CITY OF ALBUQUERQUE

Timothy M. Keller, Mayor

January 29, 2018

David Soule, P.E.
Rio Grande Engineering
P.O. Box 93924
Albuquerque, NM, 87199

RE: Marble Townhomes
Grading Plan and Drainage Report
Engineer's Stamp Date: 01/24/18
Hydrology File: J18D046

Dear Mr. Soule:

PO Box 1293

Based upon the information provided in your submittal received 01/25/2018, the Grading Plan is approved for Building Permit and Grading Permit.

Albuquerque

Please attach a copy of this approved plan in the construction sets for Building Permit processing. Prior to Certificate of Occupancy release, Engineer Certification per the DPM checklist will be required.

NM 87103

If you have any questions, please contact me at 924-3995 or rbrissette@cabq.gov.

www.cabq.gov

Sincerely,

Renée C. Brissette

Renée C. Brissette, P.E. CFM
Senior Engineer, Hydrology
Planning Department

Orig: Drainage File

City of Albuquerque

Planning Department

Development & Building Services Division

DRAINAGE AND TRANSPORTATION INFORMATION SHEET

(REV 02/2013)

Project Title: MARBLE TOWN HOMES Building Permit #: _____ City Drainage #: J18D046

DRB#: _____ EPC#: _____ Work Order#: _____

Legal Description: TRACT 2 MARBLE TOWNHOMES SUBDIVISION

City Address: 6001 MARBLE NE

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: Ahmet Tiryaki Contact: _____

Address: 1815 Cagua Place NE, Albuquerqueb nm 87110

Phone#: _____ Fax#: _____ E-mail: _____

Architect: ROGER CINELLI Contact: _____

Address: 9215 SHOSHONE NE

Phone#: _____ Fax#: _____ E-mail: _____

Surveyor: CONSTRUCTION SURVEY TECHNOLOGIES Contact: JOHN GALLEGOS

Address: _____

Phone#: 917.8921 Fax#: _____ E-mail: _____

Contractor: _____ Contact: _____

Address: _____

Phone#: _____ Fax#: _____ E-mail: _____

TYPE OF SUBMITTAL:

- X DRAINAGE REPORT
- ___ DRAINAGE PLAN 1st SUBMITTAL
- X DRAINAGE PLAN RESUBMITTAL
- ___ CONCEPTUAL G & D PLAN
- ___ GRADING PLAN
- ___ EROSION & SEDIMENT CONTROL PLAN (ESC)
- ___ ENGINEER'S CERT (HYDROLOGY)
- ___ CLOMR/LOMR
- ___ TRAFFIC CIRCULATION LAYOUT (TCL)
- ___ ENGINEER'S CERT (TCL)
- ___ ENGINEER'S CERT (DRB SITE PLAN)
- ___ ENGINEER'S CERT (ESC)
- ___ SO-19
- ___ OTHER (SPECIFY)

CHECK TYPE OF APPROVAL/ACCEPTANCE SOUGHT:

- ___ SIA/FINANCIAL GUARANTEE RELEASE
- ___ PRELIMINARY PLAT APPROVAL
- ___ S. DEV. PLAN FOR SUB'D APPROVAL
- ___ S. DEV. FOR BLDG. PERMIT APPROVAL
- ___ SECTOR PLAN APPROVAL
- ___ FINAL PLAT APPROVAL
- ___ CERTIFICATE OF OCCUPANCY (PERM)
- ___ CERTIFICATE OF OCCUPANCY (TCL TEMP)
- ___ FOUNDATION PERMIT APPROVAL
- X BUILDING PERMIT APPROVAL
- X GRADING PERMIT APPROVAL
- ___ PAVING PERMIT APPROVAL
- ___ WORK ORDER APPROVAL
- ___ GRADING CERTIFICATION

- ___ SO-19 APPROVAL
- ___ ESC PERMIT APPROVAL
- ___ ESC CERT. ACCEPTANCE
- ___ OTHER (SPECIFY)

WAS A PRE-DESIGN CONFERENCE ATTENDED: ___ Yes X No ___ Copy Provided

DATE SUBMITTED: 1/24/18 By: _____

Requests for approvals of Site Development Plans and/or Subdivision Plats shall be accompanied by a drainage submittal. The particular nature, location, and scope to the proposed development defines the degree of drainage detail. One or more of the following levels of submittal may be required based on the followin

1. **Conceptual Grading and Drainage Plan**: Required for approval of Site Development Plans greater than five (5) acres and Sector Plans
2. **Drainage Plans**: Required for building permits, grading permits, paving permits and site plans less than five (5) acres
3. **Drainage Report**: Required for subdivision containing more than ten (10) lots or constituting five (5) acres or more
4. **Erosion and Sediment Control Plan:** Required for any new development and redevelopment site with 1-acre or more of land disturbing area, including project less than 1-acre than are part of a larger common plan of development

