**CITY OF ALBUQUERQUE**

*Planning Department*
Suzanne Lubar, Director

*Mayor Richard J. Berry*

PO Box 1293
Albuquerque
New Mexico 87103
www.cabq.gov

September 7, 2016

David Soule, P.E.
Rio Grande Engineering
PO Box 93924
Albuquerque, New Mexico 87199

RE: **Valero Residence**
**Lot 4 Block 5 Unit 22 SAD 228**
**6308 Papagayo NW**
**Grading and Drainage Plan**
**Engineers Stamp Date 8/9/16 (D10D003V4)**

Dear Mr. Soule,

Based upon the information provided in your submittal received 8/12/16, this plan is approved for Grading Permit and Building Permit.

Please inform the builder to attach a copy of this approved plan to the construction sets in the permitting process prior to sign-off by Hydrology. Also, notify the owner/contractor that a separate permit for the fence is required.

Prior to Certificate of Occupancy release, Engineer Certification per the DPM checklist of this plan will be required.

If you have any questions, please contact me at 924-3986 or Rudy Rael at 924-3977.

Sincerely,

Abiel Carrillo, P.E.
Principal Engineer, Hydrology
Planning Department

RR/AC
C: File

# City of Albuquerque

## Planning Department

## Development & Building Services Division

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

**Project Title:** 6308 Papagayo Building Permit #: City Drainage #:
DRB#: EPC#: Work Order#:
Legal Description: lot 4 block 5 volcano cliffs UNIT 22
City Address: 6308 PAPAGAYO NW

**Engineering Firm:** RIO GRANDE ENGINEERING Contact: DAVID SOULE
Address: PO BOX 93924, ALBUQUERQUE, NM 87199
Phone#: 505.321.9099 Fax#: 505.872.0999 E-mail: DAVID@RIOGRANDEENGINEERING.COM

**Owner:** VALERO Contact:
Address: 6308 PAPAGAYO NW 87120
Phone#: Fax#: E-mail:

**Architect:** none Contact:
Address:
Phone#: Fax#: E-mail:

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

Check all that Apply:

**DEPARTMENT:**
x____ HYDROLOGY/ DRAINAGE
_____ TRAFFIC/ TRANSPORTATION
_____ MS4/ EROSION & SEDIMENT CONTROL

**TYPE OF SUBMITTAL:**
_____ ENGINEER/ ARCHITECT CERTIFICATION

_____ CONCEPTUAL G & D PLAN
X____ 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:**
x____ 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 X____ No

DATE SUBMITTED: 8/9/16 By:

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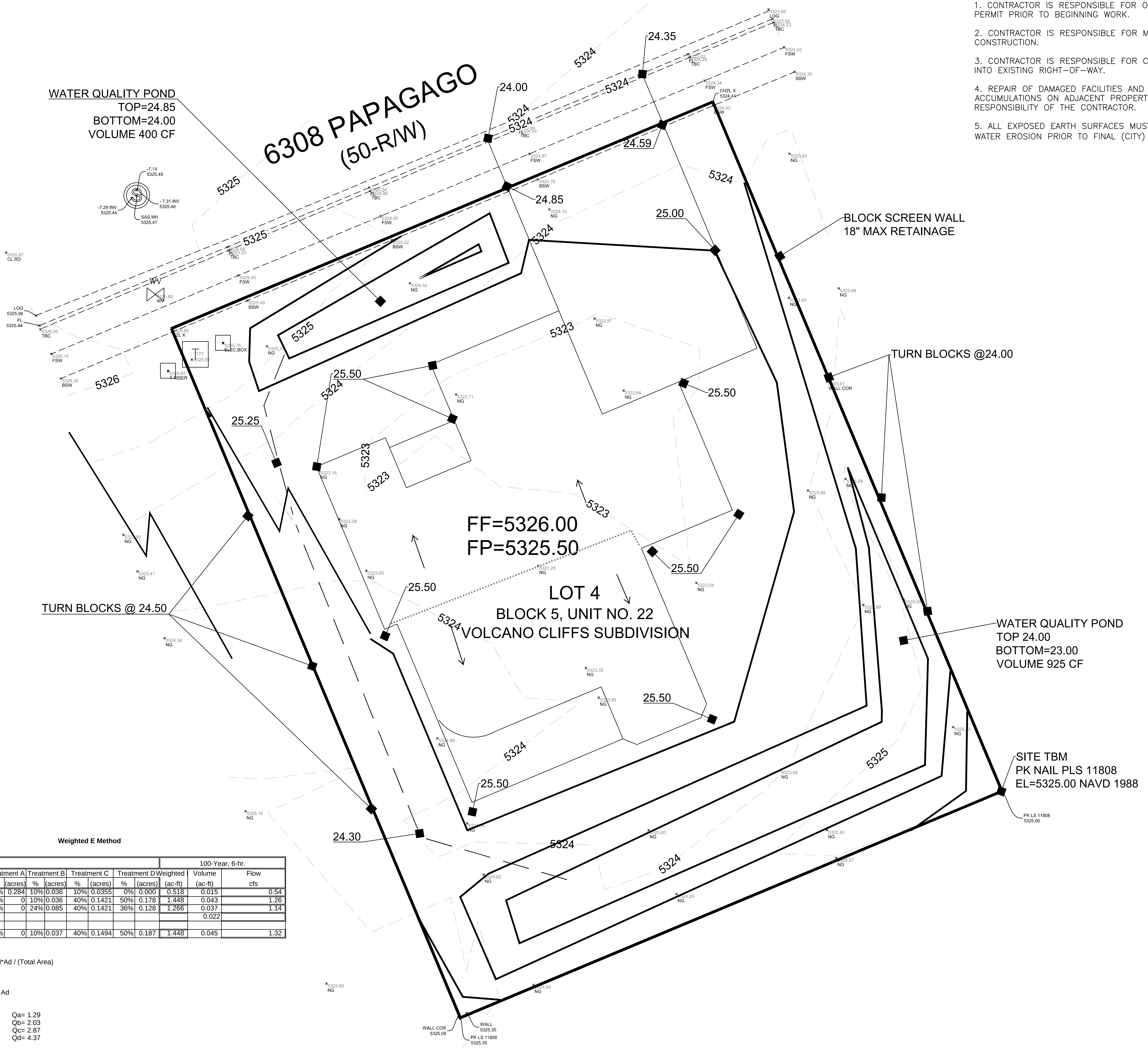
COA STAFF: ELECTRONIC SUBMITTAL RECEIVED: ___



## EROSION CONTROL NOTES:

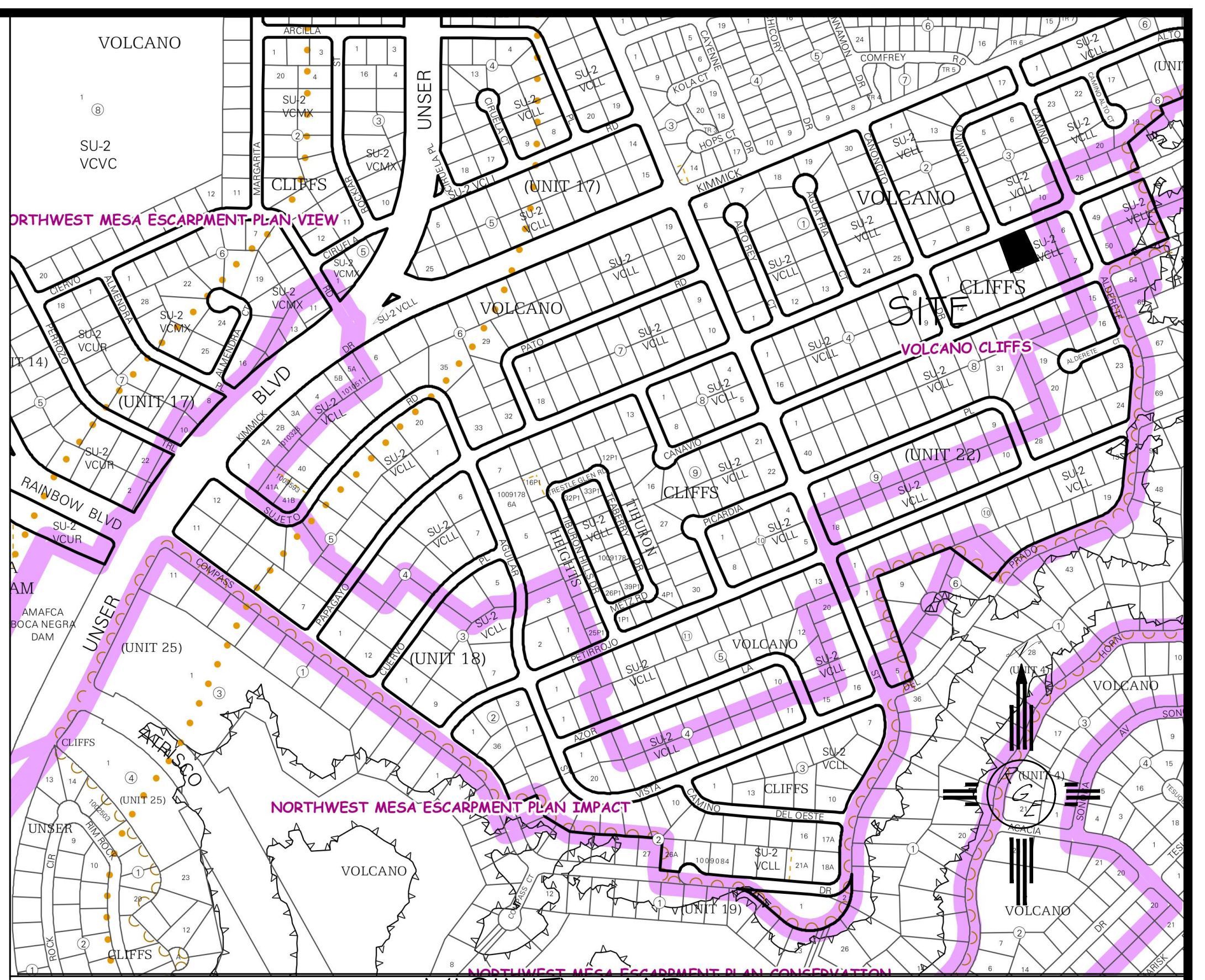
1. CONTRACTOR IS RESPONSIBLE FOR OBTAINING A TOPSOIL DISTURBANCE PERMIT PRIOR TO BEGINNING WORK.

2. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING RUN–OFF ON SITE DURING CONSTRUCTION.

3. CONTRACTOR IS RESPONSIBLE FOR CLEANING ALL SEDIMENT THAT GETS INTO EXISTING RIGHT–OF–WAY.

4. REPAIR OF DAMAGED FACILITIES AND CLEANUP OF SEDIMENT ACCUMULATIONS ON ADJACENT PROPERTIES AND IN PUBLIC FACILITIES IS THE RESPONSIBILITY OF THE CONTRACTOR.

5. ALL EXPOSED EARTH SURFACES MUST BE PROTECTED FROM WIND AND WATER EROSION PRIOR TO FINAL (CITY) ACCEPTANCE OF ANY PROJECT.



VICINITY MAP:

FIRM MAP: FM35001C0112G

## LEGAL DESCRIPTION:

LOT 4, BLOCK 5, UNIT 22, VOLCANO CLIFFS

## NOTES:

1. ALL SPOT ELEVATIONS REPRESENT FLOWLINE ELEVATION UNLESS OTHERWISE NOTED.
2. TOPOGRAPHIC SURVEY INFORMATION SHOWN ON THIS PLAN WAS OBTAINED BY CONSTRUCTION SURVEY TECHNOLOGIES, DAVID ACOSTA PLS 21081, AUGUST 2016

## LEGEND

| | |
|---|---|
| – – – –5411– – – – | EXISTING CONTOUR |
| — — —5410— — — | EXISTING INDEX CONTOUR |
| ————5411———— | PROPOSED CONTOUR |
| ————5410———— | PROPOSED INDEX CONTOUR |
| ◣———— | FLOW DIRECTION–SWALE |
| ◓ | PROPOSED SPOT (FLOW–LINE) |

**Weighted E Method**

| Basin | Area (sf) | Area (acres) | Treatment A % | Treatment A (acres) | Treatment B % | Treatment B (acres) | Treatment C % | Treatment C (acres) | Treatment D % | Treatment D (acres) | Weighted E (ac-ft) | 100-Year, 6-hr. Volume (ac-ft) | 100-Year, 6-hr. Flow cfs |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NATIVE | 15477.00 | 0.355 | 80% | 0.284 | 10% | 0.036 | 10% | 0.0355 | 0% | 0.000 | 0.518 | 0.015 | 0.54 |
| ALLOWED | 15477.00 | 0.355 | 0% | 0 | 10% | 0.036 | 40% | 0.1421 | 50% | 0.178 | 1.448 | 0.043 | 1.26 |
| PROPOSED | 15477.00 | 0.355 | 0% | 0 | 24% | 0.085 | 40% | 0.1421 | 36% | 0.128 | 1.266 | 0.037 | 1.14 |
| INCREASE | | | | | | | | | | | | 0.022 | |
| total | | | | | | | | | | | | | |
| UPLAND | 16270.00 | 0.374 | 0% | 0 | 10% | 0.037 | 40% | 0.1494 | 50% | 0.187 | 1.448 | 0.045 | 1.32 |

