CITY OF ALBUQUERQUE

Planning Department
Alan Varela, Director

Mayor Timothy M. Keller

December 14, 2022

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

RE: 5509 Escondina Lane NW
Grading and Drainage Plan
Engineer's Stamp Date: 12/07/22
Hydrology File: F14D076D

Dear Ms. Nilsson-Weber:

Based upon the information provided in your submittal received 12/092022, the Grading & Drainage Plan is approved for Grading Permit (earthwork can get started for the earth pad on the house).

PRIOR TO BUILDING PERMIT:

1. Once the grading is complete, a pad certification (meaning that the earthwork is complete) will be required. Please include a site photo with the submittal. Also, at the time of pad certification approval, Hydrology will concurrently approve the Grading & Drainage Plan for Building Permit.

If you have any questions, please contact me at 924-3995 or rbrissette@cabq.gov.

Sincerely,

Renée C. Brissette

Renée C. Brissette, P.E. CFM
Senior Engineer, Hydrology
Planning Department

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City of Albuquerque

Planning Department

Development & Building Services Division

DRAINAGE AND TRANSPORTATION INFORMATION SHEET

Project Title: 5509 Escondida Lane **Building Permit #**_____ **Hydrology File #** E15
DRB#_____ **EPC#**_____
Legal Description: Lot 3, Bosque Escondido City Address OR Parcel Escondido Lane NW

Applicant/Agent: Isaacson & Arfman, Inc. **Contact:** Fred C. Arfman or Bryan J. Bobrick
Address: 128 Monroe Street NE **Phone:** (505) 268-8828
Email: freda@iacivil.com
bryanb@iacivil.com

Applicant/Owner: _____ **Contact:** _____
Address: _____ **Phone:** _____
Email: _____

TYPE OF DEVELOPMENT: ___PLAT (#of lots) _X_RESIDENCE __DRB SITE ___ ADMIN SITE: ____
RE-SUBMITTAL: _____YES __X__ NO

DEPARTMENT: _____TRANSPORTATION __X__ HYDROLOGY/DRAINAGE
Check all that apply:

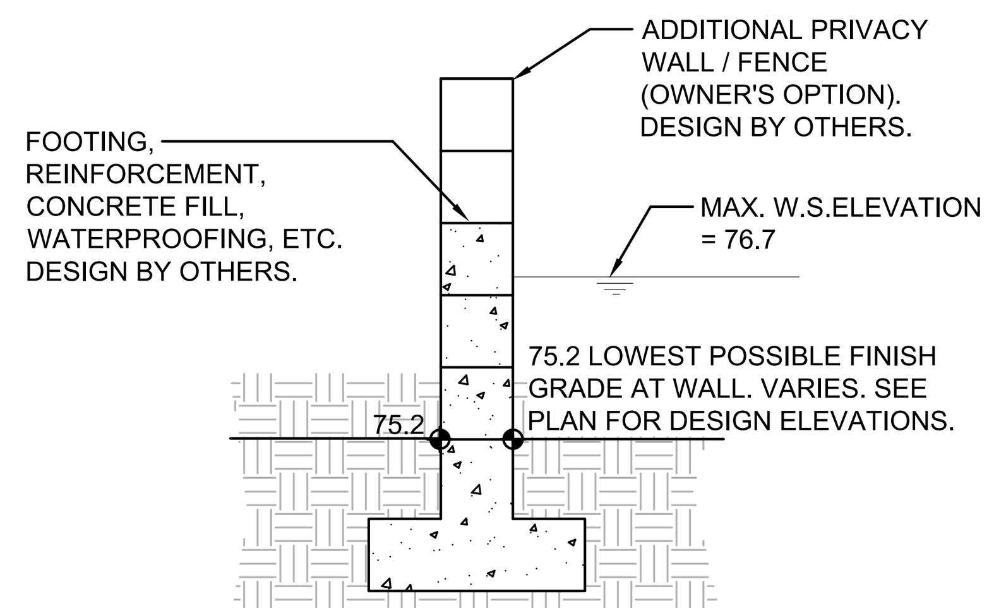
TYPE OF SUBMITTAL:

___ENGINEER/ARCHITECT CERTIFICATION
___PAD CERTIFICATION
___CONCEPTUAL G&D PLAN
_X_GRADING PLAN
___DRAINAGE REPORT
___DRAINAGE MASTER PLAN
___FLOOD PLAN DEVELOPMENT PERMIT APP.
___ELEVATION CERTIFICATE
___CLOMR/LOMR
___TRAFFIC CIRCULATION LAYOUT (TCL) ADMINISTRATIVE
___TRAFFIC CIRCULATION LAYOUT FOR DRB APPROVAL
___TRAFFIC IMPACT STUDY (TIS)
___STREET LIGHT LAYOUT
___OTHER (SPECIFY)
___PRE-DESIGN MEETING?

