

**Sensitive Lands Analysis Report
For Tuscany Village, Unit II Subdivision
Albuquerque, NM**

PR-2020-004171



**Prepared by:
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2024

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1. STUDY AREA

The subject site, Tract N-7-A-1 of the Bulk Land Plat of Tanoan Properties, is a 6.653-acre site located at 12300 San Antonio Drive NE, located between Lowell Drive NE and Tennyson Street NE. The site is partially developed and encumbered by several existing drainage related easements managed and maintained by AMAFCA. The developable portion of this tract is proposed to be subdivided into 9 lots (1-9) to provide for residential development consistent with the current R-1D zoning while locating and preserving the existing AMAFCA drainage features within proposed Tract N-7-A-1-A. AMAFCA's staff and board has reviewed the proposed Preliminary Plat for Tuscany Village, Unit II and signed the proposed plat on February 13, 2024.

This report will identify sensitive land features and demonstrate that those features will not be negatively impacted. The sensitive land features are shown in Figure 2 on the following page. Refer to Appendix A for photos of these features.

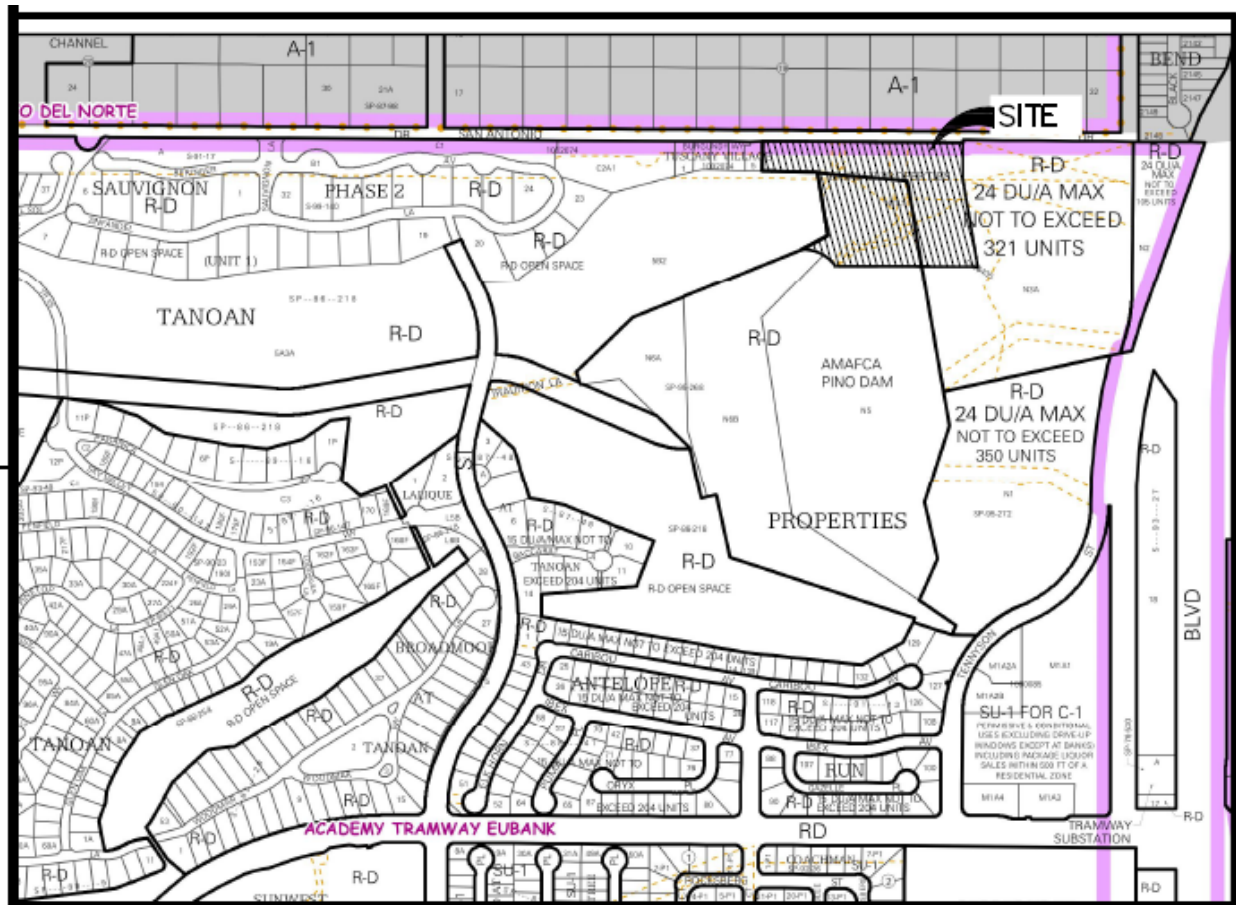
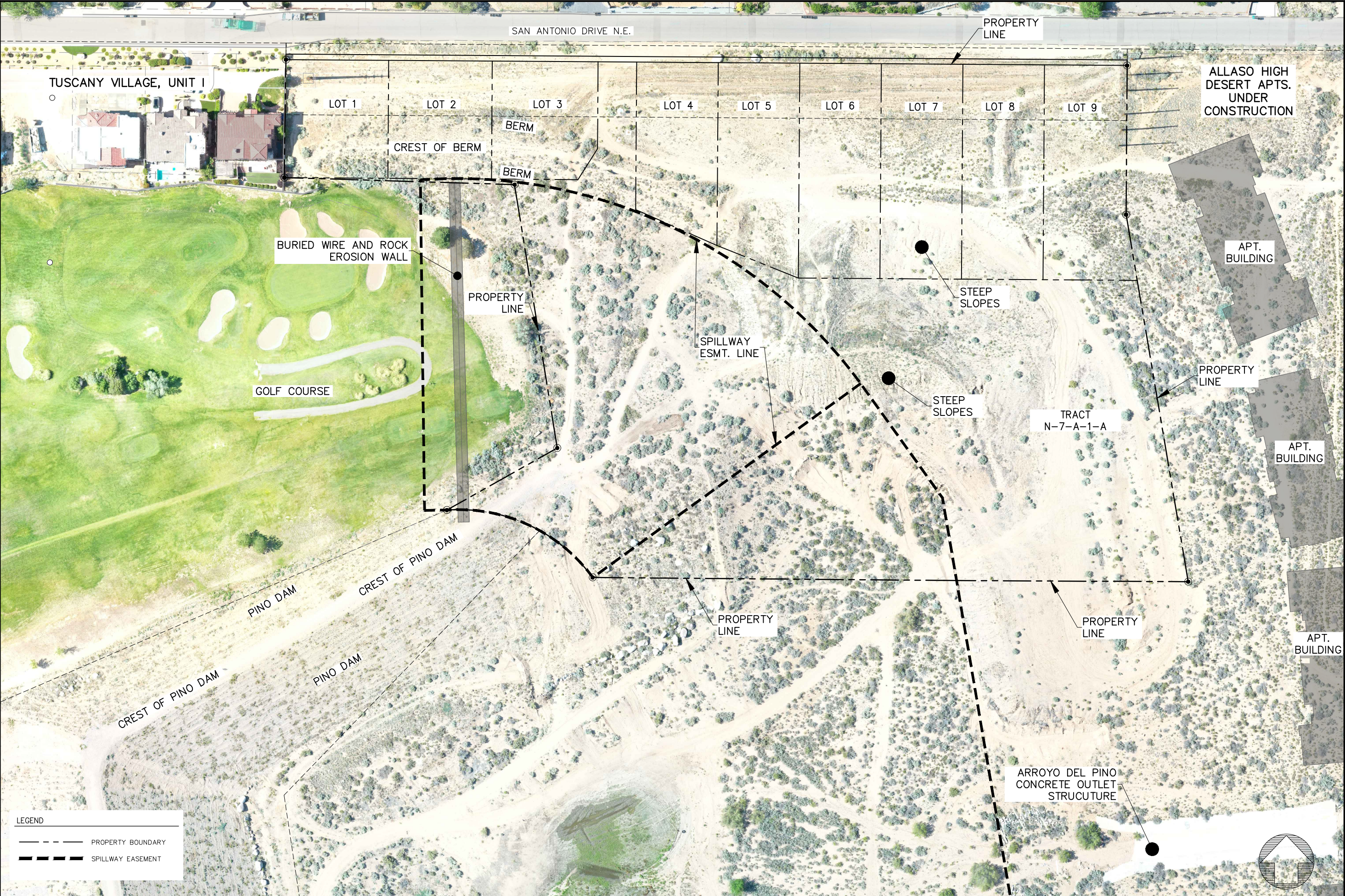


