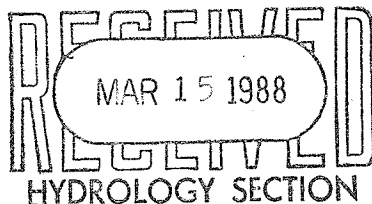


PROJECT TITLE: RAIN TUNNEL ZONE ATLAS/DRNG. FILE #: J17/D10  
 LEGAL DESCRIPTION: LOT 10A, DOROTHY BROWN'S SUBDIVISION  
 CITY ADDRESS: OF BLOCK 2, PUEBLO ALB ADDITION  
 ENGINEERING FIRM: TOM MANN & ASSOC CONTACT: J.G. MORTENSEN  
 ADDRESS: 811 DALLAS NE PHONE: 265-5611  
 OWNER: BILL HAYS CONTACT: SAME  
 ADDRESS: 5101 LOMAS NE PHONE: 266-7705  
 ARCHITECT: N/A CONTACT: \_\_\_\_\_  
 ADDRESS: \_\_\_\_\_ PHONE: \_\_\_\_\_  
 SURVEYOR: N/A CONTACT: \_\_\_\_\_  
 ADDRESS: \_\_\_\_\_ PHONE: \_\_\_\_\_  
 CONTRACTOR: PRIDE CONSTRUCTION CONTACT: PHIL PRATT  
 ADDRESS: \_\_\_\_\_ PHONE: \_\_\_\_\_

## PRE-DESIGN MEETING:

☐ YES  
☐ NO

☐ COPY OF CONFERENCE RECAP  
 SHEET PROVIDED

DRB NO. DRB - 86-451

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

PROJ. NO. J17/D10

## 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 Acceptance (SPECIFY)  
& Release of Financial  
Guarantees

DATE SUBMITTED: 03-15-88BY: J.G. MORTENSEN



# City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

MAYOR  
KEN SCHULTZ

CHIEF  
ADMINISTRATIVE OFFICER

GENE ROMO

DEPUTY CAO  
PUBLIC SERVICES

FRANK MARTINEZ

DEPUTY CAO  
PLANNING/DEVELOPMENT

BILL MUELLER

March 25, 1988

Jeff Mortensen, P.E.  
Tom Mann & Associates, Inc.  
811 Dallas, NE  
Albuquerque, New Mexico 87110

RE: CERTIFICATION FOR THE CONCRETE CHANNEL @ THE RAIN TUNNEL  
CAR WASH (J-17/D10) CERTIFICATION DATED MARCH 14, 1988

Dear Mr. Mortensen:

Based on the information provided on your submittal of March 15, 1988,  
the above referenced certification is acceptable.

If I can be of further assistance, please feel free to call me at  
768-2650.

Cordially,

Bernie J. Montoya, C.E.  
Engineering Assistant

xc: Della Gallegos

BJM/bsj

FILE COPY



# City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

Ken Schultz  
Mayor

UTILITY DEVELOPMENT DIVISION  
HYDROLOGY SECTION  
(505) 768-2650

October 26, 1987

Jeff G. Mortensen, P.E.  
Tom Mann & Associates, Inc.  
811 Dallas, Ne  
Albuquerque, New Mexico 87110

RE: DRAINAGE & GRADING PLAN AND DRAINAGE COVENANT SUBMITTAL OF RAIN  
TUNNEL CAR WASH RECEIVED OCTOBER 12, 1987 FOR S.O. #19 AND  
FINAL PLAT APPROVAL (J-17/D10) (DRB-86-451)

Dear Jeff:

The above referenced submittal revised October 13, 1987 is approved for construction. The contractor must obtain an Excavation Permit and then can proceed with construction in accordance with this plan.

The Drainage Covenant will be signed by the City Engineer today, and be forwarded to the Legal Department for review, then recorded.

As previously required by the DRB, an executed Subdivision Improvements Agreement is required for Final Plat approval.

If you have any questions, call me at 768-2650.

Cordially,

Roger A. Green, P.E.  
C.E./Hydrology Section

cc: Bill Hays, Rain Tunnel, Inc.

PUBLIC WORKS DEPARTMENT

Walter Nickerson, P.E., City Engineer

ENGINEERING GROUP

Telephone (505) 768-2500

AN EQUAL OPPORTUNITY EMPLOYER



# City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

Mayor  
Ken Schultz

February 10, 1988

CERTIFIED MAIL/RETURN RECEIPT REQUESTED

Mr. William S. Hays, President  
The Rain Tunnel, Inc.  
5101 Lomas Blvd. NE  
Albuquerque, NM 87110



*Barbara!*  
*File*  
*Fred A.*  
*2/10/88*

Re: NOTICE OF UPCOMING DEADLINE FOR COMPLETION OF IMPROVEMENTS AND CITY'S INTENTION TO CALL FINANCIAL GUARANTEE

PROJECT: THE RAIN TUNNEL - PROJECT NO: N/A

Dear Mr. Hays:

I am the Assistant City Attorney who represents the City in matters relating to construction of infrastructure by subdividers. As you are aware, The Rain Tunnel, Inc. (the "Subdivider") signed an agreement (Subdivision Improvements Agreement) with the City committing the Subdivider to complete the construction of required infrastructure by March 3, 1988 ("Construction Deadline"). The Subdivider elected to executed an Subdivision Improvements Agreement which did not use the entire two-year maximum time allowed by the Subdivision Ordinance to complete construction. Therefore, if construction will not be completed by the Construction Deadline, the City may grant the Subdivider an extension of time to complete the construction of the required subdivision improvements if the Subdivider meets the following conditions.

The City may grant an extension, not to exceed a total of two years from the date of execution of the Subdivision Improvements Agreement with the City, if the Subdivider submits a written request for extension of time to construct and delivers the request to the City at least fifteen (15) days prior to the March 3, 1988 Construction Deadline. The request must identify the length of extension requested, provide justification for the extension, and make note of any potential negative impact if the extension is granted. The City will review the request and apparent consequences of granting an extension. If the extension is allowed the Subdivider will be required to complete an Extension Agreement and submit the required, revised Financial Guarantee to the City by March 3, 1988.

PUBLIC WORKS DEPARTMENT

George E. Selvia, P.E.,  
Assistant Director Public Works

ENGINEERING GROUP

Telephone (505) 768-2500

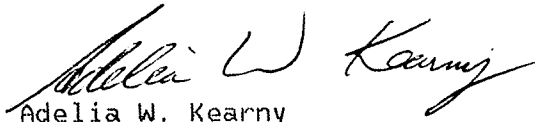
AN EQUAL OPPORTUNITY EMPLOYER

THIS LETTER PROVIDES NOTICE TO THE RAIN TUNNEL, INC. AND TO THE SURETY REFERRED TO BELOW THAT, IF THE CONSTRUCTION IS NOT COMPLETED BY THE MARCH 3, 1988 CONSTRUCTION DEADLINE, THE CITY MAY DECLARE THE AGREEMENT TO BE IN DEFAULT AND WILL HOLD THE RAIN TUNNEL, INC. AND THE SURETY JOINTLY AND SEVERALLY LIABLE FOR 125% OF THE COST OF COMPLETING THE IMPROVEMENTS UNLESS (1) THE SUBDIVIDER SUBMITS A WRITTEN REQUEST FOR EXTENSION BY FEBRUARY 17, 1988; AND (2) (IF THE CITY APPROVES THE EXTENSION) THE SUBDIVIDER SUBMITS THE REQUIRED EXTENSION AGREEMENT AND FINANCIAL GUARANTEE TO THE CITY BY MARCH 3, 1988

PLEASE NOTE THAT THE CITY REQUIRES THE FINANCIAL INSTITUTION ISSUING THE FINANCIAL GUARANTEE TO BE A FDIC OR FSLIC INSURED INSTITUTION OR A SURETY LICENSED TO DO BUSINESS IN NEW MEXICO.

Please contact Della Gallegos, Project Administrator, at 768-2515 and tell her (1) whether the construction will be completed by the construction deadline of March 3, 1988 and provide the necessary paperwork for acceptance of the required subdivision improvements; or (2) whether the Subdivider will be delivering to the City a written request for extension by February 17, 1988; and if an extension is granted by the City, whether the Subdivider then will be submitting an Extension Agreement and revised Financial Guarantee to the City by March 3, 1988.

