CITY OF ALBUQUERQUE

THREE HUNDRED YEARS
1706 • 2006
ALBUQUERQUE
Making History

June 3, 2005

David Aube, P.E.
Telck-Hensley Engineering Group
4001 Juan Tabo Blvd.
Albuquerque, NM 87111

Re: Hope Free Evangelical Church, 4710 Juan Tabo Blvd NE, Grading and Drainage Plan

Engineer's Stamp dated 2-03-05 (F22-D7)

Dear Mr. Aube,

Based upon the information provided in your submittal received 5-26-05, the above referenced plan is approved for Building Permit. Please attach a copy of this approved plan to the construction sets prior to sign-off by Hydrology. Prior to Certificate of Occupancy release, Engineer Certification per the DPM checklist will be required.

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

Sincerely,

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

C: File

P.O. Box 1293
Albuquerque
New Mexico 87103
www.cabq.gov

DRAINAGE AND TRANSPORTATION INFORMATION SHEET

(REV. 1/28/2003rd)

F-22/D7

PROJECT TITLE: Hope Free Evangelical Church
DRB #: 3764 EPC#:_____

ZONE MAP/DRG. FILE #: ~~F 22 Z~~
WORK ORDER#:_____

LEGAL DESCRIPTION: Lot A, Block 0000, Hope Evangelical Free Church
CITY ADDRESS: 4710 Juan Tabo NE

ENGINEERING FIRM: THE Group
ADDRESS: 2430 Menaul Blvd NE, Ste 200
CITY, STATE: Albuquerque, NM

CONTACT: Hank Rosoff X29
PHONE: 292-3202
ZIP CODE: ~~87101~~ 87107

OWNER: Hope Free Evangelical Church
ADDRESS: 4710 Juan Tabo N.E.
CITY, STATE: Albuquerque, NM

CONTACT: Larry Railey
PHONE: 291-9953
ZIP CODE: 87111

ARCHITECT: SMPC Architects
ADDRESS: 115 Amherst Drive SE
CITY, STATE: Albuquerque, NM

CONTACT: Dave Cook
PHONE: 255-8668
ZIP CODE: 87106

SURVEYOR:
ADDRESS: _____
CITY, STATE: _

CONTACT:
PHONE:
ZIP CODE:

CONTRACTOR: _____
ADDRESS: _____
CITY, STATE: _____

CONTACT: _____
PHONE: _____
ZIP CODE: _____

CHECK TYPE OF SUBMITTAL:

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

CHECK TYPE OF APPROVAL SOUGHT:

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

WAS A PRE-DESIGN CONFERENCE ATTENDED:

- ☒ YES
- ☐ NO
- ☐ COPY PROVIDED

RECEIVED
MAY 26 2005
HYDROLOGY SECTION

DATE SUBMITTED: 5-25-05

BY: David Aube P.E.

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

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

CITY OF ALBUQUERQUE

THREE HUNDRED YEARS 1706 • 2006
ALBUQUERQUE
Making History

Planning Department
Transportation Development Services Section

March 3, 2006

David A. Cook, Registered Architect
SMPC Architects
115 Amherst Drive SE
Albuquerque, NM 87106

Re: Certification Submittal for Final Building Certificate of Occupancy for
Hope Evangelical Free Church Addition, [F-22 / D7]
4710 Juan Tabo NE
Architect's Stamp Dated 03/01/06

P.O. Box 1293
Albuquerque
New Mexico 87103
www.cabq.gov

Dear Mr. Cook:

The TCL / Letter of Certification submitted on March 2, 2006 is sufficient for acceptance by this office for final Certificate of Occupancy (C.O.). Notification has been made to the Building and Safety Section.

Sincerely,

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

c: Engineer
Hydrology file
CO Clerk

SMPC
ARCHITECTS

Michael Ligon Dickson AIA
Glenn H. Fellows AIA
J. Chris Willadsen AIA

Allison Abraham AIA, ASLA
David A. Cook AIA
Patricia H. Hancock AIA
David M. Hassard AIA
Karl Schindwolf AIA

City of Albuquerque
Planning Department
Development and Building Services
600 2nd Street NW
Albuquerque, NM 87103

Re: Additions to Hope Evangelical Free Church
4710 Juan Tabo NE
Project No. 1003764, 04 DRB 01720

TRAFFIC CERTIFICATION

I, David A. Cook, NMRA NO. 1085, OF THE FIRM SMPC ARCHITECTS, HEREBY CERTIFY THAT THIS PROJECT IS IN SUBSTANTIAL COMPLIANCE WITH AND IN ACCORDANCE WITH THE DESIGN INTENT OF THE DRB APPROVED PLAN, DATED 2/5/05. THE RECORD INFORMATION EDITED ONTO THE ORIGINAL DESIGN DOCUMENT HAS BEEN OBTAINED BY Lee Brown OF THE COMPANY The Hawkins Group, Inc.. I FURTHER CERTIFY THAT I HAVE PERSONALLY VISITED THE PROJECT SITE ON 2/28/06 AND HAVE DETERMINED BY VISUAL INSPECTION THAT THE SURVEY DATA PROVIDED IS REPRESENTATIVE OF ACTUAL SITE CONDITIONS AND IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. THIS CERTIFICATION IS SUBMITTED IN SUPPORT OF A REQUEST FOR A CERTIFICATE OF OCCUPANCY (PERM).

THERE ARE THREE EXCEPTIONS OR QUALIFICATIONS TO THE DRB APPROVED PLAN.
1. THE LAYOUT OF NEW PARKING SPACES WAS REVISED BUT THE SAME REQUIRED NUMBER WAS PROVIDED.
2. THE EXISTING MANITOBA SIGN WAS REPLACED (SEE SKETCH ATTACHED).
3. THE STRIPED PEDESTRIAN PATHS TO THE EXISTING RAISED CURBS WERE NOT APPLIED.

THE RECORD INFORMATION PRESENTED HEREON IS NOT NECESSARILY COMPLETE AND INTENDED ONLY TO VERIFY SUBSTANTIAL COMPLIANCE OF THE TRAFFIC ASPECTS OF THIS PROJECT. THOSE RELYING ON THE RECORD DOCUMENT ARE ADVISED TO OBTAIN INDEPENDENT VERIFICATION OF ITS ACCURACY BEFORE USING IT FOR ANY OTHER PURPOSE.

David A Cook

Signature of Engineer or Architect

3-1-06

Date

ARCHITECT'S STAMP

STATE OF NEW M
DAVID A.
COOK
No. 1085
REGISTERED ARCHITECT

SMPC, PA
115 Amherst Drive SE
Albuquerque
New Mexico 87106
505 255 8668
FAX 268 6665
smpc@smpcarch.com
www.smpcarch.com

DRAINAGE AND TRANSPORTATION INFORMATION SHEET
(Rev. 12/2005)

PROJECT TITLE: HOPE EVANGELICAL FREE CHURCH Addn ZONE MAP/DRG. FILE #: F-22-Z/D7
DRB#: 1003764 EPC#: _____ WORK ORDER#: _____

LEGAL DESCRIPTION: _____
CITY ADDRESS: 4710 JUAN TABO NE

ENGINEERING FIRM: _____ CONTACT: _____
ADDRESS: _____ PHONE: _____
CITY, STATE: _____ ZIP CODE: _____

OWNER: HOPE E FREE CHURCH CONTACT: MIKE LINVILLE
ADDRESS: Same PHONE: 292-5444
CITY, STATE: _____ ZIP CODE: _____

ARCHITECT: SMPC CONTACT: DAVE COOK
ADDRESS: 115 AMHERST DR. SE PHONE: 255-8668
CITY, STATE: ALBQ NM 87106 ZIP CODE: _____

SURVEYOR: _____ CONTACT: _____
ADDRESS: _____ PHONE: _____
CITY, STATE: _____ ZIP CODE: _____

CONTRACTOR: HAWKINS GROUP CONTACT: JEFF HAWKINS
ADDRESS: 115 AMHERST DR. SE PHONE: 379-0869
CITY, STATE: ALBQ NM 87106 ZIP CODE: _____

TYPE OF SUBMITTAL:
_____ DRAINAGE REPORT
_____ DRAINAGE PLAN 1st SUBMITTAL
_____ DRAINAGE PLAN RESUBMITTAL
_____ CONCEPTUAL G & D PLAN
_____ GRADING PLAN
_____ EROSION CONTROL PLAN
_____ ENGINEER'S CERT (HYDROLOGY)
_____ CLOMR/LOMR
_____ TRAFFIC CIRCULATION LAYOUT
X ENGINEER'S/ARCHITECT'S CERT (TCL)
_____ ENGINEER'S CERT (DRB SITE PLAN)
_____ OTHER

CHECK TYPE OF APPROVAL SOUGHT:
_____ SIA/FINANCIAL GUARANTEE RELEASE
_____ PRELIMINARY PLAT APPROVAL
_____ S. DEV. PLAN FOR SUB'D APPROVAL
_____ S. DEV. FOR BLDG. PERMIT APPROVAL
_____ SECTOR PLAN APPROVAL
_____ FINAL PLAT APPROVAL
_____ FOUNDATION PERMIT APPROVAL
_____ BUILDING PERMIT APPROVAL
X CERTIFICATE OF OCCUPANCY (PERM)
_____ CERTIFICATE OF OCCUPANCY (TEMP)
_____ GRADING PERMIT APPROVAL
_____ PAVING PERMIT APPROVAL
_____ WORK ORDER APPROVAL
_____ OTHER (SPECIFY)

RECEIVED
MAR 02 2006
HYDROLOGY SECTION

WAS A PRE-DESIGN CONFERENCE ATTENDED:
_____ YES
_____ NO
_____ COPY PROVIDED

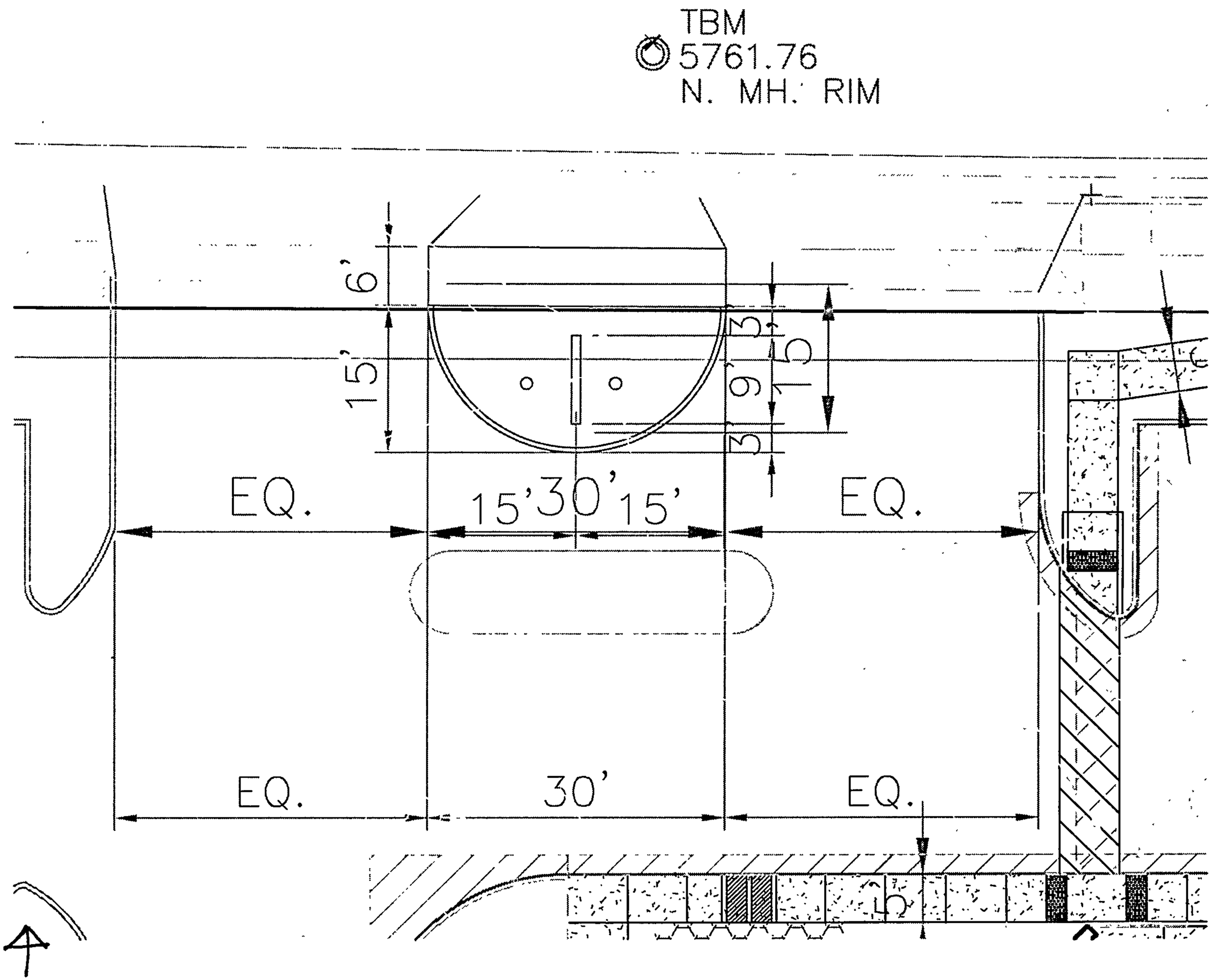
SUBMITTED BY: David A Cook DATE: 3-1-06

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

1. **Conceptual Grading and Drainage Plan:** Required for approval of Site Development Plans greater than five (5) acres and Sector Plans.

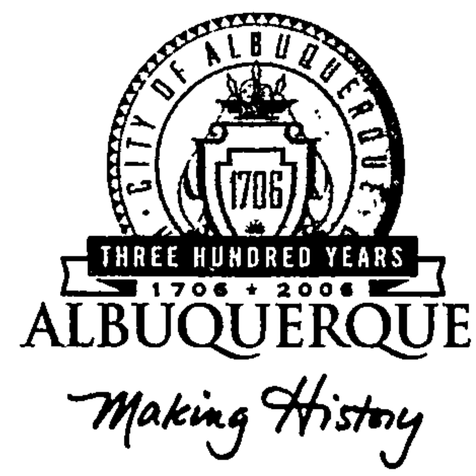
2. **Drainage Plans:** Required for building permits, grading permits, paving permits and site plans less than five (5) acres.

3. **Drainage Report:** Required for subdivision containing more than ten (10) lots or constituting five (5) acres or more.



HOPE FREE CHURCH
REPLACEMENT SIGN
SMRC ARCHITECTS

CITY OF ALBUQUERQUE



March 2, 2006

Mr. Ray Macy, P.E.
THE Group
2340 Menaul Blvd. NE, Ste 200
Albuquerque, NM 87107

Re: HOPE EVANGELICAL FREE CHURCH ADDITION
4710 Juan Tabo NE
Approval of Permanent Certificate of Occupancy (C.O.)
Engineer's Stamp dated 02/03/2005 (F-22/D7)
Certification dated 02/28/2006

Dear Ray:

Based upon the information provided in your submittal received 03/02/2006, the above referenced certification is approved for release of Permanent Certificate of Occupancy by Hydrology.

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

Sincerely,

Arlene V. Portillo

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

C: C.O. Clerk
File

P.O. Box 1293
Albuquerque
New Mexico 87103
www.cabq.gov

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

PROJECT TITLE: Hope ~~Free~~ Evangelical Free Church Addn
DRB #: 100376 EPC#:_____

ZONE MAP/DRG. FILE #: F-22/Z D7
WORK ORDER#:_____

LEGAL DESCRIPTION: Lot A, Block 0000, Hope Evangelical Free Church
CITY ADDRESS: 4710 Juan Tabo NE

ENGINEERING FIRM: THE Group
ADDRESS: 2340 Menaul Blvd NE, Ste 200
CITY, STATE: Albuquerque, NM

CONTACT: Ray Macy
PHONE: 292-3202
ZIP CODE: 87107

OWNER: Hope Free Evangelical Church
ADDRESS: 4710 Juan Tabo N.E.
CITY, STATE: Albuquerque, NM

CONTACT: Mike Linville
PHONE: 292-5444
ZIP CODE:

ARCHITECT: SMPC Architects
ADDRESS: 115 Amherst Drive SE
CITY, STATE: Albuquerque, NM

CONTACT: Dave Cook
PHONE: 255-8668
ZIP CODE: 87106

SURVEYOR:
ADDRESS: _____
CITY, STATE:

CONTACT:
PHONE:
ZIP CODE:

CONTRACTOR: Hawkins Group
ADDRESS: 115 Amherst Drive SE
CITY, STATE: Albuquerque, NM

CONTACT: Jeff Hawkins
PHONE: 379-6869
ZIP CODE: 87106

CHECK TYPE OF SUBMITTAL:

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

CHECK TYPE OF APPROVAL SOUGHT:

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

WAS A PRE-DESIGN CONFERENCE ATTENDED:

- ☒ YES
- ☐ NO
- ☐ COPY PROVIDED

RECEIVED
MAR 02 2006
HYDROLOGY SECTION

DATE SUBMITTED: 2-28-06

BY: Ray Macy P.E.

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

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

THE group

CONSULTING ENGINEERS
2340 Menaul Blvd., NE, Suite 200
Albuquerque, NM 87107
(505) 292 - 3202
FAX (505) 292 - 3904

LETTER OF TRANSMITTAL

DATE: 03/02/06 JOB # 04-162
ATTN: Transportation & Hydrology Sections
RE: **Hope Church**

TO: City of Albuquerque
Development and Building Services
600 2nd Street, NW
Abuquerque, NM 87102

WE ARE SENDING YOU: THE FOLLOWING ITEMS: ☑ ATTACHED ☐ UNDER SEPARATE COVER VIA

☐ SHOP DRAWINGS ☐ SPECIFICATIONS ☑ PLANS ☐ SAMPLES ☐ PRINTS
☐ COPY OF LETTER ☐ CHANGE ORDER ☑ OTHER: Engineer & Architect Certifications

COPIES	DATE	NO.	DESCRIPTION
1	2/5/2005		Copy of the DRB Approved Site Development Plan
1	2/3/2005		Copy of the Engineer Stamped Approved Drainage Plan
1	3/21/2005		Copy of the Engineer Stamped Grading Plan
1	3/1/2006		Drain & Trans Info Sheet for Architect's Traffic Certification
1	2/28/2006		Drain & Trans Info Sheet for Engineer's Drainage Certification
1	3/1/2006		Architect's Traffic Certification for C.O.
1	2/28/2006		Engineer's Certification of Drainage Plan for C.O.
1	2/28/2006		Engineer's Certification of Grading Plan for C.O.

THESE ARE TRANSMITTED AS CHECKED BELOW:

☑ FOR APPROVAL ☐ APPROVED AS SUBMITTED
☐ FOR YOUR USE ☐ APPROVED AS NOTED
☐ AS REQUESTED ☐ RETURNED FOR CORRECTIONS
☐ FOR REVIEW AND COMMENT ☐ OTHER:
☐ FOR BIDS DUE
☐ RESUBMIT FOR APPROVAL - QTY:
☐ SUBMIT FOR DISTRIBUTION - QTY:
☐ RETURN CORRECTED PRINTS - QTY:
☐ PRINTS RETURNED AFTER LOAN TO US

REMARKS:

The Owner is seeking a Permanent C.O. The enclosed material is Engineer's Drainage Certification and Architect's Traffic Certification.

RECEIVED
MAR 0 2 2006
HYDROLOGY SECTION

COPY TO: FILE

SIGNATURE: R. W. Macy
Ray Macy, P.E.

CITY OF ALBUQUERQUE

THREE HUNDRED YEARS 1706 • 2006
ALBUQUERQUE
Making History

December 30, 2004

David Aube, P.E.
Telck-Hensley Engineering Group
4001 Juan Tabo Blvd.
Albuquerque, NM 87111

Re: Hope Free Evangelical Church, 4710 Juan Tabo Blvd NE, Grading and Drainage Plan

Engineer's Stamp dated 12-23-04 (F22-D7)

Dear Mr. Aube,

Based upon the information provided in your submittal received 12-23-04, the above referenced plan cannot be approved for Building Permit until the following comments are addressed:

1. Include a vicinity map on the grading and drainage plan.
2. Provide finished floor elevations for all buildings, both proposed and existing or, at a minimum, add a note to match to existing elevations.
3. Label the detail "Proposed Rundown."
4. Provide the invert depth of the lined swale.

If you have any questions, you can contact me at 924-3986.

Sincerely,

Bradley L. Bingham, PE
Principal Engineer, Planning Dept.
Development and Building Services

C: File

P.O. Box 1293
Albuquerque
New Mexico 87103
www.cabq.gov

DRAINAGE AND TRANSPORTATION INFORMATION SHEET

(REV. 1/28/2003rd)

PROJECT TITLE: Hope Free Evangelical Church
DRB #: _____ EPC#: _____

ZONE MAP/DRG. FILE #: F-22-D007
WORK ORDER#: _____

LEGAL DESCRIPTION: Lot A, Block 0000, Hope Evangelical Free Church
CITY ADDRESS: 4710 Juan Tabo NE

ENGINEERING FIRM: THE Group
ADDRESS: 4001 Juan Tabo N.E. Suite A
CITY, STATE: Albuquerque, NM

CONTACT: David Aube
PHONE: 292-3202
ZIP CODE: 87111

OWNER: Hope Free Evangelical Church
ADDRESS: 4710 Juan Tabo N.E.
CITY, STATE: Albuquerque, NM

CONTACT: Larry Railey
PHONE: 291-9953
ZIP CODE: 87111

ARCHITECT: SMPC Architects
ADDRESS: 115 Amherst Drive SE
CITY, STATE: Albuquerque, NM

CONTACT: Dave Cook
PHONE: 255-8668
ZIP CODE: 87106

SURVEYOR: _
ADDRESS: _____
CITY, STATE: _

CONTACT:
PHONE:
ZIP CODE:

CONTRACTOR: _____
ADDRESS: _____
CITY, STATE: _____

CONTACT: _____
PHONE: _____
ZIP CODE: _____

CHECK TYPE OF SUBMITTAL:

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

BP fee paid

CHECK TYPE OF APPROVAL SOUGHT:

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

WAS A PRE-DESIGN CONFERENCE ATTENDED:

- ☒ YES
- ☐ NO
- ☐ COPY PROVIDED

RECEIVED
DEC 23 2004
HYDROLOGY SECTION

DATE SUBMITTED: 12-23-04

BY: David Aube P.E.

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

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CITY OF ALBUQUERQUE

THREE HUNDRED YEARS
1706 + 2006
ALBUQUERQUE
Making History

February 3, 2005

David Aube, P.E.
Telck-Hensley Engineering Group
4001 Juan Tabo Blvd.
Albuquerque, NM 87111

Re: Hope Free Evangelical Church, 4710 Juan Tabo Blvd NE, Traffic Circulation Layout

Engineer's Stamp dated 2-02-05 (F22-D7)

Dear Mr. Aube,

Based upon the information provided in your submittal received 2-02-05, the above referenced plan cannot be approved for Building Permit until the following comments are addressed:

1. Please note that the 2-foot overhang is not allowed to encroach on the 6 foot required width of sidewalk. Also, all standard parking spaces have a minimum length of 18 feet. Therefore, the sidewalk can be 8 feet wide with a 2-foot overhang, or the parking spaces must be 20 feet in length with bumpers.

