

# CITY OF ALBUQUERQUE

Planning Department  
Suzanne Lubar, Director



Mayor Richard J. Berry

September 7, 2016

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

RE: **Abrazo Homes**  
**Lot 5 Block 5 Unit 18 SAD 228**  
**6615 Papagayo NW**  
**Grading and Drainage Plan**  
**Engineers Stamp Date 8/9/16 (D10D003K5)**

Dear Mr. Soule,

PO Box 1293

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

Albuquerque

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.

New Mexico 87103

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

www.cabq.gov

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

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

**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

**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) \_\_\_\_\_

**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) \_\_\_\_\_

IS THIS A RESUBMITTAL?:  Yes  No

DATE SUBMITTED: \_\_\_\_\_ By: \_\_\_\_\_

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

Weighted E Method

Basin	Area (sf)	Area (acres)	Treatment A % (acres)	Treatment B % (acres)	Treatment C % (acres)	Treatment D % (acres)	Weighted (ac-ft)	Volume (ac-ft)	Flow cfs
NATIVE	20337.00	0.467	80%	0.373	10%	0.047	10%	0.0467	0.020
ALLOWED	20337.00	0.467	0%	0	10%	0.047	40%	0.1867	0.056
PROPOSED	20337.00	0.467	0%	0	34%	0.159	40%	0.1867	0.056
INCREASE							29%	0.121	0.044
total									0.024

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

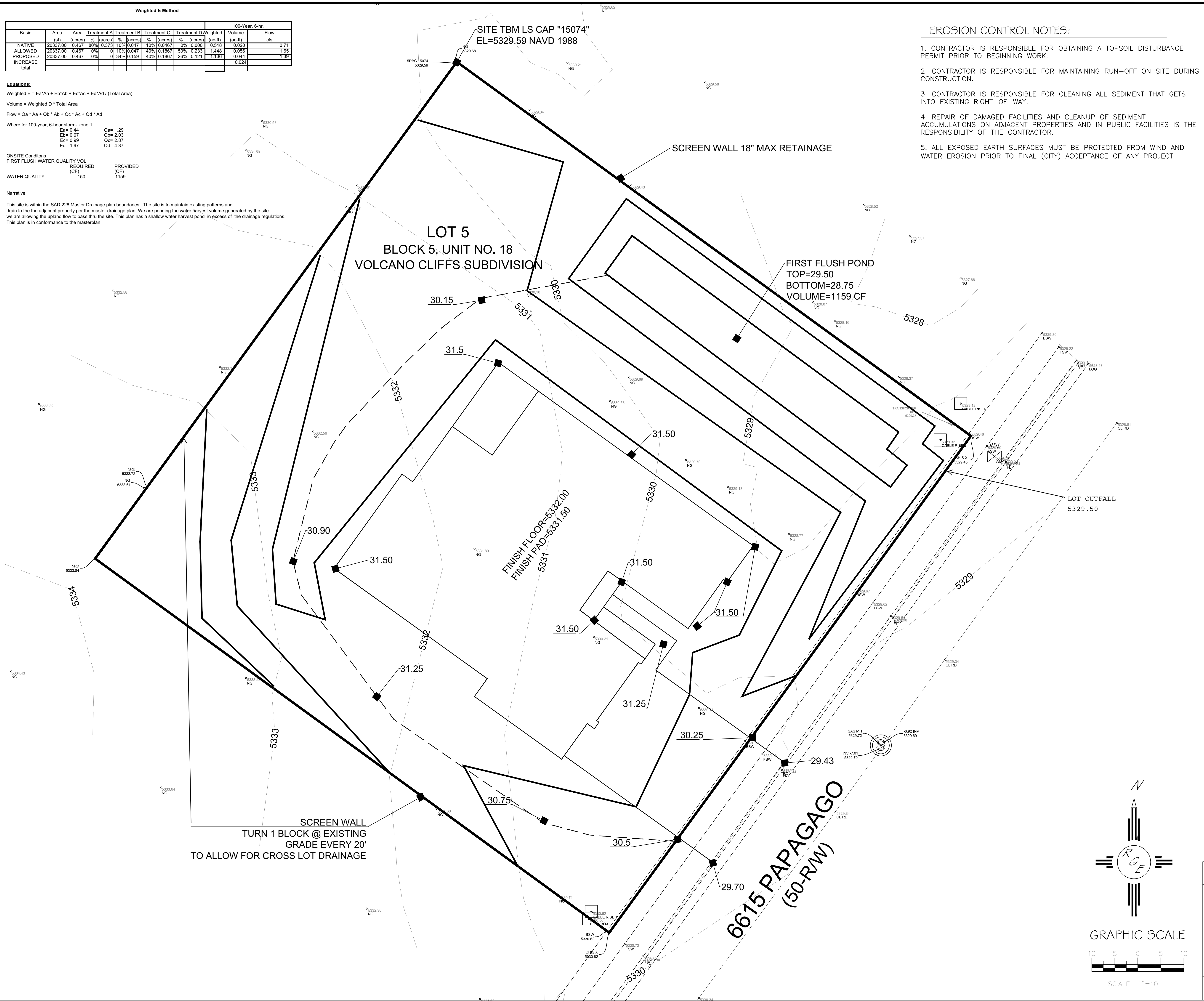
Ea= 0.44  
Eb= 0.67  
Ec= 0.99  
Ed= 1.97

