

# CITY OF ALBUQUERQUE



March 15, 2007

Jonathan E. Pena, P.E.  
ASCG Incorporated  
6501 America's Parkway NE, Suite 400  
Albuquerque, NM 87110-5372

Re: Portion of Tract A Unit 5 of Academy Acres, S.J.C. Pump Station  
Engineer's Stamp dated 3-8-07, (E18/D60)

Dear Mr. Pena,

Based upon the information provided in your submittal received on March 8, 2007, the above referenced plan is approved for Building Permit. Please attach a copy of this letter and the 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 924-3990.

Sincerely,

Jeremy Hoover, P.E.  
Senior Engineer  
Hydrology Section  
Development and Building Services

cc: file E18/D60

P.O. Box 1293

Albuquerque

New Mexico 87103

[www.cabq.gov](http://www.cabq.gov)



## DRAINAGE INFORMATION SHEET

E-18/D60

PROJECT TITLE San Juan Chama COA Forest Hills Pump Station ZONE ATLAS/DRWG. FILE # E-18

DRB#: \_\_\_\_\_ EPC # 1005317 WORK ORDER # \_\_\_\_\_

LEGAL DESCRIPTION: A lease agreement describing a certain parcel of land measuring 75 feet by 90 feet situated within "TRACT A, UNIT 5 ACADEMY ACRES SUBDIVISION, A LEGAL TRACT OF LAND AS SHOWN ON PLAT FILED MAY 12, 1972, VOLUME D5, FOLIO 13 BERNALLO COUNTY NEW MEXICO"

CITY ADDRESS: South of Forest Hills Drive on the Presbyterian Hospital Property

ENGINEERING FIRM: ASCG CONTACT: Jon Pena

ADDRESS: 6501 Americas Parkway Suite 400 PHONE: 830-8753

OWNER: COA, Water Utility CONTACT: John Stomp

ADDRESS: P.O. Box 1293, Alb., NM 87103 PHONE: 901-495-8714

ARCHITECT: ASCG CONTACT: Richard Bray

ADDRESS: 6501 Americas Parkway Suite 400 PHONE: 830-8740

SURVEYOR: ASCG CONTACT: Andy Potts

ADDRESS: 6501 Americas Parkway Suite 400 PHONE: 247-0294

CONTRACTOR: --- TBD CONTACT: \_\_\_\_\_

ADDRESS: --- PHONE: \_\_\_\_\_

TYPE OF SUBMITTAL:

CHECK TYPE OF APPROVAL SOUGHT:

- ☐ DRAINAGE REPORT
- ☒ DRAINAGE PLAN
- ☐ CONCEPTUAL GRADING & DRAINAGE PLAN
- ☒ GRADING PLAN
- ☐ EROSION CONTROL PLAN
- ☐ ENGINEER'S CERTIFICATION
- ☐ OTHER \_\_\_\_\_

