CITY OF ALBUQUERQ

Planning Department Suzanne Lubar, Director



Mayor Richard J. Berry

January 17, 2017

Robert Fierro Fierro & Company 6300 Montano Rd NW Albuquerque NM, 87104

The Varela Residence Volcano Cliffs Unit 18 RE: 6505 Pato Rd NW, S.A.D. 228, Lot 21 Block 6 **Grading and Drainage Plan** Engineers Stamp Date 12/27/16 (D10D003M21)

Dear Mr. Fierro,

Based upon the information provided in your submittal received 1/10/17, this plan cannot be approved for Grading Permit, until the following comments are addressed.

PO Box 1293

Albuquerque

- Provide a statement requiring that a pad certification or a written statement by you is required before the home is released for building permit or the concrete pad is poured.
- Provide a statement informing the owner/contractor that a separate for a garden wall or retaining wall is required, and an opening 3" above grade is required for flows to pass through their rear yard according to the S.A.D. 228 master plan.

New Mexico 87103

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

www.cabq.gov

If you have any questions, please contact me at 924-3999 or Rudy Rael at 924-3977.

Sincerely,

Shahab Biazar, P.E. City Engineer, Albuquerque **Planning Department**

RR/AC C: File

Introduction

A custom home is proposed at 6505 Pato Rd. NW. The proposed residence will be built on Lot 21, Block 6, Volcano Cliffs Unit 18. The City of Albuquerque requires an approved grading & drainage plan for all lots within Volcano Cliffs Unit 18. The property is located within SAD 228. A drainage report was prepared for SAD 228 and is dated January 2012.

Volcano Cliffs Unit 18 is within Basin 201 of said drainage report. The allowable discharge rates for Basin 201 are based on the following land treatments: treatment A=0%, treatment B= 10%, treatment C=40%, and treatment D=50%. These land treatment percentages are based on a residential land use. The SAD 228 drainage report did not address the first flush; therefore, the first flush is addressed in this Grading & Drainage Plan.

The purpose of this Grading & Drainage Plan is to 1) provide hydrologic and hydraulic analysis of the allowable and proposed condition, 2) satisfy the first flush requirement, and 3) seek building approval.

Methodology

Hydrologic procedures presented in the Hydrology Section of the DMP, Section 22.2, revised April 7, 1993 were followed.

Existing Condition

The site's lot dimension is 100'x145'. The lot does not receive offsite runoff. Refer to the grading & drainage plan for the surface flow of the surrounding lots. The existing drainage pattern is similar to the drainage pattern as illustrated in the SAD 228's basin map. The site drains to Pato Rd. except for the north 7 feet which drains to the north lot. The north 7 feet also encompasses a utility easement. Hydrologic analysis for the existing condition were not performed, since the allowable discharge is based on SAD 228 analysis.

Proposed Condition

The site is proposed to contain a custom residence with a footprint of approximately 3,904 sq.ft. The site will contain the same drainage pattern as in the existing condition. Two depressed landscape areas will capture the first flush volume. Refer to the Grading & Drainage Plan for the first flush calculations and grading of the depressed areas. No further ponding is required, since the allowable discharges is based a developed residence containing a land treatment D percentage of 50%. The proposed site contains a land treatment D

percentage of 43%, which is less than the allowable. The allowable land treatment percentages, based on SAD 228 drainage report, produces more runoff volume and a higher peak discharge, then the proposed residence shown on this grading plan. Refer to the calculations on this sheet.

It is impractical for the driveway to be captured by one of the depressed areas. However, the driveways impervious area was added to the calculation for Depressed Landscaping "B". All other impervious areas will be captured by one of the depressed landscaping areas.

Conclusion

The site's drainage under the proposed condition is enhanced by 1) reducing the site's runoff volume and peak discharge, and 2) capturing the first flush. The City's requirements have been satisfied under this grading & drainage plan. The contractor shall use this plan and will need a drainage certification in order to obtain a Close-out. This drainage report seeks approval for building permit.

