

CITY OF ALBUQUERQUE



September 24, 2013

Jackie S. McDowell, P.E.
McDowell Engineering, INC
7820 Beverly Hills Ave. NE
Albuquerque, NM 87122

**Re: Lot 12, Block 1, Unit 2, Chamisa Ridge, 6216 Wild Onion Ave. NW
Grading and Drainage Plan
Engineer's Stamp dated 08-03-2013 (B-10/D002B)**


Dear Ms. McDowell,

Based upon the information provided in your submittal dated 08-05-13 and additional calculations received on 09-03-2013 and 09-04-2013 via email, the above referenced grading and drainage plan is approved for Building Permit.

If disturbing $\frac{3}{4}$ of an acre or more a Topsoil Disturbance Permit is required. Please attach a copy of this approved plan to the construction sets prior to sign-off by Hydrology. Prior to Certificate of Occupancy release, Engineer Certification per the DPM checklist will be required.

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

Sincerely,


Shahab Biazar, P.E.
Senior Engineer, Planning Dept.
Development Review Services

C: e-mail

DRAINAGE AND TRANSPORTATION INFORMATION SHEET

(REV. 1/11/2002)

PROJECT TITLE: SANDIA BUILDERS - TRUEBA LOT #12 ZONE MAP/DRG. FILE #: B-10/D002B
DRB #: _____ EPC #: _____ WORK ORDER #: _____

LEGAL DESCRIPTION: LOT 12, BLOCK 1, UNIT 2, CHAMISA RIDGE
CITY ADDRESS: 6216 WILD ONION AVENUE NW

ENGINEERING FIRM: MCDOWELL ENGINEERING, INC. CONTACT: JACKIE S. MCDOWELL
ADDRESS: 7820 BEVERLY HILLS AVE. NE PHONE: (505) 828-2430
CITY, STATE: ALBUQUERQUE, NM ZIP CODE: 87122

OWNER: SANDIA BUILDERS, LLC CONTACT: NORMAN KING
ADDRESS: PO BOX 15488 PHONE: (505) 896-1166
CITY, STATE: RIO RANCHO, NM ZIP CODE: 87174

ARCHITECT: RON MONTOYA CONTACT: RON MONTOYA
ADDRESS: 8724 ALAMEDA PARK DRIVE NE PHONE: (505) 823-6777
CITY, STATE: ALBUQUERQUE, NM ZIP CODE: 87124

SURVEYOR: MIKE SHOOK CONTACT: MIKE SHOOK
ADDRESS: 612 CERRO DE ORTEGA DR. SE PHONE: (505) 896-1716
CITY, STATE: RIO RANCHO, NM ZIP CODE: 87124

CONTRACTOR: _____ CONTACT: _____
ADDRESS: _____ PHONE: _____
CITY, STATE: _____ ZIP CODE: _____

CHECK TYPE OF SUBMITTAL:

- ☐ DRAINAGE REPORT
- ☒ DRAINAGE PLAN
- ☐ CONCEPTUAL GRADING & DRAINAGE PLAN
- ☒ GRADING PLAN
- ☐ EROSION CONTROL PLAN
- ☐ ENGINEER'S CERTIFICATION (HYDROLOGY)
- ☐ CLOMR / LOMR
- ☐ TRAFFIC CIRCULATION LAYOUT (TCL)
- ☐ ENGINEER'S CERTIFICATION (TCL)
- ☐ ENGINEER'S CERTIFICATION (DRB APPR. SITE PLAN)
- ☐ OTHER

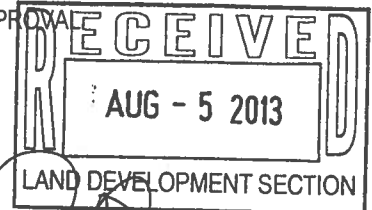
CHECK TYPE OF APPROVAL SOUGHT:

