

# CITY OF ALBUQUERQUE



Richard J. Berry, Mayor

August 30, 2017

Fred C. Arfman, P.E.  
Isaacson & Arfman, P.A.  
128 Monroe St. N.E  
Albuquerque, NM, 87108

**RE: Believers Center of Albuquerque – Lobby & Youth Ministry Expansions  
Grading Plan  
Stamp Date: 8/16/17  
Hydrology File: L23D029**

Dear Mr. Arfman:

PO Box 1293      Based upon the information provided in your re-submittal received 8/22/2017, the Grading Plan is approved for Building Permit.

Albuquerque      Please attach a copy of this approved plan in the construction sets when submitting for a building permit. Prior to Certificate of Occupancy release, Engineer Certification per the DPM checklist will be required.

NM 87103      If you have any questions, please contact me at 924-3995 or [rbrissette@cabq.gov](mailto:rbrissette@cabq.gov).

www.cabq.gov      Sincerely,

*Reneé C. Brissette*

Reneé C. Brissette, P.E.  
Senior Engineer, Hydrology  
Planning Department



# City of Albuquerque

Planning Department

Development & Building Services Division

## DRAINAGE AND TRANSPORTATION INFORMATION SHEET (REV 09/2015)

**Project Title:** \_\_\_\_\_ **Building Permit #:** \_\_\_\_\_ **City Drainage #:** \_\_\_\_\_  
**DRB#:** \_\_\_\_\_ **EPC#:** \_\_\_\_\_ **Work Order#:** \_\_\_\_\_  
**Legal Description:** \_\_\_\_\_  
**City Address:** \_\_\_\_\_

**Engineering Firm:** \_\_\_\_\_ **Contact:** \_\_\_\_\_  
**Address:** \_\_\_\_\_  
**Phone#:** \_\_\_\_\_ **Fax#:** \_\_\_\_\_ **E-mail:** \_\_\_\_\_  
bryanb@iacivil.com

**Owner:** \_\_\_\_\_ **Contact:** \_\_\_\_\_  
**Address:** \_\_\_\_\_  
**Phone#:** \_\_\_\_\_ **Fax#:** \_\_\_\_\_ **E-mail:** \_\_\_\_\_

**Architect:** \_\_\_\_\_ **Contact:** \_\_\_\_\_  
**Address:** \_\_\_\_\_  
**Phone#:** \_\_\_\_\_ **Fax#:** \_\_\_\_\_ **E-mail:** \_\_\_\_\_

**Other Contact:** \_\_\_\_\_ **Contact:** \_\_\_\_\_  
**Address:** \_\_\_\_\_  
**Phone#:** \_\_\_\_\_ **Fax#:** \_\_\_\_\_ **E-mail:** \_\_\_\_\_

Check all that Apply:

### DEPARTMENT:

☒ HYDROLOGY/ DRAINAGE  
☐ TRAFFIC/ TRANSPORTATION  
☐ MS4/ EROSION & SEDIMENT CONTROL

### TYPE OF SUBMITTAL:

☒ ENGINEER ARCHITECT CERTIFICATION  
☐ CONCEPTUAL G & D PLAN  
☒ GRADING PLAN  
☐ DRAINAGE MASTER PLAN  
☐ DRAINAGE REPORT  
☐ CLOMR/LOMR  
☐ TRAFFIC CIRCULATION LAYOUT (TCL)  
☐ TRAFFIC IMPACT STUDY (TIS)  
☐ EROSION & SEDIMENT CONTROL PLAN (ESC)  
☐ OTHER (SPECIFY) \_\_\_\_\_

### CHECK TYPE OF APPROVAL/ACCEPTANCE SOUGHT:

☒ BUILDING PERMIT APPROVAL  
☐ CERTIFICATE OF OCCUPANCY  
☐ PRELIMINARY PLAT APPROVAL  
☐ SITE PLAN FOR SUB'D APPROVAL  
☐ SITE PLAN FOR BLDG. PERMIT APPROVAL  
☐ FINAL PLAT APPROVAL  
☐ SIA/ RELEASE OF FINANCIAL GUARANTEE  
☐ FOUNDATION PERMIT APPROVAL  
☐ GRADING PERMIT APPROVAL  
☐ SO-19 APPROVAL  
☐ PAVING PERMIT APPROVAL  
☐ GRADING/ PAD CERTIFICATION  
☐ WORK ORDER APPROVAL  
☐ CLOMR/LOMR  
☐ PRE-DESIGN MEETING  
☐ OTHER (SPECIFY) \_\_\_\_\_