If you have any questions, you can contact me at 924-3991.

Sincerely,

Wilfred A. Gallegos, P.E.
Traffic Engineer, Planning Dept.
Development and Building Services

C: file

P.O. Box 1293
Albuquerque
New Mexico 87103
www.cabq.gov

DRAINAGE AND TRANSPORTATION INFORMATION SHEET

(REV. 1/28/2003rd)

F-22/D7

PROJECT TITLE: Hope Free Evangelical Church
DRB #: ____ EPC#:_____

ZONE MAP/DRG. FILE #:F-22-Z
WORK ORDER#:_____

LEGAL DESCRIPTION: Lot A, Block 0000, Hope Evangelical Free Church
CITY ADDRESS:4710 Juan Tabo NE

ENGINEERING FIRM: THE Group
ADDRESS: 4001 Juan Tabo N.E. Suite A
CITY, STATE: Albuquerque, NM

CONTACT: David Aube
PHONE: 292-3202
ZIP CODE: 87111

OWNER: Hope Free Evangelical Church
ADDRESS: 4710 Juan Tabo N.E.
CITY, STATE: Albuquerque, NM

CONTACT: Larry Railey
PHONE: 291-9953
ZIP CODE: 87111

ARCHITECT: SMPC Architects
ADDRESS: 115 Amherst Drive SE
CITY, STATE: Albuquerque, NM

CONTACT: Dave Cook
PHONE: 255-8668
ZIP CODE: 87106

SURVEYOR:
ADDRESS: _____
CITY, STATE:

CONTACT:
PHONE:
ZIP CODE:

CONTRACTOR: _____
ADDRESS: _____
CITY, STATE: _____

CONTACT: _____
PHONE: _____
ZIP CODE: _____

CHECK TYPE OF SUBMITTAL:

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

CHECK TYPE OF APPROVAL SOUGHT:

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

WAS A PRE-DESIGN CONFERENCE ATTENDED:

- ☐ YES
- ☒ NO
- ☐ COPY PROVIDED

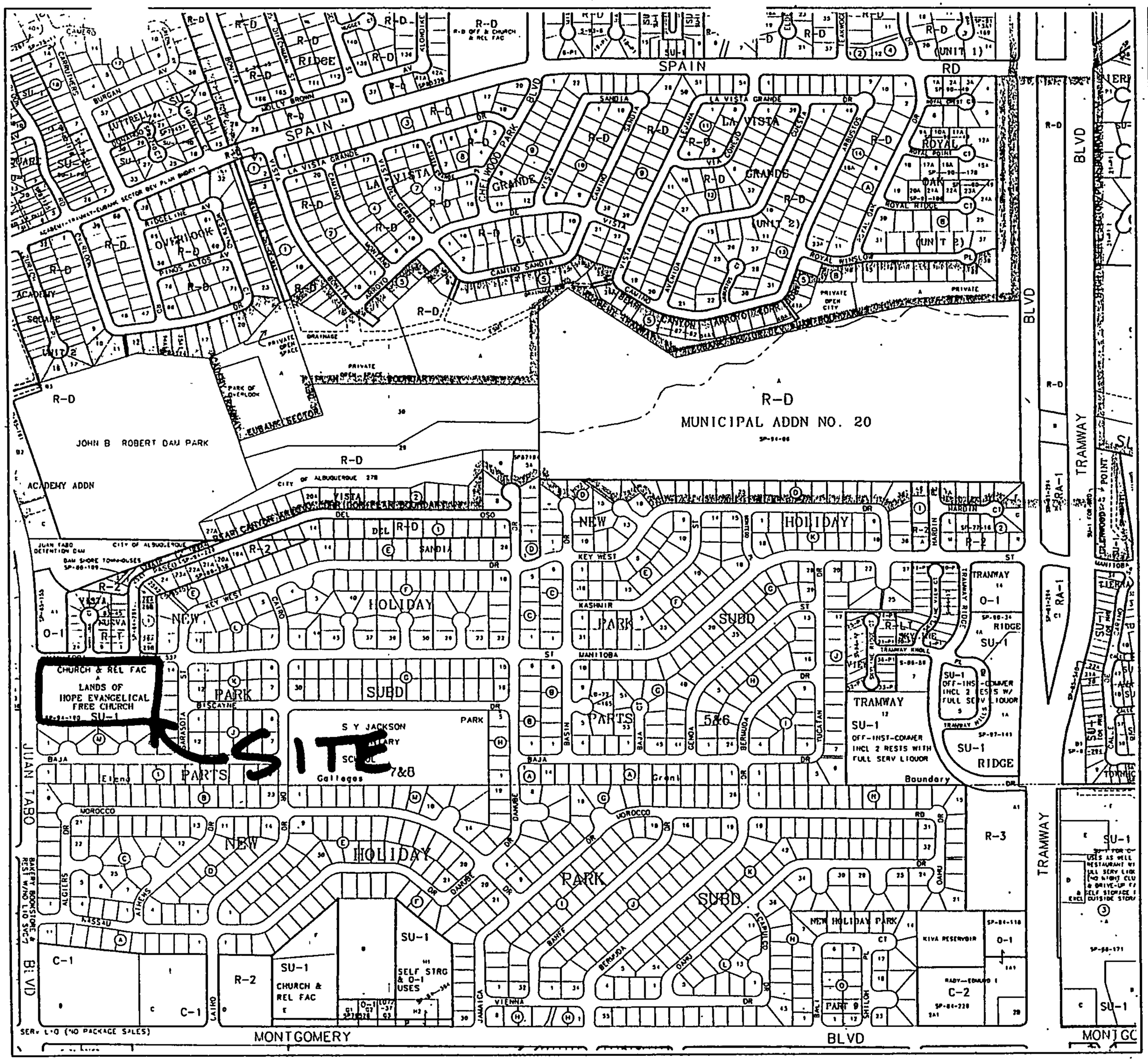
RECEIVED
FEB 02 2005
HYDROLOGY SECTION

DATE SUBMITTED:2-02-05

BY:David Aube P.E.

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

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

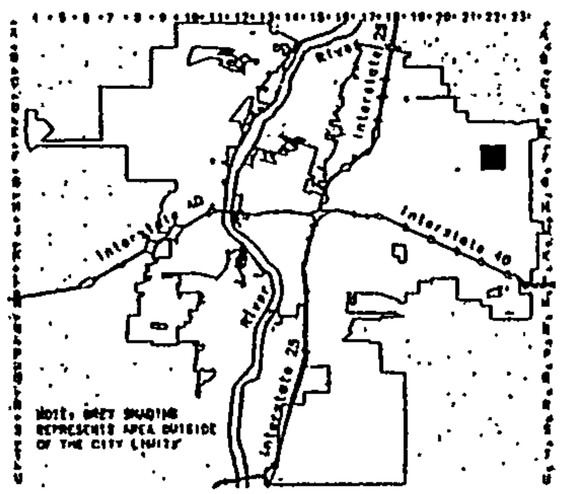


GRAPHIC SCALE IN FEET

250 0 500 1000

RECEIVED
FEB 2 2005
City of Albuquerque
PLANNING DEPARTMENT
© Copyright 1997

Map Amended through October 30, 1997



LEGAL DESCRIPTION

T11N

R4E

SEC 34

UNIFORM PROPERTY CODE

1-022-081

F-22-Z

CITY OF ALBUQUERQUE

THREE HUNDRED YEARS 1706 • 2006
ALBUQUERQUE
Making History

December 28, 2004

David Aube, P.E.
Telck-Hensley Engineering Group
4001 Juan Tabo Blvd.
Albuquerque, NM 87111

Re: Hope Free Evangelical Church, 4710 Juan Tabo Blvd NE, Traffic Circulation Layout

Engineer's Stamp dated 12-23-04 (F22-D7)

Dear Mr. Aube,

Based upon the information provided in your submittal received 12-23-04, the above referenced plan cannot be approved for Building Permit until the following comments are addressed:

1. List radii for all curves shown.
2. Define the status of each drive: is the drive proposed or existing? What is the width? Also refer to all applicable City Standards.
3. Please show a vicinity map on the Traffic Circulation Layout.
4. List the number of parking spaces required by the zoning code as well as the proposed number of parking spaces.
5. Is the sidewalk raised or flush with the pavement?
6. What does the angled hatching indicate?
7. Provide aisle widths.
8. Please list the width and length for all parking spaces.
9. A 6-foot width is required for the sidewalk. The 2-foot overhang allowed for parking spaces cannot encroach on the 6 foot required width of sidewalk.
10. For passenger vehicles, the minimum end island radius is 15 feet.

Bumpers or change to 8' walk

If you have any questions, you can contact me at 924-3991.

Sincerely,

Wilfred A. Gallegos, P.E.
Traffic Engineer, Planning Dept.
Development and Building Services

C: file

P.O. Box 1293
Albuquerque
New Mexico 87103
www.cabq.gov

DRAINAGE AND TRANSPORTATION INFORMATION SHEET

(REV. 1/28/2003rd)

PROJECT TITLE: Hope Free Evangelical Church
DRB #: _____ EPC#: _____

ZONE MAP/DRG. FILE #: F-22-~~A~~ D007
WORK ORDER#: _____

LEGAL DESCRIPTION: Lot A, Block 0000, Hope Evangelical Free Church
CITY ADDRESS: 4710 Juan Tabo NE

ENGINEERING FIRM: THE Group
ADDRESS: 4001 Juan Tabo N.E. Suite A
CITY, STATE: Albuquerque, NM

CONTACT: David Aube
PHONE: 292-3202
ZIP CODE: 87111

OWNER: Hope Free Evangelical Church
ADDRESS: 4710 Juan Tabo N.E.
CITY, STATE: Albuquerque, NM

CONTACT: Larry Railey
PHONE: 291-9953
ZIP CODE: 87111

ARCHITECT: SMPC Architects
ADDRESS: 115 Amherst Drive SE
CITY, STATE: Albuquerque, NM

CONTACT: Dave Cook
PHONE: 255-8668
ZIP CODE: 87106

SURVEYOR:
ADDRESS: _____
CITY, STATE: _

CONTACT:
PHONE:
ZIP CODE:

CONTRACTOR: _____
ADDRESS: _____
CITY, STATE: _____

CONTACT: _____
PHONE: _____
ZIP CODE: _____

CHECK TYPE OF SUBMITTAL:

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

CHECK TYPE OF APPROVAL SOUGHT:

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

WAS A PRE-DESIGN CONFERENCE ATTENDED:

- ☒ YES
- ☐ NO
- ☐ COPY PROVIDED

RECEIVED
DEC 23 2004
HYDROLOGY SECTION

DATE SUBMITTED: 12-23-04

BY: David Aube P.E.

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

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

Vicinity Map

Parking Calcs

Drives - exist / proposed? width refer to City Std

What does natalie indicate?

Aisle widths

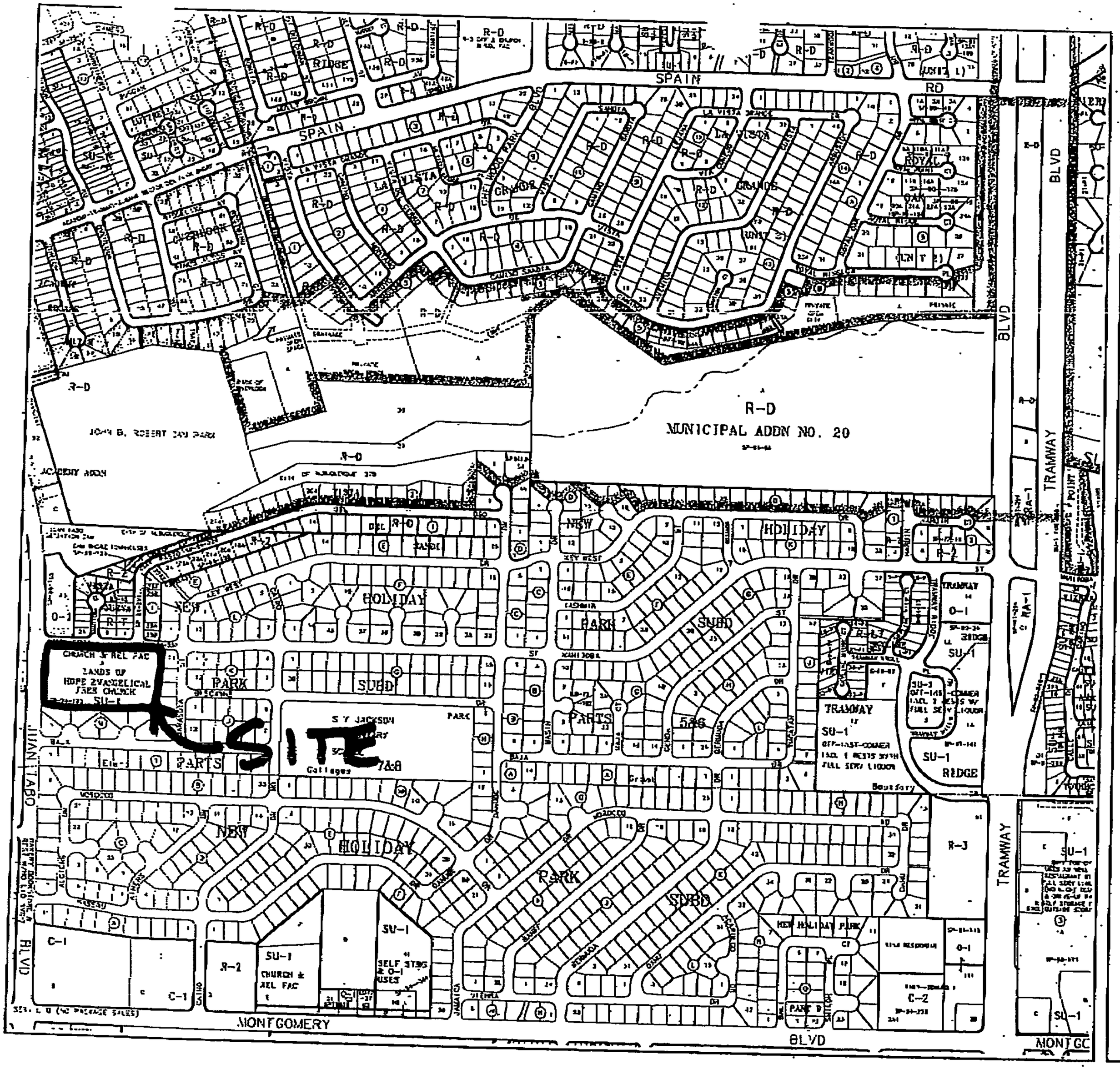
~~Length~~ width of parking spaces

15' min radius

width of side walks - flush w/ pavement?

2' overhang can't intrude upon 6' min width

Radius values



GRAPHIC SCALE IN FEET

250 0 500 1000

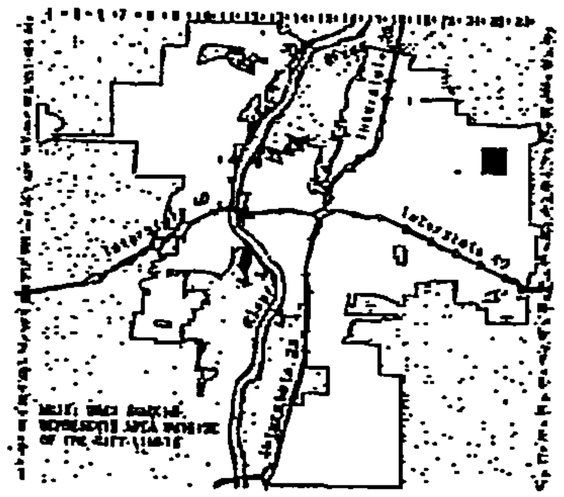
CITY OF Albuquerque

A G I S

PLANNING DEPARTMENT

© Copyright 1997

Map Amended through October 30, 1997



LEGAL DESCRIPTION

THIS

PLAT

SEC 14

UNIFORM PROPERTY CODE

1-022-081

F-22-Z

F22/D7

F-22/07

CITY OF ALBUQUERQUE

6/22/04 completed by glenn

PERMIT FOR EXCAVATION, CONSTRUCTION AND BARRICADING

CONTRACTOR	ALTOR CONSTRUCTION
LICENSE	GA-03
ADDRESS	P.O. BOX 1174 LOS LUNAS, NM 87031 PH# 505-865-2555
SITE	4710 JUAN TABO BD NE

PERMIT NUMBER	2083805
PROJECT NUMBER	
PERMIT ISSUE DATE	06/10/2004
BARRICADED BY	
BLUE STAKE	2631
PAVING BY	CON
EXCAVATION 443008-5810000	42.00 EX
SIDEWALK 443012-5810000	0.00 SW
DRIVEPAD 443011-5810000	0.00 DP
CURB/GUTTER 443010-5810000	0.00 CG
BARRICADING 443009-5810000	25.00 BR
RESTORATION 443017-5810000	0.00 RS
TOTAL FEE	67.00

PERMIT AND DETOUR PLAN COMMENTS

SO #19 LETTER ON FILE DATED 3/15/04
NO LANE CLOSURES ON JUAN TABO ACTUAL
WORK IS ON MANITOBA

START DATE	COMPLETION DATE	PERMIT EXPIRES	INSURANCE EXPIRES	BOND EXPIRES	ZONE ATLAS
06/11/2004	06/11/2004	06/11/2004	11/17/2004	12/31/2004	

APPLICANT

ISSUED BY

VOID UNTIL VALIDATED BY CITY TREASURER

PERMITTEE AGREES TO ASSUME ALL LIABILITY, INCLUDING INDEMNIFYING, DEFENDING AND HOLDING THE CITY HARMLESS FOR ALL DAMAGES OR INJURY TO PERSONS OR PROPERTY RESULTING FROM PERMITTEE'S EXCAVATION AND/OR BARRICADE WORK. THIS PERMIT IS GRANTED IN CONSIDERATION OF PERMITTEE'S ASSUMING SAID LIABILITY AND IS APPROVED FOR THE WORK DESCRIBED ABOVE. IN ACCORDANCE WITH SECTION 6-5-2-1 ET SEQ. R.O. (1994), PERMITTEE AGREES TO COMPLY WITH ALL APPLICABLE CITY RULES, REGULATIONS AND ORDINANCES, AND WHEN EXCAVATING, TO PATCH OR PLATE PRIOR TO OPENING TO TRAFFIC IN ACCORDANCE WITH APPLICABLE RULES, REGULATIONS AND ORDINANCES. PLEASE CALL 924-3400 FOR ADDITIONAL INFORMATION.

CAUTION: PROTECT UNDERGROUND UTILITIES CALL 260-1990, 48 HOURS IN ADVANCE FOR LINE STAKING

PWD 003 REV 04/03

DATE EXCAVATION STARTED _____

Backfill: Started _____ Completed _____ Accepted _____

Paved Cleared _____ Site Cleared _____ Warranty Exp _____

Restoration Fee Refund Authorized Yes _____ NO _____ BY: _____

Cash Disbursement Prepared for Refund Dated _____

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

6/10/04
Cutor
208 3805

March 15, 2004

Raymond Hensley, P.E.
Telck-Hensley Engineering Group
4001 Juan Tabo Blvd.
Albuquerque, NM 87111

Re: Hope Evangelical Free Church, 4710 Juan Tabo Blvd. NE, Grading and Drainage Plan

Engineer's Stamp dated 2-13-04 (F22/D7)

Dear Mr. Hensley,

Based upon the information provided in your submittal received 2-20-04, the above referenced plan is approved for Building Permit. Please attach a copy of this approved plan to the construction sets prior to sign-off by Hydrology.

A separate permit (SO#19) is required for construction within City Right of Way. A copy of this approval letter must be on hand when applying for the excavation permit. Prior to Certificate of Occupancy release, Engineer Certification per the DPM checklist will be required.

This project requires a National Pollutant Discharge Elimination System (NPDES) permit. If you have any questions regarding this permit please feel free to call the DMD Storm Drainage Design section at 768-3654 (Charles Caruso) or 768-3645 (Bryan Wolfe).

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

Sincerely,

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

C: Matt Cline, Arroyo Maintenance
[redacted]
Charles Caruso, DMD Storm Drainage Design
File

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

March 15, 2004

Raymond Hensley, P.E.
Telck-Hensley Engineering Group
4001 Juan Tabo Blvd.
Albuquerque, NM 87111

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Sincerely,

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

C: Matt Cline, Arroyo Maintenance
Pam Lujan, Excavation Permits
Charles Caruso, DMD Storm Drainage Design
File

F-22/D7

DRAINAGE AND TRANSPORTATION INFORMATION SHEET

(REV. 1/28/2003rd)

PROJECT TITLE: Hope Evangelical Church Grading and Drainage
DRB #: N/A EPC#: N/A

ZONE MAP/DRG. FILE #: ~~E-22~~/D7
WORK ORDER#: N/A

LEGAL DESCRIPTION: Parcel of NEW HOLDIAY PARK
CITY ADDRESS: Juan Tabo Blvd and Manitoba

ENGINEERING FIRM: Telck-Hensley Engineering Group
ADDRESS: 4001 Juan Tabo Blvd
CITY, STATE: Albuquerque, New Mexico 87111

CONTACT: Raymond Hensley, P.E.
PHONE: 505-292-3202
ZIP CODE: _____

OWNER: _____
ADDRESS: _____
CITY, STATE: _____

CONTACT: _____
PHONE: _____
ZIP CODE: _____

ARCHITECT: Chris Helgeson
ADDRESS: _____
CITY, STATE: _____

CONTACT: _____
PHONE: 761-9700
ZIP CODE: _____

SURVEYOR: _____
ADDRESS: _____
CITY, STATE: _____

CONTACT: _____
PHONE: _____
ZIP CODE: _____

CONTRACTOR: _____
ADDRESS: _____
CITY, STATE: _____

CONTACT: _____
PHONE: _____
ZIP CODE: _____

RECEIVED
FEB 20 2004
HYDROLOGY SECTION

CHECK TYPE OF SUBMITTAL:

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

BP,

CHECK TYPE OF APPROVAL SOUGHT:

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

WAS A PRE-DESIGN CONFERENCE ATTENDED:

- ☐ YES
- ☐ NO
- ☐ COPY PROVIDED

DATE SUBMITTED: 02/18/04

BY: Raymond Hensley, P.E.

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

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

THE group
TELCK-HENSLEY
ENGINEERING GROUP

Bradley L. Bingham, P.E.
Sr. Engineer, Planning Dept.
Development and Building Services
City of Albuquerque
P.O. Box 1293
Albuquerque, New Mexico 87103

RE: Hope evangelical Church Parking Expansion, Juan Tabo Blvd. At Manitoba
Grading and Drainage Plan

Engineer's Stamp date 2-18-04 (F22/D7)

RECEIVED
FEB 20 2004
HYDROLOGY SECTION

Dear Mr. Bingham:

Please find attached your letter dated January 29, 2004 rejecting the plans submitted January 26, 2004, outlining two items of rejection.