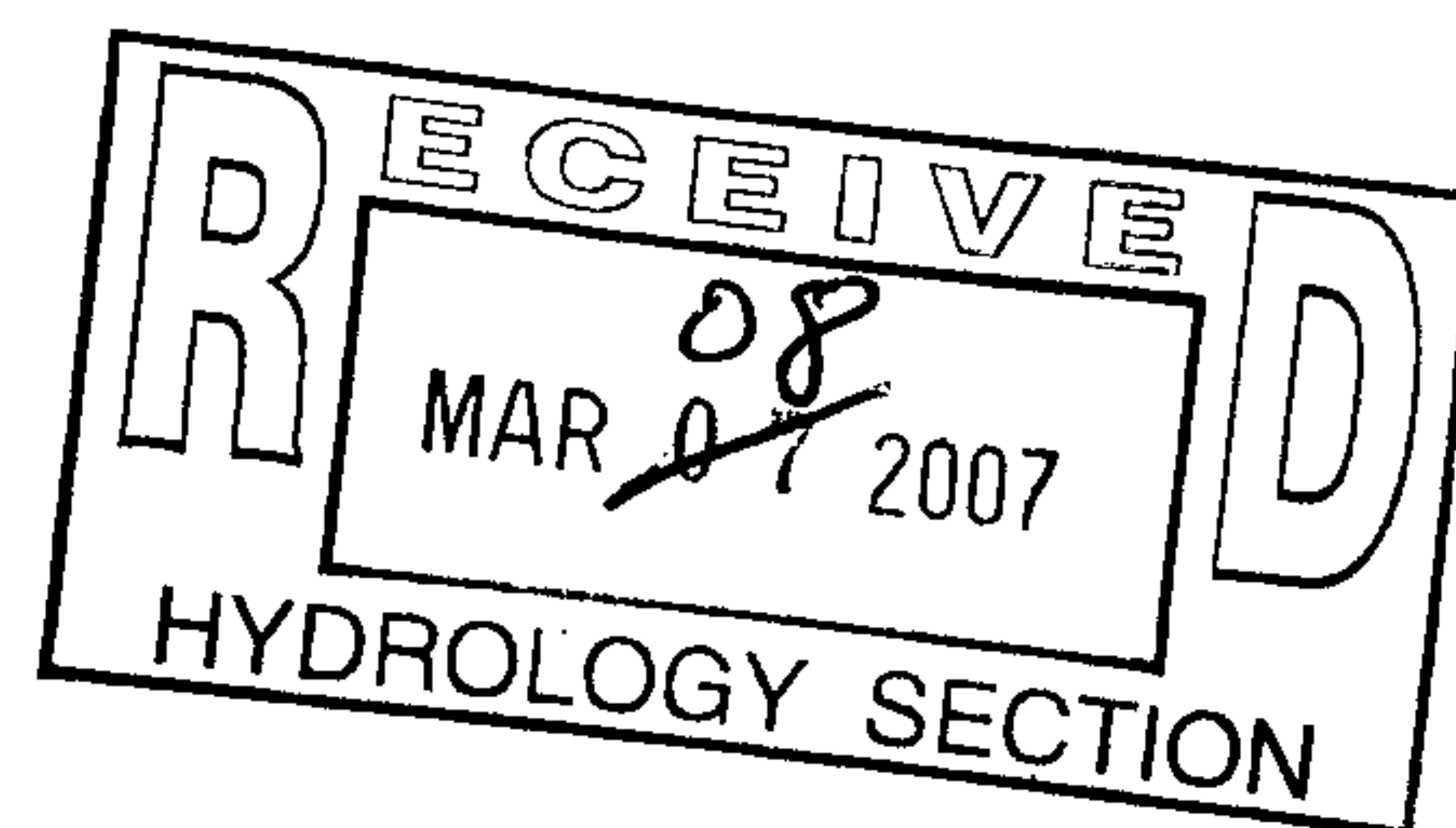
PRE-DESIGN MEETING:

- ☒ YES
- ☐ NO
- ☐ COPY PROVIDED

- ☐ 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
- ☒ BUILDING PERMIT APPROVAL
- ☐ CERTIFICATE OF OCCUPANCY APPROVAL
- ☐ GRADING PERMIT APPROVALS
- ☐ PAVING PERMIT APPROVAL
- ☐ S.A.B. DRAINAGE REPORT
- ☐ DRAINAGE REQUIREMENTS

