CITY OF ALBUQUERQUE

August 4, 2017

Åsa Nilsson-Weber, P.E.
Isaacson & Arfman, P.A.
128 Monroe St. N.E
Albuquerque, NM 87108

RE: **Campbell Compound**
Drainage Report and Grading Plan
Engineer's Stamp Date 7/21/17
Hydrology File: G13D032

Dear Ms. Nilsson-Weber:

Based on the information provided in the submittal received on 7/25/17 the above-referenced submittal cannot be approved for Preliminary Plat or Grading Permit until the following are addressed:

PO Box 1293

Albuquerque

New Mexico 87103

www.cabq.gov

Prior to Preliminary Plat:

1. It appears that the Maximum Water Surface Elevation (MWSE) in the commons area pond will be higher than the adjacent Campbell Farm subdivision:

   1.1. Extend topography into the Campbell Farm subdivision and include Campbell Farm Lane, Lot 11 topo and finished floor.

   1.2. Provide a section view through the pond (including the MWSE), property line and onto lot 11 of Campbell Farm subdivision.

   1.3. The pond will need to be excavated to contain the MWSE below the adjacent subdivision with freeboard (1ft below the Campbell Farm Lot 11 finished floor).

2. Existing and proposed drainage along Campbell Rd.

   2.1. The existing drainage appears to sheet flow off the south half of Campbell into a roadside swale that ponds until eventually infiltrating. The existing farmstead is lower now and does not drain at all into the Campbell Rd ROW.

   2.2. Provide a ponding area along the cottonwood row capable of maintaining the 10day, 100yr MWSE below the sidewalk and at least 1ft below the finished floors on lot 1 and lot 7.

Orig: Drainage file

2.3. The proposed drainage from Basin A can be held in the cottonwood row ponding area or be diverted south to the commons area pond. The south half-street of Campbell Rd should be able to sheet flow into the cottonwood row. Attempting to convey flows east on Campbell Rd in curb and gutter would lead to more ponding on the road between the entrance of Campbell Farm Ln and the Griegos Drain.

2.4. Provide a proposed road section for Campbell Rd and tract B/C. This should also incorporate the traffic requirements for frontage improvements.

2.5. The valley gutter in across the Kayla Lane entrance likely won't convey flows with this scheme and can be removed.

2.6. A 10' transition section will be needed to connect to the Campbell Farm frontage that lays down the standard curb and gutter and lowers the sidewalk to suit this project's frontage.

3. Offsite Flows. Runoff and volume calculations need to anticipate flows entering this site from the Conservancy berm and its access road along the east side of the Campbell Community Ditch. It is difficult to tell from the basin map if this area was included.

PO Box 1293

4. Selection of land treatment A for most of the commons area is acceptable, however if any grading or landscaping is required in this area, the land treatment will need to be adjusted to treatment B.

Albuquerque

5. Update the Chapter IV narrative to reflect the sidewalk requirements. Estate curb will also be needed along the Campbell Rd frontage.

New Mexico 87103

6. Grading Plan remarks.

6.1. Raising the grade in this subdivision will put it several feet above the Campbell Farms subdivision. Ensure no drainage will exit this project site and impact this adjoining subdivision.

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6.2. Include a section view though the property line between Campbell Farm Rd and the Campbell Compound east lots.

6.3. The backyard walls and footers (Section B-B) will need to be wholly contained on this project's property, unless written concurrence can be provided by the adjoining property owners for common walls.

6.4. Show the property line, section cut, and dimensional data for the double retaining wall.

6.5. Provide additional dimensions on the wall sections: max height retained, max privacy wall heights, and offsets.

Orig: Drainage file

CITY OF ALBUQUERQUE

6.6. Increase the slope and specify a minimum depth at flowline along the backyard walls; clarify the typical lot grading detail to show the backyard drains to the front (Kayla Ln) and no cross lot drainage or drainage though the backyard wall occurs.

7. Are any easements required for the ditch and will they conflict with the pad or wall locations?

Prior to Grading Permit:

8. This project will require an ESC plan prior to grading permit approval.

9. A private facility drainage covenant is required for the commons area pond. Once filled out, this document will need to be turned in to Madeline Carruthers (mtafoya@cabq.gov, 4th floor, Plaza del Sol) for signature routing.

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

New Mexico 87103

www.cabq.gov

Orig: Drainage file

City of Albuquerque

Planning Department

Development & Building Services Division

DRAINAGE AND TRANSPORTATION INFORMATION SHEET (REV 09/2015)

Project Title: Campbell Compound Building Permit #: _____ City Drainage #: G13

DRB#: 1011223 EPC#: _____ Work Order#: _____

Legal Description: Portion of Lots 18 & 19, Unit 3, Alvarado Gardens

City Address: _____

Engineering Firm: Isaacson & Arfman, P.A. Contact: Asa Nilsson-Weber

Address: 128 Monroe Street NE - Albuquerque, NM 87108

Phone#: (505) 268-8828 Fax#: _____ E-mail: asaw@iacivil.com

Owner: Las Ventanas NM, Inc. Contact: Scott Ashcraft

Address: 6501 Wyoming Blvd. NE, Bldg. C - Suite 200 - Albuquerque, NM 87109

Phone#: (505) 362-6824 Fax#: _____ E-mail: _____

Architect: _____ Contact: _____

Address: _____

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

Other Contact: _____ Contact: _____

Address: _____

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

Check all that Apply:

DEPARTMENT:

X HYDROLOGY/ DRAINAGE

_____ TRAFFIC/ TRANSPORTATION

_____ MS4/ EROSION & SEDIMENT CONTROL

TYPE OF SUBMITTAL:

_____ ENGINEER/ ARCHITECT CERTIFICATION

_____ CONCEPTUAL G & D PLAN

X GRADING PLAN

_____ DRAINAGE MASTER PLAN

X DRAINAGE REPORT

_____ CLOMR/LOMR

_____ TRAFFIC CIRCULATION LAYOUT (TCL)

_____ TRAFFIC IMPACT STUDY (TIS)

_____ EROSION & SEDIMENT CONTROL PLAN (ESC)

_____ OTHER (SPECIFY) _____

IS THIS A RESUBMITTAL?: _____ Yes X No

CHECK TYPE OF APPROVAL/ACCEPTANCE SOUGHT:

_____ BUILDING PERMIT APPROVAL

_____ CERTIFICATE OF OCCUPANCY

X 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

X GRADING PERMIT APPROVAL

_____ SO-19 APPROVAL

_____ PAVING PERMIT APPROVAL

_____ GRADING/ PAD CERTIFICATION

_____ WORK ORDER APPROVAL

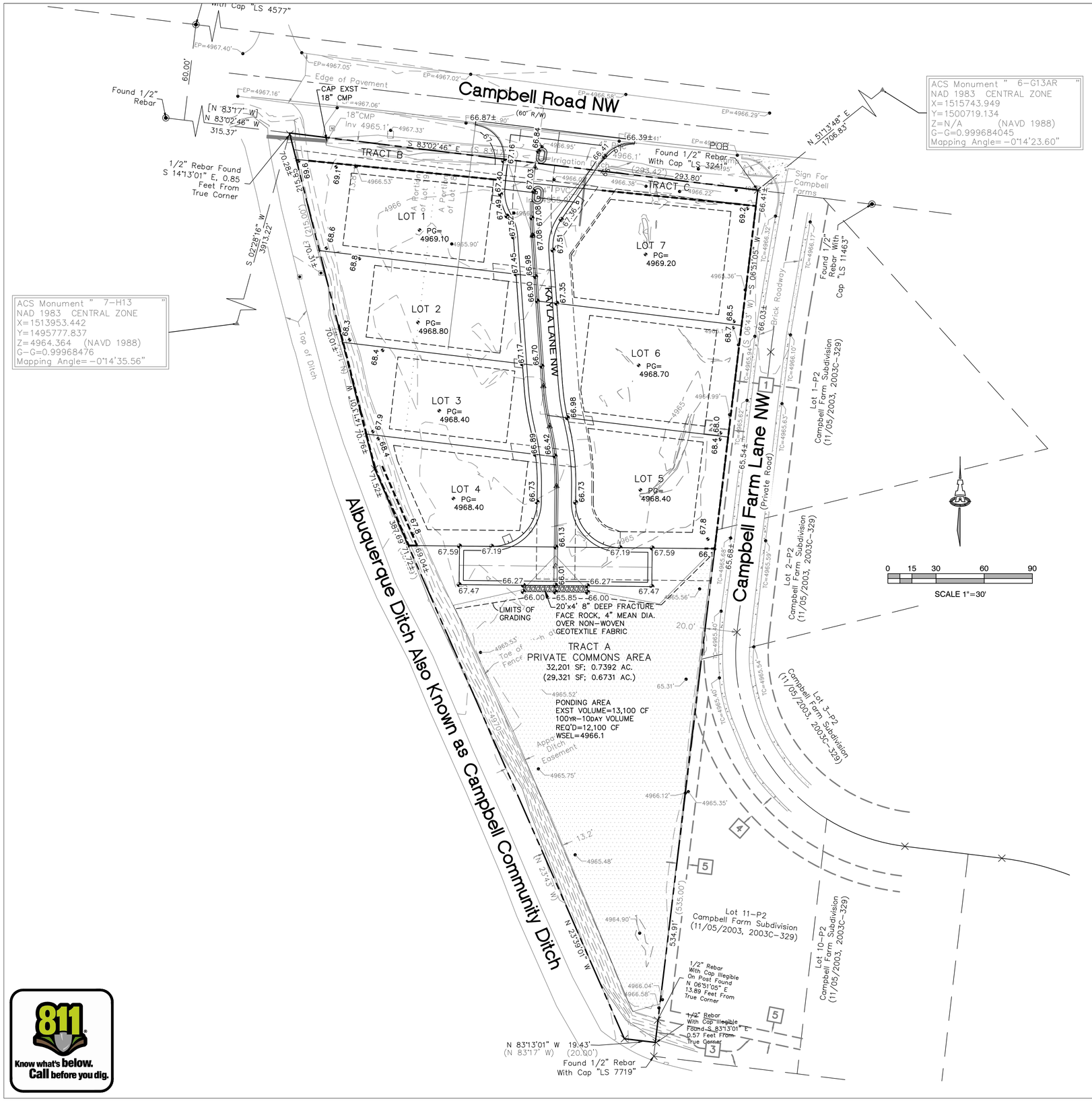
_____ CLOMR/LOMR

_____ PRE-DESIGN MEETING

_____ OTHER (SPECIFY) _____

DATE SUBMITTED: July 25, 2017 By: Åsa Nilsson-Weber

COA STAFF: ELECTRONIC SUBMITTAL RECEIVED: ___



GRADING GENERAL NOTES

A. GRADING SHALL BE PERFORMED AT THE ELEVATIONS AND IN ACCORDANCE WITH THE DETAILS SHOWN ON THIS PLAN.

B. PROPOSED SPOT AND CONTOUR ELEVATIONS SHOWN REPRESENT TOP OF FINISH MATERIAL (I.E. TOP OF CONCRETE, TOP OF CONCRETE BUILDING PAD, TOP OF PAVEMENT MATERIAL, TOP OF LANDSCAPING MATERIAL, ETC.). CONTRACTOR SHALL GRADE, COMPACT SUBGRADE AND DETERMINE EARTHWORK ESTIMATES BASED ON ELEVATIONS SHOWN MINUS FINISH MATERIAL THICKNESSES.

C. IF FIELD GRADE ADJUSTMENTS ARE REQUIRED, THE CONTRACTOR SHALL NOTIFY THE ENGINEER.

D. THE ENVIRONMENTAL PROTECTION AGENCY (EPA) AND THE CITY OF ALBUQUERQUE REQUIRE A STORM WATER POLLUTION PREVENTION PLAN (SWPPP), AN NDPES PERMIT, AND AN EROSION AND SEDIMENT CONTROL (ESC) PERMIT FOR PROJECTS WHERE CONSTRUCTION ACTIVITIES MEET THE EPA THRESHOLD. A CURRENT CITY-APPROVED ESC PERMIT MUST BE INCLUDED WITH THE CONTRACTOR'S SUBMITTAL FOR A ROUGH GRADING, GRADING, PAVING, BUILDING, OR WORK ORDER PERMIT. CONTRACTOR SHALL COORDINATE WITH OWNER TO DETERMINE WHO WILL PREPARE SWPPP AND INSPECT REQUIRED ELEMENTS.

E. ALL NEW PAVEMENT SURFACES SHALL BE CONSTRUCTED WITH POSITIVE SLOPE AWAY FROM BUILDINGS AND POSITIVE SLOPE TOWARD EXISTING AND/OR PROPOSED DRAINAGE PATHS. PAVING AND ROADWAY GRADES SHALL BE ±0.1' FROM PLAN ELEVATIONS. BUILDING PAD ELEVATION SHALL BE ±0.1' FROM PLAN ELEVATION.

F. WHERE GRADES BETWEEN NEW AND EXISTING ARE SHOWN AS 'MATCH' OR '±', TRANSITIONS SHALL BE SMOOTH.

G. POND DESIGN PARAMETERS AND STORMWATER CONTROL MEASURES SHOWN ON THIS PLAN (TOP OF POND, BOTTOM OF POND, SIZE OF ORIFICE, AREA OF POND, ETC.) TO BE STRICTLY ADHERED TO FOR CERTIFICATION PURPOSES. SEE DETAIL SHEET FOR ADDITIONAL INFORMATION.