As you may remember, we discussed some of the issues on the phone during the week of February 14th. Those issues concerned the placement of the "SO19" and the vicinity map on the plans.

Item #1: *Include the S.O. 19 notes and signature block on this plan. A copy of this block is attached.*

The S.O. 19 notes and signature block were on sheet C-1. The plans were not intended, nor were they submitted, as individual sheets, but rather as a set "C-1" and "C-2." I explained in our conversation that it is redundant to have vicinity maps on both sheets. It was agreed that I could move the vicinity map from sheet C-2 to sheet C-1 to satisfy traffic's objection, and the S.O. 19 information was moved to sheet C-2. This has been done. ALSO, please note that the sheets are noted "1 of 2" and "2 of 2." I do not intend for the contractor nor the City to use either separately.

Item #2: *Please add a gravel lined swale to guide flow from the existing sidewalk culvert located in the southwest corner of the lot to prevent flow from crossing the sidewalk. Provide invert elevations for the drainage structures.*

I have included the outline of the existing gravel swale on the plans as you requested. That part of the existing facility has operated well over the years, and therefore, I respectfully request that no modifications be done to that area. "If it ain't broke . . ."

However, the sidewalk culverts have become slightly occluded with sediment. It is my opinion that this is due to the lack of gravel on the south side of the existing parking lot. Please note that the gravel in this area is shown to be placed along the proposed swale.

The inverts for the existing structures are on the plans with the existing grade contours adjacent to them. The gravel swale is existing. I apologize for not noting same on the plans; however, since the project was not modifying the area in question, I didn't note all the details for the existing conditions.

I hope that the changes and explanations above provide enough information to allow the approval of the plans at this time. Thank you for your consideration, and if there are any questions please call.

Sincerely,

Raymond Hensley, P.E.
Vice President

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

January 29, 2004

RECEIVED
JAN 30 2004
BY:.....

Raymond Hensley, P.E.
Telck-Hensley Engineering Group
4001 Juan Tabo Blvd.
Albuquerque, NM 87111

Re: Hope Evangelical Free Church Parking Expansion, Juan Tabo and Manitoba, Grading and Drainage Plan

Engineer's Stamp dated 1-17-04 (F22/D7)

Dear Mr. Hensley,

Based upon the information provided in your submittal received 1-22-04, the above referenced plan cannot be approved for Building Permit until the following comments are addressed:

1. Include the S.O. 19 notes and signature block on this plan. A copy of this block is attached.
2. Please add a gravel lined swale to guide flow from the existing runouts along Juan Tabo to the existing sidewalk culvert located in the southwest corner of the lot to prevent flow from crossing the sidewalk. Provide invert elevations for the drainage structures.

If you have any questions, you can contact me at 924-3986.

Sincerely,

Bradley L. Bingham, PE
Sr. Engineer, Planning Dept.
Development and Building Services

C: File

THE CITY OF ALBUQUERQUE IS AN EQUAL OPPORTUNITY/REASONABLE ACCOMMODATION EMPLOYER

Glenn C. Jurgensen

03/31/04 03:44 PM

To: Charles M. Caruso/DMD/CABQ@COA
cc: Matthew L. Cline/PWDPino/CABQ@COA, Kristal D. Metro/PLN/CABQ@COA
Subject: Steel checkered plates on sidewalk culverts

Chuck, Mat has received a permit for a SO-19 that I think you had looked at and excepted along with the approval of Kristal Metro City Planning Department. The plans calls for a 1/4 inch steel diamond checkered cover plates to be used for the cover of a Sidewalk drainage culver. The City standard calls for not less then a 3/8 inch steel plate (Standard Drawing # 2236). The SO-19 is for the Evangelical Free Church, 4710 Juan Tabo Blvd. N.E., Engineer's Stamp Dated 2-13-04 (F22/D7). They haven't started the culver yet and they will need to be informed of the correction to the plate thickness requirements. If I can be of further assistance please let me know.

Interior - private, we don't maintain

Call Hensley,
make sure public sidewalk culvert is 3/8"

Kristal D. Metro
03/31/04 04:36 PM

To: Glenn C. Jurgensen/PWDPino/CABQ@COA
cc: (bcc: Kristal D. Metro/PLN/CABQ)
Subject: Re: Steel checkered plates on sidewalk culverts

According to the accepted plan we have on file, a 1/4 inch steel diamond checkered cover plate is called out within the site, which the City is not responsible for maintaining. The public sidewalk culvert must follow the City Standards. I will contact the design engineer to discuss this.
Thank you,
Kristal Metro

Glenn C. Jurgensen
03/31/04 03:44 PM

To: Charles M. Caruso/DMD/CABQ@COA
cc: Matthew L. Cline/PWDPino/CABQ@COA, Kristal D. Metro/PLN/CABQ@COA
Subject: Steel checkered plates on sidewalk culverts

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

February 24, 2004

Raymond Hensley, P.E.
Telck-Hensley Engineering Group
4001 Juan Tabo Blvd.
Albuquerque, NM 87111

Re: Hope Evangelical Church Parking Expansion, Juan Tabo Blvd. at Manitoba, Traffic Circulation Layout

Engineer's Stamp dated 2-13-04 (F22/D7)

Dear Mr. Hensley,

The TCL submittal received 2-20-04 is approved for Building Permit. The plan is stamped and signed as approved. A copy of this plan will be needed for each of the building permit plans. Please keep the original to be used for certification of the site for final C.O. for Transportation.

If a temporary CO is needed, a copy of the original TCL that was stamped as approved by the City will be needed. This plan must include a statement that identifies the outstanding items that need to be constructed or the items that have not been built in "substantial compliance," as well as the signed and dated stamp of a NM registered architect or engineer. Submit this TCL with a completed Drainage and Transportation Information Sheet to Hydrology at the Development Services Center of Plaza Del Sol Building.

When the site is completed and a final C.O. is requested, use the original City stamped approved TCL for certification. A NM registered architect or engineer must stamp, sign, and date the certification TCL along with indicating that the development was built in "substantial compliance" with the TCL. Submit this certification TCL with a completed Drainage and Transportation Information Sheet to Hydrology at the Development Services Center of Plaza Del Sol Building.

Once verification of certification is completed and approved, notification will be made to Building Safety to issue Final C.O. To confirm that a final C.O. has been issued, call Building Safety at 924-3306.

Sincerely,

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

cc: file

F-22/D7

DRAINAGE AND TRANSPORTATION INFORMATION SHEET

(REV. 1/28/2003rd)

PROJECT TITLE: Hope Evangelical Church Grading and Drainage
DRB #: N/A EPC#: N/A

ZONE MAP/DRG. FILE #: ~~F-22~~/D7
WORK ORDER#: N/A

LEGAL DESCRIPTION: Parcel of NEW HOLDIAY PARK
CITY ADDRESS: Juan Tabo Blvd and Manitoba

ENGINEERING FIRM: Telck-Hensley Engineering Group
ADDRESS: 4001 Juan Tabo Blvd
CITY, STATE: Albuquerque, New Mexico 87111

CONTACT: Raymond Hensley, P.E.
PHONE: 505-292-3202
ZIP CODE: _____

OWNER: _____
ADDRESS: _____
CITY, STATE: _____

CONTACT: _____
PHONE: _____
ZIP CODE: _____

ARCHITECT: Chris Helgeson
ADDRESS: _____
CITY, STATE: _____

CONTACT: _____
PHONE: 761-9700
ZIP CODE: _____

SURVEYOR: _____
ADDRESS: _____
CITY, STATE: _____

CONTACT: _____
PHONE: _____
ZIP CODE: _____

CONTRACTOR: _____
ADDRESS: _____
CITY, STATE: _____

CONTACT: _____
PHONE: _____
ZIP CODE: _____

RECEIVED
FEB 20 2004
HYDROLOGY SECTION

CHECK TYPE OF SUBMITTAL:

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

BP, TCL - BP Submittal

CHECK TYPE OF APPROVAL SOUGHT:

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

WAS A PRE-DESIGN CONFERENCE ATTENDED:

- ☐ YES
- ☐ NO
- ☐ COPY PROVIDED

DATE SUBMITTED: 02/18/04

BY: Raymond Hensley, P.E.

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

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

THE group
TELCK-HENSLEY
ENGINEERING GROUP

RECEIVED
FEB 20 2004
HYDROLOGY SECTION

Wilfred A Gallegos, P.E.
Traffic Engineering, Planning Dept.
City of Albuquerque
P.O. Box 1293
Albuquerque, New Mexico 87103

RE: Hope evangelical Church Parking Expansion, Juan Tabo Blvd. At Manitoba Traffic Circulation Layout

Engineer's Stamp date 2-18-04 (F22/D7)

Dear Mr. Gallegos:

Please find attached your letter dated January 26, 2004 rejecting the plans submitted January 26, 2004, outlining five items of rejection.

Since you were unavailable when I tried to reconcile these issues during the week of February 14th, I contacted Brad Bingham to resolve the issues.

Item #1: *Provide bumpers for the parking spaces adjacent to the building.*

Please note that the bumpers were added on the south side of the eastern parking lot as you requested.

Item #2: *Please show a vicinity map.*

As I have done for several years the vicinity map was included on the grading plan "Sheet C-2." The plans were not intended, nor were they submitted, as individual sheets, but rather as a set "C-1 and C-2." I explained to Brad that it is redundant to have vicinity maps on both sheets. Brad asked that I move the vicinity map from sheet C-2 to sheet C-1 to satisfy your objection. This has been done. ALSO, please note that the sheets are noted "1 of 2" and "2 of 2." I do not intend for the contractor or the City to use either separately.

Item #3: *The proposed sidewalk should be a minimum of 6 feet in width.*

Having reviewed the plans and discussed the future expansion of the facility with the architect, we respectfully decline to widen the proposed 5 foot walk to 6 feet. This would develop a conflict with future plans and is not required after the addition of the bumpers.
internal sidewalks, zoning will be the final say

Item #4: *A five foot keyway is required for deadend parking aisles.*

The proposed keyway has been enlarged from 4 ft. to 5 ft. as you requested.

Item #5: *Please designate each compact car space as such.*

Please note that the plans have been changed to include your request.

Thank you for your consideration, and if there are any questions please call.

Sincerely,

Raymond Hensley, P.E.
Vice President

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

RECEIVED
BY:_____

January 26, 2004

Raymond Hensley, P.E.
Telck-Hensley Engineering Group
4001 Juan Tabo Blvd.
Albuquerque, NM 87111

Re: Hope Evangelical Church Parking Expansion, Juan Tabo Blvd. at Manitoba, Traffic Circulation Layout

Engineer's Stamp dated 1-17-04 (F22/D7)

Dear Mr. Hensley,

Based upon the information provided in your submittal received 1-22-04, the above referenced plan cannot be approved for Building Permit until the following comments are addressed:

1. Provide bumpers for the parking spaces adjacent to the building.
2. Please show a vicinity map.
3. The proposed sidewalk should be a minimum of 6 feet in width.
4. A five foot keyway is required for deadend parking aisles.
5. Please designate each compact parking space as such.

If you have any questions, you can contact me at 924-3991.

Sincerely,

Wilfred A. Gallegos, P.E.
Traffic Engineer, Planning Dept.
Development and Building Services

C: file

THE CITY OF ALBUQUERQUE IS AN EQUAL OPPORTUNITY/REASONABLE ACCOMMODATION EMPLOYER

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

January 29, 2004

Raymond Hensley, P.E.
Telck-Hensley Engineering Group
4001 Juan Tabo Blvd.
Albuquerque, NM 87111

Re: Hope Evangelical Free Church Parking Expansion, Juan Tabo and Manitoba, Grading and Drainage Plan

Engineer's Stamp dated 1-17-04 (F22/D7)

Dear Mr. Hensley,

Based upon the information provided in your submittal received 1-22-04, the above referenced plan cannot be approved for Building Permit until the following comments are addressed:

1. Include the S.O. 19 notes and signature block on this plan. A copy of this block is attached.
2. Please add a gravel lined swale to guide flow from the existing runouts along Juan Tabo to the existing sidewalk culvert located in the southwest corner of the lot to prevent flow from crossing the sidewalk. Provide invert elevations for the drainage structures.

If you have any questions, you can contact me at 924-3986.

Sincerely,

Bradley L. Bingham, PE
Sr. Engineer, Planning Dept.
Development and Building Services

C: File

THE CITY OF ALBUQUERQUE IS AN EQUAL OPPORTUNITY/REASONABLE ACCOMMODATION EMPLOYER

DRAINAGE AND TRANSPORTATION INFORMATION SHEET

(REV. 1/28/2003rd)

F-22/D7

PROJECT TITLE: Hope Evangelical Church Grading and Drainage
DRB #: N/A EPC#: N/A

ZONE MAP/DRG. FILE #: H22/D7
WORK ORDER#: N/A

LEGAL DESCRIPTION: Parcel of NEW HOLDIAY PARK
CITY ADDRESS: Juan Tabo Blvd and Manitoba

ENGINEERING FIRM: Telck-Hensley Engineering Group
ADDRESS: 4001 Juan Tabo Blvd
CITY, STATE: Albuquerque, New Mexico 87111

CONTACT: Raymond Hensley, P.E.
PHONE: 505-292-3202
ZIP CODE: _____

OWNER: _____
ADDRESS: _____
CITY, STATE: _____

CONTACT: _____
PHONE: _____
ZIP CODE: _____

ARCHITECT: Chris Helgeson
ADDRESS: _____
CITY, STATE: _____

CONTACT: _____
PHONE: 761-9700
ZIP CODE: _____

SURVEYOR: _____
ADDRESS: _____
CITY, STATE: _____

CONTACT: _____
PHONE: _____
ZIP CODE: _____

CONTRACTOR: _____
ADDRESS: _____
CITY, STATE: _____

CONTACT: _____
PHONE: _____
ZIP CODE: _____

Resubmittal

CHECK TYPE OF SUBMITTAL:

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

CHECK TYPE OF APPROVAL SOUGHT:

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- ☐ PAVING PERMIT APPROVAL
- ☐ WORK ORDER APPROVAL
- ☐ OTHER (SPECIFY)

WAS A PRE-DESIGN CONFERENCE ATTENDED:

- ☐ YES
- ☐ NO
- ☐ COPY PROVIDED

RECEIVED
JAN 22 2004
HYDROLOGY SECTION

DATE SUBMITTED: 01/20/04

BY: Raymond Hensley, P.E. 1/20/04

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

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

2 sets of plans
SO 19 Notes

Raymond Hensley, PE
Date: 1/17/04

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

January 26, 2004

Raymond Hensley, P.E.
Telck-Hensley Engineering Group
4001 Juan Tabo Blvd.
Albuquerque, NM 87111

Re: Hope Evangelical Church Parking Expansion, Juan Tabo Blvd. at Manitoba, Traffic Circulation Layout

Engineer's Stamp dated 1-17-04 (F22/D7)

Dear Mr. Hensley,

Based upon the information provided in your submittal received 1-22-04, the above referenced plan cannot be approved for Building Permit until the following comments are addressed:

1. Provide bumpers for the parking spaces adjacent to the building.
2. Please show a vicinity map.
3. The proposed sidewalk should be a minimum of 6 feet in width.
4. A five foot keyway is required for deadend parking aisles.
5. Please designate each compact parking space as such.

If you have any questions, you can contact me at 924-3991.

Sincerely,

Wilfred A. Gallegos, P.E.
Traffic Engineer, Planning Dept.
Development and Building Services

C: file

THE CITY OF ALBUQUERQUE IS AN EQUAL OPPORTUNITY/REASONABLE ACCOMMODATION EMPLOYER

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

August 11, 2003

Raymond Hensley
The Group
4001-A Juan Tabo NE
Albuquerque, NM 87111

Re: Hope Evangelical Free Church
Traffic Circulation Layout (F-22/D7)
Engineer's Stamp Dated 7/23/03

Dear Mr. Hensley:

Based on the information provided in your submittal received 7-28-03, the above referenced plan cannot be approved for Building Permit until the following comments are addressed.

- Nose-to-nose parking spaces located at southern parking expansion area cannot have a depth of only 16ft. If these are for small cars, it should be designated on the plan. However, there should be some overhang room.
- Please label width of aisle north of southern parking expansion area, parallel to Manitoba St.
- Key way in northern parking expansion area must be 5ft deep.

If you have any questions please call me at 924-3986.

Sincerely,

Bradley L. Bingham, PE
Sr. Engineer, Planning Dept.
Development and Building Services

C: File

THE CITY OF ALBUQUERQUE IS AN EQUAL OPPORTUNITY/REASONABLE ACCOMMODATION EMPLOYER

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

August 5, 2003

Raymond Hensley, PE
The Group
4001-A Juan Tabo NE
Albuquerque, NM 87111

RE: Hope Evangelical Church Grading and Drainage Plan (~~E-22~~ F-22/D7)
Engineer's Stamp Dated July 23, 2003

Dear Mr. Hensley:

Based on the information provided in your submittal received July 28, 2003, the above referenced plan cannot be approved for Building Permit until the following comments are addressed.

- Please show necessary attached SO#19 notes and inspector signature block on plan.
- Please submit duplicate plan for inspector.

If you have any questions please call me at 924-3982.

Sincerely,

Carlos A. Montoya, PE
City Floodplain Administrator

C: File

rec'd
8-7-03

THE CITY OF ALBUQUERQUE IS AN EQUAL OPPORTUNITY/REASONABLE ACCOMMODATION EMPLOYER

DRAINAGE AND TRANSPORTATION INFORMATION SHEET

(REV. 1/28/2003rd)

(HOPE EVANGELICAL CHURCH)

F-22/D7

PROJECT TITLE: Parking Expansion
DRB #: N/A EPC#:N/A

ZONE MAP/DRG. FILE #:Map F-22
WORK ORDER#:N/A

LEGAL DESCRIPTION: Section 34, Township 11 North, Range 4 East, New Mexico Principal Meridian
CITY ADDRESS:4710 Juan TAbo Blvd. NE, Albuquerque, New Mexico, 87111

ENGINEERING FIRM: THE Group
ADDRESS: 4001-A Juan Tabo NE
CITY, STATE: Albuquerque, New Mexico

CONTACT: Raymond Hensley
PHONE: 505-299-3202
ZIP CODE: 87111

OWNER: Hope Evanglical Free Church
ADDRESS: 4710 Juan Tabo Blvd NE
CITY, STATE: Albuqerque, New Mexico

CONTACT: Chris Hegleson
PHONE: 505-761-9700
ZIP CODE: 87111

ARCHITECT: Chris Hegleson
ADDRESS: 6801 Jefferson NE Suite 100
CITY, STATE: Albuquerque, New Mexico

CONTACT: Chris Hegleson
PHONE: 505-761-9700
ZIP CODE: 87109

SURVEYOR: _____
ADDRESS: _____
CITY, STATE: _____

CONTACT: _____
PHONE: _____
ZIP CODE: _____

CONTRACTOR: _____
ADDRESS: _____
CITY, STATE: _____

CONTACT: _____
PHONE: _____
ZIP CODE: _____

CHECK TYPE OF SUBMITTAL:

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

CHECK TYPE OF APPROVAL SOUGHT:

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- ☐ PRELIMINARY PLAT APPROVAL
- ☐ S. DEV. PLAN FOR SUB'D. APPROVAL
- ☐ S. DEV. PLAN FOR BLDG. PERMIT APPROVAL
- ☐ SECTOR PLAN APPROVAL
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- ☐ PAVING PERMIT APPROVAL
- ☐ WORK ORDER APPROVAL
- ☐ OTHER (SPECIFY)

WAS A PRE-DESIGN CONFERENCE ATTENDED:

- ☐ YES
- ☒ NO
- ☐ COPY PROVIDED

RECEIVED
JUL 28 2003
HYDROLOGY SECTION

DATE SUBMITTED:July 28, 2003

BY Raymond Hensley

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

1. **Conceptual Grading and Drainage Plan**: Required for approval of Site Development Plans greater than five (5) acres and Sector Plans.
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City of Albuquerque
P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

August 11, 2003

Raymond Hensley
The Group
4001-A Juan Tabo NE
Albuquerque, NM 87111

Re: Hope Evangelical Free Church
Traffic Circulation Layout (F-22/D7)
Engineer's Stamp Dated 7/23/03

Dear Mr. Hensley:

Based on the information provided in your submittal received 7-28-03, the above referenced plan cannot be approved for Building Permit until the following comments are addressed.

- Nose-to-nose parking spaces located at southern parking expansion area cannot have a depth of only 16ft. If these are for small cars, it should be designated on the plan. However, there should be some overhang room.
- Please label width of aisle north of southern parking expansion area, parallel to Manitoba St.
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If you have any questions please call me at 924-3986.

Sincerely,

Bradley L. Bingham, PE
Sr. Engineer, Planning Dept.
Development and Building Services

C: File

THE CITY OF ALBUQUERQUE IS AN EQUAL OPPORTUNITY/REASONABLE ACCOMMODATION EMPLOYER

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

August 5, 2003

Raymond Hensley, PE
The Group
4001-A Juan Tabo NE
Albuquerque, NM 87111

RE: Hope Evangelical Church Grading and Drainage Plan (E-22/D7)
Engineer's Stamp Dated July 23, 2003

Dear Mr. Hensley:

Based on the information provided in your submittal received July 28, 2003, the above referenced plan cannot be approved for Building Permit until the following comments are addressed.

- Please show necessary attached SO#19 notes and inspector signature block on plan.
- Please submit duplicate plan for inspector.

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Sincerely,

Carlos A. Montoya, PE
City Floodplain Administrator

C: File

THE CITY OF ALBUQUERQUE IS AN EQUAL OPPORTUNITY/REASONABLE ACCOMMODATION EMPLOYER

DRAINAGE AND TRANSPORTATION INFORMATION SHEET

(REV. 1/28/2003rd)

(HOPE EVANGELICAL CHURCH)

F-22/D7

PROJECT TITLE: Parking Expansion
DRB #: N/A EPC#:N/A

ZONE MAP/DRG. FILE #:Map F-22
WORK ORDER#:N/A

LEGAL DESCRIPTION: Section 34, Township 11 North, Range 4 East, New Mexico Principal Meridian
CITY ADDRESS:4710 Juan TAbo Blvd. NE, Albuquerque, New Mexico, 87111

ENGINEERING FIRM: THE Group
ADDRESS: 4001-A Juan Tabo NE
CITY, STATE: Albuquerque, New Mexico

CONTACT: Raymond Hensley
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- ☐ GRADING PLAN
- ☐ EROSION CONTROL PLAN
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- ☐ CLOMR/LOMR
- ☒ TRAFFIC CIRCULATION LAYOUT (TCL)
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- ☐ PAVING PERMIT APPROVAL
- ☐ WORK ORDER APPROVAL
- ☐ OTHER (SPECIFY)

WAS A PRE-DESIGN CONFERENCE ATTENDED:

- ☐ YES
- ☒ NO
- ☐ COPY PROVIDED

RECEIVED
JUL 28 2003
HYDROLOGY SECTION

DATE SUBMITTED:July 28, 2003

BY Raymond Hensley

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

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ALSO SEE
TCL
SUBMITTAL.

