

# CITY OF ALBUQUERQUE



December 5, 2017

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

RE: **Sicily Plaza- 6001 Coors Blvd NW**  
**Grading Plan and Drainage Report**  
**Engineer's Stamp Date: 11/28/17**  
**Drainage File: E12D003F**

Dear Mr. Soule:

Based on the information provided in your submittal received 11/29/17 this submittal cannot be approved for Site Plan for Building Permit, Grading or Building Permit until the following are addressed:

1. A Private Facility Drainage Covenant is required for the new stormwater quality pond. The original notarized forms, exhibits, and recording fee (\$25, payable to City of Albuquerque) must be turned into DRC (4th, Plaza del Sol) for routing. Please contact Charlotte LaBadie (clabadie@cabq.gov, 924-3996) or Madeline Carruthers (mtafoya@cabq.gov, 924-3997) regarding the routing and recording process for covenants.
2. Bottom of pond elevation on the new pond needs to be corrected.
3. Is this a restaurant? If so please provide the utility sheet showing the grease trap and drain line to sanitary sewer for the dumpster, or show this on the grading plan.
4. Include the ALTA survey showing the existing drainage covenant on the existing pond.

Prior to C.O, the drainage covenant will need to be recorded and the elevation of the bottom of the existing and new ponds will need to be surveyed. If you have any questions, please contact me at 924-3695 or dpeterson@cabq.gov.

Sincerely,

Dana Peterson, P.E.  
Senior Engineer, Planning Dept.  
Development Review Services



# 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:** DAVID SOULE

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

REVISED  
DRAINAGE REPORT

For

**SICILY PLAZA  
6001 COORS NW  
Albuquerque, New Mexico**

Prepared by

Rio Grande Engineering  
PO Box 93924  
Albuquerque, New Mexico 87199



11/29/17

November 29, 2017

David Soule P.E. No. 14522

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### **Map Pocket**

Site Grading and Drainage Plan

## **PURPOSE**

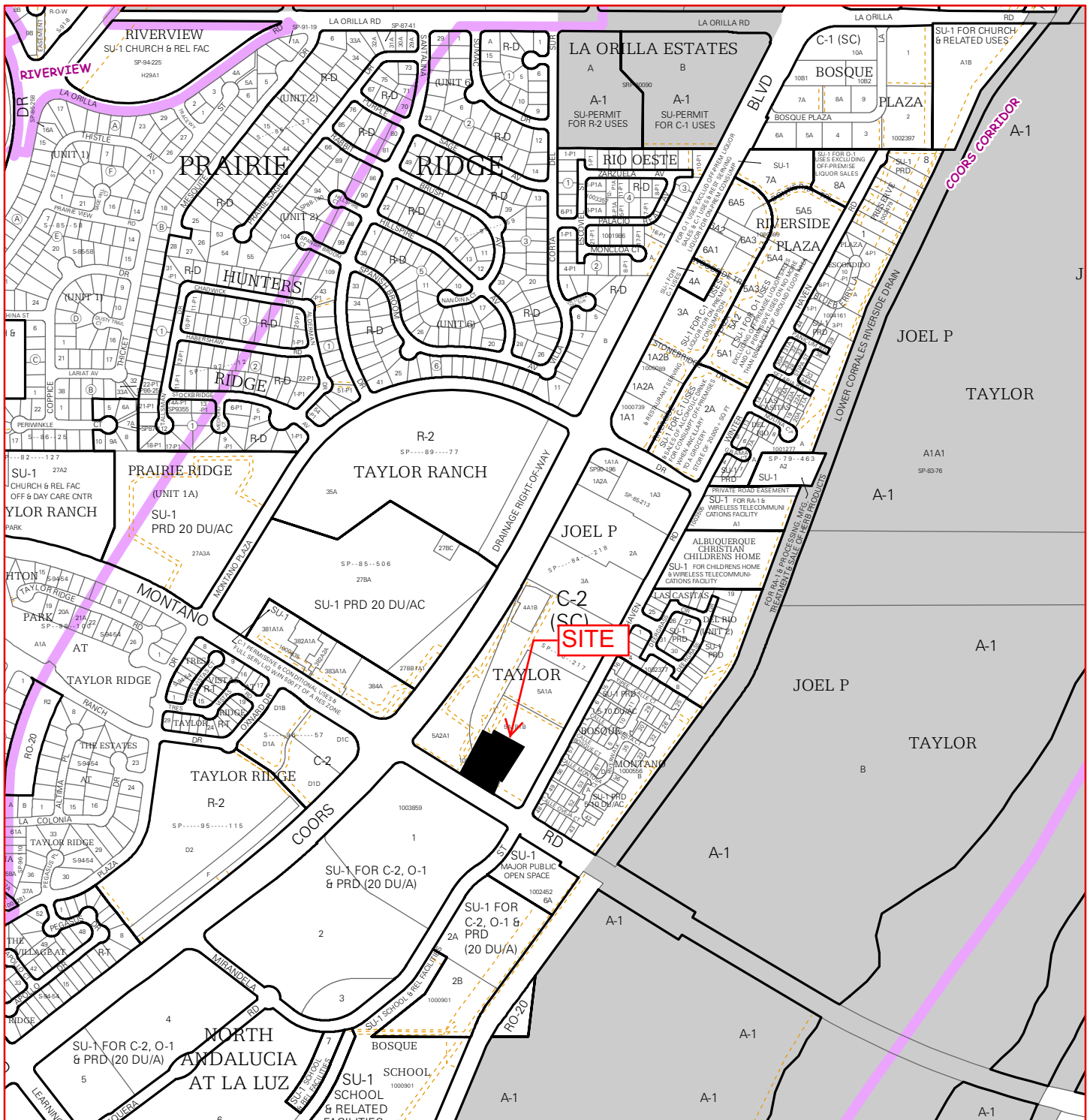
The purpose of this report is to provide the Drainage Management Plan for the construction of a 5000 square foot retail building located at 6001 Jacs Lane NE. This plan was prepared in accordance with the City of Albuquerque design regulations, utilizing the City of Albuquerque's Development Process Manual drainage guidelines. This report will demonstrate that the grading does not adversely affect the surrounding properties, nor the upstream or downstream facilities.