DATE SUBMITTED: March 7, 2007

BY: Jon Pena, PE





## Drainage Summary

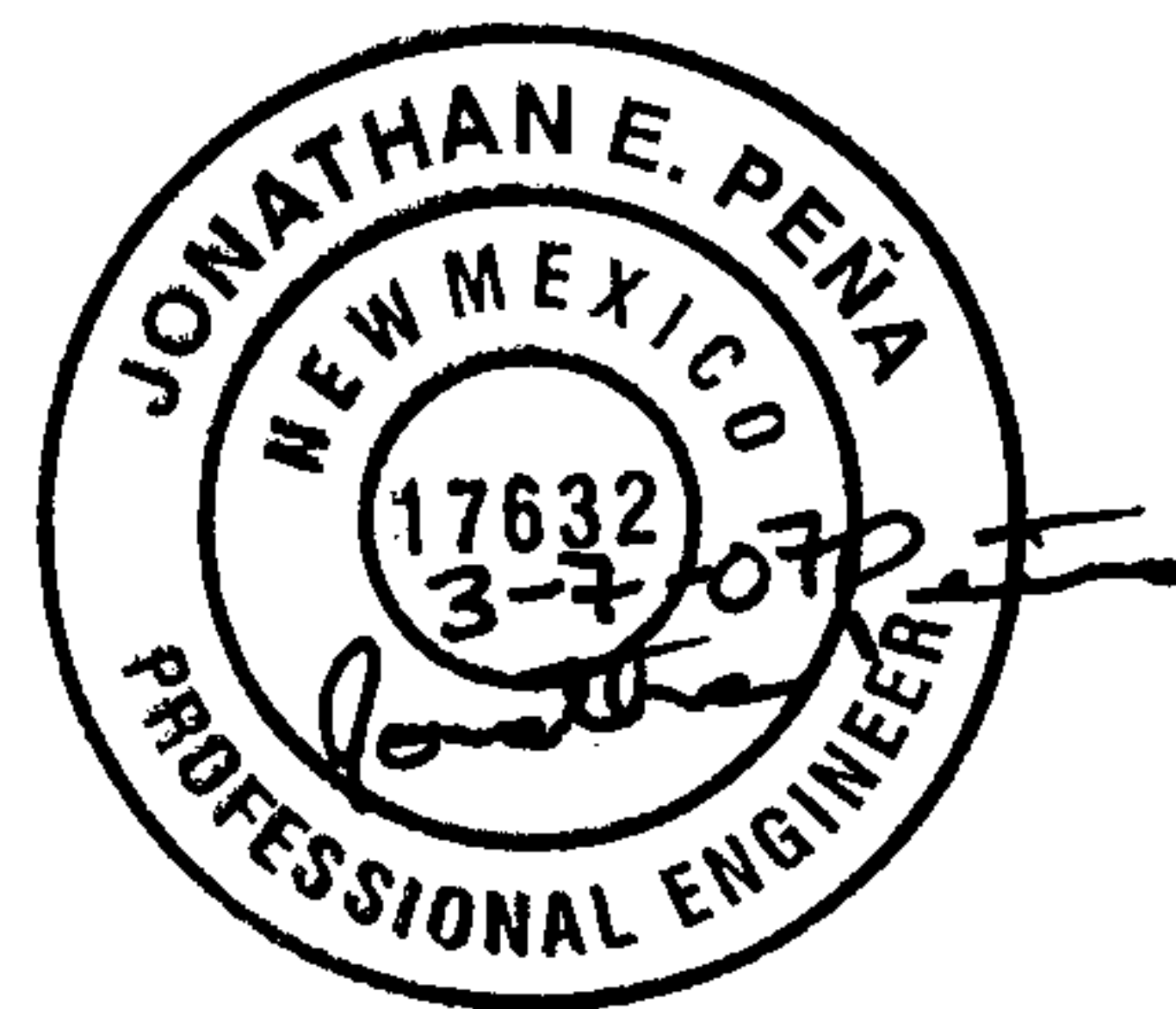
Project: FOREST HILLS PUMP STATION  
 Project Number: 239440  
 Date: 10/17/06  
 By: JOHN GILLETLY

### Site Location

Precipitation Zone 3

### Existing summary

|                                  |         |
|----------------------------------|---------|
| <b>Basin Name</b>                | BASIN 1 |
| <b>Soil Treatment (acres)</b>    |         |
| Area "A"                         | 0.00    |
| Area "B"                         | 0.15    |
| Area "C"                         | 0.00    |
| Area "D"                         | 0.00    |
| TOTAL                            | 0.15    |
| <b>Excess Runoff (acre-feet)</b> |         |
| 100yr. 6hr.                      | 0.01    |
| 10yr. 6hr.                       | 0.00    |
| 2yr. 6hr.                        | 0.00    |
| 100yr. 24hr.                     | 0.01    |
| TOTAL                            | 0.03    |
| <b>Peak Discharge (cfs)</b>      |         |
| 100 yr.                          | 0.39    |
| 10yr.                            | 0.18    |
| 2yr.                             | 0.03    |
| TOTAL                            | 0.60    |



### Proposed summary

|                                  |         |
|----------------------------------|---------|
| <b>Basin Name</b>                | BASIN 1 |
| <b>Soil Treatment (acres)</b>    |         |
| Area "A"                         | 0.00    |
| Area "B"                         | 0.00    |
| Area "C"                         | 0.11    |
| Area "D"                         | 0.04    |
| TOTAL                            | 0.15    |
| <b>Excess Runoff (acre-feet)</b> |         |
| 100yr. 6hr.                      | 0.02    |
| 10yr. 6hr.                       | 0.01    |
| 2yr. 6hr.                        | 0.00    |
| 100yr. 24hr.                     | 0.02    |
| TOTAL                            | 0.05    |
| <b>Peak Discharge (cfs)</b>      |         |
| 100 yr.                          | 0.57    |
| 10yr.                            | 0.35    |
| 2yr.                             | 0.16    |
| TOTAL                            | 1.07    |



Existing hyd.