DRAINAGE REPORT

FOR

HOPE EVANGELICAL FREE CHURCH

Zone Atlas Sheet F-22-Z

JANUARY 1994

PREPARED FOR

Design Professional, Inc.
3939 San Pedro Dr., N.E.
Bldg F, Suite A,
Albuquerque, New Mexico 87110

PREPARED BY

Construction, Analysis and Management, Inc.
4250 Montgomery, N.E.
Suite 4,
Albuquerque, New Mexico 87109

Raymond Hensley, P.E.
N.M.P.E. 7873

DRAINAGE
INFORMATION ONLY
— PREVIOUS REPORT —

RECEIVED
JUL 28 2003
HYDROLOGY SECTION

TABLE OF CONTENTS

PURPOSE 1

PROJECT LOCATION AND DESCRIPTION 1

EXISTING DRAINAGE CONDITIONS 1

DEVELOPED DRAINAGE CONDITIONS 2

STREET CAPACITY 2

RECOMMENDATIONS 3

CONCLUSIONS 4

APPENDIX 5
- 1976 DRAINAGE REPORT 6
- PLATE 1 - PROPOSED DRAINAGE PLAN 7
- PLATE 2 - DRAINAGE PLAN ACCOMPANYING THE PREVIOUS DRAINAGE PLAN 8
- DRAINAGE FACILITY PLAN - F-22-S 9

PURPOSE

The purpose of this report is to analyze the existing and proposed developed drainage on the site proposed for the Hope Church and to propose solutions to control the excess storm water runoff resulting from the 100-year storm falling on the parcel.

PROJECT LOCATION AND DESCRIPTION

The site is located east of Juan Tabo Boulevard and south of Manitoba Street in northeast Albuquerque including 4.66 acres more or less. It is bounded on the east and south by single family residential areas (see plate 1 for location map). The existing development consists of 1.39 acres of impermeable surface. The parcel slopes from east to west at about 3.3 percent and from north to south at about 1.3 percent. All undeveloped surfaces are vegetated with weeds and native grasses. The proposed development will create 2.29 acres of impermeable surface.

EXISTING DRAINAGE CONDITIONS

The site is bounded by paved roadways and block walls, with no offsite drainage flowing onto the properties. Using the Development Process Manual, Volume 2, Section 22.2 - HYDROLOGY, Section A-6 gives the peak discharge rates as 7.30 cfs. and 7.19 cfs. for the developed and landscaped areas respectively. The total discharge being 14.49 cfs. A previous drainage report submitted by Bohannan-Houston, Inc. (see appendix) calculate this discharge to be 14.32 cfs.

The existing drainage is directed to and through two ponds totaling 16,519 ft^3. There is no restriction on flow other than a 12 inch CMP outlet to the downstream pond. Greiner, Inc. submitted a revision to the original drainage plan in 1986. This was in conjunction with an addition to the buildings of approximately 3,000 sf. With that submission the volume of the ponds was reduced to 15,517 ft^3.

The development has slight variations in the as built conditions from those originally proposed by Bohannan-Houston. The original drainage indicated flows to be very minimal from the development to Manitoba. However the actual contours indicate an small increase in the flows toward Manitoba. Please compare the current proposed development plan, plate 1, with the original design analysis of Bohannan-Houston, Plate 2. This small increment in flows northward of approximately .9 cfs. is incidental to the 97 cfs. existing on Manitoba currently. This situation is further mitigated by the direction of any overflow of the large street interceptor in Manitoba to the catch basin immediately adjacent in Juan Tabo. (Plate 1 and 3).

DEVELOPED DRAINAGE CONDITIONS

The site plan (Plate 1) shows the configuration of the church, the proposed addition, parking lot and surrounding land. Approximately .9 acres will be converted to impermeable surfaces. This result in 2.29 acres of developed impermeable land and 2.36 acres of landscaped or natural condition lands.

DPM, Section 22.2, A-6:

ZONE 4:

$$Q_{p100} = Q_{pA} \square A_A + Q_{pD} \square A_D$$

(1) Equation a-10

$$Q_{p100} = 5.25 \square 2.29 + 2.20 \square 2.36 \quad cfs.$$

$$Q_{p100} = 17.43 cfs.$$

$$Q_{p10} = 3.57 \square 2.29 + .87 \square 2.36 \ cfs.$$

$$Q_{p10} = 10.23 \ cfs.$$

STREET CAPACITY

Applying the modified manning equation to typical gutter flow Juan Tabo Boulevard has a capacity to transport the following flow rates:

$$Q = .56 \left(\frac{z}{n}\right) S^{1/2} y^{8/3}$$

, where, z = surface to depth ration
n = roughness coefficient,
S = slope of the channel, and
y = depth of the channel.

The City of Albuquerque standards are a maximum of .5 feet of depth of flow at the curb for the 10-year flows and .87 feet of depth for the 100-year flows. Applying the formula these flow values are:

S = .013 ft/ft
n = .017
z = 24
y = .5 ft

$$Q_{p10} = 14.2 cfs.$$

z = 31.2
y = .65 ft, to be conservative we have estimated the maximum curb height rather than the maximum allowable depth of .87 ft.

$$Q_{p10} = 28.6 cfs.$$

The nemographs of the DPM, Section 22.3 indicate:

$$Q_{p10} = 14 \ cfs.$$

$$Q_{p100} = 32 \ cfs.$$

The total drainage flows from the proposed development are 10.23 and 17.43 cfs. respectively for the 10- and 100-year design floods. The catch basin for these flows is located north of the Baja Street and Juan Tabo Boulevard intersection (Plate 3). Other than contributions by the impermeable areas incorporated in the right-of-way for the two north bound lanes of Juan Tabo. There is no other storm water contributions to the Juan Tabo gutter flow other than this site and the street. The contribution of the right-of-way to the total flow into the catch basin at Baja is .63 acres for 10-year flows of 2.23 cfs., and 100-year flows of 3.29 cfs.

The total anticipated flows in the eastern gutter of Juan Tabo from Manitoba southward to the catch basin at Baja is 12.46 cfs, 10-year; and 20.72 cfs, 100-year. These flows are well below the capacity of the storm system in general and specifically the gutter along Juan Tabo.

RECOMMENDATIONS

Remove the ponds as currently developed and grade as shown on Plate 1. However, the site may be developed in the future to include additional impermeable surfaces. The proposed development will yield a level of 49 percent impermeable surface. The potential exists wherein future developments of this site may exceed the capacity Juan Tabo to receive the development flows.

Therefore, an area as indicated on Plate 1 should be dedicated to future ponding and drainage expansion to allow for expansion of this site development.

CONCLUSIONS

If the above recommendations are followed, the site will be protected from flooding and the potential downstream flooding situation will not be altered during the 100-year storm event.

APPENDIX

1976 DRAINAGE REPORT

PLATE 1 - PROPOSED DRAINAGE PLAN

PLATE 2 - DRAINAGE PLAN ACCOMPANYING THE PREVIOUS DRAINAGE PLAN

DRAINAGE FACILITY PLAN - F-22-S

SUPPLEMENTAL DRAINAGE REPORT

FOR

HOPE EVANGELICAL FREE CHURCH

Zone Atlas Sheet F-22-Z

JUNE 1994

PREPARED FOR

Design Professional, Inc.
3939 San Pedro Dr., N.E.
Bldg F, Suite A,
Albuquerque, New Mexico 87110

PREPARED BY

Construction, Analysis and Management, Inc.
4250 Montgomery, N.E.
Suite 4,
Albuquerque, New Mexico 87109

DRAINAGE
INFORATION ONLY
- PREVIOUS REPORT -

Raymond Hensley, P.E.
N.M.P.E. 7873

RECEIVED
JUL 28 2003
HYDROLOGY SECTION

TABLE OF CONTENTS

PURPOSE 1

JUSTIFICATION - GENERAL DISCUSSION 1

EXISTING DRAINAGE CONDITIONS 1

DEVELOPED DRAINAGE CONDITIONS 8

SUMMARY 8

APPENDIX 9

Excerpts from the Handbook of Applied Hydrology 10

PURPOSE

The purpose of this report is supplement the drainage report submitted January 1994, and to answer the specific questions posed by John Curtain of City Hydrology in his letter dated June 9, 1994. The main issue of the referenced letter is the justification for the removal of site detention ponds in favor of free discharge.

The following justifications were discussed, in general, with Mr. Anderson of AMAFCA. It was during those discussions in conceptual design that the proposal to eliminate the ponding was formulated. In January of this year we were directed to AMAFCA as the governing entity of this property.

JUSTIFICATION - GENERAL DISCUSSION

As indicated in the previous plans and as built surveys presented to the City, the ponds had been constructed to the plans and recommendations of the previous drainage plan. However, a 12 inch CMP pipe was designed and built into the largest pond as indicated in a letter from Michial M. Emery, of Bohannan-Houston, dated January 29, 1979. The installation of this pipe restricted the flow of storm water to approximately 6 cfs issuing from the pond. However, if the ponds were filled the flow would increase to 11 cfs. In addition, nearly 50 percent of the remaining property was allowed to sheet flow to the streets of Manitoba and Juan Tabo. In general there was little in the way of restrictive flow or detention in the existing conditions and design.

It is my understanding that in the period from 1979 to this time there have been revisions and additional capacity constructed in the this section of the city storm sewer system from Montgomery to Manitoba, and Juan Tabo to Tramway. The previous designs were an effort to compensate for the presumed lack of capacity in 1979.

In terms of the owners of the subject property, the proposed addition would have to have sever grade changes and detention structures to comply with a detention philosophy. These construction items would pose additional financial stresses on the church.

Finally, it would appear that the storm drainage systems currently in place have the capacity to handle the slight increase proposed by the removal of the ponds.

EXISTING DRAINAGE CONDITIONS

The existing conditions allow the subject property to drain 7.81 cfs to Juan Tabo during the 10 year event.

$$Q_{p10} = 3.57 \square 1.39 + .87 \square 3.27 \ cfs.$$

$$Q_{p10} = 7.81 \ cfs.$$

Juan Tabo impermeable surfaces (.630 ac) contribute an additional 2.25 cfs conveyed to the catch basin at the northeast corner of Juan Tabo and Baja for a total of 10.08 cfs.

As previously submitted the capacity of the gutters in Juan Tabo south of the out flow of the property were 14.2 cfs.[1] In compliance with your request additional survey information was obtained and summarized. (Please refer to Plate 1 and 2). The additional information indicates a gutter capacity of 14.92 cfs.

Applying the modified manning equation to typical gutter flow Juan Tabo Boulevard has a capacity to transport the following flow rates[2]:

$$Q = .56 \left(\frac{z}{n}\right) S^{1/2} y^{8/3}$$

, where, z = surface to depth ratio
n = roughness coefficient,
S = slope of the channel, and
y = depth of the channel.

Please refer to plate 2 for surface and depth profiles of the street sections.

The City of Albuquerque standards are a maximum of .5 feet of depth of flow at the curb for the 10-year flows and a minimum of 12 feet of drive lane clear. Applying the formula these flow values are:

S = .017 ft/ft
n = .017
z = 25.25
y = .5 ft

---

[1] Page 3, Drainage Report previously submitted.

[2] Handbook of Applied Hydrology, Ven Te Chow, McGraw-Hill, pa appendix.)

$$Q_{p10} = 14.92 cfs.$$

$$Q_{p10} = 28.6 cfs.$$

The nemographs of the DPM, Section 22.3 indicate gutter capacity as:

$$Q_{p10} = 14 \ cfs.$$

The inlet capacity of the catch basin is given by the graph on page 74, Section 22.3, Plate 22.3 D-5 of the DPM. The capacity for a given "s" of .019 is approximately 14 cfs for a gutter depth of 8 inches at the basin.

The storm drain capacity is defined by two basins, as indicated in plate 3. Using table A-5 for the treatment D contribution, the percentage of impervious area is calculated at 49.5 percent given 5 units to the acre. The assumption of five units to the acre is taken from the "Developed Urban" characteristic of the area, and the lack of multi-family or commercial development in the area. A modification of the rural treatment percentages of 43% for A, 20% for B and C and 17% for D where the development was limited to one DU per acre, yields proportions of 25.77% for A, 12.36% for B and C, and 49.5% for D. Here the assumption is that the reduction of area is divided equally between the treatments as the developed lots reduces. The aggregate discharge for the 10 year storm given the treatment apportioned above is 2.45 cfs per acre.

Treatment A	.87 cfs/ac.	25.77%	.224 cfs/ac.
Treatment B	1.45 cfs/ac.	12.36%	.179 cfs/ac.
Treatment C	2.26 cfs/ac.	12.36%	.279 cfs/ac.
Treatment D	3.57 cfs/ac.	49.50%	1.767 cfs/ac.
Total			2.449 cfs/ac.

As indicated in plate 3, the area for basin 1, A_1, is 22.95 ac. Basin 2, A_2, is 60.37 ac. Therefore the peak discharge for basin 1, Q^1, is 56.2 cfs., and for basin 2, Q_2 is 147.8 cfs. The in flow to the storm drain system at the point of Station S-791, shown on plate 3, is 55.6 cfs. The flow capacity of this station is summarized in the table given on page 6. The capacity is 169 cfs exiting the manhole. This capacity is well above that required of 55.6 cfs.

The capacity required at the corner of Juan Tabo and Manitoba, Station S-693, is the total of Basin 1 and 2, or 204.0 cfs. Again as indicated in the "Hydraulic Summary" data the capacity at this station is 224 cfs.

The criteria for is the most conservative approach. The assumptions are 5 dwelling units to the acre developed land usage. The neighborhood from Juan Tabo to Tramway may be considerably less developed.

The following Hydraulic Calculation Summary was developed using the methods as outlined in Section 22.3 of the Albuquerque DPM with the exception of the h_{misc}. Miscellaneous head losses were calculated for inlet and outlet conditions using:

$$H_{misc} = K \square \frac{V^2}{2g}$$

,where K is .15 (page 4-26 Handbook of Hydraulics, Brater & King)

DEVELOPED DRAINAGE CONDITIONS

As indicated in the previous drainage report the anticipated storm flow to Juan Tabo during the 10 year event is 10.23 cfs. The street contributions of the north bound lanes of Juan Tabo from Manitoba to Baja (.63 ac.) are an additional 2.25 cfs for a total of 12.48 cfs. This is an over all increase in flow from existing conditions to proposed developed conditions of 3.68 cfs. This total flow is within the capacity of the catch basin inlet (14 cfs) and gutter capacity of 14.92 cfs. The total capacity of the storm drain system and basins included the discharge of the subject property. The excess capacity of the storm drain system can handle this increase with a 1.5 factor of safety at the weakest point (the grate inlet of the catch basin).

SUMMARY

As previously indicated, the removal of the ponds as currently developed and grade as shown on the proposed drainage plan as resubmitted will not exceed the capacity of the existing infrastructure. Please note that the catch basin located at Baja and Juan Tabo only services the drainage of this site and the two north bound lanes of Juan Tabo.

APPENDIX

Excerpts from the Handbook of Applied Hydrology

CITY OF
Albuquerque
Public Works Department

February 24, 1997

Martin J. Chávez, Mayor

Robert E. Gurulé, Director

Raymond Hensley, P.E.
CAMI
4001 Juan Tabo NE
Suite A
Albuquerque, NM 87111

RE: HOPE EVANGELICAL FREE CHURCH (F22-D7). DRAINAGE PLAN FOR BUILDING PERMIT APPROVAL. ENGINEER'S STAMP DATED 2-19-97.

Dear Mr. Hensley:

Based on the information provided on your February 19, 1997 submittal, the above referenced project is approved for Building Permit.

An Engineer's Certification will be required prior to Certificate of Occupancy approval.

If I can be of further assistance, please feel free to contact me at 924-3984.

Sincerely,

Lisa Ann Manwill, P.E.
Engineering Assoc./Hyd.

c: Andrew Garcia
File

DRAINAGE INFORMATION SHEET

PROJECT TITLE: Hope E.F. Church ZONE ATLAS/DRNG. FILE #: F22D07

'RB #: _____ EPC #: _____ WORK ORDER #: _____

LEGAL DESCRIPTION: N. W. Corner of Blk. M, New Holiday Park

CITY ADDRESS: _____

ENGINEERING FIRM: C.A.M.I. CONTACT: Raymond Hensley

ADDRESS: 4001 Juan Tabo, Suite A PHONE: 298-3477
Albuquerque, N. M. 87111

OWNER: _____ CONTACT: _____

ADDRESS: _____ PHONE: _____

ARCHITECT: DPI CONTACT: Chrus Helgersen

ADDRESS: 3939 San Pedro Place PHONE: 881-3663
Albuquerque, N. M. 87110

SURVEYOR: _____ CONTACT: _____

ADDRESS: _____ PHONE: _____

CONTRACTOR: _____ CONTACT: _____

ADDRESS: _____ PHONE: _____

TYPE OF SUBMITTAL:

____ DRAINAGE REPORT
_x_ DRAINAGE PLAN
____ CONCEPTUAL GRADING & DRAINAGE PLAN
____ GRADING PLAN
____ EROSION CONTROL PLAN
____ ENGINEER'S CERTIFICATION
____ OTHER _____

PRE-DESIGN MEETING:

_x_ YES
____ NO
____ COPY PROVIDED

CHECK TYPE OF APPROVAL SOUGHT:

____ SKETCH PLAT APPROVAL
____ PRELIMINARY PLAT APPROVAL
____ S. DEV. PLAN FOR SUB'D. APPROVAL
____ S. DEV. PLAN FOR BLDG. PERMIT APPROVAL
____ SECTOR PLAN APPROVAL
____ FINAL PLAT APPROVAL
____ FOUNDATION PERMIT APPROVAL
_x_ BUILDING PERMIT APPROVAL
____ CERTIFICATE OF OCCUPANCY APPROVAL
____ GRADING PERMIT APPROVAL
____ PAVING PERMIT APPROVAL
____ S.A.D. DRAINAGE REPORT
____ DRAINAGE REQUIREMENTS
____ OTHER _____ (SPECIFY)

RECEIVED
FEB 19 1997
HYDROLOGY SECTION

DATE SUBMITTED: 2/19/97

BY: Raymond Hensley
Raymond Hensley

CAMI
CONSTRUCTION ANALYSIS
& MANAGEMENT, INC.

February 19, 1997

Lisa Anne Manwill
City of Albuquerque
Hydrology Department
P. O. Box 1293
Albuquerque, N. M. 87103

RE: Hope Church Drainage Modification for Hydrology Department
Comments dated February 18, 1997

Dear Lisa Anne:

Attached is a new copy of drainage plan and the old drainage submittal information. Sorry about the oversights. Did not mean to waste your time; I'm sure you have better things to do.

Hopefully this will suffice.

Should you need any other information, please call me at 298-3477.

Your assistance is greatly appreciated.

Very respectfully,

LYLE LOSACK
Project Engineer

RECEIVED
FEB 19 1997
HYDROLOGY SECTION

P.O. Box 21940 • Albuquerque, New Mexico 87154
(505) 298-3477 • Fax (505) 298-3471

CITY OF
Albuquerque
Public Works Department

February 18, 1997

Martin J. Chávez, Mayor

Robert E. Gurulé, Director

Raymond Hensley, P.E.
CAMI
4001 Juan Tabo NE
Suite A
Albuquerque, NM 87111

RE: HOPE EVANGELICAL FREE CHURCH (F22-D7). DRAINAGE PLAN FOR BUILDING PERMIT APPROVAL. ENGINEER'S STAMP DATED 2-13-97.

Dear Mr. Hensley:

Based on the information provided on your February 12, 1997 submittal, City Hydrology has the following comments:

1. What exactly are your building? I see two possible proposed buildings. One is labeled "New Addition" and one is labeled "Addition." Is the "New Asphalt Paving" and other parking lot notes applicable to this project?

2. Provide finish floor elevation, to mean sea level, for the proposed building addition.

3. Note 5 is not acceptable. You must provide me with copies of applicable approved drainage plans or provide a drainage file number.

If I can be of further assistance, please feel free to contact me at 924-3984.

Sincerely,

Lisa Ann Manwill, P.E.
Engineering Assoc./Hyd.

c: Andrew Garcia
File

DRAINAGE INFORMATION SHEET

PROJECT TITLE: Hope E.F. Church ZONE ATLAS/DRNG. FILE #: F-22 D7

DRB #: _____ EPC #: _____ WORK ORDER #: _____

LEGAL DESCRIPTION: Northe Corner of Blk M, New Holiday Park

CITY ADDRESS: _____

ENGINEERING FIRM: C.A.M.I CONTACT: Raymond Hensley

ADDRESS: 4001 JUAN TABO SUITE A, 87111 PHONE: 298-3477

OWNER: _____ CONTACT: _____

ADDRESS: _____ PHONE: _____

ARCHITECT: DPI CONTACT: CHRIS HELGESEN

ADDRESS: 3939 SAN PEDRO PI PHONE: 881-3663

SURVEYOR: _____ CONTACT: _____

ADDRESS: _____ PHONE: _____

CONTRACTOR: _____ CONTACT: _____

ADDRESS: _____ PHONE: _____

RECEIVED
FEB 12 1997
HYDROLOGY SECTION

TYPE OF SUBMITTAL:

___ DRAINAGE REPORT
X DRAINAGE PLAN
___ CONCEPTUAL GRADING & DRAINAGE PLAN
___ GRADING PLAN
___ EROSION CONTROL PLAN
___ ENGINEER'S CERTIFICATION
___ OTHER _____

PRE-DESIGN MEETING:

X YES
___ NO
___ COPY PROVIDED

CHECK TYPE OF APPROVAL SOUGHT:

___ SKETCH PLAT APPROVAL
___ PRELIMINARY PLAT APPROVAL
___ S. DEV. PLAN FOR SUB'D. APPROVAL
___ S. DEV. PLAN FOR BLDG. PERMIT APPROVAL
___ SECTOR PLAN APPROVAL
___ FINAL PLAT APPROVAL
___ FOUNDATION PERMIT APPROVAL
X BUILDING PERMIT APPROVAL
___ CERTIFICATE OF OCCUPANCY APPROVAL
___ GRADING PERMIT APPROVAL
___ PAVING PERMIT APPROVAL
___ S.A.D. DRAINAGE REPORT
___ DRAINAGE REQUIREMENTS
___ OTHER _____ (SPECIFY)

DATE SUBMITTED: 2/12/97

BY: Raymond Hensley

CAMI
CONSTRUCTION ANALYSIS
& MANAGEMENT, INC.

February 12, 1997

Lisa Anne Manwill
City of Albuquerque
Hydrology Department
P. O. Box 1293
Albuquerque, N. M. 87103

RE: Modificaton to Hope E. F. Church
Drainage Plan

Dear Lisa:

Our client is putting an addition on to the church and has asked us to resubmit the necessary modifications to the drainage plan for your approval.

As noted in Block S on the plan, there will be little change to the overall system.

Increased Qp as a result of the addition will only increase by 0.10 to 0.12 cfs.