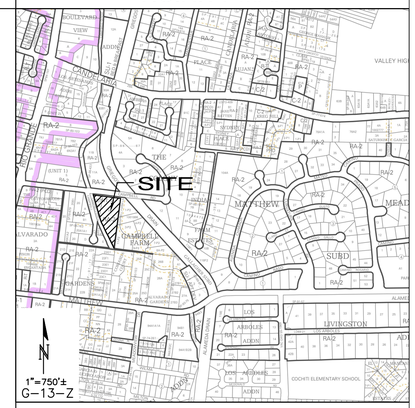
H. POST-CONSTRUCTION MAINTENANCE FOR PRIVATE STORMWATER FACILITIES WILL BE THE RESPONSIBLITY OF THE FACILITIES OWNER. ENGINEER RECOMMENDS THAT OWNER INSPECT SITE YEARLY AND AFTER EACH RAINFALL TO IDENTIFY NEW AREAS OF EROSION AND INSTALL ADDITIONAL EROSION PROTECTION AS NEEDED BASED ON ACTUAL OCCURRENCES.

I. FOR ENGINEER'S CERTIFICATION OF SUBSTANTIAL COMPLIANCE (FOR CERTIFICATE OF OCCUPANCY) CONTRACTOR SHALL PROVIDE AN AUTOCAD FORMAT AS-BUILT SURVEY PREPARED BY A LICENSED SURVEYOR WHICH INCLUDES:

- AS-BUILT PAD GRADE
- SPOT ELEVATIONS AT EACH DESIGN SPOT ELEVATION SHOWN ON THE APPROVED PLAN;
- ALL CONSTRUCTION SHOWN ON THIS PLAN MUST BE CONSTRUCTED IN SUBSTANTIAL COMPLIANCE WITH THE APPROVED PLAN IN ORDER TO RECEIVE ENGINEER'S CERTIFICATION.

NOTE:
SEE SHEET 2 FOR DETAILS AND RETAINING WALL PLAN

VICINITY MAP



PROJECT DATA

LEGAL DESCRIPTION: CAMPBELL COMPOUND BEING A RE-PLAT OF PORTION OF LOTS 18 & 19, ALVARADO GARDENS, UNIT 3

SITE AREA: 2.0808 AC.

DISTURBED AREA: 1.30 AC.±

BENCHMARK: ACS MONUMENT "7-H13"
ELEVATION: 4964.364 (NAVD 1988)

ENGINEER: ASA NILSSON-WEBER
ISAACSON & ARFMAN, P.A.
128 MONROE ST NE, ABQ. NM 87108
PHONE: (505) 268-8828

SURVEYOR: BRIAN MARTINEZ
CARTESIAN SURVEYS, INC.
PO BOX 44414
RIO RANCHO, NM 87174
PHONE: (505) 896-3050.

FLOOD ZONE: BASED UPON SCALING, THIS PROPERTY LIES WITHIN FLOOD ZONE X WHICH IS DEFINED AS AREAS OF 0.2% ANNUAL CHANCE; AREA OF 1% ANNUAL CHANCE FLOOD WITH AVERAGE DEPTHS OF LESS THAN 1 FOOT OR WITH DRAINAGE AREAS LESS THAN 1 SQUARE MILE; AND AREAS PROTECTED BY LEVEES FROM 1% ANNUAL CHANGE FLOOD. AS DETERMINED BY F.E.M.A. AND SHOWN ON FLOOD INSURANCE RATE MAP DATE AUGUST 16, 2012, MAP NO. 35001C0331H.

LEGEND

4966	EXISTING CONTOUR
78.3	PROPOSED ELEVATION
PG=4968.5	PAD GRADE ELEVATION
	PROPOSED RETAINING WALL (DESIGN BY OTHERS)
	PROPOSED GARDEN RETAINING WALL

ASA M. NILSSON-WEBER NEW MEXICO 17631 LICENSED PROFESSIONAL ENGINEER
7-27-17

ISAACSON & ARFMAN, P.A.
Consulting Engineering Associates
128 Monroe Street N.E.
Albuquerque, New Mexico 87108
Ph. 505-268-8828 www.iacivil.com

2224 CG-101.dwg Jul 25,2017

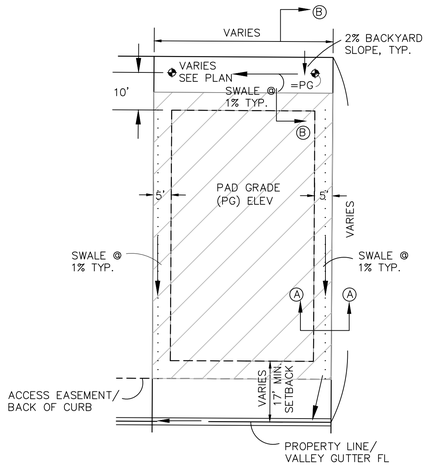
CAMBELL
SUBDIVISION

LAS VENTANAS NM, INC.

GRADING & DRAINAGE PLAN

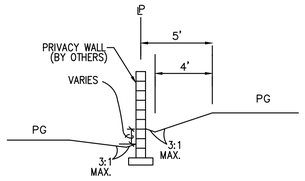
Date:	No.	Revision:	Date:	Job No.
July 2017				2224
Drawn By: ANW				G-13
Ckd By: .				SH.1 OF 2

811 Know what's below. Call before you dig.



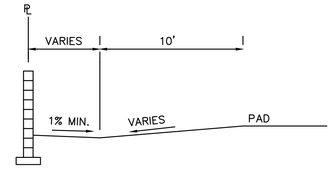
TYPICAL LOT GRADING DETAIL

SCALE: 1"=20'



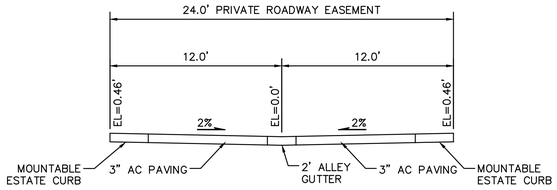
SECTION A-A
TYPICAL SIDEYARD GRADING

SCALE: 1"=5'