TYPE OF APPROVAL/ACCEPTANCE SOUGHT:

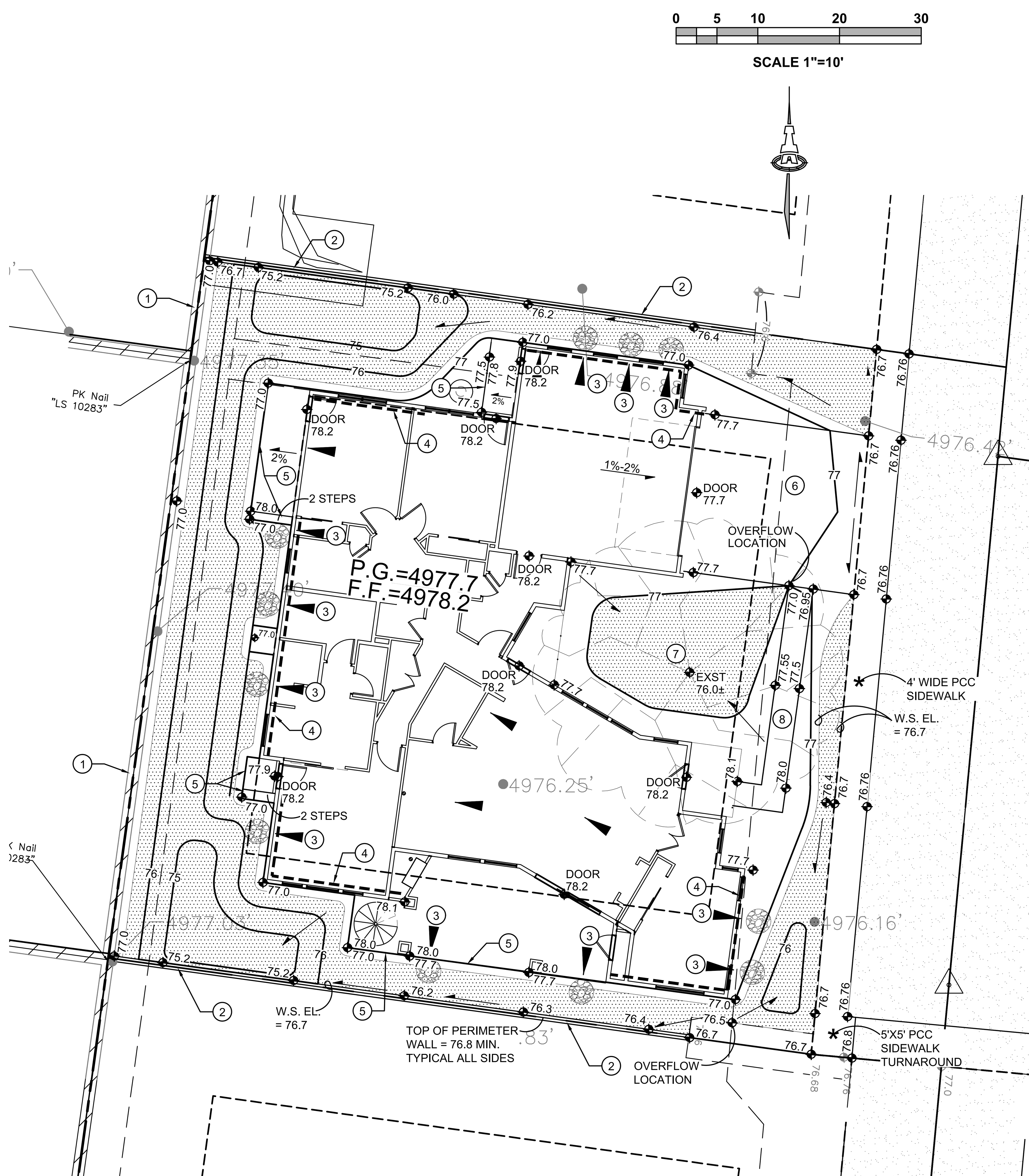
_X_BUILDING PERMIT APPROVAL
___CERTIFICATE OF OCCUPANCY
___CONCEPTUAL TCL DRB APPROVAL
___PRELIMINARY PLAT APPROVAL
___SITE PLAN FOR SUB'D APPROVAL
___SITE PLAN FOR BLDG PERMIT APPROVAL
___FINAL PLAT APPROVAL
___SIA/RELEASE OF FINANCIAL GUARANTEE
___FOUNDATION PERMIT APPROVAL
___GRADING PERMIT APPROVAL
___SO-19 APPROVAL
___PAVING PERMIT APPROVAL
___GRADING PAD CERTIFICATION
___WORK ORDER APPROVAL
___CLOMR/LOMR
___FLOOD PLAN DEVELOPMENT PERMIT
___OTHER (SPECIFY)_____