CITY OF ALBUQUERQUE

Timothy M. Keller, Mayor

January 8, 2018

David Soule, P.E.
Rio Grande Engineering
P.O. Box 93924
Albuquerque, NM, 87199

RE: Marble Townhomes
Grading Plan and Drainage Report
Engineer's Stamp Date: 12/29/17
Hydrology File: J18D046

Dear Mr. Soule:

PO Box 1293

Albuquerque

NM 87103

www.cabq.gov

Based upon the information provided in your submittal received 01/02/2018, the Grading Plan **is not** approved for Building Permit and Grading Permit. The following comments need to be addressed for approval of the above referenced project:

Drainage Report:

1. Under the Existing Conditions, it appears that about half of the site drains to Cardenas Drive and about half of the site drains to Cagua Drive with a small portion draining directly to Marble Ave. Please take another look at the existing conditions.
   We have modified the existing conditions map
2. Provide a drainage map for the Existing Conditions and update the existing drainage calculations.
   We have added updated map and corrected existing drainage calculations
3. Under the Proposed Conditions, why not keep the drainage as per the appeared drainage conditions as outlined in #1 above?
   We have modified the plan to better match the correct existing conditions
4. Since this is a redevelopment site, you can use the redevelopment first flush volume that will be outlined in the new DPM once it is published. The storm water quality volume is calculated based on the 0.48 inch storm. To calculate the required storm water quality volume to be captured, multiply the impervious area by 0.28 inches for the 80th percentile storm.
   We have updated the calculations and shown on the calculation sheet

Orig: Drainage File

CITY OF ALBUQUERQUE

Timothy M. Keller, Mayor

Grading Plan:

1. The site currently shows more than 1 acre of disturbance is being proposed. An Erosion and Sediment Control Plan is required and has to be submitted to the storm water quality engineer (Curtis Cherne, PE, ccherne@cabq.gov). Hydrology's approval for Grading or Building Permit will not be given until the submittal of the ESC Plans. ESC was prepared and submitted
2. Please provide a note showing the first flush required volume and the first flush provided volume. We have shown this in the calculation table
3. Please provide a typical detail for the turned CMU block. This block needs to be at least four (4) inches above the proposed grade to avoid clogging.
   we have added detail
4. There are two missing remove drivepad & replace with curb & gutter note as outlined in the following photo.
   we have incorporated the additional existing drivepads

PO Box 1293

Albuquerque

NM 87103

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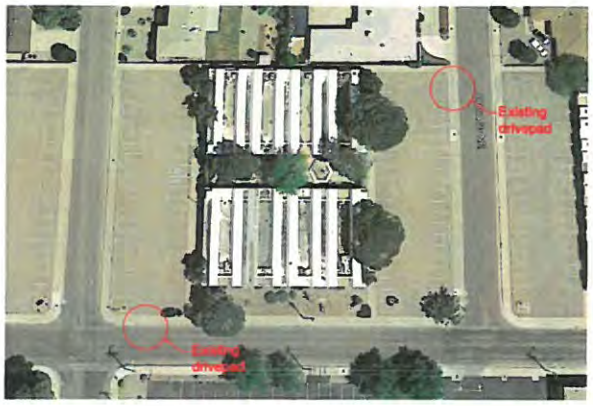

If you have any questions, please contact me at 924-3995 or rbrissette@cabq.gov.

Sincerely,

Renée C. Brissette

Renée C. Brissette, P.E. CFM
Senior Engineer, Hydrology
Planning Department

Orig: Drainage File

DRAINAGE REPORT

For

MARBLE TOWNHOMES
6001 MARBLE NE

Albuquerque, New Mexico

Prepared by

Rio Grande Engineering
PO Box 93924
Albuquerque, New Mexico 87199

JANUARY 2018

David Soule P.E. No. 14522

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Introduction 3
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Proposed Conditions 5
Summary 5