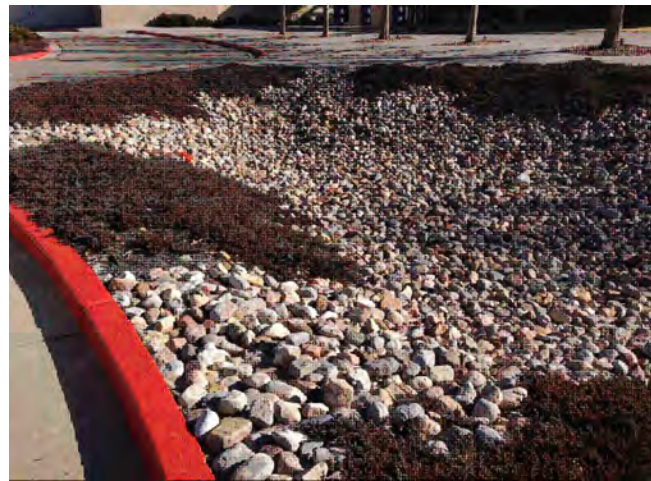
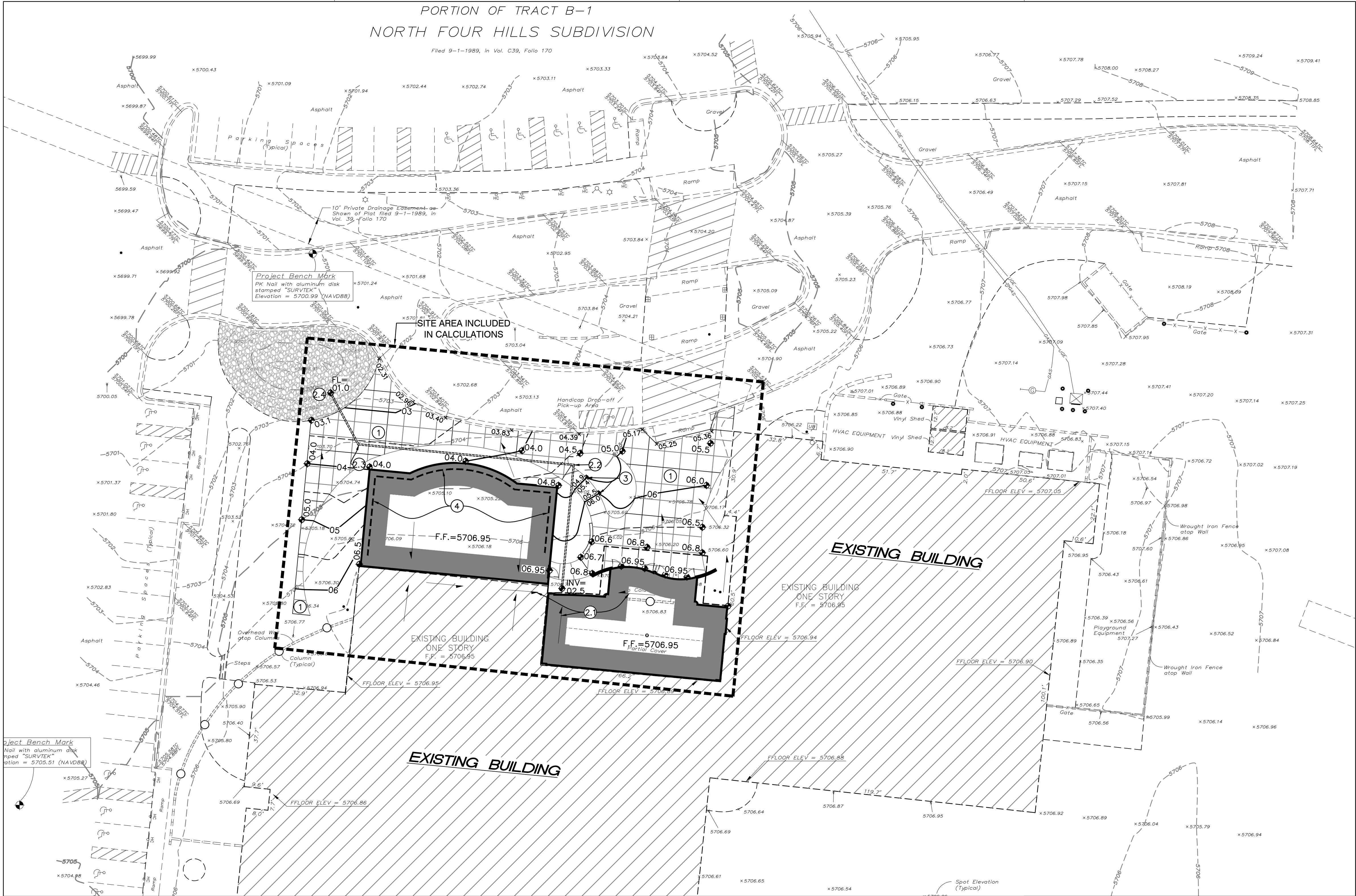
IS THIS A RESUBMITTAL?: ☐ Yes ☒ No

