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STAFF REPORT

Date: :	March 31, 2022
То:	TRPA Hearings Officer
From:	TRPA Staff
Subject	Eget Land Capability Challenge; 45 East Tuscarora Road, Washoe County, NV; APN 123-136-02, TRPA File Number LCAP2020-0422

Proposed Action:

Hearings Officer review and approve the proposed Land Capability Challenge.

Staff Recommendation:

Staff recommends the TRPA Hearings Officer approve the land capability challenge on the subject parcel. The challenge changes Class 1a (RcF, 30 to 50 percent slopes and RtF, 30 to 50 percent slopes) 8,351 sq. ft. (100 percent of parcel) to Class 4 (XXX, 16 to 30 percent slopes) 2,394 sq. ft. (29 percent of parcel) and Class 6 (XXX, 0 to 16 percent slopes) 5,957 sq. ft. (71 percent of parcel).

Background:

The subject parcel is shown as Class 1a on TRPA Land Capability Overlay Maps (aka Bailey Land Capability maps). The *Soil Survey of Tahoe Basin Area, California-Nevada* (Rogers, 1974) places the majority of the subject parcel in the RcF, Rock outcrop- Cagwin complex, 30 to 50 percent slopes with a small area of RtF, Rock outcrop- Toem complex, 30 to 50 percent slopes. The updated *Soil Survey of Tahoe Basin Area, California, and Nevada* (NRCS, 2007) places this parcel in mapunit 7412, Cagwin-Rock outcrop complex, 15 to 30 percent slopes. A site assessment completed in 1999 maps the parcel as Capability Class 1a. This parcel has a geomorphic mapping of C2- Stream cut granitic slopes, strongly dissected lands (high hazard lands). The Cagwin soils are moderately deep, somewhat excessively drained soils that formed in material weathered from granitic rock. Cagwin soils have loamy coarse sand textures in the A-horizon, with loamy coarse sand or coarse sand subsurface textures in the upper 27 inches. Weathered granitodiorite grus is encountered between 20 and 40 inches below ground surface. The Toem soils have gravelly coarse sand surface textures throughout. They are shallow soils with 8 to 20 inches of soil over weathered granodiorite grus.

This land capability challenge was filed by the landowner, Jeff Eget, on October 19, 2020. Wayne Ford is the owner's representative. A private soil consultant, Davis² Consulting Earth Scientists, was hired to develop a land capability challenge assessment and report. TRPA consultant, Marchel Munnecke, visited the site on November 5, 2020. She reviewed one soil pit that was logged and described by Davis² Consulting and noted one spot observation.

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Findings:

One soil pit was excavated by backhoe to 72 inches. The pit was located west of the residence on natural hillslope. The soil is characterized by a gravelly loamy coarse sand surface texture, gravelly sandy loam, very gravelly sandy loam, and gravelly sandy clay loam subsurface textures. This soil formed in colluvium from volcanic parent material with older lake deposits below 48 inches. This soil is very deep, well drained, and is a member of Soil Hydrologic Group B. This parcel has an open forest composed of Jeffrey pine, incense cedar and white fir with a few montane shrubs such as greenleaf manzanita, huckleberry oak, antelope bitterbrush and prostrate ceanothus in the understory. There is also a variety of horticultural species. The surface is covered with mulch and native litter and duff.

A spot observation was taken by Davis² Consulting near the south east corner of the parcel. Ms. Munnecke observed the small road cut in this area, and it indicates that the soil is similar to the soil described in the pit and is also deeper than 40 inches in this area.

The soil at this site is not the Cagwin or Toem soil that was mapped on the parcel in the <u>Soil</u> <u>Survey of Tahoe Basin Area, California-Nevada</u> (Rogers, 1974). This soil is deeper than 70 inches, and the Cagwin soils are 20 to 40 inches deep, and the Toem soils are less than 20 inches deep over decomposed granitic bedrock. In addition, this soil formed in colluvium from volcanic parent material over old lake deposits, rather than in granitic grus material. This soil is dissimilar to the Inville soils because they have finer textures in the lower horizons. This soil is most similar to the Jorge soil but has old lake deposits in the lowest horizon rather than volcanic residuum. Therefore, this soil is not a mapped soil in the *Soil Survey of the Tahoe Basin Area, California-Nevada* (Rogers, 1974) and is an unnamed (XXX) soil.

Table 4 in *the Land-Capability Classification of the Lake Tahoe Basin, California and Nevada* is utilized to classify unnamed soils. Based on Table 4, this parcel is XXX-Class 6, 0- 16 percent slopes and XXX-Class 4, 16-30 percent slopes. A small area along East Tuscarora Road and Goshute Road, where the slope has been altered by road cut (>30% slopes) was included in the XXX-Class 4 area. A small area off Teresa Court, where fill material was placed for parking, was adjusted to represent the natural slope class of less than 16 percent slope. This adjustment differs from the proposed land capability assessment submitted by Davis² Consulting by changing 759 square feet from XXX-Class 4 to XXX-Class 6. Additional adjustments have been made to accommodate for the proposed natural slopes on the parcel. See the discussion on the next page. The final Land Capability results are displayed in the following table.

