CITY OF ALBUQUERQUE

Planning Department
David Campbell, Director

Mayor Timothy M. Keller

March 7, 2019

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

RE: **Mountain Townhomes**
1406 Mountain Rd NW
Grading Plan Stamp Date: 2/26/19
Drainage Report Stamp Date: 2/26/19
Drainage File: J13D209

Dear Mr. Soule:

Based on the submittal received on 2/27/19, the grading plan and drainage report are approved for Plat.

Prior to Grading/Building Permit:

1. If an Infrastructure List is required by the DRB, then include the sidewalk culvert on it. Otherwise it can be built by SO-19. Please include the standard SO-19 notes on the grading plan if true.

2. Provide the Bernalillo County recorded drainage easement granted by NMGasCo for discharging across their property.

3. On the Plat, provide cross-lot drainage easements as necessary across the proposed lots to support your grading plan. On the Plat, provide a drainage easement over the ponds and annotate using the Plat Drainage Easement Note. This note replaces the need for a separate drainage covenant.

4. Payment of the Fee in Lieu (Amount = $531, per Appendix A, *First Flush Calculation*) of onsite management of the SWQV must be made. Include a copy of the paid receipt when resubmitting.

Prior to Certificate of Occupancy (For Information):

5. Engineer's Certification, per the DPM Chapter 22.7: *Engineer's Certification Checklist For Subdivision* is required.

PO Box 1293

Albuquerque

NM 87103

www.cabq.gov

6. The sidewalk culverts must be inspected and approved by storm drain maintenance (David Harrison, dsharrison@cabq.gov or 857-8053).

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

PO Box 1293

Albuquerque

NM 87103

www.cabq.gov

City of Albuquerque

Planning Department

Development & Building Services Division

DRAINAGE AND TRANSPORTATION INFORMATION SHEET (REV 6/2018)

Project Title: MOUNTAIN TOWNHOME Building Permit #:_____ Hydrology File #: J13D209

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

Legal Description: LOT B,C,C,E BLCOK 44 PEREA ADDITION

City Address: 1406 MOUNTAIN ROAD NWS

Applicant: LITTLE BUBBAS Contact: _____

Address: _____

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

Other Contact: RIO GRANDE ENGINEERING Contact: DAVID SOULE

Address: PO BOX 93924 ALB NM 87199

Phone#: 505.321.9099 Fax#: 505.872.0999 E-mail: david@riograndeengineering.com

TYPE OF DEVELOPMENT: X PLAT ___ RESIDENCE ___ DRB SITE ___ ADMIN SITE

Check all that Apply:

DEPARTMENT:

X HYDROLOGY/ DRAINAGE

___ TRAFFIC/ TRANSPORTATION

TYPE OF SUBMITTAL:

___ ENGINEER/ARCHITECT CERTIFICATION

___ PAD CERTIFICATION

___ CONCEPTUAL G & D PLAN

X GRADING PLAN

___ DRAINAGE REPORT

___ DRAINAGE MASTER PLAN

___ FLOODPLAIN DEVELOPMENT PERMIT APPLIC

___ ELEVATION CERTIFICATE

___ CLOMR/LOMR

___ TRAFFIC CIRCULATION LAYOUT (TCL)

___ TRAFFIC IMPACT STUDY (TIS)

___ STREET LIGHT LAYOUT

___ OTHER (SPECIFY) _____

___ PRE-DESIGN MEETING?

IS THIS A RESUBMITTAL?: X Yes ___ No

TYPE OF APPROVAL/ACCEPTANCE SOUGHT:

X BUILDING PERMIT APPROVAL

___ CERTIFICATE OF OCCUPANCY

X PRELIMINARY PLAT APPROVAL

___ SITE PLAN FOR SUB'D APPROVAL

___ SITE PLAN FOR BLDG. PERMIT APPROVAL

X FINAL PLAT APPROVAL

___ SIA/ RELEASE OF FINANCIAL GUARANTEE

___ FOUNDATION PERMIT APPROVAL

X GRADING PERMIT APPROVAL

___ SO-19 APPROVAL

___ PAVING PERMIT APPROVAL

___ GRADING/ PAD CERTIFICATION

___ WORK ORDER APPROVAL

___ CLOMR/LOMR

___ FLOODPLAIN DEVELOPMENT PERMIT

___ OTHER (SPECIFY) _____

DATE SUBMITTED: _____ By: _____

COA STAFF: ELECTRONIC SUBMITTAL RECEIVED:_____

FEE PAID:_____

CITY OF ALBUQUERQUE

Planning Department
David Campbell, Director

Mayor Timothy M. Keller

December 19, 2018

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

RE: **Mountain Townhomes**
1406 Mountain Rd NW
Grading Plan Stamp Date: 12/11/18
Drainage Report Stamp Date: 12/11/18
Drainage File: J13D209

Dear Mr. Soule:

PO Box 1293

Albuquerque

NM 87103

www.cabq.gov

Based on the submittal received on 12/11/18, the grading plan and drainage report cannot be approved for Preliminary Plat until the following are corrected:

1. Provide a topographic and features survey, identifying current utilities, encroachments, easements, and structures. Include the existing topography under laid on the grading plan. Due to the flat nature of this site, supplemental spot elevations are likely needed to qualify existing drainage patterns. We have provided separate existing conditions topo. When inserting onto grading plan the proposed spots were too difficult to see
2. Due to Transportation comments at DRB this site layout may need to be substantially adjusted. Please refer to Transportation's DRB comments and ensure the grading plan and Plat are consistent with them.
These have been resolved we understand with out changes
3. Include the sidewalk culvert on the Infrastructure List.
added to list
4. The assumption that this existing site discharges to the ROW through the adjacent lot to the east needs to be substantiated with existing topography and subbasin delineation. If the site doesn't discharge (or a portion of the site doesn't discharge) to the ROW, then downstream capacity will need to be shown for any increase in runoff.
additional survey has been provided, existing basin map demonstrated flows
5. With the re-development of this site, cross lot drainage to adjacent private property needs to be eliminated, unless a cross-lot drainage easement can be provided.
easement has been provided. emails from nm gas showing the progress has been enclosed
6. On the Plat, provide cross-lot drainage easements as necessary across the proposed lots to support your grading plan. The ponds will need drainage covenants recorded prior to C.O as well.
Plat shall include cross lot easements, drainage covenents will be provided

7. With AHYMO S4, be sure to use NOAA Atlas 14 precipitation depths in conjunction with the NOAA Atlas 14 distribution. Include the location map and tables obtained from the NOAA website.
   NOAA Atlas 14 has been provided and documentation enclosed

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

PO Box 1293

Albuquerque

NM 87103

www.cabq.gov

TREASURY DIVISION DAILY DEPOSIT

Transmittals for:
PROJECTS Only

Payment In-Lieu for Storm Water Quality Volume Requirement

CASH COUNT	AMOUNT	ACCOUNT NUMBER	FUND NUMBER	BUSINESS UNIT	PROJECT ID	ACTIVITY ID	AMOUNT
TOTAL CHECKS	$ 531.00	461615	305	PCDMD	24_MS4	7547210	$ 531.00
TOTAL AMOUNT						TOTAL DEPOSIT	**$531.00**

Hydrology#: J13D209 Name: Mountian Townhomes, 3063sf imp.
Payment In-Lieu For Storm Water Quality Volume Requirement

Address/Legal Description: 1406 Mountain NW
Lots A, B, C, D, E, Block 44, Perea Addt'n

DEPARTMENT NAME: Planning Department/Development Review Services, Hydrology

PREPARED BY Dana Peterson PHONE 924-3695

BUSINESS DATE 3/7/19

DUAL VERIFICATION OF DEPOSIT _____
EMPLOYEE SIGNATURE

AND BY _____
EMPLOYEE SIGNATURE

REMITTER: _____
AMOUNT: _____
BANK: _____
CHECK #: _____ DATE ON CHECK: _____

The Payment-in-Lieu can be paid at the Plaza del Sol Treasury, 600 2nd St. NW. **Bring two copies of this invoice to the Treasury** and provide a copy of the receipt to Hydrology, Suite 201, 600 2nd St. NW, or e-mail with the Hydrology submittal to PLNDRS@cabq.gov.

DRAINAGE REPORT

For

14TH AND MOUNTAIN TOWNHOMES

Albuquerque, New Mexico

Prepared by

Rio Grande Engineering
PO Box 93924
Albuquerque, New Mexico 87194

December 2018

David Soule P.E. No. 14522

TABLE OF CONTENTS

Appendix

Map Pocket
Site Grading and Drainage Plan

PURPOSE

The purpose of this report is to provide the Drainage Management Plan for the redevelopment of an existing lot located on the southwest corner of 14th and Mountain NW. 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 proposed development 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 0.33-acre parcel of land located on the southwest quadrant of 14th and Mountain in the near north valley of Albuquerque. The lot is currently being combined into one lot; the existing legal description of this site is lots B, C, D, and E Block 44 Perea Addition. As shown on FIRM map3501C0331HF, the entire property is located within Flood Zone X. This site is an existing site developed as a single family residence with large parking area. Based on the site location and the adjacent drainage infrastructure this development must drain to Mountain and the adjacent property at less than existing conditions.

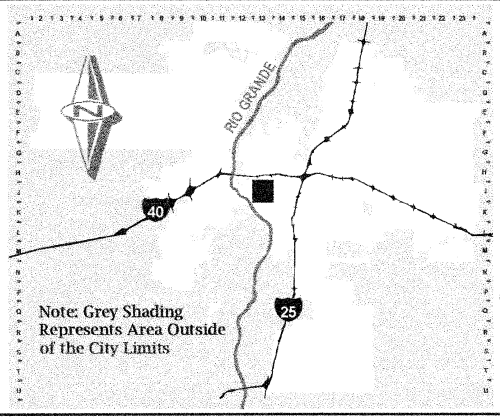
EXISTING CONDITIONS

The site is currently developed. The site is not impacted by any offsite flows, and is surrounded by developed properties. The site discharges to the adjacent lot to the east, were the flow enters 14th street and drains to an inlet at the corner of 14th and mountain. As shown in Appendix A, the existing site discharges at a peak rate of 0.93cfs in a 100-year, 6-hour event. The discharge leaves the site as sheet flow upon the lot to the east were it enters 14th street and captured by an inlet at 14th and Mountain.

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

AGIS
Albuquerque Geographic Information System

Map amended through: 2/4/2010



Zone Atlas Page:

J-13-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

PROPOSED CONDITIONS

The proposed improvements consist of a 4 town homes on the combined lot. The site will be graded to create 2 basins. Basin A contains the front half of the buildings and the shared parking areas. This basin generates 0.91 cfs that will drain to a water harvest pond located at the North West corner. The outfall is restricted by a 6" pipe. The parking lot functions as a detention basin and the routed flow is decreased to 0.53 cfs. The maximum water surface elevation will be 4959.77. The parking lot will discharge to the street at 5960 in the event of clogging. This basin will retain a water quality volume of 275 cf, which exceeds the required of 256 cf. Basin B contains the rear of the buildings and back yard. This basin will generate a peak flow rate of .38 cfs draining to the adjacent lot. This basin is throttled by the addition of a 4" pipe with the rear yards acting as a detention basin, the routed discharge rate will be 0.20 cfs. This basin will retain a water quality volume of 286, which exceeds the 84 cf required. In the event of clogging, the basin will discharge to basin A and leave the site via the driveway. The combined flow leaving the site will be 0.73, which is less than existing rate of 0.93 cfs. The drainage patterns are modified to direct more flow to the street. The downstream collection point remains the inlet at 14th and Mountain

SUMMARY AND RECOMMENDATIONS

This project is an infill project within a completely developed area of the near north Valley Albuquerque. The project is a redevelopment of an existing site. The site currently discharges .93 cfs to 14th street over an adjacent vacant lot. The proposed drainage plan drains the majority of the lot to mountain. The rear portion of the lot will continue to drain upon the adjacent lot, which is a natural gas pipeline valve station. The total flow leaving the site is reduced to 0.73 cfs by utilizing detention ponds with orifice restrictions. The first flush volume is retained onsite. The proposed decrease of 0.2 cfs shall have no negative impact on existing drainage patterns.

APPENDIX A

SITE HYDROLOGY

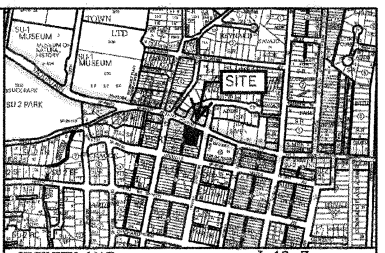
NOTICE TO CONTRACTORS

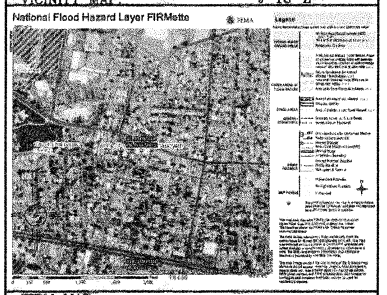
1. AN EXCAVATION/CONSTRUCTION PERMIT WILL BE REQUIRED BEFORE BEGINNING ANY WORK WITHIN CITY RIGHT-OF-WAY.
2. ALL WORK DETAILED ON THESE PLANS TO BE PERFORMED, EXCEPT AS OTHERWISE STATED OR PROVIDED HEREON, SHALL BE CONSTRUCTED IN ACCORDANCE WITH CITY OF ALBUQUERQUE INTERIM STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, 1985.
3. TWO WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT LINE LOCATING SERVICE, 765-1234, FOR LOCATION OF EXISTING UTILITIES.
4. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE AND VERIFY THE HORIZONTAL AND VERTICAL LOCATIONS OF ALL CONSTRUCTIONS. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE ENGINEER SO THAT THE CONFLICT CAN BE RESOLVED WITH A MINIMUM AMOUNT OF DELAY.
5. BACKFILL COMPACTION SHALL BE ACCORDING TO TRAFFIC/STREET USE.
6. MAINTENANCE OF THESE FACILITIES SHALL BE THE RESPONSIBILITY OF THE OWNER OF THE PROPERTY SERVED.
7. WORK ON ARTERIAL STREETS SHALL BE PERFORMED ON A 24-HOUR BASIS.