As per the former drainage permit, gutter capacity on Juan Tabo is 14 cfs (10 yr.) and the resultant need for our project is 10.33 (10 yr.) - increased from 10.24 before.

Should you need more information, please contact me at 298-3477.

Very truly yours,

Raymond E. Hensley, PE
President

RECEIVED
FEB 13 1997
HYDROLOGY SECTION

P.O. Box 21940 • Albuquerque, New Mexico 87154
(505) 298-3477 • Fax (505) 298-3471

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

December 6, 1995

Raymond Hensley, PE
Construction, Analysis & Mgt Inc
4001 Juan Tabo NE Suite A
P.O. Box 21940
Albuquerque, NM 87154

RE: ENGINEER'S CERTIFICATION FOR HOPE E.F. CHURCH (F-22/D-7)
RECEIVED DECEMBER 6,1995 FOR CERTIFICATE OF OCCUPANCY
ENGINEER'S STAMP DATED 11/2/95

Dear Mr. Hensley:

Based on the information included in the submittal referenced above, City Hydrology accepts the Engineer's Certification for Certificate of Occupancy. Contact Vicki Chavez at Code Administration to obtain the Certificate of Occupancy for 4710 Juan Tabo Blvd NE.

If I can be of further assistance, You may contact me at 768-2727.

Sincerely,

John P. Curtin

John P. Curtin, P.E.
Civil Engineer/Hydrology

c: Andrew Garcia
Chris Hegelsen, Design Professionals, 3939 San Pedro NE, Bldg F, Suite A 87110

THE CITY OF ALBUQUERQUE IS AN EQUAL OPPORTUNITY/REASONABLE ACCOMMODATION EMPLOYER

DRAINAGE INFORMATION SHEET

PROJECT TITLE: Hope Evangelical Free Church ZONE ATLAS/DRNG. FILE #: F-22/D7

DRB #: _____ EPC #: _____ WORK ORDER #: _____

LEGAL DESCRIPTION: Portion Block M The New Holiday Park Part 7&8

CITY ADDRESS: 4710 Juan Tabo Blvd., NE

ENGINEERING FIRM: C.A.M.I CONTACT: Raymond Hensley

ADDRESS: 4001 Juan Tabo, NE Suite A PHONE: 298-3477

OWNER: Hope Evangelical Free Church CONTACT: _____

ADDRESS: 4710 Juan Tabo NE PHONE: _____

ARCHITECT: Design Professionals, Inc. CONTACT: Chris Helgesen

ADDRESS: 3939 San Pedro NE Bldg F Suite A PHONE: 881-6336

SURVEYOR: _____ CONTACT: _____

ADDRESS: _____ PHONE: _____

CONTRACTOR: _____ CONTACT: _____

ADDRESS: _____ PHONE: _____

TYPE OF SUBMITTAL:

____ DRAINAGE REPORT

____ DRAINAGE PLAN

____ CONCEPTUAL GRADING & DRAINAGE PLAN

____ GRADING PLAN

____ EROSION CONTROL PLAN

XX ENGINEER'S CERTIFICATION

____ OTHER _____

PRE-DESIGN MEETING:

____ YES

____ NO

____ COPY PROVIDED

Notified Kim that permanent C.O. is OK on 12/6/95. JPC

CHECK TYPE OF APPROVAL SOUGHT:

____ SKETCH PLAT APPROVAL

____ PRELIMINARY PLAT APPROVAL

____ S. DEV. PLAN FOR SUB'D. APPROVAL

____ S. DEV. PLAN FOR BLDG. PERMIT APPROVAL

____ SECTOR PLAN APPROVAL

____ FINAL PLAT APPROVAL

____ FOUNDATION PERMIT APPROVAL

____ BUILDING PERMIT APPROVAL

XX CERTIFICATE OF OCCUPANCY APPROVAL

____ GRADING PERMIT APPROVAL

____ PAVING PERMIT APPROVAL

____ S.A.D. DRAINAGE REPORT

____ DRAINAGE REQUIREMENTS

____ SUBDIVISION CERTIFICATION

____ OTHER _____ (SPECIFY)

RECEIVED DEC - 6 1995 HYDROLOGY DIV.

DATE SUBMITTED: December 6, 1995

BY: Chris Helgesen

PUBLIC WORKS DEPARTMENT

SIDEWALK & DRIVEPAD INSPECTION

APPROVED

Inspector

Permits Dispatch Inspection Office

Phone 768-2561 957-3022 957-3036

9550664

Date 1-12-95 Permit No. ~~[illegible]~~

Contractor Nbad

Location 4710 Guantabo NE

Time

DRAINAGE INFORMATION SHEET

PROJECT TITLE: Hope Evangelical Free Church ZONE ATLAS/DRNG. FILE #: F-22/D7

DRB #: _____ EPC #: _____ WORK ORDER #: _____

LEGAL DESCRIPTION: 4710 Juan Tabo Blvd, N.E.

CITY ADDRESS: 4710 Juan Tabo Blvd., N.E.

ENGINEERING FIRM: C.A.M.I. CONTACT: Raymond Hensley

ADDRESS: 4001 Juan Tabo, N.E. Suite A PHONE: 298-3477

OWNER: _____ CONTACT: _____

ADDRESS: _____ PHONE: _____

ARCHITECT: D.P.I. CONTACT: Chris Helgesen

ADDRESS: _____ PHONE: 881-6336

SURVEYOR: _____ CONTACT: _____

ADDRESS: _____ PHONE: _____

CONTRACTOR: _____ CONTACT: _____

ADDRESS: _____ PHONE: _____

TYPE OF SUBMITTAL:

____ DRAINAGE REPORT
____ DRAINAGE PLAN
____ CONCEPTUAL GRADING & DRAINAGE PLAN
____ GRADING PLAN
____ EROSION CONTROL PLAN
XX ENGINEER'S CERTIFICATION
____ OTHER _____

PRE-DESIGN MEETING:

____ YES
____ NO
____ COPY PROVIDED

RECEIVED
NOV - 7 1995

CHECK TYPE OF APPROVAL SOUGHT:

____ SKETCH PLAT APPROVAL
____ PRELIMINARY PLAT APPROVAL
____ S. DEV. PLAN FOR SUB'D. APPROVAL
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____ GRADING PERMIT APPROVAL
____ PAVING PERMIT APPROVAL
____ S.A.D. DRAINAGE REPORT
____ DRAINAGE REQUIREMENTS
____ OTHER _____ (SPECIFY)

Verbal Comment to Ray Hensley: Copy of S.O. 19 "Green Tag" is the only remaining requirement. fPC 12-1-95

DATE SUBMITTED: November 6, 1995

BY: Raymond Hensley, P.E.

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

May 26, 1995

Raymond Hensley, PE
Construction, Analysis & Mngt Inc
4001 Juan Tabo NE Suite A
P.O. Box 21940
Albuquerque, NM 87154

RE: ENGINEER'S CERTIFICATION FOR HOPE E.F. CHURCH (E-22/D-7)
RECEIVED MAY 8, 1995 FOR CERTIFICATE OF OCCUPANCY
ENGINEER'S STAMP DATED 5/2/95

Dear Mr. Hensley:

Based on the information included in the submittal referenced above, City Hydrology releases a temporary Certificate of Occupancy for Hope E.F. Church at 4710 Juan Tabo NE. The following comments must be addressed before the Engineer's Certification will be accepted and a permanent Certificate of Occupancy will be released:

Indicate the as-built F.F. elevation by placing a line through the proposed elevation and writing the as-built elevation next to it. Submit a copy of the green tag for the S.O.19. Are the sidewalk culverts 2' wide or 1.5'?

If you have any questions about this project, You may contact me at 768-2727.

Sincerely,

John P. Curtin

John P. Curtin, P.E.
Civil Engineer/Hydrology

c: Andrew Garcia
Chris Hegelsen, Design Professionals, 3939 San Pedro NE, Bldg F, Suite A 87110

THE CITY OF ALBUQUERQUE IS AN EQUAL OPPORTUNITY/REASONABLE ACCOMMODATION EMPLOYER

DRAINAGE INFORMATION SHEET

PROJECT TITLE: Hope Evangelical Free Church ZONE ATLAS/DRNG. FILE #: F-22/D-7

DRB #: _____ EPC #: _____ WORK ORDER #: _____

LEGAL DESCRIPTION: Juan Tabo and Manitoba

CITY ADDRESS: 4710 Juan Tabo, N.E.

ENGINEERING FIRM: Construction, Analysis & Mngmnt, CONTACT: Raymond Hensley

ADDRESS: 4001 Juan Tabo, N.E., Suite A PHONE: 298-3477

OWNER: _____ CONTACT: _____

ADDRESS: _____ PHONE: _____

ARCHITECT: Design Professionals, Inc. CONTACT: Chris Helgesen

ADDRESS: _____ PHONE: _____

SURVEYOR: _____ CONTACT: _____

ADDRESS: _____ PHONE: _____

CONTRACTOR: _____ CONTACT: _____

ADDRESS: _____ PHONE: _____

TYPE OF SUBMITTAL:

____ DRAINAGE REPORT
____ DRAINAGE PLAN
____ CONCEPTUAL GRADING & DRAINAGE PLAN
____ GRADING PLAN
____ EROSION CONTROL PLAN
XX ENGINEER'S CERTIFICATION
____ OTHER _____

PRE-DESIGN MEETING:

____ YES
____ NO
____ COPY PROVIDED

CHECK TYPE OF APPROVAL SOUGHT:

____ SKETCH PLAT APPROVAL
____ PRELIMINARY PLAT APPROVAL
____ S. DEV. PLAN FOR SUB'D. APPROVAL
____ S. DEV. PLAN FOR BLDG. PERMIT APPROVAL
____ SECTOR PLAN APPROVAL
____ FINAL PLAT APPROVAL
____ FOUNDATION PERMIT APPROVAL
____ BUILDING PERMIT APPROVAL
✓ CERTIFICATE OF OCCUPANCY APPROVAL
____ GRADING PERMIT APPROVAL
____ PAVING PERMIT APPROVAL
____ S.A.D. DRAINAGE REPORT
____ DRAINAGE REQUIREMENTS
____ OTHER TEMPORARY C.O. (SPECIFY)

DATE SUBMITTED: 5/2/95

BY: Raymond Hensley

RECEIVED
MAY - 8 1995
HYDROLOGY DIV

30 Day Temp issued on 5-11-95

CAMI
CONSTRUCTION ANALYSIS
& MANAGEMENT, INC.

January 21, 1995

RECEIVED
JAN 21 1995
HYDROLOGY DIVISION

John Curtain, P.E.
City of Albuquerque
Hydrology Department
P.O. Box 1293
Albuquerque, New Mexico 87103

RE: **CONTRACTOR REQUESTED REVISIONS TO SIDEWALK DRAINS. HOPE E.F. CHURCH (F-22/D7)**

Dear Mr. Curtin:

The contractor, Noel Construction, has requested a change from the 2 foot wide drains shown on the approved plans to 1 foot six inch wide.

I had previously given my approval of the change and forwarded same to your office. Your office indicated it would need both plan revisions and calculations. The plans are attached and the calculations are given below. The rational for the approval is that the original calculations were very conservative in the assumptions, and the owner will be damaged in the amount of time the contractor will delay the project, obtaining the specified materials. (The steel plates were ordered in the wrong widths.)

The original calculations were based on an average channel depth of 4 inches. Therefore:

$$Q = \frac{1.486 \times A \times R^{2/3} \times s^{.5}}{n} \qquad \textbf{(1)}\ \text{Manning Equation}$$

$$Q = 2.359\ cfs, \quad Q \times 6\ Drains = 14.15\ cfs$$

By allowing for less conservative a 5 inch deep flow and a 1.5 foot width:

A = .625 sf
R = .2679 ft
s = .0104, (1/8" per foot)
n = .017, roughness coefficient of concrete

$$Q = 2.31\ cfs, \quad Q \times 6\ Drains = 13.89\ cfs$$

P.O. Box 21940 • Albuquerque, New Mexico 87154
(505) 298-3477 • Fax (505) 298-3471

The design capacity is 10.23 cfs.

The 10.23 cfs is within the design of 13.89 cfs of the revision.

If you have any questions please call.

Sincerely,

Raymond Hensley, P.E.
President

ENCLOSURES: Plans

RECEIVED
JAN 21 1995

CAMI
CONSTRUCTION ANALYSIS
& MANAGEMENT, INC.

January 12, 1995

Chris Helgesen
Design Professionals
3939 San Pedro Dr., N.E.
Building F, Suite A
Albuquerque, New Mexico 87110

RE: **Hope Church - Sidewalk Trough Drains**

Dear Mr. Helgesen:

Ron Couch of Noel Company, the contractor placing the sidewalk trough drains. He requested that the drains be narrowed from two (2) feet to one foot six inches.

In the original design I allowed a rough finish to the concrete and a slope of less than a .25 inch to the foot. Ron assures me that he can apply a smooth finish and a slope at least .25 inches to the foot. Given this information, I can approve the reduction in width of the trench drains to one foot six inches (1.5 feet).

If you have any questions please call.

Sincerely,

Raymond Hensley, P.E.
President

P.O. Box 21940 • Albuquerque, New Mexico 87154
(505) 889-9558 • Fax (505) 889-0625

4710 Juan Tabo NE
F-22

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

September 9, 1994

Raymond Hensley, P.E.
C.A.M.I.
4520 Montgomery Blvd NE
Albuquerque, N.M. 87109

RE: REVISED GRADING & DRAINAGE PLAN FOR HOPE E.F. CHURCH (F-22/D7)
RECEIVED SEPTEMBER 3, 1994 FOR BUILDING PERMIT APPROVAL
ENGINEER'S STAMP DATED 9-1-94

Dear Mr. Hensley:

Based on the information included in the submittal referenced above, City Hydrology approves this project for Building Permit.

Include a copy of the approved Grading & Drainage Plans, dated 9-1-94, in the set of construction documents that will be submitted to the "one stop" for the Building Permit.

The Contractor must obtain a "Topsoil Disturbance Permit" from the Environmental Health Department prior to any grading or construction.

A separate permit is required for construction of private drainage facilities within the City Right of Way. A copy of this letter must be on hand when applying for the excavation permit.

Engineer's Certification of grading & drainage per DPM checklist must be approved before any Certificate of Occupancy will be released. Include a copy of the S.0.19 green tag with the Engineer's Certification.

If you have any questions about this project, You may contact me at 768-2727.

Sincerely,

John P. Curtin, P.E.
Civil Engineer/Hydrology

c: Andrew Garcia
Arlene Portillo

WPHYD/8580/jpc

THE CITY OF ALBUQUERQUE IS AN EQUAL OPPORTUNITY/REASONABLE ACCOMMODATION EMPLOYER

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

September 2, 1994

Raymond Hensley, P.E.
C.A.M.I.
4520 Montgomery Blvd NE
Albuquerque, N.M. 87109

RE: GRADING & DRAINAGE PLAN FOR HOPE E.F. CHURCH (F-22/D7)
RECEIVED AUGUST 23, 1994 FOR BUILDING PERMIT APPROVAL
ENGINEER'S STAMP DATED 8-19-94

Dear Mr. Hensley:

Based on the information included in the submittal referenced above, City Hydrology approves this project for Building Permit.

Include a copy of the Grading Plan in the set of construction documents that will be submitted to the "one stop" for the Building Permit.

The Contractor must obtain a "Topsoil Disturbance Permit" from the Environmental Health Department prior to any grading or construction.

A separate permit is required for construction of private drainage facilities within the City Right-of-Way. Submit two (2) copies of the S.0.19, indicating the location & type of facilities, to City Hydrology for processing. See attached DPM instructions.

Engineer's Certification of grading & drainage per DPM checklist must be approved before any Certificate of Occupancy will be released. Include a copy of the S.0.19 green tag in the Engineer's Certification.

If you have any questions about this project, You may contact me at 768-2727.

Sincerely,

John P. Curtin

John P. Curtin, P.E.
Civil Engineer/Hydrology

c: Andrew Garcia

WPHYD/8580/jpc

THE CITY OF ALBUQUERQUE IS AN EQUAL OPPORTUNITY/REASONABLE ACCOMMODATION EMPLOYER

DRAINAGE INFORMATION SHEET

PROJECT TITLE: HOPE E.F. CHURCH ZONE ATLAS/DRNG. FILE #: F22/D7

DRB #: _____ EPC #: _____ WORK ORDER #: _____

LEGAL DESCRIPTION: NW Corner of Blk M, New Holiday Park

CITY ADDRESS: Juan Tabo & Manitoba

ENGINEERING FIRM: C.A.M.I CONTACT: Raymond Hensley

ADDRESS: 4250 Montgomery #5 PHONE: 889-9558

OWNER: _____ CONTACT: New 298-3477

ADDRESS: _____ PHONE: _____

ARCHITECT: DPI CONTACT: Chris Helgesen

ADDRESS: 3939 San Pedro Pl PHONE: 881-3663

SURVEYOR: _____ CONTACT: _____

ADDRESS: _____ PHONE: _____

CONTRACTOR: _____ CONTACT: _____

ADDRESS: _____ PHONE: _____

TYPE OF SUBMITTAL:

____ DRAINAGE REPORT
____ DRAINAGE PLAN
____ CONCEPTUAL GRADING & DRAINAGE PLAN
X GRADING PLAN
____ EROSION CONTROL PLAN
____ ENGINEER'S CERTIFICATION
____ OTHER _____

PRE-DESIGN MEETING:

X YES
____ NO
____ COPY PROVIDED

CHECK TYPE OF APPROVAL SOUGHT:

____ SKETCH PLAT APPROVAL
____ PRELIMINARY PLAT APPROVAL
____ S. DEV. PLAN FOR SUB'D. APPROVAL
____ S. DEV. PLAN FOR BLDG. PERMIT APPROVAL
____ SECTOR PLAN APPROVAL
____ FINAL PLAT APPROVAL
____ FOUNDATION PERMIT APPROVAL
X BUILDING PERMIT APPROVAL
____ CERTIFICATE OF OCCUPANCY APPROVAL
____ GRADING PERMIT APPROVAL
____ PAVING PERMIT APPROVAL
____ S.A.D. DRAINAGE REPORT
____ DRAINAGE REQUIREMENTS
____ OTHER _____ (SPECIFY)

DATE SUBMITTED: Aug. 19, 1994

BY: Raymond Hensley

AUG 23 1994

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

August 3, 1994

Raymond Hensley, P.E.
C.A.M.I.
4520 Montgomery Blvd NE
Albuquerque, N.M. 87109

RE: CONC. GRADING & DRAINAGE PLAN FOR HOPE E.F. CHURCH (F-22/D7)
RECEIVED JULY 18, 1994 FOR SITE DEV PLAN FOR BLDG PRMT APPROVAL
ENGINEER'S STAMP DATED 7-15-94

Dear Mr. Hensley:

Based on the information included in the submittal referenced above, City Hydrology approves the concept shown on the Site Development Plan for this project.

Prior to Building Permit approval a detailed Grading Plan must be submitted. Usually spot elevations are more effective than contours for indicating proposed conditions. The 12" pvc outlet should be replaced with a sidewalk culvert per C.O.A. Std Dwg #2236 or several curb drains per C.O.A. Std Dwg #2235. Either of which use the S.O.19 procedure for private storm drain facilities in the City right of way.

If you have any questions about this project, You may contact me at 768-2727.

Sincerely,

John P. Curtin

John P. Curtin, P.E.
Civil Engineer/Hydrology

c: Fred Aguirre

WPHYD/8580/jpc

THE CITY OF ALBUQUERQUE IS AN EQUAL OPPORTUNITY/REASONABLE ACCOMMODATION EMPLOYER

DRAINAGE INFORMATION SHEET

PROJECT TITLE: Hope Evangelical Church ZONE ATLAS/DRNG. FILE #: F-22/D7

'RB #: _____ EPC #: _____ WORK ORDER #: _____

LEGAL DESCRIPTION: Juan Tabo & Manitoba

CITY ADDRESS: _____

ENGINEERING FIRM: C.A.M.I. CONTACT: Raymond Hensley

ADDRESS: 4520 Montgomery BLVD N.E. PHONE: 889-9558

OWNER: _____ CONTACT: _____

ADDRESS: _____ PHONE: _____

ARCHITECT: Design Professionals CONTACT: Chris Helgesen

ADDRESS: _____ PHONE: 881-6336

SURVEYOR: _____ CONTACT: _____

ADDRESS: _____ PHONE: _____

CONTRACTOR: _____ CONTACT: _____

ADDRESS: _____ PHONE: _____

TYPE OF SUBMITTAL:

- X DRAINAGE REPORT
- X DRAINAGE PLAN
- ____ CONCEPTUAL GRADING & DRAINAGE PLAN
- ____ GRADING PLAN
- ____ EROSION CONTROL PLAN
- ____ ENGINEER'S CERTIFICATION
- ____ OTHER Resubmission

PRE-DESIGN MEETING:

- ____ YES
- ____ NO
- ____ COPY PROVIDED

CHECK TYPE OF APPROVAL SOUGHT:

- ____ SKETCH PLAT APPROVAL
- ____ PRELIMINARY PLAT APPROVAL
- ____ S. DEV. PLAN FOR SUB'D. APPROVAL
- X S. DEV. PLAN FOR BLDG. PERMIT APPROVAL
- ____ SECTOR PLAN APPROVAL
- ____ FINAL PLAT APPROVAL
- ____ FOUNDATION PERMIT APPROVAL
- ____ BUILDING PERMIT APPROVAL
- ____ CERTIFICATE OF OCCUPANCY APPROVAL
- ____ GRADING PERMIT APPROVAL
- ____ PAVING PERMIT APPROVAL
- ____ S.A.D. DRAINAGE REPORT
- ____ DRAINAGE REQUIREMENTS
- ____ OTHER _____ (SPECIFY)

DATE SUBMITTED: 7-15-94

BY: Raymond J. Hensley

RECEIVED
JUL 18 1994
HYDROLOGY DIVISION

CAMI
CONSTRUCTION ANALYSIS
& MANAGEMENT, INC.

July 13, 1994

John Curtin, P.E.
City of Albuquerque
Hydrology Department
P.O. Box 1293
Albuquerque, New Mexico 87103

RE: **CONCEPTUAL GRADING & DRAINAGE REPORT FOR HOPE E.F. CHURCH (F-22/D7) RECEIVED MAY 18, 1994 FOR SITE DEV PLAN FOR BLDG PERMIT APPROVAL ENGINEER'S STAMP DATED 5/13/94**

Dear Mr. Curtin:

In response to your letter dated June 9, 1994, we are submitting the following revisions and amendments to the Drainage Report and Drainage Plan as you requested.

The following are the positive responses with the four reiterated items of said letter:

1. *Show proposed drainage basin boundaries on the Grading & Drainage Plan. Indicate roof drains or roof drainage pattern.*

Please refer to the revised drainage plan, both the pattern and drains are indicated. In addition the on site drainage basins are indicated.