Land Capability District	Area (sq. ft.) 6/1/99 LCV	Area (sq. ft.) 5/13/21 LCC	Area (sq. ft.) 5/27/21 LCC	Area (sq. ft.) 4/7/22 LCC
Class 1a (RcF and RtF, 30				
to 50% slopes)	8,351	0	0	0
Class 6 (XXX, 0 to 16%				
slopes)	0	3,293	4,927	5,957
Class 4 (XXX, 16 to 30 %				
slopes)	0	5,058	3,424	2,394
Total Parcel Area	8,351	8,351	8,351	8,351

The table below summarizes the changes in land capability as concluded by this land capability challenge.

History of previous hearings:

This land capability challenge has been presented at two prior Hearings Officer meetings. The first meeting occurred on May 13, 2021. The staff recommendation at that time was to delineate the Class 4 and Class 6 areas based on the existing slope (Attachment F), resulting in 3,293 square feet of Class 6 and 5,058 square feet of Class 4. The applicant disagreed with the staff findings because they believed that a portion of the parcel mapped as Class 4 historically (prior to development) had slopes less than 16 percent and should be Class 6. The Hearings Officer continued the item so that there could be more discussion between TRPA staff and the applicant.

TRPA staff and the applicant/applicant's representatives met on site on May 21, 2021 to review and discuss the existing slopes in comparison to what the historic slopes may have been. The item was then heard again at the May 27, 2021 hearing. Based on the field visit and review of additional information provided by the applicant, TRPA adjusted the recommended land capability delineation to include 4,927 square feet of Class 6 and 3,424 square feet of Class 4. Again, the applicant rejected TRPA staff's recommendation and the Hearings Officer again continued the item so the applicant could provide additional information.

Since the last hearing, the applicant hired a surveyor to produce a new map of the parcel that has topographic contour lines extending beyond the parcel boundary. The applicant then infers natural slope based on slope contours that presumably represent the natural slopes based on undisturbed slopes (See Attachment D). At the request of Mr. Ford, this information was reviewed. TRPA is in partial agreement with the applicant but concludes that a portion of the area proposed as Class 6 by the applicant, has slopes greater than 16 percent on the natural slope analysis submitted by the applicant and remains Class 4 (Attachment E). Based on the new information provided, TRPA staff has again adjusted the land capability delineations to account for the assumed natural slope and now proposes 5,957 square feet of Class 6 and 2,394 square feet of Class 4. TRPA staff still does not believe there is sufficient evidence that the center of the parcel was historically less than 16 percent slope (the topographic survey submitted by the applicant shows slopes measuring between 15.2 percent and 16.5 percent and existing slopes measuring between 17 and 22 percent- Attachment E).

BAILEY LAND CAPABILITY CHALLENGE FINDINGS

Site Information			
Assessor's Parcel Numbers: (APN)	123-136-02		
TRPA File No. / Submittal Date:	LCAP2020-0442 / 10/19/2020		
Owner or Applicant:	Jeff Eget		
Address:	45 East Tuscarora Road, Crystal Bay, NV 89451		

Environmental Setting			
Bailey Soil Mapping Unit ¹ /	RcF, Rock outcrop- Cagwin complex, 30 to 50 percent		
Hydrologic Soil Group (HSG) / Land	slopes / HSG C/ C2 (Stream cut granitic slopes,		
Class / Geomorphic Hazard Unit	strongly dissected lands (high hazard lands) and RtF,		
	Rock outcrop - Toem complex, 30 to 50 percent slopes		
	/ HSG C/ C2 (Stream cut granitic slopes, strongly		
	dissected lands (high hazard lands)		
Soil Parent Material	Volcanic colluvium over old lake deposits.		
Slopes and Aspect	13 to 50 percent; sloping to the east.		
Elevation and Datum	6,522 to 6,555 feet, Wayne Ford Residential Designer,		
	10/14/20 site plan.		
Rock Outcrops and Surface	There is no evidence of bedrock near the surface. A		
Configuration	few boulders are on the surface. They are identified		
	on the site plan.		
SEZ and Hydrology Source	NA		
Vegetation	This parcel has an open forest composed of Jeffrey		
	pine, incense cedar, and white fir with some montane		
	shrubs such as greenleaf manzanita, huckleberry oak,		
	antelope bitterbrush and prostrate ceanothus in the		
	understory.		
Ground Cover Condition	Good (vegetation 50%, duff/mulch 75% cover)		
Site Features	Residence, detached garage, cabin, paved driveway,		
	skirted deck, two sheds, rock walls, stone paths, gravel		
	areas, and compacted dirt driveways.		

Field Investigation and Procedures			
Consultant and Address	Davis ² Consulting Earth Scientists		
	P.O. Box 734, Georgetown, CA 95634		
TRPA Staff Field Dates	October 5, 2020		
SEZ Mapping / NRCS Hydric Soil	None present		
Number of Soil Pits or Auger Holes	1 backhoe pit to about 72 inches and a spot		
and Description Depth	observation.		
Additional or Repetitive TRPA	NA		
Sample Locations			

¹ TRPA currently relies upon the <u>Soil Survey of Tahoe Basin, California-Nevada</u> (Rogers and Soil Conservation Service, 1974), which the Bailey Land Capability system is predicated upon.

