

# CITY OF ALBUQUERQUE



Richard J. Berry, Mayor

April 4, 2017

Robert Fierro, P.E.  
Fierro & Company  
5508 Costa Verde Rd. NW  
Albuquerque, NM, 87120

**RE: Xtreme Storage Carports  
Grading Plan  
Stamp Date: 3/17/17  
Hydrology File: L14D060**

Dear Mr. Fierro:

PO Box 1293

Based upon the information provided in your submittal received 3/20/2017, the Grading Plan is approved for Building Permit.

Albuquerque

If you have any questions, please contact me at 924-3995 or [rbrissette@cabq.gov](mailto:rbrissette@cabq.gov).

Sincerely,

New Mexico 87103

*Renee C. Brissette*

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

Reneé C. Brissette, P.E.  
Senior Engineer, Hydrology  
Planning Department



# 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

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

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

IS THIS A RESUBMITTAL?: ☐ Yes ☐ No

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

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

Introduction

Xtreme Storage is proposing several carports at their facility located at 1701 Williams Street SE, also described by Tract No. 187, MRGCD Amended Map NO. 41. The proposed site will increase the impervious area by approximately 8, 568 sq.ft. A pre-design meeting with the City of Albuquerque was held on March 10th, 2017.

The purpose of this Grading & Drainage Plan is to 1) provide hydrologic and hydraulic analysis of the existing and proposed condition, 2) satisfy the first flush requirement, and 3) seek building permit 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 is located on 1.5 acres and is currently vacant. The site contains concrete pads with an approx. total area of 0.5 acres. There is minimal to no vegetation with the remaining of the site compacted by human activity. Offsite runoff is received only from half the roof flow of the building located directly north of the site. The site drains East to Williams Street at approximately 3.66 cfs/acre.

Proposed Condition

A total of 14 carports is proposed. There will be 6 carports installed on the existing concrete located west of the property, and 8 carports installed on a compacted soil pad along the South boundary line. A detention pond is proposed to store the first flush volume plus the net increase runoff volume from the 100-year, 24-hour storm. Offsite runoff from the roof flow on the adjacent building towards the North will continue to flow into the property, but isn't proposed to enter the pond. Refer to the calculations on this sheet.

The pond will overflow to the East when runoff is greater than the runoff from a 100-year, 24-hour storm and drain to Williams Street. There is a slight increase of peak discharge due to the increase impervious area; however by the detention pond storing the increased runoff volume, the site will not discharge more the the existing 100-year, 6-hour peak flow.

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.

FIRST FLUSH STORAGE:

NEW LAND TREATMENT "D" CAPTURED BY POND:  
1) 861 SQ.FT. (ADDITIONAL CONC. FROM NORTH CARPORT)  
2) 7,707 SQ.FT. (FROM WEST CARPORT)  
TOTAL AREA = 8,568 SQ.FT.

WATER QUALITY STORAGE REQUIRED  
=8,568 SQ.FT. (.34")\*(1'/12")= 243 CU.FT.

DETENTION POND VOLUME:

FIRST FLUSH STORAGE:

WATER QUALITY STORAGE = 250 CU.FT. (SEE CALC. ABOVE)

NET 100YR-24HR VOLUME (EXISTING TO PROPOSED):

EXISTING 100YR-24HR VOLUME = 0.209 ACRE-FT  
PROPOSED 100YR-24HR VOLUME = 0.232 ACRE FT

NET VOL. = 0.023 ACRE-FT OR 1002 SQ.FT.

DETENTION STORAGE NEEDED = 250 SQ.FT + 1,002 SQ.FT.  
=1,252 SQ.FT

DETENTION STORAGE DESIGNED = 1,298 SQ.FT.

VOL.DESIGNED (1,298 SQ.FT > VOL.REQUIRED (1,252 SQ.FT.))