- ☐ SIA / FINANCIAL GUARANTEE RELEASE
- ☐ PRELIMINARY PLAT APPROVAL
- ☐ S. DEV. PLAN FOR SUB'D APPROVAL
- ☐ S. DEV. PLAN FOR BLDG. PERMIT APPROVAL
- ☐ SECTOR PLAN APPROVAL
- ☐ FINAL PLAT APPROVAL
- ☐ FOUNDATION PERMIT APPROVAL
- ☒ BUILDING PERMIT APPROVAL
- ☐ CERTIFICATE OF OCCUPANCY (PERM.)
- ☐ CERTIFICATE OF OCCUPANCY (TEMP.)
- ☐ GRADING PERMIT APPROVAL
- ☐ PAVING PERMIT APPROVAL
- ☐ WORK ORDER APPROVAL
- ☐ OTHER (SPECIFY) _____

WAS A PRE-DESIGN CONFERENCE ATTENDED:

- ☒ YES
- ☐ NO
- ☐ COPY PROVIDED

DATE SUBMITTED: 05-Aug-2013 BY: Jackie S. McDowell



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

1. **Conceptual Grading and Drainage Plan:** Required for approval of Site Development Plans greater than five acres.
2. **Drainage Plans:** Required for building permits, grading permits, paving permits, and site plans less than five acres.
3. **Drainage Report:** Required for subdivisions containing more than ten (10) lots or constituting five acres or more.

McDowell Engineering, Inc.

Jackie Sedillo McDowell, P.E.
Civil Engineering Consultant

August 3, 2013

Mr. Shahab Biazar, PE
Senior Engineer, Planning Dept.
Development and Building Services
City of Albuquerque
PO Box 1293
Albuquerque, NM 87103

**RE: Lot 12, Block 1, Unit 2, Chamisa Ridge Grading & Drainage Plan, 6216
Wild Onion Ave. NW (B10/D002B)**

Dear Mr. Biazar:

We received your review comments dated July 3, 2013 and offer the following response with the enclosed revised Grading & Drainage Plan.

- We have modified the plan to allow for water harvesting ponds to hold the volume of water generated from a 100 year storm. At this time, the developed runoff cannot be fully conveyed downstream to the detention pond through the existing drainage easement as several lots downstream have not been graded to allow for this conveyance per our discussion on August 2, 2013.
- Top of curb and flowline elevations have been added to Wild Onion Ave. to show that an adequate water block exists.
- All proposed contours have labeled and the font has been enlarged on the existing contours to be more legible.

Your timely approval of this plan for building permit is greatly appreciated.

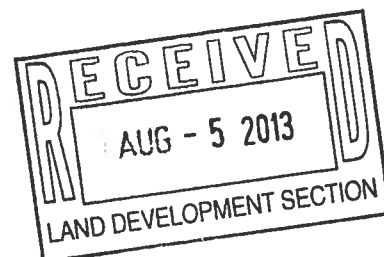
Sincerely,

MCDOWELL ENGINEERING, INC.



Jackie S. McDowell, P.E.

Copy: Owners



100-375000-1000

NOIHO OTIM

CONEFLOWER

04-Sep-13

Calculations: Total Basin

SANDIA BUILDERS-TRUEBA HOME
LOT #12

Calculations are based on "Section 22.2 Hydrology of the
Development Process Manual, Volume 2, Design Criteria for the
City of Albuquerque, New Mexico, latest edition - basins < 40 acres".

P(360) = 2.20 inches
P(10 day) = 3.67 inches

Precipitation Zone = 1

Depth at 100-year, 6-hour storm: (Table A-2)

Land Treatments:

From Table 5 - Percent Treatment D

Areas: (acres)	Existing	Proposed
Treatment A	2.06	1.32
Treatment B	0.00	0.21
Treatment C	0.00	0.21
Treatment D	0.00	0.32
Total (acres) =	2.06	2.06

Volume	100 year Existing	100 year Proposed	10 year Existing	10 year Proposed	2 year Existing	2 year Proposed
Volume (acre-feet) =	0.076	0.130	0.014	0.053	0.000	0.021
Volume (cubic feet) =	3,290	5,662	598	2,327	0	935

Total Q(p), cfs:	100 year Existing Q(p)*A	100 year Proposed Q(p)*A	10 year Existing Q(p)*A	10 year Proposed Q(p)*A	2 year Existing Q(p)*A	2 year Proposed Q(p)*A
Treatment A	2.66	1.70	0.49	0.32	0.00	0.00
Treatment B	0.00	0.43	0.00	0.16	0.00	0.01
Treatment C	0.00	0.60	0.00	0.31	0.00	0.10
Treatment D	0.00	1.40	0.00	0.92	0.00	0.54
Total Q (cfs) =	2.66	4.13	0.49	1.71	0.00	0.65