Representative Soil Profile	See Attachment B, Land Capability Challenge, Eget
Descriptions	Project, Incline Village, Nevada.
Areas Not Examined	Residence, detached garage, cabin, paved driveway,
	skirted deck, two sheds, rock walls, stone paths, gravel
	areas, and compacted dirt driveways.

	TRPA Findings
2006 Soil Survey Map Unit	7412, Cagwin-Rock outcrop complex, 15 to 30 percent slopes (Class 2).
Consultant Soil Mapping Determination and Rationale	The soil at this site is not the Cagwin or Toem soil that was mapped on the parcel in the <u>Soil Survey of Tahoe</u> <u>Basin Area, California-Nevada</u> (Rogers, 1974). This soil is deeper than 70 inches, and the Cagwin soils are 20 to 40 inches deep, and the Toem soils are less than 20 inches deep over decomposed granitic bedrock. In addition, this soil formed in colluvium from volcanic parent material over old lake deposits, rather than in granitic grus material. This soil is dissimilar to the Inville soils because they have finer textures in the lower horizons. This soil is most similar to the Jorge soil, but has old lake deposits in the lowest horizon rather than volcanic residuum. Therefore, this soil is not a mapped soil in the <u>Soil Survey of the Tahoe</u> <u>Basin Area, California-Nevada</u> (Rogers, 1974) and is an unnamed (XXX) soil.
	Table 4 in the Land-Capability Classification of the Lake Tahoe Basin, California and Nevada is utilized to classify unnamed soils. Based on Table 4, this parcel is Class 6- XXX, 0- 9 percent slopes and Class 4- XXX, 16-30 percent slopes.
Slope Determination	13 to 50 percent slopes.
TRPA Conclusion(s)	TRPA concurs with a portion of the applicants' findings.
Applicable Area	See parcel map for soil delineations.

Contact Information:

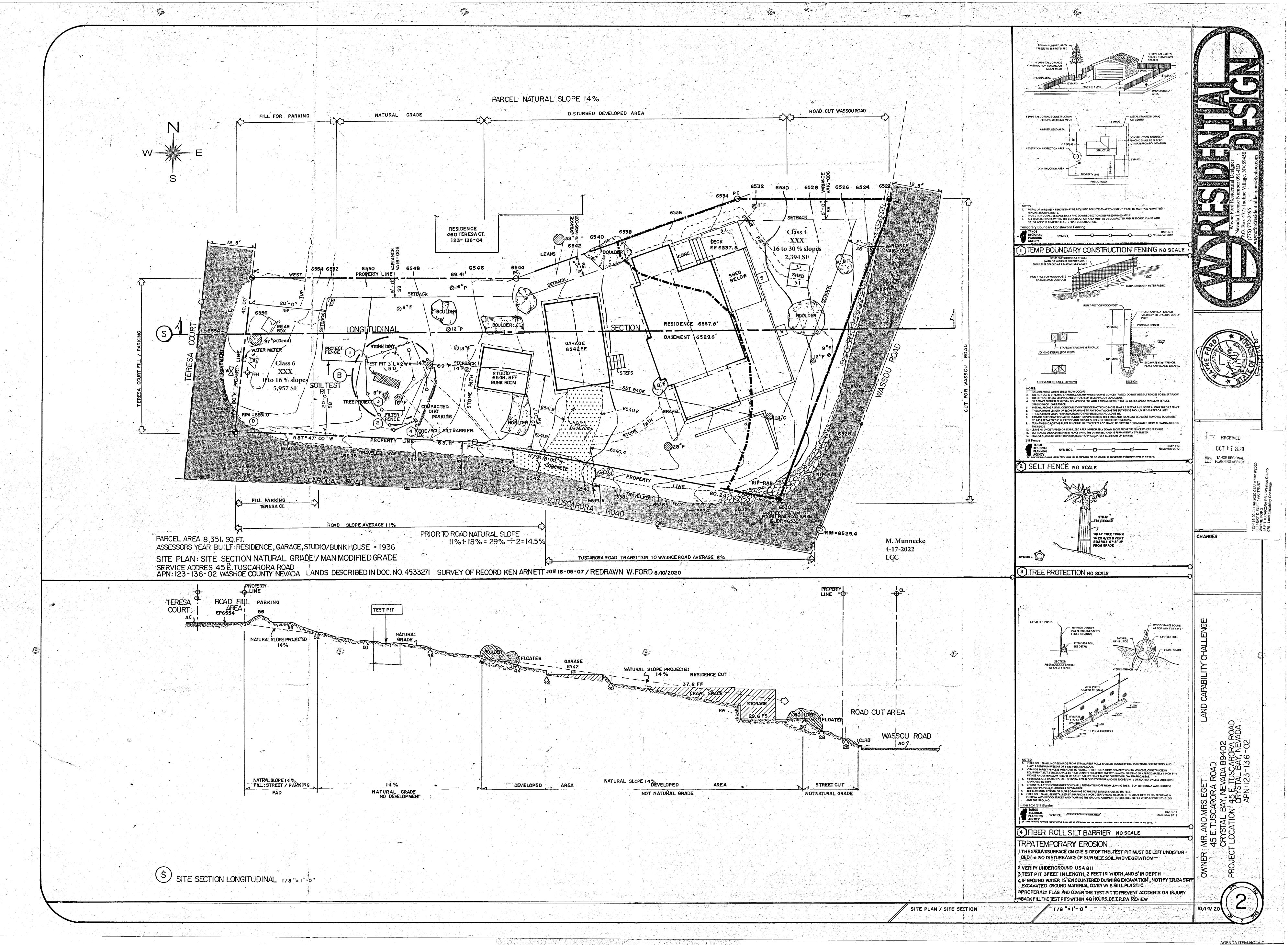
For questions regarding this agenda item, please contact Senior TRPA Planner Julie Roll at jroll@trpa.gov.