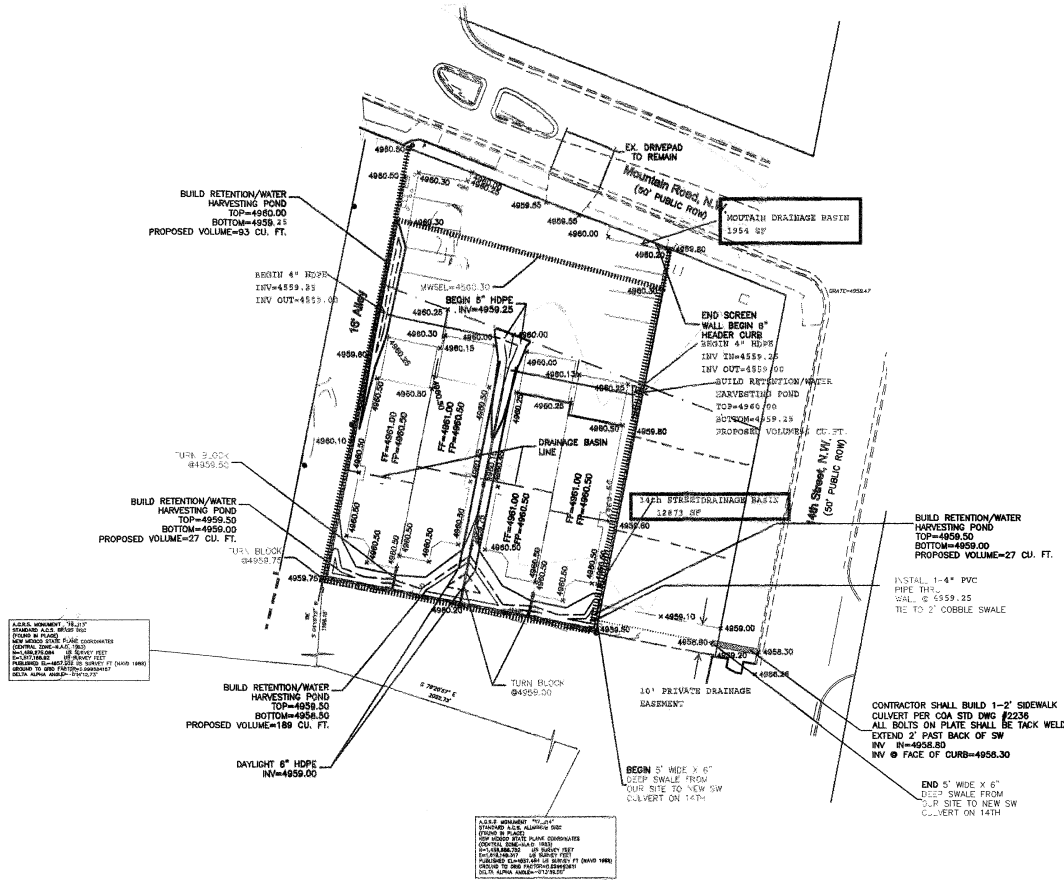
APPROVAL	NAME	DATE
INSPECTOR		

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.







LEGAL DESCRIPTION:

Lots B, C, D and E of Block 44, Perea Addition

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. ANY CURBS OR PAVEMENT NEGATIVELY IMPACTED BY CONSTRUCTION ACTIVITY SHALL BE REPLACED TO MATCH EXISTING CONDITIONS.
5. 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
- x 4948.25 EXISTING SPOT ELEVATION
- + 4948.25 PROPOSED SPOT ELEVATION
- BOUNDARY
- CENTERLINE
- RIGHT-OF-WAY
- PROPOSED CURB
- EXISTING CURB AND GUTTER
- EXISTING SIDEWALK
- PROPOSED SCREEN WALL 18" MAX. RETAINAGE

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.

ENGINEER'S SEAL
DAVID SOULE NEW MEXICO 14632 REGISTERED PROFESSIONAL ENGINEER
DAVID SOULE P.E. #14632

MOUTAIN TOWNHOMES
PROPOSED BASIN MAP

DRAWN BY WCWJ
DATE 2-26-19
218151-LAYOUT-10-30-18
SHEET #

Rio Grande Engineering
1808 CENTRAL AVENUE SE SUITE 201 ALBUQUERQUE, NM 87106 (505) 872-0999

JOB # 218151

THIS IS NOT A BOUNDARY SURVEY
APPARENT LOT LINES AND PROPERTY CORNERS ARE SHOWN FOR ORIENTATION ONLY

Topographic Survey of
Lots B, C, D and E of Block 44

Perea Addition

And the Vacated Portion of

Mountain Road, N.W.

Town of Albuquerque Grant, Projected
Section 18, Township 10 N., Range 3 E., N.M.P.M.
Albuquerque, Bernalillo County, New Mexico
February 2019

0 20 40 60
SCALE: 1" = 20'

Legend

N 90°00'00" E	MEASURED BEARING AND DISTANCES
○	FOUND AND USED MONUMENT AS DESIGNATED
△	FOUND ALUMINUM AGRS MONUMENT AS DESIGNATED
⊕	SERVICE/DROP POLE AS DESIGNATED
●	UTILITY POLE
⊢	GUY WIRE
⊠	ELECTRIC METER
⊛	WATER METER
⊗	GAS VALVE
⊡	GAS METER
SIGN	SIGN
	CURB AND GUTTER
	OVERHEAD UTILITY LINE
	CHAIN LINK FENCE
	WOOD FENCE

Notes

1. PLAT REFERENCES:
   A. PLAT OF LOTS B, C, D, AND E, BLOCK 44, PEREA ADDITION AND VACATED MOUNTAIN ROAD, N.W. (10/31/1912)
2. ELEVATION DATUM IS BASED ON NAVD 1988 FROM AGRS MONUMENT "12_J13", PUBLISHED ELEVATION (FEET) = 4957.502 (DATE OF RETRIVAL: JULY 2007 FOR NON AGRS MONUMENTS)
3. THIS MAP HAS BEEN PRODUCED ACCORDING TO PROCEDURES THAT HAVE BEEN DEMONSTRATED TO PRODUCE DATA THAT MEETS OR EXCEEDS THE MINIMUM STANDARDS FOR A TOPOGRAPHIC MAP COMPILED AT A SCALE OF 1"=20' WITH A CONTOUR INTERVAL OF ONE FOOT.
4. GPS CALIBRATION BASED ON ACS MONUMENTS "12_J13" AND "17_J14", AVERAGE PROJECT GROUND TO GRID SCALE FACTOR= 0.9996587739

Surveyor's Certificate

I, LARRY W. MEDRANO, A PROFESSIONAL LAND SURVEYOR REGISTERED IN THE STATE OF NEW MEXICO, LICENSE NUMBER 11993, DO HEREBY CERTIFY THAT THIS TOPOGRAPHIC SURVEY WAS PREPARED BY ME BY FIELD SURVEYS USING GPS RTK MEASUREMENTS BASED ON SITE HORIZONTAL/VERTICAL CALIBRATION UTILIZING AGRS MONUMENTS. ELEVATIONS BASED ON AGRS MONUMENT "12_J13" (NAVD 1988). THIS SURVEY MEETS THE MINIMUM STANDARDS FOR TOPOGRAPHIC SURVEYING IN NEW MEXICO AS ADOPTED BY THE NEW MEXICO BOARD OF LICENSURE FOR PROFESSIONAL ENGINEERS AND SURVEYORS. THIS IS NOT A BOUNDARY SURVEY.

LARRY W. MEDRANO
N.M.P.S. No. 11993

DATE

DIGITAL SIGNATURE IS INVALID WITHOUT DIGITAL CERTIFICATION
WET SIGNATURE IS INVALID IF "NOT" IN BLUE INK WITH BLUE STAMP OR EMBOSSED SEAL

LARRY W. MEDRANO NEW MEXICO 11993 REGISTERED PROFESSIONAL SURVEYOR

COORDINATE AND DIMENSION INFORMATION			PLSS INFORMATION				INDEXING INFORMATION FOR COUNTY CLERK
NM-C	GRID	STANDARD	LAND GRANT: TOWN OF ALBUQUERQUE GRANT				PROPERTY OWNER: MICHAEL P. TAPIA
NAD83	NAVD88		SECTION: 18	TOWNSHIP: 10 NORTH	RANGE: 3 EAST	MERIDIAN: NMPM	SUBDIVISION NAME: PEREA ADDITION
ALBUQUERQUE GEODETIC REFERENCE SYSTEM			CITY: ALBUQUERQUE		COUNTY: BERNALILLO	STATE: NM	UPC: 101305939331810906
GRID TO GROUND: 1.00031928	GROUND						
GROUND TO GRID: 0.99965907739	GRID	±0.00'	YES				

PRECISION SURVEYS, INC.
OFFICE LOCATION: 3880 San Mateo Boulevard, NE, Albuquerque, NM 87113
505.856.5700 PHONE
505.856.7900 FAX

PROJECT INFORMATION	
CREW/TECH: MT	DATE OF SURVEY: 02/14/2019
DRAWN BY: JK	CHECKED BY: LM
PSI JOB NO. 18-10987	SHEET NUMBER 1 OF 1

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Lots B, C, D and E of Block 44

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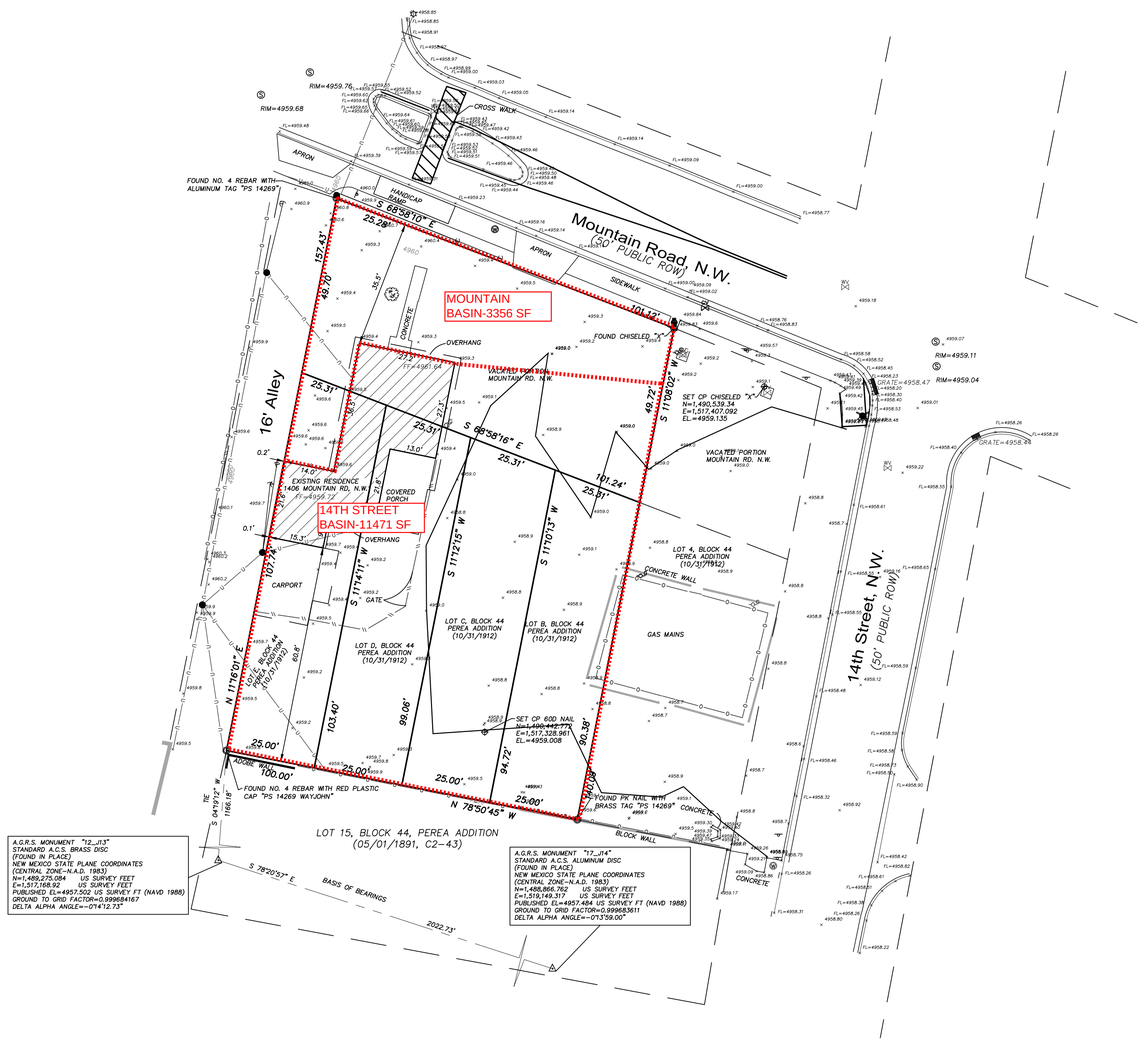

Legend

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○	FOUND AND USED MONUMENT AS DESIGNATED
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LARRY W. MEDRANO
N.M.P.S. No. 11993

DATE

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WET SIGNATURE IS INVALID IF NOT IN BLUE INK WITH BLUE STAMP OR EMBOSSED STAMP

LARRY W. MEDRANO
NEW MEXICO
11993
REGISTERED PROFESSIONAL SURVEYOR

COORDINATE AND DIMENSION INFORMATION					PLSS INFORMATION				INDEXING INFORMATION FOR COUNTY CLERK
STATE PLANE ZONE: NM-C	GRID/GROUND COORDINATES: GRID	TYPE: STANDARD			LAND GRANT: TOWN OF ALBUQUERQUE GRANT				PROPERTY OWNER: MICHAEL P. TAPIA
HORIZONTAL DATUM: NAD83	VERTICAL DATUM: NAVD88		ROTATION ANGLE: 0° 00' 00.00"	MATCHES DRAWING UNITS: YES	SECTION: 18	TOWNSHIP: 10 NORTH	RANGE: 3 EAST	MERIDIAN: NMPM	SUBDIVISION NAME: PEREA ADDITION
CONTROL USED: ALBUQUERQUE GEODETIC REFERENCE SYSTEM			BASE POINT FOR SCALING AND/OR ROTATION: N = 0, E = 0		CITY: ALBUQUERQUE		COUNTY: BERNALILLO	STATE: NM	UPC: 101305839331810906
COMBINED SCALE FACTOR: GRID TO GROUND: 1.00031928, GROUND TO GRID: 0.999668077 39		DISTANCE ANNOTATION: GROUND	ELEVATION TRANSLATION: ±0.00'	ELEVATIONS VALID: YES					
		BEARING ANNOTATION: GRID							

PRECISION SURVEYS, INC.
OFFICE LOCATION:
9200 San Mateo Boulevard, NE
Albuquerque, NM 87113
505.856.5700 PHONE
505.856.7900 FAX

PROJECT INFORMATION	
CREW/TECH: MT	DATE OF SURVEY: 02/14/2019
DRAWN BY: JK	CHECKED BY: LM
PSI JOB NO.: 18-1098T	SHEET NUMBER: 1 OF 1

General Information
Homepage
Progress Reports
FAQ
Glossary

Precipitation Frequency
Data Server
GIS Grids
Maps
Time Series
Temporals
Documents

Probable Maximum Precipitation
Documents

Miscellaneous
Publications
Storm Analysis
Record Precipitation

Contact Us
Inquiries

NOAA ATLAS 14 POINT PRECIPITATION FREQUENCY ESTIMATES: NM

Data description

Data type: Precipitation depth ▼ **Units:** English ▼ **Time series type:** Partial duration ▼