Appendix

Site Hydrology ..... A
Hydraulic Calculations ..... B

Map Pocket
Site Grading and Drainage Plan

PURPOSE

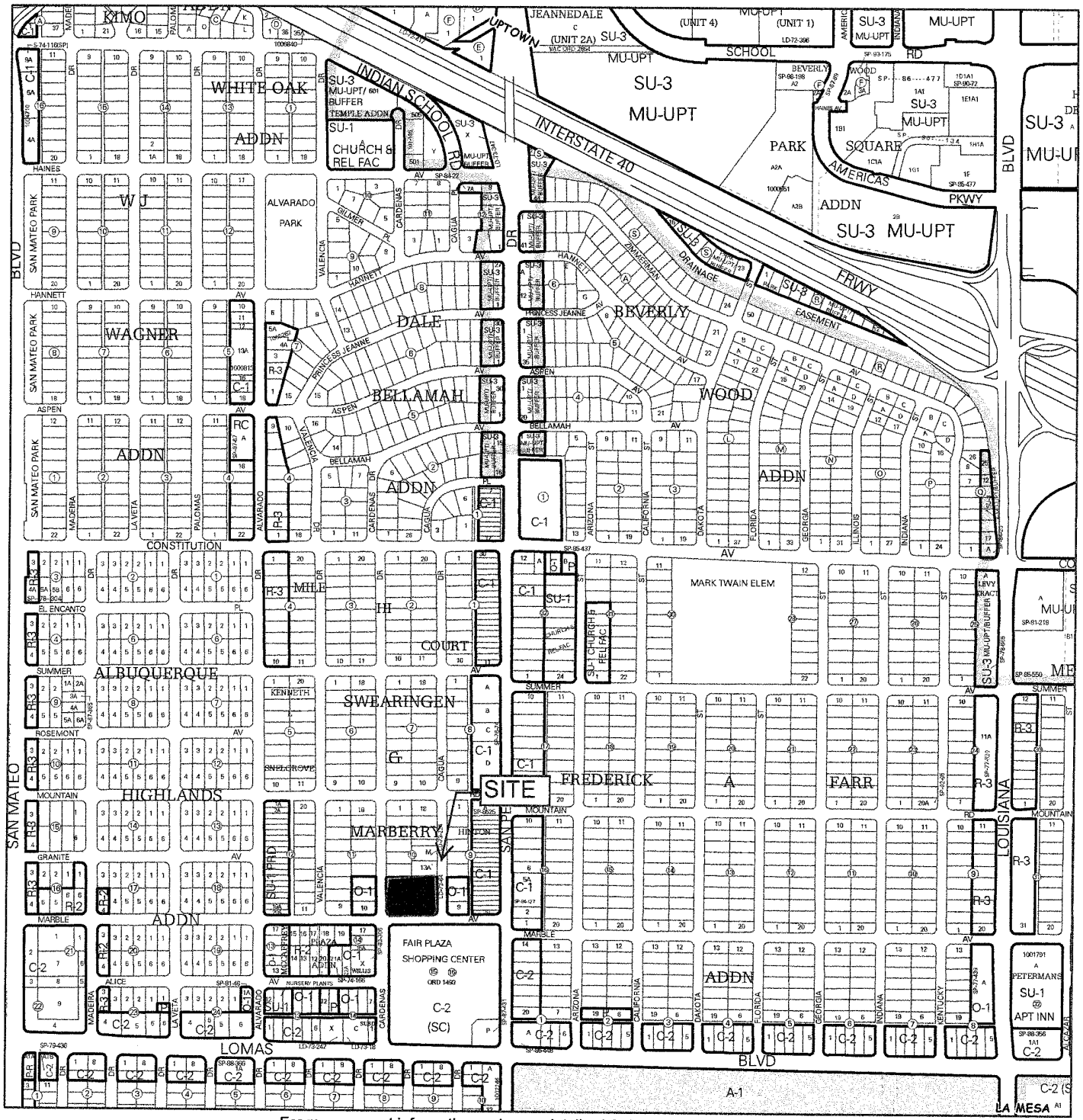
The purpose of this report is to provide the Drainage Management Plan for four approximately 5400 square foot apartment buildings, located on the north side of Marble, between Cardenas and Cagua NE. This plan was prepared in accordance with the City of Albuquerque design regulations, utilizing the City of Albuquerque's Development Process Manual drainage guidelines. This report will demonstrate that the grading does not adversely affect the surrounding properties, nor the upstream or downstream facilities.

INTRODUCTION

The subject of this report, as shown on the Exhibit A, is one parcel containing an area of 1.23 acres of land located on Marble between Cardenas and Cagua NE. The legal description of this site is tract 2 Marble Town homes, formerly lots 7-12, Block 10 Swearingen-Mabry Subdivision. The site was recently replatted into one singe tract. As shown on FIRM map35013C0354H, the entire property is located within Flood Zone X. This site is surrounded by fully developed parcels. This site has been completely developed for several decades, but the buildings were recently removed. Appendix A shows a current survey and 2010 areal with the buildings and existing parking lots, which we consider historical conditions. This is consistent with the maps of the area within the Albuquerque Master Drainage Study Volume II. The buildings have recently been removed. Based on the site location and the area characteristics of the adjacent drainage infrastructure this development shall be designed to match existing drainage patterns, and shall provide shallow water quality ponds for harvesting of rainwater for the first .48" of rainfall