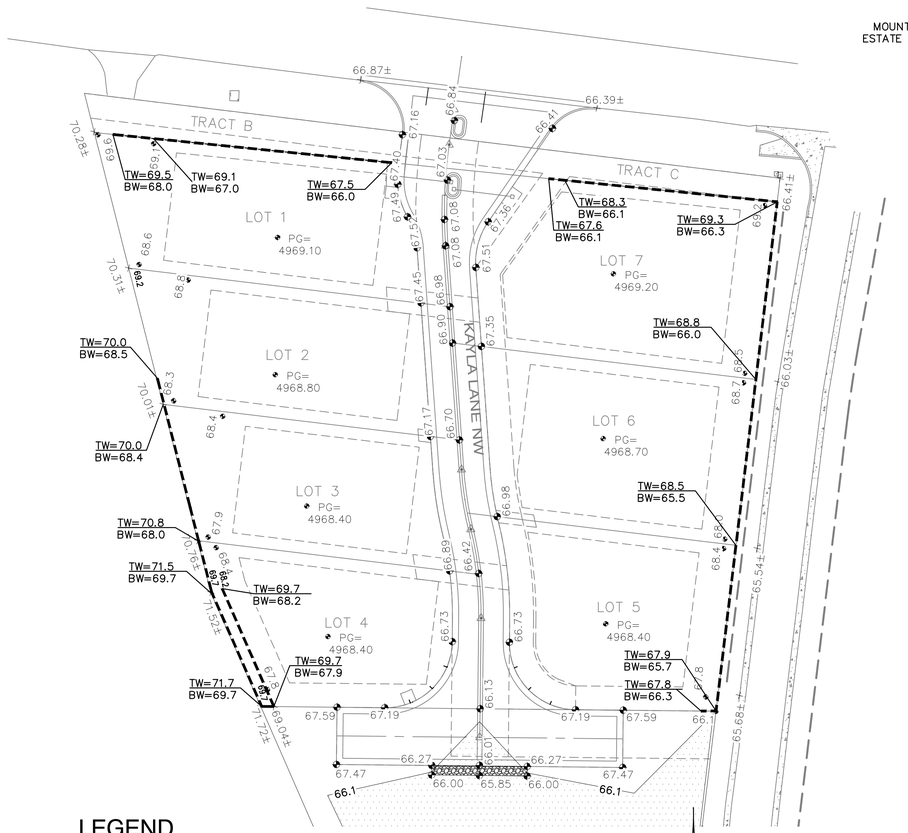
SECTION B-B
TYPICAL BACKYARD GRADING

SCALE: 1"=5'



KAYLA LANE
STREET SECTION

SCALE: 1"=5'



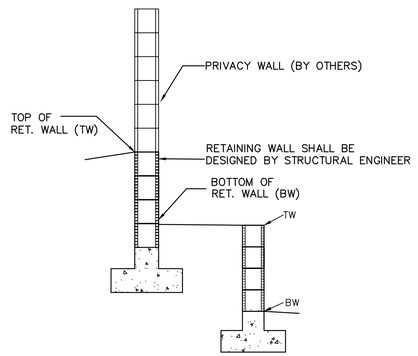
RETAINING WALL PLAN

SCALE 1"=30'

0 15 30 60 90

LEGEND

78.3	PROPOSED ELEVATION
PG=4968.5	PAD GRADE ELEVATION
- - - - - - - -	PROPOSED RETAINING WALL (DESIGN BY OTHERS)
—— · —— · ——	PROPOSED GARDEN RETAINING WALL
TW=70.5 / BW=68.3	TOP OF RETAINING / BOTTOM OF RETAINING (SEE DETAIL THIS SHEET)



RETAINING WALL

SCALE: 1"=5'-0"

CIVIL GENERAL NOTES

A. THE CONTRACTOR SHALL ABIDE BY ALL STATE, LOCAL, AND FEDERAL LAWS, CODES, RULES AND REGULATIONS WHICH APPLY TO THE CONSTRUCTION OF THESE IMPROVEMENTS, INCLUDING EPA AND ADA REQUIREMENTS.

B. ALL SITE PREPARATION, GRADING OPERATIONS, FOUNDATION CONSTRUCTION, AND PAVEMENT INSTALLATION WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE GEOTECHNICAL REPORT, WHICH WILL BE PROVIDED BY THE OWNER OR ARCHITECT. ALL OTHER WORK SHALL, UNLESS OTHERWISE NOTED IN THE PLANS, BE CONSTRUCTED IN ACCORDANCE WITH THE CITY OF ALBUQUERQUE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.

C. NO WORK SHALL BE PERFORMED WITHOUT THE APPROPRIATE PERMITS. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR OBTAINING ALL REQUIRED PERMITS FOR THE PROJECT PRIOR TO COMMENCING CONSTRUCTION, OR PRIOR TO OCCUPANCY, AS APPROPRIATE. IF PERMITS ARE DELAYED OR ISSUED WITH CONDITIONS, THE CONTRACTOR SHALL NOTIFY THE OWNER AND ARCHITECT IMMEDIATELY.

D. COORDINATE WORK WITH SITE PLAN, UTILITY PLAN, DEMOLITION PLAN, AND LANDSCAPE PLAN.

E. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY HORIZONTAL AND VERTICAL LOCATIONS OF ALL EXISTING OBSTRUCTIONS, AND CONDITION OF ALL EXISTING INFRASTRUCTURE PRIOR TO CONSTRUCTION. REPORT ALL DISCREPANCIES TO THE ENGINEER AND VERIFY THE ENGINEER'S INTENT BEFORE PROCEEDING.

F. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR SITE SAFETY.

G. THE CONTRACTOR SHALL MAINTAIN RECORD DRAWINGS ON SITE AT ALL TIMES. THE CONTRACTOR SHALL NOT SCALE DRAWINGS. ONLY WRITTEN DIMENSIONS OR KEYED NOTES SHALL BE USED.

H. CONSTRUCTION ACTIVITY SHALL BE LIMITED TO THE PROPERTY AND/OR PROJECT LIMITS. ANY DAMAGE TO ADJACENT STRUCTURES RESULTING FROM THE CONSTRUCTION PROCESS SHALL BE REPAIRED OR REPLACED AT THE CONTRACTOR'S EXPENSE. CONTRACTOR SHALL BE RESPONSIBLE FOR DOCUMENTING EXISTING CONDITIONS PRIOR TO CONSTRUCTION.

I. CONSTRUCTION EQUIPMENT SHALL NOT OBSTRUCT DRIVEWAYS. EQUIPMENT SHALL ONLY OBSTRUCT DESIGNATED TRAFFIC LANES IF APPROPRIATE BARRICADING PERMITS HAVE BEEN OBTAINED. THE CONTRACTOR SHALL NOT STORE ANY EQUIPMENT OR MATERIAL IN THE RIGHT-OF-WAY.

J. THE CONTRACTOR SHALL PROVIDE A CONSTRUCTION TRAFFIC CONTROL AND SIGNING PLAN THAT CONFORMS TO THE LATEST EDITION OF THE "MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD) AND LOCAL REQUIREMENTS. THE CONTRACTOR SHALL OBTAIN BARRICADING PERMITS FROM THE APPROPRIATE AUTHORITIES PRIOR TO ANY CONSTRUCTION WORK ON OR ADJACENT TO EXISTING STREETS.

K. THE CONTRACTOR SHALL MAINTAIN ALL BARRICADING AND CONSTRUCTION SIGNING AT ALL TIMES. THE CONTRACTOR SHALL VERIFY THE PROPER LOCATION OF ALL BARRICADING AT THE END AND BEGINNING OF EACH DAY.

