City of Albuquerque
P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

DESIGN HYDROLOGY SECTION
123 Central NW, Albuquerque, NM 87102
(505) 766-7644

July 24, 1984

Mr. Duane Logan
501 Kinley Avenue NE
Albuquerque, NM 87102

REF: GRADING AND DRAINAGE PLAN FOR PROPOSED ADDITION TO REPAIR SHOP
(J14-D9) RECEIVED JUNE 6, 1984

Dear Duane:

The above referenced plan, dated June 5, 1984, is approved.

Please attach a copy of this approved plan to the construction set prior to issuance of the building permit.

If I can be of further assistance, please contact me at 766-7644.

Yours truly,

Billy J. Goolsby

Billy J. Goolsby, PE
City/County Flood Plain Admin.

BJG:mrk

DUANE LOGAN CONSULTING CIVIL ENGINEER
501 KINLEY, NE • ALBUQUERQUE, NEW MEXICO 87102

INFORMATION SHEET

PROJECT TITLE Shop Addition TYPE OF SUBMITTAL Drainage Plan

ZONE ATLAS PAGE NO. J-14 D9 CITY ADDRESS 501 KinleyAve., NE

LEGAL DESCRIPTION Tract 1-F, Block 2, Springer Transfer Co. Add'n #1 (VL-81-8)

ENGINEERING FIRM Duane Logan CONTACT Same

ADDRESS 501 Kinley NE PHONE 242-9913

OWNER Industrial Electric CONTACT Jim Curry

ADDRESS 501 Kinley NE PHONE 242-9913

ARCHITECT None CONTACT

ADDRESS PHONE

SURVEYOR Duane Logan CONTACT Same

ADDRESS As Above PHONE As Above

CONTRACTOR Industrial Electric CONTACT Jim Curry

ADDRESS As Above PHONE As Above

PRE-DESIGN MEETING:

___ YES
XXX NO
___ COPY OF CONFERENCE RECAP SHEET PROVIDED

PLEASE CHECK TYPE OF APPROVAL EXPECTED WITH THIS SUBMITTAL:

___ SKETCH PLAT APPROVAL
___ PRELIMINARY PLAT APPROVAL
___ SITE DEVELOPMENT PLAN APPROVAL
___ FINAL PLAT APPROVAL
XXX BUILDING PERMIT APPROVAL
___ CERTIFICATE OF OCCUPANCY APPROVAL
___ ROUGH GRADING PERMIT APPROVAL
___ GRADING/PAVING PERMIT APPROVAL
___ OTHER _____ (SPECIFY)

RECEIVED
JUN 06 1984
HYDROLOGY SECTION

DATE SUBMITTED: June 6, 1984

BY: Duane L. Logan

City of Albuquerque
P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

November 30, 1982

Mr. Duane Logan
Geotechnical Research
& Services, LTD
501 Kinley NE
Albuquerque, New Mexico 87102

Re: Industrial Electric Equipment Service Addition - Dated 11/12/82
501 Kinley Avenue SE (File No. J14-D9)

Dear Mr. Logan:

The proposed addition for the referenced site does not address how the 4 foot change in grade along the north property line will be accomplished to maintain the integrity of the existing grade on the abutting property to the north. Also, please provide us with a typical detail or details of the proposed swale along the west side of the proposed addition.

If you have any questions regarding the above, please feel free to call me at 766-7644.

Sincerely,

Fred J. Aguirre, PE
Civil Engineer/Hydrology

FJA/el

cc: Drainage File
Reading File

City of • Albuquerque
P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

January 15, 1982

Geotechnical Research & Services, LTD.
Duane Logan
Civil Engineer-PE & LS
501 Kinley NE
Albuquerque, New Mexico 87102

REF: INDUSTRIAL ELECTRIC EQUIPMENT SERVICE, 501 Kinley Avenue NE
(J14-D9)

Dear Mr. Logan:

The revised drainage report submitted January 7, 1982 is approved. This approval comes with the understanding that you will certify said project upon completion for the purpose of obtaining a certificate of occupancy.

Please submit your letter of certification to this office when project is completed.

Sincerely,

Fred J. Aguirre, P.E.
Civil Engineer/Hydrology

FJA/el

cc: Reading File
Drainage File

City of Albuquerque
P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

October 22, 1981

James T. Curry
Industrial Electric Equipment Ser.
501 Kinley NE
Albuquerque, New Mexico 87102

RE: Industrial Electric Equipment Service Drainage Report Addendum
Dated September 3, 1981 (File No. J-14-D 9)

Dear Mr. Curry:

The following are my comments for the Referenced Drainage Report. Please have your Engineer address these items and resubmit.

✓ Item 3C Comment: If these plans are intended to be used for construction, please comply with the attached Construction Plan Checklist. Engineer to certify

✓ Item 13: The calculated flow volumes must be based on a 6 hour storm. See NOAA Atlas 2, Volume IV-N.M. for rainfall data.

Note: The required pond volumes for the addition and any future development must be based on the "November Interim Drainage Guidelines" (attached for the valley.)

✓ Item 15 B1: Unable to verify pond volumes indicated, please dimension and provide elevations on the cross-sections.

✓ Item 15 B2: The allowable discharge rates must be based on the November Interim Drainage Guidelines" for the valley. Please reference all constants used.

✓ Item 15 B3: Indicate with spot elevations the overflow point for each pond.

✓ Item 15 B6: Require a completed Drainage Covenant.

✓ Item 18A: Outline the location of the development on the appropriate Zone Atlas Page.

✓ Item 21D: Outline on the plan the contributing drainage basin to each pond, including roof areas.

✓ Item 21I: Provide the complete Mean Sea Level designation for the finish floor.

Item 21M: Include an approved Special Order 19. (See ACE/Design for Specific Requirements. – Bob Kielich

✓ Also, the proposed pond encroachment into City right-of-way requires a completed Encroachment Agreement, otherwise the pond must be located within the property line.

If you have any questions, feel free to call me at 766-7644.

Sincerely,

Fred Aguirre, P.E.
Civil Engineer/Hydrology

FA/el

cc: Drainage File
Reading File

City of Albuquerque
P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

J-14-D9

August 5, 1981

James T. Curry
Industrial Electric Equipment Service
501 Tinley N.E.
Albuquerque, New Mexico 87102

RE: Industrial Electric Equipment Service

Dear Mr. Curry:

Attached are our comments for the referenced drainage report. Please have your engineer address the items checked "No" and any comments indicated in the Drainage Report Checklist. Also, attached is a Construction Plan Checklist to be used if the plan included with the Drainage Report is intended for construction purposes.

If your have any questions concerning my comments, please feel free to call me.

Sincerely,

Fred J. Aguirre, P.E.
Civil Engineer

FJA:gc
Attachment
7824A
cc Dwayne Logan
Drainage Files
f/Reading

MUNICIPAL DEVELOPMENT DEPARTMENT
Richard S. Heller, P.E., City Engineer ENGINEERING DIVISION Telephone (505) 766-7467

GEOTECHNICAL RESEARCH & SERVICES, LTD.
Albuquerque, New Mexico

J. MONTEVERDE
Geologist
(565) 292-2163
DUANE LOGAN
Civil Engineer–PE & LS
(505) 344-8100

GRSL

Foundation Investigation–Hydrologic Studies
Land Surveys–Structural Analysis–Linear Development

June 5, 1981

Mr. Charles Easterling
Municipal Development
City of Albuquerque
400 Marquette NW
Albuquerque, NM 87102

Dear Mr. Easterling

Attached are three copies of a drainage report concerning the property at 501 Kinley, NE. The owner is presently constructing an office building on the site and will need your approval of this report to obtain his occupancy permit. The building will be completed within the next three weeks.

If there are any questions or clarifications required, please call John Monteverde at 247-4834 or me at 766-2417.

Sincerely

Duane L. Logan

bl

RECEIVED
JUN 05 1981
CITY ENGINEER

INDUSTRIAL ELECTRIC, INC.

PHONE (505) 242-9913
—N.M. LIC. 10550

ELECTRIC CONTRACTOR — GENERAL CONTRACTOR
501 KINLEY, N.E. — ALBUQUERQUE, N.M. 87102

April 14, 1981

Chuck Easterling
Hydrology Engineer
City of Albuquerque
Albuquerque, New Mexico

Regarding: Drainage requirements for building site development at 501 Kinley N.E., Albuquerque, New Mexico 87102

Dear Mr. Easterling,

This letter is to review the drainage problems associated with my property at 501 Kinley N.E., and what my plans are to deal with them. As you know, the original drainage report for this property was done in August 1977 and approved by the city shortly thereafter.