Very truly yours,

  
Adelia W. Kearny  
Assistant City Attorney

AWK/DG/mr  
(0081E)

cc: Noel D. Behne, Executive Vice President & Cashier, The First National Bank  
Andre Houle, Design Rev. Sec., Development Div., Eng. Group/PWD  
Russell Givler, Construction Mgmt. Div., Engineering Group/PWD  
Della Gallegos, Design Rev. Sec., Development Div., Eng. Group/PWD  
File

THIS LETTER IS SENT TO CONFORM TO THE REQUIREMENTS OF THE DEVELOPMENT PROCESS MANUAL.

FILE COPY



# City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

MAYOR  
KEN SCHULTZ

CHIEF  
ADMINISTRATIVE OFFICER

GENE ROMO

DEPUTY CAO  
PUBLIC SERVICES

FRANK MARTINEZ

DEPUTY CAO  
PLANNING/DEVELOPMENT

BILL MUELLER

March 25, 1988

Jeff Mortensen, P.E.  
Tom Mann & Associates, Inc.  
811 Dallas, NE  
Albuquerque, New Mexico 87110

RE: CERTIFICATION FOR THE CONCRETE CHANNEL @ THE RAIN TUNNEL  
CAR WASH (J-17/D10) CERTIFICATION DATED MARCH 14, 1988

Dear Mr. Mortensen:

Based on the information provided on your submittal of March 15, 1988,  
the above referenced certification is acceptable.

If I can be of further assistance, please feel free to call me at  
768-2650.

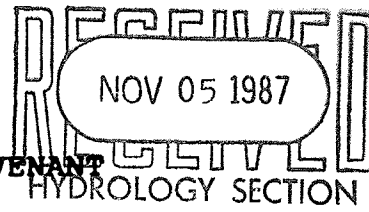
Cordially,

Bernie J. Montoya, C.E.  
Engineering Assistant

xc: Della Gallegos

BJM/bsj

87112953



517/D10  
8800364

DRAINAGE COVENANT

000917

This Drainage Covenant, between [state the name of the present real property owner exactly as shown on the real estate document conveying title to the present owner and state the legal status of the owner, for example, "single person," "husband and wife," "corporation of the State of X," "partnership":]

William S. Hays, President, The Rain Tunnel, Inc.  
("Owner"), whose address is 5101 Lomas Boulevard N.E., Albuquerque, New Mexico 87110, and the City of Albuquerque, a New Mexico municipal corporation ("City"), whose address is P. O. Box 1293, Albuquerque, New Mexico 87103, is made in Albuquerque, Bernalillo County, New Mexico and is entered into as of the date Owner signs this Easement.

1. Recital. Owner is the owner of certain real property located at [give general description, for instance, subdivision, lot and block or street address:] Lots 6 - 11 and West 10' of Lot 5, plus vacated alley, Blk 2, in Bernalillo County, New Mexico (the "Property"). Pueblo Alto

Pursuant to City ordinances, regulations and other applicable laws, the Owner is required to construct and maintain certain drainage facilities on the Property, and the parties wish to enter into this agreement to establish the obligations and responsibilities of the parties.

2. Description and Construction of Drainage Facilities. Owner shall construct the following "Drainage Facility" within the Property at Owner's sole expense in accordance with the standards, plans and specifications approved by the City:  
10' wide concrete drainage channel

The Drainage Facility is more particularly described in the attached Exhibit A. The Owner will not permit the Drainage Facility to constitute a hazard to the health or safety of the general public.

3. Maintenance of Drainage Facility. The Owner will maintain the Drainage Facility at Owner's cost in accordance with the approved Drainage Report and plans.

4. City's Right of Entry. The City has the right to enter upon the Property at any time and perform whatever inspection of the Drainage Facility it deems appropriate, without liability to the Owner.

5. Demand for Construction or Repair. The City may send written notice ("Notice") to the Owner requiring the Owner to construct or repair the Drainage Facility within 30 days ("Deadline") of receipt of the Notice, as provided in Section 12, and the Owner will comply promptly with the requirements of

the Notice. The Owner will perform all required work by the Deadline, at Owner's sole expense.

6. Failure to Perform by Owner and Emergency Work by City. If the Owner fails to comply with the terms of the Notice by the Deadline, or if the City determines that an emergency condition exists, the City may perform the work itself. The City then may assess the Owner for the cost of the work and for any other expenses or damages which result from Owner's failure to perform. The Owner agrees promptly to pay the City the amount assessed. If the Owner fails to pay the City within thirty (30) days after the City gives the Owner written notice of the amount due, the City may impose a lien against Owner's Property for the total resulting amount.

7. Liability of City for Repair after Notice or as a Result of Emergency. The City shall not be liable to the Owner for any damages resulting from the City's repair or maintenance following notice to the Owner as required in this agreement or in an emergency unless the damages are the result of the reckless conduct or gross negligence of the City.

8. Indemnification. As a part of the consideration for this grant, subject to the provisions of the New Mexico Tort Claims Act and all other applicable New Mexico laws, the City agrees to save Owner harmless from any and all liability arising from the City's negligent use of the Drainage Facility. The City does not agree to save Owner harmless from any liability which may arise from Owner's use of the Drainage Facility and the Property.

9. Cancellation of Agreement and Release of Covenant. This agreement may be cancelled and Owner's covenants released by the City following by the City's mailing to the Owner notice of the City's intention to record a Cancellation and Release with the Bernalillo County Clerk. The Cancellation and Release will be effective thirty (30) days after the date of mailing the notice to the User unless a later date is stated in the notice or in the Cancellation and Release. After the effective date, the City will record the Cancellation and Release with the Bernalillo County Clerk.

10. Assessment. Nothing in this agreement shall be construed to relieve the Owner, his heirs, assigns and successors from an assessment against Owner's Property for improvements to the Property under a duly authorized and approved Special Assessment District. The parties specifically agree that the value of the (Drainage Facility) will not reduce the amount assessed by the City.



11. Notice. For purposes of giving formal written notice to the Owner, Owner's address is:

5101 Lomas Boulevard N.E.

Albuquerque, New Mexico 87110

Notice may be given to the Owner either in person or by mailing the notice by regular U.S. mail, postage paid. Notice will be considered to have been received by the Owner within 6 days after the notice is mailed if there is no actual evidence of receipt. The Owner may change Owner's address by giving written notice of the change by certified mail, return receipt requested, to the City Public Works Department, P.O. Box 1293, Albuquerque, New Mexico 87103.

12. Term. This agreement shall continue until terminated by the City pursuant to Section 7 above.

13. Binding on Owner's Property. The covenants and obligations of the Owner set forth herein shall be binding on Owner, his heirs, assigns and successors and on Owner's Property and constitute covenants running the Owner's Property until released by the City.

14. Entire Agreement. This agreement contains the entire agreement of the parties and supersedes any and all other agreements or understandings, oral or written, whether previous to the execution hereof or contemporaneous herewith.

15. Changes to Agreement. Changes to this agreement are not binding unless made in writing, signed by both parties.

16. Construction and Severability. If any part of this agreement is held to be invalid or unenforceable, the remainder of the agreement will remain valid and enforceable if the remainder is reasonably capable of completion.

17. Captions. The captions to the sections or paragraphs of this agreement are not part of this agreement and will not affect the meaning or construction of any of its provisions.

18. Form Not Changed. Owner agrees that changes to the wording of this form are not binding upon the City unless initiated by the Owner and approved and signed by the City Legal Department in writing on this form.

OWNER:

By: William S. Hays  
 Its: President  
 Dated: 10-8-87

(Approved by Legal Dept.

as to form only 5/28/86)

STATE OF New Mexico )  
 ) ss  
 COUNTY OF Bernalillo )

The foregoing instrument was acknowledged before me this  
8 day of October, 1987, by [name of person signing:]  
William S. Hays, [title or capacity, for instance,  
 "President" or "Owner":] President of [name of  
 the entity which owns the Property if other than the individual  
 signing, for instance, the name of the corporation, partnership,  
 or joint venture:] The Rain Tunnel, Inc.

Paul H. Clifton  
 Notary Public

My Commission Expires:  
4-19-90



OFFICIAL SEAL  
 PAUL H. CLIFTON  
 Notary Public, State of New Mexico  
 My Commission Expires 4-19-90

CITY OF ALBUQUERQUE:

Approved:

By: Walter H. Dickerson Jr.  
 Title: CITY ENGINEER  
 Dated: 10/26/87

RLS  
10/26/87

STATE OF NEW MEXICO  
 COUNTY OF BERNALILLO  
 FILED FOR RECORD  
 87 NOV -2 AM 9:50  
 BK 552A PG 917-921  
 GLADYS M. DAVIS  
 CO. CLERK & RECORDER  
Charles DEPUTY

(EXHIBIT A ATTACHED)

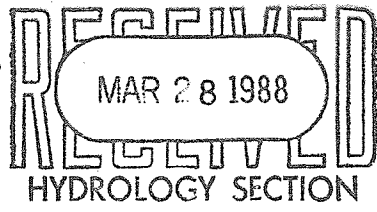
(Approved by Legal Dept.)