Biazar, Shahab

From: Biazar, Shahab
Sent: Monday, August 26, 2013 9:36 AM
To: 'jackmcdowell@comcast.net'
Cc: Sims, Timothy E.
Subject: Lot 12, Block 1, Unit 2, Chamisa Ridge Grading and Drainage Plan (B10/D002B)

Hi,

I reviewed your revised Grading and Drainage plan for Lot 12, Block 1, Unit 2, Chamisa Ridge. The elevations provided along Wild Onion are hard to read but it appears that there is only 0.20' of water block.

Will this be adequate for the water block? Provide calculations.

Thanks and have a nice day.

Shahab Biazar, P.E.

Senior Engineer

Planning Department

Development & Building Services Division

600 2nd St. NW, Suite 201

Albuquerque, NM 87102

t 505-924-3695

f 505-924-3864

8/26/2013

Biazar, Shahab

From: Jackie McDowell <JackMcDowell@comcast.net>
Sent: Wednesday, September 04, 2013 12:11 PM
To: Biazar, Shahab
Subject: RE: Lot 12, Block 1, Unit 2, Chamisa Ridge Grading and Drainage Plan (B10/D002B)
Attachments: offsite basin to street area map & calc.pdf; offsite basin to street flowrate.pdf; CIMG3553.JPG

Hi Shahab,

I prepared a more detailed basin measurement - see the attached drawing which is at a scale of 1"=100'. The upstream basin area from Lots A & B and 1/2 street is 89885 sf = 2.06 ac (see attached map & calc). The developed flowrate from this basin is 4.13 cfs (see attached calc sheet). The street capacity is 4.38 cfs. According to the approved Drainage Report for Chamisa Ridge, Unit 2, this is the runoff that enters the street at this location (see attached photo taken from your files).

Thanks - if you have any other questions or comments, please contact me.

Your timely approval of this plan is greatly appreciated. ☺

Jackie S. McDowell, PE
MCDOWELL ENGINEERING, INC.
7820 Beverly Hills Ave. NE
Albuquerque, NM 87122
Voice: (505) 828-2430
Fax: (505) 821-4857
email: JackMcDowell@comcast.net

From: Biazar, Shahab [mailto:sbiazar@cabq.gov]
Sent: Wednesday, September 04, 2013 10:31 AM
To: Jackie McDowell
Subject: RE: Lot 12, Block 1, Unit 2, Chamisa Ridge Grading and Drainage Plan (B10/D002B)

Hi Jackie,

You need to include the street itself as a separate basin as well (+/- 0.70 acre of impervious area).

No other runoff enters the street?

Thanks and have a nice day

Shahab Biazar, P.E.

Senior Engineer
Planning Department
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600 2nd St. NW, Suite 201
Albuquerque, NM 87102
t 505-924-3695
f 505-924-3864

From: Jackie McDowell [mailto:JackMcDowell@comcast.net]
Sent: Tuesday, September 03, 2013 8:39 PM
To: Biazar, Shahab

Cc: Sims, Timothy E.

Subject: RE: Lot 12, Block 1, Unit 2, Chamisa Ridge Grading and Drainage Plan (B10/D002B)

Hi Shahab,

Attached are the street capacity calculations you requested. The survey shows that there is an average gutter flowline to top of curb of 0.25'. The attached analysis shows that there is adequate street capacity to handle the upstream runoff at this location.

Thanks - if you have any other questions or comments, please contact me.

Your timely approval of this plan is greatly appreciated. ☺

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Will this be adequate for the water block? Provide calculations.

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Senior Engineer

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Attachments: Street Capacity Calcs.pdf

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Albuquerque, NM 87102
t 505-924-3695
f 505-924-3864

03-Sep-13

Calculations: Total Basin

SANDIA BUILDERS-TRUEBA HOME
LOT #12

Calculations are based on "Section 22.2 Hydrology of the
Development Process Manual, Volume 2, Design Criteria for the
City of Albuquerque, New Mexico, latest edition - basins < 40 acres".