It now appears that under the new Interim Drainage Guidelines, November 1979, the original pond design is not adequate for my planned building expansion. The original pond did not drain and the impounded water was underminning the city sidewalk and my parking lot. Also the pond overflow was discharged over the wheelchair ramp.

The original drainage plan was for .26 acres of developed site. I will be submitting a new drainage plan for .72 acres of developed site. The new plan will treat the site as a whole, which the original was supposed to have done. This plan will be submitted the week of May 4, 1981, by my engineer Duane Logan. I believe you have had several meetings with Duane and have been able to convey your engineering requirements.

There was some initial confusion during the foundation approval and I took this to mean that a revised drainage plan would not be required. All city code approvals for this addition have been obtained and the only remaining requirement is for our revised drainage plan to be accepted by your department. I would like to start framing construction of my office addition as the foundation is in and approved.

If you could release the city building permit department to issue a construction permit to me, I could begin contruction. The city Hydrology Engineering Department can be protected by making the final approval and certificate of occupancey contingent upon the submittal, approval and construction of adequate drainage structures.

If you have any questions, or if I can be of further help, please call.

Very truly yours,

James T. Curry
President/General Manager

JTC/mwg
cc: file

City of Albuquerque
P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

MAYOR
Harry E. Kinney

CHIEF
ADMINISTRATIVE OFFICER
Frank A. Kleinhenz

August 15, 1977

J14-09

Mr. Charles T. Asbury
Asbury & Associates
210 La Veta, NE
Albuquerque, New Mexico 87108

RE: INDUSTRIAL ELECTRIC EQUIPMENT SERVICE IN ALBUQUERQUE, NEW MEXICO.

Dear Mr. Asbury:

I have reviewed the revised drainage plan for the Industrial Electric Equipment Service, and it is approved.

Very truly yours,

Bruno Conegliano
Assistant City Engineer-Hydrology

BC/kr

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

MAYOR
Harry E. Kinney

CHIEF
ADMINISTRATIVE OFFICER
Frank A. Kleinhenz

August 8, 1977

Mr. Charles T. Asbury
Asbury & Associates
210 La Veta, NE
Albuquerque, New Mexico 87108

514-09

Re: INDUSTRIAL ELECTRIC EQUIPMENT SERVICE IN ALBUQUERQUE, NEW MEXICO.

Dear Mr. Asbury:

On the basis of the grading and the drainage plan submitted to this office, I find that I cannot agree with the results of the drainage report. My findings are as follows:

1. The area between the 6 foot chain link fence and the property line facing Franciscan Street was computed in 10,626 square feet. The paved and the roofed area amounts to 5,700 square feet. As indicated in the Handbook of Applied Hydrology, Ven Te Chow editor, the coefficients of runoff normally used (i.e. table 14-1 ref. cit.), are appropriate for the 5-10 year frequency storm. Multiplying factors are used for storms of lesser frequency. Please find attached a copy of the table adopted by the Denver Regional Council of Governments in their drainage criteria manual.

In the analysis of the runoff for the 100-year storm, a runoff of 0.35 is commonly adopted in the Albuquerque area, and for the imprevious areas (roofs and pavements) a runoff coefficient of 1.0 needs to be used.

In accordance with the above given a 100-year frequency rainfall of 2.2 inches, using a runoff coefficient of 0.4 the undeveloped runoff volume would amount to 779 cubic feet. After development, the runoff volume would amount to 1,406 cubic feet with a total storage requirement of 627 cubic feet.

2. I notice that the ponding area provided appears located in part outside the property line (within Franciscan Street right-of-way?). If so, the pond would not be acceptable: ponding requirement must be located within the property without encroachment of public right-of-way (which is requested and dedicated for other public purposes).

3. The grading on the site as indicated does not insure the routing of the runoff through the pond. A good protion of the runoff can draina into the streets.

Please revise the drainage plan for the site to conform to the requirements above.

Very truly yours,

Bruno Conegliano
Assistant City Engineer-Hydrology

BC/kr

cc - V. M. Kimmick, City Engineer
Drainage File

Enclosure

DRAINAGE COVENANT

THIS COVENANT made this 2 day of November, 1981, by and between the City of Albuquerque, a municipal corporation, (City) and Mr. James T. Curry (Owner, which term includes successors and assigns.)

RECITAL

The Owner is owner of certain real property located at 501 Kinley N.E. in Albuquerque, New Mexico, (the Property) and more particularly described as follows:

Block: 5, Springer Transfer Addition Number 1
Lots: ~~1, 2, 3, 4, 5, 6, 7, 8, 9, 10~~
Tract 1F - Block 2 per VL-81-1

That pursuant to City ordinances, regulations, and other applicable laws, the Owner is required to install and/or maintain certain drainage facilities on the Property, and the parties wish to provide for an agreement as to the obligations and responsibilities for same.

DESCRIPTION OF FACILITIES

The following facilities are to be constructed and/or maintained by the owner:

Those shown on the approved plan

CONSTRUCTION OF DRAINAGE FACILITIES

The Owner shall construct the drainage facilities in accordance with standards, plans, and specifications prescribed and approved by the City.

MAINTENANCE OF FACILITIES

The Owner shall, at his cost in accordance with the standards, plans, and specifications prescribed by the City, maintain said drainage facility. The City shall have the right to enter periodically upon the Property to inspect the drainage facility.

FAILURE TO COMPLY AND LIEN

In the event that the Owner shall fail to construct the drainage facility in accordance with standards, plans, and specifications prescribed and approved by the City or fail to adequately maintain said facilities, the City shall give the Owner notice in writing to construct, correct, or maintain said

facilities, and if the Owner fails to comply therewith within 30 days, the City may enter upon said property to perform the necessary construction or maintenance. The cost of the City's performing such construction or maintenance shall be paid by the Owner. In the event the Owner fails to pay said cost within thirty (30) days after being billed for same, the City may file a lien against the Property.

LIABILITY

The City shall not be liable for any damages to the Owner resulting from its construction, modification, or maintenance of said facilities.

NOTICE

The written notice provided for herein shall be accomplished by mailing same to:

James T. Curry
501 Kinley N.E.
Albuquerque, New Mexico 87102

The Owner may change said address by giving written notice, certified mail, return receipt requested, to the City Engineer, City Hall, at 505 Marquette Street, Albuquerque, New Mexico, 87103.

INDEMNIFICATION AND HOLD HARMLESS

The Owner agrees to defend, indemnify, and hold harmless, the City, its officials, agents and employees from and against any and all claims, actions, suits, or proceedings of any kind brought against said parties for or on account of any matter arising from the drainage facility provided for herein or the Owner's failure to construct, maintain, or modify the drainage facility under this Covenant.

COVENANT RUNNING WITH THE PROPERTY

The obligation of the Owner set forth herein shall be binding upon the Owner, his heirs, and assigns, and the property of the Owner as described herein and will run with said property until released by the City.

OWNER

By: James T. Curry

Title: Owner

REVIEWED BY THE LEGAL DEPARTMENT:

Assistant City Attorney

CITY OF ALBUQUERQUE

Chief Administrative Officer

ACKNOWLEDGEMENTS

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

The foregoing instrument was acknowledged before me this _____day of _____, 1981, by _____, _____
(Name of Officer) (Title)
_____, a _____
(Name of Corporation) (State of Incorporation)
corporation, on behalf of said corporation.

_____
Notary Public

My Commission Expires:
_____

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

The foregoing instrument was acknowledged before me this _____day of _____, 1981, by _____
(Name of Acknowledging Partner or Partners)
on behalf of _____,
(Name of Partnership)
a partnership.

_____
Notary Public

My Commission Expires:
July 23, 1984

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

The foregoing instrument was acknowledged before me by James T. Curry, on this 2 day of November, 1981.

James T. Curry

Melody N. Gray
Notary Public

My Commission Expires:
_____

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

The foregoing instrument was acknowledged before me this _____day of _____, 1981, by _____
Chief Administrative Officer of the City of Albuquerque, municipal corporation, on behalf of said corporation.