50045

J17-D10

GEO-TEST

February 12, 1988



Job No. 88-1012

Mr. Bill Hays  
c/o Rain Tunnel Car Wash  
5101 Lomas, N.E.  
Albuquerque, NM 87110

PROJECT: Rain Tunnel Car Wash

Results of Field Density Tests (Nuclear Method) 2/10/88

Test No.	Location	Den. (pcf)	Moist. Per.	Max.Den. (pcf)	Op. Moist. Percent	Per. Den.	Per. Spec.
1	Drainage channel along E edge of site, 130' N of Lomas, FSG	123.1	13.4	129.5	9.2	95.1	95

Submitted by:  
GEO-TEST, INC.

A handwritten signature in cursive script, appearing to read "Robert Beardslee".

Robert Beardslee  
Engineering Technician

Copies: Addressee (1)  
Pride Construction, Attn: Mr. Phil Pratt  
Tom Mann & Associates, Attn: Mr. Jeff Mortenson

XC: Carlos Montoya

GEO-TEST  
OF  
ALBUQUERQUE  
INC.  
3609 PALO  
DURO N.E.  
ALBUQUERQUE,  
NEW MEXICO  
87110  
(505) 883-0074

February 12, 1988

Job No. 88-1012

**GEO-TEST**

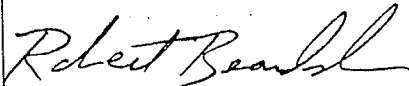
Mr. Bill Hays  
c/o Rain Tunnel Car Wash  
5101 Lomas, N.E.  
Albuquerque, NM 87110

PROJECT: Rain Tunnel Car Wash

Results of Field Density Tests (Nuclear Method) 2/11/88

Test No.	Location	Den. (pcf)	Moist. Per.	Max.Den. (pcf)	Op. Moist. Percent	Per. Den.	Per. Spec.
2	Drainage channel along E edge of site, 80' N of Lomas, FSG	125.5	10.9	129.5	9.2	96.9	95

Submitted by:  
GEO-TEST, INC.



Robert Beardslee  
Engineering Technician

Copies: Addressee (1)  
Pride Construction, Attn: Mr. Phil Pratt  
Tom Mann & Associates, Attn: Mr. Jeff Mortenson

GEO-TEST  
OF  
ALBUQUERQUE  
INC.  
3609 PALO  
DURO N.E.  
ALBUQUERQUE,  
NEW MEXICO  
87110  
(505) 883-0074

February 12, 1988

Job No. 88-1012

**GEO-TEST**

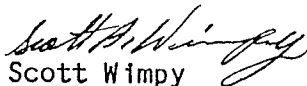
Mr. Bill Hays  
c/o Rain Tunnel Car Wash  
5101 Lomas, N.E.  
Albuquerque, NM 87110

PROJECT: Rain Tunnel Car Wash

Results of Field Density Tests (Nuclear Method) 2/12/88

Test No.	Location	Den. (pcf)	Moist. Per.	Max.Den. (pcf)	Op. Moist. Percent	Per. Den.	Per. Spec.
3	Drainage channel on E side of lot, 22' N of Lomas, FSG	125.0	10.3	129.5	9.2	96.5	95

Submitted by:  
GEO-TEST, INC.

  
Scott Wimpy  
Engineering Technician

Copies: Addressee (1)  
Pride Construction, Attn: Mr. Phil Pratt  
Tom Mann & Associates, Attn: Mr. Jeff Mortenson

GEO-TEST

ALBUQUERQUE,  
NEW MEXICO  
9 PALO  
ALTO, N.E.  
ALBUQUERQUE,  
NEW MEXICO  
10  
Tel: 883-0074

50045



February 16, 1988

Job No. 88-1012  
Lab No. L88-063

Mr. Bill Hays  
c/o Rain Tunnel Car Wash  
5101 Lomas, N.E.  
Albuquerque, NM 87110

PROJECT: Rain Tunnel Car Wash

LOCATION OF SAMPLE: On-site material

DATE SAMPLED: 2/11/88

SAMPLE: very clayey Sand, trace gravel, brown (SC)

Moisture-Density Relationship ASTM-D-1557 Method A

Maximum Density	129.5 pcf
Optimum Moisture	9.2 percent

SIEVE ANALYSIS

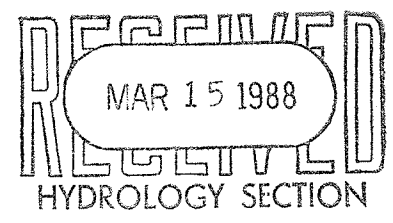
Sieve Size	Percent Passing
3/4"	100
1/2"	98
3/8"	98
No. 4	96
No. 10	90
No. 40	76
No. 80	63
No. 200	30.9

ATTERBERG LIMITS

Plasticity Index	3
Liquid Limit	20

Submitted by:  
GEO-TEST, INC.

Dennis S. Rush  
Senior Engineering Technician



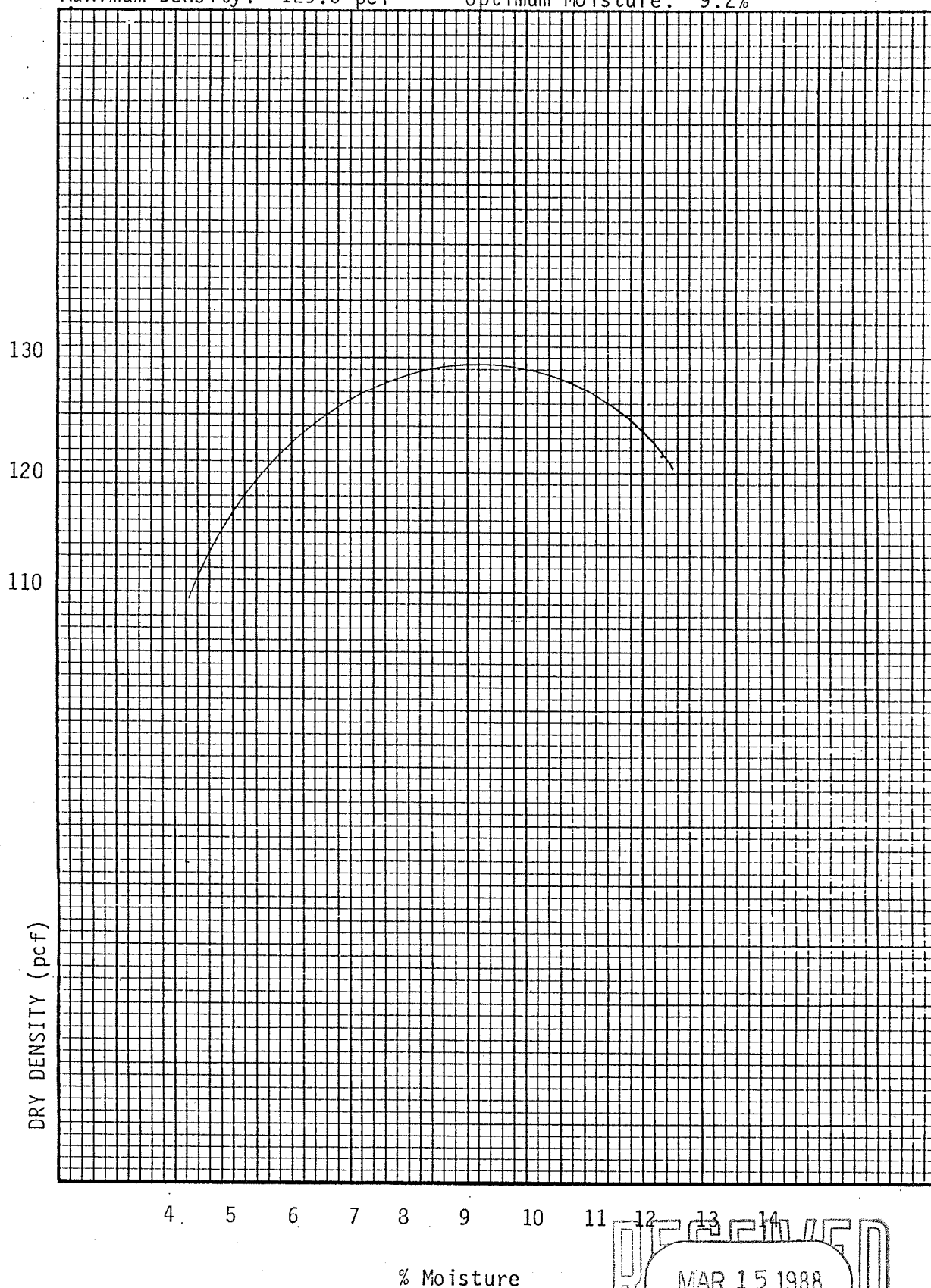
Copies: Addressee (1)  
Pride Construction, Attn: Mr. Phil Pratt  
Tom Mann & Associates, Attn: Mr. Jeff Mortenson