Attachments:

- A. Site Plan with Proposed TRPA Land Capability Delineations
- B. Land Capability Challenge Report, Davis 2 Consulting
- C. Photographs
- D. Topo with proposed natural slopes provided by applicant
- E. TRPA slope analysis
- F. Parcel map from 5/13/21 Hearing

Attachment A

Site Plan with Proposed TRPA Land Capability Delineations



Attachment B

Land Capability Challenge Report, Davis 2 Consulting

DAVIS² CONSULTING EARTH SCIENTISTS P.0. Box 734 · Georgetown, CA 95634 · Tel. (530) 559-1405; <u>davis2consulting@sbcglobal.nct</u>

Land Capability Challenge Eget Project Incline Village, Nevada APN 125-136-02

October 5, 2020

INTRODUCTION

A soil investigation was conducted on the parcel on the Eget parcel on 45 East Tuscarora Road, Incline Village, Washoe County, Nevada. The objective of the study was to identify soils and other features and relate them to Land Capability, which is administered by the Tahoe Regional Planning Agency (TRPA) for the purpose impervious coverage regulation, by Chapter 30 of the Code of Ordinances.

The parcel supports an existing single-family residential dwelling on 0.19 acres of land, located at 45 E. Tuscarora Road. This work is advanced at the request of Mr. Jeff Eget.

Soil information contained in this report is for the strict use of land capability and it should not be used for building foundation design, slope stability, hazard waste assessment or seismic analyses.

ENVIRONMENTAL SETTING

The site is located at 45 E. Tuscarora Road, Incline Village, Nevada. Vegetation consists of Jeffrey pine, white fir, manzanita and squaw carpet. Slopes range between 11 and 18 percent on easterly aspect. There are no stream environment zones (SEZ) influencing this parcel.

Soils are shown on TRPA maps as RcF (Rock outcrop – Cagwin, 30 to 50 percent slopes) and RtF (Rock outcrop – Toem, 30 to 50 perent slopes). Geology (Bernett, 1968) is characterized as Tv^a (Andesite). Bailey's (1974) geomorphic analysis shows the parcel within D₂ (Headlands).

METHODOLOGY

The parcel was surveyed as well as areas nearby. A site considered representative of the landform was chosen and an excavation was placed to open and examine the soil profile in detail. Standards of the National Cooperative Soil Survey were used to describe and interpret soil physical properties. Information gathered at the site was compared to the *Soil Survey of the Lake Tahoe Basin, California-Nevada* (Rogers et al, 1974) and to the *Land-Capability Classification of the Lake Tahoe Basin, California-Nevada* (Bailey, 1974) for proper placement in the appropriate land capability class. A detailed topographic base map supplied by X was available in the field for ground control and slope analysis. Information pertaining to land capability districts is shown on the base map.

FINDINGS

Soils are found to be very deep and well drained, members of Soil Hydrologic Group B. They can be characterized having dark brown loamy coarse sand top soil approximately 15 inches thick, over brown very gravelly sandy loam or sandy clay loam subsoils to 72 inches depth. These soils have developed in colluvium over older lake terrace.

These soils are different than those shown on the TRPA map sheet because they developed from other than a rock outcrop complex or residual parent rock of granitic composition, instead developed in colluvium of andesitic parent materials. These soils are unnamed in the Incline Village area. Slopes across the parcel are less steep than either the RcF or RtF units, they vary from the Inville series because they have a clay loam subsoil as opposed to loamy coarse sand and they are unlike the Jorge or Tahoma series which are derived from residual volcanic parent materials.

CONCLUSIONS AND RECOMMENDATIONS

Soils found are unnamed (XXX) and place in Bailey's (1974) Land Capability Classification of Lake Tahoe Lands, California-Nevada Class 6 where slopes range between 0-16 percent slopes; Class 4 where slopes range between 16 and 30 percent slope.

Please refer to the following soil profile description(s) that support the findings and the attached map showing the spatial distribution of the appropriate land capability classes on the parcel.