2. *Compare existing runoff to proposed. Justify why free discharge should be granted when ponding was required before. Verify downstream capacity in Juan Tabo and in the storm drain. Will additional storm inlets be required to intercept the increased runoff.*

Accompanying the revised Drainage Plan, there is a Supplemental Drainage Report. These concerns are addressed within that report. In summary the following are the responses to the compound questions posed by item 2:

1. **Compare the existing runoff to proposed** - The Supplemental Drainage Report indicates on page 2 that the existing site drainage is 7.81 cfs to Juan Tabo during the 10 year storm. Page 7 indicates a developed flow of 10.23 cfs[1]. The flow increase is 2.42 cfs. The existing design would not have impeded these flows in that the ponds have 12 inch CMP outlets installed in each one. Only flows exceeding 10 cfs would have been restricted by the existing system.

2. **Justify why free discharge should be granted when ponding was required before.** - When this project was proposed the engineers were directed to AMAFCA for conceptual discussions. At that conference with Cliff Anderson, he indicated that because of the improvements in the arroyo channel and other infrastructure implementation, it was unnecessary to retain the pond system within this property. This combined with the

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1 (Page 2 of the original Drainage Report, January 1994)

ATRIUM NORTH
P.O. Box 21940 • Albuquerque, New Mexico 87154
(505) 889-9558 • Fax (505) 889-0625

indication that the existing ponds and outlets on the subject property that allow the proposed developed flows without modification; and the given adequate capacity of the storm water system, should allow the development of this property without the detention pond system.

3. **Verify downstream capacity in Juan Tabo and in the storm drain** - Please refer to the presentation given within the Supplemental Drainage Report. Within the Supplement we have verified the Gutter Capacity (Page 2 thru 4, and 6). The catch basin was analyzed on page 6. The neighborhood drainage basin was evaluated in pages 5 thru 7. The short answer is yes, the capacities are available to handle the proposed storm water. The following table gives the values of excess capacity in terms of proposed developed flows:

Gutter	19.55 %
Catch Basin	12.18 %
First Station (S694)	204.96 %
Second Station (S693)	15.82 %

4. **Will additional storm inlets be required to intercept the increased runoff** - As illustrated above it appears that the available catch basin at the corner of Baja and Juan Tabo will be sufficient. Bear in mind that this catch basin services only the subject property and the north bound lanes of Juan Tabo from Manitoba to Baja.

3. *Provide a cross section for Juan Tabo. What is the width of the right of way and the F-F width of the north bound lane? Verify that there is a 12' dry lane during the 10 yr. storm.*

In summary the following are the responses to the compound questions posed by item 2. Please refer to the Supplemental Drainage Report for details:

1. **Provide a cross section for Juan Tabo** - Please refer to drawings number 1 and 2 of the Supplement.

2. **What is the width of the right of way and the F-F width of the north bound lane?** - 25 feet 7 inches.

3. **Verify that there is a 12' dry lane during the 10 yr. storm** - At the position shown as "Section B" the drive lane is much greater than 12 feet. At "Section A" it calculated to be 11 feet 7 inches. However, it is satisfactory given the conservative nature of assumptions and calculations taken by the Engineer.

4. *City Hydrology is not familiar with the Modified Manning equation that you used. Where did it come from? How is Z calculated?*

1. **Where did it come from?** - Please refer to the appendix of the Supplement. Therein are copies of the reference from which this equation was taken, Handbook of Applied Hydrology, Ven Te Chow, McGraw-Hill, page 20-6.

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JUL 18 1994

2. **How is Z calculated?** - "Z" is the ratio of water surface width to depth, ie. a 10 foot surface and a curb depth of .5 feet would yield a value for Z of 20.

If you have any questions concerning this project please call, 889-9558. I appreciate your consideration and input toward this project.

Sincerely,

Raymond Hensley,P.E.
President

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HYDROLOGY

SUPPLEMENTAL DRAINAGE REPORT

FOR

HOPE EVANGELICAL FREE CHURCH

Zone Atlas Sheet F-22-Z

JUNE 1994

PREPARED FOR

Design Professional, Inc.
3939 San Pedro Dr., N.E.
Bldg F, Suite A,
Albuquerque, New Mexico 87110

PREPARED BY

Construction, Analysis and Management, Inc.
4250 Montgomery, N.E.
Suite 4,
Albuquerque, New Mexico 87109

Raymond Hensley, P.E.
N.M.P.E. 7873

7/15/94

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JUL 18 1994
HYDROLOGY DIVISION

RAYMOND HENSLEY
NEW MEXICO
No. 7873
REGISTERED PROFESSIONAL ENGINEER

TABLE OF CONTENTS

PURPOSE 1

JUSTIFICATION - GENERAL DISCUSSION 1

EXISTING DRAINAGE CONDITIONS 1

DEVELOPED DRAINAGE CONDITIONS 8

SUMMARY 8

APPENDIX 9
Excerpts from the Handbook of Applied Hydrology 10

RECEIVED
JUL 18 1994
HYDROLOGY DIVISION

PURPOSE

The purpose of this report is supplement the drainage report submitted January 1994, and to answer the specific questions posed by John Curtain of City Hydrology in his letter dated June 9, 1994. The main issue of the referenced letter is the justification for the removal of site detention ponds in favor of free discharge.

The following justifications were discussed, in general, with Mr. Anderson of AMAFCA. It was during those discussions in conceptual design that the proposal to eliminate the ponding was formulated. In January of this year we were directed to AMAFCA as the governing entity of this property.

JUSTIFICATION - GENERAL DISCUSSION

As indicated in the previous plans and as built surveys presented to the City, the ponds had been constructed to the plans and recommendations of the previous drainage plan. However, a 12 inch CMP pipe was designed and built into the largest pond as indicated in a letter from Michial M. Emery, of Bohannan-Houston, dated January 29, 1979. The installation of this pipe restricted the flow of storm water to approximately 6 cfs issuing from the pond. However, if the ponds were filled the flow would increase to 11 cfs. In addition, nearly 50 percent of the remaining property was allowed to sheet flow to the streets of Manitoba and Juan Tabo. In general there was little in the way of restrictive flow or detention in the existing conditions and design.

It is my understanding that in the period from 1979 to this time there have been revisions and additional capacity constructed in the this section of the city storm sewer system from Montgomery to Manitoba, and Juan Tabo to Tramway. The previous designs were an effort to compensate for the presumed lack of capacity in 1979.

In terms of the owners of the subject property, the proposed addition would have to have sever grade changes and detention structures to comply with a detention philosophy. These construction items would pose additional financial stresses on the church.

Finally, it would appear that the storm drainage systems currently in place have the capacity to handle the slight increase proposed by the removal of the ponds.

EXISTING DRAINAGE CONDITIONS

The existing conditions allow the subject property to drain 7.81 cfs to Juan Tabo during the 10 year event.

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$$Q_{p10} = 3.57 \times 1.39 + .87 \times 3.27 \ cfs.$$

$$Q_{p10} = 7.81 \ cfs.$$

Juan Tabo impermeable surfaces (.630 ac) contribute an additional 2.25 cfs conveyed to the catch basin at the northeast corner of Juan Tabo and Baja for a total of 10.08 cfs.

As previously submitted the capacity of the gutters in Juan Tabo south of the out flow of the property were 14.2 cfs.[1] In compliance with your request additional survey information was obtained and summarized. (Please refer to Plate 1 and 2). The additional information indicates a gutter capacity of 14.92 cfs.

Applying the modified manning equation to typical gutter flow Juan Tabo Boulevard has a capacity to transport the following flow rates[2]:

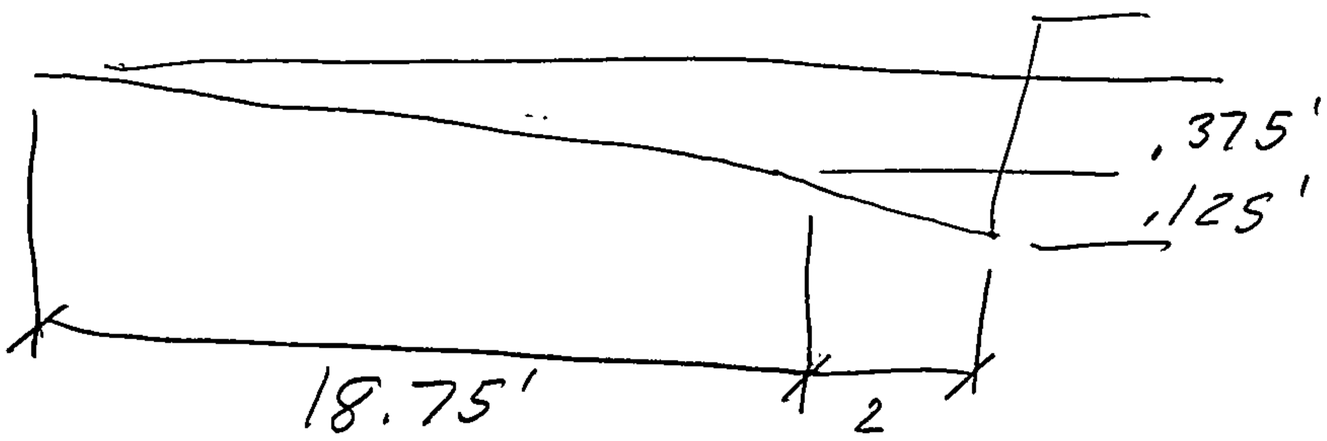
$$Q = .56 \left(\frac{z}{n}\right) S^{1/2} y^{8/3}$$

where, z = surface to depth ratio
n = roughness coefficient,
S = slope of the channel, and
y = depth of the channel.

Please refer to plate 2 for surface and depth profiles of the street sections.

The City of Albuquerque standards are a maximum of .5 feet of depth of flow at the curb for the 10-year flows and a minimum of 12 feet of drive lane clear. Applying the formula these flow values are:

S = .017 ft/ft
n = .017
z = 25.25
y = .5 ft



[1] Page 3, Drainage Report previously submitted.

[2] Handbook of Applied Hydrology, Ven Te Chow, McGraw-Hill, page 20-6 (Please see appendix.)

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HYDROLOGY DIVISION

Q_{p10} = 14.92*cfs*.

Q_{p100}= 28.6*cfs*.

The nemographs of the DPM, Section 22.3 indicate gutter capacity as:

Q_{p10} = 14 *cfs*.

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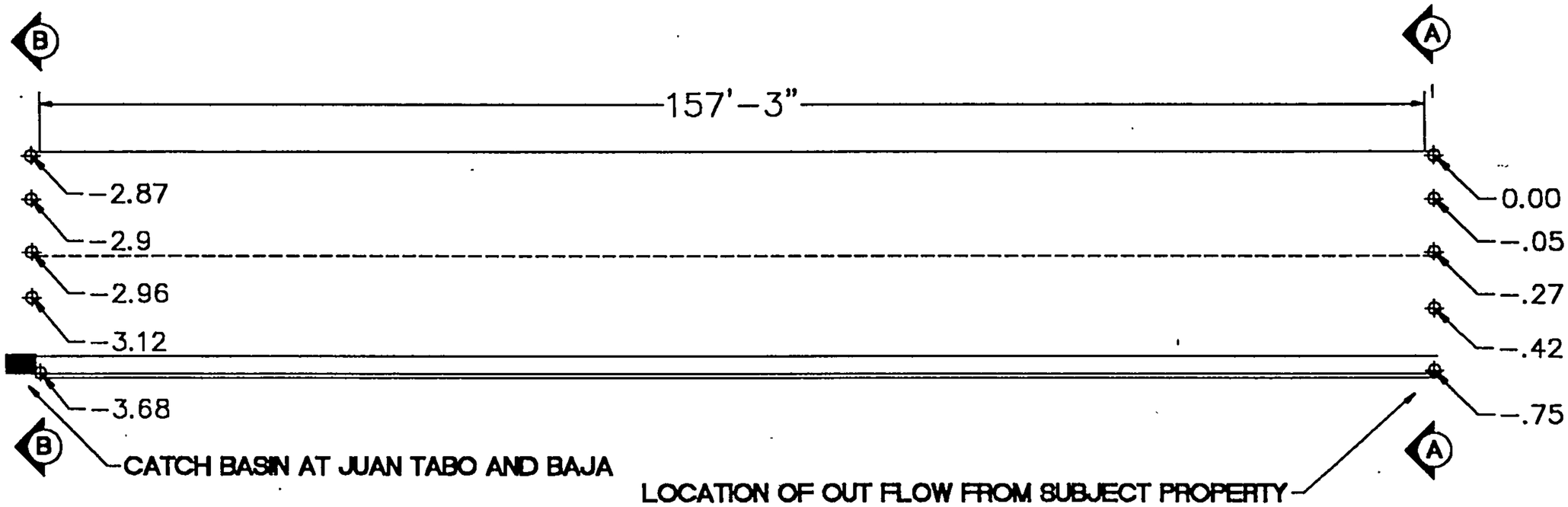
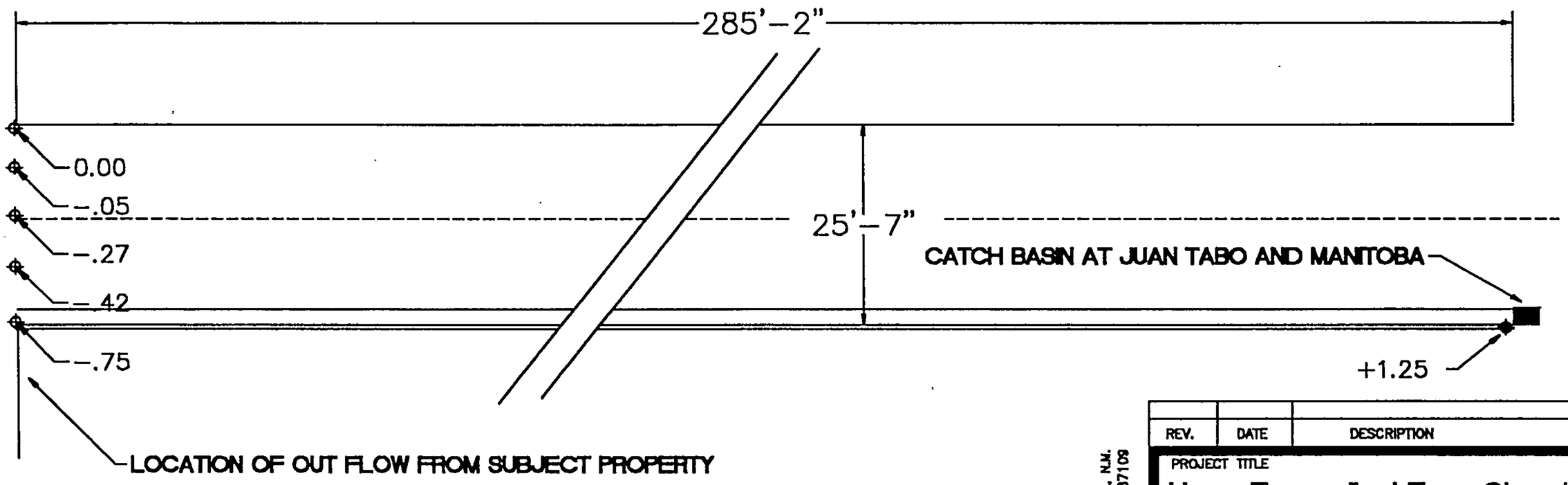
JUL 1 8 1994
HYDROLOGY DIVISION





STREET PLAN AND SPOT ELEVATIONS OF JUAN TABO BLVD.

NORTH BOUND LANES

REV.	DATE	DESCRIPTION

PROJECT TITLE

Hope Evangelical Free Church

Juan Tabo and Manitoba
Albuquerque, N.M.

SHEET TITLE

DRAINAGE PLAN SUPPLEMENT

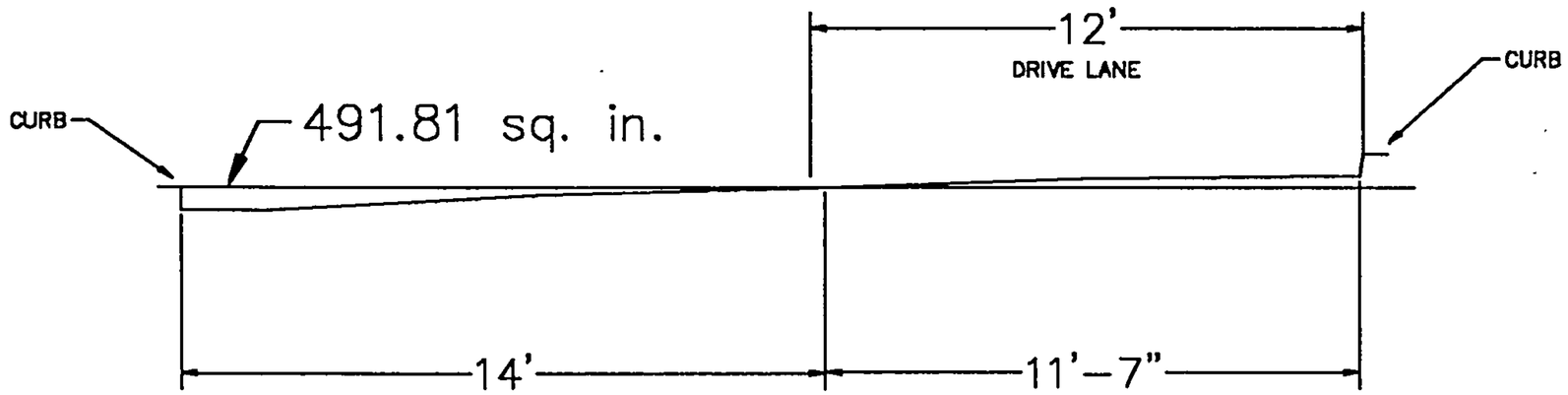
4320 MONTGOMERY N.E. ALB., N.M. 87109
(505)889-9558

CAMI
CONSTRUCTION ANALYSIS & MANAGEMENT, INC.

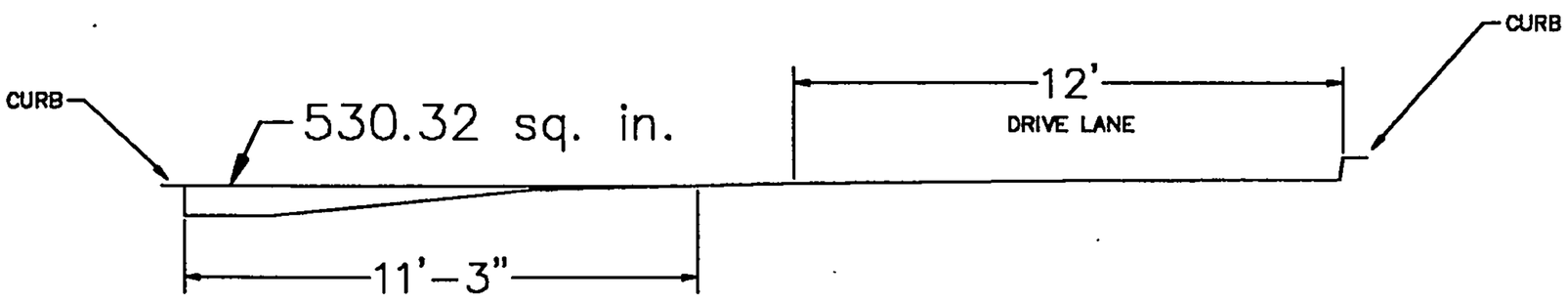
DRAWN BY REH
CHK'D BY

DATE: 06/28/94

1



SECTION - A



SECTION - B (at catch basin)

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HYDROLOGY

REV.	DATE	DESCRIPTION

PROJECT TITLE

Hope Evangelical Free Church

Juan Tabo and Manitoba
Albuquerque, N.M.

SHEET TITLE

DRAINAGE PLAN SUPPLEMENT

4520 MONTGOMERY N.E. ALB., N.M. 87109
(505)889-9558

CAMI
CONSTRUCTION ANALYSIS & MANAGEMENT, INC.

DRAWN BY REH
CHK'D BY

DATE: 06/28/94

2

The inlet capacity of the catch basin is given by the graph on page 74, Section 22.3, Plate 22.3 D-5 of the DPM. The capacity for a given "s" of .019 is approximately 14 cfs for a gutter depth of 8 inches at the basin.

The storm drain capacity is defined by two basins, as indicated in plate 3. Using table A-5 for the treatment D contribution, the percentage of impervious area is calculated at 49.5 percent given 5 units to the acre. The assumption of five units to the acre is taken from the "Developed Urban" characteristic of the area, and the lack of multi-family or commercial development in the area. A modification of the rural treatment percentages of 43% for A, 20% for B and C and 17% for D where the development was limited to one DU per acre, yields proportions of 25.77% for A, 12.36% for B and C, and 49.5% for D. Here the assumption is that the reduction of area is divided equally between the treatments as the developed lots reduces. The aggregate discharge for the 10 year storm given the treatment apportioned above is 2.45 cfs per acre.

Treatment A	.87 cfs/ac.	25.77%	.224 cfs/ac.
Treatment B	1.45 cfs/ac.	12.36%	.179 cfs/ac.
Treatment C	2.26 cfs/ac.	12.36%	.279 cfs/ac.
Treatment D	3.57 cfs/ac.	49.50%	1.767 cfs/ac.
Total			2.449 cfs/ac.

As indicated in plate 3, the area for basin 1, A_1, is 22.95 ac. Basin 2, A_2, is 60.37 ac. Therefore the peak discharge for basin 1, Q^1, is 56.2 cfs., and for basin 2, Q_2 is 147.8 cfs. The in flow to the storm drain system at the point of Station S-791, shown on plate 3, is 55.6 cfs. The flow capacity of this station is summarized in the table given on page 6. The capacity is 169 cfs exiting the manhole. This capacity is well above that required of 55.6 cfs.

The capacity required at the corner of Juan Tabo and Manitoba, Station S-693, is the total of Basin 1 and 2, or 204.0 cfs. Again as indicated in the "Hydraulic Summary" data the capacity at this station is 224 cfs.

The criteria for is the most conservative approach. The assumptions are 5 dwelling units to the acre developed land usage. The neighborhood from Juan Tabo to Tramway may be considerably less developed.