# ASCG

Architects and Engineers

PROJECT FOREST HILLS PUMP STATION  
PROJECT NO. 239440.00  
DATE 10/17/06  
BY JOHN GILLETLY

## DPM Section 22.2 - Hydrology

Part A-Watersheds less than 40 acres.  
January, 1993

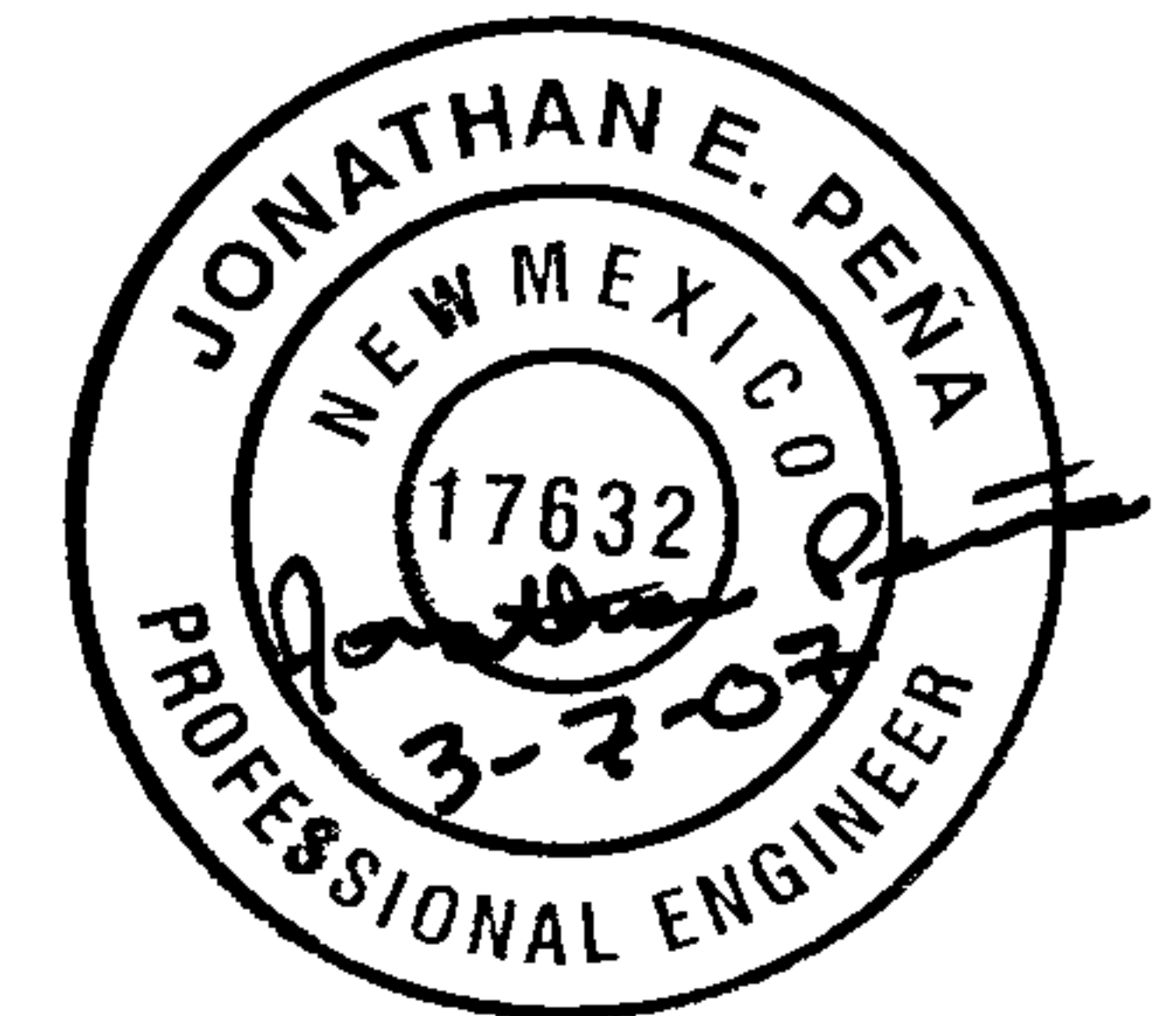
### INSTRUCTIONS

- \* Spread sheet requires three input areas (dark cells):
  - Location
    - >A.1 Precipitation Zone
    - >A.3 Land Treatments
- \* Values from the tables are automatically placed using "if" statements.
- \* Table values should be checked for correctness for each use.

### SUMMARY

| Location                     | 0 | BASIN 1 | TOTALS |          |
|------------------------------|---|---------|--------|----------|
| Precipitation Zone           |   | 3       | 3      |          |
| Land Area                    |   | 0.15    | 0.15   | acres    |
| Excess Precipitation Volume  |   |         |        |          |
| >>> 100-year 6-hour (design) |   | 0.01    | 0.01   | acre-ft. |
| 10-year 6-hour               |   | 0.00    | 0.00   | acre-ft. |
| 2-year 6-hour                |   | 0.00    | 0.00   | acre-ft. |
| 100-year 24-hour             |   | 0.01    | 0.01   | acre-ft. |
| Peak Discharge Rates (DPM)   |   |         |        |          |
| >>> Q100 (design)            |   | 0.39    | 0.39   | cfs      |
| Q10                          |   | 0.18    | 0.18   | cfs      |
| Q2                           |   | 0.03    | 0.03   | cfs      |

CALCULATIONS FOLLOW





Existing hyd.