P(360) = 2.20 inches
P(10 day) = 3.67 inches

Precipitation Zone = 1

Depth at 100-year, 6-hour storm: (Table A-2)

Land Treatments:

From Table 5 - Percent Treatment D

Areas: (acres)	Existing	Proposed
Treatment A	2.00	1.28
Treatment B	0.00	0.20
Treatment C	0.00	0.20
Treatment D	0.00	0.32
Total (acres) =	2.00	2.00

Volume	100 year Existing	100 year Proposed	10 year Existing	10 year Proposed	2 year Existing	2 year Proposed
Volume (acre-feet) =	0.073	0.127	0.013	0.053	0.000	0.021
Volume (cubic feet) =	3,194	5,538	581	2,291	0	931

Total Q(p), cfs:	100 year Existing Q(p)*A	100 year Proposed Q(p)*A	10 year Existing Q(p)*A	10 year Proposed Q(p)*A	2 year Existing Q(p)*A	2 year Proposed Q(p)*A
Treatment A	2.58	1.65	0.48	0.31	0.00	0.00
Treatment B	0.00	0.41	0.00	0.15	0.00	0.01
Treatment C	0.00	0.57	0.00	0.30	0.00	0.09
Treatment D	0.00	1.40	0.00	0.92	0.00	0.54
Total Q (cfs) =	2.58	4.03	0.48	1.68	0.00	0.64