EXISTING CONDITIONS

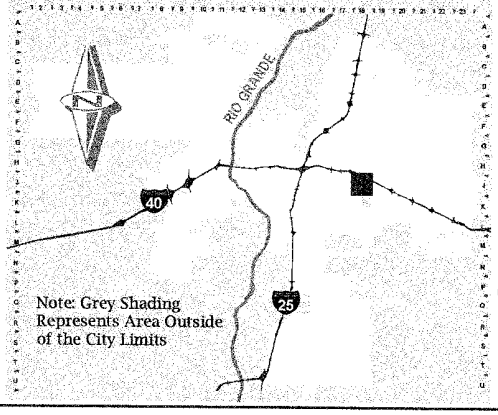
The site is currently developed. The site has historically included two large buildings with the remainder of the site paved, with very little gravel mulch landscape areas. The site is in fully developed condition. The site has 3 drainage basins. Basin A drains 2.82 cfs to Cagua, basin B drains 2.91 cfs to Cárdenas and basin C discharges.18 cfs to Marble, with total historical



For more current information and more details visit: http://www.cabq.gov/gis

Albuquerque Geographic Information System

Map amended through: 2/4/2010



Note: Grey Shading Represents Area Outside of the City Limits

Zone Atlas Page:

J-18-Z

Selected Symbols

- SECTOR PLANS
- Design Overlay Zones
- City Historic Zones
- H-1 Buffer Zone
- Petroglyph Mon.
- Escarpment
- 2 Mile Airport Zone
- Airport Noise Contours
- Wall Overlay Zone

0 750 1,500 Feet

discharge of 5.91 to the adjacent roadways where it is conveyed north to the city storm drain. The site is not impacted by any offsite flows, and is surrounded by curb and gutter on the upland basin. The discharge leaves the site mainly as sheet flow.

PROPOSED CONDITIONS

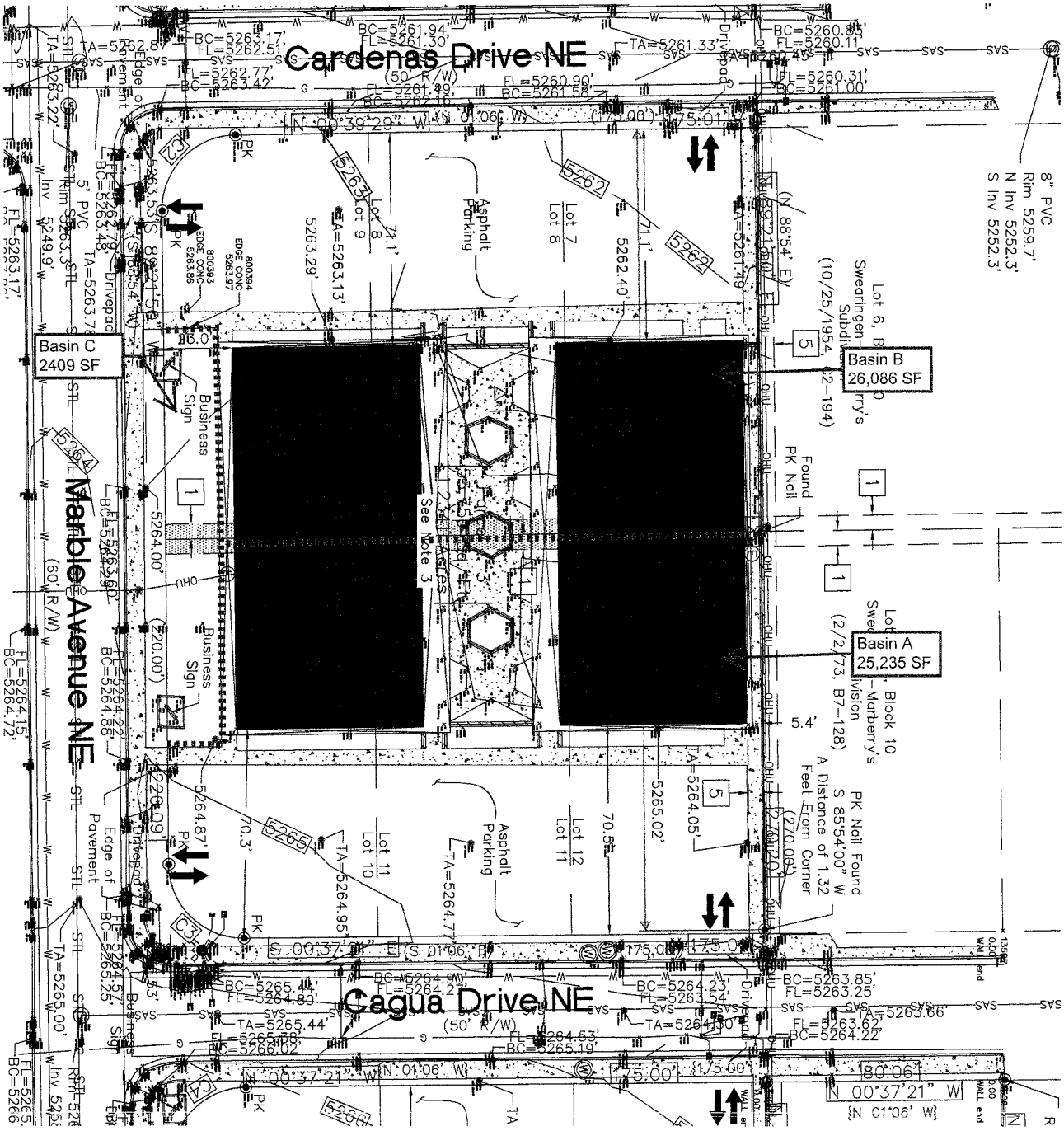
The proposed improvements consist of four apartment buildings and associated parking. As shown in appendix A, the site will be graded to drain half to Cardenas and half to Cagua via sheet flow out the driveway. The site contains basins, with Basin A discharging 2.95 cfs to Cagua and Basin B discharging 2.95 cfs to Cardenas. The site has multiple depressed landscape areas that will capture the first flush, before discharging at a peak rate of 5.91 cfs. The harvest ponds contain 1527 cubic feet which are greater than the 1103 cubic feet required to contain the first .48" of a storm.