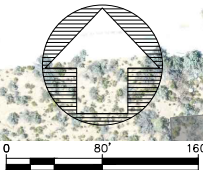
FIGURE 1 : LOCATION MAP

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LEGEND

---	PROPERTY BOUNDARY
---	SPILLWAY EASEMENT



 Fierro & Company ENGINEERING SURVEYING 3201 4th STREET NW, SUITE C ALBUQUERQUE, NEW MEXICO 87107 PH (505) 352-8930 www.fierrocompany.com	
SENSITIVE LANDS ANALYSIS FIGURES FOR TUSCANY VILLAGE, UNIT II SUBDIVISION ALBUQUERQUE, NM	
FIGURE NO.	2
PAGE	2

2. FLOODPLAINS AND FLOOD HAZARD AREAS

2.1 OFF-SITE FLOW

A portion of Pino Dam is located within the subject site. Pino Dam attenuates runoff from a drainage area of approximately 5.0 square miles, which enters the dam via the Arroyo del Pino. The probable maximum flow is approximately 32,000 cfs. The probable maximum storage is approximately 743 acre-feet which is contained within existing easements. The subject site receives minor offsite flows the Allaso High Desert Apartments.

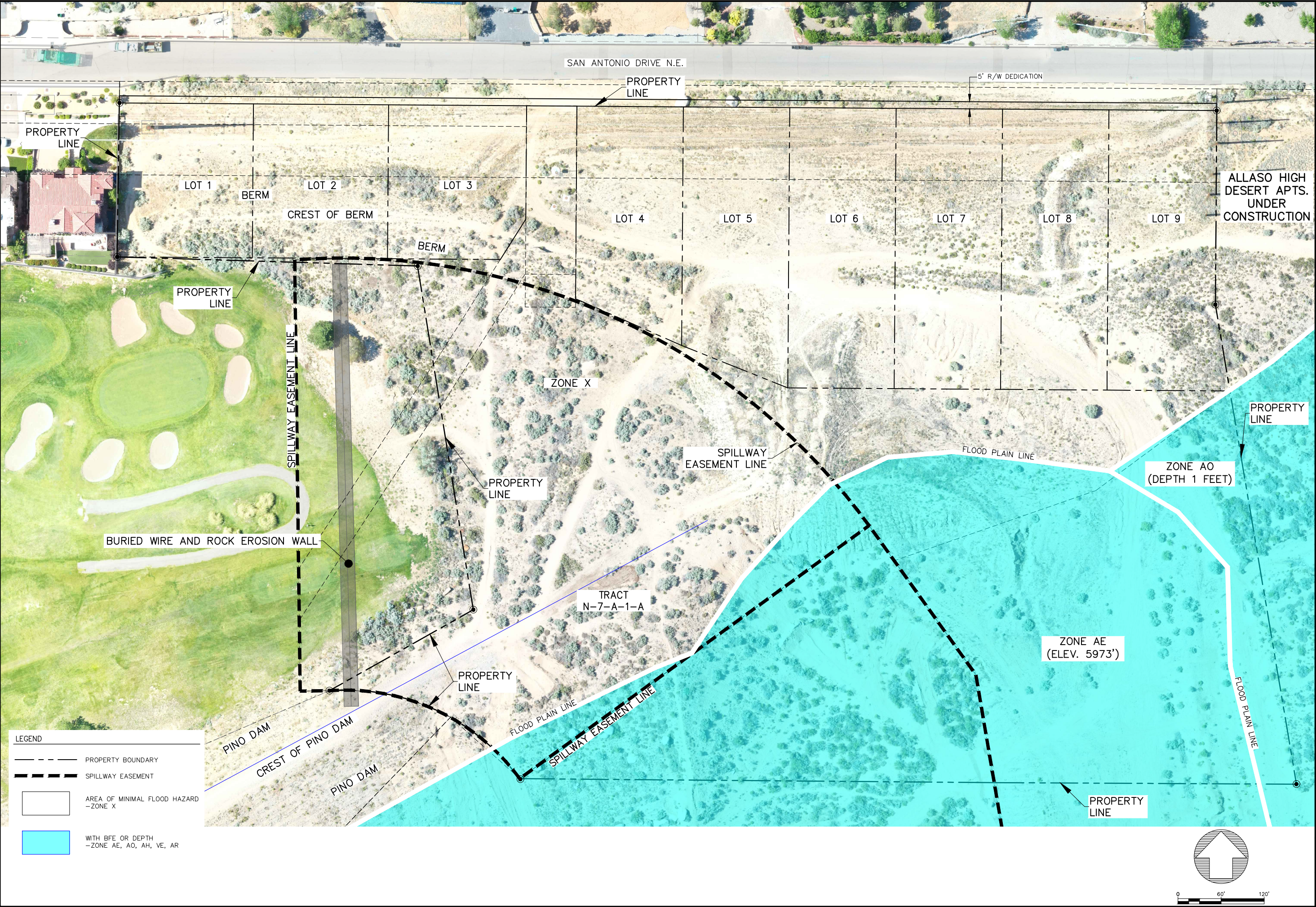
2.2 FLOOD HAZARD/ZONES

The subject site lies partially within the following two zones as depicted on the Federal Emergency Management Agency (F.E.M.A.) Flood Insurance Rate Map No. 35001C0142H, Map revised August 16, 2012:

- 1) Special Flood Hazard Zone AE, Base Flood Elevation 5973'
- 2) Special Flood Hazard Zone AO. Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); Average depths determined. For areas of alluvial fan flooding, velocities also determined.

The proposed residential lots, 1-9, are not located in the above referenced zones. A Firmette of said Flood Insurance Rate Map is located in Appendix B. The flood zones overlaid on the proposed subdivision are shown in Figure 3 on Page 4.

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SENSITIVE LANDS ANALYSIS FIGURES FOR
TUSCANY VILLAGE, UNIT II SUBDIVISION
ALBUQUERQUE, NM

FLOODPLAIN MAP

FIGURE NO. **3**

PAGE : **4**

3. STEEP SLOPES

A slope analysis is shown in Figure 4 on Page 6. The steep slopes on Lots 1-4 are due to a man-made earth berm. This berm will be removed, and the lots graded to accommodate residential lots similar to those in Tuscany Village Unit I. The steep slopes located within Lots 6-9 are at the rear of the lots and will be graded to smooth the slopes. Tract N-7-A-1-A also contains steep slopes which will not be disturbed. A preliminary grading and drainage plan has been approved by City of Albuquerque and AMAFCA.