BASIN 100 (ALLOWABLE)	BASIN 200 (PROPOSED)
Area of Treatment A = 0.000 ft ²	Area of Treatment A = 0.000 ft ²
0 ac	0 ac
Area of Treatment B = 1700.00 ft^2	Area of Treatment B = 1700.00 ft ²
0.039 ac	0.039 ac
Area of Treatment C = 6800.00 ft ²	Area of Treatment C = 8048.00 ft ²
0.156 ac	0.185 ac
Area of Treatment D = 8500.00 ft^2	Area of Treatment D = 7252.00 ft ²
0.195 ac	0.166 ac
Total Area = 17000.00 ft ²	Total Area = 17000.00 ft ²
0.390 ac	0.390 ac
Volumetric Flow	Volumetric Flow
Weighted $E = 1.448$ inches	Weighted E = 1.376 inches
Volume (6hr) = 0.047 acre-ft	Volume (6hr) = 0.045 acre-ft
Volume (24hr) = 0.055 acre-ft	Volume (24hr) = 0.051 acre-ft
Volume (4days) = 0.062 acre-ft	Volume (4days) = 0.058 acre-ft
Volume (10days) = 0.071 acre-ft	Volume (10days) = 0.065 acre-ft
Peak Rate of Discharge Q ₁₀₀ = 1.380 cfs	Peak Rate of Discharge $Q_{100} = 1.337$ cfs

FIRST FLUSH STORAGE:

DEPRESSED LANDSCAPING "A"

NEW LAND TREATMENT "D" CAPTURED BY POND: 1) 2,054 SQ.FT. ROOF SURFACE TOTAL AREA = 2,054 SQ.FT. WATER QUALITY STORAGE NEEDED=2,051 SQ.FT. (.34")*(1'/12")=58.1 CU.FT. WATER QUALITY STORAGE DESIGNED = 62.1 CU.FT.

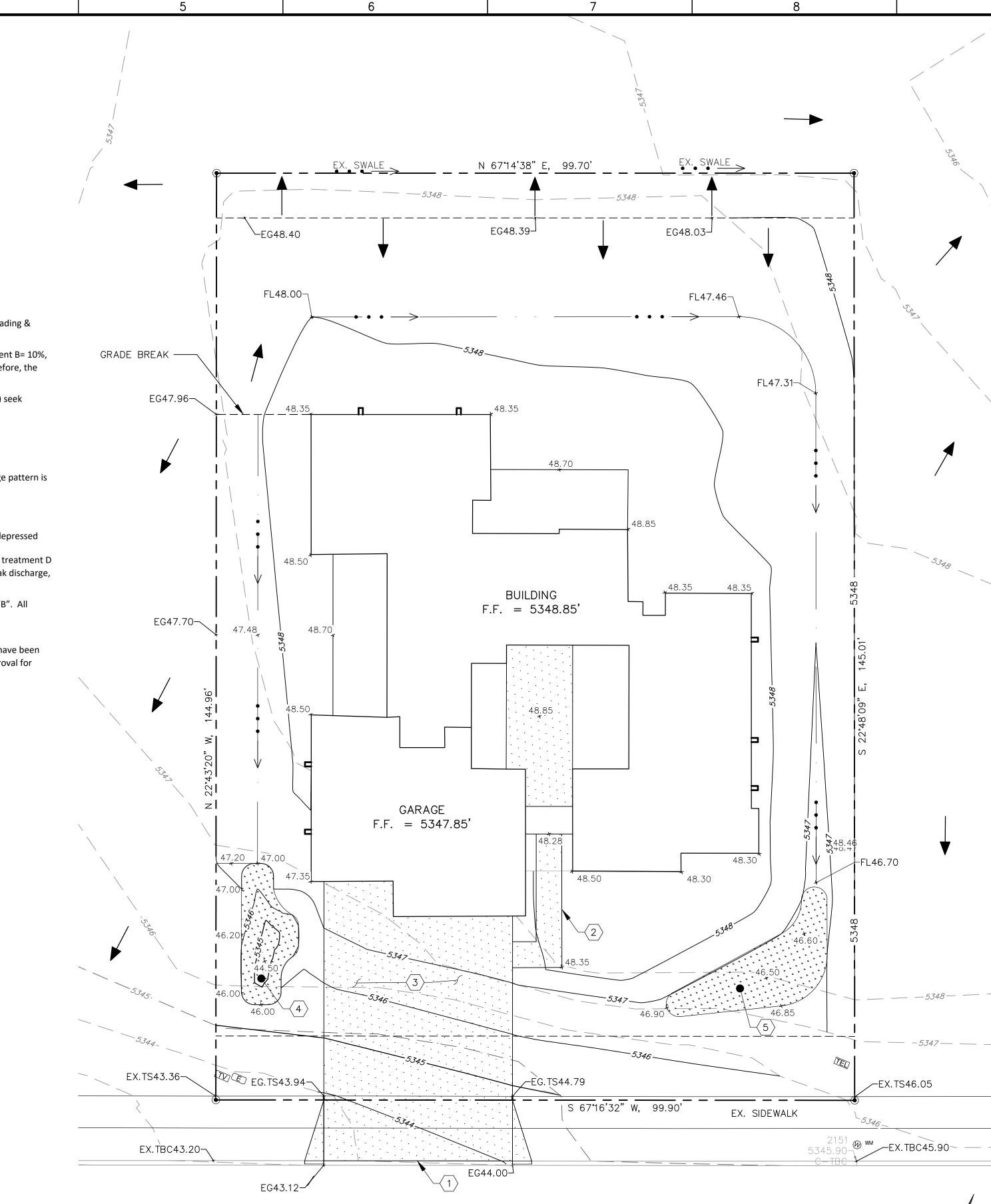
WQDESIGNED (62.1 CU.FT.) > WQNEEDED (58.1 CU.FT.)