DATE SUBMITTED: December 7, 2022



NEW PROPERTY LINE WALLS

SCALE: N.T.S.



GENERAL NOTES

- PROPOSED SPOT AND CONTOUR ELEVATIONS SHOWN REPRESENT TOP OF FINISH MATERIAL (I.E. TOP OF PAVEMENT, TOP OF LANDSCAPING, ETC.). CONTRACTOR SHALL GRADE AND COMPACT SUBGRADE BASED ON ELEVATIONS SHOWN MINUS FINISH MATERIAL THICKNESSES.
- POND DESIGN PARAMETERS AND STORMWATER CONTROL MEASURES SHOWN ON THIS PLAN SHALL BE STRICKTLY ADHERED TO FOR CERTIFICATION PURPOSES.
- POST-CONSTRUCTION MAINTENANCE FOR PRIVATE STORMWATER FACILITIES WILL BE THE RESPONSIBILITY OF THE FACILITIES OWNER. ENGINEER RECOMMENDS THAT OWNER INSPECT THE SITE YEARLY AND AFTER EACH RAINFALL TO IDENTIFY AREAS OF EROSION. ADD ADDITIONAL EROSION PROTECTION AS NEEDED.
- CONTRACTOR SHALL PROTECT THE ON-SITE INFILTRATION TRENCHES ('IT').
- PER THE SUBDIVISION GRADING AND DRAINAGE PLAN, THE PROPOSED RESIDENCE SHALL POND STORMWATER WITHIN 10' OF THE RESIDENCE. OWNER SHALL COORDINATE WITH STRUCTURAL DESIGNER WITH REGARDS TO THE BUILDING & FOUNDATION REQUIREMENTS RELATING TO THE ADJACENT PONDING.
- FOR ENGINEER'S CERTIFICATION OF SUBSTANTIAL COMPLIANCE, CONTRACTOR SHALL PROVIDE AN AUTOCAD FORMAT AS-BUILT SURVEY PREPARED BY A LICENSED SURVEYOR WHICH INCLUDES THE FOLLOWING AS-BUILT INFORMATION:
  - FINISH FLOOR ELEVATION
  - SPOT ELEVATIONS AT EACH SPOT ELEVATION SHOWN ON THE APPROVED PLAN
  - TOP AND TOE LIMITS AND ELEVATIONS FOR PONDS TO ENSURE REQUIRED CAPACITY IS PROVIDED. NOTE: POND ELEVATIONS PROVIDED ON THIS PLAN ARE BASED ON FINISHED LANDSCAPE CONDITION. CONTRACTOR TO GRADE SITE TO ELEVATIONS SHOWN MINUS MATERIAL THICKNESSES.