## INPUT AND CALCULATIONS

| LOCATION                                 | BASIN 1 |         |
|------------------------------------------|---------|---------|
| >A.1 PRECIPITATION ZONE (from Table A-1) | 3       | 3       |
| >A.2 DEPTHS                              |         |         |
| (from Table A-2)                         | TOTALS  |         |
| 100-YEAR STORM (P60)                     | 2.14    | 2.14    |
| 100-YEAR STORM (P360)                    | 2.60    | 2.60    |
| 100-YEAR STORM (P1440)                   | 3.10    | 3.10    |
| 10-YEAR (P360) (Calculated: P360*RPF10)  | 1.73    | 1.73    |
| 2-YEAR (P360) (Calculated: P360*RPF2)    | 1.13    | 1.13    |
| >A.3 LAND TREATMENTS (Ai)                |         |         |
| Treatment A                              | 0.00    | 0.00    |
| Treatment B                              | 0.00    | 0.00    |
| Treatment C                              | 0.00    | 0.00    |
| Treatment D                              | 0.00    | 0.00    |
| Total Area                               | 0.15    | 0.15    |
| >A.4 ABSTRACTIONS                        |         |         |
|                                          | See A.5 | See A.5 |

CALCULATIONS FOLLOW



## INPUT AND CALCULATIONS (CONT)

| A.5 EXCESS PRECIPITATION 6 HOUR AND 24 HOUR (Ei) |      |        |        |          |
|--------------------------------------------------|------|--------|--------|----------|
| from Table A-8                                   |      |        |        |          |
| 100-year 6-hour                                  |      | TOTALS |        |          |
| Treatment A                                      | 0.66 | 0.66   | inches |          |
| Treatment B                                      | 0.92 | 0.92   | inches |          |
| Treatment C                                      | 1.29 | 1.29   | inches |          |
| Treatment D                                      | 2.36 | 2.36   | inches |          |
| WEIGHTED E (Sum Ei*Ai/A)                         |      | 0.92   | 0.92   | inches   |
| VOLUME V100:6h (E*A)                             |      | 0.01   | 0.01   | acre-ft. |
|                                                  |      | 500.94 | 500.94 | ft^3     |
| =====                                            |      |        |        |          |
| 10-year 6-hour                                   |      |        |        |          |
| Treatment A                                      | 0.19 | 0.19   | inches |          |
| Treatment B                                      | 0.36 | 0.36   | inches |          |
| Treatment C                                      | 0.62 | 0.62   | inches |          |
| Treatment D                                      | 1.50 | 1.50   | inches |          |
| WEIGHTED E (Sum Ei*Ai/A)                         |      | 0.36   | 0.36   | inches   |
| VOLUME V10:6h (E*A)                              |      | 0.00   | 0.00   | acre-ft. |
|                                                  |      | 196.02 | 196.02 | ft^3     |
| =====                                            |      |        |        |          |
| 2-year 6-hour                                    |      |        |        |          |
| Treatment A                                      | 0.00 | 0.00   | inches |          |
| Treatment B                                      | 0.06 | 0.06   | inches |          |
| Treatment C                                      | 0.20 | 0.20   | inches |          |
| Treatment D                                      | 0.89 | 0.89   | inches |          |
| WEIGHTED E (Sum Ei*Ai/A)                         |      | 0.06   | 0.06   | inches   |
| VOLUME V2:6h (E*A)                               |      | 0.00   | 0.00   | acre-ft. |
|                                                  |      | 32.67  | 32.67  | ft^3     |
| =====                                            |      |        |        |          |
| 100-year 24-hour                                 |      |        |        |          |
| VOLUME V100:24h                                  |      |        |        |          |
| (V100-6h+Ad*P1440-P360)/12)                      |      | 0.01   | 0.01   | acre-ft. |
|                                                  |      | 500.94 | 500.94 | ft^3     |
| =====                                            |      |        |        |          |

CALCULATIONS FOLLOW



Existing hyd.