SUMMARY AND RECOMMENDATIONS

This project is a redevelopment project within a completely developed area of northeast Albuquerque. The site historically discharges 5.91 cfs to the adjacent roadway. The proposed drainage plan will allow for harvesting ponds which overflow to internal driveway and discharge to Cardenas. The developed conditions will discharge 5.90 cfs. The proposed decrease of .01 cfs is minimal but with the inclusion of the harvesting ponds the flow leaving site will be less and shall have no negative impact on surrounding drainage structures. Since this site encompasses more than 1 acre, a NPDES permit and SWPPP will be required prior to any construction activity.

APPENDIX A

SITE HYDROLOGY



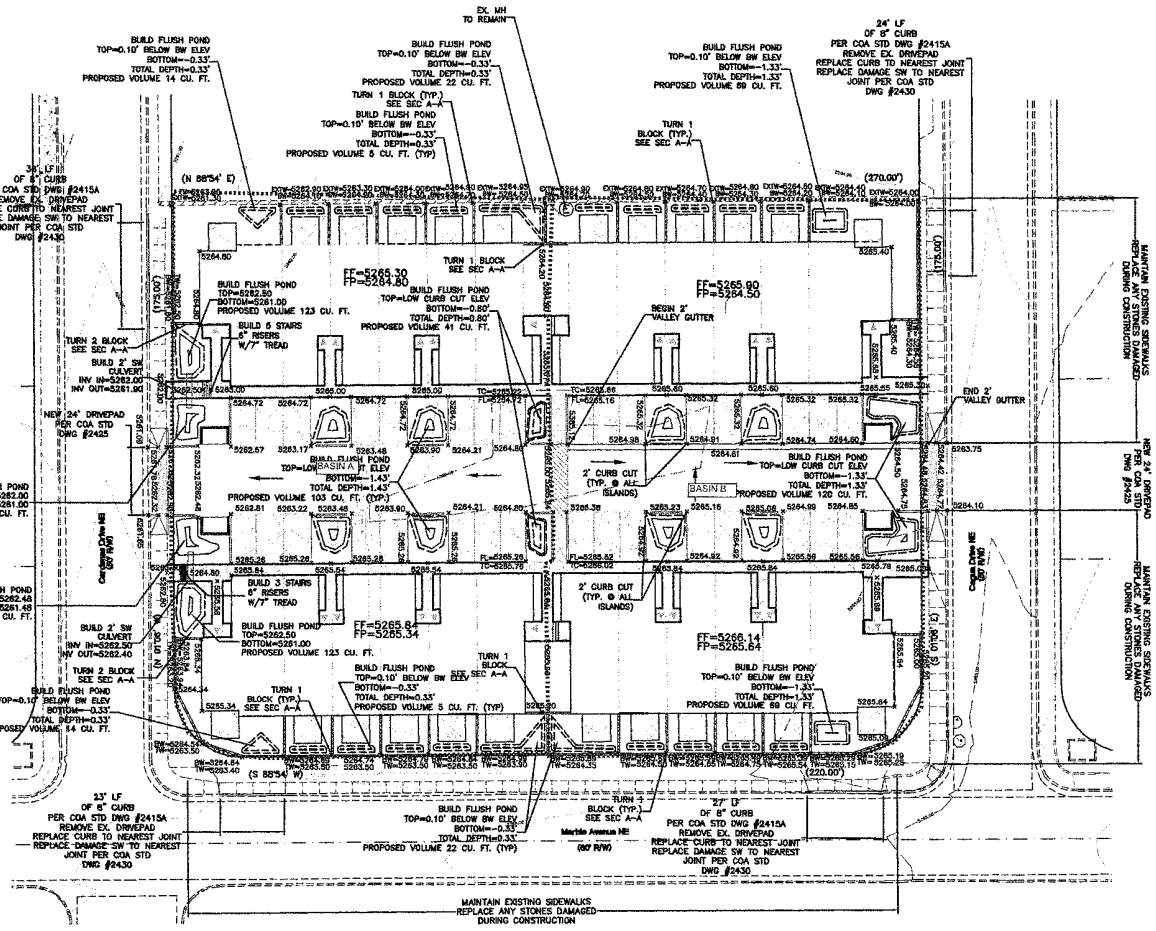
EXISTING ONSITE BASIN MAP

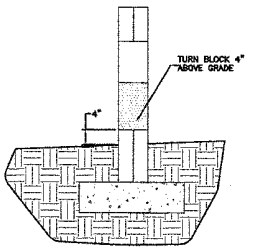
CAUTION:
EXISTING UTILITIES ARE NOT SHOWN. IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO CONDUCT ALL NECESSARY FIELD INVESTIGATIONS PRIOR TO ANY EXCAVATION TO DETERMINE THE ACTUAL LOCATION OF UTILITIES & OTHER IMPROVEMENTS.

EROSION CONTROL NOTES:

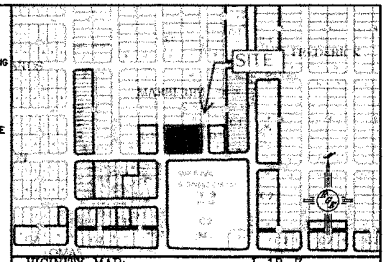
1. CONTRACTOR IS RESPONSIBLE FOR OBTAINING A TOPSOIL DISTURBANCE PERMIT PRIOR TO BEGINNING WORK.
2. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING RUN-OFF ON SITE DURING CONSTRUCTION.
3. CONTRACTOR IS RESPONSIBLE FOR CLEANING ALL SEDIMENT THAT GETS INTO EXISTING RIGHT-OF-WAY.