## **INTRODUCTION**

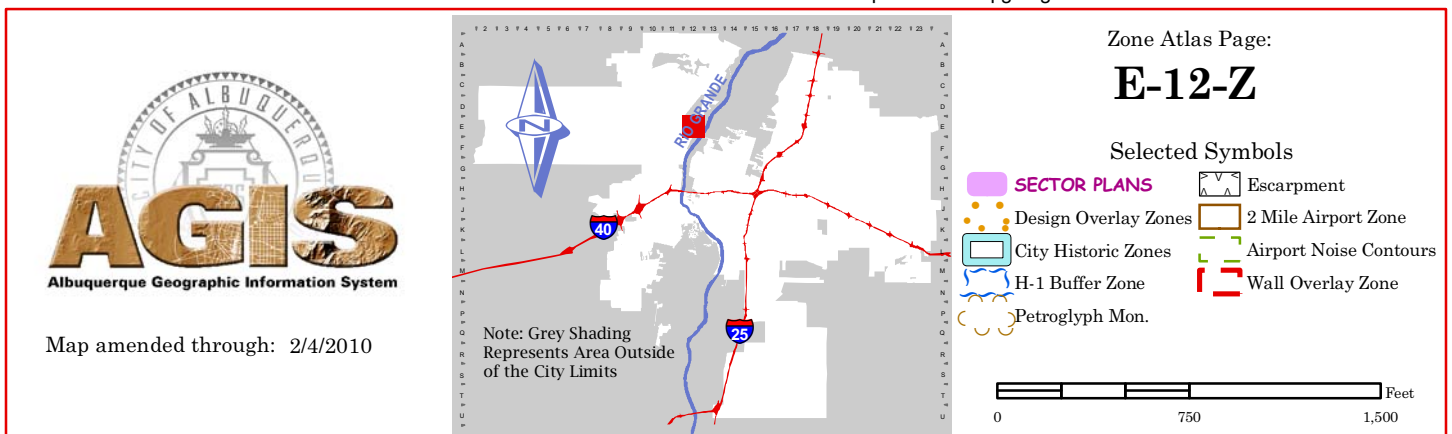
The subject of this report, as shown on the Exhibit A, is a 1.31-acre parcel of land located on the north side of Montano between Winterhaven and Coors. The legal description of this site is Lot 5-A1-B1-A Lands of Joel P Taylor. As shown on FIRM map35013C0118G, the entire site is located within Flood Zone X. The site is a graded pad site within the Montano Plaza development. This site was designed for a similar building and analyzed by Mark Goodwin within report dated 11/19/04 as shown in city drainage file E12D3E. The entire downstream infrastructure has been constructed. The site is part allowed free discharge to the existing rundown, and shall capture the first flush volume on site This development must maintain proposed drainage patterns and have peak discharge no greater than previously proposed.

## **EXISTING CONDITIONS**

The site is currently developed as a graded lot. The site currently discharges directly to a concrete rundown located at the southeast portion of the site. The site contains an underground storm drain along its west boundary and a detention pond along its south boundary. All of this flow is captured by this pond along with the upland flows and discharged to a publicly maintained storm drain within Montano Boulevard. All of the required storm drain facilities are in place. The pond has an existing drainage covenant for maintenance



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



## **PROPOSED CONDITIONS**

The proposed improvements consist of a 5,000 square foot retail building. The site is in general conformance to the previously approved plan. The site contains two drainage basins. Basin B contains the existing front parking area and the ponding areas; this basin generates 2.46 cfs and has a 717 CF first flush requirement. The flow enters the pond via the existing concrete rundown. The existing pond will be lowered 6" to provide for the first flush volume of 1251 CF. Basin A contains the rear portion of the parking area and the building. This basin generates 1.33 cfs and has a 325 CF first flush requirement. The flow from this basin passes through a landscape area first flush pond which overflows with a volume of 628 CF to the existing rundown into the existing pond

## **SUMMARY AND RECOMMENDATIONS**

This project is a development of a graded pad site. The site is within the boundaries of the Montano plaza drainage plan area. This site was previously analyzed. The proposed development land treatments and drainage patterns conform to the overall and previously approved plan. The site retains the required first flush volume. The upstream and downstream infrastructure is in place. Since the effected area site encompasses more than 1 acre, a NPDES permit and Erosion and Sediment Control plan should be required prior to any construction activity.