**Equations:**

Weighted E = Ea*Aa + Eb*Ab + Ec*Ac + Ed*Ad / (Total Area)

Volume = Weighted D * Total Area

Flow = Qa * Aa + Qb * Ab + Qc * Ac + Qd * Ad

Where for 100-year, 6-hour storm- zone 1

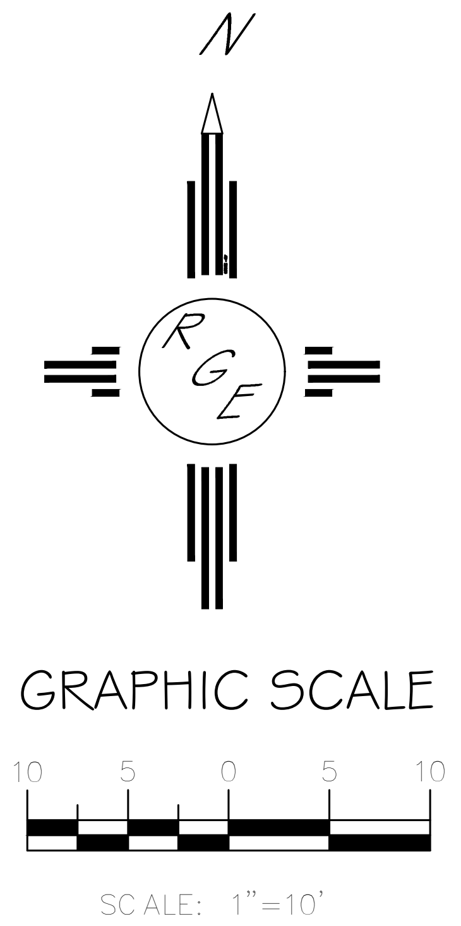
| | |
|---|---|
| Ea= 0.44 | Qa= 1.29 |
| Eb= 0.67 | Qb= 2.03 |
| Ec= 0.99 | Qc= 2.87 |
| Ed= 1.97 | Qd= 4.37 |

ONSITE Conditons
FIRST FLUSH WATER QUALITY VOL

| | REQUIRED (CF) | PROVIDED (CF) |
|---|---|---|
| WATER QUALITY | 158 | 1325 |

Narrative

This site is within the SAD 228 Master Drainage plan boundaries. The site is to maintain existing patterns and drain to the the adjacent property per the master drainage plan. We are ponding the water harvest volume generated by the site we are allowing the upland flow to pass thru the site. This plan has a shallow water harvest pond in excess of the drainage regulations. This plan is in conformance to the masterplan



GRAPHIC SCALE

SCALE: 1"=10'

| | | |
|---|---|---|
| ENGINEER'S SEAL | LOT 4, BLOCK 5, UNIT 22<br>VOLCANO CLIFFS SUBDIVISION | DRAWN BY JDG |
| DAVID SOULE<br>14522<br>8/9/16 | GRADING AND DRAINAGE PLAN | DATE<br>09–09–2016 |
| DAVID SOULE<br>P.E. #14522 | Rio Grande Engineering<br>1606 CENTRAL AVENUE SE<br>SUITE 201<br>ALBUQUERQUE, NM 87106<br>(505) 872–0999 | SHEET #<br>1 OF 1<br>JOB # |

## Weighted E Method

| | | | | | | | | | | | 100-Year, 6-hr. | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Basin | Area (sf) | Area (acres) | Treatment A % | (acres) | Treatment B % | (acres) | Treatment C % | (acres) | Treatment D % | (acres) | Weighted E (ac-ft) | Volume (ac-ft) | Flow cfs |
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| ALLOWED | 15477.00 | 0.355 | 0% | 0 | 10% | 0.036 | 40% | 0.1421 | 50% | 0.178 | 1.448 | 0.043 | 1.26 |
| PROPOSED | 15477.00 | 0.355 | 0% | 0 | 24% | 0.085 | 40% | 0.1421 | 36% | 0.128 | 1.266 | 0.037 | 1.14 |
| INCREASE | | | | | | | | | | | | 0.022 | |
| total | | | | | | | | | | | | | |
| UPLAND | 16270.00 | 0.374 | 0% | 0 | 10% | 0.037 | 40% | 0.1494 | 50% | 0.187 | 1.448 | 0.045 | 1.32 |