Respectfully submitted,

ily wk

Sidney/W. Davis, CPSS /SC No. 1031

Representative Soil Profile Description

- Oi 0 to 1 inches, chipped vegetative material.
- A 1 to 6 inches, brown (10YR 5/3) gravely loamy coarse sand, dark brown (10YR 3/3) moist; moderate fine granular structure; soft, loose, nonsticky and nonplastic; many very fine, fine roots; many very fine and fine interstitial pores; 15 percent gravel; clear wavy boundary.
- AB 6 to 15 inches, yellowish brown (10YR 5/4) gravelly sandy loam, near loamy sand, dark brown (10YR 3/4) moist; weak fine subangular blocky structure; hard,

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Land Capability Challenge, Eget Project, Incline Village, Nevada APN 125-136-02

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friable, nonsticky and nonplastic; many fine, medium and coarse roots; many fine and medium interstitial pores; 15 percent gravel; gradual wavy boundary.

- Bt1 15 to 36 inches, pale brown (10YR 6/3) very gravelly sandy loam, dark brown (10YR 4/3), moist; stron medium subangular blocky structure; hard, friable, nonsticky and slightly plastic; common fine, medium and coarse roots; many fine and medium tubular and interstitial pores; many moderatly thick clay films on ped faces and lining pores; 30 percent gravel and 15 percent stone; clear wavy boundary.
- Bt2 36 to 48 inches, pale brown (10YR 6/3) very gravelly sandy loam, dark brown (10YR 4/3), moist; strong medium subangular blocky structure; hard, friable, nonsticky and slightly plastic; common fine and medium, few coarse roots; many medium thick clay films on ped faces, lining pores and bridging sand grains; 30 percent gravel, 5 percent stone; clear smooth boundary.
- 2Bt3 48 to 72 inches, light yellowish brown (10YR 6/4) gravelly sandy clay loam, dark yellowish brown (10YR 4/4), moist; strong coarse subangular blocky structure; hard, firm, sticky and plastic; few fine, medium and coarse roots; many thick clay films on ped faces and lining pores; 15 percent gravel, 5 percent stone.
- Notes: Colluvium over old lake terrace (?). Skeletal control section. Roots penetrate to beyond 72 inches depth.

Soil Series: Unnamed (XXX) Soil Classification: Loamy-skeletal, mixed, frigid, Typic Haploxeralfs Soil Drainage Class: Well drained Hydrologic Soil Group: B

Site Photos:





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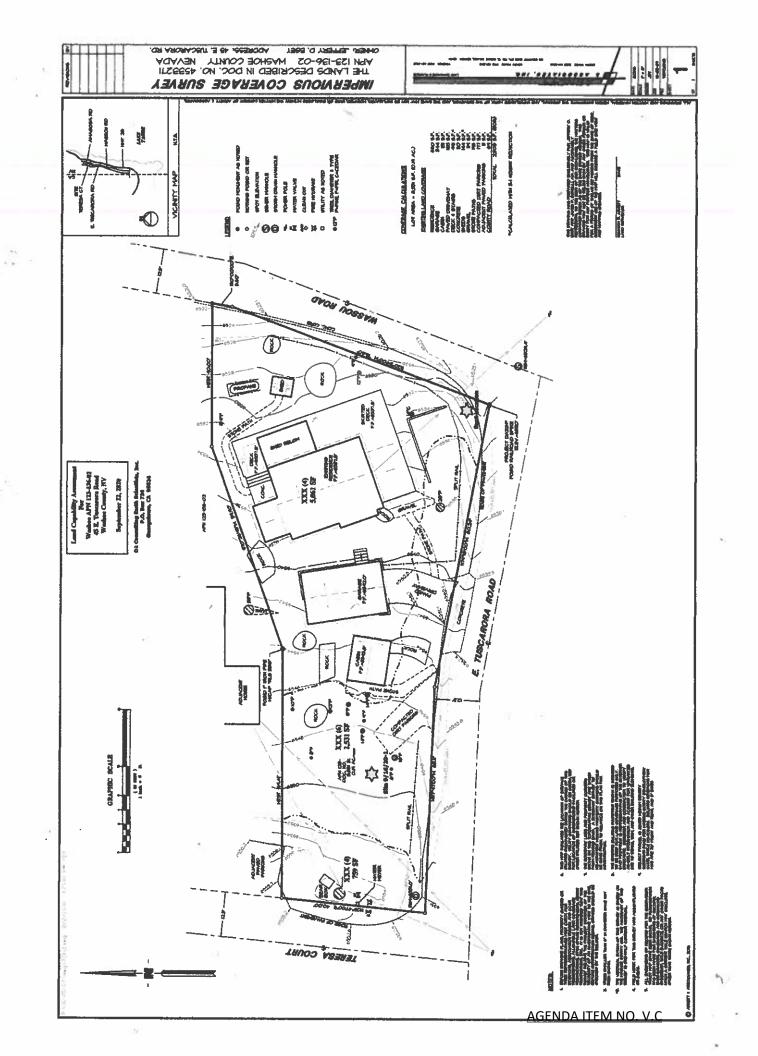
AGENDA ITEM NO. V.C