Select location

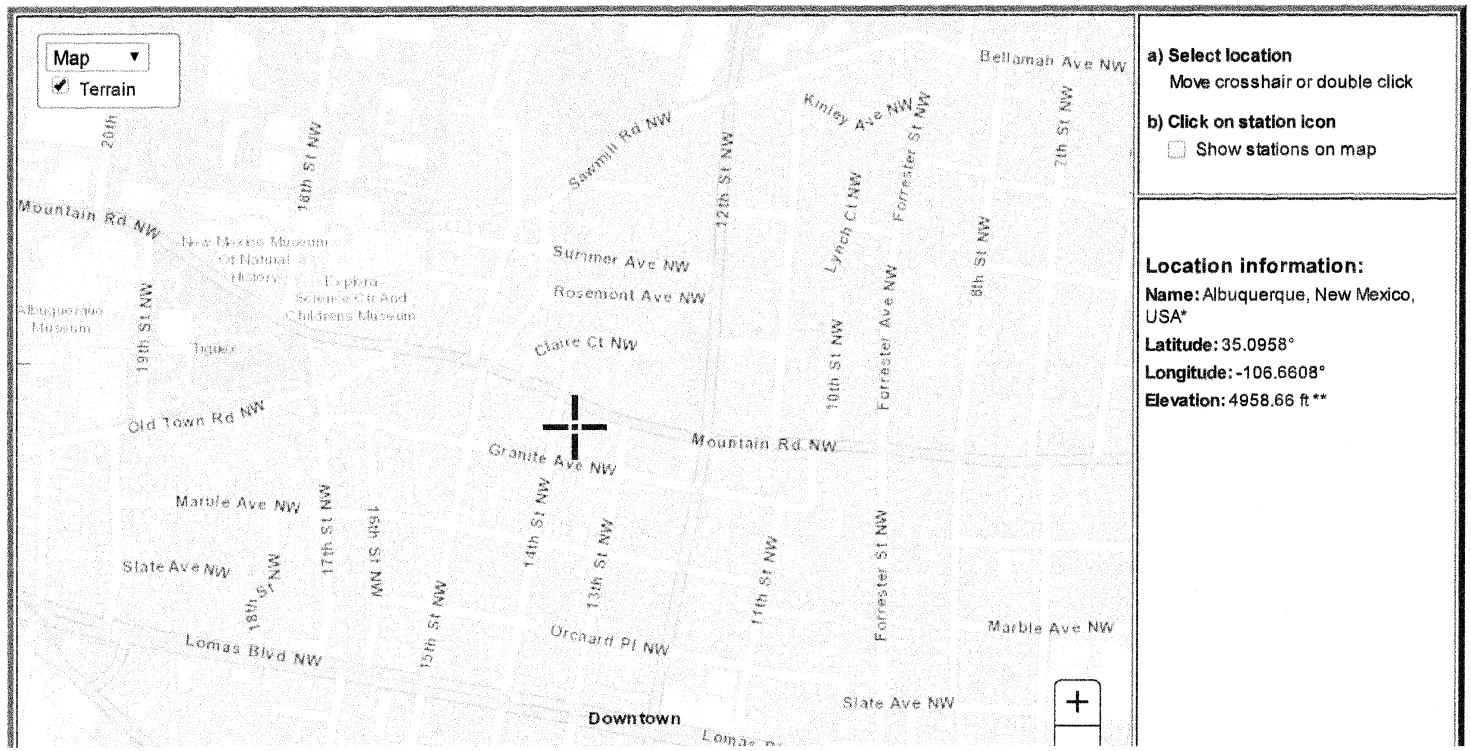
1) Manually:

a) By location (decimal degrees, use "-" for S and W): Latitude: Longitude: Submit

b) By station (list of NM stations): Select station ▼

c) By address Search

2) Use map (if ESRI interactive map is not loading, try adding the host: **https://js.arcgis.com/** to the firewall, or contact us at hdsc.questions@noaa.gov):



* Source: ESRI Maps
** Source: USGS

POINT PRECIPITATION FREQUENCY (PF) ESTIMATES

WITH 90% CONFIDENCE INTERVALS AND SUPPLEMENTARY INFORMATION
NOAA Atlas 14, Volume 1, Version 5

PF tabular PF graphical Supplementary information Print page

PDS-based precipitation frequency estimates with 90% confidence intervals (in inches)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	**0.169** (0.145-0.197)	**0.219** (0.188-0.255)	**0.294** (0.251-0.343)	**0.353** (0.300-0.410)	**0.433** (0.366-0.503)	**0.495** (0.417-0.575)	**0.561** (0.469-0.651)	**0.631** (0.524-0.732)	**0.726** (0.596-0.843)	**0.801** (0.654-0.930)
10-min	**0.257** (0.221-0.300)	**0.333** (0.286-0.389)	**0.447** (0.382-0.522)	**0.536** (0.457-0.624)	**0.658** (0.557-0.765)	**0.753** (0.635-0.875)	**0.854** (0.714-0.991)	**0.961** (0.798-1.11)	**1.11** (0.908-1.28)	**1.22** (0.996-1.42)
15-min	**0.319** (0.274-0.372)	**0.413** (0.354-0.482)	**0.554** (0.473-0.647)	**0.665** (0.566-0.773)	**0.816** (0.690-0.948)	**0.934** (0.788-1.09)	**1.06** (0.885-1.23)	**1.19** (0.989-1.38)	**1.37** (1.13-1.59)	**1.51** (1.23-1.75)
30-min	**0.430** (0.369-0.501)	**0.556** (0.476-0.649)	**0.746** (0.637-0.872)	**0.895** (0.762-1.04)	**1.10** (0.930-1.28)	**1.26** (1.06-1.46)	**1.43** (1.19-1.66)	**1.60** (1.33-1.86)	**1.85** (1.52-2.14)	**2.04** (1.66-2.36)
60-min	**0.532** (0.456-0.620)	**0.688** (0.589-0.803)	**0.924** (0.789-1.08)	**1.11** (0.943-1.29)	**1.36** (1.15-1.58)	**1.56** (1.31-1.81)	**1.77** (1.48-2.05)	**1.99** (1.65-2.30)	**2.28** (1.88-2.65)	**2.52** (2.06-2.92)
2-hr	**0.610** (0.520-0.725)	**0.780** (0.664-0.930)	**1.03** (0.878-1.23)	**1.24** (1.05-1.46)	**1.52** (1.28-1.79)	**1.75** (1.46-2.06)	**1.99** (1.65-2.34)	**2.25** (1.84-2.64)	**2.61** (2.11-3.06)	**2.89** (2.33-3.40)
3-hr	**0.651** (0.561-0.771)	**0.828** (0.710-0.982)	**1.09** (0.934-1.28)	**1.29** (1.10-1.52)	**1.58** (1.34-1.86)	**1.81** (1.53-2.12)	**2.06** (1.72-2.41)	**2.32** (1.92-2.72)	**2.68** (2.20-3.14)	**2.98** (2.42-3.50)
6-hr	**0.758** (0.656-0.890)	**0.956** (0.829-1.12)	**1.23** (1.07-1.44)	**1.45** (1.25-1.70)	**1.75** (1.50-2.04)	**1.98** (1.69-2.31)	**2.23** (1.89-2.60)	**2.49** (2.10-2.90)	**2.85** (2.38-3.32)	**3.14** (2.60-3.66)
12-hr	**0.836** (0.732-0.959)	**1.06** (0.924-1.21)	**1.34** (1.17-1.53)	**1.56** (1.36-1.78)	**1.86** (1.61-2.12)	**2.09** (1.80-2.38)	**2.33** (2.00-2.66)	**2.58** (2.20-2.94)	**2.92** (2.46-3.34)	**3.20** (2.67-3.69)
24-hr	**0.953** (0.840-1.09)	**1.20** (1.05-1.36)	**1.49** (1.31-1.70)	**1.73** (1.52-1.96)	**2.05** (1.79-2.33)	**2.29** (2.00-2.60)	**2.55** (2.22-2.89)	**2.81** (2.43-3.17)	**3.15** (2.71-3.57)	**3.42** (2.93-3.87)
2-day	**0.990** (0.878-1.12)	**1.24** (1.10-1.40)	**1.54** (1.37-1.73)	**1.78** (1.58-2.00)	**2.10** (1.85-2.35)	**2.34** (2.06-2.63)	**2.59** (2.27-2.91)	**2.85** (2.48-3.20)	**3.18** (2.77-3.58)	**3.44** (2.97-3.91)
3-day	**1.08** (0.972-1.20)	**1.35** (1.21-1.50)	**1.66** (1.49-1.84)	**1.91** (1.71-2.11)	**2.24** (2.00-2.47)	**2.49** (2.22-2.75)	**2.74** (2.44-3.03)	**3.00** (2.66-3.32)	**3.33** (2.94-3.70)	**3.59** (3.16-4.01)
4-day	**1.17** (1.07-1.29)	**1.45** (1.32-1.59)	**1.78** (1.61-1.95)	**2.03** (1.84-2.22)	**2.37** (2.15-2.60)	**2.63** (2.38-2.88)	**2.89** (2.60-3.16)	**3.15** (2.83-3.44)	**3.49** (3.12-3.82)	**3.74** (3.34-4.10)
7-day	**1.33** (1.21-1.45)	**1.65** (1.50-1.79)	**2.00** (1.82-2.17)	**2.27** (2.07-2.46)	**2.62** (2.39-2.84)	**2.88** (2.62-3.12)	**3.14** (2.85-3.41)	**3.38** (3.08-3.67)	**3.70** (3.36-4.02)	**3.93** (3.56-4.28)
10-day	**1.46** (1.34-1.60)	**1.81** (1.66-1.97)	**2.21** (2.03-2.40)	**2.52** (2.31-2.73)	**2.93** (2.68-3.17)	**3.23** (2.95-3.50)	**3.54** (3.22-3.83)	**3.83** (3.48-4.15)	**4.21** (3.81-4.56)	**4.48** (4.05-4.87)
20-day	**1.81** (1.65-1.98)	**2.24** (2.05-2.45)	**2.71** (2.48-2.96)	**3.07** (2.80-3.34)	**3.51** (3.21-3.83)	**3.84** (3.50-4.17)	**4.14** (3.78-4.50)	**4.43** (4.03-4.81)	**4.79** (4.35-5.20)	**5.03** (4.56-5.47)
30-day	**2.16** (1.97-2.34)	**2.67** (2.44-2.90)	**3.20** (2.93-3.47)	**3.59** (3.29-3.89)	**4.08** (3.73-4.40)	**4.42** (4.04-4.76)	**4.74** (4.33-5.11)	**5.04** (4.59-5.43)	**5.38** (4.90-5.80)	**5.61** (5.11-6.06)
45-day	**2.64** (2.43-2.87)	**3.27** (3.01-3.55)	**3.88** (3.57-4.20)	**4.31** (3.96-4.67)	**4.83** (4.45-5.22)	**5.18** (4.77-5.60)	**5.49** (5.05-5.92)	**5.75** (5.30-6.20)	**6.02** (5.56-6.50)	**6.17** (5.72-6.65)

60-day	**3.03** (2.79-3.30)	**3.74** (3.45-4.07)	**4.45** (4.10-4.82)	**4.95** (4.57-5.36)	**5.55** (5.12-6.00)	**5.95** (5.49-6.43)	**6.31** (5.83-6.83)	**6.62** (6.13-7.17)	**6.96** (6.45-7.54)	**7.15** (6.66-7.74)

[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

Please refer to NOAA Atlas 14 document for more information.

Estimates from the table in CSV format: Precipitation frequency estimates ▾ Submit