**APPENDIX A**  
**SITE HYDROLOGY**



**EROSION CONTROL NOTES:**

1. CONTRACTOR SHALL OBTAIN 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.

**CAUTION:**  
EXISTING UTILITIES ARE NOT SHOWN.  
CONTRACTOR SHALL BE RESPONSIBLE  
OF SHALLOW UTILITIES. NECESSARY  
NECESSARY FIELD INVESTIGATIONS  
PRIOR TO CONSTRUCTION OF  
ACTUAL LOCATION OF UTILITIES & OTHER  
IMPROVEMENTS.



FIRM MAP: FM35001C0118G

**LEGAL DESCRIPTION:**

Tracts 5-A1-B-1-A, Lands of Jose P. Taylor

**NOTES:**

1. 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 DRAINAGE SHALL BE 4" PCC OVER 4" SUBGRADE PREPARATION IN CONFORMANCE TO A.C.I. 308R-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.
7. TECH DESIGN SURVEY PROVIDED BY SURV-TEX USING NAVD 1988 DATUM.

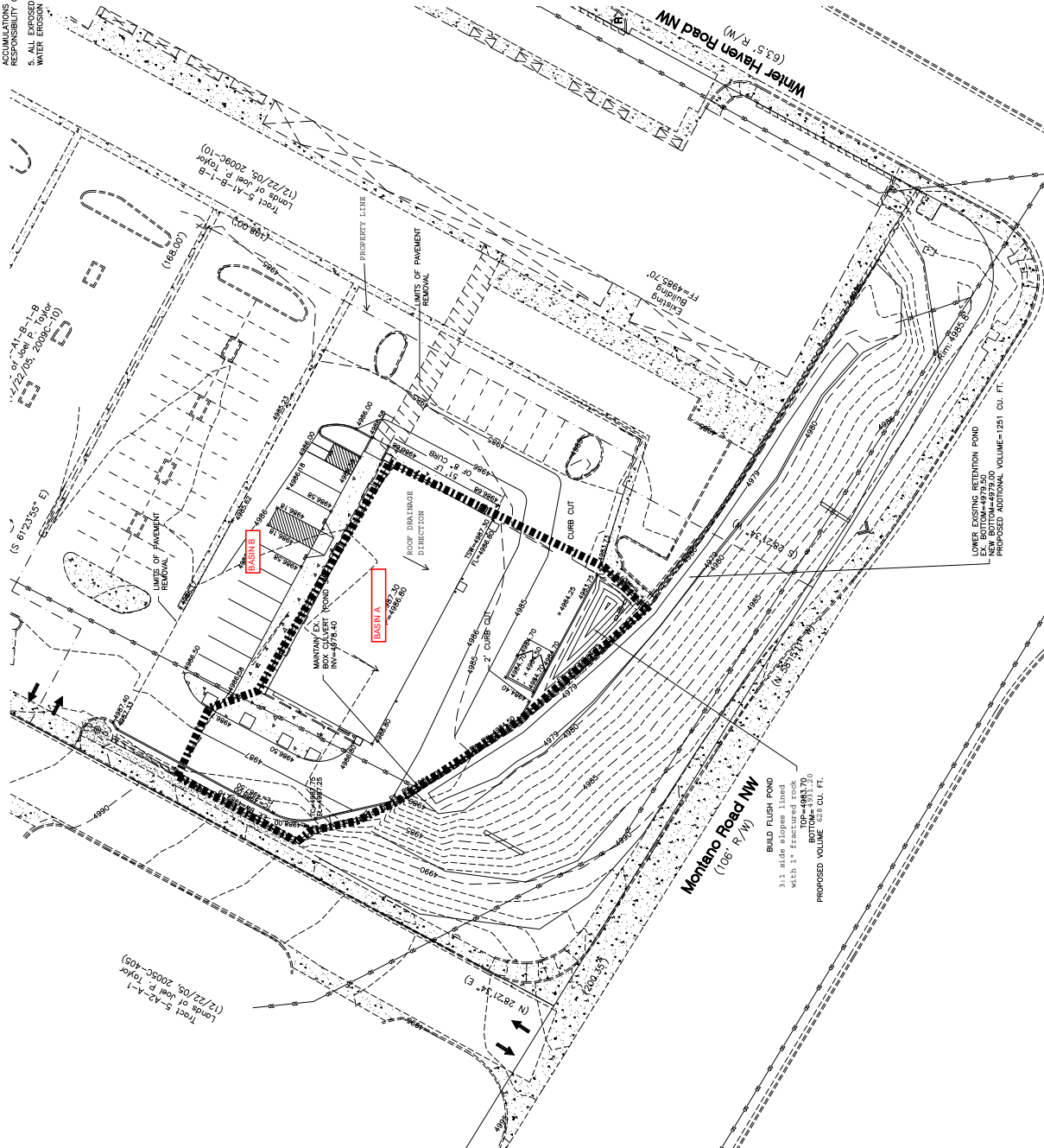
**LEGEND**

- EXISTING CONTOUR
- EXISTING INDEX CONTOUR
- PROPOSED CONTOUR
- PROPOSED INDEX CONTOUR
- SLOPE TIE
- EXISTING SPOT ELEVATION
- PROPOSED SPOT ELEVATION
- BOUNDARY
- CENTERLINE
- RIGHT-OF-WAY
- PROPOSED CURB
- EXISTING CURB AND GUTTER
- PROPOSED SIDEWALK
- EXISTING SIDEWALK



GRAPHIC SCALE

SCALE: 1"=20'



ENGINEER'S SEAL	COMMERCIAL SHELL BUILDING AT SICILY PLAZA 8001 COORS BLVD NW		DRAWN BY: MCM/
	BASIN EXHIBIT		DATE: 11-28-17
DAVID SULLIVAN, P.E.	BASIN EXHIBIT		PROJECT: 11-28-17
	11/28/17		SHEET #
P. Grande Engineering		108 #	
1800 CENTRAL AVENUE SE		2700	
ALBUQUERQUE, NM 87106			

Weighted E Method

Basin	Area (sf)	Area (acres)	Treatment A		Treatment B		Treatment C		Treatment D		100-Year, 6-hr.		24-hour Volume (ac-ft)
			%	(acres)	%	(acres)	%	(acres)	%	(acres)	Weighted E (ac-ft)	Volume (ac-ft)	
AS APPROVED	57063.60	1.310	0%	0	22%	0.288	13%	0.1703	65%	0.852	1.557	0.170	0.226
PROPOSED A	14153.00	0.325	0%	0	0%	0.000	19%	0.06173	81%	0.263	1.784	0.048	0.066
PROPOSED B	42910.60	0.985	0%	0	29%	0.286	12%	0.11821	59%	0.581	1.475	0.121	0.159
TOTAL PROPOSED	57063.60	1.310	0%	0	22%	0.2857	14%	0.17994	64%	0.844	0.486	0.053	0.109

Equations:

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

Volume = Weighted D \* Total Area

Flow =  $Qa \cdot Aa + Qb \cdot Ab + Qc \cdot Ac + Qd \cdot Ad$

