PLANS/PLATS ON FILE

FILE DESC: E-20/D016

PLANS/PLATS 5

CHAVEZ—GRIEVES / CONSULTING ENGINEERS, INC.
4600 MONTGOMERY N.E., BUILDING C, #101
ALBUQUERQUE, NEW MEXICO 87109
(505) 881-7376

LETTER OF TRANSMITTAL

TO: City of Albuq. PWD.
Hydrology Section
Attn: Barbara

DATE: 6/26/87
JOB NO.
RE: Heights Pres. Church

GENTLEMEN:

We are sending you X ATTACHED ___ UNDER SEPARATE COVER the following items:

__ SHOP DRAWINGS __ CHANGE ORDER __ SPECIFICATIONS
__ COPY OF LETTER __ PLANS __
X PRINTS __ SAMPLES

RECEIVED JUN 29 1987 HYDROLOGY SECTION

COPIES	DATE	NO.	DESCRIPTION
1			Grading & Drainage Plan
1			Info Sheet

THESE ARE TRANSMITTED as checked below:

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__ AS REQUESTED
X FOR REVIEW AND COMMENT
__ APPROVED AS SUBMITTED
__ APPROVED AS NOTED
__ ____

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__ RESUBMIT ___ COPIES FOR APPROVAL
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__ PRINTS RETURNED AFTER LOAN TO US
__ FOR BIDS DUE _____ 19__

REMARKS:

COPY TO: file

SIGNED: Jackie S. McDowell

If enclosures are not as noted, kindly notify us at once.

.E COPY

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

Ken Schultz
Mayor

UTILITY DEVELOPMENT DIVISION
HYDROLOGY SECTION
(505) 768-2650

July 6, 1987

Victor Chavez, P.E.
Chavez-Grieves Consulting Engineers
4600-C Montgomery Boulevard, NE
Albuquerque, New Mexico 87109

RE: CONCEPTUAL GRADING & DRAINAGE PLAN FOR HEIGHTS CUMBERLAND PRESBYTERIAN CHURCH (E-20/D16) RECEIVED JUNE 29, 1987

Dear Mr. Chavez:

Based on the information provided on your submittal of June 29, 1987, listed you will find certain concerns that will need to be addressed prior to final approval:

1. Submittal is for Phase IV and V, unable to locate Phase IV on your drainage plan.

2. No proposed contours shown.

3. What is the purpose of the 50' Drainage Easement shown? Where you show your detention pond, area is developed with residential homes. Please explain.

4. Please identify as to what is existing and what is proposed.

5. Your flow arrows indicate opposite direction than what contours indicate (water going uphill and through concrete curb).

6. Finish Floor elevations to full mean sea level designation.

7. What are you proposing to construct within each phase?

8. No markings on the blue line. Any changes or additions must be shown on the original.

If you should have any questions regarding these comments, please call me at 768-2650.

Cordially,

Bernie J. Montoya

Bernie J. Montoya, C.E.
Engineering Assistant

BJM/bsj

DRAINAGE INFORMATION SHEET

PROJECT TITLE: Heights Cumb. Pres. Church ZONE ATLAS/DRNG.FILE #: E20/D16

LEGAL DESCRIPTION: Tract B-2 & C, Academy Estates Unit 7

CITY ADDRESS: 8600 Academy

ENGINEERING FIRM: Chavez-Grieves CONTACT: Jackie McDowell

ADDRESS: 4600 C Montgomery PHONE: (505) 881-7376

OWNER: Heights Cumb. Pres. Church CONTACT: Ed Whitworth

ADDRESS: 8600 Academy PHONE: (505) 821-1993

ARCHITECT: Boehning & Partners CONTACT: Pat McMurray

ADDRESS: 301 Gold SW PHONE: (505) 242-4044

SURVEYOR: Albuquerque Surveying CONTACT: Fred Sanchez

ADDRESS: 2119 Menaul NE PHONE: (505) 884-2036

CONTRACTOR: _____ CONTACT: _____

ADDRESS: _____ PHONE: _____

PRE-DESIGN MEETING:

___ YES

X NO

___ COPY OF CONFERENCE RECAP SHEET PROVIDED

DRB NO. _____

EPC NO. _____

PROJ. NO. _____

RECEIVED JUN 29 1987 HYDROLOGY SECTION

TYPE OF SUBMITTAL:

___ DRAINAGE REPORT

___ DRAINAGE PLAN

X CONCEPTUAL GRADING & DRAINAGE PLAN

___ GRADING PLAN

___ EROSION CONTROL PLAN

___ ENGINEER'S CERTIFICATION

CHECK TYPE OF APPROVAL SOUGHT:

___ SKETCH PLAT APPROVAL

___ PRELIMINARY PLAT APPROVAL

X SITE DEVELOPMENT PLAN APPROVAL Phase IV & Phase II for DPC approval

___ FINAL PLAT APPROVAL

___ BUILDING PERMIT APPROVAL

___ FOUNDATION PERMIT APPROVAL

___ CERTIFICATE OF OCCUPANCY APPROVAL

___ ROUGH GRADING PERMIT APPROVAL

___ GRADING/PAVING PERMIT APPROVAL

___ OTHER _____ (SPECIFY)

DATE SUBMITTED: 6/26/87

BY: Jackie S. McDowell

CHAVEZ--GRIEVES / CONSULTING ENGINEERS, INC.
4600 MONTGOMERY N.E., BUILDING C, #101
ALBUQUERQUE, NEW MEXICO 87109
(505) 881-7376

LETTER OF TRANSMITTAL

TO: City of Albuq. PWD
DRC, Hydrology Section
Attn: Bernie Montoya

DATE: 7/21/87
JOB NO.
RE: Heights Presbyterian Church
E20/D16

GENTLEMEN:
We are sending you X ATTACHED ___ UNDER SEPARATE COVER the following items:

___ SHOP DRAWINGS ___ CHANGE ORDER ___ SPECIFICATIONS
X ~~COPY OF~~ LETTER ___ PLANS ___
___ PRINTS ___ SAMPLES

COPIES	DATE	NO.	DESCRIPTION
1			letter responding to comments dated July 6, 87
1			Info. Sheet
1			Grading & Drainage Plan

THESE ARE TRANSMITTED as checked below:

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RECEIVED
JUL 21 1987
HYDROLOGY SECTION

REMARKS:

COPY TO: file

SIGNED: Jackie S. McDonald

If enclosures are not as noted, kindly notify us at once.

CHAVEZ—GRIEVES / CONSULTING ENGINEERS, INC.
4600 MONTGOMERY N.E., BUILDING C, #101
ALBUQUERQUE, NEW MEXICO 87109
(505) 881-7376

July 21, 1987

Mr. Bernie Montoya
CITY OF ALBUQUERQUE P.W.D.
U.D.D., Hydrology Section
P.O. Box 1293
Albuquerque, NM 87103

RECEIVED
JUL 21 1987
HYDROLOGY SECTION

RE: CONCEPTUAL GRADING AND DRAINAGE PLAN FOR HEIGHTS CUMBERLAND PRESBYTERIAN CHURCH (E-20/D16)

Dear Bernie:

In response to your letter dated July 6, 1987, I offer the following:

1. The different phases for construction on the plan have been clarified.

2. Proposed contours have been added.

3. The 50' drainage easement is existing as shown on the current plat. The detention pond shown is taken from the "Engineer's Drainage Report for The City of Albuquerque Special Assessment District No. 210" by Wilson and Company Engineers and Architects in May 1983.

4. Items have been clarified as to what is existing and what is proposed.

5. Elevations have been added to clarify drainage arrows.

6. Finish floor elevations with mean sea level designations have been added.

7. Each phase of construction has been clarified explaining what is to be constructed.

8. The changes and modifications listed above have been added to the original plan.

Your timely assistance in this review is appreciated.

Sincerely,

CHAVEZ-GRIEVES CONSULTING ENGINEERS, INC.

Jackie S. McDowell

Jackie S. McDowell

JSM:vc

DRAINAGE INFORMATION SHEET

PROJECT TITLE: Heights Cumb. Pres Church ZONE ATLAS/DRNG.FILE #: E20/016

LEGAL DESCRIPTION: Tract B-2 & C, Academy Estates Unit 7

CITY ADDRESS: 8600 Academy

ENGINEERING FIRM: Chavez-Grieves CONTACT: Jackie McDowell

ADDRESS: 4600 C Montgomery PHONE: (505) 881-7376

OWNER: Heights Cumb. Pres. Church CONTACT: Ed Whitworth

ADDRESS: 8600 Academy PHONE: (505) 821-1993

ARCHITECT: Boenning & Partners CONTACT: Pat McMurray

ADDRESS: 301 Gold SW PHONE: (505) 242-4044

SURVEYOR: Albuquerque Surveying CONTACT: Fred Sanchez

ADDRESS: 2119 Menaul NE PHONE: (505) 884-2036

CONTRACTOR: CONTACT:

ADDRESS: PHONE:

PRE-DESIGN MEETING:

____YES

____NO

____COPY OF CONFERENCE RECAP SHEET PROVIDED

DRB NO.

EPC NO.

PROJ. NO.