_____
Notary Public

My Commission Expires:
_____

9-16-3

ADDENDUM

September 5, 1981

Drainage Report for Industrial Electric Equipment Service, 501 Kinley NE

Albuquerque, New Mexico 87102 Zone Map J-14

RECEIVED

SEP 16 1981

CITY ENGINEER

The following report has been prepared for the total 0.67 acres owned by Industrial Electric at the above address. This report voids a previous report of 1978 which did not address the total area nor the extent of paving finally constructed with the original building. This report addresses two separate areas within the 0.67 acres: Area I being the westerly 0.23 acres presently paved or roofed and Area II being the easterly 0.44 acres which will be paved or roofed in the future.

In a conference with Mr. Charles Easterling of the City Hydrology section on June 10, 1981, the Engineer was advised that no retention ponds would be required. Rather, several small detention areas would be adequate, with outlets to the gutter. A detail was provided by Mr. Easterling as to area, slopes, and depth required for these detention areas.

In a conference with Mr. Fred Aguirre of the City Hydrology section on September 4, 1981, the majority of the report was approved, according to a recently published "Checklist". This checklist was not available to the Engineer on June 5, 1981, when the report was first submitted to the City. In an effort to fulfill the requirements of this latest checklist, the following information is offered to become part of the report.

Item #2: There is no planning and zoning history for this particular property, per a conversation with the City Planning and Zoning section on 9-4-81.

Item #3C: The Engineer who prepared the report is also a licensed Land Surveyor.

ADDENDUM

September 5, 1981

501 Kinley, NE

Item #6: There will be no ponds within 15 feet of any structure, existing or proposed. There will be no ponds within 10 feet of any street pavement.

Items 8 and 9: See Calculation Summary Addendum and original calculations.

Item #10: There are no off-site conditions or drainage facilities that adversely affect site drainage. There is an 18" storm sewer on Kinley that could benefit the drainage if inlets were to be installed at the subject property.

Items 13 and 15B1 and 2: See Calculation Summary Addendum and original calculations.

Item 15B3: No emergency spillway is required. The location of the detention areas is such that the existing drive pads and curb cuts provide the necessary spillway relief.

Item 15B6: Owner will finalize and execute the required Covenant, based on the final approved design and report.

Item 17C: See Revised Drainage Plan.

Item 18A: See Project Location Plan.

Item 19A: Albuquerque Vertical Control #7-J15 at the Northwest corner of Mountain Road and Edith Blvd., Elevation 4974.74.

Item 19C: The Temporary Bench Mark is the west bonnet bolt on the hydrant at the southwest corner of the subject property, Elevation 4960.55.

Item 20B: See Revised Drainage Plan.

Item 20E: There are no existing drainage facilities on-site or on any adjacent properties.

Items 20G and 21B: There are no existing or proposed easements or rights-of-way on or adjacent to the site.

Items 20H and 21D,F,G,H,I,K and M: See Revised Drainage Plan.

GEOTECHNICAL RESEARCH & SERVICES, LTD

By DLL Date 9/5/91 Subject Industrial Electronic Drain Sheet No. 1 of 1

Addendum

CALCULATION SUMMARY

Off-Site Flow Rate: Q_{100} = 6.2 cfs, Volume = 5050 cu. ft.
(See Sheet 5/5)

Off-Site Flow Velocity: V = 0.40 fps (Sheet flow)
(See Sheet 5/5)

On-Site Undeveloped Flow Rates and Volumes:
(See Sheets 1/5 & 4/5)

Area I - Q_{50} = 0.44 cfs, Vol. = 356 cu. ft.
Area II - Q_{50} = 0.85 cfs, Vol. = 685 cu. ft.

Developed Flow Rates and Volumes

Area I - Q_{50} = 1.05 cfs, Vol. = 850 cu. ft.
Area II - Q_{50} = 2.00 cfs, Vol. = 1620 cu. ft.

Detention Pond Volumes: 3 ponds @ 137 cu. ft. each
(See Sheets 4/5 & 5/5)

Positive Discharge: 1-4"ϕ pipe @ each pond
Q_1 = 0.44 cfs req'd, 0.58 cfs available

(* w/ 6" head, $Q = 3 \times .90 \sqrt{\frac{32.2}{0.5}} = 0.09 \times .7 \times 8.02 = 0.58$ cfs)
$v = 0.58/.08 = 7.25$ fps

* Lin's Hydraulics p. 190

Area I, Developed: $Q = 0.45 \times 4.8 \times 0.23 = 1.05$ c-s

Runoff Volume = $1.05 \times 27/2 \times 60 = 850$ cu. ft.

For positive outlet of Intensity = $I_1 = 2.0$

$Q_1 = 2/4.8 \times 1.05 = 0.44$ cfs = 4"ϕ pipe, $Q = 0.60$ c-s @ 2% slope

Provide Detention for Runoff Increase of:

850 - 356 = 494 cu. ft.

Assume Depressed Area, 10½" deep w/ 2:1 front slope width = 20' along South R/, length = 20' at 4% slope with 1-4"ϕ pipe to gutter, $Q = 0.60$ cfs, w/6" head *

Retention Volume = 340 sq. ft. × 4" avg. depth = 112 cu. ft.
+ 60 sq. ft × 5" " " = 25 cu. ft.
137 cu. ft.
= 28%

* From Seelye Design #8-66

Area II: Easterly 0.44 acres, roofed & paved

Original condition $C = 0.40$, length of flow = 130'
Elev. difference = 5'

T_c = < 10 minutes,

Use $T_c = 10$ ∴ $I = 4.8$

$Q = 0.40 \times 4.8 \times 0.44 = 0.85$ cfs

$V = 0.85 \times 27/2 \times 60 = 685$ cu. ft.

Developed Condition $C = 1.0$, Composite $C = 0.45$

$Q = 0.95 \times 4.8 \times 0.44 = 2.00$ c-s

$V = 2.00 \times 27/2 \times 60 = 1620$ cu. ft.

Developed Detention for Runoff Increase of:

1620 - 685 = 935 cu. ft.

GEOTECHNICAL RESEARCH & SERVICES, INC.

By DLL Date 5/20/81 Subject Industrial Electric Drain Sheet No. 5/5

Provide Depressed areas, 1½' deep w/ 2:1 front slope
width = 20' each in two locations along South R/W,
length = 20' @ 4% slope, Q, with 2-4" ϕ pipes = 1.20 cfs, min.
Volume = 275 cu. ft. = 30% of Runoff Volume

Area III: 1.5 acres contributing from Northeast
Length of flow = 250', Elev. dif. = 10'
T_c = < 10 minutes, use 10
with 20% of area roofed & paved, A = 0.30 Ac @ 0.75
Composite C = (0.75 × 0.30) + (0.40 × 1.20) = 0.77

Q_{100} = 0.77 × 5.4 × 1.5 = 6.2 cfs, a = 200' × 1" = 16 s.f.
Vol. = 6.2 × 27/2 × 60 = 5050 cu. ft., Vel. = 0.40 feet/sec