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

ONSITE Conditions

FIRST FLUSH WATER QUALITY VOLUME	REQUIRED (CF)	PROVIDED (CF)
WATER QUALITY		
basin a	325	628
basin b	717	1251

This site is within a developed subdivision. The lots free discharge per the approved drainage plan E12D3E. This site will continue the existing drainage patterns and will retain onsite the first flush volume

**APPENDIX B**

**HYDRAULIC CALCULATIONS**

## 2' CURB OPENINGS

Weir Equation:

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

West drainage swale thru walls

$$Q = 2.92 \text{ cfs}$$

$$C = 2.95$$

$$H = 0.5 \text{ ft}$$

$$L = \text{Length of weir}$$

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

**Each opening has capacity of 2.08 cfs**

**Flow entering and exiting pond=1.33 cfs**

**Therefore acceptable**

**APPENDIX C**

**EXCERPTS OF PREVIOUS DRAINAGE REPORT**

# CITY OF ALBUQUERQUE



May 17, 2006

Mr. Mark Goodwin, PE  
**MARK GOODWIN & ASSOCIATES**  
P.O. Box 90606  
Albuquerque, NM 87199

**Re: MONTANO RETAIL**  
**6001 Winter Haven Road NW**  
**Approval of Permanent Certificate of Occupancy (C.O.)**  
**Engineer's Stamp dated 09/28/2005 (E-12/D3E)**  
**Certification dated 05/11/2006**

Dear Mark,

Based upon the information provided in your submittal received 05/11/2006, the above referenced certification is approved for release of Permanent Certificate of Occupancy by Hydrology.

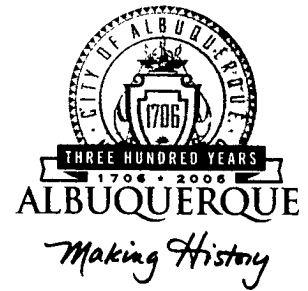
If you have any questions, you can contact me at 924-3982.

Sincerely,

Arlene V. Portillo  
Plan Checker, Planning Dept. - Hydrology  
Development and Building Services

C: CO Clerk  
File

# CITY OF ALBUQUERQUE



September 20, 2005

John M. MacKenzie, PE.  
Mark Goodwin & Associates, PA.  
PO Box 90606  
Albuquerque, NM 87199

**Re: Montano Retail Lands of Joel P. Taylor Tracts 5-A1-B1 & 5-A2-A1,  
Grading and Drainage Plan  
Engineer's Stamp dated 9-15-05 (E12-D3E)**

Dear Mr. MacKenzie,

P.O. Box 1293  
Albuquerque  
New Mexico 87103  
Based upon the information provided in your submittal dated 9-14-05, the  
above referenced plan is approved as Amended.