4. UNSTABLE SOILS

The subject site does not contain unstable soils. It is comprised of Tijeras gravely fine sandy loam (TgB) and Embudo gravelly fine sandy loam (Emb). The soil type coverage within the subdivision is shown in Figure 5 on Page 8. The Embudo gravelly fine sandy loam covers a small area located at the southeast corner of the subdivision. Tijeras gravely fine sandy loam covers the entire portion of Lots 1-9. The soil properties of TgB are described below. Soil reference is from USDA Natural Resource Conservation Service. Soil survey reports are located in Appendix C.

4.1 Hydrologic Soil Group Description

TgB soil type has a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

4.2 Soil Property for Dwellings

TgB is rated “Not Limited”. This indicates that the soil has features that are very favorable for the specified use being Dwellings with basements and without. Good performance and very low maintenance can be expected.

5. WETLANDS

There are no wetlands within the proposed subdivision boundary.

6. ARROYOS

The existing Arroyo del Pino's outlet structure located south of the subdivision is entirely managed and maintained by AMAFCA and will not be disturbed during the future development and construction of the proposed subdivision. There will be no construction activity in close proximity to the Arroyo del Pino.

7. IRRIGATION FACILITIES

The subject site is not within the MRGCD irrigation district and does not contain any irrigation facilities.

8. ESCARPMENTS

There are no escarpments within the proposed subdivision boundary.

9. ROCK OUTCROPPINGS

There are no rock outcrops within the proposed subdivision boundary.

10. LARGE STRAND OF MATURE TREES

There are no large strands of mature trees within the proposed subdivision boundary.

11. ARCHAEOLOGICAL SITES

The subject site was reviewed per the City's Archaeological Ordinance and was issued a "Certificate of No Effect". Refer to Appendix D.