4. REPAIR OF DAMAGED FACILITIES 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 ACCEPTANCE OF ANY PROJECT.

PROPOSED ONSITE BASIN MAP





SECTION A-A
NTS



LEGAL DESCRIPTION:

LOTS 10-12, BLOCK 11 AND LOTS 7-12, BLOCK 10, SWEARINGEN-MAYBERRY'S SUBDIVISION AND LOTS 7-9, BLOCK 9, HINTON'S SUBDIVISION OF TRACT 9, MILE-HI EDITION

NOTES:

1. ALL SPOT ELEVATIONS REPRESENT FLOWLINE ELEVATION UNLESS OTHERWISE NOTED.
2. ALL CURB AND GUTTER TO 6" HEADER UNLESS OTHERWISE NOTED.
3. ALL RETAINING WALL DESIGN SHALL BE BY OTHERS.
4. ALL NEW PAVING SHALL BE 6" PCC OVER 8" SUBGRADE PREPARATION IN CONFORMANCE TO ACI 330R-08. UNLESS OTHERWISE NOTED.
5. ANY CURBS OR PAVEMENT NEGATIVELY IMPACTED BY CONSTRUCTION ACTIVITY SHALL BE REPLACED TO MATCH EXISTING CONDITIONS.
6. ALL SITE WORK SHALL CONFORM TO CITY OF ALBUQUERQUE STANDARDS FOR PUBLIC WORKS CONSTRUCTION EDITION 9

LEGEND

- EXISTING CONTOUR
- 5415 EXISTING INDEX CONTOUR
- 5414 PROPOSED CONTOUR
- 5410 PROPOSED INDEX CONTOUR
- SLOPE TIE
- × 4048.25 EXISTING SPOT ELEVATION
- × 4046.25 PROPOSED SPOT ELEVATION
- BOUNDARY
- CENTERLINE
- RIGHT-OF-WAY
- PROPOSED CURB
- EXISTING CURB AND GUTTER
- PROPOSED SIDEWALK
- EXISTING SIDEWALK
- 3' ADA PATH-2% MAX SLOPE

N

GRAPHIC SCALE
20 10 0 10 20
SCALE: 1"=20'

ENGINEER'S SEAL
DAVID SOULE NEW MEXICO 14522 REGISTERED PROFESSIONAL ENGINEER
1/24/18
DAVID SOULE P.E. #14522

MARBLE TOWNHOMES
GRADING AND DRAINAGE PLAN

Rio Grande Engineering
1606 CENTRAL AVENUE SE SUITE 201 ALBUQUERQUE, NM 87106 (505) 975-0988