Figure 2 - Road cut on E. Tuscarora Road



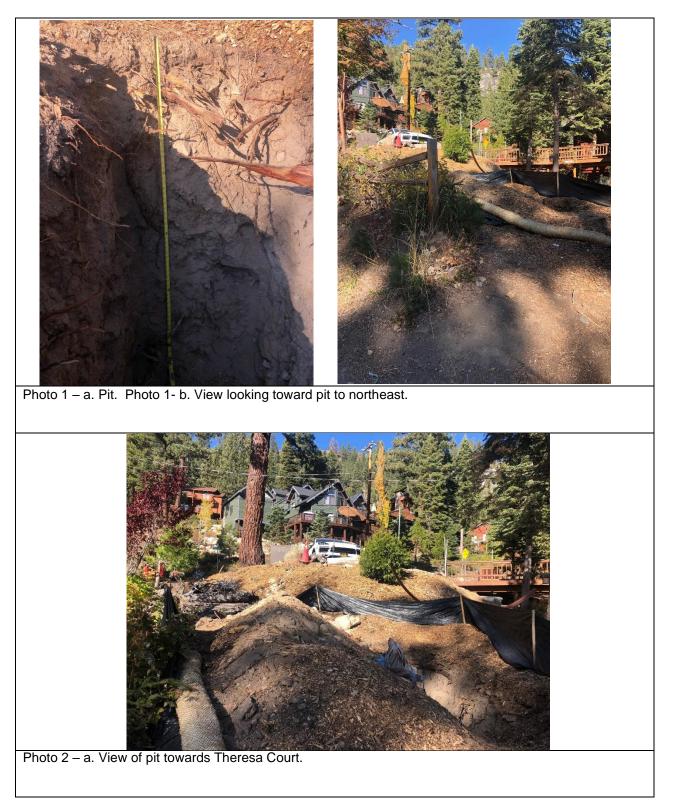
Figure 3 - Landscape looking west from intersection of Wassou and Tuscarora Roads.



Attachment C

Photographs

SITE PHOTOGRAPHS



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AGENDA ITEM NO. V.C



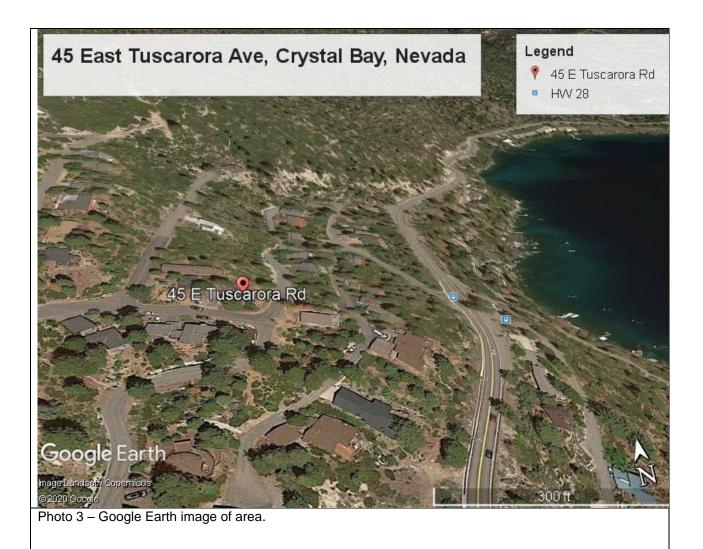
Photo 3 - a. View across driveway to east, along the southern edge of the parcel. Photo 3- b. View looking east along north boundary of parcel.



Photo 4- a. View of residence from East Tuscoara Ave and Goshute Road Junction.