RECEIVED JUL 21 1987 HYDROLOGY SECTION

TYPE OF SUBMITTAL:

____DRAINAGE REPORT

____DRAINAGE PLAN

X CONCEPTUAL GRADING & DRAINAGE PLAN

____GRADING PLAN

____EROSION CONTROL PLAN

____ENGINEER'S CERTIFICATION

CHECK TYPE OF APPROVAL SOUGHT:

____SKETCH PLAT APPROVAL

____PRELIMINARY PLAT APPROVAL

X 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

X OTHER EPC approval (SPECIFY)

DATE SUBMITTED: 7/21/87

BY: Jackie S. McDowell

FILE COPY

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

Ken Schultz
Mayor

UTILITY DEVELOPMENT DIVISION
HYDROLOGY SECTION
(505) 768-2650

July 30, 1987

Victor Chavez, P.E.
Chavez-Grieves Consulting Engineers
4600-C Montgomery Boulevard, NE
Albuquerque, New Mexico 87109

RE: REVISED CONCEPTUAL GRADING & DRAINAGE PLAN FOR HEIGHTS CUMBERLAND PRESBYTERIAN CHURCH (E-20/D16) REVISION DATE OF JULY 21, 1987

Dear Mr. Chavez:

Based on the information provided on your resubmittal of July 21, 1987, the above referenced plan is approved for Site Development.

Prior to building permit approval, we will need a separate submittal with enough detail for construction prupores (roof drain location, erosion control scheme, T.C. and F.L. elevations etc).

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

Cordially,

Bernie J. Montoya

Bernie J. Montoya, C.E.
Engineering Assistant

BJM/bsj

CHAVEZ—GRIEVES / CONSULTING ENGINEERS, INC.
4600 MONTGOMERY N.E., BUILDING C, #101
ALBUQUERQUE, NEW MEXICO 87109
(505) 881-7376

LETTER OF TRANSMITTAL

TO: City of Albuq. PWD
Hydrology Section
Attn: Barbara

DATE: 2/23/88
JOB NO.
RE: Heights Pres. Church
Add'n
E-20/D16

GENTLEMEN:

We are sending you X ATTACHED ___ UNDER SEPARATE COVER the following items:

__ SHOP DRAWINGS __ CHANGE ORDER __ SPECIFICATIONS
__ COPY OF LETTER __ PLANS __ _____
X PRINTS __ SAMPLES

COPIES	DATE	NO.	DESCRIPTION
1			Grading & Drainage Plan
1			Info. Sheet

RECEIVED FEB 1988 HYDROLOGY SECTION

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__ SUBMIT ___ COPIES FOR DISTRIBUTION
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__ FOR BIDS DUE _____ 19___

REMARKS:

COPY TO: file

SIGNED: John S. McDowell

If enclosures are not as noted, kindly notify us at once.

DRAINAGE INFORMATION SHEET

PROJECT TITLE: Heights Cumb. Pres Church ZONE ATLAS/DRNG.FILE #: E20

LEGAL DESCRIPTION: Tract B-2 & C, Academy Estates Unit 7

CITY ADDRESS: 8600 Academy

ENGINEERING FIRM: Chavez-Grieves CONTACT: Jackie McDowell

ADDRESS: 4600C Montgomery PHONE: (505) 881-7376

OWNER: Heights Cumb. Pres. Church CONTACT: Ed Whitworth

ADDRESS: 8600 Academy PHONE: (505) 821-1993

ARCHITECT: Boenning & Partners CONTACT: Pat McMurray

ADDRESS: 301 Gold SW PHONE: (505) 242-4049

SURVEYOR: Albuquerque Surveying CONTACT: Fred Sanchez

ADDRESS: 2119 Menaul NE PHONE: (505) 884-2036

CONTRACTOR: CONTACT:

ADDRESS: PHONE:

PRE-DESIGN MEETING:

____YES

____NO

____COPY OF CONFERENCE RECAP SHEET PROVIDED

RECEIVED FEB 24 1988 HYDROLOGY SECTION

DRB NO.

EPC NO.

PROJ. NO.

TYPE OF SUBMITTAL:

____DRAINAGE REPORT

X DRAINAGE PLAN

____CONCEPTUAL GRADING & DRAINAGE PLAN

X 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

X BUILDING PERMIT APPROVAL

____FOUNDATION PERMIT APPROVAL

____CERTIFICATE OF OCCUPANCY APPROVAL

____ROUGH GRADING PERMIT APPROVAL

____GRADING/PAVING PERMIT APPROVAL

____OTHER _____ (SPECIFY)

DATE SUBMITTED: 2/23/88

BY: Jackie S. McDowell

FILE COPY

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

MAYOR	CHIEF ADMINISTRATIVE OFFICER	DEPUTY CAO PUBLIC SERVICES	DEPUTY CAO PLANNING/DEVELOPMENT
KEN SCHULTZ	GENE ROMO	FRANK MARTINEZ	BILL MUELLER

March 16, 1988

Victor Chavez, P.E.
Chavez-Grieves Consulting Engineers
4600-C Montgomery Boulevard, NE
Albuquerque, New Mexico 87109

RE: DRAINAGE PLAN FOR AN ADDITION TO HEIGHTS CUMBERLAND PRESBYTERIAN CHURCH (E-20/D16) ENGINEER'S STAMP DATED FEBRUARY 18, 1988

Dear Mr. Chavez

Based on the information provided on your submittal of February 24, 1988, the above referenced plan is approved for Building Permit.