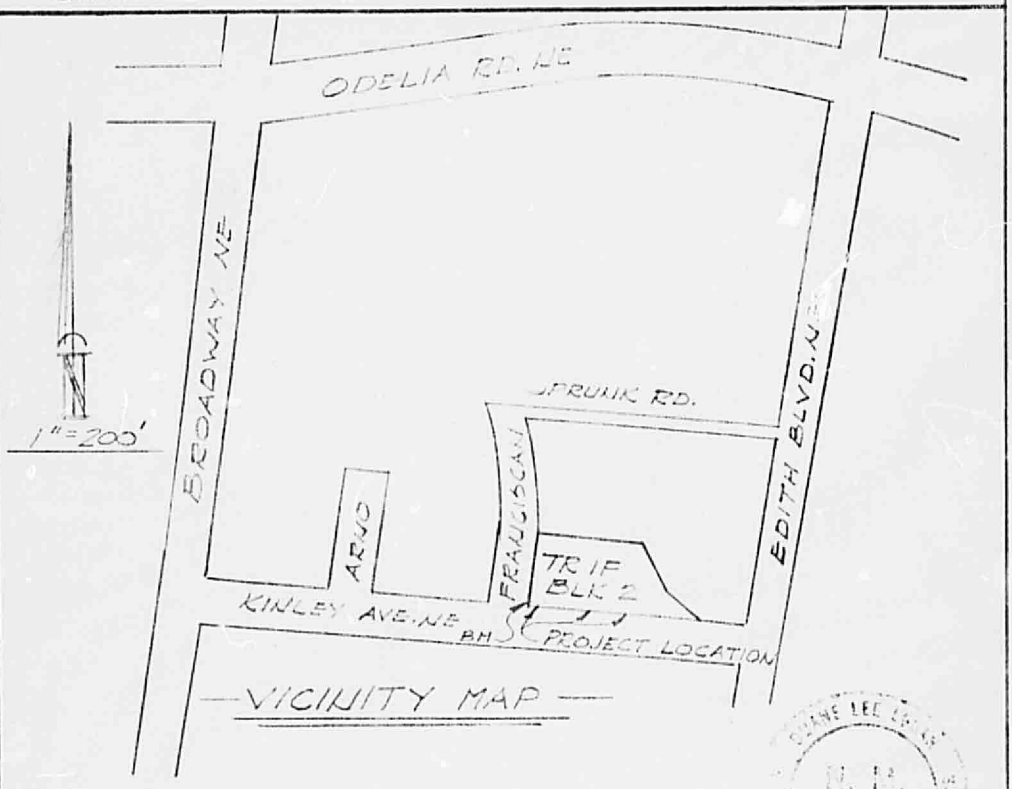
If required, off-site run-off can be diverted by a paved swale at the north and east property lines.
For 5.5 cfs at 0.50% grade, From Seelye Design 18-05-6
use D-68, 1.0' deep, 6.0' wide, sides at 3:1, Q = 6.0 cfs

DUANE LEE LOGAN
N. M.
12300
REGISTERED PROFESSIONAL ENGINEER

5/20/81

CITY OF ALBUQUERQUE

DRAINAGE FACILITIES WITHIN CITY RIGHT-OF-WAY



OWNER: JAMES T. CURRY
501 KINLEY AVE. NE
ALBUQUERQUE, N.M. 87102

J14-09

NOTICE TO CONTRACTOR

1. 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.
2. All work detailed on these plans to be performed, except as otherwise stated or provided hereon, shall be constructed in accordance with "Contract Documents for City-Wide Utilities and Cash Paving No. 30 "
3. Two working days prior to any excavation, contractor must contact Line Locating Service, 765-1234, for location of existing utilities.
4. Prior to construction, the contractor shall excavate and verify the horizontal and vertical locations of all obstructions. Should a conflict exist, the contractor shall notify the engineer so that the conflict can be resolved with a minimum amount of delay.
5. Backfill compaction shall be according to Residential street use.

B-3

APPROVALS	NAME	DATE	TITLE: TR 1F BLK 2 VL-81-1 SPRINKLER TRANSFER ADDN #1 POND DISCHARGE PIPES
A.C.E. / DESIGN	[illegible]	8 Jan 82	
INSPECTOR	[illegible]		PERMIT NO.
A.C.E. / FIELD	[illegible]	1-8-82	SHEET 1 OF 2 — MAP NO. J-14

GEOTECHNICAL RESEARCH & SERVICES, LTD.
501 Kinley, NE • Albuquerque, New Mexico 87102
(505) 247-0102

J. MONTEVERDE
Geologist

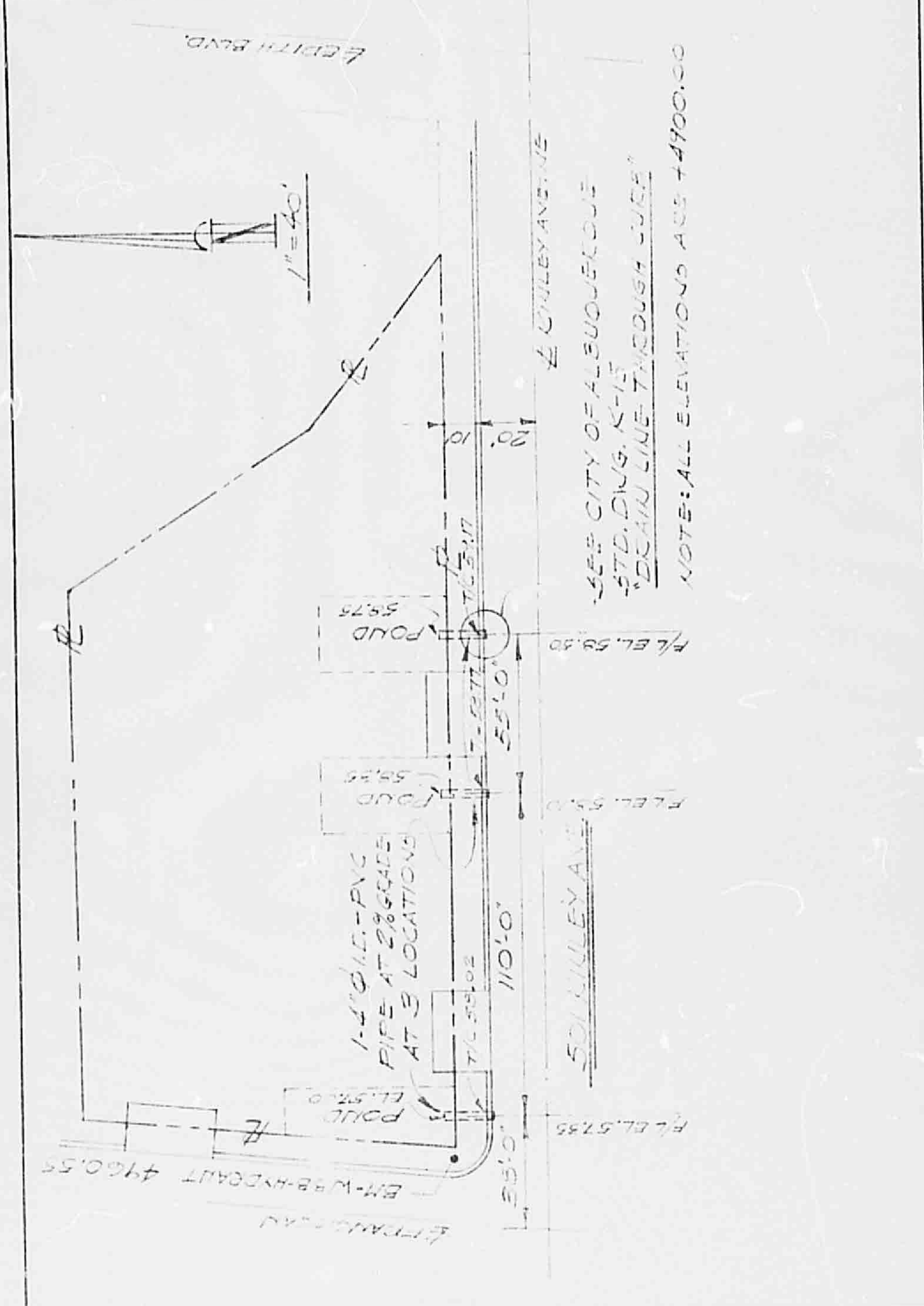
(GRSL)

DUANE LOGAN
Civil Engineer-
-PE & LS

Foundation Investigation—Hydrologic Studies
Land Surveys—Structural Analysis—Linear Development

