CITY OF ALBUQUERQUE

Planning Department
Alan Varela, Director

Mayor Timothy M. Keller

December 22, 2022

Reza Afaghpour, P.E.
SBS Construction & Engineering, LLC
7632 William Myers NE
Albuquerque, NM 87122

RE: Loma Alegre Subdivision
TRACTS 473 AND 474, UNIT 7, TOWN OF ATRISCO GRANT
Grading and Drainage Plan
Engineer's Stamp Date: 12/04/2022
Hydrology File: L10D033

Dear Mr. Afaghpour:

Based upon the information provided in your submittal received 12/15/2022, the Grading & Drainage Plan is approved for Grading Permit approval. Please follow the City of Albuquerque and Bernalillo County's procedures for Construction Permit and Building Permit.

As a reminder, if the project total area of disturbance (including the staging area and any work within the adjacent Right-of-Way) is 1 acre or more, then an Erosion and Sediment Control (ESC) Plan and Owner's certified Notice of Intent (NOI) is required to be submitted to the Stormwater Quality Engineer (Doug Hughes, PE, jhughes@cabq.gov, 505-924-3420) 14 days prior to any earth disturbance.

If you have any questions, please contact me at 505-924-3695 or tchen@cabq.gov.

Sincerely,

Tiequan Chen, P.E.
Principal Engineer, Hydrology
Planning Department, 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: LOMA ALEGRE SUBDIVISION Building Permit #: _____ Hydrology File #: L10D033

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

Legal Description: TRACTS 473 AND 474, UNIT 7, TOWN OF ATRISCO GRANT

City Address: _____

Applicant: SBS CONSTRUCTION AND ENGINEEING, LLC Contact: SHAWN BIAZAR

Address: 7632 WILLIAM MYERS, NE, ALBUQUERQUE, NM 87122

Phone#: (505) 804-5013 Fax#: (505) 897-4996 E-mail: AECLLC@AOL.COM

Other Contact: _____ Contact: _____

Address: 9999 JEFERSON ST., SE

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

TYPE OF DEVELOPMENT: _____ PLAT (# of lots) _____ RESIDENCE _____ DRB SITE X ADMIN SITE

IS THIS A RESUBMITTAL? X Yes _____ No

DEPARTMENT _____ TRANSPORTATION X HYDROLOGY/DRAINAGE

Check all that Apply:

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?

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
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: 12-12-2022 By: SHAWN BIAZAR

COA STAFF: ELECTRONIC SUBMITTAL RECEIVED: _____

FEE PAID: _____

SBS CONSTRUCTION AND ENGINEERING, LLC

December 12, 2022

Mr. Tiequan Chen, P.E.
Principal Engineer, Hydrology
Development Review Services
City of Albuquerque Planning Department
PO Box 1293, 600 Second Street, NW
Albuquerque, NM 87103

RE: Loma Alegre Subdivision, Tracts 473 and 474, Unit 7, Town of Atrisco Grant, Grading and Drainage Plan, Engineer's Stamp Date: 6/8/22, Hydrology File: L10D0332818

Dear Mr. Chen;

Attached please find a copy of the revised grading plan for the above referenced site. The following are responses to your comments received for the Grading and Drainage Plan:

1. North arrow has been added to plan.

2. Bench mark has been added to plan.

3. Drainage calculations for lots are included into the grading plan.

4. Tract 476 was changed to 473 under Location.

5. Typo was corrected to Area @ the Throat.

6. The correct volume provided 6,824.35 CF and Volume Required is 6,484.70 CF under was changed on the grading plan.

7. The cross sections were added to the grading plan. The grading plan is fairly crowded with elevations. The roadways will provide more elevation details as part of the construction plan with P&P sheet at a later time.

8. Since the site is located in Bernalillo County, Drainage Covenant will be provided to Bernalillo County Public Works.

9. Since the site is in the County we will coordinate with them on the SWPPP requirements. City typically only reviews for discharge amount into their system.

If you require additional information regarding this project, please do not hesitate to contact me at (505) 804-5013.

Sincerely,

Shawn Biazar

Shawn Biazar, Managing Member

7632 William Moyers Ave., NE, Albuquerque, NM 87122 PH (505) 804-5013 FAX (505) 897-4996 EMAIL AECLLC@AOL.COM

Location

Tract 473 and 474, Unit 7, Town of Atrisco Grant is located between Sage Road and San Ygnacio just east of Abeyta Road containing 10.12 acre. See attached portion of Vicinity for exact location of the project.