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

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

Cordially,

Bernie J. Montoya

Bernie J. Montoya, C.E.
Engineering Assistant

BJM/bmj

CHAVEZ—GRIEVES / CONSULTING ENGINEERS, INC.
4600 MONTGOMERY N.E., BUILDING C, #101
ALBUQUERQUE, NEW MEXICO 87109
(505) 881-7376

LETTER OF TRANSMITTAL

TO: City of Albuq. PWD
Hydrology Section
Attn: Barbara

DATE: 4/1/88
JOB NO.
RE: Hts. Prop. Church Add'n.
E 20/D16

GENTLEMEN:

We are sending you X ATTACHED ___ UNDER SEPARATE COVER the following items:

__ SHOP DRAWINGS __ CHANGE ORDER __ SPECIFICATIONS
__ COPY OF LETTER __ PLANS __ _____
X PRINTS __ SAMPLES

COPIES	DATE	NO.	DESCRIPTION
1			Grading & Drainage Plan - Revised - ① Added sidewalk culverts w/in the site at the roof drains ② Removed 1 - roof drain.

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__ _____

RECEIVED
APR 01 1988
HYDROLOGY SECTION

REMARKS:

COPY TO: file

SIGNED: Debbie S. McDowell

If enclosures are not as noted, kindly notify us at once.

DRAINAGE INFORMATION SHEET

PROJECT TITLE: Heights Cumb. Pres Church ZONE ATLAS/DRNG.FILE #: E20/D16

LEGAL DESCRIPTION: Tract B-2 & C, Academy Estates Unit 7

CITY ADDRESS: 8600 Academy

ENGINEERING FIRM: Chavez-Grieves CONTACT: Jackie McDowell

ADDRESS: 4000 C Montgomery PHONE: (505) 881-7376

OWNER: Heights Cumb. Pres. Church CONTACT: Ed Whitworth

ADDRESS: 8600 Academy PHONE: (505) 821-1993

ARCHITECT: Boehning & Partners CONTACT: Pat McMurray

ADDRESS: 301 Gold SW PHONE: (505) 242-4049

SURVEYOR: Albuquerque Surveying CONTACT: Fred Sanchez

ADDRESS: 2919 Menaul NE PHONE: (505) 884-2036

CONTRACTOR: CONTACT:

ADDRESS: PHONE:

PRE-DESIGN MEETING:

____YES

____NO

____COPY OF CONFERENCE RECORD SHEET PROVIDED

RECEIVED APR 01 1988 HYDROLOGY SECTION

DRB NO.

EPC NO.

PROJ. NO. E20/D16

TYPE OF SUBMITTAL:

____DRAINAGE REPORT

X DRAINAGE PLAN

____CONCEPTUAL GRADING & DRAINAGE PLAN

X GRADING PLAN - revised

____EROSION CONTROL PLAN

____ENGINEER'S CERTIFICATION

CHECK TYPE OF APPROVAL SOUGHT:

____SKETCH PLAT APPROVAL

____PRELIMINARY PLAT APPROVAL

____SITE DEVELOPMENT PLAN APPROVAL

____FINAL PLAT APPROVAL

X BUILDING PERMIT APPROVAL

____FOUNDATION PERMIT APPROVAL

____CERTIFICATE OF OCCUPANCY APPROVAL

____ROUGH GRADING PERMIT APPROVAL

____GRADING/PAVING PERMIT APPROVAL

____OTHER _____ (SPECIFY)

DATE SUBMITTED: 4/1/88

BY: Jackie S. McDowell

FILE COPY

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

MAYOR	CHIEF ADMINISTRATIVE OFFICER	DEPUTY CAO PUBLIC SERVICES	DEPUTY CAO PLANNING/DEVELOPMENT
KEN SCHULTZ	GENE ROMO	FRANK MARTINEZ	BILL MUELLER

April 22, 1988

Victor Chavez, P.E.
Chavez-Grieves Consulting Engineers
4600-C Montgomery Boulevard, NE
Albuquerque, New Mexico 87109

RE: REVISED DRAINAGE PLAN FOR AN ADDITION TO HEIGHTS CUMBERLAND PRESBYTERIAN CHURCH (E-20/D16) REVISION DATE OF APRIL 1, 1988

Dear Mr. Chavez:

Based on the information provided on your resubmittal of April 1, 1988, the above referenced plan is approved for Building Permit.