**<u>Equations:</u>**

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Flow = Qa * Aa + Qb * Ab + Qc * Ac + Qd * Ad

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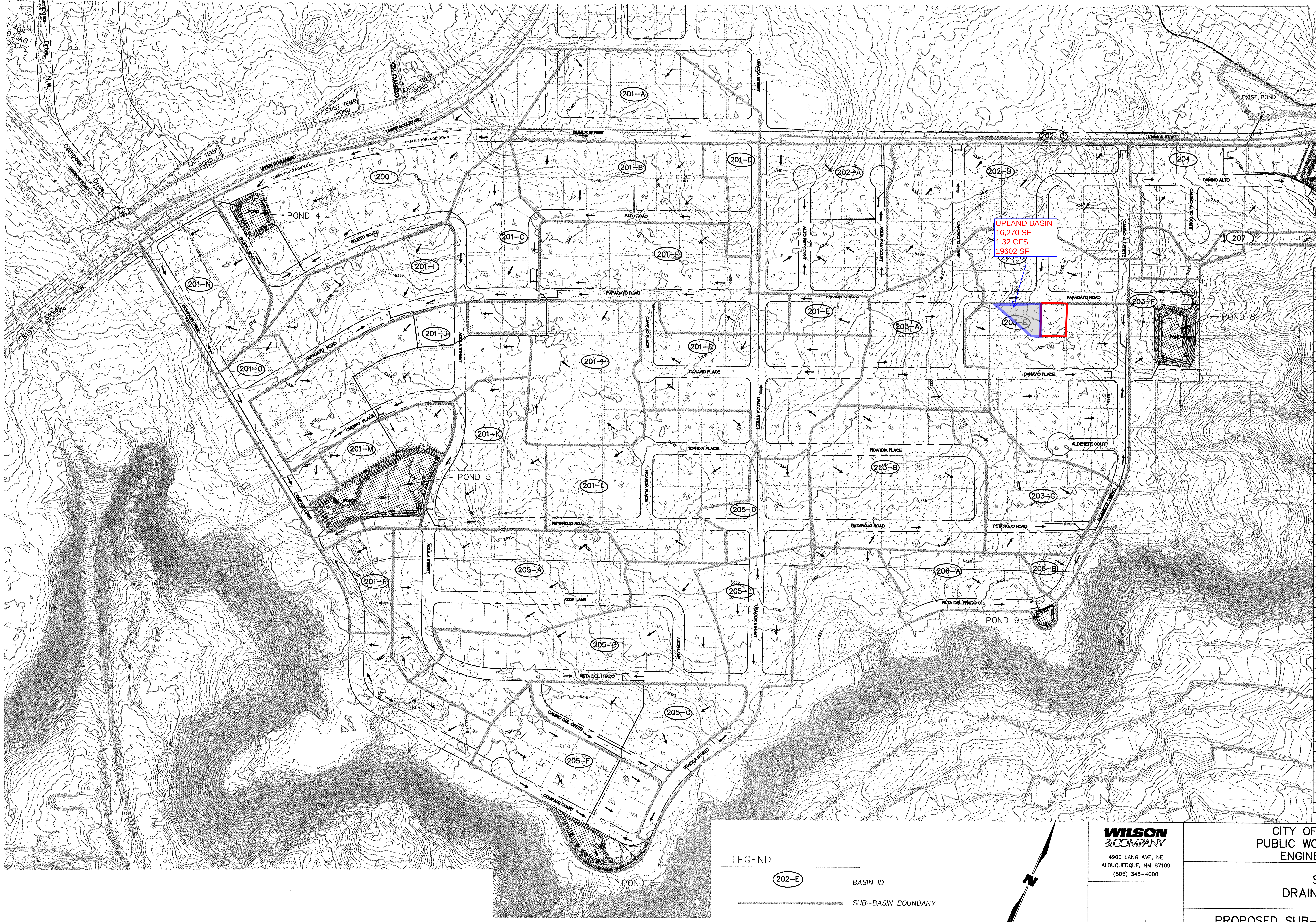