Purpose

The purpose of this drainage report is to present a grading and drainage solution in support of the proposed 22 lot subdivision.

Existing Drainage Conditions

This site is fairly flat and falls within Basin S8-D (Map No.2) of the Tower/Sage Drainage Master Plan. The total S8-D basin is 43.70 with a discharge of 87 cfs. The allowable discharge under Basin S8-D is (87/43.70) 1.99 cfs/ac. Therefore, this site can discharge at a total flow rate of (10.12 ac x 1.99 cfs/ac) 20.14 cfs to the Sage Rd. 48" Storm Drainage Pipe. No offsite runoff enters this site. Based on the attached FIRM Map the site does not fall within a 100-year Floodplain.

Proposed Conditions and On-Site Drainage Management Plan

Lots 1 through 8 and 17 through 22 will be retainig the ruonff within a retention pond on each lot. State Curbing is used fronting these lots to allow the runoff to drain the lots. Lots 9-16 will discharge at a total flow rate of 8.04 cfs (which is less than allowed discharge of 20.14 cfs) to a proposed type C Inlet on site. Then from there the runoff will drain to the exiting 48" storm drain pipe via 18" RCP pipe in Sage Road. Stormwater quality ponds are included for lots 9-16 as well. These ponds may shift on the site based on the final placement of the houses and garage locations.

RUNOFF (100 YR-6 HR)/VOL. (100 YR-10 DAY) CALCULATIONS

BASIN	*AREA (SF)*	*AREA (AC)*	*AREA (MI)*
LOT 22	44,568.39	1.02315	0.001599
LOTS 9-16	100,659.72	2.31083	0.003611

$E = \frac{EA(AA) + EB(AB) + EC(AC) + ED(AD)}{AA + AB + AC + AD}$

V-360 = Weighted E (AA + AB + AC + AD)/12
V-10 DAY = V360 + AD(P10 DAY- P 360) / 12 IN/FT

EA = 0.55 P-60=1.69
EB = 0.73 P-360=2.17
EC = 0.95 P-1140=2.49
ED = 2.24 P-10 DAY=3.90

LOT 22 Weighted E = 1.23
LOTS 9-16 Weighted E = 1.68

V-360 (LOT 22) = 4,557.12 CF
V-10 DAY (LOT 22) = 6,484.70 CF

A = 1.54 CFS/AC
B = 2.16 CFS/AC
C = 2.87 CFS/AC
D = 4.12 CFS/AC

TOTAL QP = QPA AA + QPB AB + QPC AC + QPD AD
QP (LOTS 9-16) = 8.04 CFS

STORM DROP INLET "TYPE C" (EFFECTIVE AREA-IN SWAMP CONDITION)

Area @ the Grate:

L = 38 " - 7 (½"$_{MIDDLE\ BARS}$)
= 34 " = 2.9063'

W = 25 ½" - 13 (½"$_{MIDDLE\ BARS}$)
= 19" = 1.5833'

Area = 2.9063 x 1.5833
= 4.601 SF

Effective are = 4.60 SF @ the Grate

Area @ the Throat:

L = 47 " = 3.9479'

H = 10 ¾" - 4 ½"
=6 ¼" = 0.5208'

Area = 3.9479' x 0.5208
=2.06 SF @ the Throat

Total Area

Area = $4.60_{Grate} + 2.06_{Throat}$
=6.66 SF

ORIFICE EQUATION
Q = CA(2gH)^0.50

C = 0.6
A = 6.66 SF
g = 32.2
H = 0.92' (Grate to Top of Curb)
Q = 0.60 x 6.66 (2 x 32.2 x 0.92)^0.50
Q = 30.76 cfs > 8.04 cfs

LOT 22 - VOLUME REQUIREMENTS (90TH PERCENTILE RAIN EVENT)

VOLUME REQUIRED = 0.615/12 x 13,370.52 = 685.24 CF
RETENTION VOLUME PROVIDED = 6,824.35 CF

18" PIPE FLOW CAPACITY ANALYSIS

Circular Channel: Manning's Equation

Solve For ..... Actual Depth

Diameter...	1.50 ft	Velocity.....	8.17 fps
Slope	0.015 ft/ft	Flow Area.....	0.98 sf
Manning's n...	0.012	Critical Slope...	0.0064 ft/ft
Discharge.....	8.04 cfs	Critical Depth...	1.10 ft
Depth.....	0.82 ft	Percent Full...	54.49%
		Froude Number	1.77
		Full Capacity...	13.94 cfs
		QMAX @ 0.94D..	14.99 cfs