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

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

Cordially,

Bernie J. Montoya

Bernie J. Montoya, C.E.
Engineering Assistant

BJM/bsj

PLAN/PLATS

ON

FILE

HYDROLOGY E20/D16 HEIGHTS PRESBYTERIAN CHURCH DEVELOPMENT

E20-D16

HEIGHTS

PRESBYTERIAN CHURCH

DEVELOPMENT

4 PLANS

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

MAYOR
Henry E. Kinney

CHIEF
ADMINISTRATIVE OFFICER
Frank A. Kleinhenz

May 4, 1977

Mr. J. J. Bordenave
Chief Engineer
Burnett Engineering, Inc.
120 Morningside N.E.
Albuquerque, New Mexico 87108

SUBJECT: DRAINAGE REPORT FOR HEIGHTS PRESBYTERIAN CHURCH DEVELOPMENT OF TRACT "C" - ALBUQUERQUE ACADEMY CAMPUS

Dear Mr. Bordenave:

The concepts outlined in the drainage report for the above-captioned location are accepted by this office.

The detailed implementation may be in need of refinement and the details will be defined in the near future.

Very truly yours,

Bruno Conegliano

Bruno Conegliano
Asst. City Engineer-Hydrology

BC/fs

OF ALBUQUERQUE

4-4-77

6 ft crot

4-4-77

APPROVED FOR DRAINAGE
5/9/77

RECEIVED
APR 7 1977
FIRE DEPARTMENT

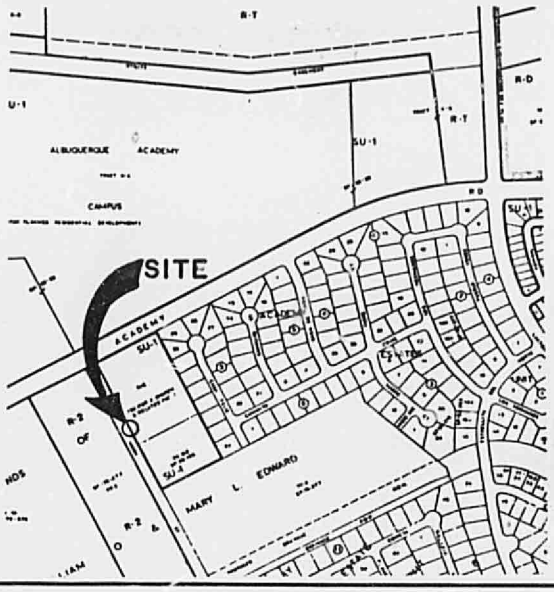
NOTICE

UBC REJECT

THIS MICROIMAGE IS THE BEST POSSIBLE REPRODUCTION DUE TO THE POOR QUALITY OF THE ORIGINAL DOCUMENT.

CITY OF ALBUQUERQUE

DRAINAGE FACILITIES WITHIN CITY RIGHT-OF-WAY



E·20·Z

OWNER:

HEIGHTS CUMBERLAND PREBYTERIAN CHURCH
8600 ACADEMY N.E.
ALBUQUERQUE, N.M.

LEGAL: TRACT "C" ACADEMY ESTATES.

BENCH MARK: ACS BM I-E20 STA. IS LOCATED APPROX. 700' SOUTHEAST OF THE INTERSECTION OF ACADEMY RD. & WYOMING BLVD. & ABOUT 650' DUE EAST OF THE ACAMEDY HTS. APTS. EL. 5464.129

VICTOR J. CHAVEZ
STATE OF NEW MEXICO
NO. 5703
REGISTERED PROFESSIONAL ENGINEER

6/10/85 Rev 6/17/85

RECEIVED
NOV 20 1985
HYDROLOGY SECTION

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 Public Works Contract No. 85-I.

3. Two working days prior to any exc[illegible]on, contractor must contact Line Locating Service, 765-1234, for lo[illegible]on 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.

