Weighted E Method

6420 PETIRROJO

Basin	Area	Area	Treatment A		Treatment B		Treatment C		Treatment D		Weighted	Volume	Flow
	(sf)	(acres)	%	(acres)	%	(acres)	%	(acres)	%	(acres)	(ac-ft)	(ac-ft)	cfs
NATIVE	15409.00	0.354	80%	0.283	10%	0.035	10%	0.0354	0%	0.000	0.318	0.015	0.54
ALLOWED	15409.00	0.354	0%	0	10%	0.035	40%	0.1415	50%	0.177	1.448	0.043	1.25
PROPOSED	15409.00	0.354	0%	0	28%	0.099	35%	0.1238	37%	0.131	1.283	0.037	1.13
UPLAND	5920.00	0.136	0%	0	10%	0.014	40%	0.0544	50%	0.068	1.448	0.016	0.48
total													

Equations:

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

Volume = Weighted E * Total Area = ac-ft

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	162	420

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 regulatio The upland flow is such that the pad was raised and additional turned blocks provided to allow flow to pass thru site.This plan is in conformance to the master drainage plan

PETIRROJO RAOD
(50' R/W)

CURB AND GUTTER

SIDEWALK

TOP POND=38.00
BOTTOM=37.50
VOLUME=110 CF

OVER-FLOW@37.80

N67° 09' 38"E 100.00

18" MAX RETAINAGE
TURN 1 BLOCK EVERY 20'
TO ALLOW FOR CROSS LOT
WITHIN REAR YARD FOR DRAINAGE
INVERT SHALL BE 3" ABOVE FINISHED GRADE

LOT 5
BLOCK 10 UNIT 22
VOLCANO CLIFFS SUBDIVISION

S22° 01' 32"E 154.78

3:1 SIDESLOPE

7' P.U.E

FF=5338.75
FP=5338.25

LOT 4
BLOCK 10 UNIT 22
VOLCANO CLIFFS SUBDIVISION

18" MAX RETAINAGE
TURN 1 BLOCK EVERY 20'
TO ALLOW FOR CROSS LOT
WITHIN REAR YARD FOR DRAINAGE
INVERT SHALL BE 3" ABOVE FINISHED GRADE

N22° 01' 32"W 153.37

LOT 3
BLOCK 10 UNIT 22
VOLCANO CLIFFS SUBDIVISION

Point Table				
Point #	Elevation	Northing	Easting	Description
1014	5330.60	1516359.43	1501835.12	4RB
1062	5329.40	1516396.90	1501927.75	4RBC 2455
1077	5336.73	1516572.30	1501879.14	SAS MH
1080	5337.50	1516396.33	1501461.43	SAS MH

SITE TBM
EL=5329.40
NAVD 1988

FENCE

TOP POND=31.00
BOTTOM=30.25
VOLUME=310 CF

S67° 58' 28"W 100.00

18" MAX RETAINAGE
TURN ONE BLOCK EVERY 20' TO ALLOW
FOR CROSS LOT DRAINAGE. INVERT SHALL
BE 3" ABOVE GRADE

EROSION CONTROL NOTES:

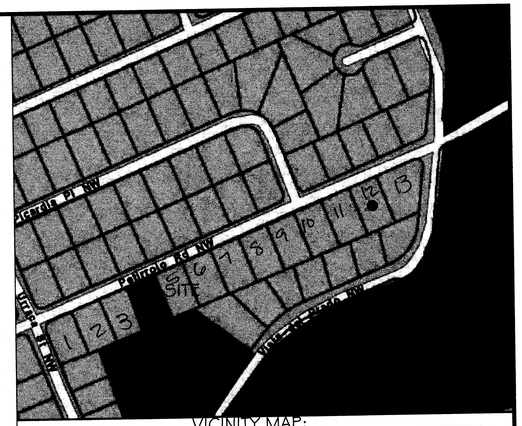
1. CONTRACTOR IS RESPONSIBLE FOR OBTAINING A TOPSOIL DISTURBANCE PERMIT PRIOR TO BEGINNING WORK.

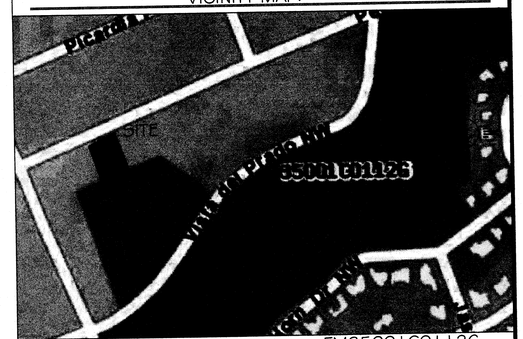
2. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING RUN-OFF ON SITE DURING CONSTRUCTION.