Open Channel Flow Module, Version 3.13 (c)

Haestad Methods, Inc. * 37 Brookside Rd * Waterbury, Ct 06708

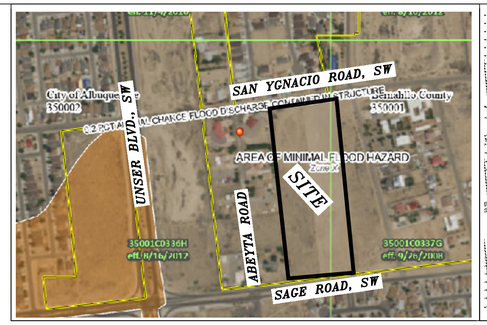
18" PIPE FLOW CAPACITY CALCULATIONS
(USING ORIFICE EQUATION)

Q = CA(2gH)^0.50

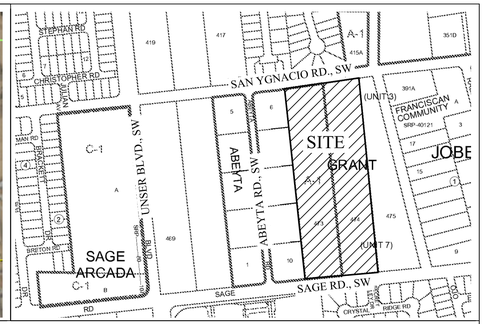
H (head) = 5.89' (from top of curb to top of 18" RCP)
A = 1.767 sf
g = 32.20

