CITY OF ALBUQUERQUE

Richard J. Berry, Mayor

January 20, 2017

Arthur Valverde, P.E.
11009 San Antonio Dr. NE
Albuquerque, NM, 87122

RE: 11009 San Antonio Dr.
Grading and Drainage Plan
Engineer's Stamp Date 12-28-2016 (File: D21D029)

Dear Mr. Valverde:

Based upon the information provided in your submittal received 12-28-2016, the above referenced Grading and Drainage Plan is approved for accepting drainage into city Right of Way.

If you have any questions, you can contact me at 924-3999.

Sincerely,

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

MA/SB

PO Box 1293

Albuquerque

New Mexico 87103

www.cabq.gov

City of Albuquerque

Planning Department

Development & Building Services Division

DRAINAGE AND TRANSPORTATION INFORMATION SHEET (REV 11/2016)

Project Title: 11009 San Antonio Dr. Building Permit #: _____ Hydrology File #: D021D029

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

Legal Description: Lot 30, Blk 9, Track 3, Unit 2 North Albuquerque Acres

City Address: 11009 San Antonio Dr. NE Albuq. NM 87122

Applicant: Arthur Valverde Contact: Art

Address: 11009 San Antonio Dr. NE, 87122

Phone#: 505 270-0881 Fax#: _____ E-mail: bigdog_art@yahoo.com

Other Contact: _____ Contact: _____

Address: _____

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

Check all that Apply:

DEPARTMENT:

___ HYDROLOGY/ DRAINAGE

___ TRAFFIC/ TRANSPORTATION

TYPE OF SUBMITTAL:

___ ENGINEER/ARCHITECT CERTIFICATION

___ CONCEPTUAL G & D PLAN

✓ GRADING PLAN

___ DRAINAGE MASTER PLAN

___ DRAINAGE REPORT

___ CLOMR/LOMR

___ TRAFFIC CIRCULATION LAYOUT (TCL)

___ TRAFFIC IMPACT STUDY (TIS)

___ OTHER (SPECIFY) _____

___ PRE-DESIGN MEETING?

IS THIS A RESUBMITTAL?: ___ Yes ✓ No

TYPE OF APPROVAL/ACCEPTANCE SOUGHT:

___ BUILDING PERMIT APPROVAL

___ CERTIFICATE OF OCCUPANCY

___ PRELIMINARY PLAT APPROVAL

___ SITE PLAN FOR SUB'D APPROVAL

___ SITE PLAN FOR BLDG. PERMIT APPROVAL

___ FINAL PLAT APPROVAL

___ SIA/ RELEASE OF FINANCIAL GUARANTEE

___ FOUNDATION PERMIT APPROVAL

___ GRADING PERMIT APPROVAL

___ SO-19 APPROVAL

___ PAVING PERMIT APPROVAL

___ GRADING/ PAD CERTIFICATION

___ WORK ORDER APPROVAL

___ CLOMR/LOMR

___ OTHER (SPECIFY) Contact Don Briggs @ County

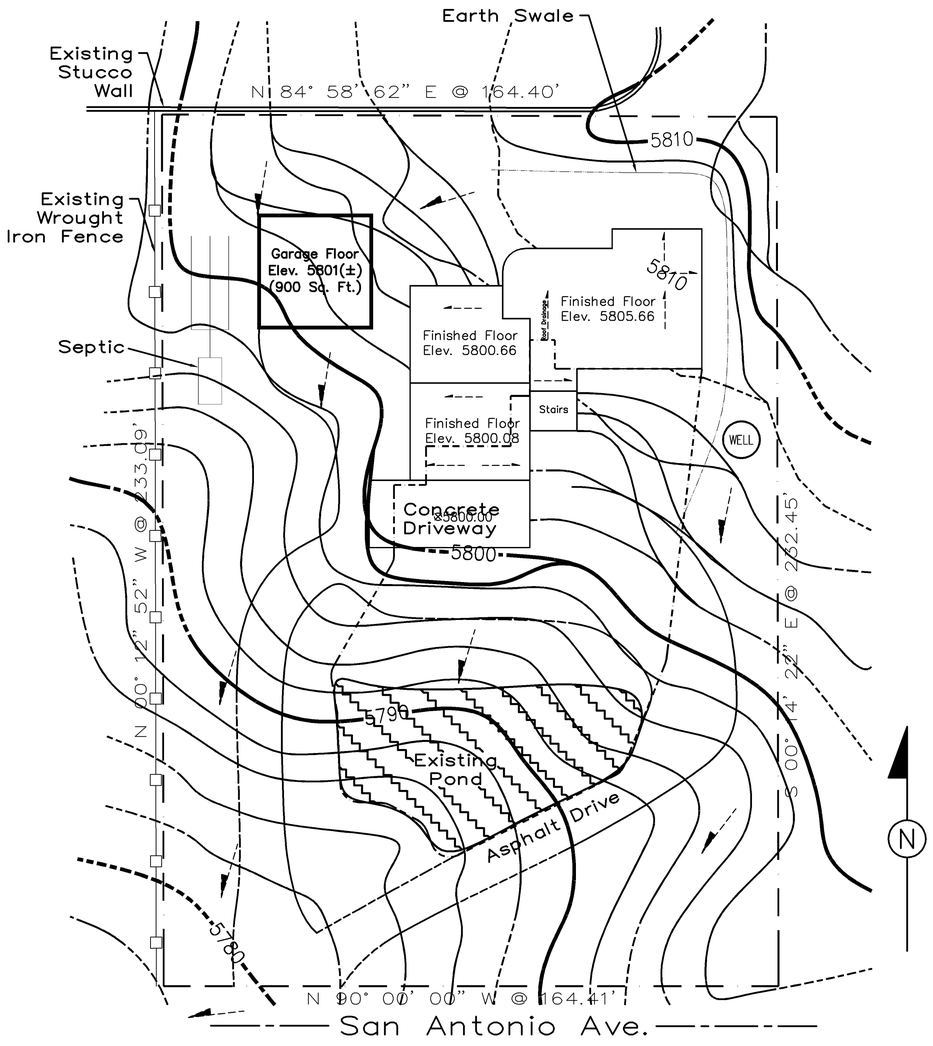
State accept drainage into city ROW

RECEIVED
DEC 28 2016
LAND DEVELOPMENT SECTION

DATE SUBMITTED: 12/28/16 By: _____

COA STAFF: ELECTRONIC SUBMITTAL RECEIVED: _____

FEE PAID: _____



GRADING AND DRAINAGE PLAN

LEGEND

- Property Line
- Existing Contours (2.0 Ft.)
- Earth Swale
- Proposed Development
- Existing Stucco Wall
- Existing Wrought Iron Fence
- Drainage: Indicated by Arrows
- Area Drains to Pound (Boundary)
- Existing Pond Limits

PURPOSE

Update drainage plan to include existing house, 30' x 30' garage, and asphalt paving.

SAMPLE DRAINAGE CALCULATIONS

Using the simplified procedures outlined in the DPM, this lot fulls in zone 4.

Excess precipitation factors for 100 year event are:

E_A= 0.80, E_B= 1.08, E_C= 1.46, and E_D= 2.64

Weighted E = $(E_AA_A+E_BA_B+E_CA_C+E_DA_D)/(A_A+A_B+A_C+A_D)$

Volume of excess precipitation = V_{360} = Weighted E$(A_A+A_B+A_C+A_D)$

Current land treatment areas are:

A_A = 0.200 ac.
A_B = 0.147 ac.
A_C = 0.247 ac.
A_D = 0.296 ac.

E = [0.80(0.20)+1.08(0.147)+1.46(0.247)+2.64(0.296)]/0.89 = 1.641 in.

V = [1.641/12]/0.89 = 0.121 Ac.–Ft. = 5303 c.f.

Q = 2.20(0.20)+2.92(0.147)+3.73(0.247)+5.25(0.296)=3.44 cfs

NAA drainage master plan allows Q = 2.82 cfs and V = 4203 c.f., therefore, mitigation is required.

Existing pond must be considered. Existing pond is 1700 s.f. with an average depth of 1.5 ft., and a volume of 2550 c.f. The treatment areas captured by this pond are:

A_A = 0.0630 ac.
A_B = 0.0315 ac.
A_D = 0.1033 ac.
Total Area = 0.1978 ac.