GEO-TEST  
OF  
ALBUQUERQUE  
INC.  
3609 PALO  
DURO N.E.  
ALBUQUERQUE,  
NEW MEXICO  
87110  
(505) 883-0074

Job No. 88-1012  
Lab N 188-063  
Rain tunnel Car Wash

GEO-TEST

Maximum Density: 129.5 pcf      Optimum Moisture: 9.2%



GEO-TEST  
OF  
ALBUQUERQUE  
INC.  
3609 PALO  
DURO N.E.  
ALBUQUERQUE,  
NEW MEXICO  
87110  
(505) 883-0074

RECEIVED  
MAR 15 1988  
HYDROLOGY SECTION

50045

GEO-TEST

March 9, 1988

Job No. 88-1012

Mr. Bill Hays  
c/o Rain Tunnel Car Wash  
5101 Lomas, N.E.  
Albuquerque, NM 87110

## REPORT OF CONCRETE SPECIMENS

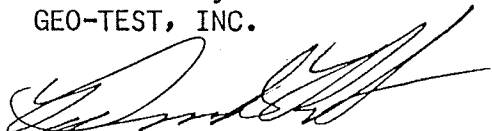
Project: Rain Tunnel Car Wash  
Location of Sample: Drainage channel - north end of channel  
Slump: 2-1/4"  
Air Content: 5.75%  
Supplier: Albuquerque Gravel Products, Truck #222, Ticket #20935  
Concrete Code: 49110200  
Sampled by: Geo-Test of Albuquerque, Inc.  
Date Molded: 2/10/88  
Delivered to Lab: 2/11/88

Specimen No.	Date Tested	Age Days	Compressive Strength	28-Day Strength Required
1012-1*	2/17/88	7	3240 PSI	3000 PSI
1012-2	3/9/88	28	3950 PSI	3000 PSI
1012-3	3/9/88	28	4090 PSI	3000 PSI

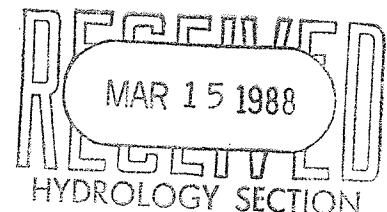
Admixtures: AEA

\*Previously tested and reported.

Submitted by:  
GEO-TEST, INC.



Dennis S. Rush  
Senior Engineering Technician



GEO-TEST  
OF  
ALBUQUERQUE  
INC.  
3609 PALO  
DURO N.E.  
ALBUQUERQUE,  
NEW MEXICO  
87110  
(505) 883-0074

Copies: Addressee (1)  
Pride Construction, Attn: Mr. Phil Pratt  
Tom Mann & Associates, Attn: Mr. Jeff Mortenson



**GEO-TEST**

February 19, 1988

Job No. 88-1012

Mr. Bill Hays  
 c/o Rain Tunnel Car Wash  
 5101 Lomas, N.E.  
 Albuquerque, NM 87110

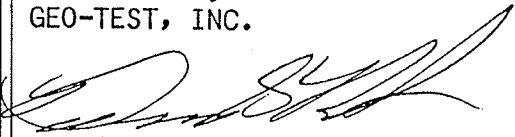
## REPORT OF CONCRETE SPECIMENS

Project: Rain Tunnel Car Wash  
 Location of Sample: Drainage channel - east side of lot, south  
 end of channel  
 Slump: 2-1/2"  
 Air Content: 4.25%  
 Supplier: Albuquerque Gravel Products, Truck #209, Ticket #21074  
 Concrete Code: 49110200  
 Sampled by: Geo-Test of Albuquerque, Inc.  
 Date Molded: 2/12/88  
 Delivered to Lab: 2/13/88

Specimen No.	Date Tested	Age Days	Compressive Strength	28-Day Strength Required
1012-4	2/19/88	7	2970 PSI	3000 PSI
1012-5				
1012-6				

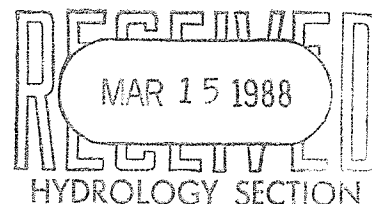
Admixtures: AEA  
 10 gallons of water added before sampling.

Submitted by:  
 GEO-TEST, INC.

  
 Dennis S. Rush  
 Senior Engineering Technician

Copies: Addressee (1)  
 Pride Construction, Attn: Mr. Phil Pratt  
 Tom Mann & Associates, Attn: Mr. Jeff Mortenson

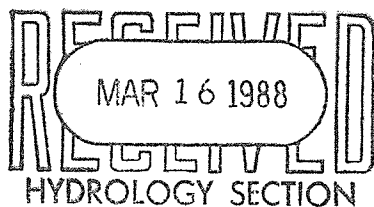
GEO-TEST  
 OF  
 ALBUQUERQUE  
 INC.  
 3609 PALO  
 DURO N.E.  
 ALBUQUERQUE,  
 NEW MEXICO  
 87110  
 (505) 883-0074



GEO-TEST

March 11, 1988

Job No. 88-1012



Mr. Bill Hays  
c/o Rain Tunnel Car Wash  
5101 Lomas, N.E.  
Albuquerque, NM 87110

REPORT OF CONCRETE SPECIMENS

Project: Rain Tunnel Car Wash  
Location of Sample: Drainage channel - east side of lot, south  
end of channel  
Slump: 2-1/2"  
Air Content: 4.25%  
Supplier: Albuquerque Gravel Products, Truck #209, Ticket #21074  
Concrete Code: 49110200  
Sampled by: Geo-Test of Albuquerque, Inc.  
Date Molded: 2/12/88  
Delivered to Lab: 2/13/88

Specimen No.	Date Tested	Age Days	Compressive Strength	28-Day Strength Required
1012-4 *	2/19/88	7	2970 PSI	3000 PSI
1012-5	3/11/88	28	3790 PSI	3000 PSI
1012-6	3/11/88	28	3920 PSI	~3000 PSI

Admixtures: AEA  
10 gallons of water added before sampling.

\*Previously tested and reported.

Submitted by:  
GEO-TEST, INC.

Dennis S. Rush  
Senior Engineering Technician

Copies: Addressee (1)  
Pride Construction, Attn: Mr. Phil Pratt  
Tom Mann & Associates, Attn: Mr. Jeff Mortenson  
Carlos Montoya

517/po

8800364

221

8849854

RELEASE OF DRAINAGE COVENANT  
 TITLE OF PROJECT: RAIN TUNNEL  
 SUBDIVIDER: The Rain Tunnel, Inc.  
 CITY PROJECT NO. N/A

THIS RELEASE IS EXECUTED THIS 26th DAY OF May, 1988.

WHEREAS, the City of Albuquerque, New Mexico, a municipal corporation ("City") and The Rain Tunnel, Inc. ("Subdivider"), entered into a Drainage Covenant dated the 26th day of October, 1987, recorded on November 2, 1987 in the records of the Clerk of Bernalillo County, New Mexico at Book Misc. 552-A, pages 917 through 921, whereby the Subdivider agreed to complete certain infrastructure improvements; and

WHEREAS, the Subdivider has completed the improvements to the satisfaction of the City and has otherwise fully performed all of its obligations under the above-mentioned Covenant.

NOW THEREFORE, in consideration of the above, the City does hereby release and discharge Subdivider from all obligations contained in the above-mentioned Covenant.

CITY OF ALBUQUERQUE, NEW MEXICO

APPROVED BY:

Gene Rano  
 Chief Administrative Officer  
 Dated: 5-26-88

Glenn B. Elmer  
 City Engineer/Development Division  
 Public Works Dept.-Engineering Group

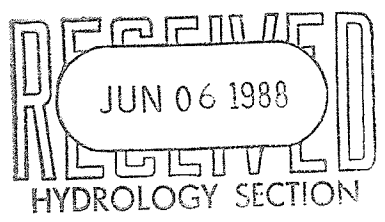
STATE OF NEW MEXICO )  
 ) ss.  
 COUNTY OF BERNALILLO )

The foregoing instrument was acknowledged before me on this 26th day of May, 1988, by Gene Rano Chief Administrative Officer of the City of Albuquerque, a municipal corporation, on behalf of said corporation.