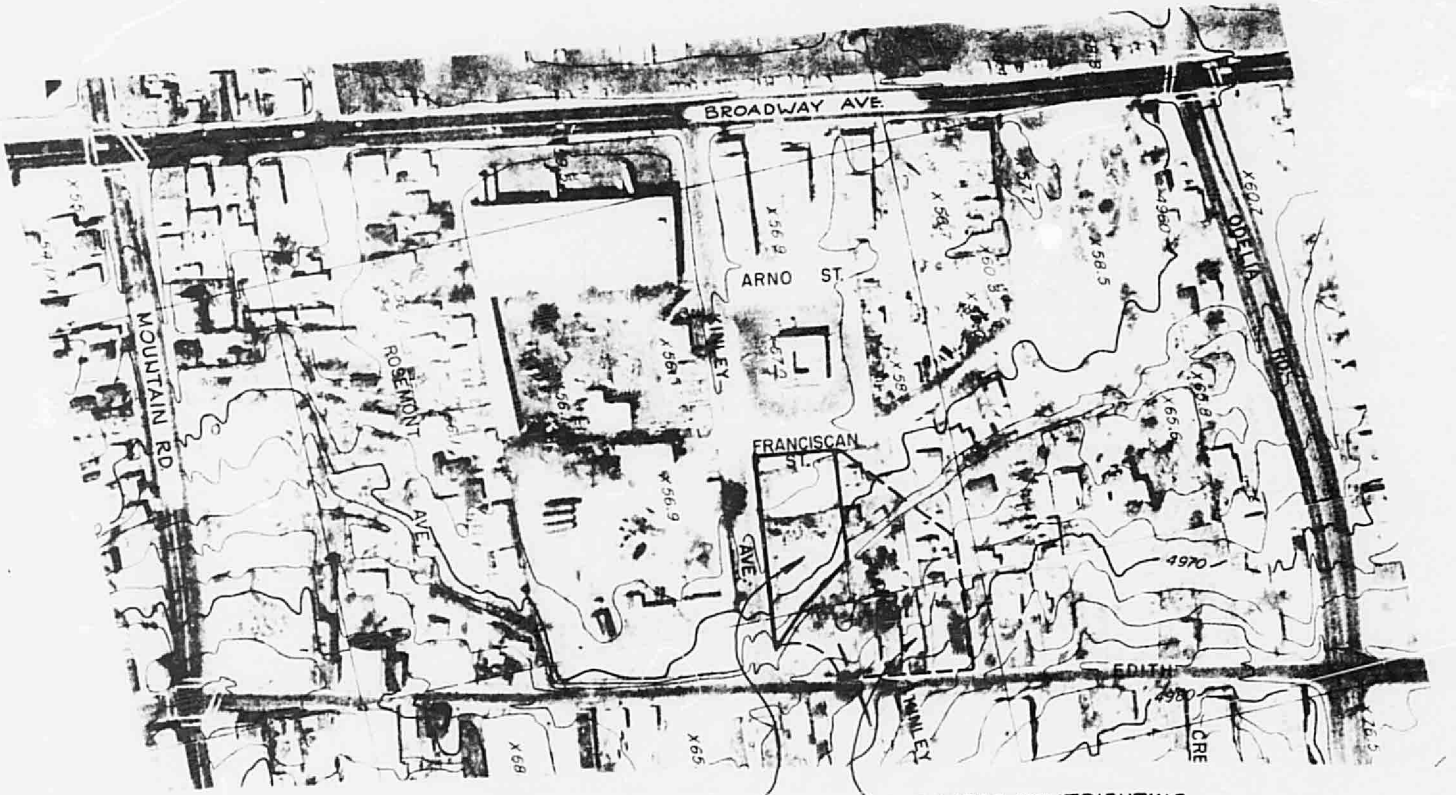
CITY OF ALBUQUERQUE

DRAINAGE FACILITIES WITHIN CITY RIGHT-OF-WAY



APPROVALS	NAME	DATE	TITLE: TC IF-PUD 2-VC-81-1 TRANSFER ADDN #1 POND DISCHARGE PIPES
A.C.E./DESIGN	[signature]	8 Jan 82	
INSPECTOR			PERMIT NO.
A.C.E./FIELD			SHEET OF 2 — MAP NO. J-14

DRAINAGE REPORT
FOR 501 KINLEY, N.E.



1" = 200'
2' CONTOURS

RECEIVED
JUN 05 1981
CITY ENGINEER

DRAINAGE REPORT

FOR

INDUSTRIAL ELECTRIC EQUIPMENT SERVICE

501 KINLEY AVENUE NE

ALBUQUERQUE, NEW MEXICO

A. GENERAL

This drainage plan has been prepared by Geotechnical Research & Services, Ltd., for the Industrial Electric Equipment Service. A previous drainage report of August 1977 concerning the westerly 0.232 acres of this property is being revised in this report.

The property described in this report is located at the corner of Franciscan and Kinley Avenues, Block 2 of the Springer Transfer Company's addition No. 1. More particularly, the property described consists of the easterly portion of Tract 1F, Block 2 and that portion of the Barelas Ditch situate within Block 2 vacated by District Court Cause No. 14157, Sub-No. 1385.

A fifty year frequency occurrence interval storm was used in the computations which are included in this report to determine the peak rate of storm water runoff from applicable drainage areas.

B. EXISTING SITE CONDITIONS

The 0.674 acre site is presently partially developed with 0.232 acres paved or roofed. The improvements presently consist of a

40' x 77' building and approximately 6000 square feet of asphaltic concrete parking area.

The unimproved 0.442 acres to the east of the existing building will be completely developed with asphalt paving and roofed structures.

The topography of the entire 0.674 acre site consists of extremely mild terrain (2%) which generally slopes from the northeast to the southwest. The Barelas Ditch which at one time was used to provide drainage for this area has been vacated and the ditch has been regraded to the approximate existing topography. It is assumed that the purpose for vacating the Barelas Ditch (District Court Cause Number 14157, Sub-No. 1385, Dated 5-27-77) was its discontinued useful purpose.

The existing drainage pattern is primarily from the north and east. Flow from the site is presently intercepted by curbed and guttered streets on the south and west, and the area to the north of Sprunk Street and east of Edith Boulevard is not considered as contributory in storm water runoff due to walls, curbs, and street grades.

C. RECOMMENDATIONS

1. The triangular pond proposed in the August 1977 report will be rehabilitated to detain the drainage from the westerly 0.23 acres of the site, with positive discharge to the street.

2. It is proposed to construct other detention areas for the easterly 0.44 acres. These areas will also have positive drainage to the street by 4" pipes through the curb.

3. Contributing drainage from the 1.50 acres to the northeast can be diverted from the site by paved swales along the north and east property lines, if required.

By DLL Date 5/20/81 Subject Industrial Electric Drainage Sheet No. 1/5

CRITERIA: Runoff not to increase due to developed conditions — 50 year frequency storm

Peak runoff rate to be determined by Rational Formula - $Q = CIA$

C = Runoff Coefficient = 1.0 for Pavement & Roofs in Valley
& = 0.40 for Bare Ground

I = Rainfall Intensity - See Sheet 2/5

A = Area under consideration, in Acres

Area I: Westerly 0.23 acres, roofed & paved

Original condition $C = 0.40$, $A = 10,100$ sq. ft. $= 0.23$ Ac

T_c = Time of Concentration for Length = 130',
& Elev. Diff. = 2.5'

From Kirpich Nomograph (See Sheet 3/)

$T_c < 10$ minutes, so use $T_c = 10$

$I_{50} = 5.4$ inches per hour

$Q = 0.40 \times 4.8 \times 0.230 = 0.44$ cfs

From Hydrograph (See Sheet 3/5) $T/T_p = 2.67$

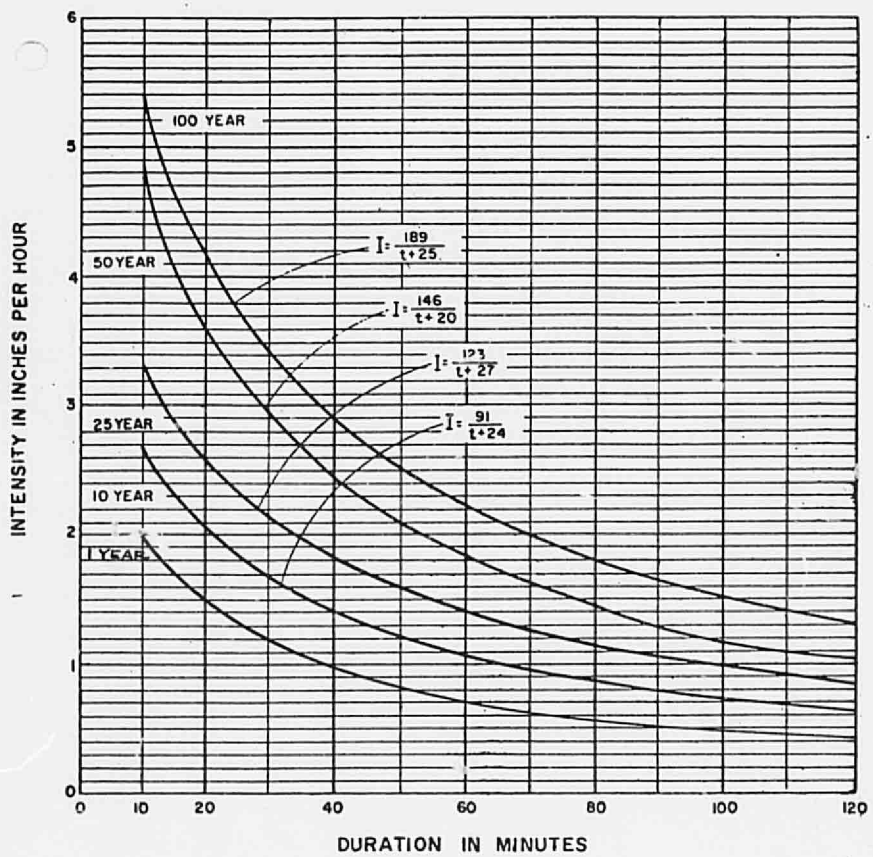
$T_c = T_p$ = Time to peak $= 10 \times 2.67 = 27$ minutes

Runoff Volume $= 0.44 \text{ cfs} \times 27/2 \times 60 = 356$ cu. ft.