Q = 0.60 x 1.767 x (2 x 32.2 x 4.41)^0.50

Q = 17.87 cfs > 8.04 cfs



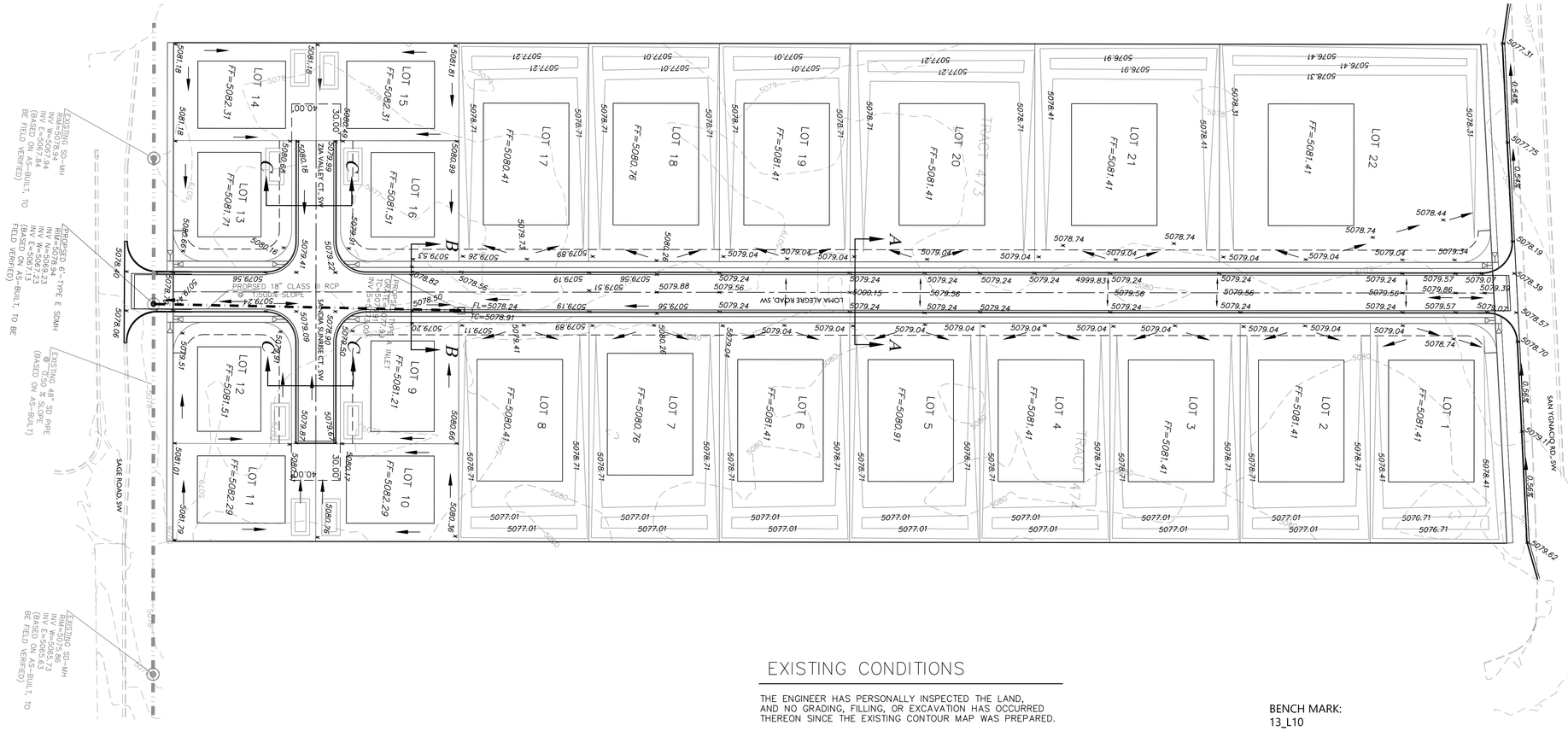
FIRM MAP: 35001C0336H & 337G



VICINITY MAP: N-10-Z

LEGAL DESCRIPTION:

TRACTS 473 AND 474, UNIT 7, TOWN OF ATRISCO GRANT, BERNALILLO COUTY, NEW MEXICO, AS THE SAME IS SHOWN AND DESIGNATED ON THE PLAT OF SAID TRACTS FILED IN THE OFFICE OF THE COUNTY CLERK OF BERNALILLO COUNTY, NEW MEXICO, ON SEPTEMBER 9, 1944, CONTAINING 10.1203 ACRES (440,839.16 SF) MORE OR LESS.



LEGEND

------5030------	EXISTING CONTOUR (MAJOR)
------5029------	EXISTING CONTOUR (MINOR)
———	BOUNDARY LINE
42.70	PROPOSED SPOT ELEVATION
5029.16	EXISTING GRADE
5075.65 FL	EXISTING FLOWLINE ELEVATION
	PROPOSED RETAINING WALL
BC=41.30	BOTTOM OF CHANEL
TF=42.00	TOP OF FOOTING
TRW=45.12	TOP OF RETAINING WALL
HP	HIGH POINT
42.40 / ~~42.45~~	AS-BUILT GRADES
42.40	AS-BUILT SPOT ELEVATIONS

City of Albuquerque
Planning Department
Development Review Services
HYDROLOGY SECTION
APPROVED
DATE: 12/22/2022
BY:
HydroTrans # L10D033

THE APPROVAL OF THESE PLANS/REPORT SHALL NOT BE CONSTRUED TO PERMIT VIOLATIONS OF ANY CITY ORDINANCE OR STATE LAW, AND SHALL NOT PREVENT THE CITY FROM REQUIRING THE CORRECTION, OR ERROR OR OMISSION IN PLANS, SPECIFICATIONS, OR CONSTRUCTIONS. SUCH APPROVED PLANS SHALL NOT BE CHANGED, MODIFIED OR ALTERED WITHOUT AUTHORIZATION.

EXISTING CONDITIONS

THE ENGINEER HAS PERSONALLY INSPECTED THE LAND, AND NO GRADING, FILLING, OR EXCAVATION HAS OCCURRED THEREON SINCE THE EXISTING CONTOUR MAP WAS PREPARED.

12/04/2022

BENCH MARK:
13_L10
N=1478091.745
E=1500232.08
NAVD88 Elev. = 5080.934

REZA AFAGHPOUR
NEW MEXICO
12/04/2022
REZA AFAGHPOUR
PE NO. 11814

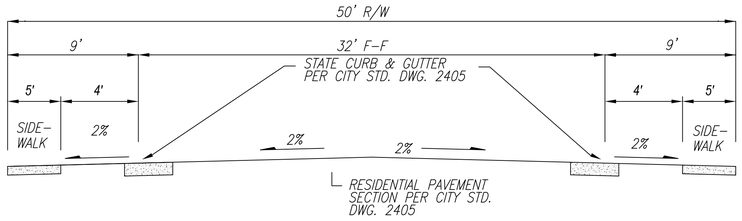
GRAPHIC SCALE
50 25 0 50
SCALE: 1"=50'