BASIN 100 (ALLOWABLE)

Basin 100 - Existing

Area of Treatment A	=	0.000	ft <sup>2</sup>
		0	ac
Area of Treatment B	=	0.00	ft <sup>2</sup>
		0.000	ac
Area of Treatment C	=	45790.00	ft <sup>2</sup>
		1.051	ac
Area of Treatment D	=	22833.00	ft <sup>2</sup>
		0.524	ac
Total Area	=	68623.00	ft <sup>2</sup>
		1.575	ac

Volumetric Flow

Weighted E	=	1.459	inches
Volume (6hr)	=	0.192	acre-ft
Volume (24hr)	=	0.209	acre-ft
Volume (4days)	=	0.233	acre-ft
Volume (10days)	=	0.261	acre-ft

Peak Rate of Discharge

Q <sub>100</sub>	=	5.764	cfs
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BASIN 200 (PROPOSED)

Basin 200 - Proposed

Area of Treatment A	=	0.000	ft <sup>2</sup>
		0	ac
Area of Treatment B	=	0.00	ft <sup>2</sup>
		0.000	ac
Area of Treatment C	=	37222.00	ft <sup>2</sup>
		0.854	ac
Area of Treatment D	=	31401.00	ft <sup>2</sup>
		0.721	ac
Total Area	=	68623.00	ft <sup>2</sup>
		1.575	ac

Volumetric Flow

Weighted E	=	1.583	inches
Volume (6hr)	=	0.208	acre-ft
Volume (24hr)	=	0.232	acre-ft
Volume (4days)	=	0.265	acre-ft
Volume (10days)	=	0.304	acre-ft

Peak Rate of Discharge

Q <sub>100</sub>	=	6.071	cfs
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CONSTRUCT POND  
TOP=4948.80'  
BOTTOM=4948.30'  
11' WIDE BOTTOM  
3:1 SIDE SLOPES  
VOL.=1,298 C.F.

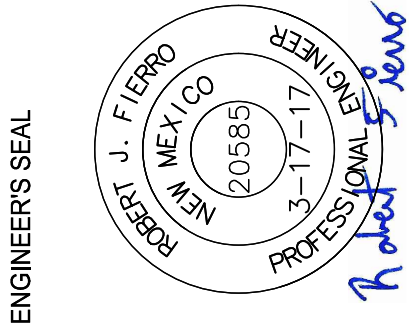
GENERAL GRADING NOTES:

1. THE CONTRACTOR TO VERIFY LOCATION OF ALL UTILITIES SHOWN AND COORDINATE WITH ALL UTILITY OWNERS PRIOR TO ANY EXCAVATION.
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.
9. KEEP TOTAL DISTURBANCE LESS THAN 1 ACRE. ESTIMATED DISTURBANCE =20,000 SQ.FT.

LEGEND

- PROPERTY BOUNDARY
- FLOW PATH
- ROOF FLOW
- SURFACE DRAINAGE
- WATER METER
- TELEPHONE PEDESTAL
- TV PEDESTAL
- ELECTRICAL PEDESTAL
- NEW GARDEN WALL
- UTILITY EASEMENT LINE
- FLOWLINE
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- EX. EXISTING
- EG EXISTING GRADE
- FG FINISH GRADE
- FL FLOW LINE
- TBC TOP BACK OF CURB
- TS TOP OF SIDEWALK

**Fierro & Company**  
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5508 COSTA UERDE RD.  
ALBUQUERQUE, NEW MEXICO 87120  
PH (505) 352-8930  
EMAIL: robertfierro@fierrocompany.com



**XTREME STORAGE**  
1701 WILLIAM STREET SE  
ALBUQUERQUE, NM

PROJECT NAME

BY	DESCRIPTION	DATE	REV.

PROJECT NO: 17016  
DESIGNED BY: RJF  
DRAWN BY: STAFF  
CHECKED BY: RJF

DATE: MARCH 2017  
SHEET TITLE

GRADING  
PLAN

SHEET NO:  
**C-1.0**

DESCRIPTION  
TRACT NO. 187, MRGCD AMENDED MAP NO. 41