L. EXISTING UTILITY LINES ARE SHOWN IN AN APPROXIMATE MANNER ONLY AND MAY BE INCOMPLETE OR OBSOLETE. SUCH LINES MAY OR MAY NOT EXIST WHERE SHOWN OR NOT SHOWN. CONTRACTOR SHALL CONTACT NM-811 FOR UTILITY LINE SPOTS FIVE WORKING DAYS PRIOR TO CONDUCTING SITE FIELD WORK. CONTRACTOR SHALL FIELD VERIFY AND LOCATE ALL UTILITIES PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION. CONTRACTOR IS FULLY RESPONSIBLE FOR ANY AND ALL DAMAGE CAUSED BY ITS FAILURE TO LOCATE, IDENTIFY AND PRESERVE ANY AND ALL EXISTING UTILITIES, PIPELINES, AND UNDERGROUND UTILITY LINES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION OF NECESSARY DRY UTILITY ADJUSTMENTS.

M. ALL TRASH, DEBRIS, & SURFACE VEGETATION SHALL BE CLEARED AND LEGALLY DISPOSED OF OFFSITE.

N. VIBRATORY COMPACTION SHALL NOT BE USED OVER IN-PLACE UTILITIES.

O. SOIL TESTING AND INSPECTION SERVICES DURING SITE OPERATIONS ARE REQUIRED. CONTRACTOR SHALL ALLOW TESTING LABS TO INSPECT AND APPROVE COMPACTED SUBGRADES, BACKFILL, AND FILL LAYERS BEFORE FURTHER CONSTRUCTION WORK IS DONE. SHOULD COMPACTION TESTS INDICATE INADEQUATE DENSITY, CONTRACTOR SHALL PROVIDE ADDITIONAL COMPACTION AND TESTING AT THE CONTRACTOR'S SOLE EXPENSE.

P. CONTRACTOR SHALL LOCATE AND PRESERVE ALL BOUNDARY CORNERS AND REPLACE ANY LOST OR DISTURBED CORNERS AT CONTRACTOR'S SOLE EXPENSE. PROPERTY CORNERS SHALL ONLY BE RESET BY A REGISTERED LAND SURVEYOR.

Q. CONTRACTOR SHALL PROVIDE CONSTRUCTION STAKING. TO FACILITATE ACCURACY IN CONSTRUCTION STAKING, UPON WRITTEN REQUEST FROM THE CONTRACTOR, A FILE CONTAINING THE ELECTRONIC DATA COMPRISING THE SITE CIVIL DRAWINGS WILL BE FORWARDED TO THE LICENSED LAND SURVEYOR TO PERFORM CONSTRUCTION STAKING. ALL SITE CONSTRUCTION LAYOUT MUST BE PERFORMED BY A LICENSED SURVEYOR USING ELECTRONIC DATA PROVIDED IN AUTOCAD *.DWG (CURRENT VERSION) BY ISAACSON & ARFMAN, P.A. CONTACT PROJECT CIVIL ENGINEER, ÅSA NILSSON-WEBER, PE AT (505)-266-1688.

R. ADJUST ANY RIMS OF EXISTING UTILITY FEATURES AS NECESSARY TO MATCH NEW GRADES. UTILITIES IN PAVED AREAS SHALL BE HS-25 TRAFFIC RATED.

S. CONTRACTOR SHALL COMPLY WITH LOCAL REGULATIONS FOR RESEEDING OF DISTURBED AREAS.

ÅSA M. NILSSON-WEBER NEW MEXICO 17631 REGISTERED PROFESSIONAL ENGINEER
7-21-17

ISAACSON & ARFMAN, P.A.
Consulting Engineering Associates
128 Monroe Street N.E.
Albuquerque, New Mexico 87108
Ph. 505-268-8828 www.iacivil.com

2224 CG-101.dwg Jul 25,2017

CAMBELL SUBDIVISION

LAS VENTANAS NM, INC.

DETAILS & RETAINING WALL PLAN

Date: July 2017	No.	Revision:	Date:
Drawn By: ANW			Job No. 2224
Ckd By: .			G-13
			SH.2 OF 2

JULY 21, 2017

DRAINAGE REPORT

FOR

CAMPBELL COMPOUND

A 7-DWELLING UNIT SINGLE-DETACHED RESIDENTIAL PRIVATE COMMONS DEVELOPMENT

ALBUQUERQUE, NEW MEXICO

.

BY

ISAACSON & ARFMAN, P.A.
Consulting Engineering Associates

Thomas O. Isaacson, PE & LS
Fred C. Arfman, PE
Åsa Nilsson-Weber, PE

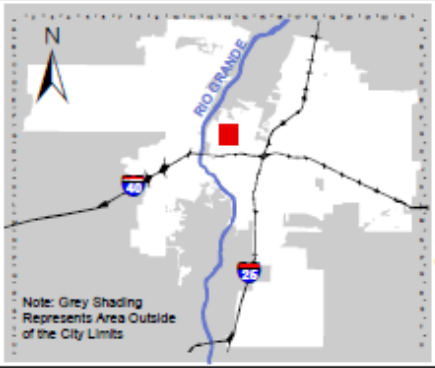
I&A Project No. 2224

TABLE OF CONTENTS

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

AGIS
Albuquerque Geographic Information System

Map amended through: 1/28/2016



Zone Atlas Page:

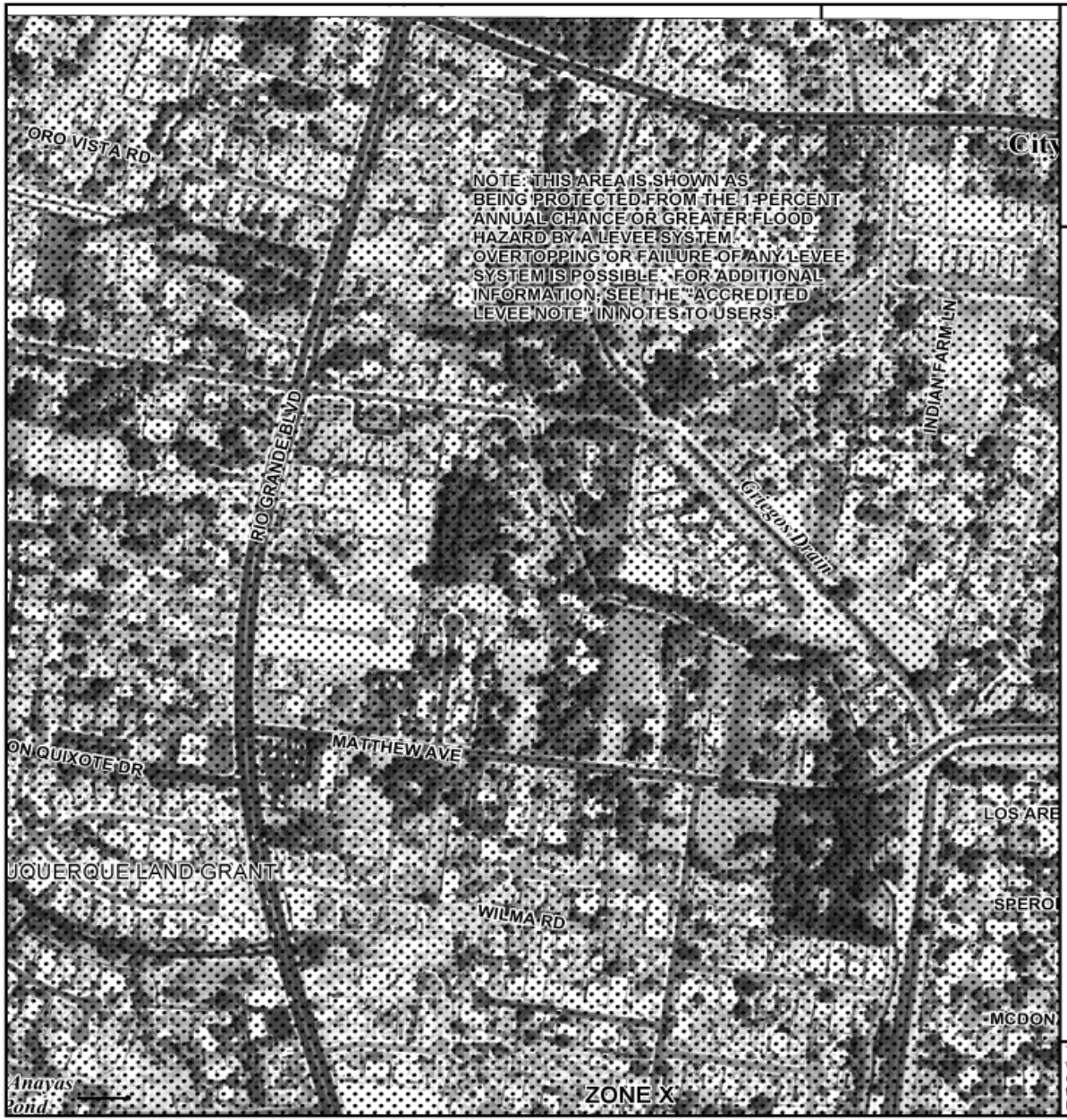
G-13-Z

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

VICINITY MAP G-13-Z



MAP SCALE 1" = 500'

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0331H

FIRM

FLOOD INSURANCE RATE MAP

BERNALILLO COUNTY, NEW MEXICO AND INCORPORATED AREAS

PANEL 331 OF 825

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
ALBUQUERQUE, CITY OF	350002	0331	H
BERNALILLO COUNTY UNINCORPORATED AREAS	350001	0331	H

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
35001C0331H

MAP REVISED
AUGUST 16, 2012

Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov

FIRM MAP

I. PROJECT INFORMATION

PROPOSED LEGAL DESCRIPTION:
Campbell Compound

EXISTING LEGAL DESCRIPTION:
A portion of Lots 18 & 19, Alvarado Gardens, Unit 3

ENGINEER: Isaacson & Arfman, P.A.
128 Monroe Street NE
Albuquerque, NM 87108
(505) 268-8828
Attn: Åsa Nilsson-Weber

SURVEYOR: Cartesian Surveys, Inc.
(505) 896-3050
Attn: Will Plotner, Jr., NMPLS No. 14271

DEVELOPER: Las Ventanas, NM, Inc.
Attn: Scott Ashcraft

NUMBER OF PROPOSED DWELLING UNITS: 7

TOTAL AREA: 2.0808 Ac.

FLOOD PLAIN: This property lies within flood Zone X which is defined as areas of 0.2% annual chance; area of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual change flood. As determined by FEMA and shown on Flood Insurance Rate Map dated August 16, 2012, Map No. 35001C0331H.

II. INTRODUCTION

This site is a private residential lot located east of Rio Grande Blvd and south of Campbell Rd. and is bound on the west by the Campbell Ditch and on the east by Campbell Farm, a private, gated residential development. The site will be re-developed as a private commons development with seven detached residential homes with the south one-third of the site remaining undeveloped and dedicated as an open space area.

III. EXISTING CONDITIONS

The upper two thirds of the site is developed with a private residence and a couple of outbuildings. The lower one third of the site is undeveloped and encumbered by large trees and native vegetation. The site is flat and drainage ponds on the property.

Campbell Rd. slopes to the east at approximately 0.3-0.4 percent and drainage is carried to the east in a swale within the shoulder. The road has no curb and gutter or sidewalks east of Campbell Ct., which is located west of the Campbell Ditch. There are shoulders on both sides of the street that are used by pedestrians and bicyclists.

There is a walking path on top of the berm between the site and the Campbell Ditch that is elevated approximately six feet above the site. A pipe is located under the existing drive to the residence that provides irrigation water to a ditch along the frontage of the property and the site. The ditch is blocked by the entrance to Campbell Farm, so no irrigation water enters this subdivision.

IV. PROPOSED CONDITIONS

The site will be developed as a gated residential private commons development. The upper two thirds of the site will be developed with seven detached residential homes and the lower one third, Tract A, will remain undeveloped and be designated as open space (private commons area). Kayla Ln. will slope to the south and direct the flows to the south open space tract which will serve as a retention pond. There will be a water block at the north end of Kayla Ln. to prevent water from Campbell Rd. to enter the site.

Campbell Rd. will remain as a rural-type road with no curb and gutter or sidewalks to preserve and complement the surrounding neighborhood aesthetics. The existing culvert from the Campbell Ditch will be capped, and the existing water meter shall be used to irrigate the trees in the front landscape areas (Tracts B & C).

The grading & drainage plan is included in the back pockets of this report.

LAND TREATMENTS & BASIN AREAS

Land treatment percent D was calculated for the developed area based on the building pad areas and roadway areas, and the remaining area was split between land treatments B and C. See Appendix A for land treatment calculations and basin area table and Appendix C for a drainage basin exhibit.

HYDROLOGY

Appendix B includes the 100-year, 6-hour flows calculations using the equations from the Drainage Design Criteria for City of Albuquerque Section 22.2, DPM, Vol 2, dated Jan., 1993. The Drainage Basin Exhibit in Appendix C shows the flow rates for each basin.

Flows from Basins B & C (5.7 cfs) will be ponded in the open space tract (Tract A) and Basin A will discharge 1 cfs to Campbell Rd.

STREET CAPACITY

Kayla Ln. will be a private, paved 24-foot wide road and will have an inverted crown with an alley gutter and mountable estate curb defining the edges. The entrance will be gated and the paving width will accommodate a turnaround for vehicles. Appendix D shows the street flow depth at the south end of the street at the hammerhead where the flows enter the open space in Tract A. Erosion protection shall be installed at the south end of the hammerhead as shown on plan.

PONDING IN PRIVATE COMMONS AREA (TRACT A)

The private commons area has an existing ponding capacity of 13,100 cf, which exceeds the required 10-day storm volume of 12,100 cf (Appendix B). The private commons area ponding capacity was calculated using AutoCAD Civil 3D by creating a composite comparison surface with the existing ground surface and a top-of-pond surface at elevation 4966.1.

FIRST FLUSH REQUIREMENTS

The first flush requirement will be met by directing flows to the open space tract ponding area.

