 4 BY DL  
DATE 8-1-86 OK BY \_\_\_\_\_

IV CHECK CAPACITY OF PRIVATE SWALES:



USE MANNINGS:

$$S = 0.01 (\text{MIN})$$

$$A = 5 \text{ SF}$$

$$P = 10'$$

$$R = 0.5$$

$$n = 0.017$$

$$Q = 27.6 \text{ CFS} \gg Q_{100} \text{ EXPECTED AT ANY SWALE}$$

V CHECK AMATCA CHANNEL

USE MANNINGS:

$$S = 0.005 \text{ MIN}$$

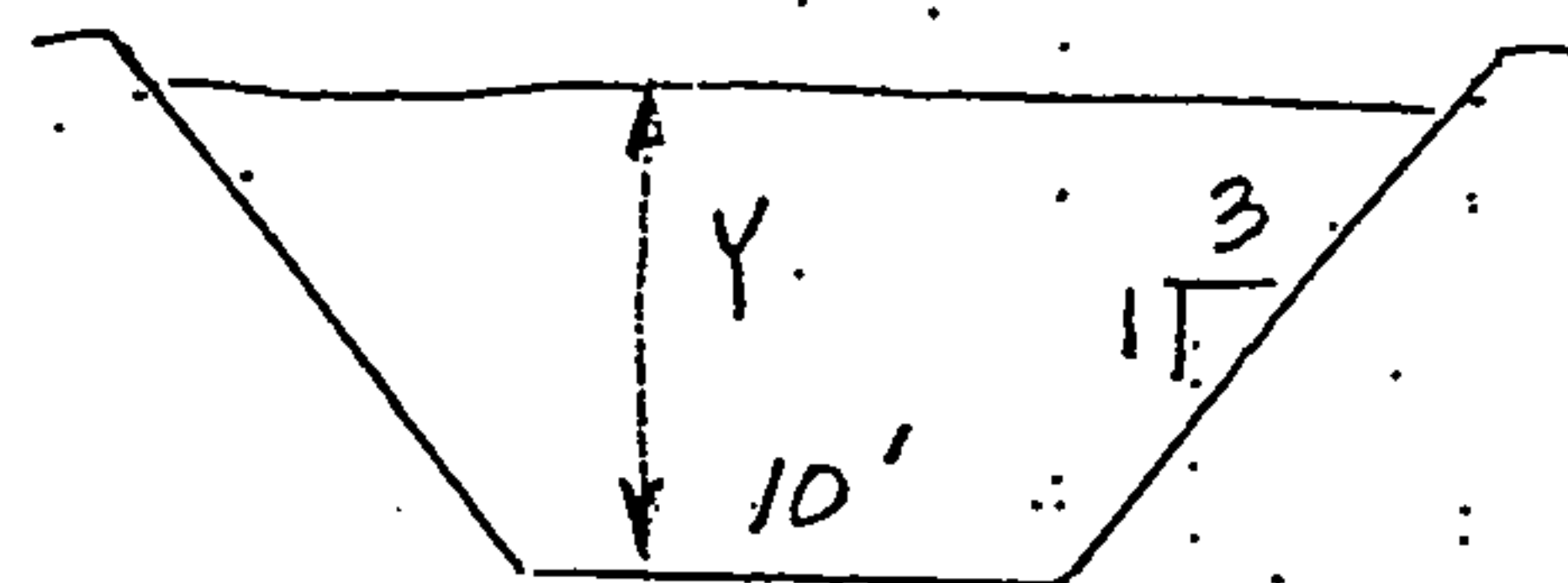
$$n = 0.03 (\text{EARTH})$$

$$Q_{100} = 198.2 \text{ CFS}$$

$$A = 10Y + 3Y^2$$

$$P = 10 + 4Y$$

$$R = A/P$$



$$Q = 198.2 = \frac{1.49}{0.03} A R^{2/3} (0.005)^{1/2}$$

$$A R^{2/3} = 56.4$$

$$\text{BY T.E. } Y_{100} = \underline{2.2} \text{ OK}$$