DATE SUBMITTED: August 22, 2107 By: Fred C. Arfman

COA STAFF: \_\_\_\_\_ ELECTRONIC SUBMITTAL RECEIVED: \_\_\_\_\_



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EXISTING FIRST  
FLUSH BASIN

| EXISTING POND |      |        |
|---------------|------|--------|
| Contour       | Area | Volume |
| 5701.00       | 915  | 947 CF |
| 5699.00       | 32   |        |
| TOTAL VOL.    |      | 947 CF |

AN EXISTING RETENTION AREA (±950 CF) WILL BE UTILIZED AS FIRST FLUSH RETENTION FOR THE NEW STORM DRAIN PIPE ROOF DISCHARGE FROM THE NEW BUILDING ADDITIONS AND PORTIONS OF THE EXISTING BUILDING (APPROXIMATELY 12,000 SF ROOF AREA). FIRST FLUSH REQUIRED = 340 CF.



EXISTING CONDITIONS

## CALCULATIONS

| CALCULATIONS: Believer's Center Bldg Additions : March 25, 2017                                                                                                                          |          |                              |              |       |      |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|------------------------------|--------------|-------|------|
| Based on Drainage Design Criteria for City of Albuquerque Section 22.2, DPM, Vol 2, dated Jan., 1993                                                                                     |          |                              |              |       |      |
| ON-SITE                                                                                                                                                                                  |          |                              |              |       |      |
| AREA OF SITE:                                                                                                                                                                            | 19300    | SF                           | =            | 0.44  |      |
| 100-year, 6-hour                                                                                                                                                                         |          |                              |              |       |      |
| DEVELOPED FLOWS:                                                                                                                                                                         |          |                              |              |       |      |
| EXCESS PRECIP:                                                                                                                                                                           |          |                              |              |       |      |
| Precip. Zone 4                                                                                                                                                                           |          |                              |              |       |      |
| Area A =                                                                                                                                                                                 | 0        | 0%                           | Area A =     | 0     | 0%   |
| Area B =                                                                                                                                                                                 | 1930     | 10%                          | Area B =     | 1351  | 7%   |
| Area C =                                                                                                                                                                                 | 1930     | 10%                          | Area C =     | 1930  | 10%  |
| Area D =                                                                                                                                                                                 | 15440    | 80%                          | Area D =     | 16019 | 83%  |
| Total Area =                                                                                                                                                                             | 19300    | 100%                         | Total Area = | 19300 | 100% |
| On-Site Weighted Excess Precipitation (100-Year, 6-Hour Storm)                                                                                                                           |          |                              |              |       |      |
| Weighted E = $\frac{E_A A_A + E_B A_B + E_C A_C + E_D A_D}{A_A + A_B + A_C + A_D}$                                                                                                       |          |                              |              |       |      |
| Historic E =                                                                                                                                                                             | 2.37 in. | Developed E =                | 2.41 in.     |       |      |
| On-Site Volume of Runoff: V <sub>360</sub> = E*A / 12                                                                                                                                    |          |                              |              |       |      |
| Historic V <sub>360</sub> =                                                                                                                                                              | 3805 CF  | Developed V <sub>360</sub> = | 3881 CF      |       |      |
| On-Site Peak Discharge Rate: Q <sub>p</sub> = Q <sub>pA</sub> A <sub>A</sub> + Q <sub>pB</sub> A <sub>B</sub> + Q <sub>pC</sub> A <sub>C</sub> + Q <sub>pD</sub> A <sub>D</sub> / 43.560 |          |                              |              |       |      |
| For Precipitation Zone 4                                                                                                                                                                 |          |                              |              |       |      |
| Q <sub>pA</sub> =                                                                                                                                                                        | 2.20     | Q <sub>pC</sub> =            | 3.73         |       |      |
| Q <sub>pB</sub> =                                                                                                                                                                        | 2.92     | Q <sub>pD</sub> =            | 5.25         |       |      |
| Historic Q <sub>p</sub> =                                                                                                                                                                | 2.16 CFS | Developed Q <sub>p</sub> =   | 2.19 CFS     |       |      |