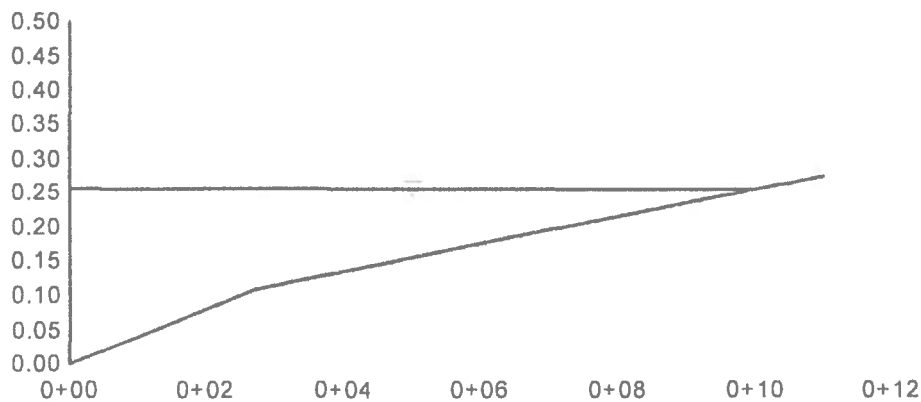
Q

Cross Section Cross Section for Gutter Section

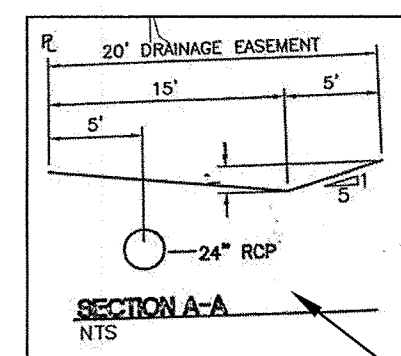
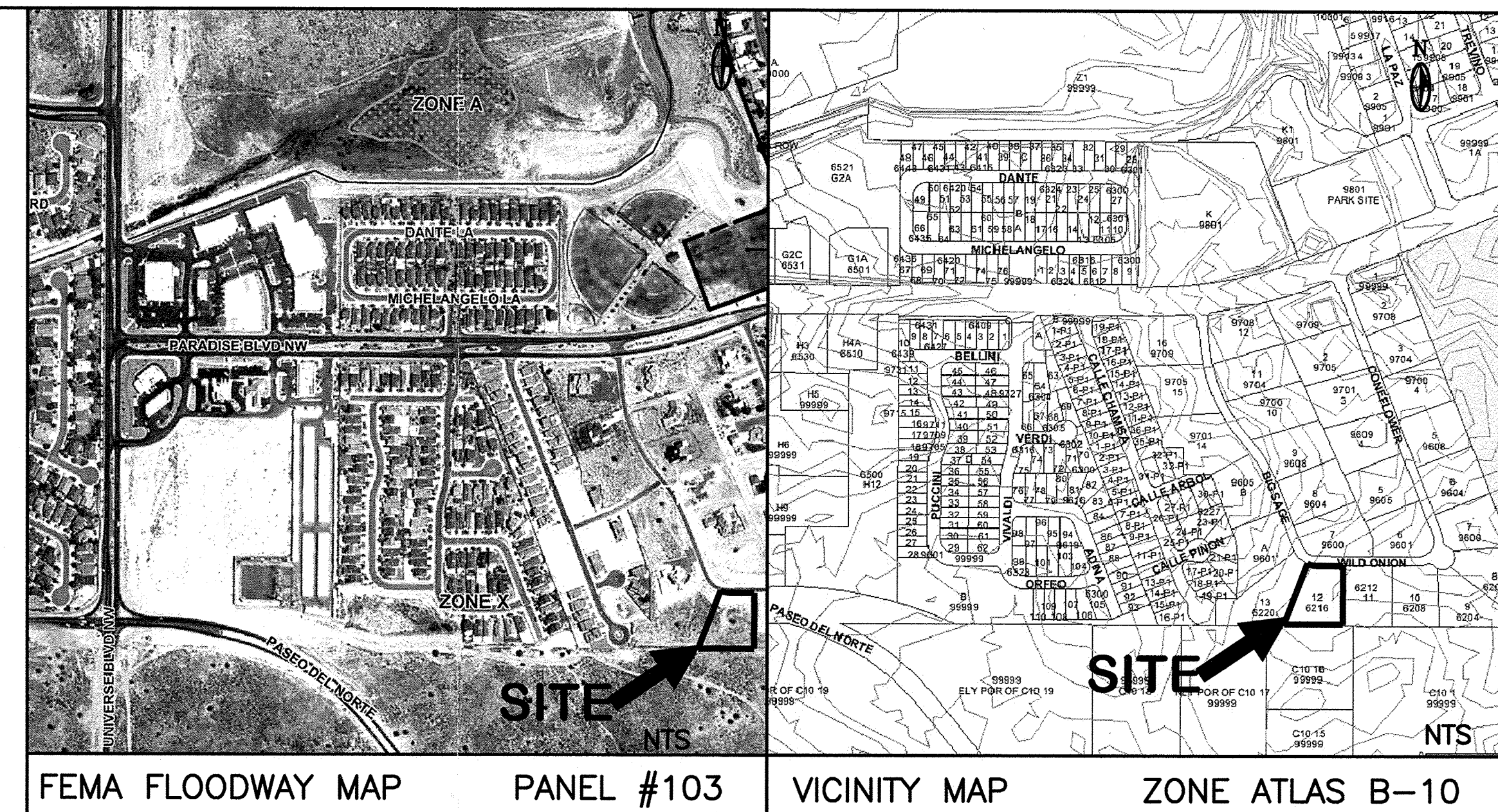