Qa= 1.29  
Qb= 2.03  
Qc= 2.87  
Qd= 4.37

ON-SITE Conditions  
FIRST FLUSH WATER QUALITY VOL. REQUIRED (CF) 150  
PROVIDED (CF) 1159  
WATER QUALITY 150

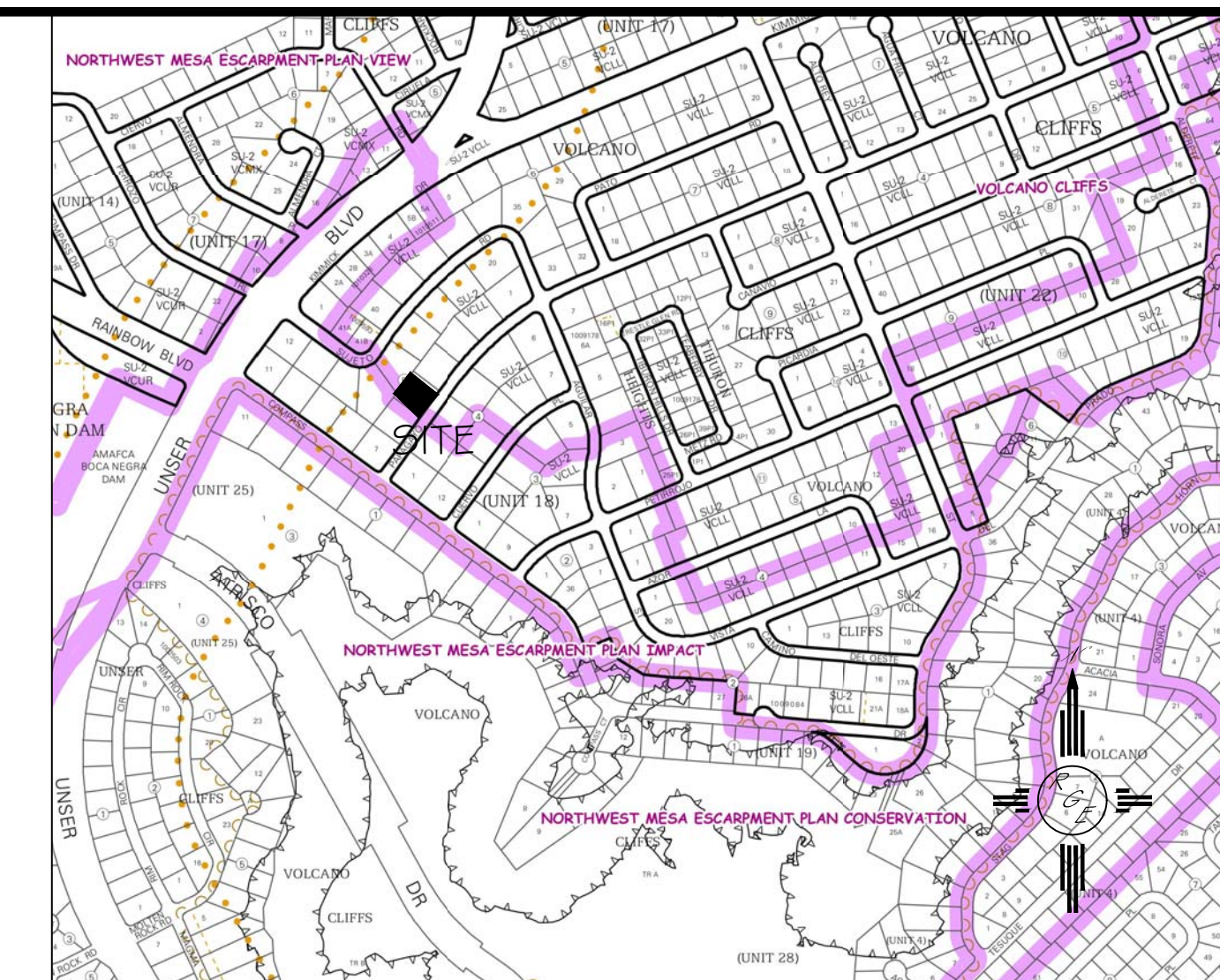
Narrative

This site is within the SAD 228 Master Drainage plan boundaries. The site is to maintain existing patterns and drain to 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 master plan.



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 5, BLOCK 5, UNIT 18, VOLCANO CLIFFS

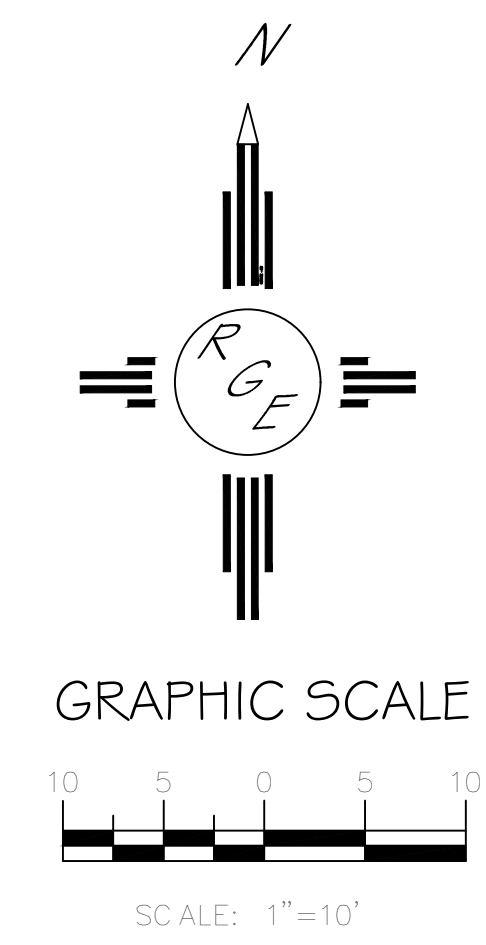
NOTES:

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)

I, DAVID SOULE, HAVE PERSONALLY INSPECTED THE PROPERTY ON 8/5/16 04-21-2016. NO EARTHWORK HAS BEEN PERFORMED AND THE SITE IS CONSISTENT WITH THE TOPO SHOWN. *DS* 8/9/16  
DAVID SOULE P.E. #14522 DATE



	LOT 5, BLOCK 5, UNIT 18 VOLCANO CLIFFS SUBDIVISION	DRAWN BY JDG
	GRADING AND DRAINAGE PLAN	DATE 08-09-2016
8/9/16	<p>Rio Grande Engineering 1606 CENTRAL AVENUE SE SUITE 201 ALBUQUERQUE, NM 87106 (505) 872-0999</p>	SHEET # 1 OF 1
DAVID SOULE P.E. #14522		JOB #