BROCE CONSTRUCTION

E20-D16-16a E-69

APPROVALS	NAME	DATE
A.C.E./DESIGN	[illegible]	6/20/85
INSPECTOR	L. R.	11/13/85

TITLE: 8600 ACADEMY RD. N.E. DRAINAGE SIDEWALK CULVERT

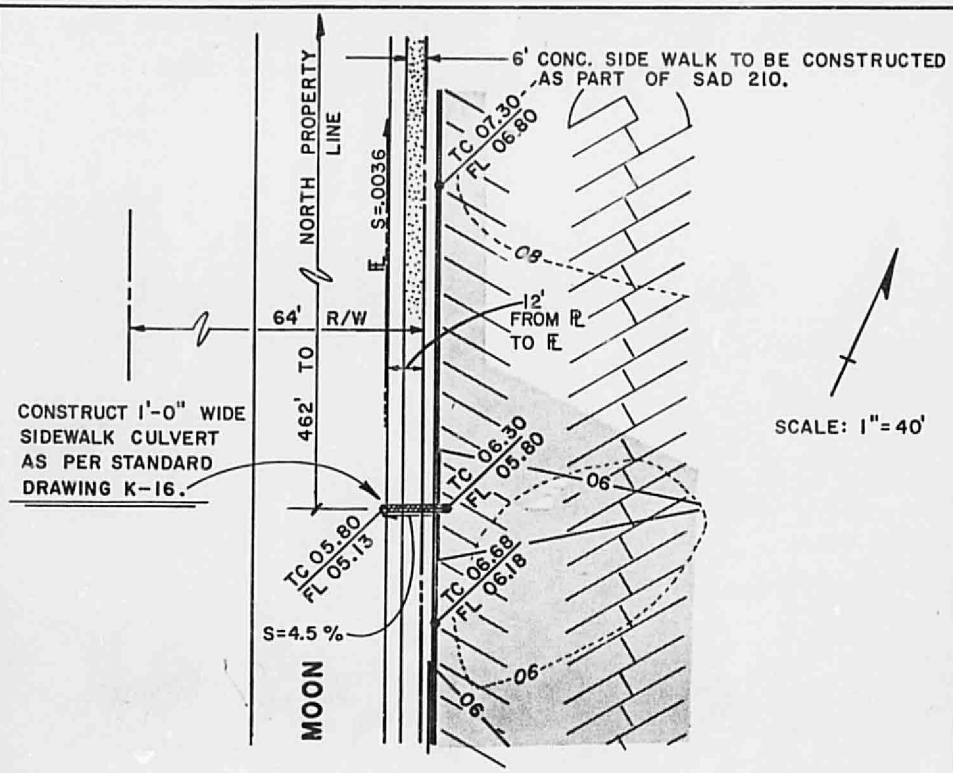
PERMIT NO. 24002 SHEET 1 OF 2

MAP NO. E-20-Z

THIS MICROIMAGE IS THE BEST POSSIBLE REPRODUCTION DUE TO THE POOR QUALITY OF THE ORIGINAL DOCUMENT.

CITY OF ALBUQUERQUE

DRAINAGE FACILITIES WITHIN CITY RIGHT-OF-WAY



LEGEND

DESCRIPTION	EXISTING	NEW	(SAD 210) CITY APPROVED
SPOT ELEVATION	○———	●———	⊕———
CONTOUR	----06-----	—06—	
PROPERTY LINE	——— - - - ———		
ASPHALT			

VICTOR J. CHAVEZ
STATE OF NEW MEXICO
No.
REGISTERED PROFESSIONAL ENGINEER

6/10/85 Rev 6/13/85

BROCE CONSTRUCTION

CITY OF ALBUQUERQUE E-69

APPROVALS	NAME	DATE
A.C.E. DESIGN	[illegible]	[illegible]
INSPECTOR	L.R.	11/13/85
A.C.E./FIELD	[illegible]	[illegible]

TITLE: 8600 ACADEMY RD. N.E. DRAINAGE SIDEWALK CULVERT

PROJECT 24602

SHEET 2 OF 2

E-20-Z

DRAINAGE REPORT

FOR

HEIGHTS PRESBYTERIAN CHURCH DEVELOPMENT

OF TRACT "C" - ALBUQUERQUE ACADEMY CAMPUS

APRIL, 1977

THIS MICROIMAGE IS THE BEST POSSIBLE REPRODUCTION DUE TO THE POOR QUALITY OF THE ORIGINAL DOCUMENT.

DRAINAGE REPORT

FOR

HEIGHTS PRESBYTERIAN CHURCH DEVELOPMENT

OF TRACT "C" - ALBUQUERQUE ACADEMY CAMPUS

April, 1977

Prepared By

T.T. Burnett Engineering, Inc.
120 Morningside Dr. NE
Albuquerque, New Mexico 87108

Prepared For

Heights Presbyterian Church
10110 Constitution Ave. NE
Albuquerque, New Mexico 87112

REGISTERED PROFESSIONAL ENGINEER AND LAND SURVEYOR NO 5110 NEW MEXICO JEAN J. BORDENAVE

Jean J. Bordenave, N.M.P.E. & L.S. #5110

TABLE OF CONTENTS

PURPOSE	1
LOCATION AND TERRAIN	1
PROPOSED DEVELOPMENT	2
UPLAND DRAINAGE	2
INTERNAL DRAINAGE	2
CONCLUSIONS	3
METHODS AND EQUATIONS	4
COMPUTATIONS	
UPLAND AND CHANNEL FLOWS	1
DETENTION/RETENTION REQUIREMENTS	2
PLATES	
I Location Map E-20-Z	
II Site Plan	
III Landscaping Plan	
IV Topography Map E-20	

DRAINAGE REPORT

FOR

HEIGHTS PRESBYTERIAN CHURCH DEVELOPMENT

OF TRACT "C" - ALBUQUERQUE ACADEMY CAMPUS

PURPOSE

The purpose of this report is to present to governing agencies a reasonable method of complying with Resolution 1972 - 2 and thereby provide protection to the proposed development as well as downstream areas. The report is composed of both a narrative description and computations to indicate the intent of the developers in complying with the above mentioned resolution.