$$A = \underline{36.52 \text{ SF}}$$

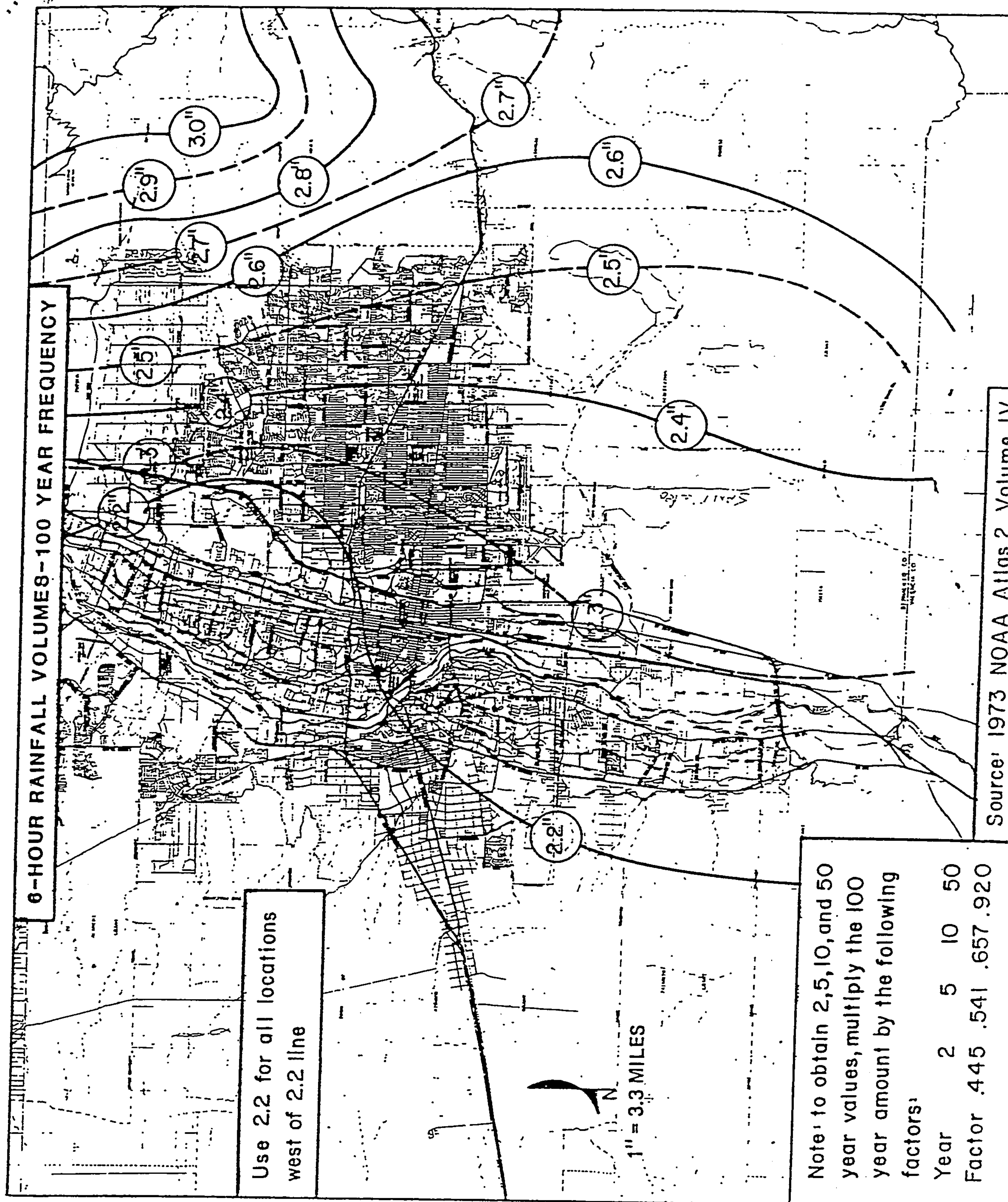
$$40.3$$

$$Q = 194.5 \Rightarrow V = 4.8 \text{ fps}$$

$$V = \frac{Q}{A} \geq 5.4 \text{ FPS}$$

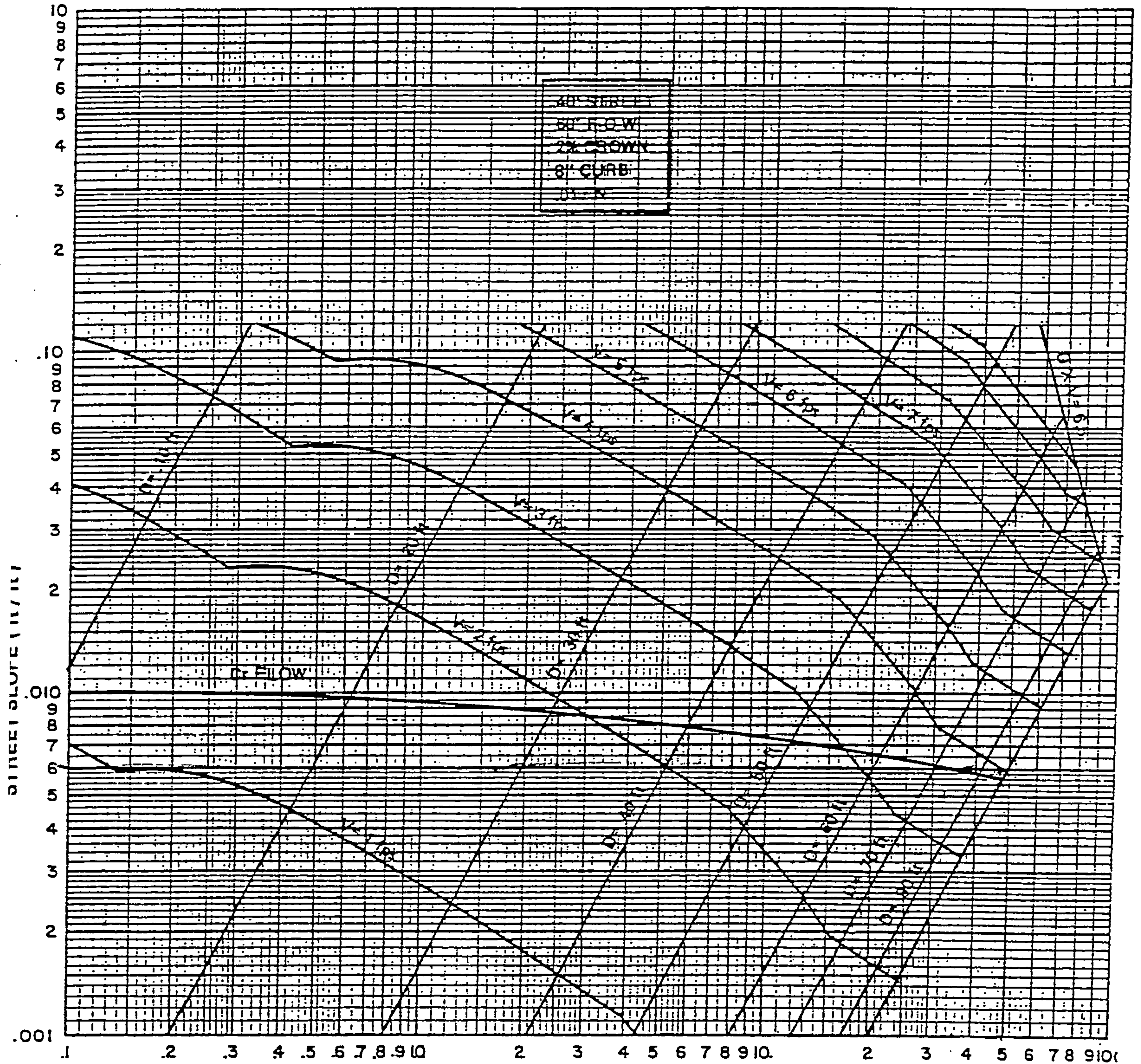
AT 5.4 FPS EROSION IS SLIGHT







STREET CAPACITY



5000  
x 2  
= 10000