SBS CONSTRUCTION AND ENGINEERING, LLC
7632 WILLIAM MOYERS AVE., NE
ALBUQUERQUE, NEW MEXICO 87122
(505) 804-5013
EMAIL: AECLLC@AOL.COM

LOMA ALEGRE SUBDIVISION GRADING PLAN

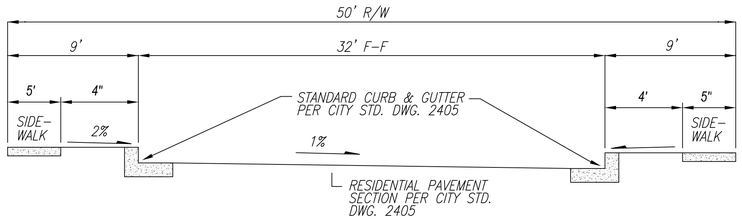
DRAWING:	DRAWN BY:	DATE:	SHEET #
202106-GD.DWG	SH-B	12/04/2022	1 OF 2

LAST REVISION:12-04-2022



SECTION A-A

N.T.S.



SECTION B-B

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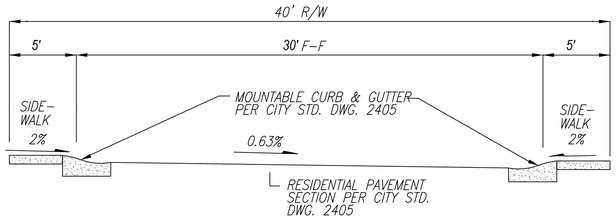
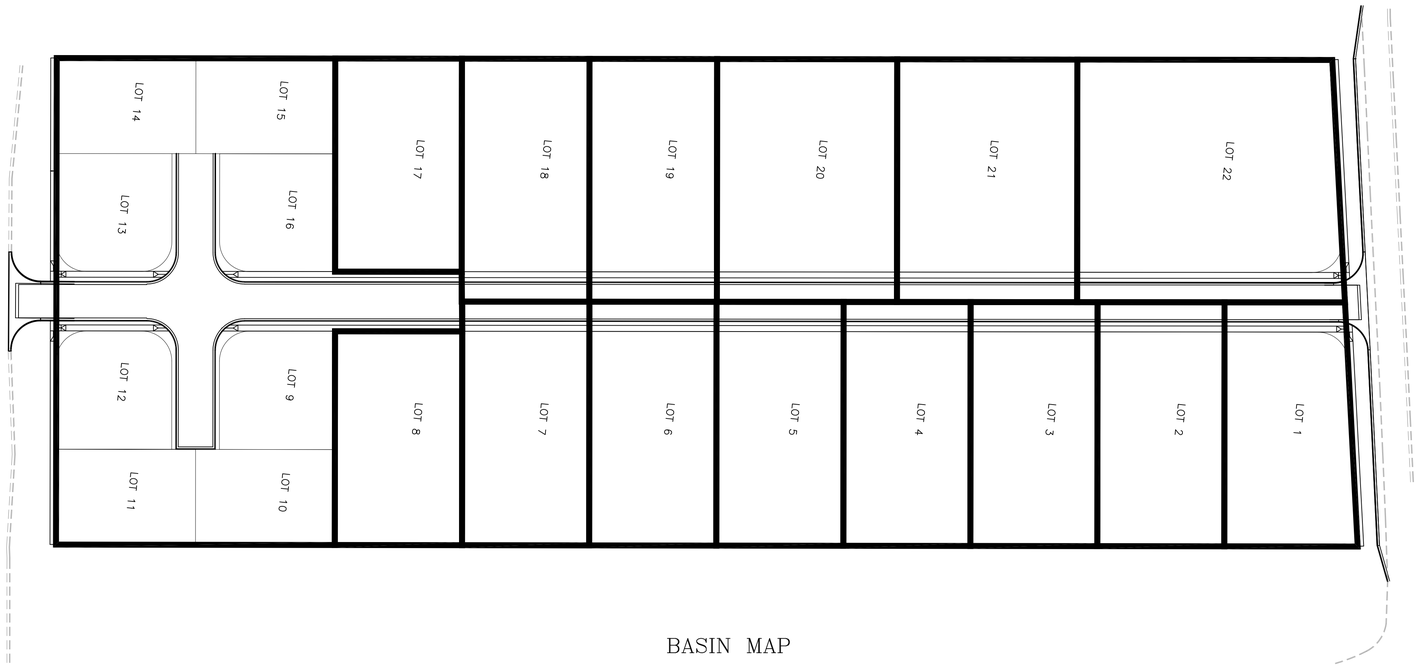


SECTION C-C

N.T.S.