VICINITY MAP F-14

KEYED NOTES

1. EXISTING RETAINING/PRIVACY WALL. CONTRACTOR TO PROTECT DURING CONSTRUCTION.
2. NEW PRIVACY WALL. FINAL GRADES SHOWN AT BASE OF WALL ARE REQUIRED TO PROVIDE THE NECESSARY POND VOLUME AND TO PERMIT ON-SITE PONDING TO EQUALIZE. SEE SECTION THIS SHEET.
3. ROOF DRAIN DISCHARGE: INSTALL EROSION PROTECTION (3' DIA ROCK SPLASHPAD, PRECAST CONCRETE SPLASHPAD, OR EQUAL) AT ALL CONCENTRATED ROOF DRAIN LOCATIONS.
   3.1. ENGINEER RECOMMENDS INSTALLING 2' WIDE X 8" THICK 4" AVG. DIA. ANGULAR ROCK SWALES TO PASS CONCENTRATED ROOF FLOW FROM SPLASHPADS TO POND BOTTOMS (OWNER'S OPTION). COORDINATE WITH LANDSCAPERS.
4. EXTENDED STEMWALL TO ACHIEVE GRADES THIS AREA.
5. PATIO WITH TURNED DOWN CONCRETE EDGE TO ACHIEVE GRADES THIS AREA. COORDINATE WITH OWNER FOR GUARDRAIL (OWNER'S OPTION).
6. BASE COURSE DRIVEWAY.
7. PROTECT EXISTING TREE.
8. PERVIOUS WALKWAY (FLAGSTONE, PAVERS, CRUSHER FINES, O.E.)

BUILDING DESIGN NOTE

THE BUILDING PAD AREA SHALL BE PREPARED AND COMPACTED PER THE GEOTECHNICAL REPORT.

THE BUILDING DESIGN SHALL ADDRESS PONDED STORM WATER WITHIN TEN FEET OF BUILDING.

PROJECT INFORMATION:

PROPERTY: THE SITE IS AN UNDEVELOPED RESIDENTIAL LOT AND IS BOUNDED TO THE EAST BY AN ACCESS ROAD, THE WEST BY A DEVELOPED RESIDENTIAL LOT, AND TO THE NORTH AND SOUTH BY UNDEVELOPED RESIDENTIAL LOTS.

PROPOSED IMPROVEMENTS: THE PROPOSED IMPROVEMENTS INCLUDE A SINGLE FAMILY RESIDENCE WITH ACCESS DRIVE AND ASSOCIATED LANDSCAPING AND PONDING.

LEGAL: LOT 3 OF BOSQUE ESCONDIDO, BERNALILLO COUNTY, NM

AREA: 0.2005 ACRES (GROSS)

BENCHMARK: ACS MONUMENT DOUGLAS". ELEVATION = 4975.078 (NAVD 1988)

OFF-SITE: NO OFF-SITE DRAINAGE AFFECTS THIS PROPERTY.

FLOOD HAZARD: PER FEMA FIRM MAP #35001C0119G, EFFECTIVE DATE 09/26/2008, THE SITE IS LOCATED WITHIN FLOODZONE 'X' SHADED WHICH IS DEFINED AS AREAS WITH REDUCED FLOOD RISK DUE TO LEVEE.

DRAINAGE PLAN CONCEPT:

THE SITE IS PART OF THE BOSQUE ESCONDIDO SUBDIVISION APPROVED BY HYDROLOGY WITH A FLAT GRADING SCHEME AS FOLLOWS:

- PAD GRADE = 4977.7 (MIN). OVERFLOW ELEVATION 4976.67.
- EACH LOT IS REQURIED TO STORE THE 100-YEAR 10-DAY VOLUME.
- ALL ROOF FLOW WILL BE DIRECTED TO THE STORMWATER RETENTION PONDS.
- WALLS WILL BE CONSTRUCTED ON THE PROPERTY LINES TO CONTAIN THE 100-YEAR 10-DAY MAXIMUM RETENTION VOLUME.
- SINCE ALL STORMWATER IS RETAINED ON THE PROPERTY, NO SEPARATE STORM WATER QUALITY VOLUME IS REQUIRED.