12. PROCEDURES FOR PROTECTING SENSITIVE LAND FEATURES

The sensitive land features identified and described in this report consist of extensive drainage infrastructure on and near the subject site which will be protected and preserved during future construction activities. Since these features are within existing easements and maintained by AMAFCA, AMAFCA's procedures for protecting these features will be followed. AMAFCA's procedures are as follows:

- Proposed drainage easements must be surveyed and staked out prior to adjacent work occurring. This will be to verify that there are no unapproved encroachments into the drainage easements.
- Retaining wall design along the floodplain or drainage easements must be submitted to AMAFCA before construction. This will be to verify reinforcement and determine where the footing of the wall will fall in relation to the drainage easement.

APPENDIX

A

LOOKING EAST



SAN ANTONIO RD.

ALLIASO HIGH DESERT APARTMENTS

ARROYO DEL PINO
OUTLET STRUCTURE

STEEP SLOPES

BERM

BERM CREST

LOOKING WEST



LOOKING SOUTH



ARROYO DEL PINO
OUTLET

PINO DAM

PINO DAM

DAM CREST

LOOKING SOUTHWEST



DAM CREST

PINO DAM

GOLF COURSE

BURIED
EROSION
WALL

LOOKING NORTH



SAN ANTONIO RD.

STEEP
SLOPES

APPENDIX

B

National Flood Hazard Layer FIRMette



106°30'16"W 35°9'47"N



Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS		Without Base Flood Elevation (BFE) Zone A, V, A99
		With BFE or Depth Zone AE, AO, AH, VE, AR
		Regulatory Floodway
OTHER AREAS OF FLOOD HAZARD		0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X
		Future Conditions 1% Annual Chance Flood Hazard Zone X
		Area with Reduced Flood Risk due to Levee. See Notes. Zone X
		Area with Flood Risk due to Levee Zone D
OTHER AREAS		NO SCREEN Area of Minimal Flood Hazard Zone X
		Effective LOMRs
GENERAL STRUCTURES		Area of Undetermined Flood Hazard Zone D
		Channel, Culvert, or Storm Sewer
		Levee, Dike, or Floodwall
OTHER FEATURES		20.2 Cross Sections with 1% Annual Chance Water Surface Elevation
		17.5 Cross Sections with 1% Annual Chance Water Surface Elevation
		Coastal Transect
		Base Flood Elevation Line (BFE)
		Limit of Study
		Jurisdiction Boundary
MAP PANELS		Coastal Transect Baseline
		Profile Baseline
		Hydrographic Feature
		Digital Data Available
		No Digital Data Available
		Unmapped



The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 8/23/2022 at 5:02 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