NORTHEAST LANDSCAPING PONDING

NEW LAND TREATMENT "D" CAPTURED BY POND: 1) 1,750 SQ.FT. ROOF SURFACE 2) 58 SQ.FT. SIDEWALK 3) 890 SQ.FT. DRIVEWAY TOTAL AREA = 2,698 SQ.FT. WATER QUALITY STORAGE NEEDED=2,698 SQ.FT. (.34")*(1'/12")=76.4 CU.FT.

DEPRESSED AREA=230 SQ.FT. WATER QUALITY STORAGE DESIGNED (4-INCH DEPTH) =230 SQ.FT. * $(4^{"}/12) = 76.7$ CU.FT.

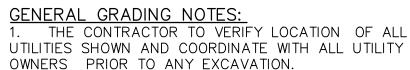
WQDESIGNED (76.7 CU.FT.) > WQNEEDED (76.4 CU.FT.)



PATO RD. NW

LEGAL DESCRIPTION LOT 21, BLOCK, 6, VOLCANO CLIFFS UNIT 18





2. THE CONTRACTOR SHALL LIMIT DISTURBANCE OF NATIVE VEGETATION TO A MINIMUM.

3. THIS PLAN RECOMMENDS POSITIVE DRAINAGE AWAY FROM ALL STRUCTURES TO PROHIBIT PONDING OF RUNOFF WHICH MAY CAUSE STRUCTURAL SETTLEMENT. FUTURE ALTERATION OF GRADES ADJACENT TO THE PROPOSED STRUCTURES IS NOT RECOMMENDED.

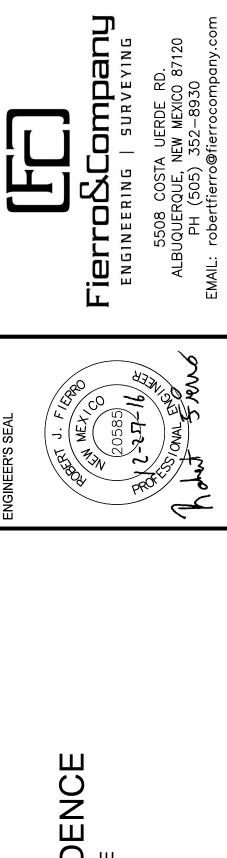
4. PERFORM GRADING AND EXCAVATION WORK IN COMPLIANCE WITH APPLICABLE SPECIFICATIONS, REQUIREMENTS, CODES AND ORDINANCES OF BERNALILLO COUNTY, NEW MEXICO.