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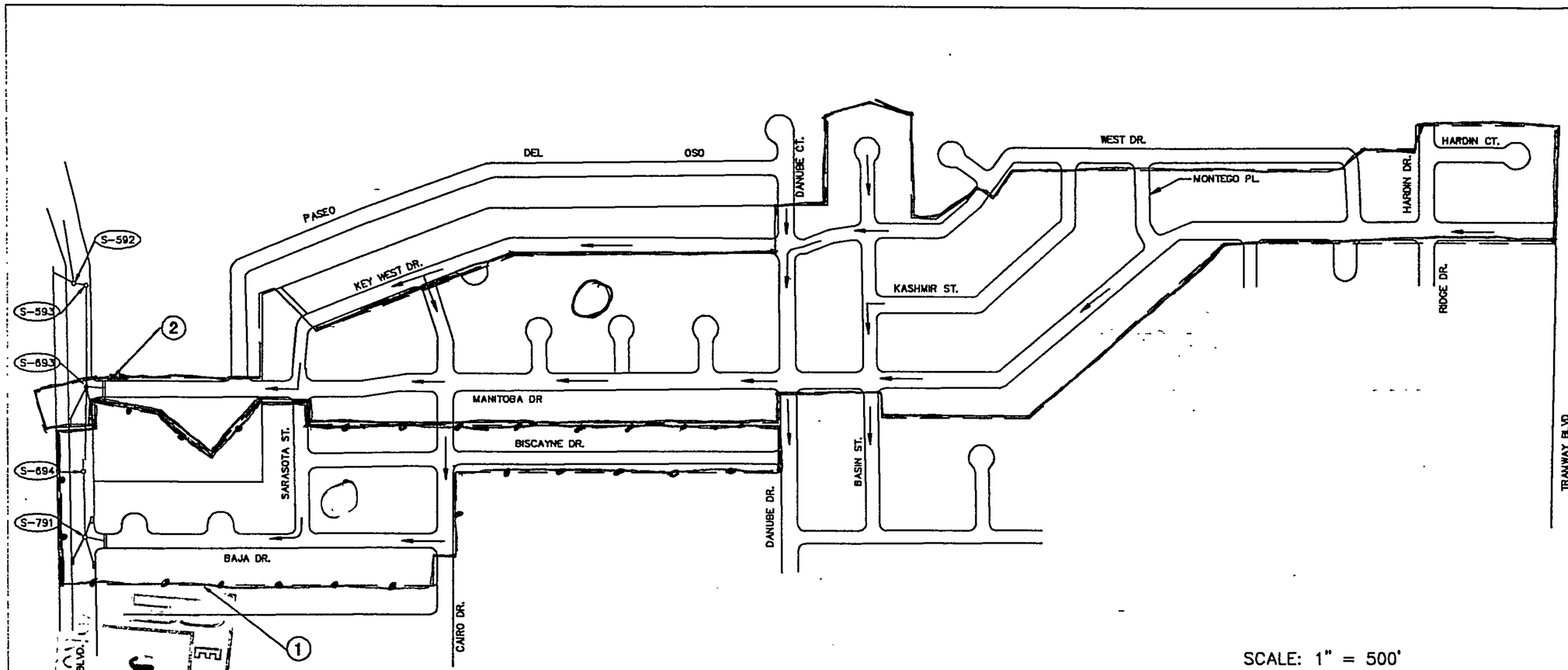
HYDROLOGY DIVISION



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JUL 18 1994

SCALE: 1" = 500'

LEGEND:

- (1) BASIN-1 (symbol/line)
- (2) BASIN-2 (symbol/line)
- (S-XXX) STATION (manhole)
- FLOW LINES
- STORM SEWER LINE AND MANHOLE
- STORM INLET

REV.	DATE	DESCRIPTION

PROJECT TITLE
Hope Evangelical Free Church
Juan Tabo and Manitoba
Albuquerque, N.M.

SHEET TITLE
DRAINAGE PLAN SUPPLEMENT

4320 MONTGOMERY N.E. ALB., N.M. 87109
(505)889-8558
CAMI
CONSTRUCTION ANALYSIS & MANAGEMENT, INC.

DRAWN BY RCH
CHK'D BY
DATE: 06/28/94
3

The following Hydraulic Calculation Summary was developed using the methods as outlined in Section 22.3 of the Albuquerque DPM with the exception of the h_{misc}. Miscellaneous head losses were calculated for inlet and outlet conditions using:

$$H_{misc} = K \times \frac{V^2}{2\,g}$$

,where K is .15 (page 4-26 Handbook of Hydraulics, Brater & King)

Storm Sewer Design

SUMMARY OF HYDRAULIC CALCULATIONS

PROJECT: HOPE FREE EVANGELICAL CHURCH LINE: JUAN TABO AND MANITOBA MANNING, n = 0 013 BY: Raymond Hensley, P.E DATE: 30-Jun-94 SHEET: 1 OF 1

STATION	STRUCTURE	DIM ft.	ELEV. D, ft.	FLOW Q, cfs	AREA A, sf.	VELOCITY V, fps	K	FRICTION SLOPE, Sf	LENGTH L, ft.	delta	JUNCTION D, ft.	theta	Hf, ft.	Hb, ft.	Hj, ft.	Hmh, ft.	H misc, ft.	SUM ft.	E.G. ft.	Hv ft.	H.G. ft.
STREET - BAJA			79 40																24 18	0 00	24 18
S791	36" RCP	3 0	69 53	178 24	7.07	25 22	666 92	0 0076	0	0	0	0	0 00	0 00	0 00	0 00	0 49	0 49	23 69	9.87	14 31
S694	36" RCP	3 0	67.49	173 73	7 07	24 58	666 92	0 0076	268	0	0	0	2 04	0 00	0 00	0 00	0 00	2 04	21 65	9 38	12 27
	MANHOLE	3 0	67.49	169 33	7.07	23 95	0 00						0.00	0 00	0 00	0 47	0 00	0 47	21.18	8 91	12 27
S693	36" RCP	3 0	65.40	169 33	7.07	23 95	666 92	0 0076	275	0	0	0	2 09	0 00	0.00	0 00	0 00	2 09	19 09	8 91	10 18
	MANHOLE	3 5	65 40	224 64	9 62	23 35	0 00						0 00	0 00	0 00	0 45	0 00	0.45	18.65	8 47	10.18
S593	42" RCP	3 5	56 62	224 64	9 62	23 35	1006 05	0 0244	360	0	0	0	8 78	0 00	0.00	0 00	0 00	8 78	9.87	8 47	1.40
	MANHOLE	4 0	56 62	285 98	12 57	22 76	0 00						0 00	0 00	0 00	0 42	0.00	0 42	9.44	8 04	1.40
S592	48" RCP	4 0	56 57	285 98	12 57	22 76	1436.43	0 0012	36	0	0	0	0 04	0 00	0 00	0.00	0 00	0 04	9.40	8 04	1.36
OUTLET BELOW DAM		4 0	55 22	383 54	12.57	30 52	1436 43	0 0200	70	0	0	0	1.40	0 00	0 00	0 72	0 00	2.12	7.28	14 46	0 00

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DEVELOPED DRAINAGE CONDITIONS

As indicated in the previous drainage report the anticipated storm flow to Juan Tabo during the 10 year event is 10.23 cfs. The street contributions of the north bound lanes of Juan Tabo from Manitoba to Baja (.63 ac.) are an additional 2.25 cfs for a total of 12.48 cfs. This is an over all increase in flow from existing conditions to proposed developed conditions of 3.68 cfs. This total flow is within the capacity of the catch basin inlet (14 cfs) and gutter capacity of 14.92 cfs. The total capacity of the storm drain system and basins included the discharge of the subject property. The excess capacity of the storm drain system can handle this increase with a 1.5 factor of safety at the weakest point (the grate inlet of the catch basin).

SUMMARY

As previously indicated, the removal of the ponds as currently developed and grade as shown on the proposed drainage plan as resubmitted will not exceed the capacity of the existing infrastructure. Please note that the catch basin located at Baja and Juan Tabo only services the drainage of this site and the two north bound lanes of Juan Tabo.

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APPENDIX

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Excerpts from the Handbook of Applied Hydrology

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ANDBOOKS OF INTEREST

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Metals Properties
.CTURING ENGINEERS:
Handbook of Fixture Design
Tool Engineers Handbook

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Tables and Formulas
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HANDBOOK OF APPLIED HYDROLOGY

A Compendium of Water-resources Technology

VEN TE CHOW, Ph.D., Editor-in-Chief

Professor of Hydraulic Engineering
University of Illinois

McGRAW-HILL BOOK COMPANY

New York St. Louis San Francisco Düsseldorf Johannes
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JUL 1 8 1994

sidered suitable for turbulent flow with high discharge on natural surfaces, whereas Izzard developed a dimensionless hydrograph for surface flow which is presumed largely applicable to laminar flow on developed surfaces. There is limited experimental support for the Horton overland-flow equation. The Izzard dimensionless hydrograph was verified in laboratory tests and gave computed overland-flow hydrographs agreeing closely enough for all practical purposes with the measured hydrographs. Reasonable agreement was even achieved for turbulent sheet flow across very wide airport aprons.

Izzard's experiments also considered interruptions, decreases, and increases in uniform supply rates of rainfall, as well as the simulation of runoff from pavements draining across turf [8, p. 137]. The experiments were performed with combinations limited to $iL < 500$, where i is the rainfall intensity in inches per hour, and L is the length in feet of overland flow. Practical guides were developed for the approximation of overland-flow hydrographs under similar circumstances. Izzard developed both the rising and recession portions of a dimensionless overland-flow hydrograph. Inasmuch as the Horton equation applies to a uniform rainfall supply of unlimited duration, a complete hydrograph for a specified duration can be generated by using the principle of superposition (Sec. 14). However, there is no experimental verification of the Horton equation for the recession portion. Because of its comparative simplicity and adaptability to nonuniform supply, the Izzard dimensionless hydrograph is a more useful design tool.

F. Gutter Storage

Routing the overland-flow hydrograph through storage in the gutter or channel leading to an inlet requires an evaluation of the instantaneous storage under the water-surface profile for various rates of flow at the inlet. The overland flow entering the gutter is zero at the upstream end, increasing progressively downstream. The flow in the gutter is spatially varied, and its longitudinal water-surface profile is very complex but has been discussed in detail elsewhere [6, 8–10]. Gutter storage generally has a greater peak-reducing influence than the surface detention of overland flow and requires a longer time to achieve equilibrium outflow. Long gutters sometimes provide a surplus of storage above that required to accommodate the rainfall excess, which results in a maximum gutter outflow rate at the inlet less than the equilibrium rate.

In any gutter reach, at a given rate of outflow there is a related volume of storage, but on the rising side of the hydrograph the storage is greater than for the identical outflow rate on the falling phase. From this fact, Izzard [8] was able to develop a short method for the determination of peak gutter outflow, and equations were derived to determine time to reach equilibrium flow in the gutter, gutter storage at equilibrium, lag time (from the rate of discharge at the end of rain to the same discharge rate on the recession), and the gutter-flow recession curve. All these relationships were predicated upon a uniform rainfall rate.

In an urban runoff study for the City of Los Angeles, Hicks [5] developed equations relating gutter storage and time of flow to supply rate, gutter length, and slope (Subsec. III-D-2-i). He stated [8] that Los Angeles flume experiments with uniformly increasing lateral inflow verified the general shape of analytical rate-length curves obtained via Izzard's equations.

The following approximate, modified Manning equation has also been presented [8] for computing uniform flow in shallow, wide, triangular channels such as swales and gutters:

$$Q = 0.56 \left(\frac{z}{n}\right) S^{1/2} y^{8/3} \tag{20-1}$$

where Q is the discharge in cfs, y is the maximum depth of water in ft, z is the ratio of water-surface width to y, n is the Manning's coefficient of roughness consistent with the constants in the equation, and S is the longitudinal slope of the channel. A nomograph for this equation is available [11, fig. 9; 12, fig. 12-27].

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G. Conduit Storage

The volume of detention in a conduit
of a hydrograph in the same basic way as
of an inflow hydrograph. Storage routi
storage relationships are available. This
ous backwater curves. Since only the r
the storage equation, it is considered ex
for each discharge rate and compute the
requires a knowledge of actual or assum

In Los Angeles, Hicks [5] has dev
(Table 20-2) for various times of concent
of conduit detention are independent o
occupied volume in cubic feet for any sp
therefore equal to $60t_f q$, with t_f the time

In Chicago, Tholin and Keifer [6] use
because of its simplicity compared wit
Steps 6 & 7) and because more refined ro
different results.

III. QUANTITATIVE URBAN STORM

The financing, installation, and maint
a tax-supported public service under th
Human life is seldom threatened by th
detrimental effects of flooding are dama
and hindrance of traffic. The consequen
property destruction to annoying incon
plete protection from flooding can only
designed which will be overtaxed infrequ
in so far as it is practicable, to equate th
tection and service which it will afford.
"most economical design" does not exist.

Some characteristics of precipitation
mined with satisfactory exactitude, such
average point rainfall of a given duratio
considerably more elusive. Because the
variables that affect the hydrologic and h
there is a tendency to regard the freque
associated rainfall event, by default. U
was given to urban drainage research.
extensive investigation, consistent with t
Despite the difficulties, a reasonably acc
is clearly a desirable fundamental design

A. Empirical Formulas

Late in the last century engineers devel
discharges for storm drains. Many such

$Q = C$

where Q is the peak discharge in cfs, C
physiographic conditions of the watersh

· streets is directly applicable to urban
streets are hydraulically more efficient
ss slopes. Expressways have flat cross
cement edges rarely have a fall toward
vever, a 2-ft-wide gutter on a 1-in./ft
traffic-lane expressways.
signing expressway drainage: (1) Depth
edge is limited to a maximum of 1 in.;
slab; (3) except in emergencies, wheels
4) any depression below the continuous

-duration flooding of the running slab,
l lead to the required spacing of grated
f at least that part of the longitudinal
t, and hence complete interception is
points. Criterion 4 recognizes that on
e occasions when vehicle wheels will ride

determined by evaluating the distance
in the maximum permissible gutter-flow
with the capacity and corresponding

rban expressways and accessory ramps
g irregular inlet spacing must be deter-

te the spacing of curb-opening inlets on
vere given to illustrate the use of the

practical opportunity to reduce inlet
es by traffic is unlikely or where main-
heavily traveled expressways) can be
vestigations [31] it was found that the
greater longitudinal grades, which is the
ier types of inlets. As opposed to the
. deflector notches would not present a
re their suitability with respect to self-
they have a promising potential.

tions

oints in grade separations because of the
s of special outfalls or because design
is or drains are at elevations too high to
he importance and character of express-
ng stations be conservatively designed.
ies be about one-third larger than the
lows. Pump capacities should likewise
ould be capable of handling the flows
verage recurrence interval of 25 to 50

cover large expanses. Intervening turf
r or adapted to pondage [53]. Design
similar to those described for airport

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JUL 1 8 1994

DROLOGY DIVISIO

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

June 9, 1994

Raymond Hensley, P.E.
C.A.M.I.
4520 Montgomery Blvd NE
Albuquerque, N.M. 87109

RE: CONC. GRADING & DRAINAGE PLAN FOR HOPE E.F. CHURCH (F-22/D7)
RECEIVED MAY 18, 1994 FOR SITE DEV PLAN FOR BLDG PRMT APPROVAL
ENGINEER'S STAMP DATED 5/13/94

Dear Mr. Hensley:

Based on the information included in the submittal referenced above, City Hydrology has the following comments that must be addressed prior to Site Dev Plan approval:

1. Show proposed drainage basin boundaries on the Grading & Drainage Plan. Indicate roof drains or roof drainage pattern.

2. Compare existing runoff to proposed. Justify why free discharge should be granted when ponding was required before. Verify downstream capacity in Juan Tabo and in the storm drain. Will additional storm inlets be required to intercept the increased runoff?

3. Provide a cross section for Juan Tabo. What is the width of the right of way and the F-F width of the north bound lane? Verify that there is a 12' dry lane during the 10yr storm.

4. City Hydrology is not familiar with the Modified Manning equation that you used. Where did it come from? How is Z calculated?

If you have any questions about this project, You may contact me at 768-2727.

Sincerely,

John P. Curtin, P.E.
Civil Engineer/Hydrology

c: Fred Aguirre

WPHYD/8580/jpc

THE CITY OF ALBUQUERQUE IS AN EQUAL OPPORTUNITY/REASONABLE ACCOMMODATION EMPLOYER

DRAINAGE INFORMATION SHEET

PROJECT TITLE: Hope Evangelical Free Church ZONE ATLAS/DRNG. FILE #: Zone Atlas F-22-Z/D7

DRB #: 94-182 EPC #: Z-94-43 WORK ORDER #: _____

LEGAL DESCRIPTION: Block M of the NEW HOLIDAY PARK, part 7 & 8

CITY ADDRESS: 4710 Juan Tabo, NE.

ENGINEERING FIRM: C.A.M.I. CONTACT: Raymond Hensley

ADDRESS: 4520 Montgomery Blvd., N.E. PHONE: 889-9558

OWNER: Hope Evangelical Free Church CONTACT: _____

ADDRESS: 4710 Juan Tabo PHONE: _____

ARCHITECT: Design Professionals, Inc. CONTACT: Chris Helgesen

ADDRESS: 3939 San Pedro Dr., N.E. Bldg F #A PHONE: 881-6336

SURVEYOR: Griener CONTACT: _____

ADDRESS: _____ PHONE: _____

CONTRACTOR: _____ CONTACT: _____

ADDRESS: _____ PHONE: _____

TYPE OF SUBMITTAL:

____ DRAINAGE REPORT
____ DRAINAGE PLAN
X CONCEPTUAL GRADING & DRAINAGE PLAN
____ GRADING PLAN
____ EROSION CONTROL PLAN
____ ENGINEER'S CERTIFICATION
____ OTHER _____

PRE-DESIGN MEETING:

X YES (AMAFCA - MR ANDERSON)
____ NO
____ COPY PROVIDED

CHECK TYPE OF APPROVAL SOUGHT:

____ SKETCH PLAT APPROVAL
____ PRELIMINARY PLAT APPROVAL
____ S. DEV. PLAN FOR SUB'D. APPROVAL
X S. DEV. PLAN FOR BLDG. PERMIT APPROVAL
____ SECTOR PLAN APPROVAL
____ FINAL PLAT APPROVAL
____ FOUNDATION PERMIT APPROVAL
____ BUILDING PERMIT APPROVAL
____ CERTIFICATE OF OCCUPANCY APPROVAL
____ GRADING PERMIT APPROVAL
____ PAVING PERMIT APPROVAL
____ S.A.D. DRAINAGE REPORT
____ DRAINAGE REQUIREMENTS
____ OTHER _____ (SPECIFY)

DATE SUBMITTED: Raymond Hensley

BY: _____

8580

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MAY 18 1994
HYDROLOGY DIVISION

DRAINAGE REPORT

FOR

HOPE EVANGELICAL FREE CHURCH

Zone Atlas Sheet F-22-Z

JANUARY 1994

PREPARED FOR

Design Professional, Inc.
3939 San Pedro Dr., N.E.
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PREPARED BY

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Raymond Hensley 5/13/94

Raymond Hensley, P.E.
N.M.P.E. 7873

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TABLE OF CONTENTS

PURPOSE 1

PROJECT LOCATION AND DESCRIPTION 1

EXISTING DRAINAGE CONDITIONS 1

DEVELOPED DRAINAGE CONDITIONS 2

STREET CAPACITY 2

RECOMMENDATIONS 3

CONCLUSIONS 4

APPENDIX 5
- 1976 DRAINAGE REPORT 6
- PLATE 1 - PROPOSED DRAINAGE PLAN 7
- PLATE 2 - DRAINAGE PLAN ACCOMPANYING THE PREVIOUS DRAINAGE PLAN 8
- DRAINAGE FACILITY PLAN - F-22-S 9

PURPOSE

The purpose of this report is to analyze the existing and proposed developed drainage on the site proposed for the Hope Church and to propose solutions to control the excess storm water runoff resulting from the 100-year storm falling on the parcel.

PROJECT LOCATION AND DESCRIPTION

The site is located east of Juan Tabo Boulevard and south of Manitoba Street in northeast Albuquerque including 4.66 acres more or less. It is bounded on the east and south by single family residential areas (see plate 1 for location map). The existing development consists of 1.39 acres of impermeable surface. The parcel slopes from east to west at about 3.3 percent and from north to south at about 1.3 percent. All undeveloped surfaces are vegetated with weeds and native grasses. The proposed development will create 2.29 acres of impermeable surface.

EXISTING DRAINAGE CONDITIONS

The site is bounded by paved roadways and block walls, with no offsite drainage flowing onto the properties. Using the Development Process Manual, Volume 2, Section 22.2 - HYDROLOGY, Section A-6 gives the peak discharge rates as 7.30 cfs. and 7.19 cfs. for the developed and landscaped areas respectively. The total discharge being 14.49 cfs. A previous drainage report submitted by Bohannan-Houston, Inc. (see appendix) calculate this discharge to be 14.32 cfs.

The existing drainage is directed to and through two ponds totaling 16,519 ft^3. There is no restriction on flow other than a 12 inch CMP outlet to the downstream pond. Greiner, Inc. submitted a revision to the original drainage plan in 1986. This was in conjunction with an addition to the buildings of approximately 3,000 sf. With that submission the volume of the ponds was reduced to 15,517 ft^3.

The development has slight variations in the as built conditions from those originally proposed by Bohannan-Houston. The original drainage indicated flows to be very minimal from the development to Manitoba. However the actual contours indicate an small increase in the flows toward Manitoba. Please compare the current proposed development plan, plate 1, with the original design analysis of Bohannan-Houston, Plate 2. This small increment in flows northward of approximately .9 cfs. is incidental to the 97 cfs. existing on Manitoba currently. This situation is further mitigated by the direction of any overflow of the large street interceptor in Manitoba to the catch basin immediately adjacent in Juan Tabo. (Plate 1 and 3).

DEVELOPED DRAINAGE CONDITIONS

The site plan (Plate 1) shows the configuration of the church, the proposed addition, parking lot and surrounding land. Approximately .9 acres will be converted to impermeable surfaces. This result in 2.29 acres of developed impermeable land and 2.36 acres of landscaped or natural condition lands.

DPM, Section 22.2, A-6:

ZONE 4:

$$Q_{p100} = Q_{pA} \times A_A + Q_{pD} \times A_D$$

(1) Equation a-10

$$Q_{p100} = \overset{D}{5.25} \times 2.29 + \overset{A}{2.20} \times 2.36 \quad cfs.$$

$$Q_{p100} = 17.43 cfs.$$

$$Q_{p10} = \overset{D}{3.57} \times 2.29 + \overset{A}{.87} \times 2.36 \ cfs.$$

$$Q_{p10} = 10.23 \ cfs.$$

STREET CAPACITY

Applying the modified manning equation to typical gutter flow Juan Tabo Boulevard has a capacity to transport the following flow rates:

$$Q = .56 \left(\frac{z}{n}\right) S^{1/2} y^{8/3}$$

, where, z = surface to depth ration
n = roughness coefficient,
S = slope of the channel, and
y = depth of the channel.

The City of Albuquerque standards are a maximum of .5 feet of depth of flow at

the curb for the 10-year flows and .87 feet of depth for the 100-year flows. Applying the formula these flow values are:

S = .013 ft/ft
n = .017
z = 24
y = .5 ft

Q_{p10} = 14.2*cfs.*

z = 31.2
y = .65 ft, to be conservative we have estimated the maximum curb height rather than the maximum allowable depth of .87 ft.

Q_{p100} = 28.6*cfs.*

The nemographs of the DPM, Section 22.3 indicate:

Q_{p10} = 14 *cfs.*

Q_{p100} = 32 *cfs.*

The total drainage flows from the proposed development are 10.23 and 17.43 cfs. respectively for the 10- and 100-year design floods. The catch basin for these flows is located north of the Baja Street and Juan Tabo Boulevard intersection (Plate 3). Other than contributions by the impermeable areas incorporated in the right-of-way for the two north bound lanes of Juan Tabo. There is no other storm water contributions to the Juan Tabo gutter flow other than this site and the street. The contribution of the right-of-way to the total flow into the catch basin at Baja is .63 acres for 10-year flows of 2.23 cfs., and 100-year flows of 3.29 cfs.