US Department of Commerce
National Oceanic and Atmospheric Administration
National Weather Service
Office of Water Prediction (OWP)
1325 East West Highway
Silver Spring, MD 20910
Page Author: HDSC webmaster
Page last modified: April 21, 2017

```
*S      AHYMO -  DETENTION-LOMAS
*S             POND ROUTING

START                TIME=0.0  PUNCH CODE=0


RAINFALL             TYPE=2
                     QUARTER=0.0    ONE= 1.77 IN
                     SIX=2.23 IN   DAY= 2.55 IN   DT = 0.05 HR



*Basin a
COMPUTE NM HYD       ID=1  HYD NO=101  DA= .000377 SQ MI
                     PER A=0  PER B=5 PER C=9  PER D=86
                     TP=-.170  MASSRAIN=-1


PRINT HYD            ID=1  CODE=3


* ROUTE THE TOTAL FLOW THROUGH THE PROPOSED RESERVOIR
ROUTE RESERVOIR      ID=2   HYD NO=102   INFLOW=1   CODE=3
                     OUTFLOW(CFS)    STORAGE(AC-FT)    ELEV(FT)
                        0.00             0.001          59.35
                        0.37             0.002          59.50
                        0.76             0.018          60.00



*Basin b
COMPUTE NM HYD       ID=3  HYD NO=103  DA= .000154 SQ MI
                     PER A=0  PER B=5 PER C=9  PER D=86
                     TP=-.170  MASSRAIN=-1


PRINT HYD            ID=3  CODE=3


* ROUTE THE TOTAL FLOW THROUGH THE PROPOSED RESERVOIR
ROUTE RESERVOIR      ID=4   HYD NO=104   INFLOW=3   CODE=3
                     OUTFLOW(CFS)    STORAGE(AC-FT)    ELEV(FT)
                        0.0              0.006          59.50
                        0.21             0.012          59.75

* existing
COMPUTE NM HYD       ID=5  HYD NO=105  DA= .000531 SQ MI
                     PER A=0  PER B=20PER C=64  PER D=16
                     TP=-.170  MASSRAIN=-1


PRINT HYD            ID=5  CODE=3

FINISH
```

```
       AHYMO PROGRAM (AHYMO-S4)                    - Version: S4.01a - Rel: 01a
            RUN DATE (MON/DAY/YR) = 02/26/2019
            START TIME (HR:MIN:SEC) = 15:54:56     USER NO.=
RioGrandeSingleA41963517
            INPUT FILE =  and Settings\Owner\Desktop\2018 JOBS\18226-mountain
fourplex\pondrout022619.txt


    *S      AHYMO -  DETENTION-MOUNTAIN
    *S              POND ROUTING

    START               TIME=0.0  PUNCH CODE=0


    RAINFALL            TYPE=2
                        QUARTER=0.0    ONE= 1.77 IN
                        SIX=2.23 IN   DAY= 2.55 IN   DT = 0.05 HR



                    24-HOUR RAINFALL DIST. - BASED ON NOAA ATLAS 14 FOR CONVECTIVE
AREAS (NM & AZ) - D1
                    DT =   0.050000 HOURS       END TIME =    24.000002 HOURS
                      0.0000  0.0031  0.0062  0.0096  0.0133  0.0171  0.0213
                      0.0274  0.0369  0.0471  0.0577  0.0692  0.0809  0.0929
                      0.1054  0.1180  0.1321  0.1467  0.1626  0.1849  0.2105
                      0.2448  0.2837  0.3317  0.3957  0.4678  0.5922  0.7856
                      1.1170  1.3499  1.5336  1.6259  1.7068  1.7649  1.8112
                      1.8515  1.8810  1.9081  1.9304  1.9478  1.9627  1.9760
                      1.9886  1.9996  2.0101  2.0203  2.0301  2.0382  2.0428
                      2.0473  2.0517  2.0559  2.0600  2.0640  2.0680  2.0719
                      2.0755  2.0792  2.0828  2.0863  2.0897  2.0930  2.0963
                      2.0995  2.1027  2.1058  2.1088  2.1118  2.1147  2.1176
                      2.1205  2.1233  2.1260  2.1288  2.1315  2.1342  2.1368
                      2.1394  2.1420  2.1446  2.1471  2.1496  2.1520  2.1545
                      2.1569  2.1593  2.1616  2.1640  2.1663  2.1686  2.1708
                      2.1731  2.1753  2.1775  2.1797  2.1818  2.1840  2.1861
                      2.1882  2.1903  2.1923  2.1944  2.1964  2.1984  2.2004
                      2.2023  2.2043  2.2062  2.2081  2.2100  2.2119  2.2138
                      2.2157  2.2175  2.2193  2.2211  2.2229  2.2247  2.2265
                      2.2283  2.2300  2.2317  2.2335  2.2352  2.2369  2.2387
                      2.2404  2.2421  2.2438  2.2455  2.2472  2.2489  2.2506
                      2.2523  2.2540  2.2557  2.2573  2.2590  2.2607  2.2623
                      2.2640  2.2656  2.2673  2.2689  2.2705  2.2722  2.2738
                      2.2754  2.2770  2.2787  2.2803  2.2819  2.2835  2.2851
                      2.2867  2.2882  2.2898  2.2914  2.2930  2.2945  2.2961
                      2.2977  2.2992  2.3008  2.3023  2.3038  2.3054  2.3069
                      2.3084  2.3099  2.3115  2.3130  2.3145  2.3160  2.3175
                      2.3190  2.3204  2.3219  2.3234  2.3249  2.3263  2.3278
                      2.3293  2.3307  2.3322  2.3336  2.3350  2.3365  2.3379
                      2.3393  2.3407  2.3422  2.3436  2.3450  2.3464  2.3478
                      2.3492  2.3505  2.3519  2.3533  2.3547  2.3560  2.3574
                      2.3588  2.3601  2.3615  2.3628  2.3641  2.3655  2.3668
                      2.3681  2.3695  2.3708  2.3721  2.3734  2.3747  2.3760
                      2.3773  2.3786  2.3798  2.3811  2.3824  2.3837  2.3849
                      2.3862  2.3874  2.3887  2.3899  2.3912  2.3924  2.3936
                      2.3949  2.3961  2.3973  2.3985  2.3997  2.4009  2.4021
                      2.4033  2.4045  2.4057  2.4068  2.4080  2.4092  2.4103
                      2.4115  2.4126  2.4138  2.4149  2.4161  2.4172  2.4183
                      2.4195  2.4206  2.4217  2.4228  2.4239  2.4250  2.4261
                      2.4272  2.4283  2.4294  2.4304  2.4315  2.4326  2.4336
                      2.4347  2.4358  2.4368  2.4378  2.4389  2.4399  2.4409
                      2.4420  2.4430  2.4440  2.4450  2.4460  2.4470  2.4480
                      2.4490  2.4500  2.4510  2.4519  2.4529  2.4539  2.4548
```

2.4558 2.4567 2.4577 2.4586 2.4596 2.4605 2.4614
2.4623 2.4633 2.4642 2.4651 2.4660 2.4669 2.4678
2.4687 2.4696 2.4704 2.4713 2.4722 2.4730 2.4739
2.4748 2.4756 2.4765 2.4773 2.4781 2.4790 2.4798
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2.4862 2.4870 2.4878 2.4886 2.4893 2.4901 2.4909
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2.5017 2.5023 2.5030 2.5037 2.5044 2.5050 2.5057
2.5063 2.5070 2.5076 2.5083 2.5089 2.5095 2.5101
2.5108 2.5114 2.5120 2.5126 2.5132 2.5138 2.5144
2.5150 2.5155 2.5161 2.5167 2.5173 2.5178 2.5184
2.5189 2.5195 2.5200 2.5206 2.5211 2.5216 2.5221
2.5227 2.5232 2.5237 2.5242 2.5247 2.5252 2.5257
2.5261 2.5266 2.5271 2.5276 2.5280 2.5285 2.5289
2.5294 2.5298 2.5303 2.5307 2.5311 2.5316 2.5320
2.5324 2.5328 2.5332 2.5336 2.5340 2.5344 2.5348
2.5352 2.5356 2.5359 2.5363 2.5367 2.5370 2.5374
2.5377 2.5381 2.5384 2.5387 2.5391 2.5394 2.5397
2.5400 2.5403 2.5406 2.5409 2.5412 2.5415 2.5418
2.5421 2.5424 2.5426 2.5429 2.5432 2.5434 2.5437
2.5439 2.5442 2.5444 2.5446 2.5448 2.5451 2.5453
2.5455 2.5457 2.5459 2.5461 2.5463 2.5465 2.5467
2.5468 2.5470 2.5472 2.5474 2.5475 2.5477 2.5478
2.5480 2.5481 2.5482 2.5484 2.5485 2.5486 2.5487
2.5488 2.5489 2.5490 2.5491 2.5492 2.5493 2.5494
2.5495 2.5495 2.5496 2.5497 2.5497 2.5498 2.5498
2.5499 2.5499 2.5499 2.5500 2.5500

```
*EXISTING MOUTAIN BASIN
COMPUTE NM HYD      ID=1  HYD NO=101  DA= .0001204 SQ MI
                    PER A=0  PER B=20 PER C=70  PER D=10
                    TP=-.170  MASSRAIN=-1


        K =  0.092650HR    TP =  0.170000HR    K/TP RATIO =  0.545000     SHAPE
CONSTANT, N =  7.106428
        UNIT PEAK =  0.37273E-01CFS   UNIT VOLUME =   0.8988       B =   526.28
 P60 = 1.7700
        AREA =     0.000012 SQ MI    IA =   0.10000 INCHES    INF =   0.04000
INCHES PER HOUR
        RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =
0.050000


        K =  0.141514HR    TP =  0.170000HR    K/TP RATIO =  0.832437     SHAPE
CONSTANT, N =  4.284698
        UNIT PEAK =  0.23822    CFS   UNIT VOLUME =   0.9450       B =   373.73
 P60 = 1.7700
        AREA =     0.000108 SQ MI    IA =   0.38333 INCHES    INF =   0.92333
INCHES PER HOUR
        RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =
0.050000

    PRINT HYD           ID=1  CODE=3
```

PARTIAL HYDROGRAPH 101.00

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
0.000	0.0	0.600	0.0	1.200	0.0
1.800	0.1	2.400	0.0		
0.150	0.0	0.750	0.0	1.350	0.0

```
1.950       0.0
        0.300       0.0          0.900       0.0          1.500       0.2
2.100       0.0
        0.450       0.0          1.050       0.0          1.650       0.2
2.250       0.0

        RUNOFF VOLUME =     1.09153 INCHES     =       0.0070 ACRE-FEET
        PEAK DISCHARGE RATE =       0.21 CFS  AT   1.550 HOURS   BASIN AREA =
0.0001 SQ. MI.



    *EXISTING 14TH STREET BASIN
    COMPUTE NM HYD      ID=2  HYD NO=102  DA= .0004115 SQ MI
                        PER A=0  PER B=20 PER C=57  PER D=23
                        TP=-.170  MASSRAIN=-1


        K =  0.092650HR    TP =  0.170000HR    K/TP RATIO =  0.545000     SHAPE
CONSTANT, N =  7.106428
        UNIT PEAK =  0.29300    CFS   UNIT VOLUME =   0.9587       B =   526.28
 P60 = 1.7700
        AREA =     0.000095 SQ MI    IA =   0.10000 INCHES    INF =   0.04000
INCHES PER HOUR
        RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =
0.050000


        K =  0.142855HR    TP =  0.170000HR    K/TP RATIO =  0.840321     SHAPE
CONSTANT, N =  4.240570
        UNIT PEAK =  0.69131    CFS   UNIT VOLUME =   0.9827       B =   370.90
 P60 = 1.7700
        AREA =     0.000317 SQ MI    IA =   0.38896 INCHES    INF =   0.93909
INCHES PER HOUR
        RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =
0.050000

    PRINT HYD           ID=2  CODE=3

                                        PARTIAL HYDROGRAPH   102.00

        TIME      FLOW          TIME      FLOW          TIME      FLOW
TIME     FLOW          TIME      FLOW
        HRS       CFS           HRS       CFS           HRS       CFS
HRS      CFS           HRS       CFS
        0.000       0.0         3.300       0.0         6.600       0.0
9.900       0.0        13.200       0.0
        0.150       0.0         3.450       0.0         6.750       0.0
10.050      0.0         13.350      0.0
        0.300       0.0         3.600       0.0         6.900       0.0
10.200      0.0         13.500      0.0
        0.450       0.0         3.750       0.0         7.050       0.0
10.350      0.0         13.650      0.0
        0.600       0.0         3.900       0.0         7.200       0.0
10.500      0.0         13.800      0.0
        0.750       0.0         4.050       0.0         7.350       0.0
10.650      0.0         13.950      0.0
        0.900       0.0         4.200       0.0         7.500       0.0
10.800      0.0         14.100      0.0
        1.050       0.0         4.350       0.0         7.650       0.0
10.950      0.0         14.250      0.0
        1.200       0.0         4.500       0.0         7.800       0.0
11.100      0.0         14.400      0.0
        1.350       0.1         4.650       0.0         7.950       0.0
```

11.250	0.0	14.550	0.0				
	1.500	0.7	4.800	0.0	8.100	0.0	
11.400	0.0	14.700	0.0				
	1.650	0.6	4.950	0.0	8.250	0.0	
11.550	0.0	14.850	0.0				
	1.800	0.3	5.100	0.0	8.400	0.0	
11.700	0.0	15.000	0.0				
	1.950	0.1	5.250	0.0	8.550	0.0	
11.850	0.0	15.150	0.0				
	2.100	0.1	5.400	0.0	8.700	0.0	
12.000	0.0	15.300	0.0				
	2.250	0.0	5.550	0.0	8.850	0.0	
12.150	0.0	15.450	0.0				
	2.400	0.0	5.700	0.0	9.000	0.0	
12.300	0.0	15.600	0.0				
	2.550	0.0	5.850	0.0	9.150	0.0	
12.450	0.0	15.750	0.0				
	2.700	0.0	6.000	0.0	9.300	0.0	
12.600	0.0						
	2.850	0.0	6.150	0.0	9.450	0.0	
12.750	0.0						
	3.000	0.0	6.300	0.0	9.600	0.0	
12.900	0.0						
	3.150	0.0	6.450	0.0	9.750	0.0	
13.050	0.0						

RUNOFF VOLUME = 1.25922 INCHES = 0.0276 ACRE-FEET
PEAK DISCHARGE RATE = 0.75 CFS AT 1.550 HOURS BASIN AREA = 0.0004 SQ. MI.

*PROPOSED MOUNTAIN BASIN
COMPUTE NM HYD ID=3 HYD NO=103 DA= .00007015 SQ MI
PER A=0 PER B=8 PER C=0 PER D=92
TP=-.170 MASSRAIN=-1

K = 0.092650HR TP = 0.170000HR K/TP RATIO = 0.545000 SHAPE CONSTANT, N = 7.106428
UNIT PEAK = 0.19979 CFS UNIT VOLUME = 0.9409 B = 526.28 P60 = 1.7700
AREA = 0.000065 SQ MI IA = 0.10000 INCHES INF = 0.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.050000

K = 0.169300HR TP = 0.170000HR K/TP RATIO = 0.995885 SHAPE CONSTANT, N = 3.544907
UNIT PEAK = 0.10683E-01CFS UNIT VOLUME = 0.8744 B = 323.60 P60 = 1.7700
AREA = 0.000006 SQ MI IA = 0.50000 INCHES INF = 1.25000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.050000

PRINT HYD ID=3 CODE=3

PARTIAL HYDROGRAPH 103.00

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS

HRS	CFS	HRS	CFS				
	0.000	0.0	2.550	0.0	5.100	0.0	
7.650	0.0	10.200	0.0				
	0.150	0.0	2.700	0.0	5.250	0.0	
7.800	0.0	10.350	0.0				
	0.300	0.0	2.850	0.0	5.400	0.0	
7.950	0.0	10.500	0.0				
	0.450	0.0	3.000	0.0	5.550	0.0	
8.100	0.0	10.650	0.0				
	0.600	0.0	3.150	0.0	5.700	0.0	
8.250	0.0	10.800	0.0				
	0.750	0.0	3.300	0.0	5.850	0.0	
8.400	0.0	10.950	0.0				
	0.900	0.0	3.450	0.0	6.000	0.0	
8.550	0.0	11.100	0.0				
	1.050	0.0	3.600	0.0	6.150	0.0	
8.700	0.0	11.250	0.0				
	1.200	0.0	3.750	0.0	6.300	0.0	
8.850	0.0	11.400	0.0				
	1.350	0.1	3.900	0.0	6.450	0.0	
9.000	0.0	11.550	0.0				
	1.500	0.2	4.050	0.0	6.600	0.0	
9.150	0.0	11.700	0.0				
	1.650	0.1	4.200	0.0	6.750	0.0	
9.300	0.0	11.850	0.0				
	1.800	0.1	4.350	0.0	6.900	0.0	
9.450	0.0	12.000	0.0				
	1.950	0.0	4.500	0.0	7.050	0.0	
9.600	0.0						
	2.100	0.0	4.650	0.0	7.200	0.0	
9.750	0.0						
	2.250	0.0	4.800	0.0	7.350	0.0	
9.900	0.0						
	2.400	0.0	4.950	0.0	7.500	0.0	
10.050	0.0						

RUNOFF VOLUME = 2.17864 INCHES = 0.0082 ACRE-FEET
PEAK DISCHARGE RATE = 0.18 CFS AT 1.550 HOURS BASIN AREA = 0.0001 SQ. MI.