Developed Condition $C = 1.0$

with 95% Paved or Roofed = 9500 s.f.
& 5% Pond Area = 600 s.f.

Composite $C = .95 \times 1.0 + 0.05 \times 0 = 0.95$



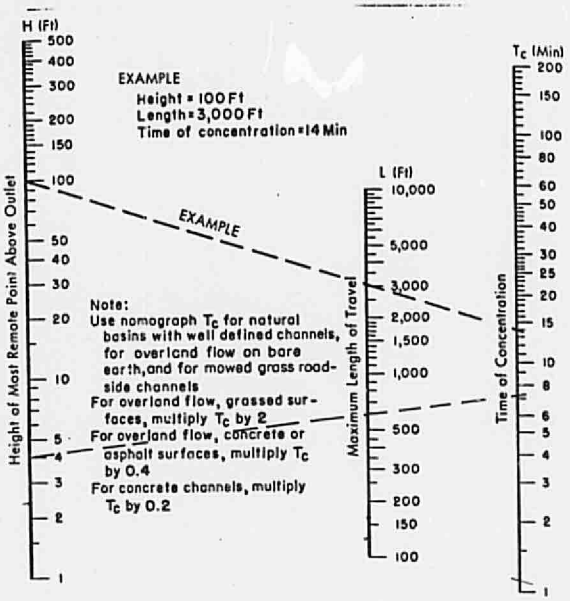
MASTER PLAN OF DRAINAGE
CITY OF ALBUQUERQUE - NEW MEXICO
AND ENVIRONS

INTENSITY DURATION
FREQUENCY CURVES

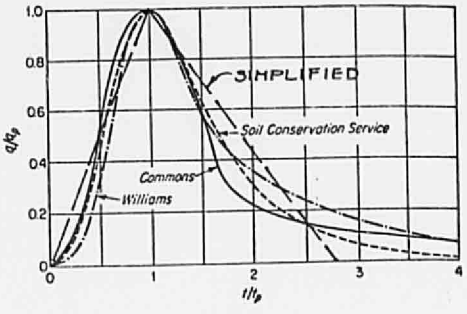
(ALBUQUERQUE AREA - 1961)

GORDON HERKENHOFF & ASSOC
CONSULTING ENGINEERS
ALBUQUERQUE, NEW MEXICO

CHART
1



Based on study by P.Z. Kirpich,
Civil Engineering, Vol. 10, No. 6, June 1940, p. 362



Area I, Developed: $Q = 0.45 \times 4.8 \times 0.23 = 1.05$ cfs

Runoff Volume = $1.05 \times 27/2 \times 60 = 850$ cu. ft.

For positive outlet of Intensity = $I_1 = 2.0$

$\phi Q_1 = 2/4.8 \times 1.05 = 0.44$ cfs = 4" ϕ pipe, $Q = 0.60$ cfs @ 2% slope

Provide Detention for Runoff Increase of:

$850 - 356 = 494$ cu. ft.

Assume Depressed Area, 9" deep w/ 2:1 front slope

width = 20' along South RL, length = 20' at 2% slope

with 1-4" ϕ pipe to gutter, $Q = 0.60$ cfs = 14 min. discharge

Retention Volume = 340 sq. ft. $\times$ 2" avg. depth = 60 cu. ft.

+ 60 sq. ft. $\times$ 5" " " = 25 cu. ft.

85 cu. ft.

= 17%

Area II: Easterly 0.44 acres, roofed & paved

Original condition C = 0.40, length of flow = 130'

Elev. difference = 5'

T_c = < 10 minutes,

Use T_c = 10 ϕ I = 4.8

$Q = 0.40 \times 4.8 \times 0.44 = 0.85$ cfs

$V = 0.85 \times 27/2 \times 60 = 695$ cu. ft.

Developed Condition C = 1.0, Composite C = 0.95

$Q = 0.45 \times 4.8 \times 0.44 = 2.00$ cfs

$V = 2.00 \times 27/2 \times 60 = 1620$ cu. ft.

Develope Detention for Runoff Increase of:

$1620 - 685 = 935$ cu. ft.

GEOTECHNICAL RESEARCH & SERVICES, INC.

By DLL Date 5-20-81 Subject Industrial Electric Drain Sheet No. 5/5

Provide Depressed areas, 7" deep w/ 2:1 front slope
width = 20' each in two locations along South R/,
length = 20' @ 2% slope, Q, with 2-4" ϕ pipes = 1.20 cfs = 13 min. discharge
Volume = 170 cu. ft. = 18%

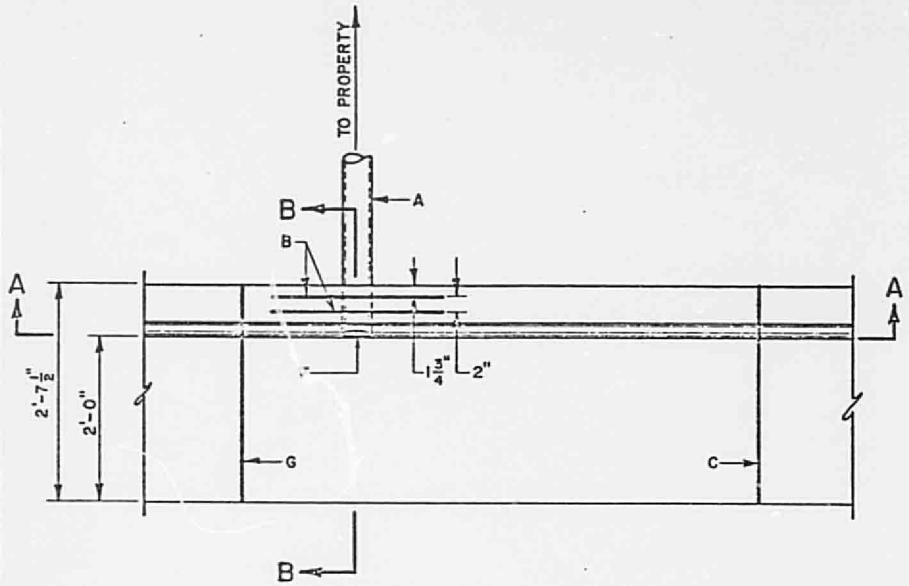
Area III: 1.5 acres contributing from North-east.
Length of flow = 350', Elev. diff. = 10'
T_c = < 10 minutes, use 10
with 20% of area roofed & paved, A = 0.30 Ac @ 0.95
Composite C = (0.75 × 0.30) + (0.40 × 1.20) = 0.77

Q = 0.77 × 4.8 × 1.5 = 5.5 cfs
V = 5.5 × 27/2 × 60 = 4470 cu. ft.