| Proposed Conditions Model-Sub-Basin Data | | | | |
|---|---|---|---|---|
| Basin | Area (ac) | cfs/ac | $Q_{100}$ (cfs) | $V_{100-24}$ (ac-ft) |
| **Basin 200 (Discharge to Pond 4)** | | | | |
| 200 | 13.12 | 2.44 | 32.02 | 1.546 |
| **Basin 201 (Discharge to Pond 5)** | | | | |
| 201-A | 7.48 | 1.97 | 14.72 | 0.965 |
| 201-B | 6.62 | 1.97 | 13.03 | 0.854 |
| 201-C | 5.12 | 1.97 | 10.08 | 0.661 |
| 201-D | 2.47 | 1.97 | 4.86 | 0.319 |
| 201-E | 1.53 | 1.97 | 3.01 | 0.197 |
| 201-F | 8.73 | 1.97 | 17.18 | 1.127 |
| 201-G | 8.54 | 1.97 | 16.81 | 1.102 |
| 201-H | 8.88 | 1.97 | 17.47 | 1.146 |
| 201-I | 6.09 | 1.97 | 11.98 | 0.786 |
| 201-J | 8.51 | 1.97 | 16.75 | 1.098 |
| 201-K | 3.75 | 1.97 | 7.38 | 0.484 |
| 201-L | 11.78 | 1.97 | 23.18 | 1.520 |
| 201-M | 5.17 | 1.97 | 10.17 | 0.667 |
| 201-N | 5.27 | 1.97 | 10.37 | 0.680 |
| 201-O | 3.16 | 1.97 | 6.22 | 0.408 |
| 201-P | 2.20 | 1.97 | 4.33 | 0.284 |
| **Total** | 95.30 | | 187.54 | 12.300 |
| **Basin 202 (Discharge to La Cuentista Pond)** | | | | |
| 202-A | 8.57 | 3.20 | 27.44 | 1.104 |
| 202-B | 10.72 | 3.20 | 34.32 | 1.382 |
| **Total** | 19.29 | | 61.76 | 2.486 |
| 202-C | 1.33 | 2.62 | 3.50 | 0.235 |
| **Basin 203 (Discharge to Pond 8)** | | | | |
| 203-A | 6.51 | 2.99 | 19.47 | 0.841 |
| 203-B | 9.99 | 2.99 | 29.87 | 1.290 |
| 203-C | 5.24 | 2.99 | 15.67 | 0.677 |
| 203-D | 4.18 | 2.99 | 12.50 | 0.540 |
| 203-E | 9.89 | 2.99 | 29.57 | 1.277 |
| 203-F | 3.02 | 2.99 | 9.03 | 0.390 |
| **Total** | 38.83 | | 116.11 | 5.014 |
| **Basin 204 (Discharge to Pond 7)** | | | | |
| 204 | 8.98 | 3.20 | 28.73 | 1.156 |
| **Basin 205 (Discharge to Pond 6)** | | | | |
| 205-A | 10.29 | 2.73 | 28.11 | 1.328 |
| 205-B | 10.06 | 2.73 | 27.49 | 1.298 |
| 205-C | 5.66 | 2.73 | 15.46 | 0.730 |
| 205-D | 3.22 | 2.73 | 8.80 | 0.416 |
| 205-E | 5.75 | 2.73 | 15.71 | 0.742 |
| 205-F | 6.88 | 2.73 | 18.80 | 0.888 |
| **Total** | 41.86 | | 114.37 | 5.402 |
| **Basin 206-A (Discharge to Pond 9)** | | | | |
| 206-A | 4.01 | 3.19 | 12.79 | 0.514 |
| **Basin 206-B (Free Discharge)** | | | | |
| 206-B | 1.01 | 3.19 | 3.22 | 0.130 |
| **Total** | 5.02 | | 16.01 | 0.644 |
| **Basin 207 (Free Discharge)** | | | | |
| 207 | 1.85 | 3.22 | 5.96 | 0.240 |

LEGEND

| | |
|---|---|
| 202-E | BASIN ID |
| | SUB-BASIN BOUNDARY |
| | INDEX CONTOUR |
| | INTERMEDIATE CONTOUR |

N

SCALE: 1" = 200'

**WILSON & COMPANY**
4900 LANG AVE, NE
ALBUQUERQUE, NM 87109
(505) 348-4000

CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT
ENGINEERING GROUP

SAD 228
DRAINAGE REPORT

PROPOSED SUB-BASIN BOUNDARY PLAN
UNIT 18, 19 & 20

PLATE 3

M:\RR\08-400-104-00\CADD\SAD 228 DRAINAGE REPORT\PLATE 03 _OVERALL DRN 01.dwg 1/4/2012 9:36:47 AM MST

WCI #08400010400
NOVEMBER 2011