LOCATION AND TERRAIN

The proposed development is located southeast of the Albuquerque Academy; is bounded on the north by Academy Road NE and on the west by the projection of Moon Street NE (see Plate I for exact location).

The property slopes southwesterly at a rate of less than 4 percent. There are two small arroyos on the property, one of which has it's head approximately 500 feet upstream and the other of which has it's head on the pr property. The soil is composed of sandy silt and decomposed granite pebbles. The entire area is sparsely grassed and at the present there is no development of surrounding properties.

PROPOSED DEVELOPMENT

The site is to be developed as a church with present and future construction phases. This report is written to include the future construction phase as shown on the plates. The completed construction will be composed of 117,200 sq. ft. of buildings, walks and asphalt pavement, and 100,600 sq. ft. of landscaped lawns.

UPLAND DRAINAGE (See Plate IV)

A small area (approximately 10 acres) drains through the proposed development. This area has been divided into three parts, as shown on Plate IV and designated Area I, II and III. Areas II and III are natural drainage areas through the proposed development through the small arroyos described under LOCATION AND TERRAIN. Area I would naturall drain north or south of the proposed development, but through erosion of a track road has been diverted to the site. There is a low south bank in the track road at Section A-A that was investigated for overflow to the south, thereby lessening the flow to Area II. Thecomputations indicate the track road is adequate to carry the flow, therefore, this report is based on Area I as well as Areas II and III.

INTERNAL DRAINAGE

A portion of the flows developed internally will be stored in retention ponds (shown on Plate II) and allowed to infiltrate at a rate of 0.5 inches/hour. The remaining flow generated onsite will be allowed to either flow into and arroyo or exit by means ot sheet flow as they now do.

INTERNAL DRAINAGE (cont.)

Flows from the upland drainage area will be diverted around proposed buildings and allowed to enter an existing arroyo at the westerly boundary of the proposed development.

CONCLUSIONS

Flows generated by the proposed development will be partially retained on site. Flows is excess of storage capacity but less than those generated by the existing site will be allowed to enter existing arroyos. Upland flows will be allowed to pass through the site and will remain in existing watercourses. The downstream effect of the combination of internally generated and upland flows will be very little different than the present condition of the site.

If any effect on the downstream are is to be considered it must be considered as positive. Moon Street along the westerly boundary of the proposed development will now have one arroyo crossing rather than the two the existing conditions present. Also the ditch and dike section in the northerly arroyo will no longer be required as the diversion of this arroyo will be onsite. This will eliminate a maintenance problem and the drainage problem of this arroyo at Academy Road NE.

METHODS AND EQUATIONS

Rainfall Intensity

from " Master Plan of Drainage - Albuquerque, New Mexico and Environs, 1963"

$$i = 189/(t + 25) \text{ , inches/ hour}$$

where, t - time of concentration, min.

Runoff Rate

Rational Formula

$$Q = CiA, \text{ cubic feet/ second}$$

where, C - runoff coefficient dependent on physical characteristics of the drainage area.
i - rainfall intensity, in./hr.
A - drainage area, acres

Channel Velocities and Depths

Manning's Equation

$$Q = \frac{1.486}{n} AR\ S \text{ , cubic feet/ second}$$

where, A - cross sectional area of flow, sq. ft.
R - hydraulic radius, feet
S - hydraulic gradient, feet/foot
n - Manning's roughness coefficient, dependent on channel surface

$$V = Q/A \text{ , feet/ second}$$

where, Q - as defined above
A - as defined above

BY JJB DATE 4/26/77 SUBJECT DRAINAGE REPORT SHEET NO. 1 OF 2
CHKD. BY DATE HEIGHTS PRESBYTERIAN CHURCH JOB NO.
INTERNAL DRAINAGE

PONDING AREA B

Equivalent Area = 1.4 Acres @ C = 1.0
Surface Area & Depth of Pond by Planimeter

use 30 min lag for infiltration @ 0.5 in/hr.

time hr.	total rainfall in.	runoff volume ft³	surface area ft²	perc. ft³	storage volume ft³	depth ft
0.5	1.45	7,369		-	7,369	2.6
1	1.80	9,148	4,322	90	9,058	2.9
2	2.13	10,825	4,735	287	10,538	3.2
4	2.52	12,806	5,096	712	12,094	3.6
6	2.80	14,229	5,477	1168	13,061	3.8
8	3.04	15,449	5,713	1644	13,805	3.9
9	3.08	15,653	5,895	1890	13,763	3.9
10	3.12	15,856	5,884	2135	13,721	

time required to drain - (3.9)(12)/0.5 = 94 hrs
Build ridge to elevation 985
0.6' ft. free board

PONDING AREA 'C'

EQUIVALENT AREA - 1.4 Acres @ C = 1.0

DIRECT EXIT SHEET FLOW

EQUIVALENT AREA - 0.4 Acres @ C = 1.0

EXISTING CONDITIONS

Equivalent Area - 2.0 Acres @ C = 1.0

Equivalent Areas of Ponding Area 'C' + Direct Exit = 1.8 Acres < 2.0 Acres Existing Condition
∴ Ponding Area 'C' not required.