V. SUMMARY & CONCLUSIONS

The site will be developed with seven detached residential homes and a private road. Tract A will be designated as a private commons area and will remain undeveloped and utilized as a ponding area for flows from the subdivision.

Based on this report, it is recommended that the following improvements be constructed:

- Paved street with inverted crown, alley gutter and mountable estate curb
- Retaining walls as shown on plans
- Erosion protection at south end of Kayla Ln.

APPENDIX A

Basin Area and Land Treatment Table

CAMPBELL COMPOUND

BASIN AREA AND LAND TREATMENT TABLE-- PROPOSED CONDITIONS

BASIN	*AREA*		*LAND TREATMENT (%)*				Q100, cfs
	SF	*AC.*	*A*	*B*	*C*	*D*	
A	10804	0.2480	0	21	22	57	1.0
B	50515	1.1597	0	21	22	57	4.5
C	29321	0.6731	90	0	10	0	1.2
TOTAL	90640	2.0808					6.7

IMPERVIOUS AREA CALCULATION BASINS A&B

7 BUILDING FOOTPRINTS (45X73)=	22995	SF
7 DRIVEWAYS @ 15X20 =	2100	SF
ROADWAY =	9836	SF
	34931	SF

%D = 34931/(10804+50515)= 57%

APPENDIX B

Drainage Calculations

A			DESCRIPTION		Drains to ponds along Campbell Rd			
ws =	10804	SF		=	0.2	Ac.		
lculations are based on Treatment areas as shown in table to the right						LAND TREATMENT		
	Sub-basin Weighted Excess Precipitation (see formula above)					A =	0%	
	Weighted E	=	1.62	in.		B =	21%	
	Sub-basin Volume of Runoff (see formula above)					C =	22%	
	V_{360}	=	1459	CF		D =	57%	
	Sub-basin Peak Discharge Rate: (see formula above)							
	Q_P	=	1.0	cfs				
B			**DESCRIPTION**		Drains to pond in open space			
ws =	50515	SF		=	1.2	Ac.		
lculations are based on Treatment areas as shown in table to the right						LAND TREATMENT		
	Sub-basin Weighted Excess Precipitation (see formula above)					A =	0%	
	Weighted E	=	1.62	in.		B =	21%	
	Sub-basin Volume of Runoff (see formula above)					C =	22%	
	V_{360}	=	6823	CF		D =	57%	
	Sub-basin Peak Discharge Rate: (see formula above)							
	Q_P	=	4.5	cfs				
C			**DESCRIPTION**		Open Space Area			
ws =	29321	SF		=	0.7	Ac.		
lculations are based on Treatment areas as shown in table to the right						LAND TREATMENT		
	Sub-basin Weighted Excess Precipitation (see formula above)					A =	90%	
	Weighted E	=	0.59	in.		B =	0%	
	Sub-basin Volume of Runoff (see formula above)					C =	10%	
	V_{360}	=	1442	CF		D =	0%	
	Sub-basin Peak Discharge Rate: (see formula above)							
	Q_P	=	1.2	cfs				
Based on Drainage Design Criteria for City of Albuquerque Section 22.2, DPM, Vol 2, dated Jan., 1993								

POND IN OPEN SPACE AREA (TRACT A)

Note: For ponds which hold water for longer than 6 hours, longer duration storms are required to establish runoff volumes. Since the additional precipitation is assumed to occur over a long period, the additional volume is based on the runoff from the impervious areas only.

V_{360}	8265
Area Treatment D (SF)	28794
Zone	2

For 10 Day Storms:

$V_{10day} = V_{360} + A_D * (P_{10day} - P_{360})*43560$ SF/AC

V_{360}	=	8265
A_D (SF)	=	28794
Zone	=	2
P_{10day}	=	3.95
P_{360}	=	2.35

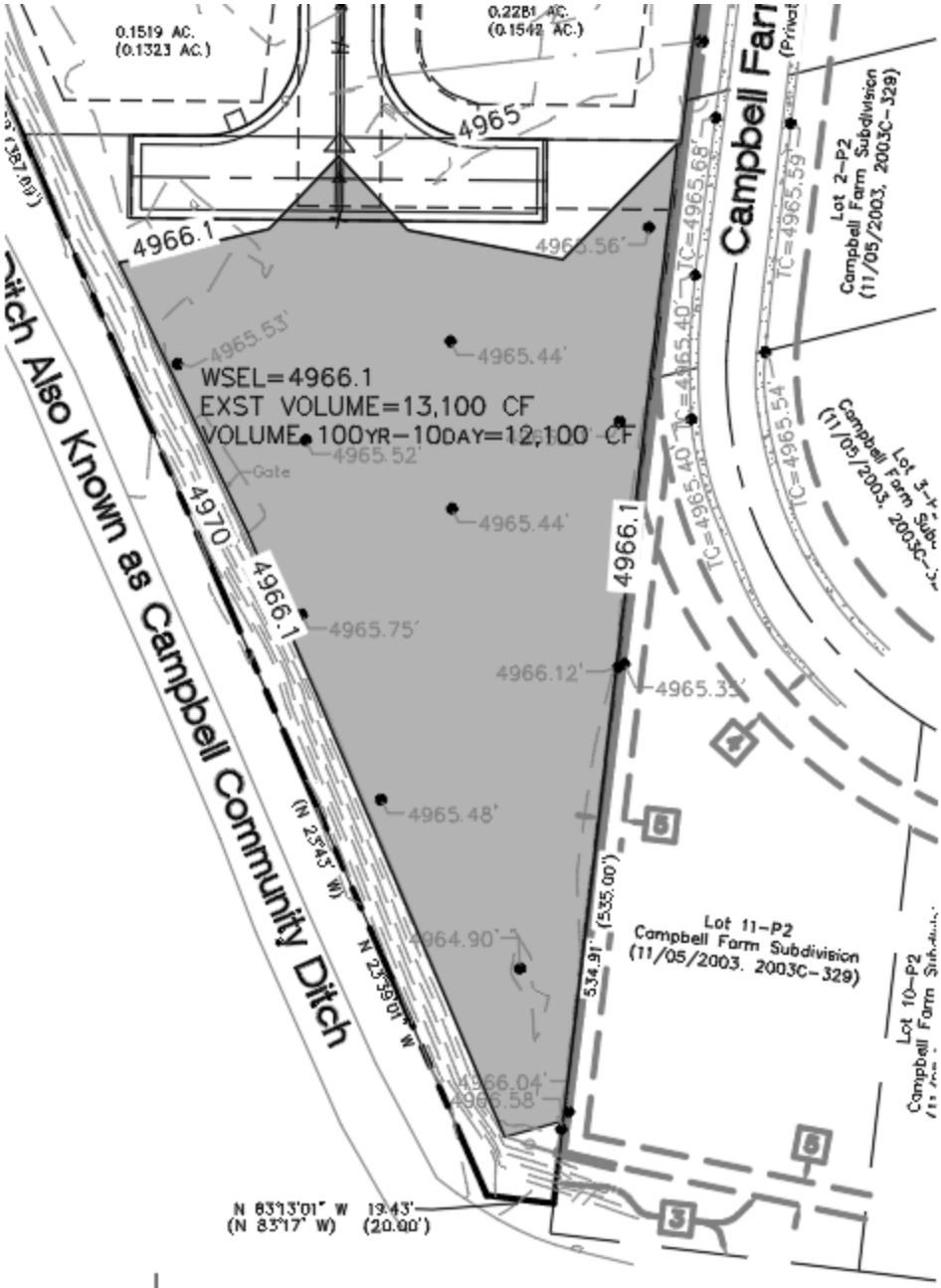
V_{360}	=	8265
+ imp. area	=	3839

Total Pond Volume ($V_{10\ day}$)	=	12104

P_{360}	
Zone	D
1	2.20
2	2.35
3	2.60
4	2.90

P_{10day}	
Zone	D
1	3.67
2	3.95
3	4.90
4	5.95

from Table A-2
Depth (inches) at
100-yr Storm



1"=50'

PONDING VOLUME CALCULATIONS
TRACT A - PRIVATE COMMONS AREA

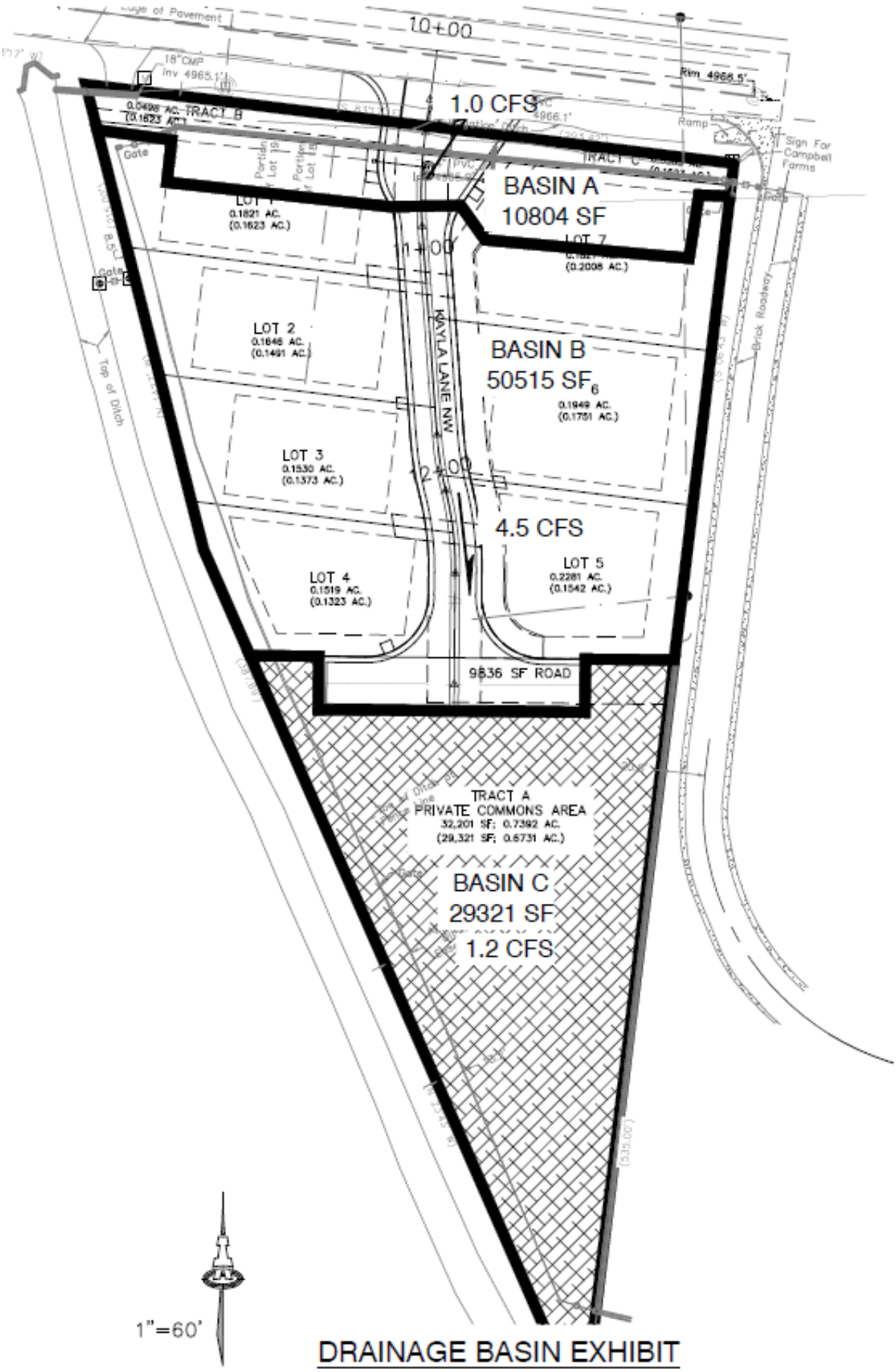
POND VOLUME WAS CALCULATED IN AUTODESK AUTOCAD CIVIL 3D WITH A COMPOSITE SURFACE COMPRISED OF THE EXISTING GROUND SURFACE AND THE TOP OF PONDING ELEVATION OF 4966.1. TOTAL VOLUME IS 485 CY = 13,100 CF

Cut/Fill Summary

Name	Cut Factor	Fill Factor	2d Area	Cut	Fill	Net
POND VOLUME	1.00	1.00	23580.52 Sq. Ft.	5.07 Cu. Yd.	490.62 Cu. Yd.	485.55 Cu. Yd.<Fill>
Totals			23580.52 Sq. Ft.	5.07 Cu. Yd.	490.62 Cu. Yd.	485.55 Cu. Yd.<Fill>

APPENDIX C

Drainage Basin Exhibit



DRAINAGE BASIN EXHIBIT

APPENDIX D

Street Flow Capacity Calculations

Channel Report

Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc. Thursday, Jul 20 2017

KAYLA LANE

User-defined

Invert Elev (ft)	= 100.00
Slope (%)	= 0.60
N-Value	= 0.013

Calculations

Compute by:	Known Q
Known Q (cfs)	= 4.50

Highlighted

Depth (ft)	= 0.26
Q (cfs)	= 4.500
Area (sqft)	= 2.22
Velocity (ft/s)	= 2.03
Wetted Perim (ft)	= 19.02
Crit Depth, Yc (ft)	= 0.27
Top Width (ft)	= 19.01
EGL (ft)	= 0.32

(Sta, El, n)-(Sta, El, n)...

(0.00, 100.46)-(2.62, 100.25, 0.017)-(11.00, 100.06, 0.013)-(12.00, 100.00, 0.013)-(13.00, 100.06, 0.017)-(21.38, 100.25, 0.013)-(24.00, 100.46, 0.017)