Excess precipitation captured is

E = [0.80(0.0630)+1.46(0.0315)+2.64(0.1033)]/0.1978=1.866 in.

V = 1.866(0.1978) = 0.0307 a.f. = 1340 c.f.

Q = 2.20(0.0630)+3.73(0.0315)+5.25(0.1033) = 0.798 cfs

Check volume for larger storms:

$V_{24\ hr}= V_{1440}= V_{360}+[A_D(P_{1440} - P_{360})]/12$
$= 0.0307+0.1033(3.65-2.90)/12 = 0.0372$ a.f. = 1618 c.f.

$V_{4\ day} = V_{360} + A_D(P_{4\ day} - P_{360})/12$
$= 0.0307+0.1033(4.70-2.90)/12 = 0.0461$ a.f. = 2012 c.f.

$V_{10\ day}= V_{360} + A_D(P_{10\ day} - P_{360})/12$
$= 0.0307+0.1033(5.95-2.90)/12 = 0.0569$ a.f. = 2480 c.f.

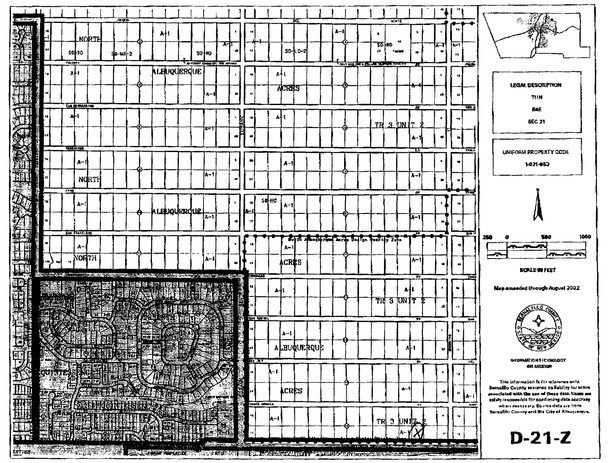
Therefore, entire volume captured by pond can be considered.

Net volume of drainage to San Antonio Drive is

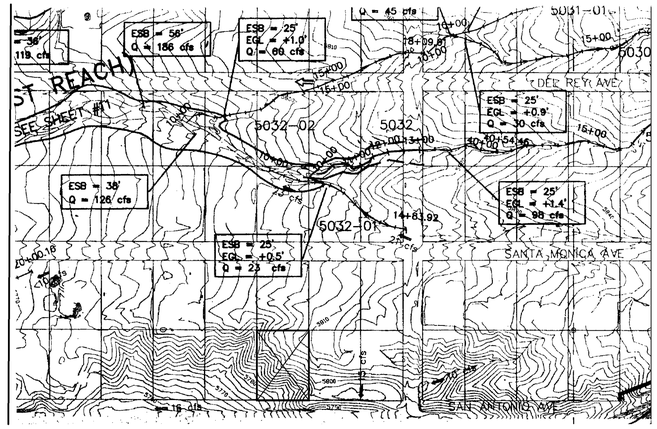
V = 5303 c.f – 1340 c.f = 3963 c.f.

Net discharge is

Q = 3.309 cfs – 0.798 cfs = 2.51 cfs



VICINITY MAP



FEMA FLOODWAY MAP

CERTIFICATION

I have personally inspected the site and I certify that no grading, filling, or excavation has occured since the preparation of the topography shown on the plan.

Arthur R. Valverde, P.E. Date

General Notes		
1	Revised Grading and Drainage Plan	12/21/2016
No.	**Revision/Issue**	**Date**

GRADING AND DRAINAGE PLAN
LOT 30, BLK 9, TRACK 3, UNIT 2
NORTH ALBUQUERQUE ACRES

ARTHUR VALVERDE, P.E.
OWNER/BUILDER
11009 San Antonio Ave. N.E.
Albuquerque, New Mexico 87122

Project	Sheet
VALVERDE	__ OF __
Date: December 9, 2016	
Scale: 1 INCH = 20'	