*PROPOSED 14TH STREET BASIN
COMPUTE NM HYD ID=4 HYD NO=104 DA= .00046175 SQ MI
PER A=0 PER B=10 PER C=16 PER D=74
TP=-.170 MASSRAIN=-1

K = 0.092650HR TP = 0.170000HR K/TP RATIO = 0.545000 SHAPE CONSTANT, N = 7.106428
UNIT PEAK = 1.0578 CFS UNIT VOLUME = 0.9900 B = 526.28 P60 = 1.7700
AREA = 0.000342 SQ MI IA = 0.10000 INCHES INF = 0.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.050000

K = 0.147316HR TP = 0.170000HR K/TP RATIO = 0.866563 SHAPE CONSTANT, N = 4.100964
UNIT PEAK = 0.25554 CFS UNIT VOLUME = 0.9471 B = 361.85 P60 = 1.7700
AREA = 0.000120 SQ MI IA = 0.40769 INCHES INF = 0.99154

INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.050000

PRINT HYD ID=4 CODE=3

PARTIAL HYDROGRAPH 104.00

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
0.000	0.0	4.500	0.0	9.000	0.0
0.150	0.0	4.650	0.0	9.150	0.0
0.300	0.0	4.800	0.0	9.300	0.0
0.450	0.0	4.950	0.0	9.450	0.0
0.600	0.0	5.100	0.0	9.600	0.0
0.750	0.0	5.250	0.0	9.750	0.0
0.900	0.0	5.400	0.0	9.900	0.0
1.050	0.1	5.550	0.0	10.050	0.0
1.200	0.1	5.700	0.0	10.200	0.0
1.350	0.3	5.850	0.0	10.350	0.0
1.500	1.0	6.000	0.0	10.500	0.0
1.650	0.8	6.150	0.0	10.650	0.0
1.800	0.4	6.300	0.0	10.800	0.0
1.950	0.2	6.450	0.0	10.950	0.0
2.100	0.1	6.600	0.0	11.100	0.0
2.250	0.1	6.750	0.0	11.250	0.0
2.400	0.1	6.900	0.0	11.400	0.0
2.550	0.0	7.050	0.0	11.550	0.0
2.700	0.0	7.200	0.0	11.700	0.0
2.850	0.0	7.350	0.0	11.850	0.0
3.000	0.0	7.500	0.0	12.000	0.0
3.150	0.0	7.650	0.0	12.150	0.0
3.300	0.0	7.800	0.0	12.300	0.0
3.450	0.0	7.950	0.0	12.450	0.0
3.600	0.0	8.100	0.0	12.600	0.0
3.750	0.0	8.250	0.0	12.750	0.0
3.900	0.0	8.400	0.0	12.900	0.0
13.500	0.0	18.000	0.0		
13.650	0.0	18.150	0.0		
13.800	0.0	18.300	0.0		
13.950	0.0	18.450	0.0		
14.100	0.0	18.600	0.0		
14.250	0.0	18.750	0.0		
14.400	0.0	18.900	0.0		
14.550	0.0	19.050	0.0		
14.700	0.0	19.200	0.0		
14.850	0.0	19.350	0.0		
15.000	0.0	19.500	0.0		
15.150	0.0	19.650	0.0		
15.300	0.0	19.800	0.0		
15.450	0.0	19.950	0.0		
15.600	0.0	20.100	0.0		
15.750	0.0	20.250	0.0		
15.900	0.0	20.400	0.0		
16.050	0.0	20.550	0.0		
16.200	0.0	20.700	0.0		
16.350	0.0	20.850	0.0		
16.500	0.0	21.000	0.0		
16.650	0.0	21.150	0.0		
16.800	0.0	21.300	0.0		
16.950	0.0	21.450	0.0		
17.100	0.0	21.600	0.0		
17.250	0.0	21.750	0.0		
17.400	0.0	21.900	0.0		

	4.050	0.0	8.550	0.0	13.050	0.0	
17.550	0.0	22.050	0.0				
	4.200	0.0	8.700	0.0	13.200	0.0	
17.700	0.0						
	4.350	0.0	8.850	0.0	13.350	0.0	
17.850	0.0						

RUNOFF VOLUME = 1.94084 INCHES = 0.0478 ACRE-FEET
PEAK DISCHARGE RATE = 1.05 CFS AT 1.550 HOURS BASIN AREA = 0.0005 SQ. MI.

* ROUTE THE TOTAL FLOW THROUGH THE PROPOSED RESERVOIR
ROUTE RESERVOIR ID=5 HYD NO=105 INFLOW=4 CODE=3

OUTFLOW(CFS)	STORAGE(AC-FT)	ELEV(FT)	
0.00	0.002	59.00	
0.37	0.004	59.25	
0.76	0.020	60.00	

* * * * * * * * * * * * * * * * *

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
0.00	0.00	59.00	0.002	0.00
0.15	0.00	59.00	0.002	0.00
0.30	0.00	59.00	0.002	0.00
0.45	0.00	59.00	0.002	0.00
0.60	0.00	59.00	0.002	0.00
0.75	0.00	59.00	0.002	0.00
0.90	0.03	59.01	0.002	0.02
1.05	0.06	59.03	0.002	0.05
1.20	0.13	59.07	0.003	0.10
1.35	0.29	59.14	0.003	0.21
1.50	0.96	59.36	0.006	0.43
1.65	0.81	59.63	0.012	0.57
1.80	0.40	59.64	0.012	0.57
1.95	0.23	59.50	0.009	0.50
2.10	0.14	59.34	0.006	0.42
2.25	0.09	59.13	0.003	0.20
2.40	0.06	59.05	0.002	0.08
2.55	0.03	59.03	0.002	0.04
2.70	0.02	59.01	0.002	0.02
2.85	0.01	59.01	0.002	0.01
3.00	0.01	59.01	0.002	0.01
3.15	0.01	59.01	0.002	0.01
3.30	0.01	59.00	0.002	0.01
3.45	0.01	59.00	0.002	0.01
3.60	0.01	59.00	0.002	0.01
3.75	0.01	59.00	0.002	0.01
3.90	0.01	59.00	0.002	0.01
4.05	0.01	59.00	0.002	0.01
4.20	0.01	59.00	0.002	0.01
4.35	0.01	59.00	0.002	0.01
4.50	0.01	59.00	0.002	0.01
4.65	0.01	59.00	0.002	0.01
4.80	0.01	59.00	0.002	0.01

4.95	0.01	59.00	0.002	0.01
5.10	0.01	59.00	0.002	0.01
5.25	0.01	59.00	0.002	0.01
5.40	0.01	59.00	0.002	0.01
5.55	0.01	59.00	0.002	0.01
5.70	0.01	59.00	0.002	0.01
5.85	0.01	59.00	0.002	0.01
6.00	0.01	59.00	0.002	0.01
6.15	0.01	59.01	0.002	0.01
6.30	0.01	59.01	0.002	0.01
6.45	0.01	59.01	0.002	0.01
6.60	0.01	59.01	0.002	0.01
6.75	0.01	59.01	0.002	0.01
6.90	0.01	59.01	0.002	0.01
7.05	0.01	59.00	0.002	0.01
7.20	0.01	59.00	0.002	0.01
7.35	0.01	59.00	0.002	0.01
7.50	0.01	59.00	0.002	0.01
7.65	0.01	59.00	0.002	0.01
7.80	0.01	59.00	0.002	0.01
7.95	0.01	59.00	0.002	0.01
8.10	0.01	59.00	0.002	0.01
8.25	0.01	59.00	0.002	0.01

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
8.40	0.01	59.00	0.002	0.01
8.55	0.01	59.00	0.002	0.01
8.70	0.01	59.00	0.002	0.01
8.85	0.01	59.00	0.002	0.01
9.00	0.01	59.00	0.002	0.01
9.15	0.01	59.00	0.002	0.01
9.30	0.01	59.00	0.002	0.01
9.45	0.01	59.00	0.002	0.01
9.60	0.01	59.00	0.002	0.01
9.75	0.01	59.00	0.002	0.01
9.90	0.01	59.00	0.002	0.01
10.05	0.01	59.00	0.002	0.01
10.20	0.01	59.00	0.002	0.01
10.35	0.01	59.00	0.002	0.01
10.50	0.01	59.00	0.002	0.01
10.65	0.01	59.00	0.002	0.01
10.80	0.01	59.00	0.002	0.01
10.95	0.01	59.00	0.002	0.01
11.10	0.01	59.00	0.002	0.01
11.25	0.01	59.00	0.002	0.01
11.40	0.01	59.00	0.002	0.01
11.55	0.01	59.00	0.002	0.01
11.70	0.01	59.00	0.002	0.01
11.85	0.01	59.00	0.002	0.01
12.00	0.01	59.00	0.002	0.01
12.15	0.01	59.00	0.002	0.01
12.30	0.01	59.00	0.002	0.01
12.45	0.01	59.00	0.002	0.01
12.60	0.01	59.00	0.002	0.01
12.75	0.01	59.00	0.002	0.01
12.90	0.00	59.00	0.002	0.00

PEAK DISCHARGE = 0.584 CFS - PEAK OCCURS AT HOUR 1.70
MAXIMUM WATER SURFACE ELEVATION = 59.661
MAXIMUM STORAGE = 0.0128 AC-FT INCREMENTAL TIME= 0.050000HRS

FINISH

NORMAL PROGRAM FINISH END TIME (HR:MIN:SEC) = 15:54:56

VOLUME CALCULATIONS

pond a

outfall

ACTUAL ELEV.	DEPTH (FT)	AREA SF	VOLUME PER UNIT	VOLUME CUMULATIVE	VOLUME AC-FT	Q (CFS)
58.50	0.00	42.00	0	0	0.000	0.00
59.00	0.00	280.00	80.50	80.5	0.002	0.00
59.25	0.15	508.00	98.50	179.00	0.004	0.37
60.00	0.65	1380.00	708.00	887	0.020	0.76

Orifice Equation

Q = CA SQRT(2gH)

C =	0.6
Diameter (in)	6
Area (ft^2)=	0.196349541
g =	32.2
H (Ft) =	Depth of water above center of orifice
Q (CFS)=	Flow

DRAINAGE EASEMENT

Grant of Permanent Drainage Easement, by New Mexico Gas Company, Inc., a Delaware corporation ("Grantor"), whose address is 7120 Wyoming Blvd, NE, Suite 20, Albuquerque, NM 87109, for the benefit of Lots B-1, C-1, D-1 and E-1, Block 44, of the Perea Addition ("Grantee"), situate in Section 18, Township 10 North, Range 3 East, N.M.P.M., City of Albuquerque, Bernalillo County, New Mexico.

Grantor grants to the Grantee a non-exclusive, perpetual drainage easement ("Easement"), said Easement being more particularly described on Exhibit "A," for the construction, installation, maintenance, repair, modification, replacement and operation of a private drainage facility ("Facility"), together with the right to remove trees, shrubs, undergrowth and any other obstacles within the Easement if the Grantee determines they interfere with the appropriate use of this Easement. The maintenance of the Facility shall be the responsibility of the Grantee and shall be in accordance with the approved Drainage Report and Plans. Grantee agrees that all installation, maintenance, repair, modification, replacement, operation and any other activities within the Easement will be coordinated with Grantor so as to minimize any disruption to Grantor's property.

In no event shall Grantee's use of the Easement interfere with the Grantor's use of the Grantor's property. Grantee shall not enter into Grantor's property other than as explicitly authorized by this grant of Easement, and in no event shall Grantee enter upon or perform any work upon any of Grantor's improvements on Grantor's property. Grantor shall coordinate with Grantee prior to constructing any improvements or encroachment ("Improvements") within the easement, and Grantee shall have the right to object to any Improvements which would unreasonably interfere with Grantee's use of the Easement.

To the fullest extent permitted by applicable law. Grantee shall indemnify, defend and hold harmless Grantor, Grantor's affiliates and their respective directors, officers, employees, representatives, and agents from and against any and all damages, losses, claims, obligations, demands, assessments, penalties, liabilities, costs, and expenses (including attorney fees and expenses), arising out of or resulting from Grantee or Grantee's members, officers, employees, representatives, and agents use of the Easement, including but not limited to the existence of the Facility thereon. Grantee shall not cause or permit to be caused by any of its employees or agents any hazardous substances, pollutants or contaminants, as defined by applicable law, to be dumped, spilled, released, stored or deposited on, over or beneath the Easement or any other property owned by Grantor.

Grantor covenants and warrants that Grantor is the owner in fee simple of the real property comprising the Easement, and that Grantor has a good lawful right to convey the Easement.

The grant and other provisions of this Easement constitute covenants running

with the Easement for the benefit of the Grantee and its successors and assigns until terminated.

GRANTOR

New Mexico Gas Company, Inc.

By: _____
Tom Bullard

Date: _____

[corporate acknowledgment]

STATE OF NEW MEXICO)
) ss
COUNTY OF BERNALILLO)

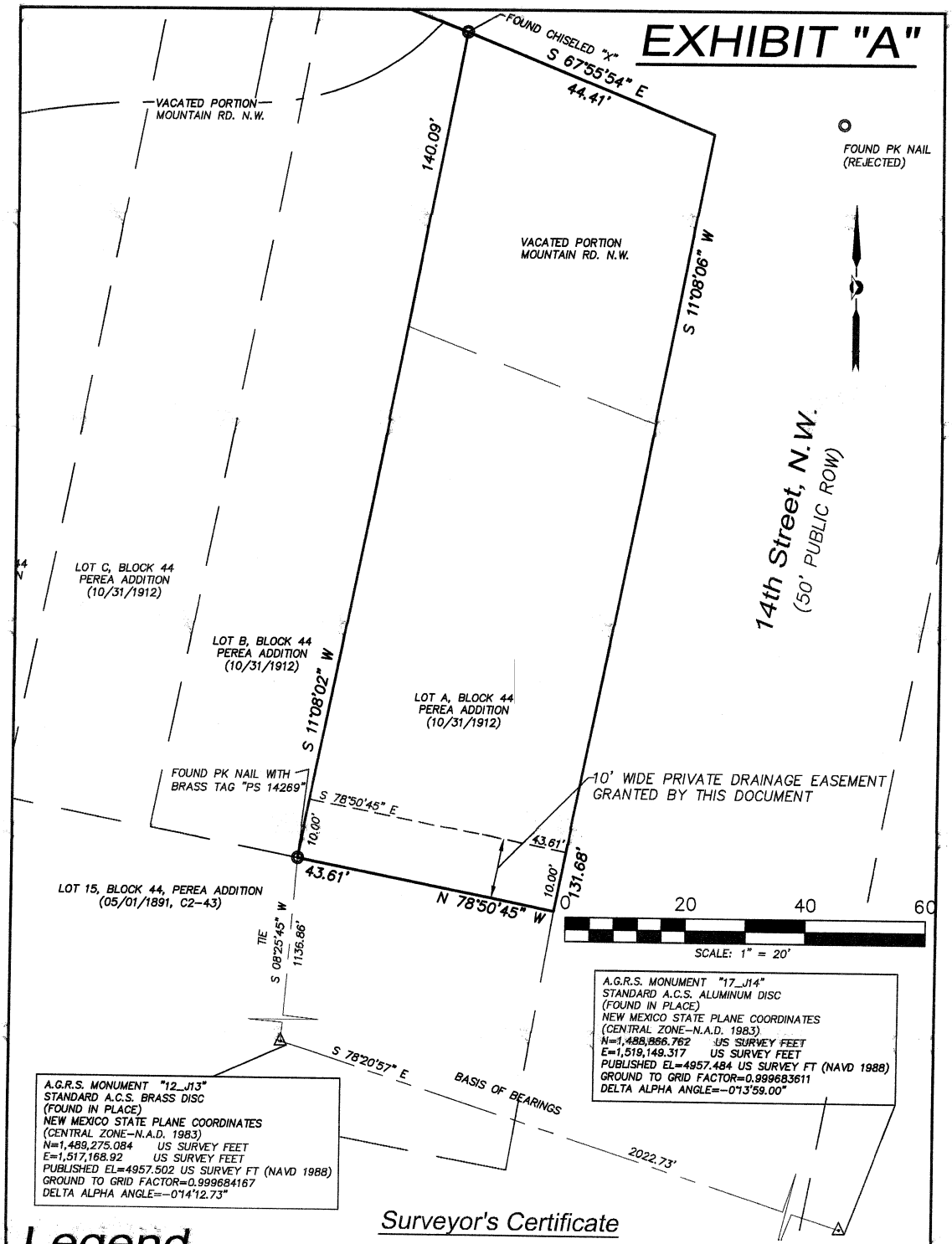
This instrument was acknowledged before me on this ____ day of _____, by Tom Bullard, Vice President of Engineering, Gas Management & Technical Services of New Mexico Gas Company, Inc., a Delaware corporation, on behalf of said company.