Prior to release of the Certificate Of Occupancy the following item needs to be  
addressed.

- Provide an Engineers Certification of the Grading Plan per the DPM  
checklist.

This project requires a National Pollutant Discharge Elimination System (NPDES)  
permit. If you have any questions regarding this permit please feel free to call the  
DMD Storm Drainage Design section at 768-3654 (Charles Caruso).

www.cabq.gov

If you have any questions, you can contact me at 924-3695.

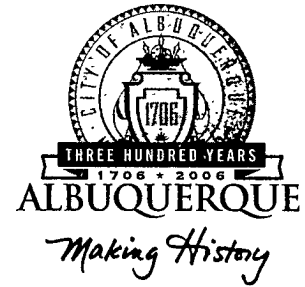
Sincerely,

Rudy E. Rael Associate Engineer  
Planning Department.  
Development and Building Services

BWR

C: Chuck Carusso DMD  
CC: file

# CITY OF ALBUQUERQUE



February 4, 2005

D. Mark Goodwin, PE  
Mark Goodwin & Associates  
P.O. 90606  
Albuquerque, NM 87199

**Re: Montano Retail Drainage Report  
Engineer's Stamp dated 1-27-05 (E12/D3E)**

Dear Mr. Goodwin,

Based upon the information provided in your submittal dated 1-28-05, the above referenced report is approved for Building Permit. Please attach a copy of this approved plan to the construction sets prior to sign-off by Hydrology.

The existing pond is in a public drainage easement and must be vacated and rededicated to fit the new configuration. Plus, the new pond must be incorporated into your lot or a three-party maintenance agreement must be executed. This must be done prior to C.O.

Also, prior to Certificate of Occupancy release, Engineer Certification of the grading plan per the DPM checklist will be required.

If you have any questions, you can contact me at 924-3986.

Sincerely,

Bradley L. Bingham, PE  
Principal Engineer, Planning Dept  
Development and Building Services

C: file

P.O. Box 1293

Albuquerque

New Mexico 87103

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



**DRAINAGE REPORT**  
**for**  
**Montaño Retail**

*Prepared for*

*Maestas & Ward  
Steve Maestas  
7620 Jefferson NE  
Albuquerque, NM 87109  
(505) 878-0001*

*Prepared by*

*Mark Goodwin & Associates, PA  
P.O. Box 90606  
Albuquerque, NM 87199*

*November 2004*



## PURPOSE

*This report has been prepared in support of the development of a 3.42 acre, currently undeveloped, parcel located at the northwest corner of Montañó Road and Winter Haven Road on Albuquerque's west side. The site is a part of the Montañó Plaza Shopping Center, and as such, this development is proposed to be similar retail facilities.*

## EXISTING CONDITIONS

*In the existing state, an approximate 1.5 ac-ft detention basin is located on this site. With vertical concrete sides, a portion of the pond extends along the southern boundary, while along the east side of the site, and additional extension of the pond with earthen sides parallels Winter Haven Road. Flows from the pond discharge into a 4' x 6' CBC extending from Montañó Road to the site at its southwest corner. The controlled outflow from the ponds to the box culvert is  $Q = 25.48$  cfs (Appendix 1: Summary from 1987 Chavez-Grieves drainage report for Montañó Plaza Addition).*

*A 2' x 4' CBC storm drain system with grated openings currently traverses this site from the north to south where it outfalls into the detention pond described earlier. From earlier calculations presented in the Chavez-Grieves report, and from the Walgreens @ Coors & Montañó Drainage Report, 1999 Mark Goodwin & Associates, 36.09 cfs (100-yr, 6-hr) enters the site within the described system from the north. An additional 9.53 cfs is added to this system from lateral pipes extending west into the Walgreen's parking lot, and from surface flows originating from this site.*

*An estimated 18.38 cfs (100-yr, 6-hr) enters the pond from Winter Haven Road through an approximate 12' long grated drop inlet situated along the west curb line in the roadway.*

*The described pond on this site was originally designed to be a combination detention / sedimentation basin. At the time the pond was constructed, much of the upstream drainage basin was still undeveloped. Sediment laden storm waters would enter the pond, which was over-sized with a near flat earthen bottom. With the reduced velocity through the pond, sediments would settle to the bottom prior to the flood waters entering the 4' x 6' CBC outfall line which increases in size to a 10' x 6' CBC prior to discharging into the Rio Grande River.*

## PROPOSED CONDITIONS

*Since the existing pond, with its dual reaches, encumbers a significant portion of this site, it is proposed that with the development of this site, the pond will be relocated to an undeveloped parcel, currently in the process of being purchased, immediately south of this site, adjacent to Montañó Road. As shown on the Grading & Drainage Plan, a landscaped, earthen sided pond with 3:1 maximum side slopes is planned along Montañó Road, and a 5.5' concrete flood wall separates the pond from this site.*