# INPUT AND CALCULATIONS (CONT)

| A.6 PEAK DISCHARGE RATE FOR SMALL WATERSHEDS (Qi) |      |      |          |  |
|---------------------------------------------------|------|------|----------|--|
| from Table A-9                                    |      |      |          |  |
| 100-year                                          |      |      | TOTALS   |  |
| Treatment A                                       | 1.87 | 1.87 | cfs/acre |  |
| Treatment B                                       | 2.60 | 2.60 | cfs/acre |  |
| Treatment C                                       | 3.45 | 3.45 | cfs/acre |  |
| Treatment D                                       | 5.02 | 5.02 | cfs/acre |  |
| Q100 (Sum Qi*Ai)                                  | 0.39 | 0.39 | cfs      |  |
| 10-year                                           |      |      |          |  |
| Treatment A                                       | 0.58 | 0.58 | cfs/acre |  |
| Treatment B                                       | 1.19 | 1.19 | cfs/acre |  |
| Treatment C                                       | 2.00 | 2.00 | cfs/acre |  |
| Treatment D                                       | 3.39 | 3.39 | cfs/acre |  |
| Q10 (Sum Qi*Ai)                                   | 0.18 | 0.18 | cfs      |  |
| 2-year                                            |      |      |          |  |
| Treatment A                                       | 0.00 | 0.00 | cfs/acre |  |
| Treatment B                                       | 0.21 | 0.21 | cfs/acre |  |
| Treatment C                                       | 0.78 | 0.78 | cfs/acre |  |
| Treatment D                                       | 2.04 | 2.04 | cfs/acre |  |
| Q2 (Sum Qi*Ai)                                    | 0.03 | 0.03 | cfs      |  |