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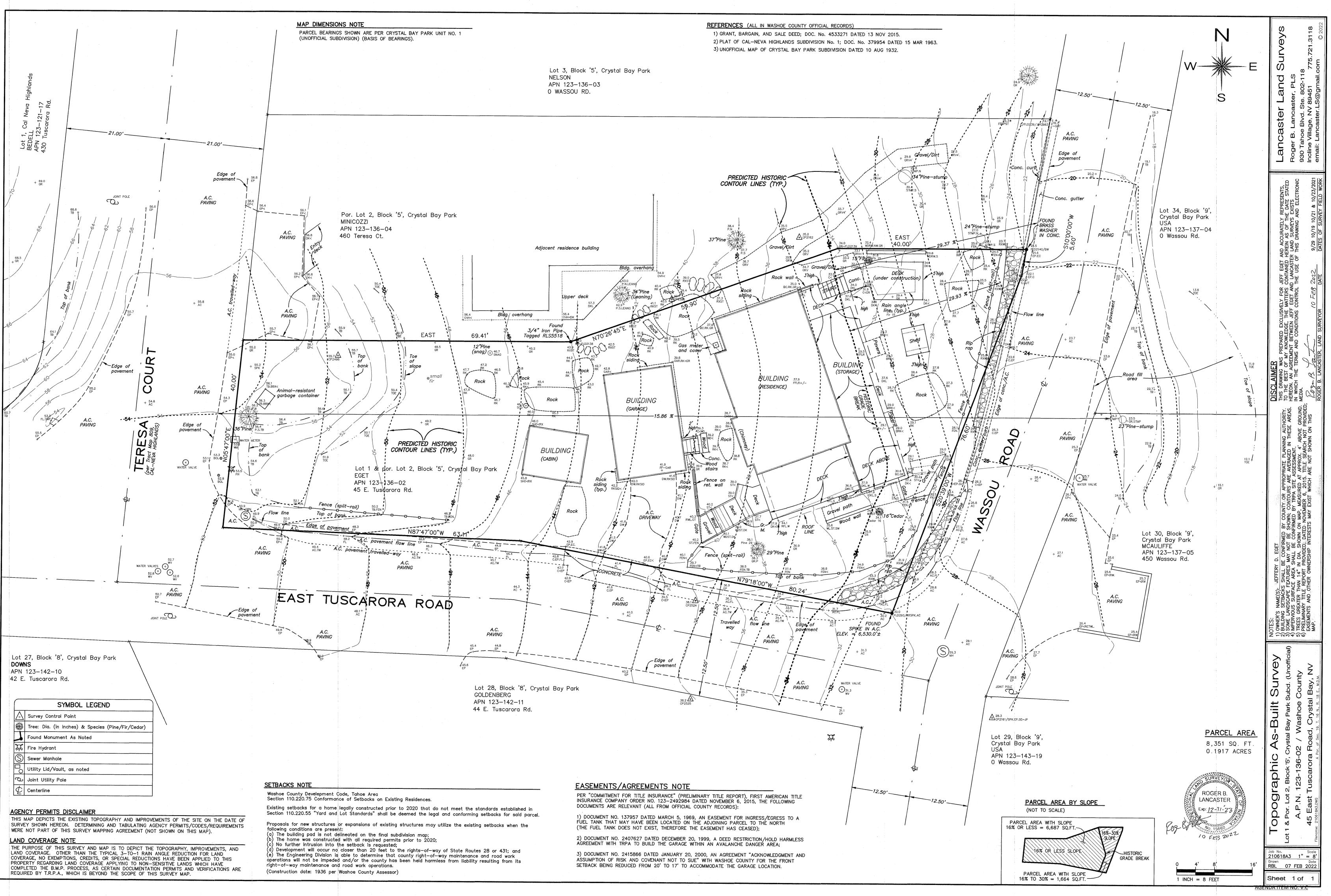
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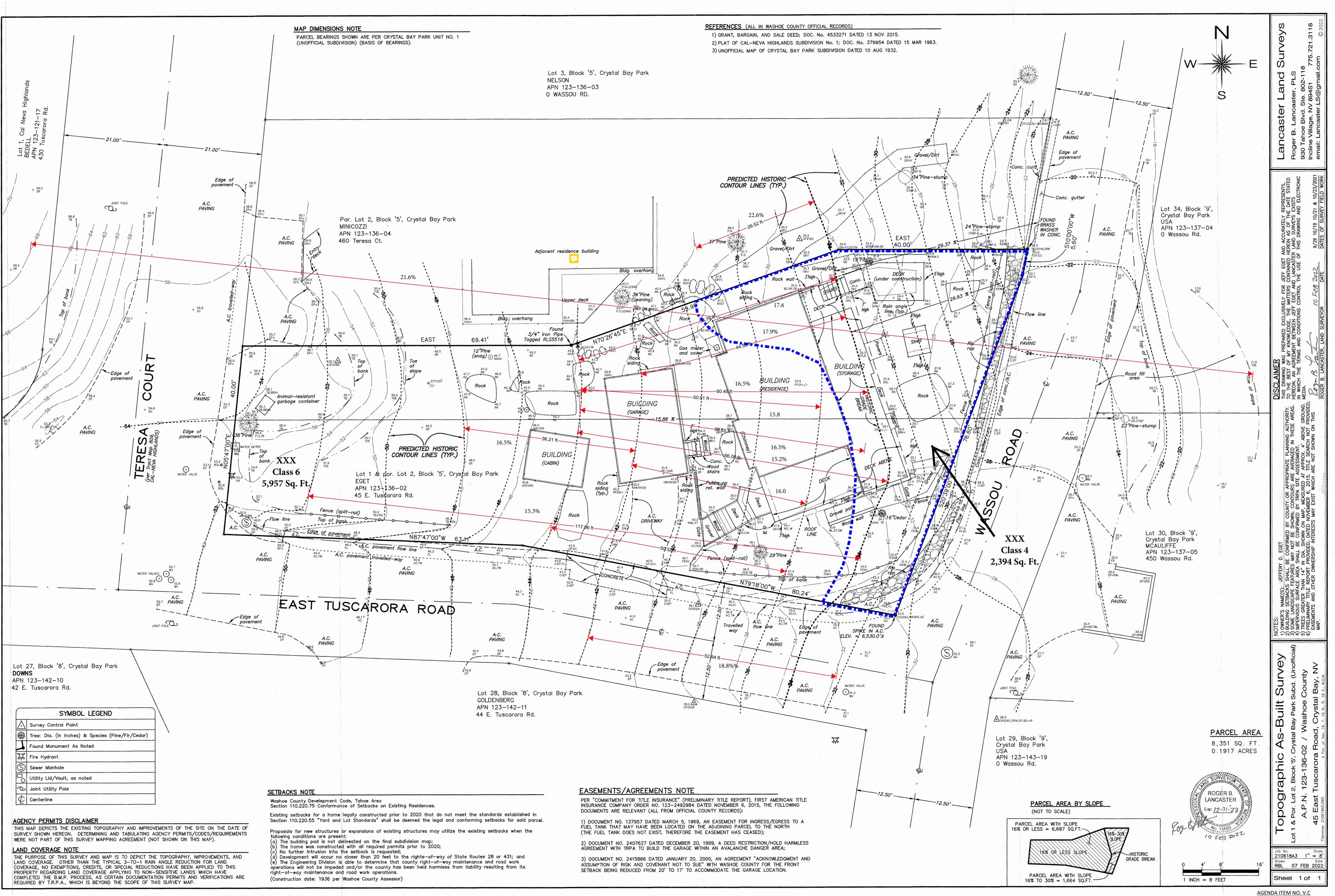
Attachment D