Direct flow through future parking lot entrance.

BY HB DATE 4/25/07 SUBJECT DRAINAGE REPORT SHEET NO. 2 OF 2
CHKD. BY DATE HEIGHTS PRESBYTERIAN CHURCH JOB NO.
UPLAND DRAINAGE

EXISTING FLOWS

Areas I & II @ Entrance to Site

Assume t_c = 20 min

Q_{100} = (0.35)(189/(20+25))(2.8) + (0.40)(189/(20+25))(6.4)
= 15 cfs

Area I , Q = 4 cfs
300' overland @ 2.7% t = 14 min.
600' channel @ 2.2% t = 5
8' bottom - rectangular - n = 0.025 Σ = 19

Area II , Q = 15 cfs
350' channel @ 2.9% t = 1 min.
8' bottom - rectangular - n = 0.025
500' channel @ 3.3% t = 2
Vee - 15:1 Sideslopes - n = 0.035 Σ = 3
22 min total

Areas I & II @ Exit to Site

Use t_c = 25 min, use Area II = 10 acres

Q_{100} = (0.35)(189/(25+25))(2.8) + (0.40)(189/(25+25))(10.0)
= 18.8 cfs

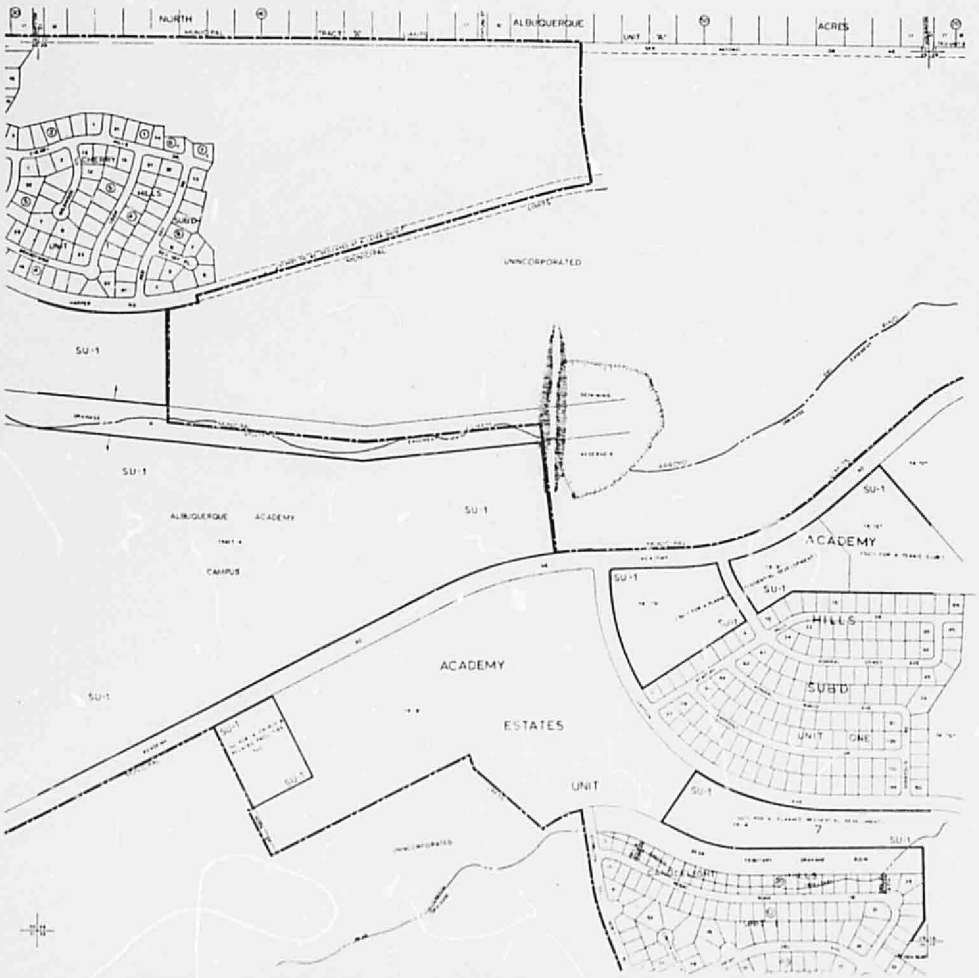
Area III @ Exit to Site

Use t_c = 25 min., use Area III = 2.2 acres

Q_{100} = (0.40)(189/(25+25))(2.2)
= 3.3 cfs

Max. Flow from Site

Q_{100} = 18.8 + 3.3 = 22.1 cfs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UNIT ONE

Plate I

E-20-Z

5/5 deadline

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