5. CONTRACTOR SHALL BE RESPONSIBLE FOR THE DISPOSAL OF OR OBTAINING EXCESS CUT OR FILL MATERIAL REQUIRED FOR FINAL GRADE.

6. CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING AND COORDINATING WITH NEW MEXICO ONE CALL PRIOR EXCAVATION.

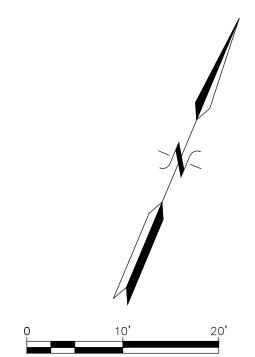
7. CLEAR AND GRUBBING PER NM APWA SECTION 201 SPECIFICATION.

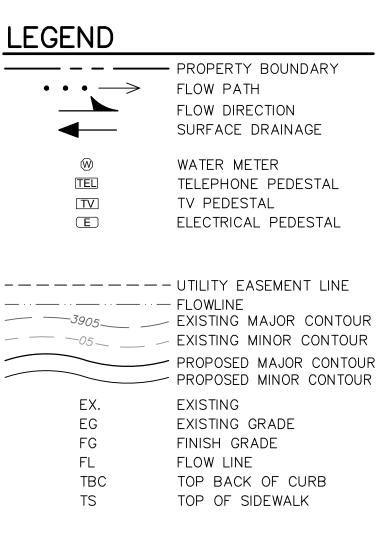
8. SPOT ELEVATIONS ARE TO FINISH GRADE UNLESS NOTED OTHERWISE.



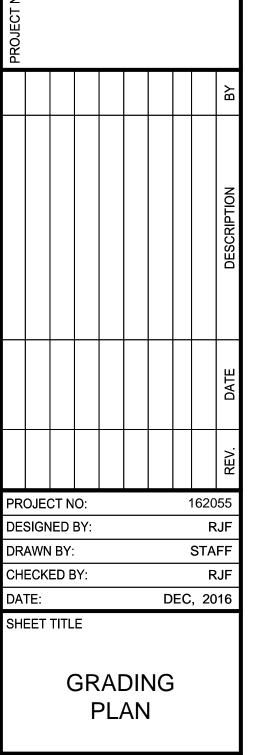


- $\langle 1 \rangle$ CONSTRUCT DRIVEPAD PER COA STD. DWG. 2425.
- $\langle 2 \rangle$ CONSTRUCT SIDEWALK. DETAIL BY OTHERS.
- $\langle 3 \rangle$ CONSTRUCT CONCRETE DRIVE. DETAIL BY OTHERS.
- $\langle 5 \rangle$ CONSTRUCT DEPRESSED LANDSCAPING "B". VOLUME = 76.7 CU.FT.









C-1.0

SHEET NO:



City of Albuquerque

Planning Department Development & Building Services Division

DRAINAGE AND TRANSPORTATION INFORMATION SHEET (REV 09/2015)

Building Permit #:	City Drainage #:
	Work Order#:
	Contact: Robert Fierro
	E-mail: robertfierro@fierrocompany.com
	Contact:
	-
	E-mail:
	Contact:
	E-mail:
	Contact: Toby Ramirez
	E-mail: rmzbuildersllc@gmail.com
CERTIFICAT	TE OF OCCUPANCY
	RY PLAT APPROVAL FOR SUB'D APPROVAL
	FOR BLDG. PERMIT APPROVAL
	SE OF FINANCIAL GUARANTEE
FOUNDATION PERMIT APPROVAL	
GRADING PERMIT APPROVAL	
SO-19 APPR	
PAVING PE	RMIT APPROVAL
GRADING/ PAD CERTIFICATION	
WORK ORDER APPROVAL	
CLOMR/LON	
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