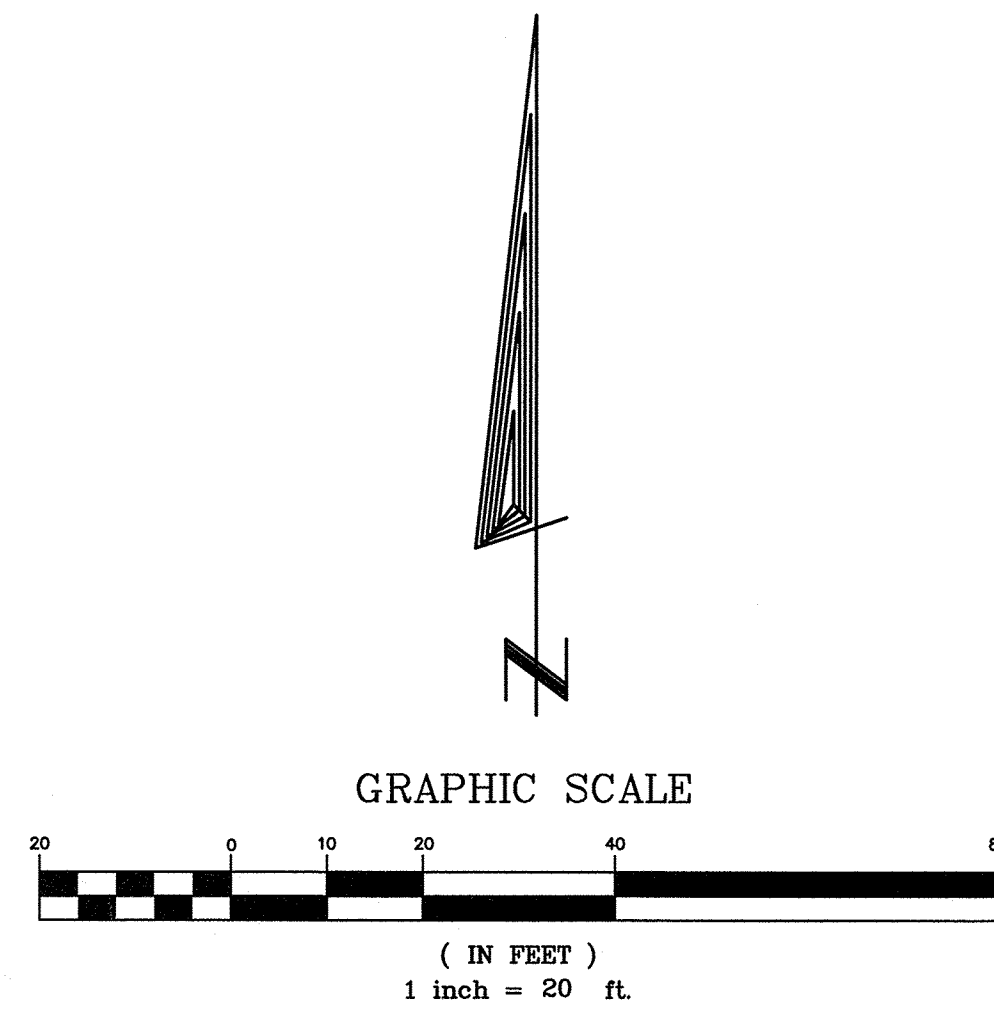
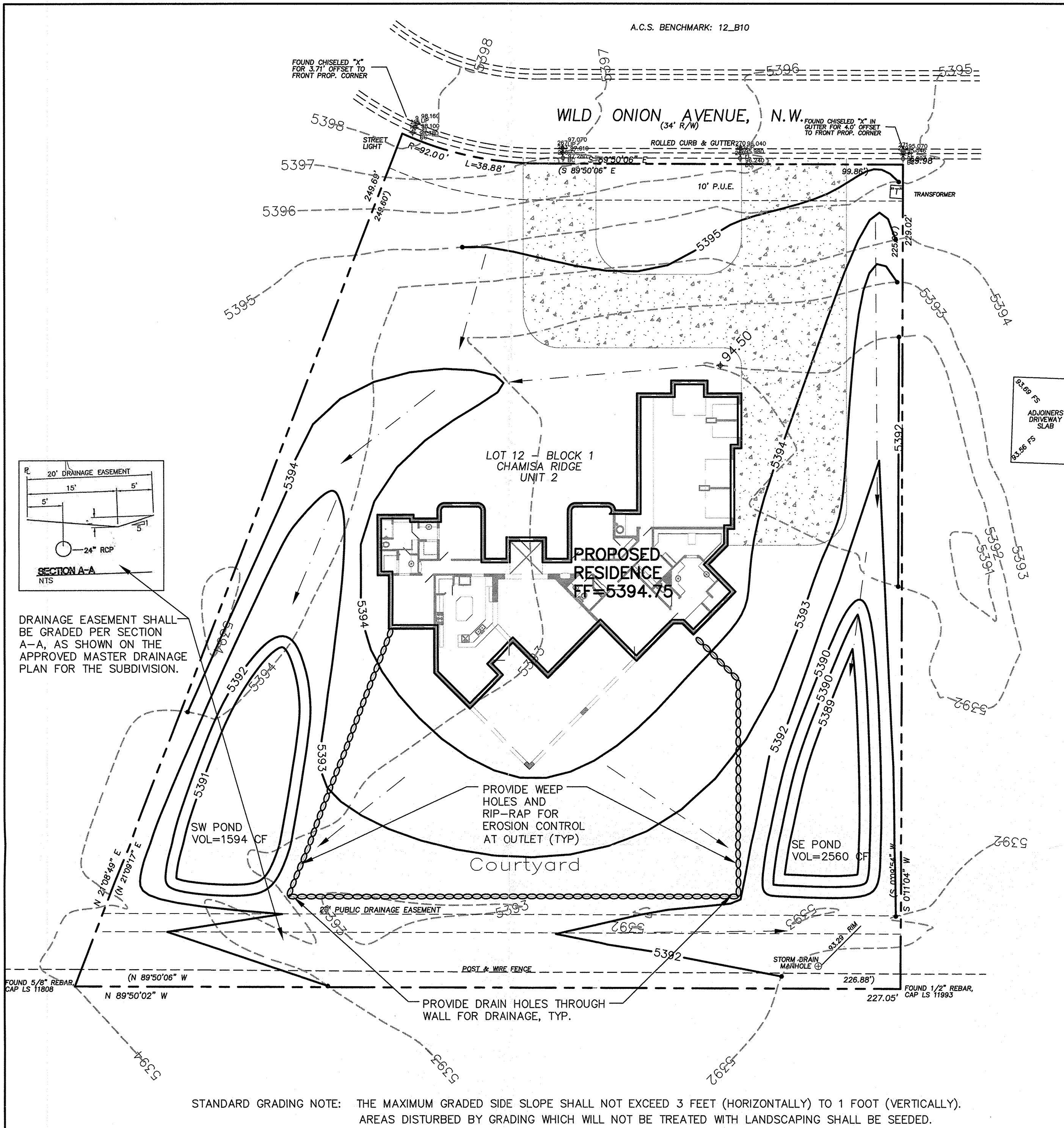
Project Description	
Worksheet	Gutter Section - 1
Type	Gutter Section
Solve For	Discharge