LEGEND

—77—	PROPOSED CONTOUR
76.6	PROPOSED SPOT ELEVATION
→	FLOW DIRECTION
F.F. = 4978.2	FINISH FLOOR ELEVATION
P.G. = 4977.7	PAD GRADE ELEVATION
(shaded)	RETENTION POND LIMITS

POND VOLUME CALCULATIONS

CENTRAL COURTYARD		
Contour	Area	Volume
77.0	290	
76.0	5	148 CF
POND VOLUME =		**148** CF

PERIMETER PONDING		
Contour	Area	Volume
76.7	2000	
76.0	875	1006 CF
75.0	275	575 CF
POND VOLUME =		**1581** CF

Volume of 100-yr, 10-day ponding required = 1,631 CF

Volume Provided:
Main Surface pond = 1,581 CF

Courtyard ponding around existing tree = 148 CF

TOTAL VOLUME PROVIDED = 1,729 CF

PROPOSED IMPERVIOUS AREA

THE PROPOSED IMPERVIOUS AREA (SHOWN SHADED) = 4,315 SF INCLUDING PATIOS, WALKS, AND DRIVEWAY. THE STREET IS PERVIOUS WITH AGGREGATE BASE COURSE PAVING.

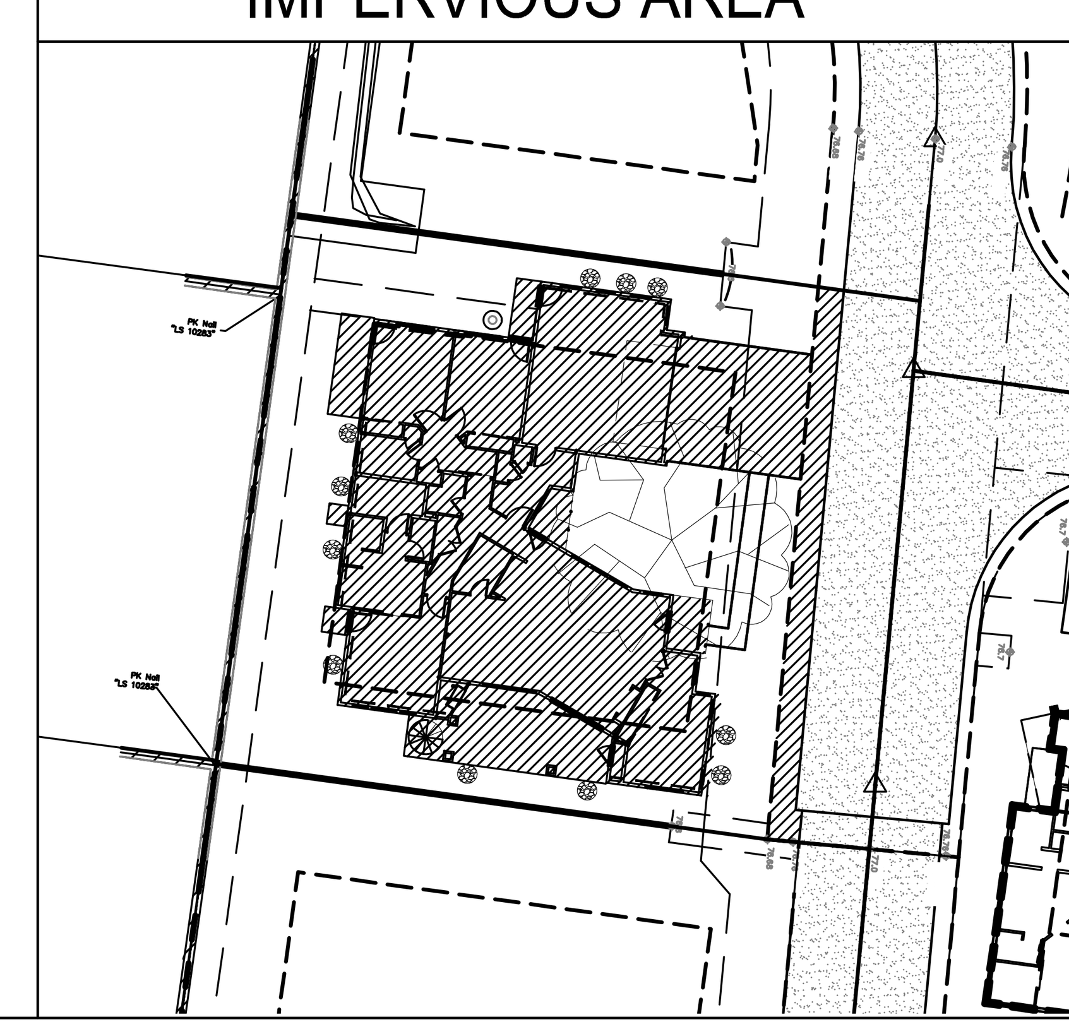
THE PROPOSED IMPERVIOUS AREA IS APPROXIMATELY 49% OF THE TOTAL PROPERTY AREA.