My Commission Expires:

Priscilla Phillips  
 Notary Public

3-17-90



STATE OF NEW MEXICO  
 COUNTY OF BERNALILLO  
 FILED FOR RECORD

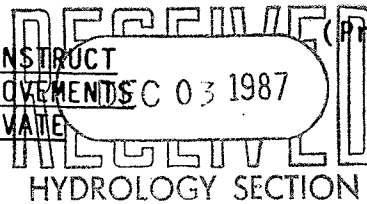
Figure 24

588 JUN -3 AM 9:05  
 BK 6284 PG 221  
 GLADYS M. DAVIS  
 CO. CLERK & RECORDER  
Gene D. DEPUTY

Rev. 2/1/88  
 (0108E)

87120024

AGREEMENT TO CONSTRUCT  
SUBDIVISION IMPROVEMENTS C 03 1987  
PUBLIC & PRIVATE



(Procedure "B")

000 43

PRO. # N/A  
J17/D10

THIS AGREEMENT made this 18<sup>th</sup> day of November, 1987, by and between the City of Albuquerque, New Mexico (hereinafter referred to as "City") and The Rain Tunnel, Inc.

(hereinafter referred to as "Developer") pursuant to Section 6 of the City's Subdivision Ordinance (Enactment No. 56-1983, effective June 29, 1983).

WHEREAS, the Developer is developing certain lands within the City of Albuquerque, County of Bernalillo, State of New Mexico known as Lots 6-11, Portion of Lot 5, Vacated Alley in Block 2, Dorothy Brown's Subdivision of Block 2, Pueblo Alto Addition (hereinafter referred to as the "Subdivision"); and

WHEREAS, the Developer has submitted and the City has approved a preliminary plat identified as Lot 10-A, Dorothy Brown's Subdivision of Block 2, Pueblo Alto Addition describing the Subdivision; and

WHEREAS, the preliminary plat submitted by the Developer proposes both private and public infrastructure improvements within the subdivision; and

WHEREAS, Section 6 of the City's Subdivision Ordinance requires the Developer to install and construct certain public improvements at no cost to the City; and

WHEREAS, the City requires the execution of an Agreement to construct said public improvements, together with actual satisfactory construction or acceptable guarantees of construction as specified below, as a prerequisite to approval of a Final Plat of the Subdivision; and

STATE OF NEW MEXICO  
COUNTY OF BERNALILLO  
NOV 23 AM 9:10  
MS 561A 43-59  
GLADYS M. DAVIS  
DEPUTY CLERK & RECORDER  
Chabey

WHEREAS, the Developer must obtain City approval of construction plans, specifications, and cost estimates for the improvements and upon City approval of such construction plans, specifications, and cost estimates the City is prepared to issue the Developer a Work Order permitting the commencement of construction activities upon execution of this Agreement and payment of all required fees, all as set forth and specified in Exhibit "A", which is attached hereto and incorporated herein as if fully set forth in this Agreement; and

WHEREAS, the City is willing to inspect or monitor the private inspection of the improvements during the course of their construction and accept said improvements upon their satisfactory completion, all as set forth and specified in Exhibit "B", which is attached hereto and incorporated herein as if fully set forth in this Agreement; and

WHEREAS, the Developer financially guarantees the satisfactory completion of the infrastructure construction required herein and the payment of all labor and material costs and charges, all as set forth and specified in Exhibit "C", which is attached hereto and incorporated herein as if fully set forth in this Agreement;

NOW, THEREFORE, in consideration of the above, the City and the Developer hereby agree as follows:

1. The Developer shall, on or before the 3rd day of March, 1988, complete to the satisfaction of the City the improvements required for the Subdivision as set forth, specified and referenced in Exhibit "A" attached hereto. The improvements which the Developer shall satisfactorily complete within the time limitation stated above are described and identified in Exhibit "D", which is attached hereto and incorporated herein as fully set forth in this Agreement.

The time limitation stated above may be extended by the City Engineer for a period not to exceed twelve (12) months if the Developer shows adequate reasons for said extension.

2. After execution of this Agreement, payment of all fees as specified in Exhibit "A" attached hereto, and, if applicable, delivery of the financial guarantee specified in Exhibit "C" attached hereto, the Developer shall be issued a Work Order by the City. The Developer shall advise the City Engineer in advance of the actual start of construction and arrange for all inspections required and specified in Exhibit "B" attached hereto. The Developer shall permit the City or other participating agencies to make such tests and inspections during the construction of the improvements and upon completion of the improvements as are necessary or desirable.

3. a) Prior to final acceptance of the completed Public Improvements by the City, the Developer shall furnish to the City Engineer all documentation of the completion of construction as set forth and specified in Exhibit "A" attached hereto.

b) Prior to release of financial assurance, the Developer shall either provide Certification by a New Mexico registered Professional Engineer that the required Private Improvements have been constructed in compliance with approved plans and specifications or the Developer shall make necessary arrangements for Certification by the City Engineer that the required improvements are satisfactorily completed.

4. Until acceptance of the improvements by the City, the Developer shall be solely responsible for maintaining the premises being subdivided in a safe condition. The Developer agrees to defend, indemnify and hold harmless the City and its officers, agents and employees from and against all suits, actions or claims of any character brought because of any injury or damage arising out of the design or construction of the improvements or by reason of

any act or omission, or misconduct of the Developer, his agents, employees or the Engineer or Contractor or their agents or employees. The indemnity required hereunder shall not be limited by reason of the specifications of any particular insurance coverage in this Agreement. Nothing herein is intended to impair any right or indemnity under the laws of the State of New Mexico.

5. The Developer shall procure or cause to be procured and maintain public liability insurance in the amount of not less than One Million Dollars (\$1,000,000) for accidents or occurrences which cause bodily injury, death or property damage to any member of the public resulting from any condition of the lands of the subdivision or improvements therein or the construction activities thereon. The insurance policy must name the City of Albuquerque, its employees, and elected officials, as their interest may appear, as additional insureds. The Developer shall maintain such insurance until acceptance of the improvements by the City. Any cancellation provision must provide that if the policy is cancelled prior to the expiration date hereof, materially changed, or not renewed, the issuing company will mail 30 days written notice to the City, attention City Engineer. The Developer shall furnish the City Engineer a certificate of said insurance prior to issuance of a Work Order for construction of the improvements.

6. If at the time that construction of the Project is completed the City does not own the real property on or in which the improvements are constructed, the Developer shall convey such real property and property rights as the City deems necessary, together with all improvements, to the City free and clear of all claims, encumbrances and liens prior to final acceptance of the improvements by the City. Conveyance may be appropriate dedication on the final plat of the subdivision.

7. At the time of acceptance of the completed improvements or any portion thereof by the City, the Developer shall furnish or cause to be furnished a bond or other suitable guarantee in a form and with a surety satisfactory to the City to guarantee the completed project against defective materials and workmanship for a period of three (3) years following the date of acceptance by the City.

8. The City shall either perform or monitor the performance of inspections during the course of construction of the improvements and inspect the improvements upon their completion in a timely manner, all as set forth and specified in Exhibit "B" attached hereto.

9. The City shall designate a Construction Engineer and/or Inspector for this project.

10. The City shall make available at established reproduction costs for the use of the Developer or its agents all of its maps, records, laboratory tests, or other data pertinent to the work to be performed by the Developer or its agents pursuant to this Agreement and also any other maps, records, or other materials available to the City upon the City's request to any other public agency or body.

11. a) The City shall issue a Certificate of Completion and Acceptance for the Public Improvements upon final completion to the City's satisfaction of the Improvements as described in the plans and specifications as set forth and specified in Exhibit "A" attached hereto.

b) The City shall issue a Certificate of Completion for the Private Improvements upon final completion to the City's satisfaction of the Private Improvements as described in the plans and specifications as set forth and specified in Exhibit "A" attached hereto.



12. If the Developer has requested Final Plat approval by the City prior to the actual construction of the improvements, the City will approve the Final Plat for recordation upon execution of this Agreement, payment of all fees specified in Exhibit "A" attached hereto, delivery of the financial guarantee specified in Exhibit "C" attached hereto and full compliance with the City's Subdivision Ordinance.

13. This Agreement shall not be assigned except with the written consent of the parties hereto and the express written concurrence of any surety who has undertaken to guarantee the completion of the Improvements. If so assigned, this Agreement shall extend to and be binding upon the successors and assigns of the parties hereto.