## LEGEND

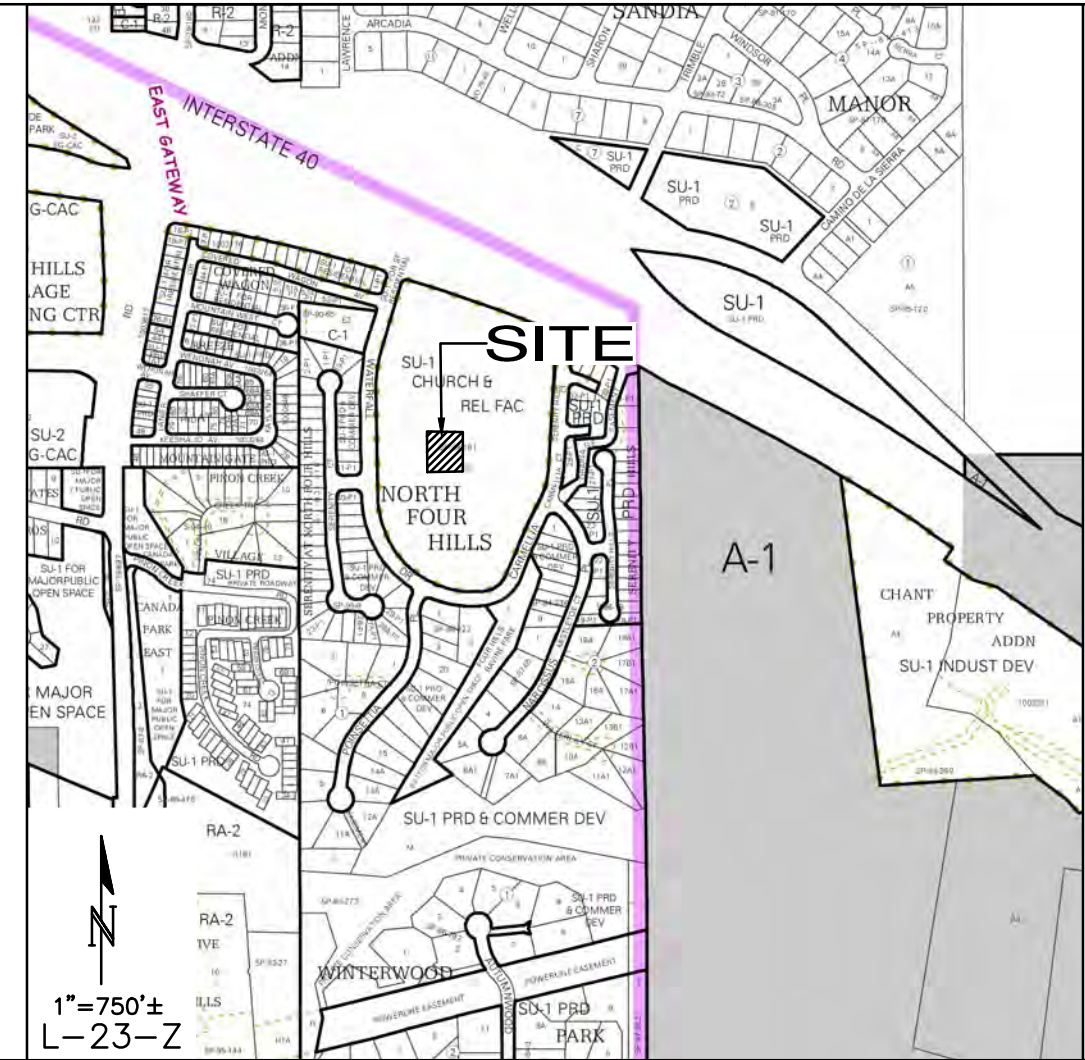
|              |                                   |
|--------------|-----------------------------------|
| x 5706.52    | EXISTING SPOT ELEVATION           |
| — 5707 —     | EXISTING CONTOUR                  |
| — 06 —       | PROPOSED CONTOUR (1' INCREMENT)   |
| — 06.2 —     | PROPOSED CONTOUR (0.5' INCREMENT) |
| ◆ 06.2       | PROPOSED SPOT ELEVATION           |
| →            | FLOW ARROW                        |
| FF = 5706.95 | FINISH FLOOR ELEVATION            |
| =====        | PROPOSED STORM DRAIN              |
| XXXXXX       | EROSION CONTROL                   |