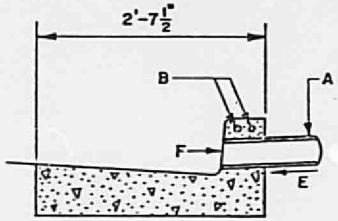
If required, off-site run-off can be diverted by a paved swale at the north and east property lines.
For 5.5 cfs at 0.50% grade, From Sealye Design 18-05-C
use D-68, 1.0' deep, 6.0' wide, sides at 3:1, Q = 6.0 cfs

DUANE LEE LOGAN
N. M.
12300
REGISTERED PROFESSIONAL ENGINEER

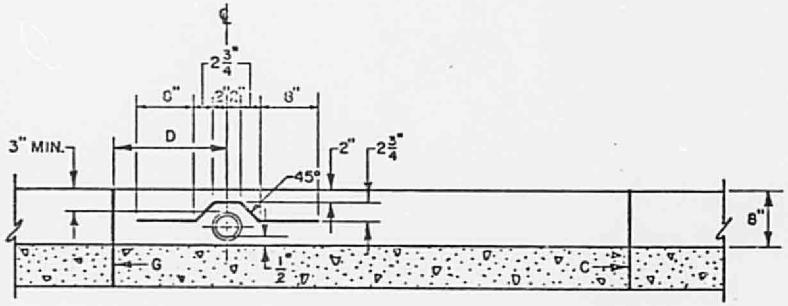
5/20/81



PLAN



SECTION B-B



SECTION A-A

GENERAL NOTES:

1. WHEN PLACING DRAIN THROUGH EXISTING CURB, REMOVE AND REPLACE ENTIRE STONE OF CURB AND GUTTER.
2. THE CITY DOES NOT ACCEPT RESPONSIBILITY FOR MAINTENANCE FOR ANY DRAIN LINES INSTALLED BY OR FOR PRIVATE PROPERTY OWNERS.

CONSTRUCTION NOTES:

A. DRAIN, D.I. OR SCH. 40 P.V.C. PIPE, 4" NOM. SIZE (MAX.) TO PROPERTY.
B. 2-NO. 3 BARS, 2'-4" LONG, PLACED AS SHOWN.
C. COLD JOINT.
D. DISTANCE FROM ℄ OF DRAIN TO NEAREST JOINT, VARIABLE WITH 16" MIN.
E. SLOPE ¼" PER FT. WITHIN R.O.W.
F. DRAIN PIPE NOT TO PROTRUDE BEYOND CURB FACE.
G. JOINT NEAREST TO DRAIN TO BE AN EXPANSION JOINT

CITY OF ALBUQUERQUE

REVISIONS

DRAINAGE

DRAIN LINE THROUGH CURB

DWG. K-15

JAN. 1981

RECEIVED
AUG 4 1977
BLDG & INSP. DIV.

DRAINAGE PLAN
INDUSTRIAL ELECTRIC
EQUIPMENT SERVICE

August 1977

DRAINAGE REPORT

FOR

INDUSTRIAL ELECTRIC EQUIPMENT SERVICE

IN

ALBUQUERQUE, NEW MEXICO

A. GENERAL

This drainage plan has been prepared by Asbury & Associates, Consulting Engineers, for the Industrial Electric Equipment Service.

The property described in this report is located at the corner of Franciscan and Kinley Avenues, Block Five of the Springer Transfer Co.'s addition No. 1. More particularly, the property described consists of Lots 1, 2, 3, 4, 5, 6, 7, 8 and 10 and that portion of the Barelas Ditch Situate with Block 5 vacated by District Court Cause No. 14157, Sub-No. 1385.

A one hundred year frequency occurance interval storm was used in the computations which are included in this report to determine the peak rate of storm water runoff from applicable drainage areas.

B. EXISTING SITE CONDITIONS

The existing site is presently undeveloped with the exception of City Utilities and some fencing and drive pads. The present site is a parcel containing 0.72 acres of which approximately 0.26 acres will be improved in the immediate future. The improvements consist of the construction of a pre-fabricated 40' x 50' building and approximately 3500 Ft^2 of asphaltic concrete parking area.

The unimproved areas to the east of the building site will remain unchanged.

The topography of the entire 0.72 acre site consists of extremely mild terrain (2%) which generally slopes from the northeast to the southwest. The Barelas Ditch which at one time was used to provide drainage for this area has been vacated and the ditch has been regraded to the approximate existing topography. It is assumed that the purpose for vacating the Barelas Ditch (District Court Cause Number 14157, Sub-No. 1385, dated 5-27-77) was its discontinued useful purpose.

The proposed site is presently intercepted by a curbed and guttered vehicular drive and the area to the north and east are not considered as contributory in storm water runoff.

C. SOLUTION

It is proposed to construct a triangular pond with an average sectional area of 11 Ft^2. This is sufficient to retain the additional 627 Ft^3 of increased runoff. The triangular pond is proposed to have 6 inches of 3/4 inch gravel which will increase local retention and soil percolation.

ENGINEERING

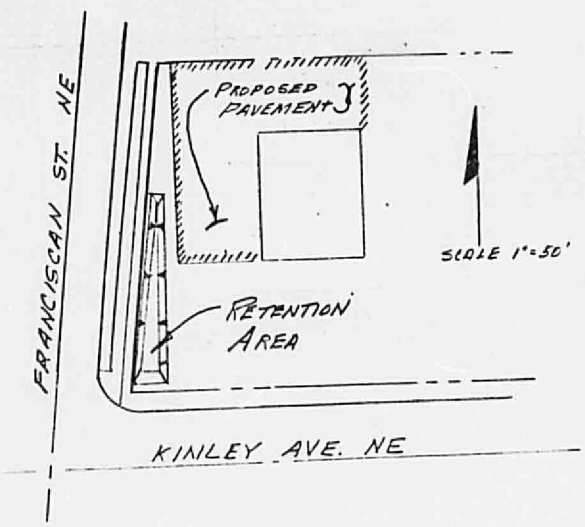
COMPUTATIONS

ASBURY & ASSOCIATES
CONSULTING ENGINEERS
210 LA VETA, NE
ALBUQUERQUE, NEW MEXICO

PROJECT: INDUSTRIAL ELECTRIC ELECTRIC SUPPLY

BY: CTA. DATE: 8-11-77

STORM DRAINAGE ANALYSIS



CRITERIA

RUNOFF VOLUME SHALL NOT INCREASE DUE TO DEVELOPED CONDITIONS - BASIS OF COMPUTATIONS 100 YEAR FREQUENCY STORM.

RUNOFF

C= COEFFICIENT OF RUNOFF
C = 1.00 PAVED AREAS.
C = 1.00 ROOF AREAS.
C = 0.40 UNSURFACED AREAS.

RAINFALL = 2.2 INCHES = 100 YEAR FREQUENCY STORM

RUN OFF

EXISTING CONDITIONS.

AREA = 10,626 SQ. FT.

C = 0.40 NO IMPROVEMENTS.

VOLUME OF RUNOFF

$$\frac{2.2\ IN}{12\ IN/FT}\ (10{,}626\ FT^2)(0.40) = 779\ FT^3.$$

DEVELOPED CONDITIONS

VOLUME OF RUNOFF

$$(3100\ FT^2 + 2000\ FT^2)(1.0)\left(\frac{2.2\ IN}{12\ IN/FT}\right) + 4926\ (0.40)\left(\frac{2.2\ IN}{12\ IN/FT}\right) = 1406\ FT^3$$

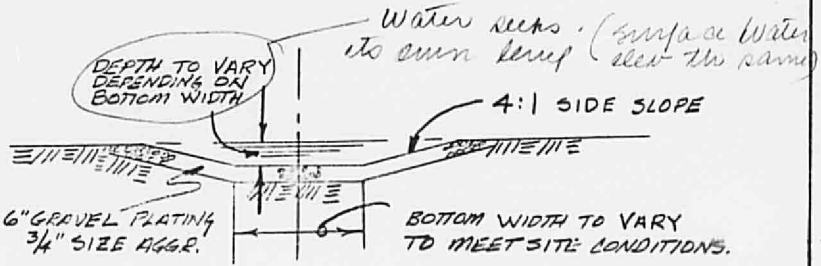
SOLUTION

PROVIDE FOR PONDING OF INCREASED RUNOFF DUE TO DEVELOPMENT OF A PORTION OF THE AREA.