14. In the event of the sale, conveyance, or assignment of the Subdivision or any portion thereof, the City will not release the Developer from its obligations under this Agreement and will continue to hold the Developer responsible for all Improvements until a successor in interest to the Developer has posted a suitable guarantee and entered into a Subdivision Improvement Agreement with the City. At such time as acceptable security has been posted by the Developer's successor in interest and the Agreement executed, the City will release the guarantee.

15. Should there be a conflict between the terms and conditions of this Agreement (with Exhibits A, B, C, and D) and the terms and conditions of any other document referred to herein, the terms and conditions of this Agreement (with Exhibits A, B, C, and D) shall govern.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement as of the date first above written.

DEVELOPER

Signed

William S. Hays  
William S. Hays

Name

President, The Rain Tunnel, Inc.

Title

ATTEST:

City Clerk

REVIEWED BY:

William L. Kearney  
Assistant City AttorneyMalcolm W. DeVos  
for City AttorneySTATE OF NEW MEXICO )  
 ) ss.  
COUNTY OF BERNALILLO )

OFFICIAL SEAL

CHARLES G. CALA, JR.

NOTARY PUBLIC - STATE OF NEW MEXICO  
Notary Bond Filed with Secretary of StateMy Commission Expires 5-6-89The foregoing instrument was acknowledged before me this 10<sup>th</sup> day  
of November, 1987, by William S. Hays  
of The Rain Tunnel, Inc.Charles G. Cala, Jr.  
Notary Public

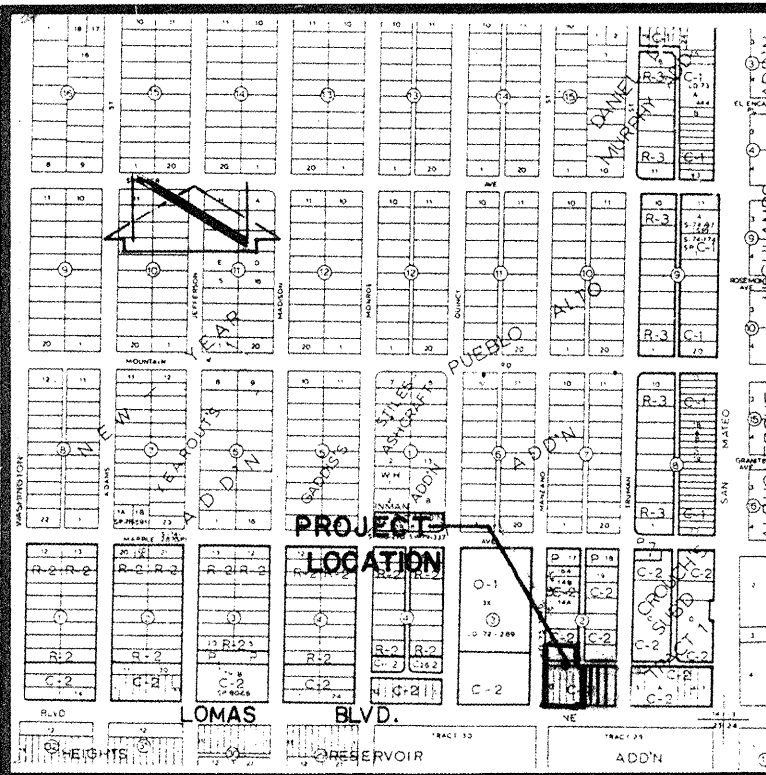
My Commission Expires:

5-6-89STATE OF NEW MEXICO )  
 ) ss.  
COUNTY OF BERNALILLO )The foregoing instrument was acknowledged before me this 18<sup>th</sup> day  
of November, 1987, by Gene Romo, Chief Administrative  
Officer of the City of Albuquerque.Priscilla Phillips  
Notary Public

My Commission Expires:

3-17-90





VICINITY MAP  
SCALE: 1" = 800'

LEGEND  
5325 EXISTING CONTOUR  
25 PROPOSED CONTOUR  
EXISTING SPOT ELEVATION  
PROPOSED SPOT ELEVATION  
PROPOSED ASPHALT  
PROPOSED CONCRETE  
PROPOSED WALL  
SWALE  
TA TOP OF ASPHALT  
TSW TOP OF SIDEWALK  
TC TOP OF CURB  
WEL WATER SURFACE LEVEL

#### EROSION CONTROL MEASURES

- THE CONTRACTOR SHALL ENSURE THAT NO SOIL ERODES FROM THE SITE INTO PUBLIC RIGHT-OF-WAY OR ONTO PRIVATE PROPERTY. THIS CAN BE ACHIEVED BY CONSTRUCTING TEMPORARY BERMS AT THE PROPERTY LINES AND WETTING THE SOIL TO KEEP IT FROM BLOWING.
- THE CONTRACTOR SHALL PROMPTLY CLEAN UP ANY MATERIAL EXCAVATED WITHIN THE PUBLIC RIGHT-OF-WAY SO THAT THE EXCAVATED MATERIAL IS NOT SUSCEPTIBLE TO BEING WASHED DOWN THE STREET.
- THE CONTRACTOR SHALL SECURE "TOPSOIL DISTURBANCE PERMIT" PRIOR TO BEGINNING CONSTRUCTION.

#### DRAINAGE CERTIFICATION

I, Jeffrey G. Mortensen, NMPE No. 8547, do hereby certify that, as shown by the as-built elevation shown hereon, the subject project was constructed in substantial compliance with the approved design. The slope of the channel is slightly greater than the design slope, hence the as-built channel will have a slightly greater capacity than the design section. I further certify that I have reviewed the test results prepared by Geo-test and that, according to those test results, the channel subgrade and the channel concrete are in substantial compliance with the design. It is based upon this information, that I further recommend the use of this project.

Jeffrey G. Mortensen  
Professional Engineer  
08-14-88  
08-14-88

#### LEGAL DESCRIPTION

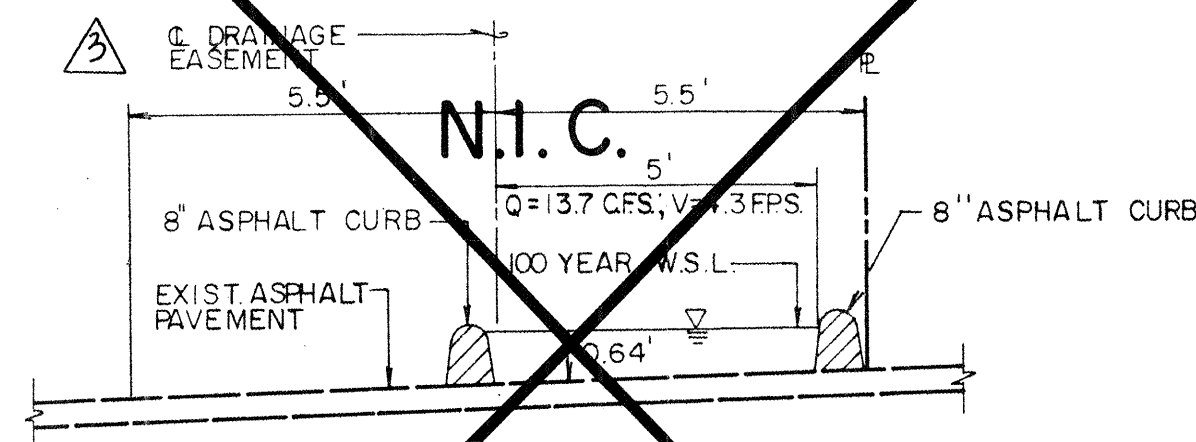
LOTS 6 THROUGH 11 INCLUSIVE, PLUS  
WESTERLY 10' OF LOT 5, BLOCK 2,  
PUEBLO ALTO ADDITION

#### PROJECT BENCHMARK

STATION IS A STANDARD ACS BRASS  
DISK SET IN A DRILL HOLE ON TOP  
OF SIDEWALK LOCATED @ THE  
INTERSECTION OF LOMAS BLVD. &  
SAN MATEO BLVD. APPROXIMATELY  
464' NORTH OF E ON LOMAS  
BLVD. & SAN MATEO BLVD. STATION  
IS STAMPED "4-JUL-1975 ACS"  
ELEVATION = 5238.15' (M.S.L.D.)