_____
Notary Public

My Commission Expires:

_____

EXHIBIT "A"



Legend

N 90°00'00" E	MEASURED BEARING AND DISTANCES
○	FOUND AND USED MONUMENT AS DESIGNATED
△	FOUND ALUMINUM AGRS MONUMENT AS DESIGNATED

Surveyor's Certificate

I, LARRY W. MEDRANO, A REGISTERED PROFESSIONAL SURVEYOR UNDER THE LAWS OF THE STATE OF NEW MEXICO, HEREBY CERTIFY THAT THIS EXHIBIT (UN-CLASSIFIED SURVEYING SURVEY WAS PREPARED FROM FIELD NOTES OF AN ACTUAL SURVEY MEETING THE MINIMUM REQUIREMENTS FOR THIS CLASSIFICATION OF SURVEY AS PER THE MINIMUM STANDARDS FOR LAND SURVEYING IN NEW MEXICO AS ADOPTED BY THE N.M. BOARD OF LICENSURE FOR ENGINEERS AND SURVEYORS, AND IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

LARRY W. MEDRANO DATE
N.M.P.S. No. 11993
DIGITAL SIGNATURE IS INVALID WITHOUT DIGITAL CERTIFICATION
WET SIGNATURE IS INVALID IF NOT IN BLUE INK
WITH BLUE STAMP OR EMBOSSED STAMP

PRECISION SURVEYS, INC.
OFFICE LOCATION:
9200 San Mateo Boulevard, NE
Albuquerque, NM 87113
505.856.5700 PHONE
505.856.7900 FAX

LARRY W. MEDRANO NEW MEXICO 11993 REGISTERED PROFESSIONAL SURVEYOR

COORDINATE AND DIMENSION INFORMATION				PLSS INFORMATION				PROJECT INFORMATION	
STATE PLANE ZONE: NM-C	GRID/GROUND COORDINATES: GRID	TYPE: STANDARD		LAND GRANT: TOWN OF ALBUQUERQUE GRANT				CREW/TECH: MT	DATE OF SURVEY: 06/27/2018
HORIZONTAL DATUM: NAD83	VERTICAL DATUM: NAVD88	ROTATION ANGLE: 0° 00' 00.00"		SECTION: 18	TOWNSHIP: 10 NORTH	RANGE: 3 EAST	MERIDIAN: NMPM	DRAWN BY: JK	CHECKED BY: LM
CONTROL USED: ALBUQUERQUE GEODETIC REFERENCE SYSTEM		BASE POINT: N = 0, E = 0		CITY: ALBUQUERQUE		COUNTY: BERNALILLO	STATE: NM	PSI JOB NO.: 18-1098EX	SHEET NUMBER: 2 OF 2
COMBINED SCALE FACTOR: GRID TO GROUND: 1.00031928, GROUND TO GRID: 0.99966807	DISTANCE ANNOTATION: GROUND	BEARING ANNOTATION: GRID							

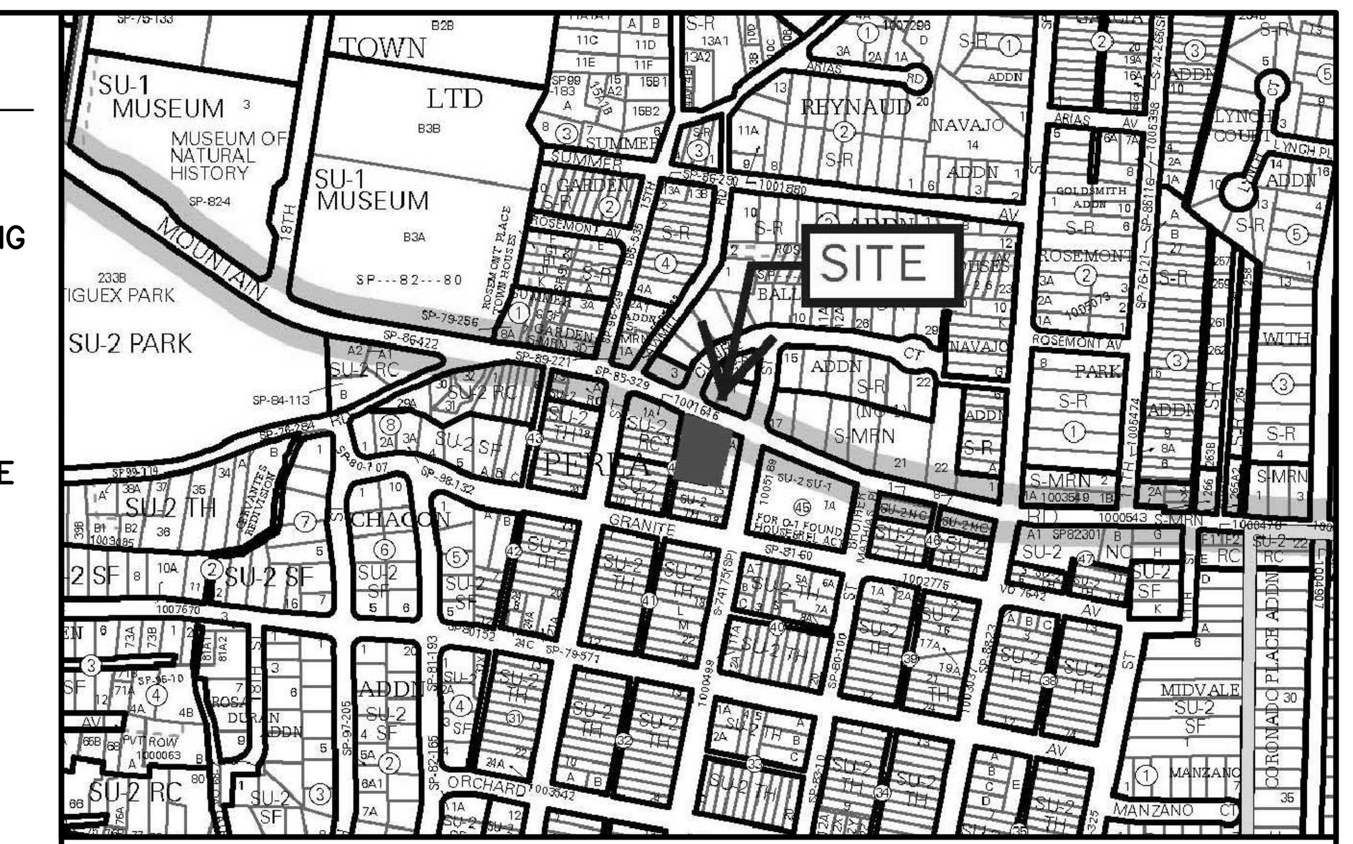
NOTICE TO CONTRACTORS

1. AN EXCAVATION/CONSTRUCTION PERMIT WILL BE REQUIRED BEFORE BEGINNING ANY WORK WITHIN CITY RIGHT-OF-WAY.
2. ALL WORK DETAILED ON THESE PLANS TO BE PERFORMED, EXCEPT AS OTHERWISE STATED OR PROVIDED HERON, SHALL BE CONSTRUCTED IN ACCORDANCE WITH CITY OF ALBUQUERQUE INTERIM STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, 1985.
3. TWO WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT LINE LOCATING SERVICE, 765-1234, FOR LOCATION OF EXISTING UTILITIES.
4. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE AND VERIFY THE HORIZONTAL AND VERTICAL LOCATIONS OF ALL CONSTRUCTIONS. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE ENGINEER SO THAT THE CONFLICT CAN BE RESOLVED WITH A MINIMUM AMOUNT OF DELAY.
5. BACKFILL COMPACTION SHALL BE ACCORDING TO TRAFFIC/STREET USE.
6. MAINTENANCE OF THESE FACILITIES SHALL BE THE RESPONSIBILITY OF THE OWNER OF THE PROPERTY SERVED.
7. WORK ON ARTERIAL STREETS SHALL BE PERFORMED ON A 24-HOUR BASIS.

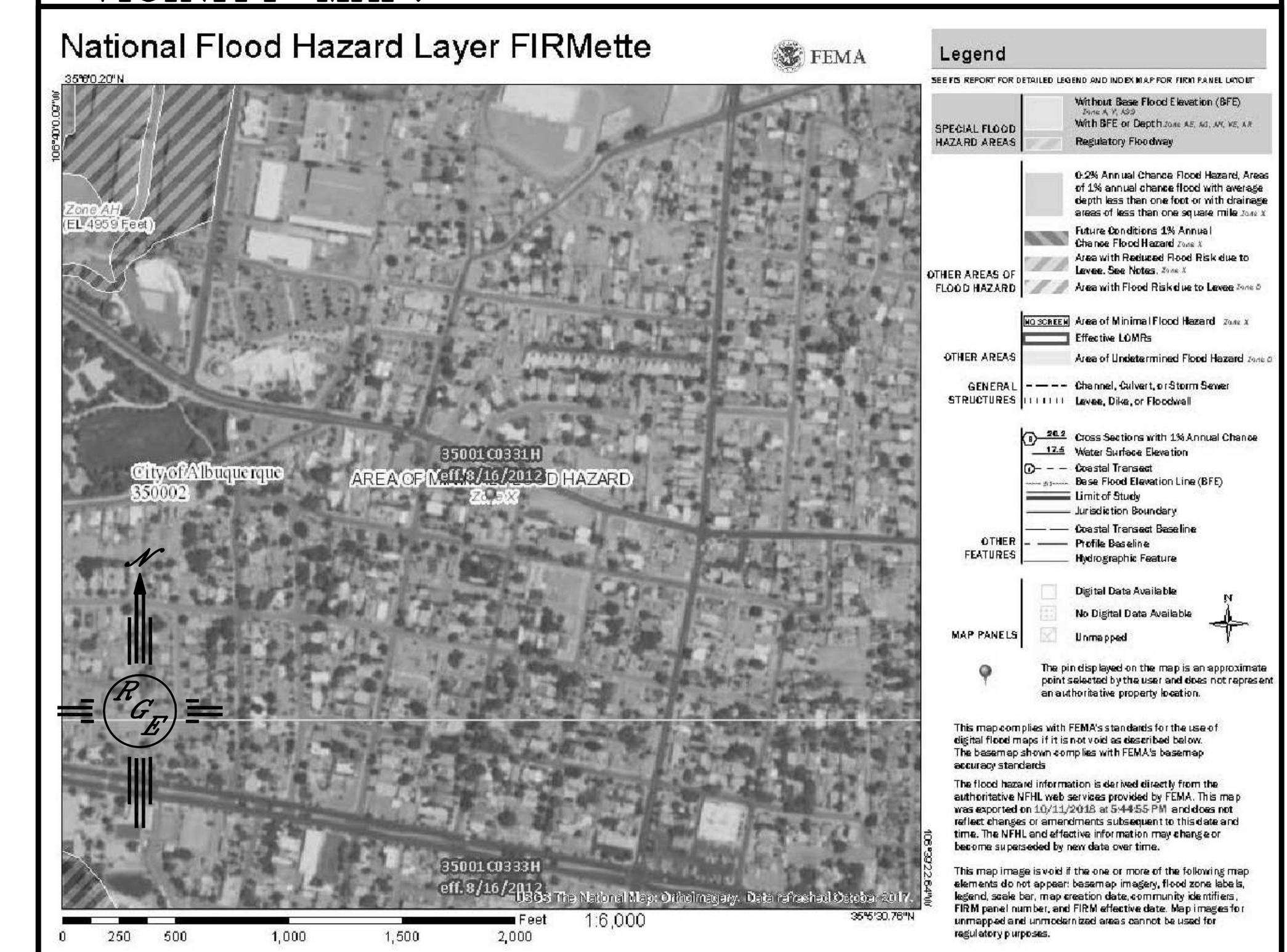
APPROVAL	NAME	DATE
INSPECTOR		

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.