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.





LEGAL DESCRIPTION:

LOT 4, BLOCK 10, 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, OCTOBER 2016

LEGEND

- EXISTING CONTOUR
- EXISTING INDEX CONTOUR
- PROPOSED CONTOUR
- PROPOSED INDEX CONTOUR
- FLOW DIRECTION-SWALE
- PROPOSED SPOT (FLOW-LINE)

N

GRAPHIC SCALE
10 5 0 5 10
SCALE: 1"=10'

RECEIVED
OCT 26 2016
LAND DEVELOPMENT SECTION

ENGINEER'S SEAL	LOT 4, BLOCK 10, UNIT 22 VOLCANO CLIFFS SUBDIVISION	DRAWN BY JDG
DAVID SOULE NEW MEXICO 14522 REGISTERED PROFESSIONAL ENGINEER		DATE 10-26-2016
	GRADING AND DRAINAGE PLAN	
10/26/16	Rio Grande Engineering 1606 CENTRAL AVENUE SE SUITE 201 ALBUQUERQUE, NM 87106 (505) 872-0999	SHEET # 1 OF 1
DAVID SOULE P.E. #14522		JOB #

Weighted E Method

6420 PETIRROJO

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)	100-Year, 6-hr. Weighted (ac-ft)	Volume (ac-ft)	Flow cfs
NATIVE ALLOWED	15409.00	0.354	80%	0.283	10%	0.035	10%	0.0354	0%	0.000	0.518	0.015	0.54
PROPOSED UPLAND total	15409.00	0.354	0%	0	10%	0.035	40%	0.1415	50%	0.177	1.448	0.043	1.25
	15409.00	0.354	0%	0	28%	0.099	35%	0.1238	37%	0.131	1.263	0.037	1.13
	5920.00	0.136	0%	0	10%	0.014	40%	0.0544	50%	0.068	1.448	0.016	0.48

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	162	420

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 regulation The upland flow is such that the pad was raised and additional turned blocks provided to allow flow to pass thru site.This plan is in conformance to the master drainage plan

PETIRROJO RAOD
(50' R/W)

CURB AND GUTTER

SIDEWALK

TOP POND=38.00
BOTTOM=37.50
VOLUME=110 CF

OVER-FLOW@37.80

N67° 09' 38"E 100.00

18" MAX RETAINAGE

LOT 5
BLOCK 10 UNIT 22
VOLCANO CLIFFS SUBDIVISION

S22° 01' 32"E 154.78

3:1 SIDESLOPE

FF=5338.75
FP=5338.25

LOT 4
BLOCK 10 UNIT 22
VOLCANO CLIFFS SUBDIVISION

N22° 01' 32"W 153.37

LOT 3
BLOCK 10 UNIT 22
VOLCANO CLIFFS SUBDIVISION

7' P.U.E

SITE TBM
EL=5329.40
NAVD 1988

FENCE

S67° 58' 28"W 100.00

TOP POND=31.00
BOTTOM=30.25
VOLUME=310 CF

CONSTRUCT ONE TURNED BLOCK 3" ABOVE DESIGN GRADE TO ALLOW FOR CROSS LOT DRAINAGE

CONSTRUCT ONE TURNED BLOCK 3" ABOVE DESIGN GRADE TO ALLOW FOR CROSS LOT DRAINAGE

CONSTRUCT ONE TURNED BLOCK 3" ABOVE DESIGN GRADE TO ALLOW FOR CROSS LOT DRAINAGE

18" MAX RETAINAGE

Point Table				
Point #	Elevation	Northing	Easting	Description
1014	5330.60	1516359.43	1501835.12	4RB
1062	5329.40	1516396.90	1501927.75	4RBC 2455
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1080	5337.50	1516396.33	1501461.43	SAS MH

EROSION CONTROL NOTES:

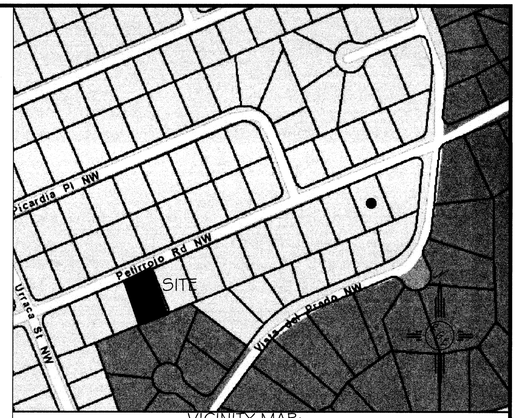
1. CONTRACTOR IS RESPONSIBLE FOR OBTAINING A TOPSOIL DISTURBANCE PERMIT PRIOR TO BEGINNING WORK.