## CONSTRUCTION STAKING / LAYOUT

UPON WRITTEN REQUEST COORDINATED THROUGH THE PROJECT ARCHITECT, THE ELECTRONIC FILE OF THE GRADING AND DRAINAGE WILL BE PROVIDED TO THE CONTRACTOR FOR VERTICAL CONTROL. DO NOT USE THIS PLAN FOR PROJECT STAKING AS THERE IS NO CERTAINTY THAT IT IS USING THE MOST CURRENT SITE BASE.

SITE CONSTRUCTION LAYOUT / STAKING SHALL BE COORDINATED WITH THE ARCHITECT USING THE ARCHITECT PROVIDED SITE PLAN.

## VICINITY MAP



## KEYED NOTES

- CONSTRUCT PROPOSED PAVING / WALKS TO ELEVATIONS SHOWN. PROVIDE SMOOTH, ADA COMPLIANT TRANSITION TO EXISTING PAVEMENT. SEE ARCHITECTURAL FOR DETAILS AND DIMENSIONS.
- CONSTRUCT 145 LF HDPE 6"Ø STORM DRAIN AT 1%± SLOPE. SEE STORM DRAIN NOTES THIS SHEET.
  - EXTEND ROOF DISCHARGE TO STORM DRAIN USING FITTINGS AS REQUIRED.
  - 90° BEND (INVERT = 02.0)
  - 45° BEND (INVERT = 01.2)
  - OUTLET (FLOWLINE=01.0) TO EXISTING ROCK-LINED WATER HARVESTING AREA.
- CONSTRUCT STEPS THIS AREA TO ACHIEVE GRADE TRANSITION SHOWN. SEE ARCHITECTURAL FOR DETAILS.
- CONSTRUCT DEEPENED STEM WALL THIS AREA TO ACHIEVE GRADES SHOWN. SEE ARCHITECTURAL.

## PROJECT INFORMATION

PROPERTY: THE SITE IS A DEVELOPED RELIGIOUS FACILITY WITHIN C.O.A. VICINITY MAP L-23. THE SITE IS BOUND TO THE NORTH BY CENTRAL AVE. SE, TO THE WEST BY WATERFALL DR. SE, TO THE EAST AND SOUTH BY CARMELLIA DR. SE.

SITE AREA TO BE DEVELOPED: APPROX. 0.4 ACRE WITHIN A 15.73 ACRE PROPERTY.