### Weighted E Method

											100-Year, 6-hr.		
Basin	Area (sf)	Area (acres)	Treatment A		Treatment B		Treatment C		Treatment D		Weighted (ac-ft)	Volume (ac-ft)	Flow cfs
			%	(acres)	%	(acres)	%	(acres)	%	(acres)			
NATIVE	20337.00	0.467	80%	0.373	10%	0.047	10%	0.0467	0%	0.000	0.518	0.020	0.71
ALLOWED	20337.00	0.467	0%	0	10%	0.047	40%	0.1867	50%	0.233	1.448	0.056	1.65
PROPOSED	20337.00	0.467	0%	0	34%	0.159	40%	0.1867	26%	0.121	1.136	0.044	1.39
INCREASE												0.024	
total													
UPLAND	12167.00	0.279	0%	0	10%	0.028	40%	0.1117	50%	0.140	1.448	0.034	0.99

**Equations:**

$$\text{Weighted E} = E_a \cdot A_a + E_b \cdot A_b + E_c \cdot A_c + E_d \cdot A_d / (\text{Total Area})$$

$$\text{Volume} = \text{Weighted D} \cdot \text{Total Area}$$

$$\text{Flow} = Q_a \cdot A_a + Q_b \cdot A_b + Q_c \cdot A_c + Q_d \cdot A_d$$

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

E <sub>a</sub> = 0.44	Q <sub>a</sub> = 1.29
E <sub>b</sub> = 0.67	Q <sub>b</sub> = 2.03
E <sub>c</sub> = 0.99	Q <sub>c</sub> = 2.87
E <sub>d</sub> = 1.97	Q <sub>d</sub> = 4.37

ONSITE Conditions

FIRST FLUSH WATER QUALITY VOL		
	REQUIRED	PROVIDED
	(CF)	(CF)
WATER QUALITY	150	1159

**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

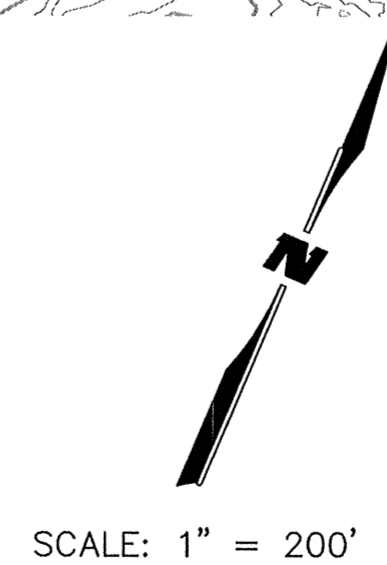


UPLAND BASIN  
12167 SF  
99 CFS  
1481 CF

Proposed Conditions Model-Sub-Basin Data				
Basin	Area (ac)	cfs/ac	Q <sub>100</sub> (cfs)	V <sub>100-24</sub> (ac-ft)
<b>Basin 200 (Discharge to Pond 4)</b>				
200	13.12	2.44	32.02	1.546
<b>Basin 201 (Discharge to Pond 5)</b>				
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
<b>Total</b>	<b>95.30</b>		<b>187.54</b>	<b>12.300</b>
<b>Basin 202 (Discharge to La Cuentista Pond)</b>				
202-A	8.57	3.20	27.44	1.104
202-B	10.72	3.20	34.32	1.382
<b>Total</b>	<b>19.29</b>		<b>61.76</b>	<b>2.486</b>
202-C	1.33	2.62	3.50	0.235
<b>Basin 203 (Discharge to Pond 8)</b>				
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
<b>Total</b>	<b>38.83</b>		<b>116.11</b>	<b>5.014</b>
<b>Basin 204 (Discharge to Pond 7)</b>				
204	8.98	3.20	28.73	1.156
<b>Basin 205 (Discharge to Pond 6)</b>				
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
<b>Total</b>	<b>41.86</b>		<b>114.37</b>	<b>5.402</b>
<b>Basin 206-A (Discharge to Pond 9)</b>				
206-A	4.01	3.19	12.79	0.514
<b>Basin 206-B (Free Discharge)</b>				
206-B	1.01	3.19	3.22	0.130
<b>Total</b>	<b>5.02</b>		<b>16.01</b>	<b>0.644</b>
<b>Basin 207 (Free Discharge)</b>				
207	1.85	3.22	5.96	0.240

LEGEND

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



**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