Section Data	
Slope	0.025 ft/ft
Discharge	4.38 cfs
Gutter Width	2.70 ft
Gutter Cross Slope	0.040 ft/ft
Road Cross Slope	0.020 ft/ft
Spread	10.00 ft
Mannings Coefficient	0.016

$Q_{\text{capacity}} = 4.38 \text{ cfs}$
 $Q_{\text{from upstream basin}} = 4.03 \text{ cfs}$
 \therefore Capacity exists in the street for the upstream flow.



V:10.0
 H:1
 NTS



DRAINAGE EASEMENT SHALL BE GRADED PER SECTION A-A, AS SHOWN ON THE APPROVED MASTER DRAINAGE PLAN FOR THE SUBDIVISION.

05-Jun-13 Rev. 8-3-13

Calculations: Total Basin

Calculations are based on "Section 22.2 Hydrology of the Development Process Manual, Volume 2, Design Criteria for the City of Albuquerque, New Mexico, latest edition - basins < 40 acres".

SANDIA BUILDERS-TRUEBA HOME LOT #12

P(360) = 2.20 inches
P(10 day) = 3.67 inches

Precipitation Zone = 1

Depth at 100-year, 6-hour storm: (Table A-2)

Land Treatments:

From Table 5 - Percent Treatment D

Areas: (acres)	Existing	Proposed
Treatment A	0.95	0.11
Treatment B	0.00	0.32
Treatment C	0.00	0.32
Treatment D	0.00	0.20
Total (acres) =	0.95	0.95

SE POND VOLUME PROVIDED:

Elev Area Vol
5391 1824 > 1534
5390 1261 > 1017
5389 772
2560

SW POND VOLUME PROVIDED:

Elev Area Vol
5392 1850 > 1594
5391 1337

TOTAL = 4154 CF
OK

Volume	100 year Existing	100 year Proposed	10 year Existing	10 year Proposed	2 year Existing	2 year Proposed
Volume (acre-feet) =	0.035	0.081	0.006	0.039	0.000	0.015
Volume (cubic feet) =	1,517	3,534	276	1,699	0	674