CALCULATIONS FOLLOW



# ASCG

Architects and Engineers

PROJECT FOREST HILLS PUMP STATION  
 PROJECT NO. 239440  
 DATE 10/17/06  
 BY JOHN GILLETLY

## DPM Section 22.2 - Hydrology

Part A-Watersheds less than 40 acres.  
 January, 1993

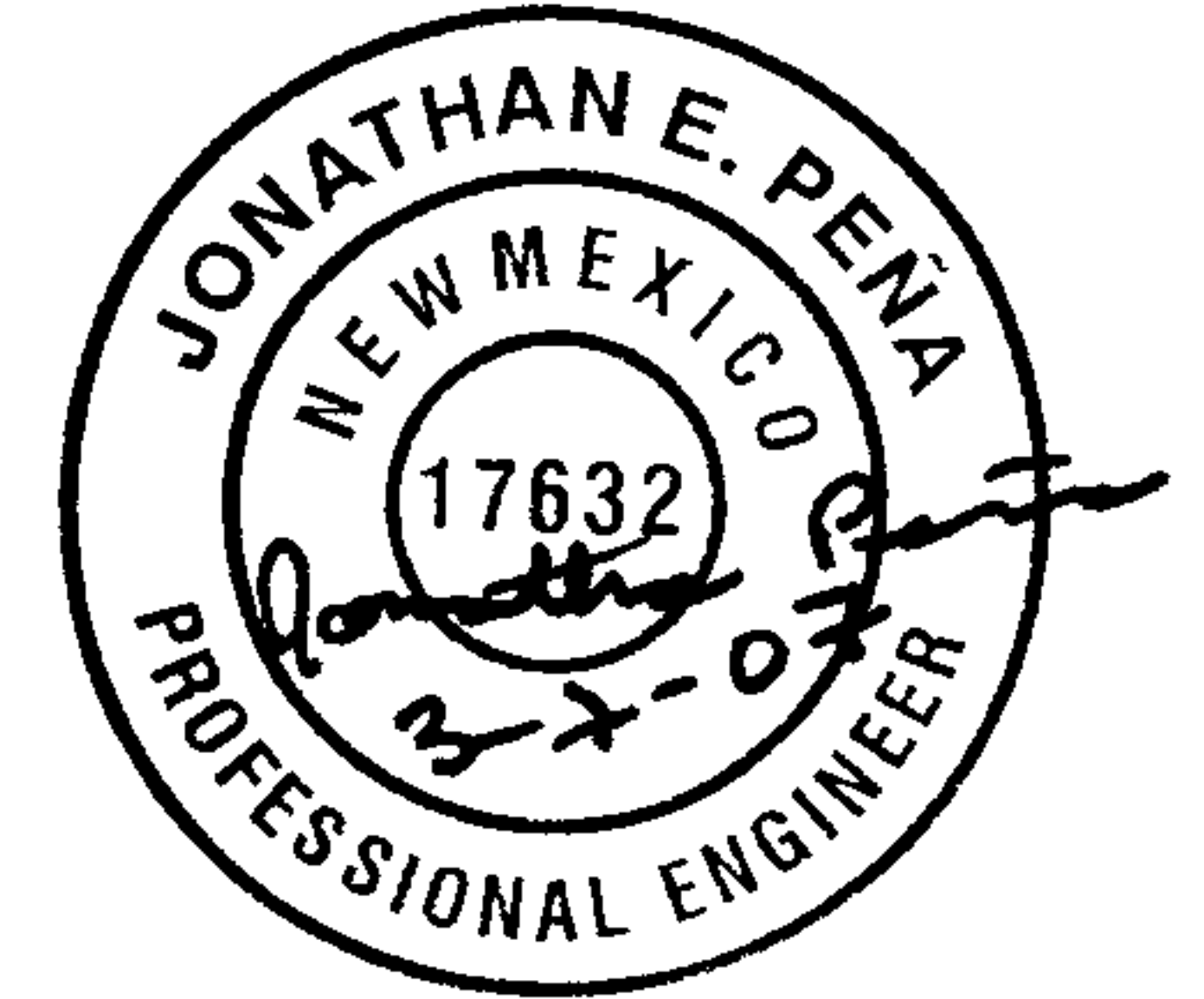
### INSTRUCTIONS

- \* Spread sheet requires three input areas (dark cells):
  - Location
    - >A.1 Precipitation Zone
    - >A.3 Land Treaments
- \* Values from the tables are automatically placed using "if" statements.
- \* Table values should be checked for correctness for each use.

### SUMMARY

| Location                     | BASIN 1 | TOTALS |          |
|------------------------------|---------|--------|----------|
| Precipitation Zone           | 3       | 3      |          |
| Land Area                    | 0.15    | 0.15   | acres    |
| Excess Precipitation Volume  |         |        |          |
| >>> 100-year 6-hour (design) | 0.02    | 0.02   | acre-ft. |
| 10-year 6-hour               | 0.01    | 0.01   | acre-ft. |
| 2-year 6-hour                | 0.00    | 0.00   | acre-ft. |
| 100-year 24-hour             | 0.02    | 0.02   | acre-ft. |
| Peak Discharge Rates (DPM)   |         |        |          |
| >>> Q100 (design)            | 0.57    | 0.57   | cfs      |
| Q10                          | 0.35    | 0.35   | cfs      |
| Q2                           | 0.16    | 0.16   | cfs      |

CALCULATIONS FOLLOW





## INPUT AND CALCULATIONS

| LOCATION                                         |      | BASIN 1 |         |
|--------------------------------------------------|------|---------|---------|
| >A.1 PRECIPITATION ZONE (from Table A-1)         |      | 3       | 3       |
| TOTALS                                           |      |         |         |
| >A.2 DEPTHS                                      |      |         |         |
| (from Table A-2)                                 |      |         |         |
| 100-YEAR STORM (P60)                             | 2.14 | 2.14    | inches  |
| 100-YEAR STORM (P360)                            | 2.60 | 2.60    | inches  |
| 100-YEAR STORM (P1440)                           | 3.10 | 3.10    | inches  |
| 10-YEAR (P360) (Calculated: $P360 \cdot RPF10$ ) | 1.73 | 1.73    | inches  |
| 2-YEAR (P360) (Calculated: $P360 \cdot RPF2$ )   | 1.13 | 1.13    | inches  |
| >A.3 LAND TREATMENTS (Ai)                        |      | TOTALS  |         |
| Treatment A                                      | 0.00 | 0.00    | acres   |
| Treatment B                                      | 0.00 | 0.00    | acres   |
| Treatment C                                      | 0.11 | 0.11    | acres   |
| Treatment D                                      | 0.04 | 0.04    | acres   |
| Total Area                                       | 0.15 | 0.15    | acres   |
| >A.4 ABSTRACTIONS                                |      | See A.5 | See A.5 |

CALCULATIONS FOLLOW



## INPUT AND CALCULATIONS (CONT)

| >A.5 EXCESS PRECIPITATION 6 HOUR AND 24 HOUR (Ei) |      |        |               |
|---------------------------------------------------|------|--------|---------------|
| from Table A-8                                    |      | TOTALS |               |
| 100-year 6-hour                                   |      |        |               |
| Treatment A                                       | 0.66 | 0.66   | inches        |
| Treatment B                                       | 0.92 | 0.92   | inches        |
| Treatment C                                       | 1.29 | 1.29   | inches        |
| Treatment D                                       | 2.36 | 2.36   | inches        |
| WEIGHTED E (Sum Ei*Ai/A)                          |      | 1.56   | 1.56 inches   |
| VOLUME V100:6h (E*A)                              |      | 0.02   | 0.02 acre-ft. |
|                                                   |      | 832.07 | 832.07 ft^3   |
| 10-year 6-hour                                    |      |        |               |
| Treatment A                                       | 0.19 | 0.19   | inches        |
| Treatment B                                       | 0.36 | 0.36   | inches        |
| Treatment C                                       | 0.62 | 0.62   | inches        |
| Treatment D                                       | 1.50 | 1.50   | inches        |
| WEIGHTED E (Sum Ei*Ai/A)                          |      | 0.84   | 0.84 inches   |
| VOLUME V10:6h (E*A)                               |      | 0.01   | 0.01 acre-ft. |
|                                                   |      | 449.03 | 449.03 ft^3   |
| 2-year 6-hour                                     |      |        |               |
| Treatment A                                       | 0.00 | 0.00   | inches        |
| Treatment B                                       | 0.06 | 0.06   | inches        |
| Treatment C                                       | 0.20 | 0.20   | inches        |
| Treatment D                                       | 0.89 | 0.89   | inches        |
| WEIGHTED E (Sum Ei*Ai/A)                          |      | 0.37   | 0.37 inches   |
| VOLUME V2:6h (E*A)                                |      | 0.00   | 0.00 acre-ft. |
|                                                   |      | 199.40 | 199.40 ft^3   |
| 100-year 24-hour                                  |      |        |               |
| VOLUME V100:24h                                   |      |        |               |
| (V100-6h+Ad*P1440-P360)/12)                       |      | 0.02   | 0.02 acre-ft. |
|                                                   |      | 899.22 | 899.22 ft^3   |