The total anticipated flows in the eastern gutter of Juan Tabo from Manitoba southward to the catch basin at Baja is 12.46 cfs, 10-year; and 20.72 cfs, 100-year. These flows are well below the capacity of the storm system in general and specifically the gutter along Juan Tabo.

RECOMMENDATIONS

Remove the ponds as currently developed and grade as shown on Plate 1. However, the site may be developed in the future to include additional impermeable surfaces. The proposed development will yield a level of 49 percent impermeable surface. The potential exists wherein future developments of this site may exceed the capacity Juan Tabo to receive the development flows.

Therefore, an area as indicated on Plate 1 should be dedicated to future ponding and drainage expansion to allow for expansion of this site development.

CONCLUSIONS

If the above recommendations are followed, the site will be protected from flooding and the potential downstream flooding situation will not be altered during the 100-year storm event.

APPENDIX

1976 DRAINAGE REPORT

DRAINAGE REPORT

FOR

HOPE CHURCH
MANITOBA/JUAN TABO INTERSECTION

Zone Atlas Sheet F-22-Z

NOVEMBER, 1978

PREPARED FOR

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PREPARED BY

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4125 Carlisle Boulevard, NE
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Mike Emery.
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Lon Ray.

STATE OF NEW MEXICO
MICHIAL M.
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No. 5194
REGISTERED PROFESSIONAL ENGINEER

Michial M. Emery, P.E.
N.M.P.E. 5194

pond volumes required are 4356 ft^3 (.10 acre-ft.) and 13,165 ft^3 (.30 acre-ft.) respectively. The depths are 16" (1.3 ft.) and 3.23 ft. respectively. The flow from Basin 3 (2.69 cfs) will continue to sheet flow onto Juan Tabo Blvd.

RECOMMENDATIONS

Construct Ponds 1 and 2 and grade the site to drain as shown on Plate 2.

CONCLUSIONS

If the above recommendations are followed, the site will be protected from flooding and the potential downstream flooding situation will not be altered during the 100-year storm event.

SITE DETAILS

Parcel Total Area = (202,932) ft² = 4.66 acres

Existing Condition: Undeveloped

Proposed Development:

Roof = 15750 ft²	= .362 ac		
Bldg Court = 4950 ft²	= .114 ac	} 1.46	
Paving and Sidewalks = 42092 ft²	= .989 ac		
Proposed Landscape =	= 3.195	} 3.20	

DRAINAGE DETAILS

Basin	Area	Perm. Area	Impervi. Area	Flow path L	Slope	C	C
1	1.02	.899	.24	260 ft	$\frac{79-64}{260} = .054$	$\frac{.77(.36)+.90(.64)}{1.02} = .80$	$\frac{.36(.24)+.90(.76)}{1.02} = .58$
2	2.31	1.090	1.22	580 ft	$\frac{79-57}{580} = .034$	1.10	.69
3	1.33	1.33	.00	240 ft	$\frac{62-51}{240} = .046$	1.84	.80

RUNOFF CALCULATIONS

1. Use Rational Formula Q = CIA
2. I = 189/(25+Tc)
3. $T_c = \log^{-1}(.3641(L)^{.3}+.3554\log(L)-.197\log(S)-.3613)$

Undeveloped Conditions

Basin 1

$T_c = \log^{-1}(.3641(1.34)^{.3}+.3554\log(260)-.197\log(5.4)-.3613)$

$= \log^{-1}(.6699+.9307-.1443-.3613)$

$= \log^{-1}(1.0951)$

$T_c = 12.45$ min

$I = 189/(12.45+25) = 5.05$ in

$Q = CIA = .40(5.05)(1.02) = 2.06$ cfs

PROJECT NAME Love Church SHEET 1 OF 3

PROJECT NO. 78-191 BY SEU DATE 11-14-78

SUBJECT Drainage Report CHKD RJB DATE 11-27-78

Basin 2

$T_a = \log^{-1}(.3641(1.84) + .3854 \log(560) - .192 \log(4.1) - .3613)$

$= \log^{-1}(.6699 + 1.0592 - .2362 - .3613)$

$= \log^{-1}(1.1318)$

$T_c = 13.51$ min

$I = 189/(13.54+25) = 4.90$

$Q = .40(2.21)(4.90) = 4.53$ cfs

Basin 3

$T_a = \log^{-1}(.3641(1.84) + .3854 \log(240) - .192 \log 4.6 - .3613)$

$= \log^{-1}(.6699 + .9173 - .1306 - .3613)$

$= \log^{-1}(1.0954)$

$T_a = 12.46$

$I = 189/(12.46+25) = 5.05$

$Q = .40(5.05)(1.33) = 2.69$ cfs

DEVELOPED CONDITIONS

Basin 1 & 2 total retained

Basin 3 $Q = 2.69$ cfs

SUMMARY

Basin	Inflow	Out.
1	2.06	0.0
2	4.53	0.0
3	2.69	2.69
Total	9.28	2.69

PONDING

Basin 1

Area = 1.02 acre

Ped 2 Release Rate = 0.2

PROJECT NAME Hoff [illegible] SHEET 2 OF 2

PROJECT NO. 78-191 BY [illegible] DATE 11-14-78

SUBJECT Drainage Report CHKD. [illegible] DATE 11-27-78

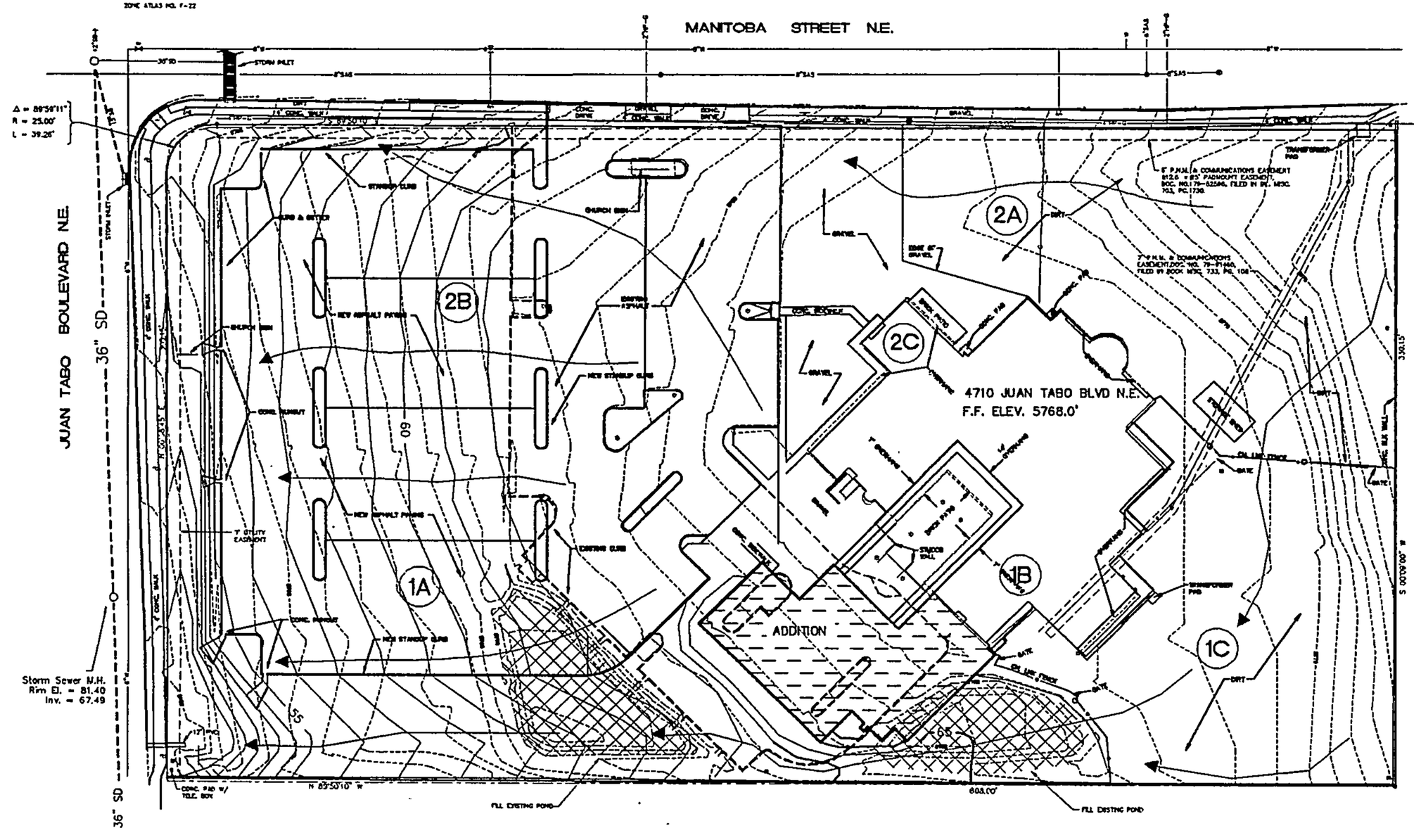
* By Curve # Meth.	Soil Type: Fair to Poor land		
Undeveloped CN = 75			
Composite CN = 81 (2 to 6 paved)			
100 yr 6 hr Ratio II			
Runoff = 1.16 in			
V = 1.16 in. $\frac{1 ft}{12 in}$ = .102 acre-ft = 4500 cu ft or 4356 ft³			
Basin 2			
Area = 2.31 ac			
C = .69			
Developed Q = 8.61 cfs			
* By Curve # Method			
Undeveloped CN = 75			
Composite CN = 87 (5-3% developed)			
Runoff = 1.57 in			
V = 1.57 $(\frac{1}{12})$ (2.31) ac = .302 acre-ft = 13,165 ft³			
Pond 1 Area 5764 contour shown = 3.57 = 3213 ft² = .074 ac			
depth = $\frac{.100 \text{ ac ft}}{.074 \text{ ac}}$ = 1.34 ft or			
Pond 2 Vreq = .30 ac ft			
Area 5760 contour = 4.51 (90a) = 405.9 ft² = .093 ac			
depth = $\frac{.30}{.093}$ = 3.23 ft			

PROJECT NAME Hope Church SHEET 3 OF 3
PROJECT NO. 78-191 BY SEW DATE 11-14-78
SUBJECT Drainage Report CHKD RRR DATE 11-27-78

PLATE 1 - PROPOSED DRAINAGE PLAN

VICINITY MAP

ZONE ATLAS NO. F-22



LEGAL DESCRIPTION:

A Tract of land situated within Section 34, Township 11 North, Range 4 East, New Mexico Principal Meridian and within the City of Albuquerque, Bernalillo County, New Mexico, and being more particularly described as follows:

Beginning at the Southwest corner of the Tract herein described, being the Northwest corner of Block 16 of THE NEW HOLIDAY PARK, Part 7 & 8, also being a point on the Easterly R/W line of Juan Tabo Blvd., N.E., and running along said R/W line N 00° 09' 00" W, 308.15 feet; thence 39.27 feet along a curve to the right whose radius is 25.00 feet and whose cord bears N 44° 59' 00" E, 35.35 feet through a central angle of 90° 00' 10", to a point on the Southerly R/W line of Manitoba St., N.E.; thence along said R/W line N89° 50' 10" E, 603.00 feet to the Northeast corner, being the Northwest corner of LOT 14 OF the new holiday park, N.M.D.M. or; thence S 00° 00' 00" E, 330.15 feet to the Southeast corner; thence S 89° 50' 10" W, 598.00 feet to the Southeast and beginning corner of the Tract herein described and containing 4.606 acres (200,608 sq. ft.), more or less.

GENERAL NOTE:

1. THE SITE IS NOT LOCATED WITHIN A FLOOD PLAIN PER AMDS F-22 AND FIMA MAP PANEL 350002 0018.
2. EROSION PROTECTION MUST BE PROVIDED FOR REGRADED AREAS NOT COVERED BY STRUCTURES.

   EXISTING NATIVE BUFFALO GRASSES SHALL BE USED TO COVER GRADED AREAS TO MATCH EXISTING.
4. ALL BUILDING SUBGRADE SHALL BE 95% RELATIVE COMPACTION UNLESS OTHER WISE NOTED WITHIN A SOILS REPORT FOR THE PARTICULAR SITE.
5. DRAINAGE FOR THE SITE IS ADDRESSED IN THE "DRAINAGE REPORT FOR HOPE EVANGELICAL FREE CHURCH" PREPARED BY BOHANNAN-HOUSTONG DATED JANUARY 1994. THE PROPOSED CONSTRUCTION IS WITHIN DRAINAGE AREAS 1A, 1B AND 2B.
6. EXISTING PONDS ARE TO BE FILLED.
7. PROPOSED DRAINAGE CONDITIONS.

   Basin (1) = 103,163 s.f. (2.368 ac.)

   Basin (1a), Parking Lot
   = 19,182 s.f. (.440 ac.)
   , Landscape
   = 18,628 s.f. (.427 ac.)
   Basin (1b), Building
   = 20,922 s.f. (.480 ac.)
   Basin (1c), Undeveloped
   = 44,451 s.f. (1.020 ac.)

   Basin (2) = 99,559 s.f. (2.286 ac.)

   Basin (2a), Undeveloped
   = 29,025 s.f. (0.666 ac.)
   Basin (2b), Parking Lot
   = 54,928 s.f. (1.261 ac.)
   , Landscape
   = 7,813 s.f. (.179 ac.)
   Basin (2c), Building
   = 7,793 s.f. (0.179 ac.)

   COMPOSITE: UNDEVELOPED = 102,805 s.f. (2.360 ac.)
   DEVELOPED = 99,917 s.f. (2.294 ac.)
   TOTAL = 202,722 s.f. (4.654 ac.)
8. TOTAL DISCHARGE TO JUAN TABO:

   Qp(10 year) = 10.24 cfs
   Qp(100 year)= 17.24 cfs

   S, slope of Juan Tabo = .013 ft/ft

LEGEND:

- WATER METER
- POWER POLE
- GAS VALVE
- WATER VALVE
- FIRE HYDRANT
- SANITARY SEWER MANHOLE
- SIGN (STREET,OR HANDICAP)
- LIGHT (POLE AND YARD)
- ELECTRICAL BOX
- TELEPHONE BOX
- CONTROL BOX (SPRINKLER)
- PIPE POST
- ELECTRICAL OUTLET
- STORM DRAIN MANHOLE

REV.	DATE	DESCRIPTION

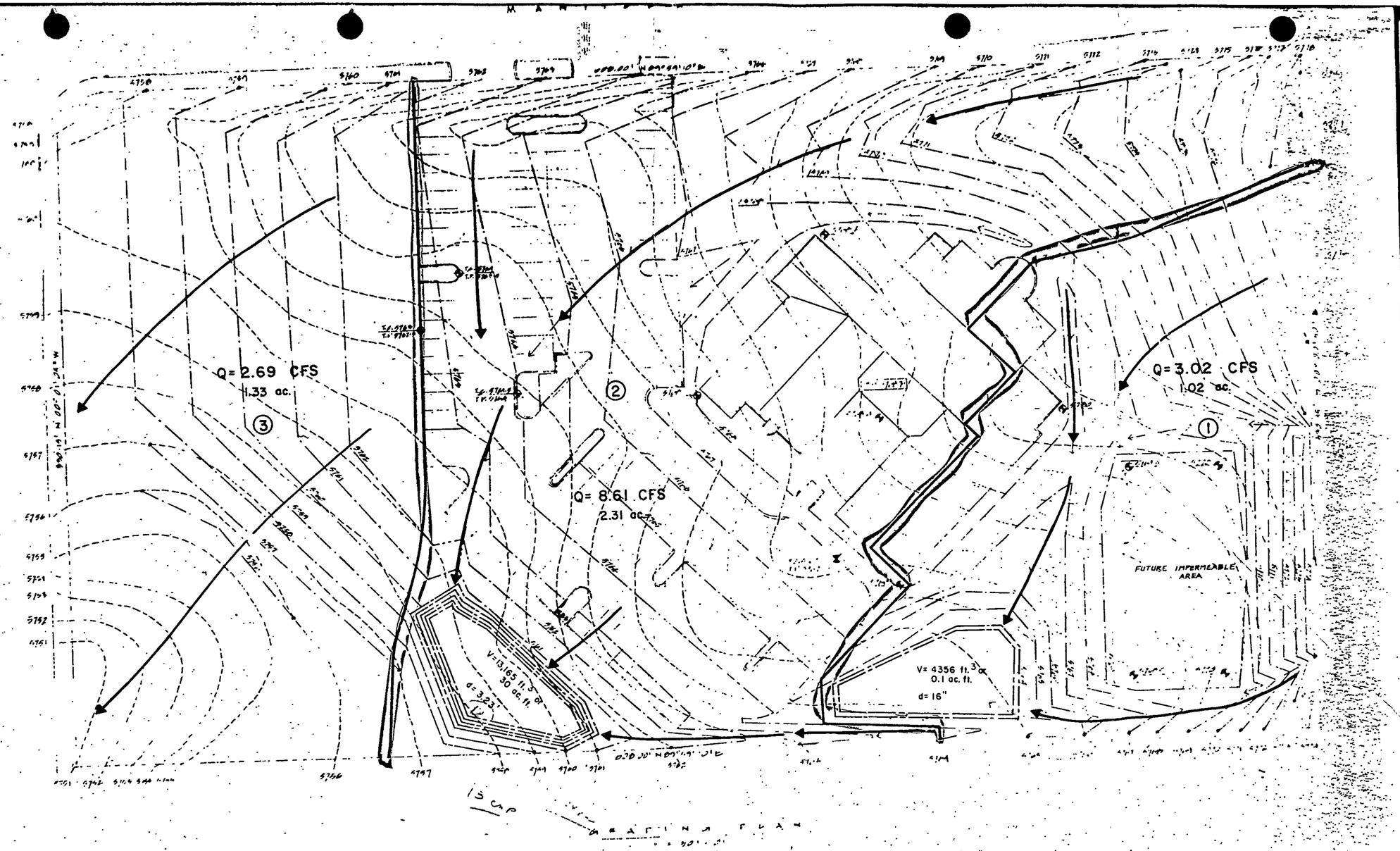
PROJECT TITLE
Hope Evangelical Free Church
Juan Tabo and Manitoba

SHEET TITLE
Site Grading Plan

CAMI
CONSTRUCTION ANALYSIS & MANAGEMENT, INC.
4250 MONTGOMERY N.E. ALB., N.M. 87109
(505)889-9558

DRAWN BY RCH
CHK'D BY
DATE: 12/20/93
SHT. 1 OF 1

PLATE 2 - DRAINAGE PLAN ACCOMPANYING THE PREVIOUS DRAINAGE PLAN



LEGEND

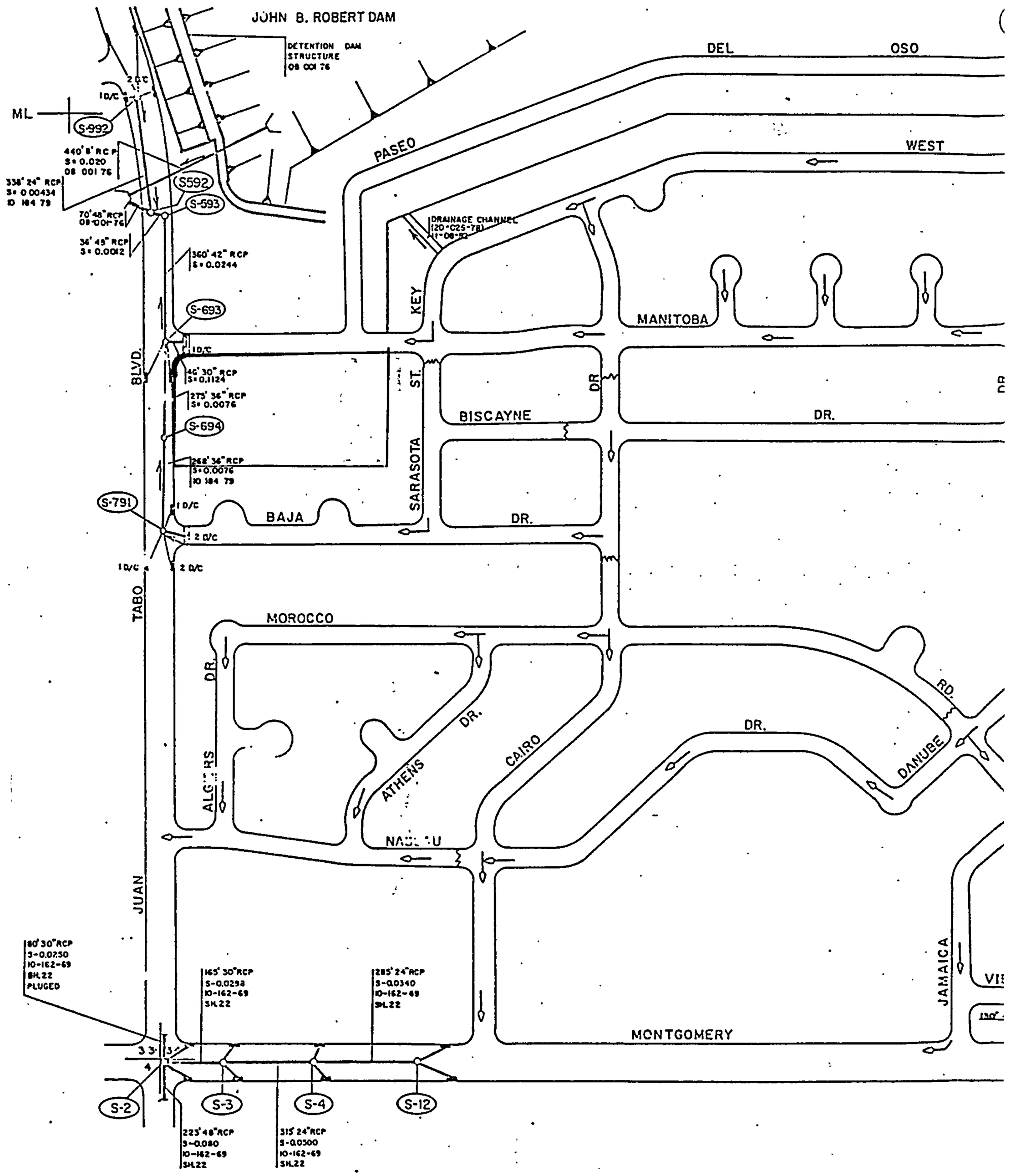
- BASIN BOUNDARIES
- (1) BASIN NUMBER
- FLOW PATH
- EXISTING TOPOGRAPHY
- REVISED TOPOGRAPHY

PLATE I
DEVELOPED DRAINAGE & SITE PLAN
HOPE CHURCH DRAINAGE REPORT
ALBUQUERQUE, NEW MEXICO
SCALE: 1" = 30'

BARKER, BOL & ASSOCIATES
ARCHITECTS

JOB NO.
DATE

DRAINAGE FACILITY PLAN - F-22-S



NEXT SHEET No. F-21S