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

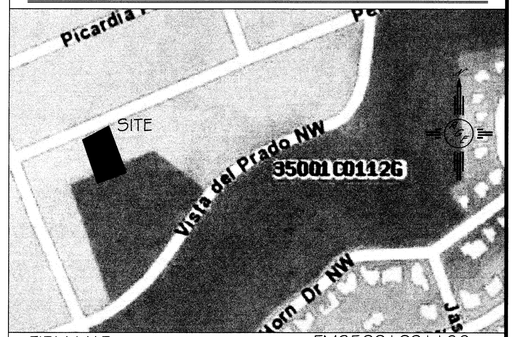
3. CONTRACTOR IS RESPONSIBLE FOR CLEANING ALL SEDIMENT THAT GETS INTO EXISTING RIGHT-OF-WAY.

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 10, 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, OCTOBER 2016
3. IN THE EVENT THAT COMMON WALLS SHOWN ON THIS PLAN ARE NOT CONSTRUCTED AT THE TIME OF CERTIFICATION, THEY MUST BE CONSTRUCTED IN CONFORMANCE TO THIS PLAN. ANY WALLS CONSTRUCTED SHALL BE ACCOMPANIED BY THIS PLAN AT TIME OF PERMITTING
4. A PAD CERTIFICATION BY THE ENGINEER IS REQURIED PRIOR TO PLUMBING INSPECTION

LEGEND

- 5411 EXISTING CONTOUR
- 5410 EXISTING INDEX CONTOUR
- 5411 PROPOSED CONTOUR
- 5410 PROPOSED INDEX CONTOUR
- FLOW DIRECTION-SWALE
- PROPOSED SPOT (FLOW-LINE)

N

GRAPHIC SCALE
10 5 0 5 10
SCALE: 1"=10'

RECEIVED
NOV 04 2016
LAND DEVELOPMENT SECTION

ENGINEER'S SEAL DAVID SOULE NEW MEXICO 14522 REGISTERED PROFESSIONAL ENGINEER 11/3/16 DAVID SOULE P.E. #14522	LOT 4, BLOCK 10, UNIT 22 VOLCANO CLIFFS SUBDIVISION GRADING AND DRAINAGE PLAN Rio Grande Engineering 1606 CENTRAL AVENUE SE SUITE 201 ALBUQUERQUE, NM 87106 (505) 872-0999	DRAWN BY JDG DATE 10-26-2016 SHEET # 1 OF 1 JOB #

6420 PETIRROJO

Weighted E Method

Basin	Area	Area	Treatment A		Treatment B		Treatment C		Treatment D	Weighted	100-Year, 6-hr. Volume	Flow
	(sf)	(acres)	%	(acres)	%	(acres)	%	(acres)	% (acres)	(ac-ft)	(ac-ft)	cfs
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total												

EQUATIONS:

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

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

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	REQUIRED (CF)	PROVIDED (CF)
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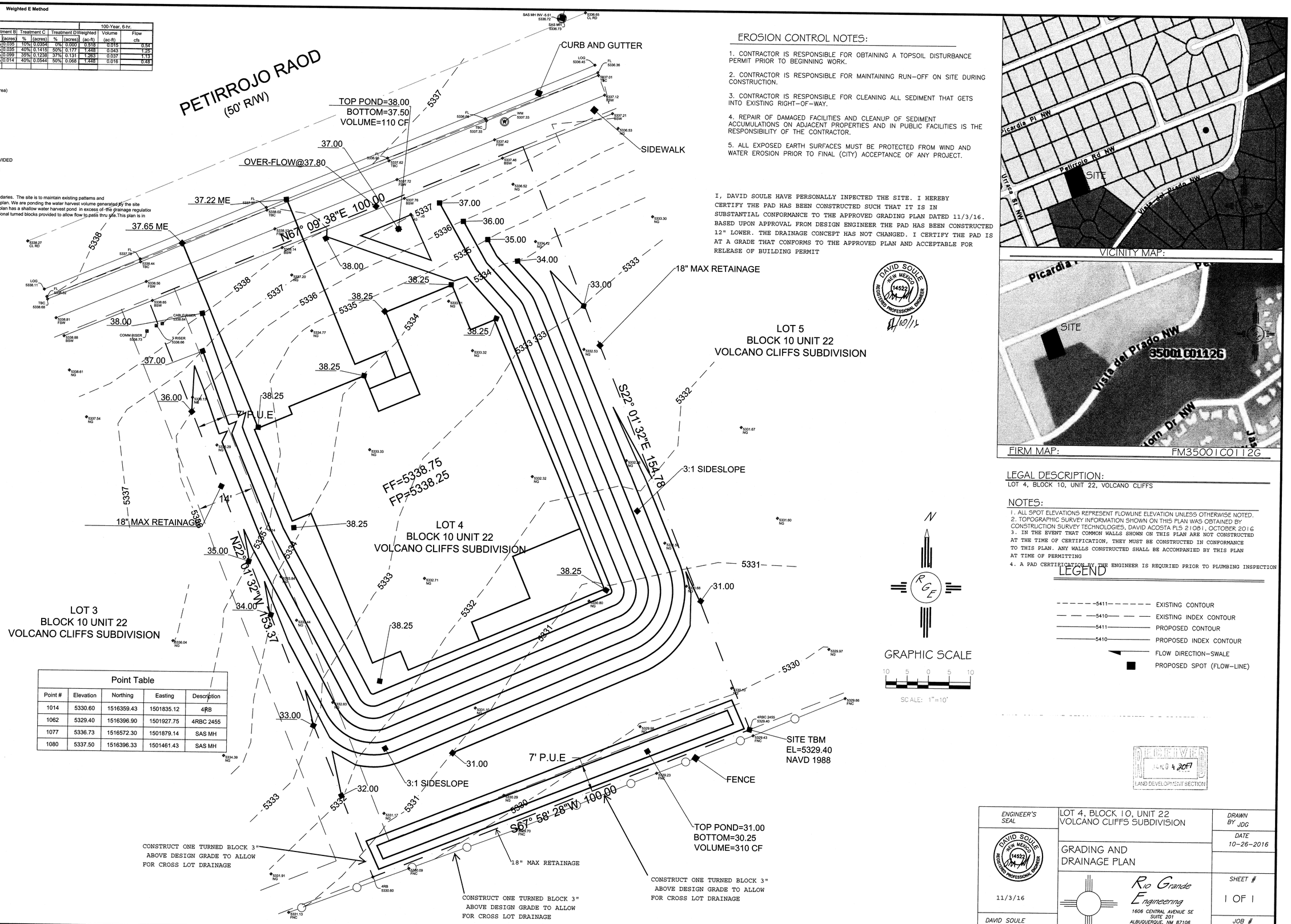
Narrative

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 regulatio The upland flow is such that the pad was raised and additional turned blocks provided to allow flow to pass thru site.This plan is in conformance to the master drainage plan



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

I, DAVID SOULE HAVE PERSONALLY INPECTED THE SITE. I HEREBY CERTIFY THE PAD HAS BEEN CONSTRUCTED SUCH THAT IT IS IN SUBSTANTIAL CONFORMANCE TO THE APPROVED GRADING PLAN DATED 11/3/16. BASED UPON APPROVAL FROM DESIGN ENGINEER THE PAD HAS BEEN CONSTRUCTED 12" LOWER. THE DRAINAGE CONCEPT HAS NOT CHANGED. I CERTIFY THE PAD IS AT A GRADE THAT CONFORMS TO THE APPROVED PLAN AND ACCEPTABLE FOR RELEASE OF BUILDING PERMIT

DAVID SOULE NEW MEXICO 14522 REGISTERED PROFESSIONAL ENGINEER
11/10/16

Point Table				
Point #	Elevation	Northing	Easting	Description
1014	5330.60	1516359.43	1501835.12	4RB
1062	5329.40	1516396.90	1501927.75	4RBC 2455
1077	5336.73	1516572.30	1501879.14	SAS MH
1080	5337.50	1516396.33	1501461.43	SAS MH

VICINITY MAP:

FIRM MAP: FM35001C0112G

LEGAL DESCRIPTION:

LOT 4, BLOCK 10, UNIT 22, VOLCANO CLIFFS

NOTES:

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LEGEND

- 5411 EXISTING CONTOUR
- 5410 EXISTING INDEX CONTOUR
- 5411 PROPOSED CONTOUR
- 5410 PROPOSED INDEX CONTOUR
- FLOW DIRECTION-SWALE
- PROPOSED SPOT (FLOW-LINE)

N

GRAPHIC SCALE

10 5 0 5 10

SCALE: 1"=10'

RECEIVED
NOV 4 2016
LAND DEVELOPMENT SECTION

ENGINEER'S SEAL	LOT 4, BLOCK 10, UNIT 22 VOLCANO CLIFFS SUBDIVISION	DRAWN BY JDG
DAVID SOULE NEW MEXICO 14522 REGISTERED PROFESSIONAL ENGINEER		DATE 10-26-2016
11/3/16	GRADING AND DRAINAGE PLAN	
DAVID SOULE P.E. #14522	Rio Grande Engineering 1606 CENTRAL AVENUE SE SUITE 201 ALBUQUERQUE, NM 87106 (505) 872-0999	SHEET # 1 OF 1
		JOB #