DRAWN BY WCKJ
DATE 1-24-18
SHEET #
JOB # 21835

Weighted E Method

MARBLE APARTMENTS

Existing and Developed Basins

											100-Year, 6-hr.		
Basin	Area (sf)	Area (acres)	Treatment A		Treatment B		Treatment C		Treatment D		Weighted E (ac-ft)	Volume (ac-ft)	Flow cfs
			%	(acres)	%	(acres)	%	(acres)	%	(acres)			
EXISTING A	25235	0.579	0%	0	0.0%	0.000	10.0%	0.05793	90%	0.521	2.253	0.109	2.82
EXISTING B	26086	0.599	0%	0	0.0%	0.000	10.0%	0.05989	90%	0.539	2.253	0.112	2.91
EXISTING C	2409	0.055	0%	0	20.0%	0.011	50.0%	0.02765	20%	0.011	1.301	0.006	0.18
BASIN A	26865	0.617	0%	0	6.0%	0.037	6.0%	0.037	88%	0.543	2.209	0.114	2.95
BASIN B	26865	0.617	0%	0	6.0%	0.037	6.0%	0.037	88%	0.543	2.209	0.114	2.95
TOTAL EXISTING	53730	1.233	0%	0.000	0.9%	0.011	11.8%	0.145	87%	1.071	2.210	0.227	5.91
TOTAL PROPOSED	53730	1.233	0%	0.000	6.0%	0.074	6.0%	0.074	88%	1.085	2.209	0.227	5.90

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 3)

Ea= 0.66	Qa= 1.87
Eb= 0.92	Qb= 2.6
Ec= 1.29	Qc= 3.45
Ed= 2.36	Qd= 5.02

DISCHARGE PROPOSED	5.90	CFS	
EXISTING DISCHARGE	5.91	CFS	
FIRST FLUSH REQUIREMENT	1103.26	CF	=0.968 X 43560*.28/12
FIRST FLUSH RETAINED	1527.00	CF	

Narrative

This project is a redevelopment of and existing office complex. The complex is in the process of being demolished. The proposed development is a multifamily residential project The existing site discharges 591 cfs to the existing roadways. The flow drains west in Marble to the city storm drain system. The proposed development will continue to discharg the adjacent roadways and will retain onsite 1527 cubic feet of water which exceeds the first flush requirement of 1103 cubic feet. The site is not impaced by upland flows.

APPENDIX B

HYDRAULIC CALCULATIONS

sidewalk culvert

Weir Equation:

$$Q = CLH^{3/2}$$

West drainage under sidewalk

Q= 1.94 cfs
C = 2.95
H = 0.5 ft
L = Length of weir

$$Q = 2.95 * 2 * ((0.5)\text{^}(3/2))$$

Each sidwalk culvert has a capacity of 2.08 cfs

TURNED BLOCKS

Weir Equation:

$$Q = CLH^{3/2}$$

West drainage swale thru walls

Q= 2.92 cfs
C = 2.95
H = 0.5 ft
L = Length of weir

$$Q = 2.95 * .5 * ((0.5)\text{^}(3/2))$$

Each opening is 6"x6"
Each block has two openings
Each opening has .52 cfs capacity

Therefore 1.95 cfs requires 4 openings or 2 turned blocks

CAUTION:

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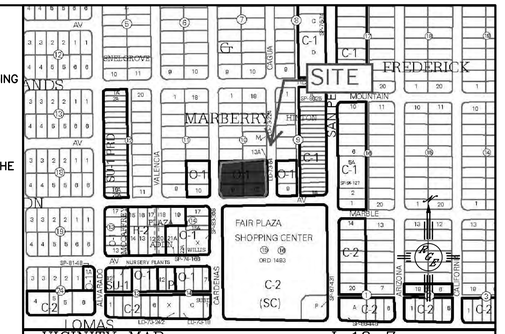
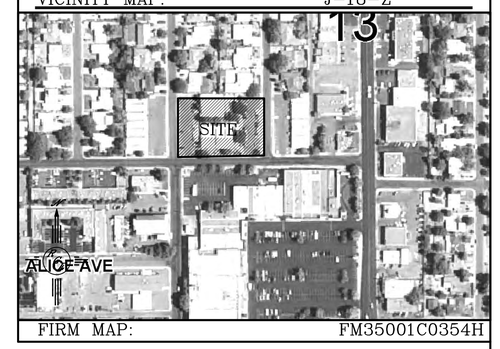
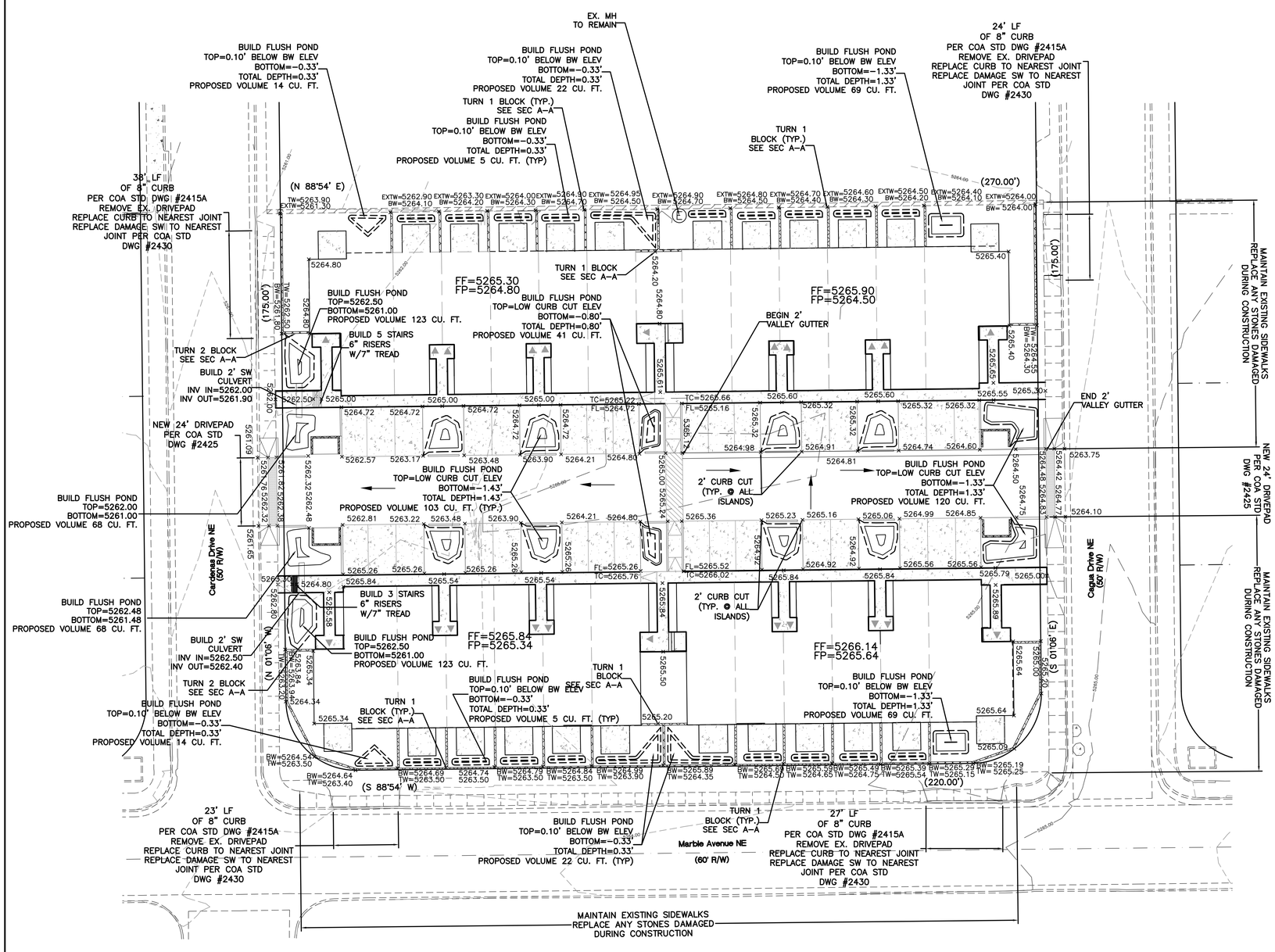
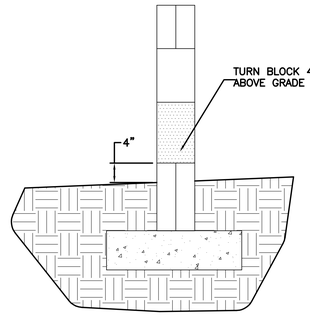


VICINITY MAP: J-18-Z



FIRM MAP: FM35001C0354H





SECTION A-A
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- 3' ADA PATH-2% MAX SLOPE

N

GRAPHIC SCALE

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SCALE: 1"=20'

ENGINEER'S SEAL

DAVID SOULE NEW MEXICO 14522 REGISTERED PROFESSIONAL ENGINEER

1/24/18

DAVID SOULE P.E. #14522

MARBLE TOWNHOMES

GRADING AND DRAINAGE PLAN

Rio Grande Engineering
1606 CENTRAL AVENUE SE SUITE 201 ALBUQUERQUE, NM 87106 (505) 872-0999

DRAWN BY WCWJ

DATE 1-24-18

21835-LAYOUT-12-12-17

SHEET # —

JOB # 21835