INCREASED RUNOFF

$1406\ FT^3 - 779\ FT^3 = 627\ FT^3$

∴ A DITCH TYPE DETENTION AREA WILL BE USED



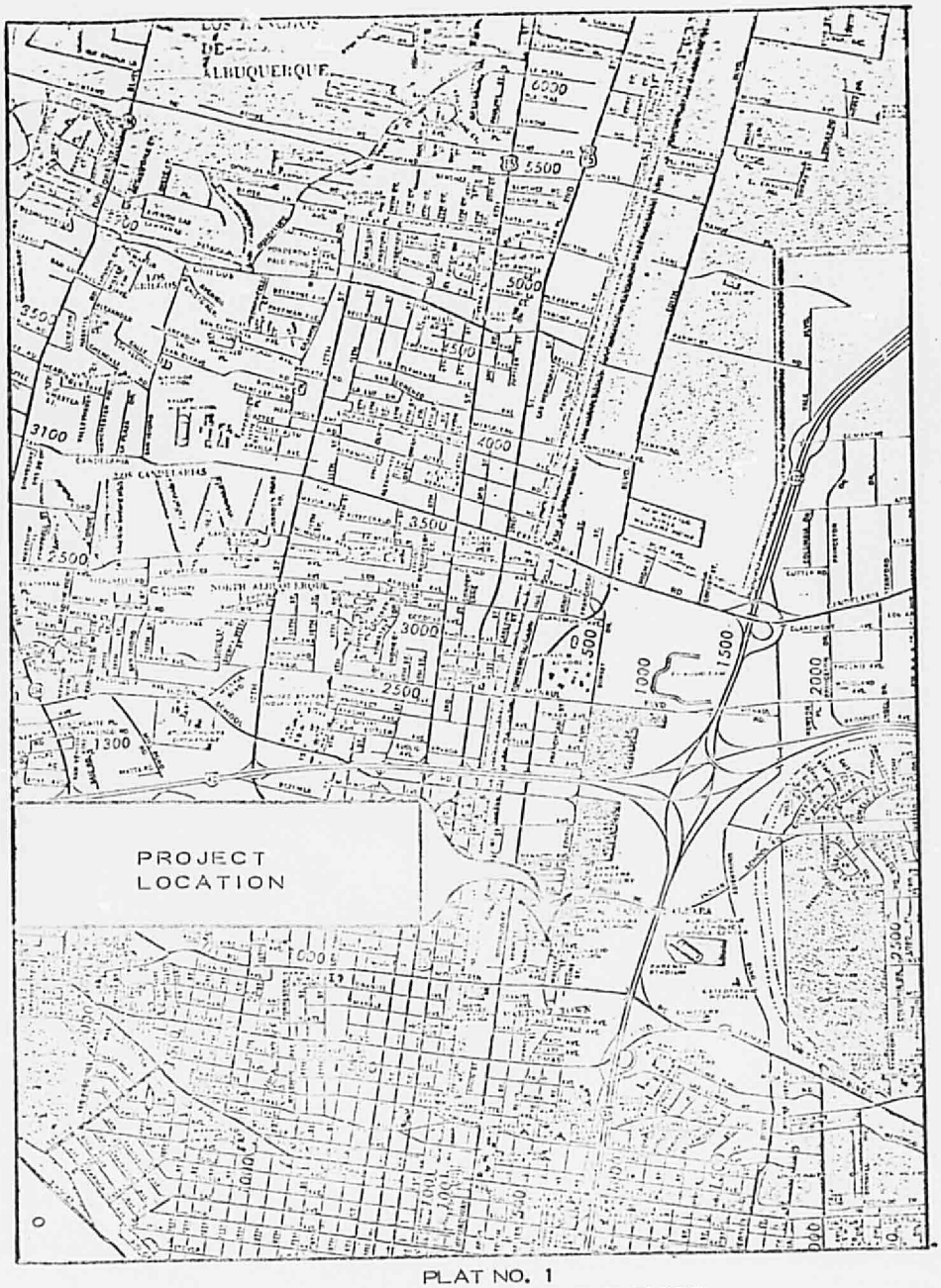
TRENCH SECTION

BUILD TRENCH SECTION - 70 FEET LONG, ALONG WEST SIDE OF PROPERTY PARALLEL TO FRANCISCAN ST.

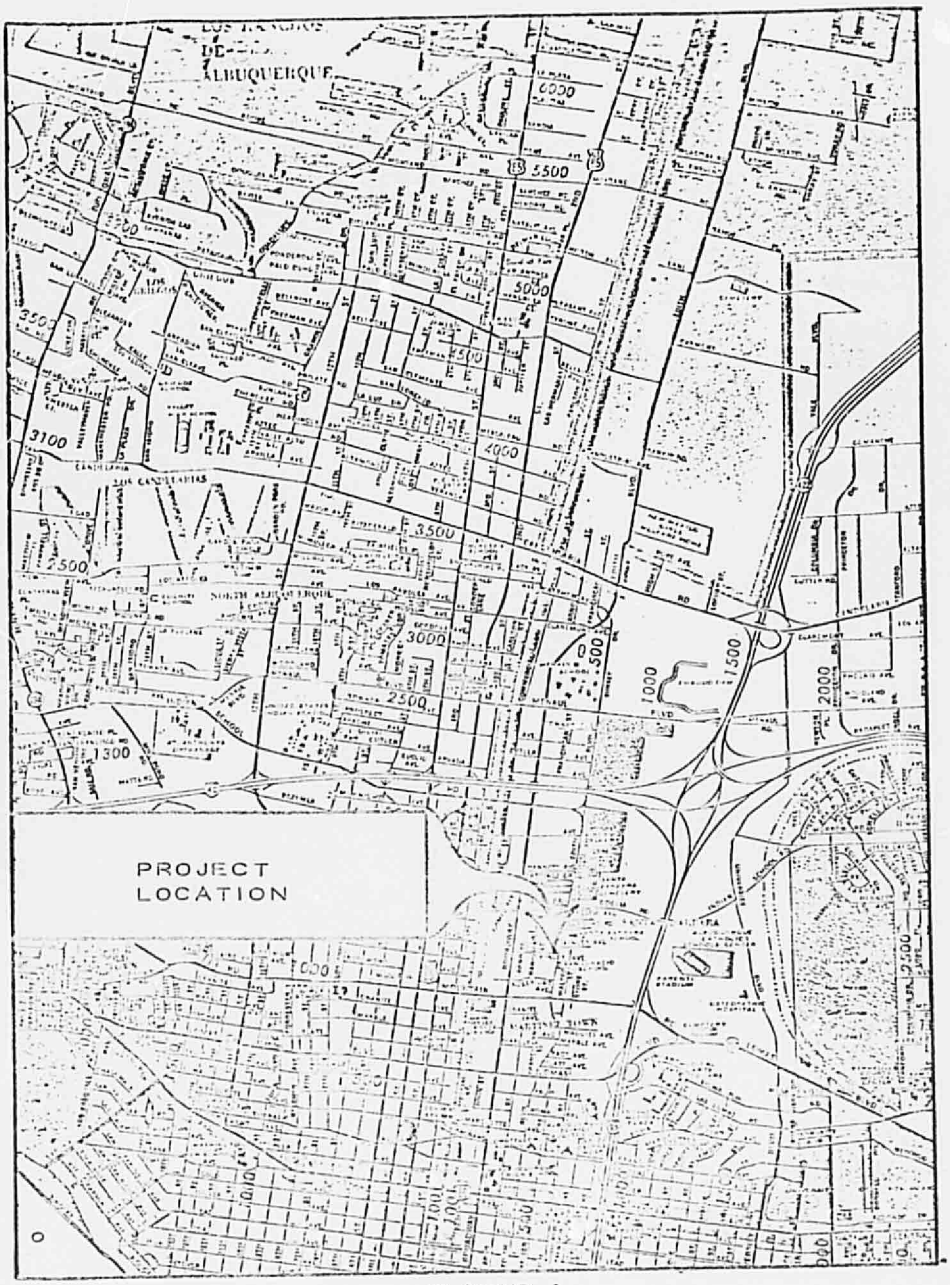
AVERAGE SECTIONAL AREA REQUIRED

$$\frac{627\ FT^3}{70} = 8.96\ FT^2 \quad \text{(SEE GRADING \& DRAINAGE PLAN)}$$

$$\text{AVG AREA} = \frac{(15 \times 1.0) + (7 \times 1.0)}{2} = 11\ FT^2\ \text{OK.}$$



PLAT NO. 1
INDUSTRIAL ELECTRIC EQUIPMENT SERVICE



PLAT NO. 1
INDUSTRIAL ELECTRIC EQUIPMENT SERVICE