0 250 500 1,000 1,500 2,000 Feet 1:6,000

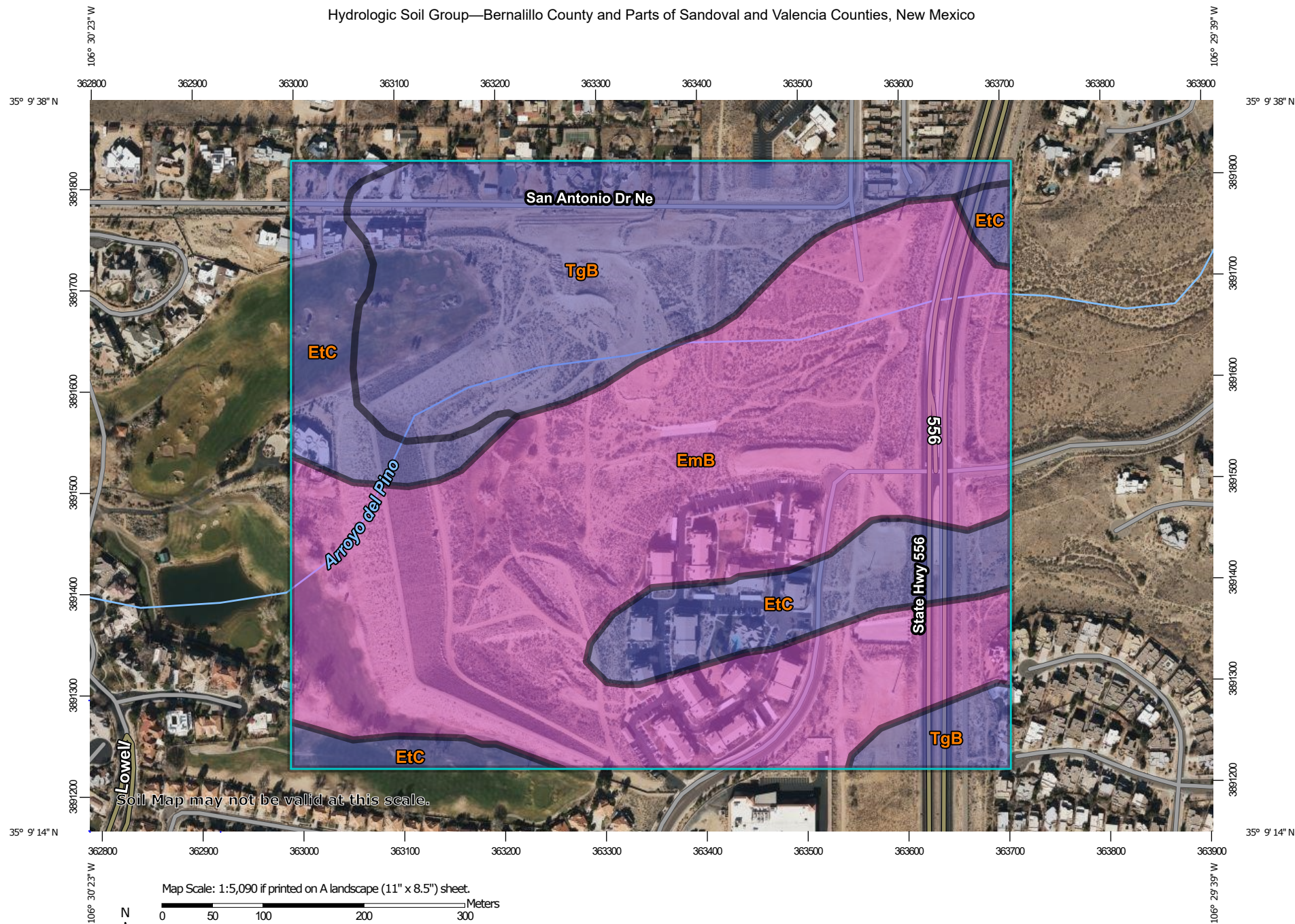
106°29'38"W 35°9'18"N

Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020

APPENDIX

C

Hydrologic Soil Group—Bernalillo County and Parts of Sandoval and Valencia Counties, New Mexico



MAP LEGEND

Area of Interest (AOI)









 Area of Interest (AOI)

Soils

Soil Rating Polygons

 A
 A/D
 B
 B/D
 C
 C/D
 D
 Not rated or not available

Soil Rating Lines


 A
 A/D
 B
 B/D
 C
 C/D
 D
 Not rated or not available

Soil Rating Points

 A
 A/D
 B
 B/D

 C
 C/D
 D
 Not rated or not available

Water Features

 Streams and Canals

Transportation

 Rails
 Interstate Highways
 US Routes
 Major Roads
 Local Roads

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
 Web Soil Survey URL:
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Bernalillo County and Parts of Sandoval and Valencia Counties, New Mexico
 Survey Area Data: Version 18, Sep 7, 2023

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Nov 22, 2020—Jan 1, 2021

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
EmB	Embudo gravelly fine sandy loam, 0 to 5 percent slopes	A	61.1	57.4%
EtC	Embudo-Tijeras complex, 0 to 9 percent slopes	B	17.4	16.3%
TgB	Tijeras gravelly fine sandy loam, 1 to 5 percent slopes	B	27.9	26.2%
Totals for Area of Interest			106.4	100.0%

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Dwellings and Small Commercial Buildings

Soil properties influence the development of building sites, including the selection of the site, the design of the structure, construction, performance after construction, and maintenance. This table shows the degree and kind of soil limitations that affect dwellings and small commercial buildings.

The ratings in the table are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect building site development. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the table indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

Dwellings are single-family houses of three stories or less. For dwellings without basements, the foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of 2 feet or at the depth of maximum frost penetration, whichever is deeper. For dwellings with basements, the foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of about 7 feet. The ratings for dwellings are based on the soil properties that affect the capacity of the soil to support a load without movement and on the properties that affect excavation and construction costs. The properties that affect the load-supporting capacity include depth to a water table, ponding, flooding, subsidence, linear extensibility (shrink-swell potential), and compressibility. Compressibility is inferred from the Unified classification. The properties that affect the ease and amount of excavation include depth to a water table, ponding, flooding, slope, depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, and the amount and size of rock fragments.