BASIN MAP

SCALE: 1"=60'

BASIN	AREA SF	LAND TREATMENT B	C	D	POND TOP AREA SF	BOTTOM AREA SF	DEPTH FT	VOL. PROVIDED CF	VOL. REQUIRED CF	Q-100 CFS
Lot 22	44,568.39	50	20	30	5,885.09	1,298.44	1.9	6,824.35	6,484.70	2.96
Lot 21	30,732.93	50	20	30	5,109.50	1,184.82	1.5	4,720.74	4,471.64	2.04
Lot 20	30,736.60	50	20	30	5,109.50	1,184.82	1.5	4,720.74	4,472.18	2.04
Lot 19	21,793.49	40	20	40	3,917.32	863.40	1.7	4,063.61	3,759.38	1.54
Lot 18	21,791.28	40	20	40	3,917.32	863.40	1.7	4,063.61	3,759.00	1.34
Lor 17	18,975.82	40	20	40	3,917.32	863.40	1.5	3,585.54	3,273.33	1.35
Lot 8	19,119.12	40	20	40	3,917.32	863.40	1.7	4,063.61	3,298.05	1.35
Lot 7	21,785.16	40	20	40	3,917.32	863.40	1.7	4,063.61	3,757.94	1.54
Lot 6	21,782.90	40	20	40	3,917.32	863.40	1.7	4,063.61	3,757.55	1.54
Lot 5	21,780.63	40	20	40	3,917.32	863.40	1.7	4,063.61	3,757.16	1.54
Lot 4	21,778.36	40	20	40	3,917.32	863.40	1.7	4,063.61	3,756.77	1.54
Lot 3	21,778.12	40	20	40	3,917.32	863.40	1.7	4,063.61	3,756.73	1.54
Lot 2	21,779.93	40	20	40	3,917.32	863.40	1.7	4,063.61	3,757.04	1.54
Lot 1	21,780.35	40	20	40	3,838.75	863.40	1.7	3,996.83	3,757.11	1.54

STORM WATER QUALITY POND

BASIN	AREA SF	LAND TREATMENT B	C	D	PROPOSED POND TOP AREA SF	BOTTOM AREA SF	DEPTH FT	VOL. PROVIDED CF	VOL. REQUIRED CF
Lot 16	9,432.70	20	20	60	450.00	216.00	1	333.00	290.06
Lot 15	9,347.05	20	20	60	450.00	216.00	1	333.00	287.42
Lot 14	9,342.68	20	20	60	450.00	216.00	1	333.00	287.29
Lot 13	9,296.10	20	20	60	450.00	216.00	1	333.00	285.86
Lot 12	9,336.71	20	20	60	450.00	216.00	1	333.00	287.10
Lor 11	9,357.69	20	20	60	450.00	216.00	1	333.00	287.75
Lot 10	9,354.45	20	20	60	450.00	216.00	1	333.00	287.65
Lot 9	9,470.47	20	20	60	450.00	216.00	1	333.00	291.22

BASIN	AREA	LAND TREATMENT B	C	D	Q-100 CFS
LOTS 9-16	100,659.72	20	20	60	8.04

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REZA AFAGHPOUR
NEW MEXICO
12/04/2022
REGISTERED PROFESSIONAL ENGINEER

REZA AFAGHPOUR
PE NO. 11814

SBS CONSTRUCTION
AND ENGINEERING, LLC

7632 WILLIAM MOYERS AVE., NE
ALBUQUERQUE, NEW MEXICO 87122
(505) 804-5013
EMAIL: AECLLC@AOL.COM

LOMA ALEGRE SUBDIVISION
DRAINAGE TABLES & SECTIONS

DRAWING:	DRAWN BY:	DATE:	SHEET #
202106-GD.DWG	SH-B	12-04-2022	2 OF 2

LAST REVISION:12-04-2022