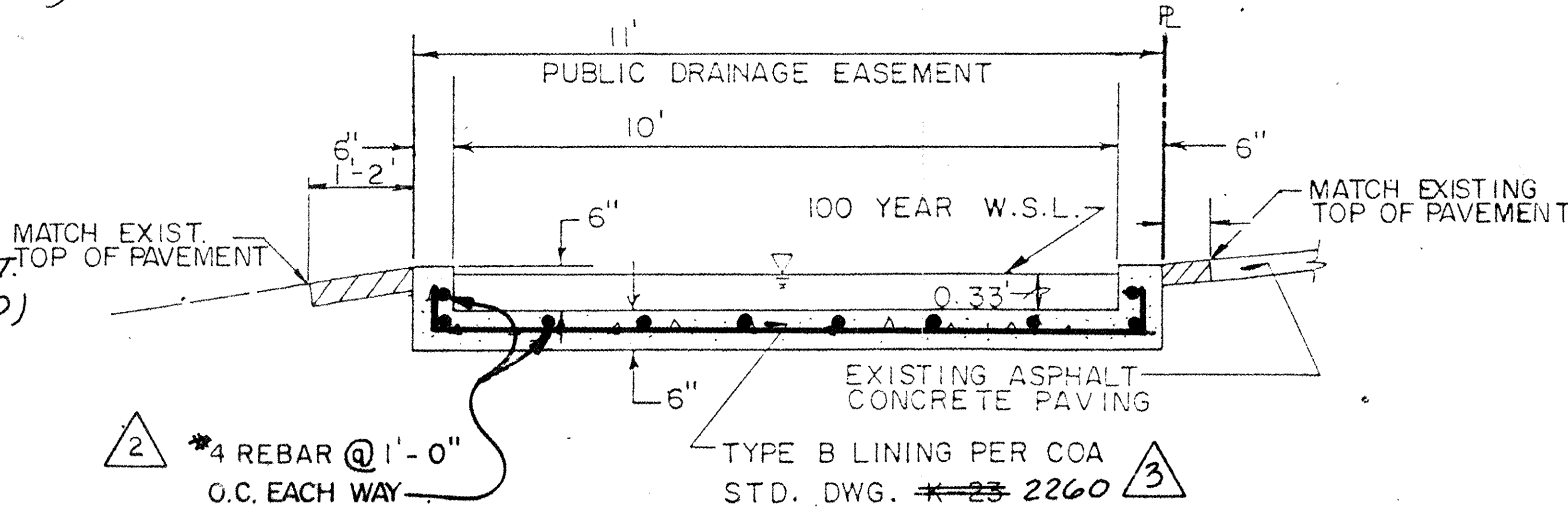
#### TEMPORARY B.M.

TOP OF CONCRETE CURB  
@ THE N.E. CURB RETURN  
OF THE INTERSECTION OF  
LOMAS BLVD. & MANZANO ST.  
ELEVATION = 5231.53' (M.S.L.D.)



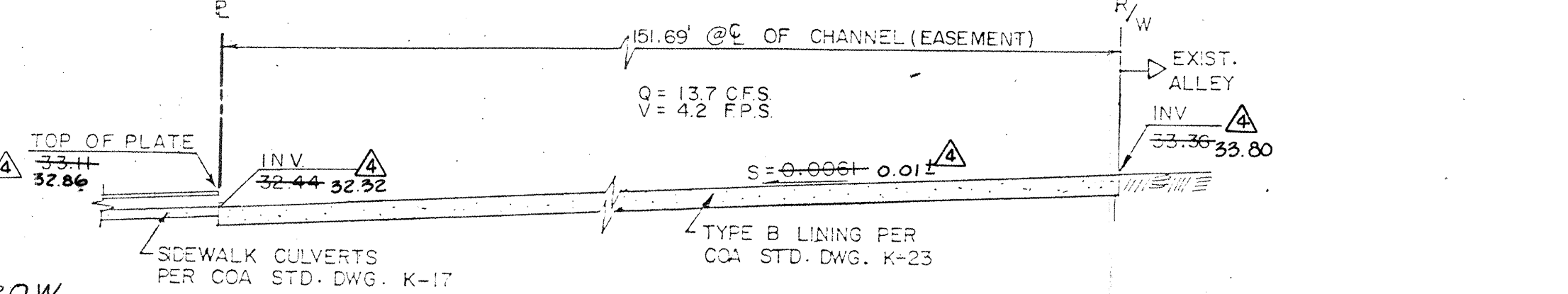
#### SECTION A-A

#### TEMPORARY CHANNEL



#### SECTION B-B

#### PERMANENT CHANNEL



#### SECTION C-C

#### PERMANENT CHANNEL PROFILE

- TWO (2) WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT THE CITY ENGINEER TO LOCATE EXISTING UTILITIES.
- PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE AND VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF ALL POTENTIAL OBSTRUCTIONS. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE ENGINEER SO THAT THE CONFLICT CAN BE RESOLVED WITH A MINIMUM AMOUNT OF DELAY.
- 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.
- ALL CONSTRUCTION WITHIN PUBLIC RIGHT-OF-WAY SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE CITY OF ALBUQUERQUE STANDARDS AND PROCEDURES.
- IF ANY UTILITY LINES, PIPELINES, OR UNDERGROUND UTILITY LINES ARE SHOWN ON THESE DRAWINGS, THEY ARE SHOWN IN AN APPROXIMATE MANNER ONLY, AND SUCH LINES MAY EXIST WHERE NONE ARE SHOWN. IF ANY SUCH EXISTING LINES ARE SHOWN, THE LOCATION IS BASED UPON INFORMATION PROVIDED BY THE OWNER OF SAID UTILITY, AND THE CONTRACTOR IS FULLY RESPONSIBLE FOR ANY AND ALL DAMAGE CAUSED BY ITS FAILURE TO LOCATE, IDENTIFY AND PRESERVE ANY AND ALL EXISTING UTILITIES, PIPELINES, AND UNDERGROUND UTILITY LINES. IN PLANNING AND CONDUCTING EXCAVATION, THE CONTRACTOR SHALL COMPLY WITH STATE STATUTES, MUNICIPAL AND LOCAL ORDINANCES, RULES AND REGULATIONS, IF ANY, PERTAINING TO THE LOCATION OF THESE LINES AND FACILITIES.
- AN EXCAVATION/CONSTRUCTION PERMIT WILL BE REQUIRED BEFORE BEGINNING ANY WORK WITHIN CITY RIGHT-OF-WAY. AN APPROVED COPY OF THESE PLANS MUST BE SUBMITTED AT THE TIME OF APPLICATION FOR THIS PERMIT.
- BACKFILL COMPACTION SHALL BE ACCORDING TO STANDARD STREET USE.
- MAINTENANCE OF THESE FACILITIES SHALL BE THE RESPONSIBILITY OF THE OWNER OF THE PROPERTY SERVED.

APPROVALS	NAME	DATE
A.C.E./DESIGN		
INSPECTOR		
A.C.E./FIELD		

#### DRAINAGE PLAN

The following items concerning the Rain Tunnel Car Wash Drainage Plan are contained hereon:

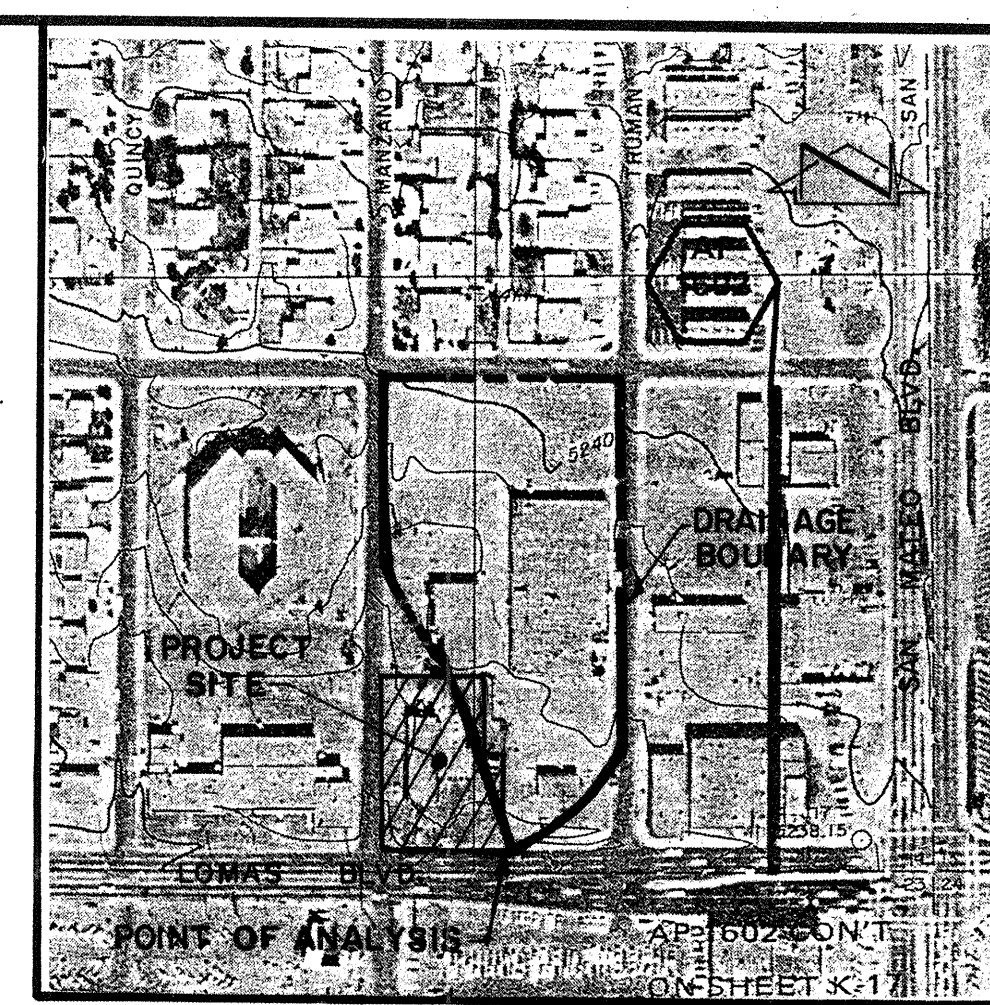
- Vicinity Map
- Drainage Boundary Map
- Drainage Plan
- Calculations