MASTER DRAINAGE PLAN CALCULATED 100-YEAR 10-DAY VOLUME FOR THIS LOT = 1,554CF (BASED ON IMPERVIOUS AREA OF 3,933 SF).

THE REQUIRED 100-YEAR 10-DAY VOLUME INCREASES TO 1,631 CF BASED ON THE PROPOSED IMPERVIOUS AREA.

SEE POND CALCULATIONS THIS SHEET.

IMPERVIOUS AREA



HYDROLOGY CALCULATIONS

CALCULATIONS: Lot 3, Bosque Escondida : June 16, 2022

Based on City of Albuquerque DMP, Article 6-2 Hydrology dated June 26, 2020

100-YEAR, 6-HOUR CALCULATIONS

AREA OF SITE: 8734 SF = 0.2005 ACRE

100-year, 6-hour

DEVELOPED FLOWS: / **EXCESS PRECIP:** Precip. Zone 2

		Treatment SF	%	Excess Precip.
Area A	=	0	0%	E_A = 0.62
Area B	=	3371	39%	E_B = 0.80
Area C	=	1048	12%	E_C = 1.03
Area D	=	4315	49%	E_D = 2.33
Total Area	=	8734	100.0%	

On-Site Weighted Excess Precipitation (100-Year, 6-Hour Storm)

$$\text{Weighted } E = \frac{E_A A_A + E_B A_B + E_C A_C + E_D A_D}{A_A + A_B + A_C + A_D}$$

Developed E = 1.58 in.

On-Site Volume of Runoff: V360 = E*A / 12

Developed V_{360} = 1152 CF

On-Site Peak Discharge Rate: $Qp = Q_{pA}A_A+Q_{pB}A_B+Q_{pC}A_C+Q_{pD}A_D / 43{,}560$

For Precipitation Zone 2

Q_{pA} = 1.71 Q_{pC} = 3.05

Q_{pB} = 2.36 Q_{pD} = 4.34

Developed Q_p = 0.7 CFS

100-year 10-day Storm Volume

V_{360} (from previous calculation)	1152
Area Treatment D (SF)	4315
Zone	2

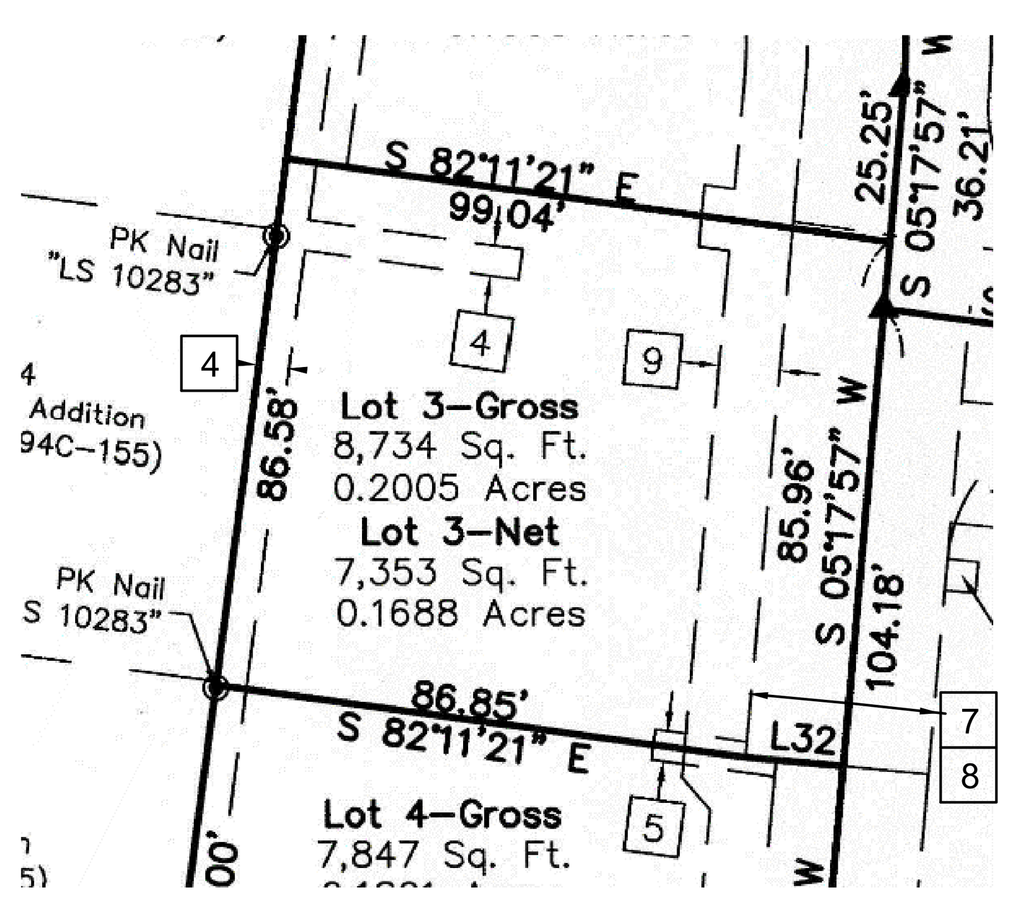
For 100-year 10 Day Storms:

$V_{10day} = V_{360} + (A_D * (P_{10day} - P_{360})/12\text{" per foot})$

V_{360}	=	1152
A_D (SF)	=	4315
Zone	=	2
P_{10day}	=	3.62
P_{360}	=	2.29

V_{360}	=	1152
+ imp. area	=	478

Total Volume ($V_{10\ day}$)	=	1631



Easement Notes

1. EXISTING 7' P.U.E. (1/7/2000, 2000C–7)
2. EXISTING PRIVATE ACCESS EASEMENT FOR THE BENEFIT OF LOT 6–A–1 (1/7/2000, 2000C–7) SHOWN HEREON AS (shaded)
3. EXISTING 10' PNM JOINT ELECTRIC AND GAS EASEMENT (9/25/2002, PG. 2644, DOC. NO. 2002122989)
4. PRIVATE 5' IRRIGATION LINE EASEMENT, BENEFITING LOTS 1–8 AND MAINTAINED BY THE UNDERLYING OWNER GRANTED WITH THE FILING OF THIS PLAT
5. WATER METER EASEMENT GRANTED TO ABCWUA WITH THE FILING OF THIS PLAT
6. FIRE HYDRANT EASEMENT GRANTED TO ABCWUA WITH THE FILING OF THIS PLAT
7. PRIVATE ACCESS EASEMENT, BENEFITING LOTS 1–8 AND MAINTAINED BY THE UNDERLYING OWNER GRANTED WITH THE FILING OF THIS PLAT
8. PUBLIC WATER AND SEWER EASEMENT GRANTED TO ABCWUA WITH THE FILING OF THIS PLAT
9. 10' P.U.E. GRANTED WITH THE FILING OF THIS PLAT
10. 20' PUBLIC WATERLINE EASEMENT GRANTED TO ABCWUA WITH THE FILING OF THIS PLAT

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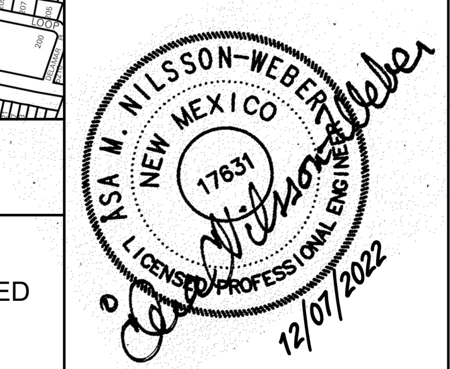

Engineer

5509 Escondida Lane
Albuquerque NM, 87107

ISSUE: DESIGN REVIEW
PROJECT NUMBER: IA 2498
FILE: -
DRAWN BY: BJB/ANW
CHECKED BY: ANW
DATE: 06-2022

No	Date	Description

SHEET TITLE

Grading & Drainage Plan

SHEET NUMBER

CG-101