CALCULATIONS FOLLOW



## INPUT AND CALCULATIONS (CONT)

| >A.6 PEAK DISCHARGE RATE FOR SMALL WATERSHEDS (Qi) |      |        |          |
|----------------------------------------------------|------|--------|----------|
| from Table A-9                                     |      |        |          |
| 100-year                                           |      | TOTALS |          |
| Treatment A                                        | 1.87 | 1.87   | cfs/acre |
| Treatment B                                        | 2.60 | 2.60   | cfs/acre |
| Treatment C                                        | 3.45 | 3.45   | cfs/acre |
| Treatment D                                        | 5.02 | 5.02   | cfs/acre |
| Q100 (Sum Qi*Ai)                                   | 0.57 | 0.57   | cfs      |
| =====                                              |      |        |          |
| 10-year                                            |      |        |          |
| Treatment A                                        | 0.58 | 0.58   | cfs/acre |
| Treatment B                                        | 1.19 | 1.19   | cfs/acre |
| Treatment C                                        | 2.00 | 2.00   | cfs/acre |
| Treatment D                                        | 3.39 | 3.39   | cfs/acre |
| Q10 (Sum Qi*Ai)                                    | 0.35 | 0.35   | cfs      |
| =====                                              |      |        |          |
| 2-year                                             |      |        |          |
| Treatment A                                        | 0.00 | 0.00   | cfs/acre |
| Treatment B                                        | 0.21 | 0.21   | cfs/acre |
| Treatment C                                        | 0.78 | 0.78   | cfs/acre |
| Treatment D                                        | 2.04 | 2.04   | cfs/acre |
| Q2 (Sum Qi*Ai)                                     | 0.16 | 0.16   | cfs      |
| =====                                              |      |        |          |

CALCULATIONS FOLLOW



# ASCG

INCORPORATED

ENGINEERS • ARCHITECTS • SURVEYORS • PLANNERS

ASCG Project # 239440

March 8, 2007

Bradley L. Bingham, PE  
Section Head, Hydrology  
City of Albuquerque Public Works  
PO Box 1293  
Albuquerque, New Mexico 87103

**Re: COA Forest Hills Pump Station, Albuquerque, NM  
(E-18), EPC # 1005317-07EPC-00011**

Dear Brad:

Attached for review, comment and/or approval are the following:

- One (1) Drainage Information Sheet
- One (1) copy of the Grading & Drainage Plan
- One (1) copy of Supporting Drainage Calculations

The proposed City of Albuquerque pump station is located on the north side of the Presbyterian Hospital Property between Forest Hills Dr. to the north, Harper Dr. to the south and Interstate 25 to the west. The site is currently undeveloped. The site will be leased by the City of Albuquerque from Presbyterian. The current legal description for the site is a lease agreement describing a certain parcel of land measuring 75 feet by 90 feet, situated within "Tract A, Unit 5, Academy Acres Subdivision." On February 15, 2007, EPC voted to approve the site development plan for building permit with a list of conditions that need to go through DRB. None of the said conditions are related to the grading or drainage of the site. The plan being submitted is the Forest Hills Pump Station for Building Permit.

I have highlighted the applicable drainage calculations to assist you in your review. If you have any questions, please contact me at (505) 830-8753.

Sincerely,

ASCG Incorporated *of New Mexico*



By: Jon Peña, PE  
Staff Engineer

Enclosures

J:\COA\239440 Forest Hills Pump Station\CORR\HYDROLOGY SUBMITTAL TO COA\forest hills\_drainageLtr.doc