As depicted by the Vicinity Map, the proposed improvements are located in the northeast quadrant of the intersection of Lomas Boulevard and Manzano Street N.E. The project site is described specifically as Lots 6 - 11, inclusive plus the westerly 10' of Lot 5, Block 2, Pueblo Alto Addition. The site is presently developed as a car wash facility. The surrounding areas are predominantly developed.

A review of Plate J-17 of the Albuquerque Master Drainage Study indicates that the subject site does not lie within a designated Flood Hazard Zone. However, at present, part of the car wash building encroaches on a 20' wide vacated alley right-of-way reserved as an easement for drainage and public facilities. As it is presently situated, said car wash building is obstructing surface drainage from the east within said drainage easement.

The Drainage Plan shows 1) existing grades indicated by spot elevations, 2) interface and continuity of existing and interim improvements, 3) interface and continuity of existing and future improvements, 4) limit and character of existing improvements, 5) limit and character of temporary improvements, and 6) limit and character of permanent improvements. It is proposed to divert the east to west drainage by containing it within a 20' wide drainage channel that drains southerly along the easterly property line of subject site discharging surface runoff to Lomas Boulevard via sidewalk culverts. It is proposed that the channel be constructed within a proposed 11' wide drainage easement. It is proposed that the east-west drainage and public utility easement be vacated. The owner shall execute a drainage covenant for the responsibility of maintenance of permanent improvements within the public drainage easement which is part of this submission.

The calculations which appear below analyze the 100-year, 6-hour rainfall event under the presently developed conditions. The Rational Method has been used for the analysis of runoff volumes. Said analysis is conducted in accordance with the City of Albuquerque Development Process Manual, Volume II. Both the interim and the future channels have been designed to adequately handle a 100-year, 6-hour rainfall event.



DRAINAGE BOUNDARY MAP  
SCALE: 1" = 250'

#### CALCULATIONS

Ground Cover Information  
From SCS Bernalillo County Soil Survey,  
Plate 31  
Hydrologic Soil Group: B (Embudo, Etc)  
Pervious CN = 69 (DPH Plate 22.2 C-2)  
Open Space: fair condition  
Time of Concentration/Time to Peak  
 $T_c = 0.0078 L^{0.77} S^{0.385}$  (Kirpich Equation)  
 $T_p = T_c = 10$  min.

#### Point Rainfall

$P_g = 2.3$  in. (DPH Plate 22.2 D-1)

#### Rational Method

Discharge:  $Q = CIA$   
where C varies  
 $I = P_g (6.84) T_c^{-0.51} = 4.86$  in/hr  
 $P_g = 2.3$  in (DPH Plate 22.2 D-1)  
 $T_c = 10$  min (minimum)  
A = area, acres  
C = 0.87 (Weighted average per Emergency Rule, 1/14/86)

#### SCS Method

Volume:  $V = 3630 (DRO) A$   
Where DRO = Direct runoff in inches  
A = area, acres

#### Developed Condition

Atotal = 141,000 sf = 3.24 Ac (Refer to Drainage Boundary Map)  
Roof area = 49,350 sf = (1.13)  
Paved area = 77,550 sf = (1.78)  
Landscaped area = 14,100 sf = (0.32)  
C = 0.87 (Weighted average per Emergency Rule, 1/14/86)  
 $Q_{100} = CIA = 13.7$  cfs  
 $A_{imp} = 126,900$  sf; % impervious = 90 %  
Composite CN = 95 (DPH Plate 22.2 C-3)  
DRO = 1.78 in (DPH Plate 22.2 C-4)  
 $V_{100} = 3630 (DRO) A = 21,000$  cf

#### CHANNEL HYDRAULICS

##### Temporary Channel:

$Q_{100} = 13.7$  cfs; Section = Rectangular;  
 $b = 5'$ ;  $s = 0.006$ ;  $n = 0.017$ ;  $d$  = depth of flow  
 $v$  = velocity in fps  
From Manning Equation:  
 $AR^{2/3} = \frac{Q}{1.486 S^{1/2}}$   
 $= \frac{13.7}{1.486 (0.006)^{1/2}} = 2.02$   
By trial and error:  $d = 0.64'$   
 $v = Q/A = \frac{13.7}{5 \times 0.64} = 4.28$  fps

##### Permanent Channel:

$Q_{100} = 13.7$  cfs; Section = Rectangular;  $n = 0.013$   
 $b = 10'$ ;  $s = 0.006$ ;  $d = 0.106$ ;  $d$  = depth of flow in ft;  
 $v$  = velocity in fps  
 $Q = 8.8$   
 $AR^{2/3} = \frac{Q}{1.486 S^{1/2}}$   
 $= \frac{13.7}{1.486 (0.006)^{1/2}} = 1.55$   
By trial and error:  $d = 0.33'$   
 $v = Q/A = \frac{13.7}{10 \times 0.33} = 4.15$  fps

#### FUTURE SIDEWALK CULVERT SIZING:

##### Rational Method (10 Year Rainfall)

Discharge:  $Q = CIA$   
where C varies  
 $I = P_g (6.84) T_c^{-0.51} = 3.19$  in/hr  
 $P_g = 1.51$  in (DPH Plate 22.2 D-1)  
 $T_c = 10$  min (minimum)  
A = area, acres

##### Developed Condition

Atotal = 141,000 sf = 3.24 Ac  
Roof area = 49,350 sf = (1.13)  
Paved area = 77,550 sf = (1.78)  
Landscaped area = 14,100 sf = (0.32)  
C = 0.86 (Weighted average per Emergency Rule, 1/14/86)  
 $Q_{100} = CIA = (0.86) (3.19) (3.24) = 8.9$  cfs

Entrance control exists, therefore the capacity for each sidewalk culvert shall be analyzed based on dimensions and grades as per City Standard Drawing with the culvert entrance functioning as an orifice.

Capacity  $Q = CUL^{3/2} = 3.4$  cfs (24" culvert)  
Capacity  $Q = CUL^{3/2} = 3.25$  cfs (1'-11" culvert)

Where  $C = 3.09$   
 $L = 2'-0"$   
 $L = 1'-11"$   
 $H = 0.07'$

Therefore, 1 - 24" culvert @ 3.4 cfs  
3 - 24" culverts @ 3.25 cfs

RECEIVED  
ALBUQUERQUE  
HYDROLOGIC SECTION  
JAN 15 1988

NO.	DATE	BY	REVISIONS
1	10/86	RP	REVISED INTERIM & PERMANENT IMPROVEMENTS.
2	1/87	TM	REVISED TEMPORARY & PERMANENT IMPROVEMENTS
3	10/87	JGM	DELETE TEMPORARY IMPROVEMENTS
4	3/88	JGM	DRAINAGE CERTIFICATION

DESIGNED BY: R.P.	50043
DRAWN BY: R.R.	DATE: 5-86
APPROVED: J.G.M.	

JOB NO.  
50043  
DATE  
5-86

#### DRAINAGE PLAN RAIN TUNNEL CAR WASH