VICINITY MAP: J-13-Z



FIRM MAP:

LEGAL DESCRIPTION:

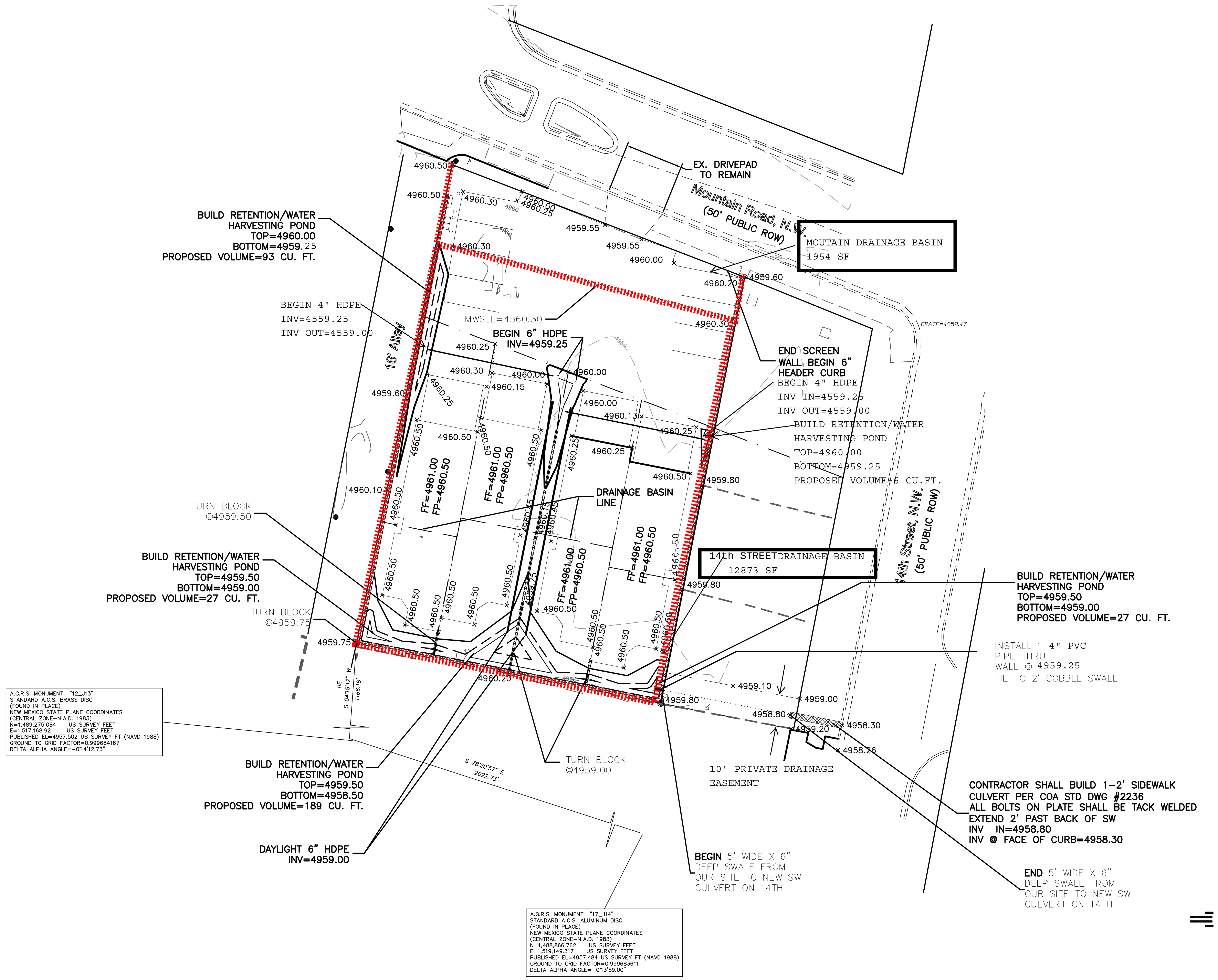
Lots B, C, D and E of Block 44, Perea Addition

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. ANY CURBS OR PAVEMENT NEGATIVELY IMPACTED BY CONSTRUCTION ACTIVITY SHALL BE REPLACED TO MATCH EXISTING CONDITIONS.
5. ALL SITE WORK SHALL CONFORM TO CITY OF ALBUQUERQUE STANDARDS FOR PUBLIC WORKS CONSTRUCTION EDITION 9

LEGEND

5414	EXISTING CONTOUR
5415	EXISTING INDEX CONTOUR
5414	PROPOSED CONTOUR
5415	PROPOSED INDEX CONTOUR
	SLOPE TIE
× 4048.25	EXISTING SPOT ELEVATION
× 4048.25	PROPOSED SPOT ELEVATION
	BOUNDARY
	CENTERLINE
	RIGHT-OF-WAY
	PROPOSED CURB
	EXISTING CURB AND GUTTER
	EXISTING SIDEWALK
	PROPOSED SCREEN WALL 18" MAX. RETAINAGE



GRAPHIC SCALE

20 10 0 10 20

SCALE: 1"=20'

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.

ENGINEER'S SEAL	MOUTAIN TOWNHOMES PROPOSED BASIN MAP	DRAWN BY WCWJ DATE 2-26-19 218151-LAYOUT-10-25-18
DAVID SOULE NEW MEXICO 14522 REGISTERED PROFESSIONAL ENGINEER DAVID SOULE P.E. #14522	Rio Grande Engineering 1606 CENTRAL AVENUE SE SUITE 201 ALBUQUERQUE, NM 87106 (505) 872-0999	SHEET # JOB # 218151

THIS IS NOT A BOUNDARY SURVEY
APPARENT LOT LINES AND PROPERTY CORNERS ARE SHOWN FOR ORIENTATION ONLY

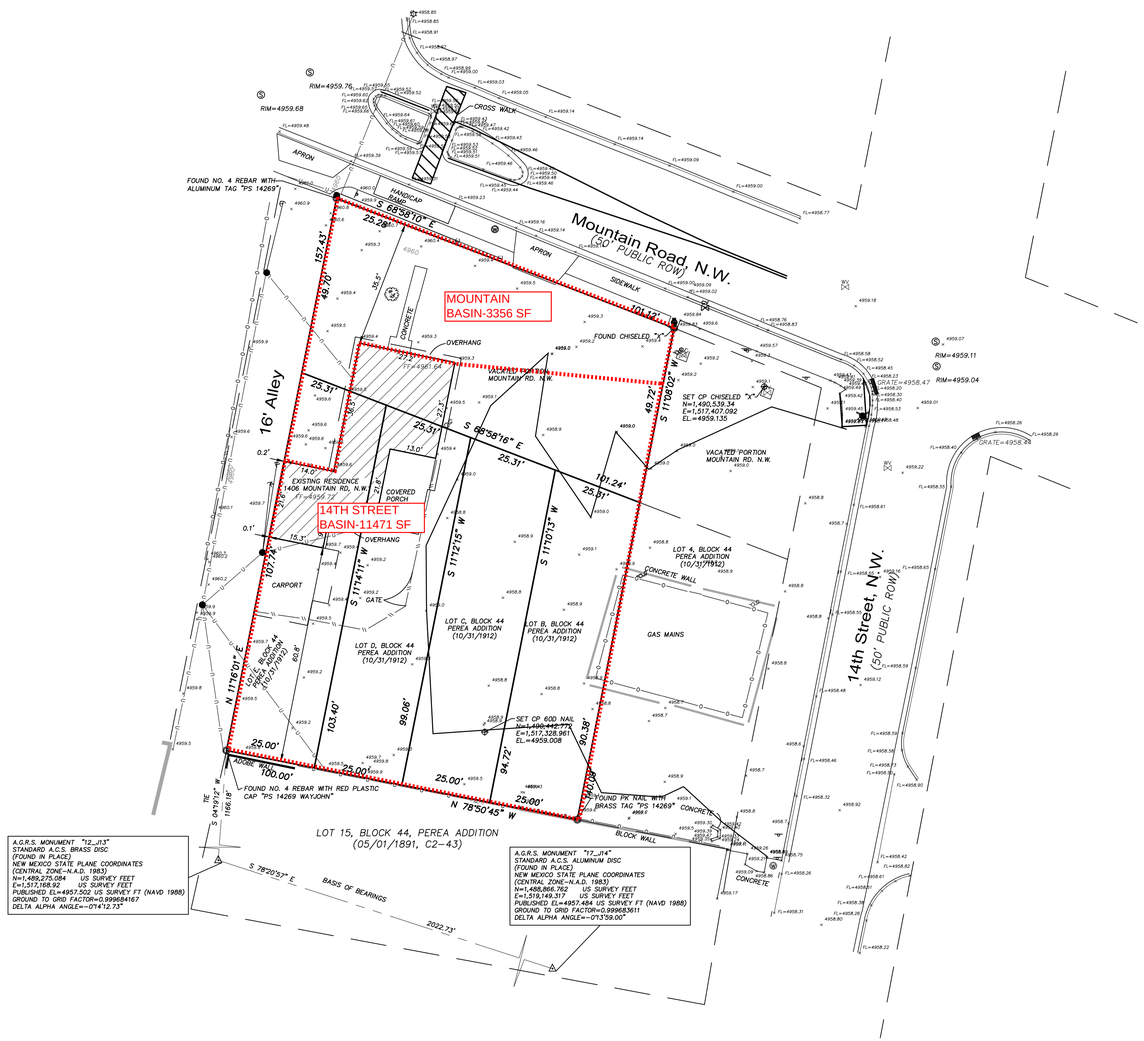
Topographic Survey of
Lots B, C, D and E of Block 44

Perea Addition

And the Vacated Portion of

Mountain Road, N.W.

Town of Albuquerque Grant, Projected
Section 18, Township 10 N., Range 3 E., N.M.P.M.
Albuquerque, Bernalillo County, New Mexico
February 2019



Legend

N 90°00'00" E	MEASURED BEARING AND DISTANCES
○	FOUND AND USED MONUMENT AS DESIGNATED
△	FOUND ALUMINUM AGRS MONUMENT AS DESIGNATED
◒	SERVICE/DROP POLE AS DESIGNATED
●	UTILITY POLE
⊢	GUY WIRE
EM	ELECTRIC METER
Ⓦ	WATER METER
⋈	GAS VALVE
G	GAS METER
SIGN	SIGN
	CURB AND GUTTER
OHU	OVERHEAD UTILITY LINE
	CHAIN LINK FENCE
	WOOD FENCE

Notes

1. PLAT REFERENCES:
   A. PLAT OF LOTS B, C, D, AND E, BLOCK 44, PEREA ADDITION AND VACATED MOUNTAIN ROAD, N.W. (10/31/1912)
2. ELEVATION DATUM IS BASED ON NAVD 1988 FROM AGRS MONUMENT "12_J13", PUBLISHED ELEVATION (FEET) = 4957.502 (DATE OF RETRIVAL: JULY 2007 FOR NON AGRS MONUMENTS)
3. THIS MAP HAS BEEN PRODUCED ACCORDING TO PROCEDURES THAT HAVE BEEN DEMONSTRATED TO PRODUCE DATA THAT MEETS OR EXCEEDS THE MINIMUM STANDARDS FOR A TOPOGRAPHIC MAP COMPILED AT A SCALE OF 1"=20' WITH A CONTOUR INTERVAL OF ONE FOOT.
8. GPS CALIBRATION BASED ON ACS MONUMENTS "12_J13" AND "17_J14", AVERAGE PROJECT GROUND TO GRID SCALE FACTOR= 0.99966807739

Surveyor's Certificate

I, LARRY W. MEDRANO, A PROFESSIONAL LAND SURVEYOR REGISTERED IN THE STATE OF NEW MEXICO, LICENSE NUMBER 11993, DO HEREBY CERTIFY THAT THIS TOPOGRAPHIC SURVEY WAS PREPARED BY ME BY FIELD SURVEYS USING GPS RTK MEASUREMENTS BASED ON SITE HORIZONTAL/VERTICAL CALIBRATION UTILIZING AGRS MONUMENTS. ELEVATIONS BASED ON AGRS MONUMENT "12_J13" (NAVD 1988). THIS SURVEY MEETS THE MINIMUM STANDARDS FOR TOPOGRAPHIC SURVEYING IN NEW MEXICO AS ADOPTED BY THE NEW MEXICO BOARD OF LICENSURE FOR PROFESSIONAL ENGINEERS AND SURVEYORS. THIS IS NOT A BOUNDARY SURVEY.

LARRY W. MEDRANO
N.M.P.S. No. 11993

DATE

DIGITAL SIGNATURE IS INVALID WITHOUT DIGITAL CERTIFICATION
WET SIGNATURE IS INVALID IF NOT IN BLUE INK WITH BLUE STAMP OR EMBOSSED STAMP

LARRY W. MEDRANO
NEW MEXICO
11993
REGISTERED PROFESSIONAL SURVEYOR

COORDINATE AND DIMENSION INFORMATION					PLSS INFORMATION				INDEXING INFORMATION FOR COUNTY CLERK
STATE PLANE ZONE: NM-C	GRID/GROUND COORDINATES: GRID	TYPE: STANDARD			LAND GRANT: TOWN OF ALBUQUERQUE GRANT				PROPERTY OWNER: MICHAEL P. TAPIA
HORIZONTAL DATUM: NAD83	VERTICAL DATUM: NAVD88		ROTATION ANGLE: 0° 00' 00.00"	MATCHES DRAWING UNITS: YES	SECTION: 18	TOWNSHIP: 10 NORTH	RANGE: 3 EAST	MERIDIAN: NMPM	SUBDIVISION NAME: PEREA ADDITION
CONTROL USED: ALBUQUERQUE GEODETIC REFERENCE SYSTEM			BASE POINT FOR SCALING AND/OR ROTATION: N = 0, E = 0		CITY: ALBUQUERQUE		COUNTY: BERNALILLO	STATE: NM	UPC: 101305839331810906
COMBINED SCALE FACTOR: GRID TO GROUND: 1.00031928, GROUND TO GRID: 0.999668077 39		DISTANCE ANNOTATION: GROUND	ELEVATION TRANSLATION: ±0.00'	ELEVATIONS VALID: YES					
		BEARING ANNOTATION: GRID							

PRECISION SURVEYS, INC.
OFFICE LOCATION:
9200 San Mateo Boulevard, NE
Albuquerque, NM 87113
505.856.5700 PHONE
505.856.7900 FAX

PROJECT INFORMATION	
CREW/TECH: MT	DATE OF SURVEY: 02/14/2019
DRAWN BY: JK	CHECKED BY: LM
PSI JOB NO.: 18-1098T	SHEET NUMBER: 1 OF 1