Topo with proposed natural slopes provided by applicant



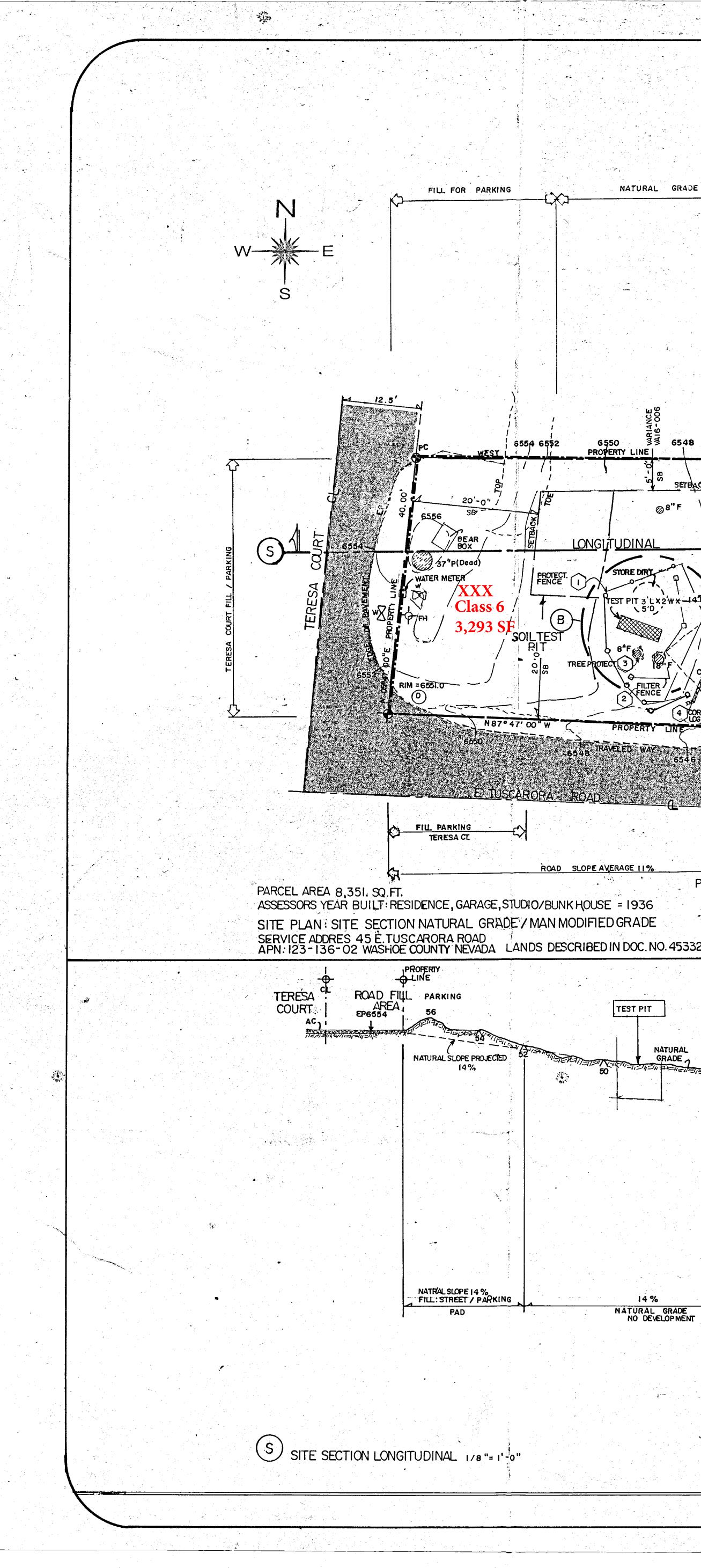
Attachment E

TRPA slope analysis



Attachment F

Parcel map from 5/13/21 hearing



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14%	DEVELOPED		NOT NATURAL G	AREA _

Land Capability Classes based primarily on existing slopes, 5-13-2021 hearing

DISTURBED DEVELOPED AREA

EE 6537

PARCEL NATURAL SLOPE 14%

RESIDENCE 460 TERESA CT.

123-136-04