*The Grading & Drainage Plan also shows that in developing this site, the existing 2' x 4' CBC carrying a total of 45.62 cfs (100-yr, 6-hr) will remain in place. The southern portion will be re-aligned to enter the new pond on a more tangential alignment. All but the most northerly onsite grated opening will be removed and replaced with traffic rated covers. From the remaining grated inlet, south, the 2' x 4' CBC will be covered and paved over.*

*Developed Drainage basin **B-1**, 1.85 acres, included the southern ½ of this site. Storm flows within **B-1** will sheet flow with the paved areas to concrete valley gutters. **B-1** flows, 7.30 cfs, will be routed to a concrete lined rundown along the north side of the new pond.*

*Storm flows within basin **B-2**, 6.19 cfs, will likewise sheet flow to concrete valley gutters that will route the flows to the remaining onsite grated inlet near the northwest entrance to the site. The onsite and offsite flows within the existing 2' x 4' CBC will discharge into the new pond at its northwest quadrant.*

*Storm flows collected from the Winter Haven Road right-of-way will continue to be collected in the existing drop inlet along its west curb line. The drop inlet will be modified to discharge the accumulated flows to a new 24" RCP storm drain which will extend south along the sites east boundary. The new 24" storm drain will connect to the existing 4' x 6' CBS at the southeast corner of the site.*

### **SUMMARY**

*The drainage management plan for the Montaño Retail site, as presented in this report, allows for the development of this long vacant parcel in a manner which will ensure that there are no adverse impacts downstream of the site.*

```

          AHYMO PROGRAM (AHYMO_97) -                      - Version:
1997.02d
          RUN DATE (MON/DAY/YR) = 10/08/2004
          START TIME (HR:MIN:SEC) = 10:22:25      USER NO.= AHYMO-I-
9702dGoodwinM-AH
          INPUT FILE = C:\PROGRA~1\AHYMO_97\MONTAN~1.DAT

START                TIME=0.0
*****              MONTANO RETAIL
*****              CALCULATE & ROUTE STORM FLOWS
*****              USE 100 YEAR 6 HOUR STORM EVENT
*****              FILE:  MONTANORETAIL.DAT    9/23/04   JSD
*****
RAINFALL              TYPE=1 RAIN QUARTER=0.0 IN
                      RAIN ONE=1.90 IN RAIN SIX=2.25 IN RAIN DAY=
2.63 IN
                      DT=0.03333 HR

```

```

          COMPUTED 6-HOUR RAINFALL DISTRIBUTION BASED ON NOAA ATLAS
2 - PEAK AT 1.40 HR.

```

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DT = .033330 HOURS      END TIME = 5.999400 HOURS
.0000 .0018 .0036 .0055 .0074 .0094 .0114
.0134 .0155 .0177 .0199 .0222 .0245 .0269
.0293 .0319 .0345 .0372 .0399 .0428 .0458
.0489 .0521 .0554 .0589 .0625 .0663 .0703
.0745 .0789 .0836 .0888 .0944 .1004 .1133
.1421 .1865 .2502 .3372 .4515 .5973 .7788
1.0003 1.2059 1.2918 1.3643 1.4288 1.4874 1.5414
1.5916 1.6384 1.6823 1.7237 1.7627 1.7995 1.8344
1.8674 1.8987 1.9284 1.9566 1.9834 1.9898 1.9958
2.0014 2.0068 2.0120 2.0169 2.0216 2.0262 2.0306
2.0349 2.0390 2.0430 2.0469 2.0507 2.0543 2.0579
2.0614 2.0648 2.0681 2.0713 2.0745 2.0776 2.0806
2.0836 2.0865 2.0894 2.0922 2.0949 2.0976 2.1003
2.1029 2.1055 2.1080 2.1105 2.1129 2.1153 2.1177
2.1201 2.1224 2.1247 2.1269 2.1291 2.1313 2.1335
2.1356 2.1377 2.1398 2.1418 2.1439 2.1459 2.1478
2.1498 2.1517 2.1537 2.1555 2.1574 2.1593 2.1611
2.1629 2.1647 2.1665 2.1683 2.1700 2.1718 2.1735
2.1752 2.1769 2.1785 2.1802 2.1818 2.1834 2.1850
2.1866 2.1882 2.1898 2.1914 2.1929 2.1944 2.1959
2.1975 2.1990 2.2004 2.2019 2.2034 2.2048 2.2063
2.2077 2.2091 2.2105 2.2119 2.2133 2.2147 2.2161
2.2174 2.2188 2.2201 2.2215 2.2228 2.2241 2.2254
2.2267 2.2280 2.2293 2.2306 2.2318 2.2331 2.2343
2.2356 2.2368 2.2381 2.2393 2.2405 2.2417 2.2429
2.2441 2.2453 2.2465 2.2476 2.2488 2.2500

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*****FIRST LOOK AT EXISTING FLOW