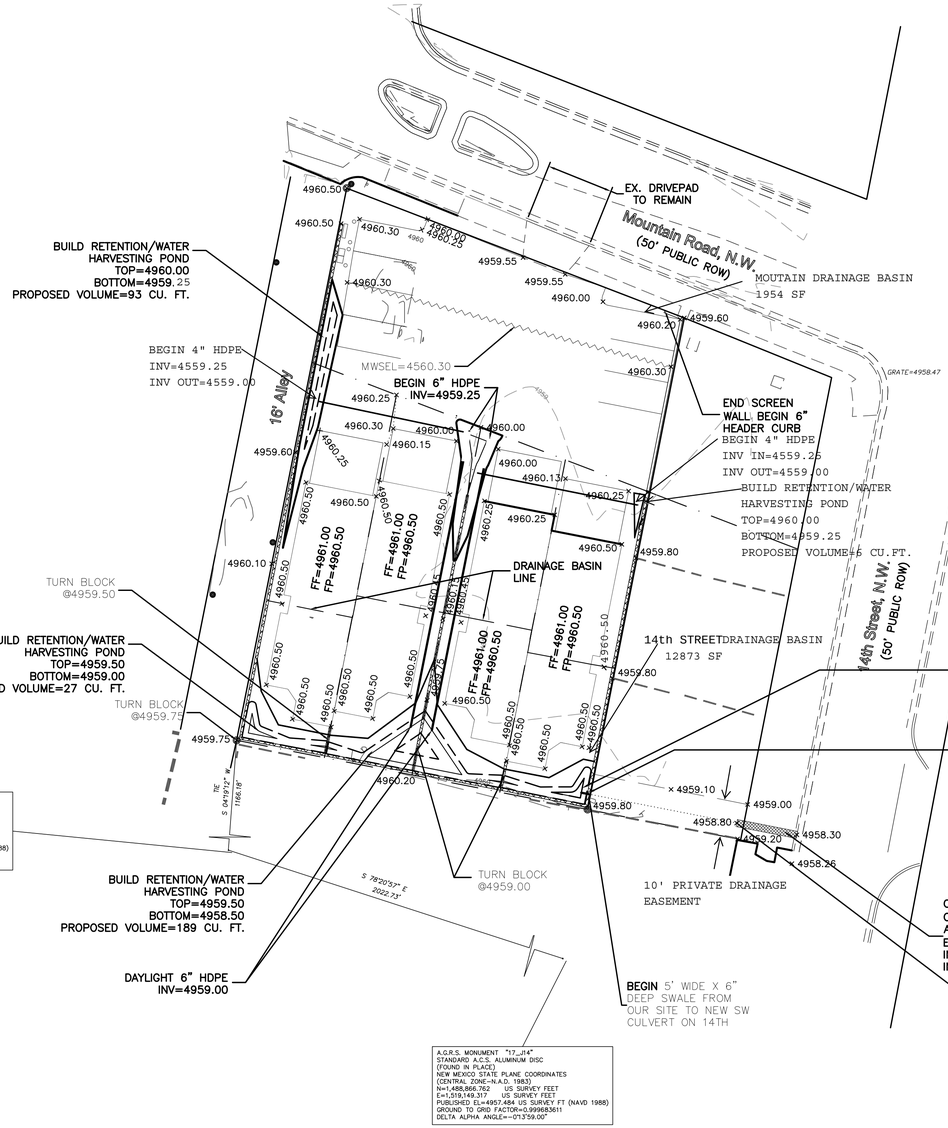
NOTICE TO CONTRACTORS

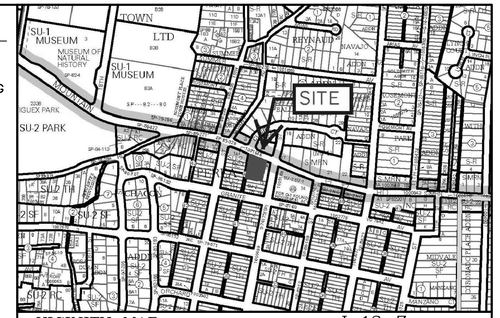
1. AN EXCAVATION/CONSTRUCTION PERMIT WILL BE REQUIRED BEFORE BEGINNING ANY WORK WITHIN CITY RIGHT-OF-WAY.
2. ALL WORK DETAILED ON THESE PLANS TO BE PERFORMED, EXCEPT AS OTHERWISE STATED OR PROVIDED HERON, SHALL BE CONSTRUCTED IN ACCORDANCE WITH CITY OF ALBUQUERQUE INTERIM STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, 1985.
3. TWO WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT LINE LOCATING SERVICE, 765-1234, FOR LOCATION OF EXISTING UTILITIES.
4. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE AND VERIFY THE HORIZONTAL AND VERTICAL LOCATIONS OF ALL CONSTRUCTIONS. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE ENGINEER SO THAT THE CONFLICT CAN BE RESOLVED WITH A MINIMUM AMOUNT OF DELAY.
5. BACKFILL COMPACTION SHALL BE ACCORDING TO TRAFFIC/STREET USE.
6. MAINTENANCE OF THESE FACILITIES SHALL BE THE RESPONSIBILITY OF THE OWNER OF THE PROPERTY SERVED.
7. WORK ON ARTERIAL STREETS SHALL BE PERFORMED ON A 24-HOUR BASIS.

APPROVAL	NAME	DATE
INSPECTOR		

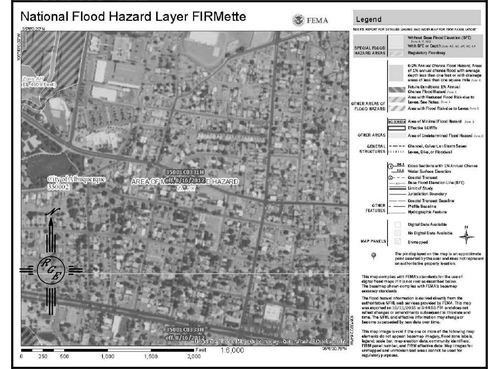
EROSION CONTROL NOTES:

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.





VICINITY MAP: J-13-Z



FIRM MAP:

LEGAL DESCRIPTION:

Lots B, C, D and E of Block 44, Perea Addition

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LEGEND

- EXISTING CONTOUR (5414)
- EXISTING INDEX CONTOUR (5415)
- PROPOSED CONTOUR (5414)
- PROPOSED INDEX CONTOUR (5415)
- SLOPE TIE
- EXISTING SPOT ELEVATION (× 4048.25)
- PROPOSED SPOT ELEVATION (× 4048.25)
- BOUNDARY
- CENTERLINE
- RIGHT-OF-WAY
- PROPOSED CURB
- EXISTING CURB AND GUTTER
- EXISTING SIDEWALK
- PROPOSED SCREEN WALL 18" MAX. RETAINAGE

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.

N

GRAPHIC SCALE

20 10 0 10 20

SCALE: 1"=20'

ENGINEER'S SEAL

DAVID SOULE NEW MEXICO 14522 REGISTERED PROFESSIONAL ENGINEER

DAVID SOULE P.E. #14522

MOUTAIN TOWNHOMES

GRADING AND DRAINAGE PLAN

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

DRAWN BY WCWJ

DATE 2-26-19

218151-LAYOUT-10-25-18

SHEET #

JOB # 218151

DRAINAGE EASEMENT

Grant of Permanent Drainage Easement, by New Mexico Gas Company, Inc., a Delaware corporation ("Grantor"), whose address is 7120 Wyoming Blvd, NE, Suite 20, Albuquerque, NM 87109, for the benefit of Lots B-1, C-1, D-1 and E-1, Block 44, of the Perea Addition ("Grantee"), situate in Section 18, Township 10 North, Range 3 East, N.M.P.M., City of Albuquerque, Bernalillo County, New Mexico.

Grantor grants to the Grantee a non-exclusive, perpetual drainage easement ("Easement"), said Easement being more particularly described on Exhibit "A," for the construction, installation, maintenance, repair, modification, replacement and operation of a private drainage facility ("Facility"), together with the right to remove trees, shrubs, undergrowth and any other obstacles within the Easement if the Grantee determines they interfere with the appropriate use of this Easement. The maintenance of the Facility shall be the responsibility of the Grantee and shall be in accordance with the approved Drainage Report and Plans. Grantee agrees that all installation, maintenance, repair, modification, replacement, operation and any other activities within the Easement will be coordinated with Grantor so as to minimize any disruption to Grantor's property.

In no event shall Grantee's use of the Easement interfere with the Grantor's use of the Grantor's property. Grantee shall not enter into Grantor's property other than as explicitly authorized by this grant of Easement, and in no event shall Grantee enter upon or perform any work upon any of Grantor's improvements on Grantor's property. Grantor shall coordinate with Grantee prior to constructing any improvements or encroachment ("Improvements") within the easement, and Grantee shall have the right to object to any Improvements which would unreasonably interfere with Grantee's use of the Easement.

To the fullest extent permitted by applicable law. Grantee shall indemnify, defend and hold harmless Grantor, Grantor's affiliates and their respective directors, officers, employees, representatives, and agents from and against any and all damages, losses, claims, obligations, demands, assessments, penalties, liabilities, costs, and expenses (including attorney fees and expenses), arising out of or resulting from Grantee or Grantee's members, officers, employees, representatives, and agents use of the Easement, including but not limited to the existence of the Facility thereon. Grantee shall not cause or permit to be caused by any of its employees or agents any hazardous substances, pollutants or contaminants, as defined by applicable law, to be dumped, spilled, released, stored or deposited on, over or beneath the Easement or any other property owned by Grantor.

Grantor covenants and warrants that Grantor is the owner in fee simple of the real property comprising the Easement, and that Grantor has a good lawful right to convey the Easement.

The grant and other provisions of this Easement constitute covenants running

with the Easement for the benefit of the Grantee and its successors and assigns until terminated.

GRANTOR

New Mexico Gas Company, Inc.

By: Tom Bullard
Tom Bullard

Date: 3/5/19

[corporate acknowledgment]

STATE OF NEW MEXICO)
) ss
COUNTY OF BERNALILLO)

This instrument was acknowledged before me on this 5TH day of MARCH, by Tom Bullard, Vice President of Engineering, Gas Management & Technical Services of New Mexico Gas Company, Inc., a Delaware corporation, on behalf of said company.

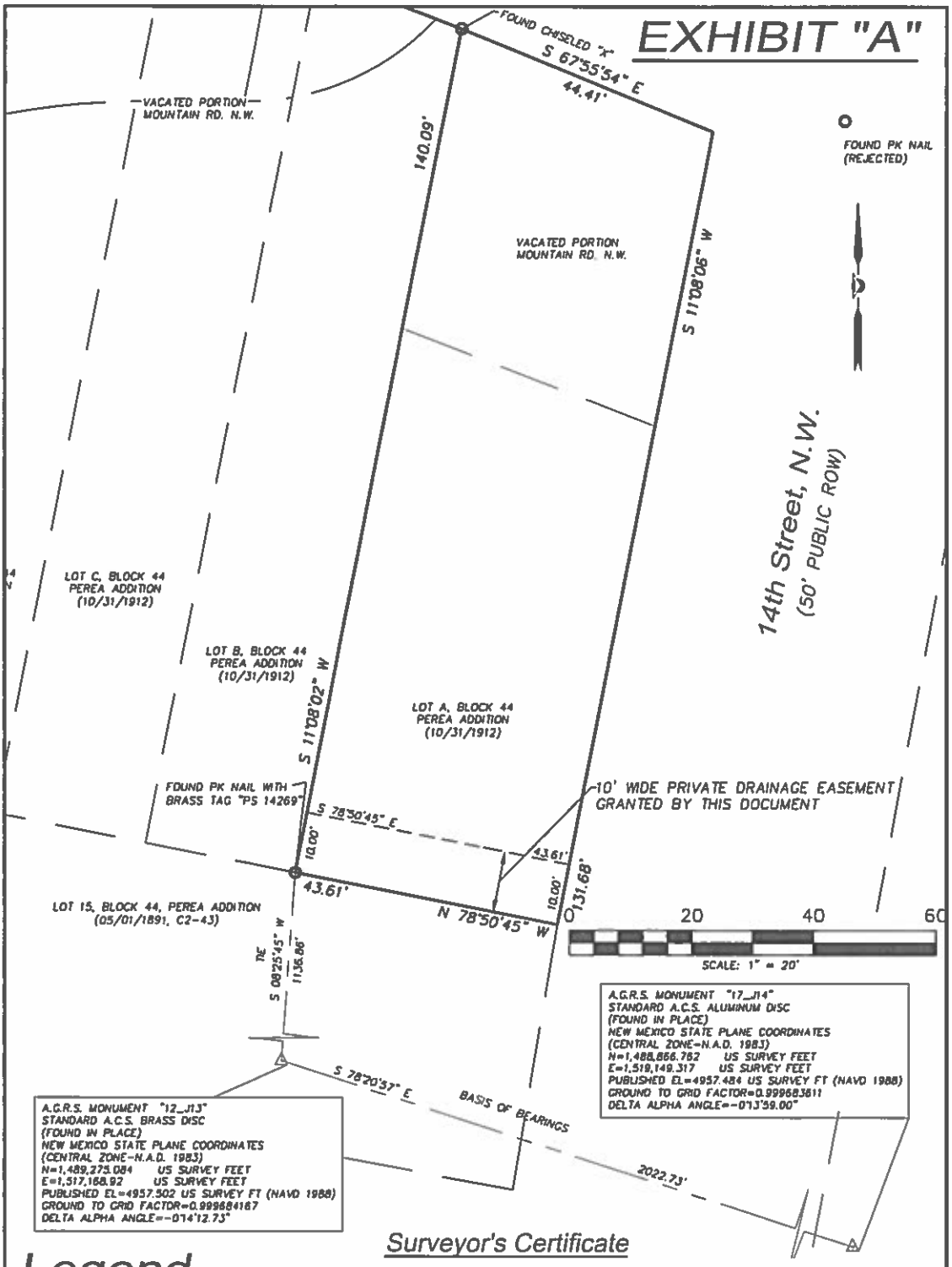
Notary Public

My Commission Expires:

November 1, 2021

OFFICIAL SEAL
Jeffery Estvanko
NOTARY PUBLIC
STATE OF NEW MEXICO
My Commission Expires: 11/1/21

EXHIBIT "A"



Legend

N 90°00'00" E	MEASURED BEARING AND DISTANCES
o	FOUND AND USED MONUMENT AS DESIGNATED
△	FOUND ALUMINUM AGRS MONUMENT AS DESIGNATED

Surveyor's Certificate

I, LARRY W. MEDRANO, A REGISTERED PROFESSIONAL SURVEYOR UNDER THE LAWS OF THE STATE OF NEW MEXICO, HEREBY CERTIFY THAT THIS EXHIBIT (UN-CLASSIFIED SURVEYING SURVEY WAS PREPARED FROM FIELD NOTES OF AN ACTUAL SURVEY MEETING THE MINIMUM REQUIREMENTS FOR THIS CLASSIFICATION OF SURVEY AS PER THE MINIMUM STANDARDS FOR LAND SURVEYING IN NEW MEXICO AS ADOPTED BY THE N.M. BOARD OF LICENSURE FOR ENGINEERS AND SURVEYORS, AND IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

LARRY W. MEDRANO DATE
N.M.P.S. No. 11993
DIGITAL SIGNATURE IS INVALID WITHOUT DIGITAL CERTIFICATION
WET SIGNATURE IS INVALID IF NOT IN BLUE INK
WITH BLUE STAMP OR EMBOSSED STAMP

LARRY W. MEDRANO NEW MEXICO 11993 REGISTERED PROFESSIONAL SURVEYOR

PRECISION SURVEYS, INC.

COORDINATE AND DIMENSION INFORMATION				PLSS INFORMATION				PROJECT INFORMATION	
STATE PLANE ZONE: NM-C	GRID/GROUND COORDINATES: GRID	TYPE: STANDARD		LAND GRANT: TOWN OF ALBUQUERQUE GRANT				CREW/TECH: MT	DATE OF SURVEY: 06/27/2018
HORIZONTAL DATUM: NAD83	VERTICAL DATUM: NAVD88	ROTATION ANGLE: 0° 00' 00.00"		SECTION: 18	TOWNSHIP: 10 NORTH	RANGE: 3 EAST	MERIDIAN: NMPM	DRAWN BY: JK	CHECKED BY: LM
CONTROL USED: ALBUQUERQUE GEODETIC REFERENCE SYSTEM		BASE POINT: N = 0, E = 0		CITY: ALBUQUERQUE	COUNTY: BERNALILLO	STATE: NM		PSI JOB NO.: 18-1098EX	SHEET NUMBER: 2 OF 2
COMBINED SCALE FACTOR: GRID TO GROUND: 1.00031926, GROUND TO GRID: 0.99968807	DISTANCE ANNOTATION: GROUND, BEARING ANNOTATION: GRID								