POND VOL. REQ'D = (3534 - 1517) * 2 = 4034 CF

Total Q(p), cfs:	100 year Existing Q(p)*A	100 year Proposed Q(p)*A	10 year Existing Q(p)*A	10 year Proposed Q(p)*A	2 year Existing Q(p)*A	2 year Proposed Q(p)*A
Treatment A	1.23	0.14	0.23	0.03	0.00	0.00
Treatment B	0.00	0.65	0.00	0.24	0.00	0.01
Treatment C	0.00	0.92	0.00	0.48	0.00	0.15
Treatment D	0.00	0.87	0.00	0.58	0.00	0.34
Total Q (cfs) =	1.23	2.58	0.23	1.32	0.00	0.50

DRAINAGE PLAN

SCOPE:

Pursuant to the latest Bernalillo County Ordinance, the Drainage Plan shown hereon outlines the drainage management criteria for controlling developed runoff on and exiting the project site. One single family home is proposed for the subject property, with associated access, landscaping, and utility improvements.

EXISTING CONDITIONS:

Presently, the 0.95 acre site is undeveloped. The site is bounded on the west, south, and east by private property and on the north by Wild Onion Avenue NW. The site is vegetated with native grasses and shrubs. Site topography slopes from the northwest to the southeast. As shown on FEMA Panel #103 the site is not located in a flood plain. This plan follows the approved Drainage Report for Chamisa Ridge, Unit 2, prepared by Tierra West, LLC (December 2004). As noted in the report, this site lies within the boundary of the Chamisa Master Storm Drain/Lyons Diversion Master Drainage Study, by Tierra West (November 2003). The master drainage study calls for the entire 100-year, 6-hour storm event volume to be free discharged to an existing storm drainage system located along the southern boundary.

PROPOSED CONDITIONS:

As shown by the plan, the building is located within the center of the lot. Negligible off-site flows will continue to cross the property as shown on the plan. On site flows will drain around the structure via swales, and flow to the two water harvesting ponds located at the southeast and southwest corners of the property. The ponds have been designed to hold a volume of 2 times the amount of runoff generated from this development. These ponds may be vacated once the entire downstream length of swale has been constructed within the existing 20' public drainage easements. All roof drainage will discharge from the roof to the lot and be directed around the structure to the existing drainage paths. Access will be taken from Wild Onion Avenue NW. This road is currently improved.

Supplemental calculations are shown as part of this Grading and Drainage plan.

CALCULATIONS:

The calculations shown hereon define the 100 year-6 hour design storm falling within the project area under existing and developed conditions. The Hydrology is per "Section 22.2, Hydrology of the Development Process Manual, Volume 2, Design Criteria, for the City of Albuquerque, New Mexico in cooperation with Bernalillo County, New Mexico and the Albuquerque Metropolitan Arroyo Flood Control Authority.

PROPERTY ADDRESS:

6216 Wild Onion Avenue NW

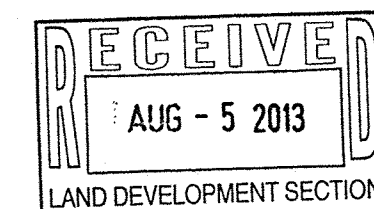
TOPOGRAPHY:

Topographic information provided by Mike Shook dated May 27, 2013.

LEGEND	
EXISTING	PROPOSED
CONTOUR	6045
PROPERTY LINE	
ROAD	
SETBACK	
WALL	
SPOT ELEVATION	6250

LOT 12, BLOCK 1
WITHIN
UNIT 2
CHAMISA RIDGE
ALBUQUERQUE, BERNALILLO COUNTY, NEW MEXICO
6216 Wild Onion Ave. NW

0513
Rev. 8-3-13



ENGINEER'S CERTIFICATION:

I, Jackie S. McDowell, hereby certify that I personally inspected the site shown on this plan on April 25, 2013 and as of that date it appeared that no filling, grading, or excavation had occurred thereon since completion of the topographic survey used to prepare this plan.

SANDOVAL COUNTY	NEW MEXICO
LOT 12, BLOCK 1, UNIT 2, CHAMISA RIDGE	
SANDIA BUILDERS - TRUEBA CUSTOM HOME - GRADING & DRAINAGE PLAN	
McDowell Engineering, Inc.	
7820 BEVERLY HILLS AVE. NE • ALBUQUERQUE, NM 87122 TELE: 505-828-2430 • FAX: 505-821-4857	
Designed JSM	Drawn STAFF
Checked JSM	Sheet of
File SANO213L	Date MAY, 2013
1	1