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*****

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COMPUTE NM HYD      ID=1 HYD NO=101.0 AREA=0.0053 SQ MI
                    PER A=0 PER B=100 PER C=0 PER D=0
                    TP=0.1333 HR MASS RAINFALL=-1

```



D. Mark Goodwin & Associates, P.A.  
Consulting Engineers

P.O. BOX 90606, ALBUQUERQUE, NM 87199  
(505) 828-2200 FAX 797-9539  
e-mail: dmgs@swcp.com

PROJECT Montano Retail  
SUBJECT Calcs.  
BY ISD DATE 11-8-04  
CHECKED \_\_\_\_\_ DATE \_\_\_\_\_  
SHEET \_\_\_\_\_ OF \_\_\_\_\_

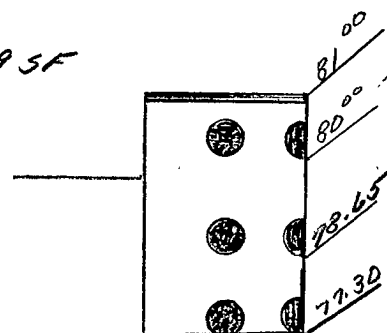
MAX. WATER SURFACE ELEV. = 81.00  
MAX. OUTFLOW ALLOWED FROM POND = 25.48 CFS  
w/ 40% CLOG = 35.67 CFS

$$Q = CA(2GH)^{1/2}$$

$$C = .6 \text{ (SHARP EDGE)}$$

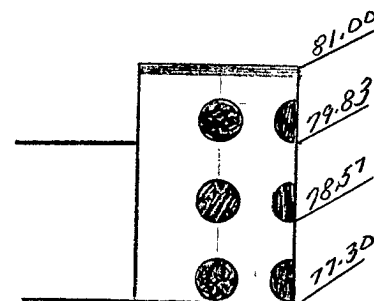
1. TRY (3) 6" HOLES PER ROW:  $A = 3 \cdot .196 = .589 \text{ SF}$

ELEV.	Q OUT (CFS)
77.80	2
79.15	$3.85 + 2 = 5.85$
80.50	$5.07 + 3.85 + 2 = 10.92$
81.00	$5.46 + 4.35 + 2.84 = 12.65$



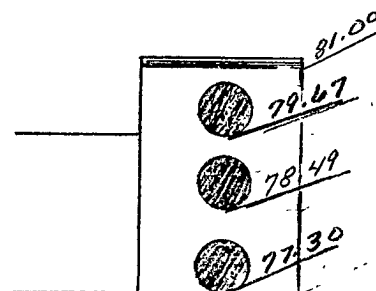
2. TRY (3) 8" HOLES PER ROW:  $A = 3 \cdot .349 = 1.055 \text{ SF}$

ELEV.	Q OUT (CFS)
77.97	4.14
79.24	$7.04 + 4.14 = 11.18$
80.50	$9.04 + 7.04 + 4.14 = 20.22$
81.00	$9.72 + 7.88 + 5.47 = 23.07$



3. TRY (2) 10" HOLES PER ROW:  $A = 2 \cdot 1.67 \text{ SF}$

ELEV.	Q OUT (CFS)
78.13	7.34
79.32	$11.43 + 7.34 = 18.77 \text{ CFS}$
80.50	$14.38 + 11.43 + 7.34 = 33.15 \text{ CFS}$
81.00	$15.47 + 12.74 + 9.27 = 37.48 \text{ CFS}$



∴ USE (2) 10" HOLES PER ROW  
DESIGN ALLOWS FOR 32% CLOGGING FACTOR



D. Mark Goodwin & Associates, P.A.  
Consulting Engineers

P.O. BOX 90606, ALBUQUERQUE, NM 87199  
(505) 828-2200 FAX 797-9539  
e-mail: dmgs@swcp.com

PROJECT Montano Retail  
SUBJECT Drainage Calc  
BY JSD DATE 10-10-04  
CHECKED \_\_\_\_\_ DATE \_\_\_\_\_  
SHEET \_\_\_\_\_ OF \_\_\_\_\_

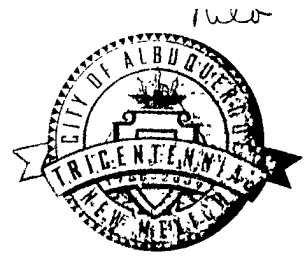
MONTANO RETAIL  
DETENTION POND SUMMARY

ELEV.	AREA (SF)	VOL (AC-FT)	Σ VOL (AC-FT)	Q <sub>OUT</sub> (CFS)
76	8,028	0	0	0
78	10,635	.43	.43	6.73
80	13,200	.55	.98	*28.37
81.0	14,135	.63	1.18	*37.48

\* Using 32% Clogging Factor  $Q_{out} = 37.48 - (.32 \cdot 37.48)$   
 $= 25.49 \text{ cfs}$

W/ TOP OF WALL ELEV. @ 81.50, 0.5'  
OF FREEBOARD IS AVAILABLE ABOVE  
EMERGENCY SPILLWAY

# CITY OF ALBUQUERQUE



**Planning Department  
Transportation Development Services Section**