PROPOSED IMPROVEMENTS: TWO BUILDING ADDITIONS WITH ASSOCIATED PEDESTRIAN ACCESS, DRAINAGE IMPROVEMENTS, AND LANDSCAPING.

LEGAL: A PORTION OF TRACT B-1 NORTH FOUR HILLS SUBDIVISION. CITY OF ALBUQUERQUE, NEW MEXICO.

ADDRESS: 320 WATERFALL DR. SE, ALBUQUERQUE, NM 87123

BENCHMARK: VERTICAL DATUM IS BASED ON THE ALBUQUERQUE CONTROL SURVEY BENCHMARK "8-L22" HAVING A PUBLISHED ELEVATION OF 5668.04' (NAVD 1988).

OFF-SITE: THE PROPOSED AREA TO BE IMPROVED IS NOT IMPACTED BY OFF-SITE DRAINAGE.

FLOOD HAZARD: THE SUBJECT PROPERTY (AS SHOWN HEREON) APPEARS TO LIE WITHIN ZONE "X" (AREAS DETERMINED TO BE OUTSIDE 0.2% ANNUAL CHANCE FLOODPLAIN) IN ACCORDANCE WITH THE NATIONAL FLOOD INSURANCE PROGRAM RATE MAP NO. 35001C0378 G, EFFECTIVE DATE 9-26-2008.

DRAINAGE PLAN CONCEPT: THE PROPOSED DEVELOPMENT INCREASES THE IMPERVIOUS AREA BY APPROXIMATELY 500 SF WITH AN INCREASE IN THE 100-YEAR 6-HOUR STORM OF 0.03 CFS WHICH IS NEGLIGIBLE. ROOF DISCHARGE WILL BE PIPED TO THE WATER HARVESTING BASIN.

STORMWATER CONTROL MEASURES ARE REQUIRED TO PROVIDE MANAGEMENT OF 'FIRST FLUSH' DEFINED AS THE 90TH PERCENTILE STORM EVENT OR 0.34" [0.44" LESS 0.1" FOR INITIAL ABSTRACTION] OF STORMWATER WHICH DISCHARGES DIRECTLY TO A PUBLIC STORM DRAINAGE SYSTEM.

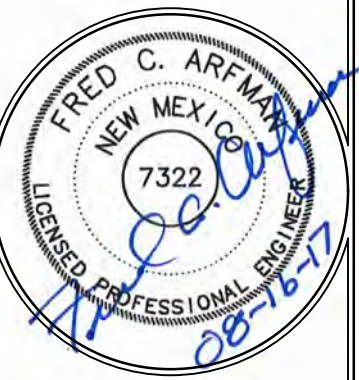
ENGINEER: FRED C. ARFMAN, NMPE 7322  
ISAACSON & ARFMAN, PA  
128 MONROE NE, 87111  
TELEPHONE: (505) 268-8828

SURVEYOR: RUSS P. HUGG, NMPS NO. 9750  
SURV-TEK, INC.  
9384 VALLEY VIEW DR. NW, 87114  
TELEPHONE: (505) 897-3366

## STORM DRAIN NOTES

- MINIMUM COVER FOR STORM DRAIN PIPES SHALL BE 12", UNLESS OTHERWISE NOTED.
- CONTRACTOR SHALL BE RESPONSIBLE FOR CONNECTIONS TO ROOF DOWNSPOUTS AND ALL NECESSARY FITTINGS. FITTING COSTS SHALL BE INCIDENTAL.
- HDPE PIPE SHALL BE ADS N-12 (SOILTIGHT) OR EQUIVALENT. HDPE PIPE SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.
- STORM DRAINS SHALL BE INSTALLED AT INVERTS AND SLOPES SPECIFIED ON THE PLANS.

GREGORY T. HICKS & ASSOC., P.C.  
ARCHITECTS • PLANNERS



BELIEVERS CENTER OF ALBUQUERQUE  
Lobby and Youth Ministry Expansions  
320 Waterfall Drive SE  
Albuquerque, New Mexico

proj. no.: 1508  
acad file: ACAD File  
date:

GRADING AND  
DRAINAGE PLAN

CG-101