Small commercial buildings are structures that are less than three stories high and do not have basements. The foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of 2 feet or at the depth of maximum frost penetration, whichever is deeper. The ratings are based on the soil properties that affect the capacity of the soil to support a load without movement and on the properties that affect excavation and construction costs. The properties that affect the load-supporting capacity include depth to a water table, ponding, flooding, subsidence, linear extensibility (shrink-swell potential), and compressibility (which is inferred from the Unified classification). The properties that affect the ease and amount of excavation include flooding, depth to a water table, ponding, slope, depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, and the amount and size of rock fragments.

Information in this table is intended for land use planning, for evaluating land use alternatives, and for planning site investigations prior to design and construction. The information, however, has limitations. For example, estimates and other data generally apply only to that part of the soil between the surface and a depth of 5 to 7 feet. Because of the map scale, small areas of different soils may be included within the mapped areas of a specific soil.

The information is not site specific and does not eliminate the need for onsite investigation of the soils or for testing and analysis by personnel experienced in the design and construction of engineering works.

Government ordinances and regulations that restrict certain land uses or impose specific design criteria were not considered in preparing the information in this table. Local ordinances and regulations should be considered in planning, in site selection, and in design.

Report—Dwellings and Small Commercial Buildings

[Onsite investigation may be needed to validate the interpretations in this table and to confirm the identity of the soil on a given site. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. The table shows only the top five limitations for any given soil. The soil may have additional limitations]

Dwellings and Small Commercial Buildings—Bernalillo County and Parts of Sandoval and Valencia Counties, New Mexico							
Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
EmB—Embudo gravelly fine sandy loam, 0 to 5 percent slopes							
Embudo	85	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00

Dwellings and Small Commercial Buildings--Bernalillo County and Parts of Sandoval and Valencia Counties, New Mexico							
Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
EtC—Embudo-Tijeras complex, 0 to 9 percent slopes							
Embudo	50	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
Tijeras	35	Not limited		Not limited		Somewhat limited	
						Slope	0.14
TgB—Tijeras gravelly fine sandy loam, 1 to 5 percent slopes							
Tijeras	80	Not limited		Not limited		Not limited	

Data Source Information

Soil Survey Area: Bernalillo County and Parts of Sandoval and Valencia Counties, New Mexico
 Survey Area Data: Version 18, Sep 7, 2023

APPENDIX

D



City of Albuquerque

P.O. Box 1293 Albuquerque, NM 87103

Planning Department

Alan Varela, Interim Director

Tim Keller, Mayor
Sarita Nair, CAO

DATE: June 12, 2023

SUBJECT: Albuquerque Archaeological Ordinance - Compliance Documentation

Case Number(s): PR-2020-004171
Agent: Robert Fierro, Fierro & Company
Applicant: William E. Galbreth Land Development Co LLC
Legal Description: Tract N-7-A-1 of the Bulk Land Plat of Tanoan Properties
Zoning: R1-D
Acreage: 6.653
Zone Atlas Page(s): E-22-Z

CERTIFICATE OF NO EFFECT: ☒ Yes ☐ No

CERTIFICATE OF APPROVAL: ☐ Yes ☒ No

SUPPORTING DOCUMENTATION:

Historic Google Earth aerial photographs, NMCRIS Records

SITE VISIT: N/A

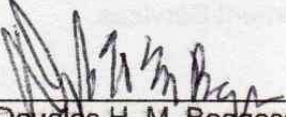
RECOMMENDATIONS:

The property appears to have been disturbed by earthmoving equipment by 1996.

Therefore: CERTIFICATE OF NO EFFECT ISSUED-under 6-5(A) (3)(a) criterion 2 "The property has been disturbed through previous land use"

SUBMITTED BY:

SUBMITTED TO:


Douglas H. M. Boggess, MA, RPA Date
Senior Principal Investigator
Acting City Archaeologist
Lone Mountain Archaeological Services, Inc.

Planning, Development Services