May 31, 2006

Mr. George Rainhart, Registered Architect  
**GEORGE RAINHART AND ASSOCIATES**  
2325 San Pedro Drive NE, STE 2B  
Albuquerque, NM 87110

Re: Certification Submittal for Final Building Certificate of Occupancy for  
**MONTANO RETAIL, [E-12 / D3E]**  
6001 Winter Haven Road NE  
Architect's Stamp Dated 05/30/2006

P.O. Box 1293

Dear Mr. Rainhart:

Albuquerque

The TCL / Letter of Certification submitted on May 31, 2006 is sufficient for acceptance by this office for final Certificate of Occupancy (C.O.). Notification has been made to the Building and Safety Section.

New Mexico 87103

Sincerely,

www.cabq.gov

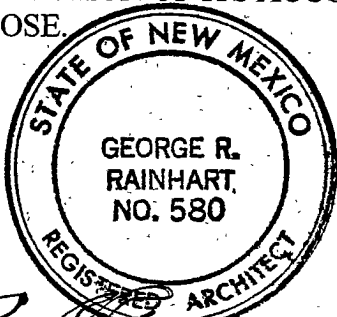
Wilfred Gallegos, P.E.  
Traffic Engineer  
Development and Building Services  
Planning Department

c: Engineer  
Hydrology file  
CO Clerk

## TRAFFIC CERTIFICATION

I, GEORGE RAINHART, NMPE OR NMRA \*580, OF  
 THE FIRM GEORGE RAINHART & ASSOC., HEREBY CERTIFY THAT  
 THIS PROJECT HAS IS IN DESIGN SUBSTANTIAL COMPLIANCE WITH AND IN  
 ACCORDANCE WITH THE DESIGN INTENT OF THE APPROVED PLAN DATED  
8.29.05. THE RECORD INFORMATION EDITED ONTO THE  
 ORIGINAL DESIGN DOCUMENT HAS BEEN OBTAINED BY  
WILLIAM SUTTLES OF THE FIRM GEORGE RAINHART. I FURTHER  
 CERTIFY THAT I HAVE PERSONALLY VISITED THE PROJECT SITE ON  
MAY 30, 2006 AND HAVE DETERMINED BY VISUAL INSPECTION  
 THAT THE SURVEY DATA PROVIDED IS REPRESENTATIVE OF ACTUAL SITE  
 CONDITIONS AND IS TRUE AND CORRECT TO THE BEST OF MY  
 KNOWLEDGE AND BELIEF. THIS CERTIFICATION IS SUBMITTED IN  
 SUPPORT OF A REQUEST FOR CERTIFICATE OF OCCUPANCY (C.O.)

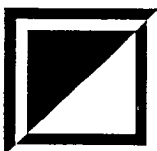
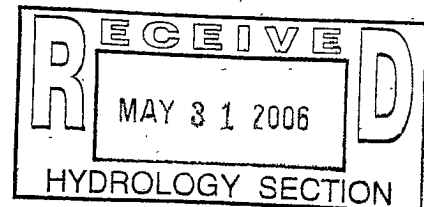
THE RECORD INFORMATION PRESENTED HEREON IS NOT NECESSARILY  
 COMPLETE AND INTENDED ONLY TO VERIFY SUBSTANTIAL COMPLIANCE  
 OF THE TRAFFIC ASPECTS OF THIS PROJECT. THOSE RELYING ON THE  
 RECORD DOCUMENT ARE ADVISED TO OBTAIN INDEPENDENT  
 VERIFICATION OF ITS ACCURACY BEFORE USING IT FOR ANY OTHER  
 PURPOSE.



[Signature]  
 Signature of Engineer or Architect

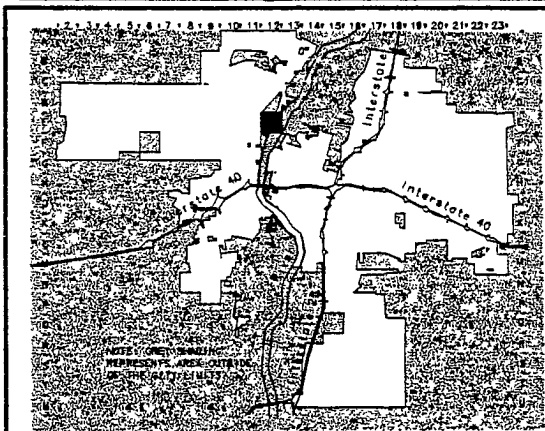
ENGINEER'S OR ARCHITECT'S STAMP

5.30.06  
 Date



GEORGE RAINHART, ARCHITECT & ASSOCIATES P.C.  
 2325 SAN PEDRO NE SUITE 2-B ■ ALBUQUERQUE, NEW MEXICO 87110  
 PHONE: 505-884-9110 ■ FAX: 505-837-9877 ■ Email: graa@gra-arch.com





**Map Amended through July 19, 2001**





