
MEMORANDUM

Date: March 22, 2018

To: TRPA Hearings Officer

From: TRPA Staff

Subject: Edgewood Companies Land Capability Challenge;
55 U.S. Highway 50, Douglas County, Nevada
APN: 1318-27-001-007, TRPA file no. LCAP2017-0325 &
1318-27-002-006, TRPA File no: LCAP2017-0376

Proposed Action: TRPA Hearing's Officer review and approval of the proposed Land Capability Challenge.

Staff Recommendation: Staff recommends the TRPA Hearings Officer approve the land capability challenge on the parcel changing the land capability from Class 3, Class 4 and Class 7 to Class 1a, Class 2, Class 5 and Class 6. Staff also recommends refinement of Class 1b mapping units that results in 2.90 acres increase in SEZ. See summary table on Page 3.

Background: The parcel being challenged is shown mostly as Class 3 and Class 7 on TRPA Land Capability Overlay Maps (aka Bailey Land Capability maps). The Soil Conservation Service Soil Survey of Tahoe Basin Area, California-Nevada (Rogers, 1974) places the subject parcel within Elmira-Gefo loamy coarse sand (EfB, 0 to 5% slopes) and Jabu coarse sandy loam, shallow variant (JeD, 5 to 15 percent slopes). Both soil types are composed of mixed alluvium derived mostly from granitic parent material. The Elmira-Gefo soils are ancient beach and outwash deposits that have relatively simple profile characteristics and somewhat excessively drained subsoils. The Jabu soils are also outwash deposits, but have subsurface drainage constraints that result in perched water table and/or poor root penetration. The lower elevations of the study area has a geomorphic mapping of E-2 for outwash, till and lake deposits (low hazard lands). The upper elevations (particularly to the east) have a geomorphic mapping of C-1 for granitic foothills (moderate hazard lands).

A TRPA land capability verification was issued for the already developed (lower) parcel (APN 1318-27-001-007) in May, 2004 and found it to be mostly Class 5, with a significant area of Class 1b-Stream Environment Zone and a small area of Class 4 along the southern edge (Attachment A). No LCV has been conducted for the undeveloped (upper) parcel (APN 1318-27-002-006). Land capability challenges were filed for both parcels with TRPA on September 29 and November 09, 2017. A detailed soil investigation was conducted for this land capability challenge by R. J. Poff & Associates, on October 09, 17, and 23, 2017. Additional verification and mapping was done on October 24 and 25, 2017. Roger Poff completed his technical report and

mapping on February 20, 2018. TRPA Contractor, Phil Scoles (Terra Science, Inc.) conducted the field investigation and reviewed the soil consultant's report and mapping, and assisted with TRPA's evaluation. Six test pits in the developed land were excavated by backhoe – Mr. Scoles examined those on October 09, 2017. Mr. Scoles also used hand-dug pits and auger holes to determine soil and SEZ boundaries on the undeveloped parcel. Throughout this process, the Mr. Scoles engaged in interactive dialogue with the applicant's soil consultant. Further, two draft reports and field data were reviewed by Mr. Scoles. The resultant technical report and soil mapping is very high quality and thorough.

Findings: The subject APNs consist of landforms and associated soil types previously mapped in 2015 by Roger Poff on adjacent land owned by Edgewood Companies. Specifically, the landform in the northwest and center portion of the study area is a colluvial slope containing granitic and lake sediments. This landform is largely developed for the MontBleu hotel, casino, and associated parking. There are only small inclusions of landscaped areas. To the south, the landform becomes a rolling ridge and swale complex, as well as steep hillside below Lake Parkway. This southerly area is undeveloped, but it has 1 or 2 water lines and some previous grading/excavation in selected areas. The swale areas are recharged by a combination of rainfall, snowmelt and groundwater discharge (high water table). The lowest swale terminates at a culvert that conveys water to the north (outlet not investigated for this staff summary).

In general, the soils in the developed areas sandy to loamy sediments that were deposited (and/or reworked) by littoral processes when Lake Tahoe was considerably higher in ancient times. Some of the soil fines originated as colluvial material that eroded off steep slopes to the south. These developed area generally have slopes ranging from 4 to 7 percent (from Welsh-Hagen topographic survey, 2017). Artificially created slopes (by filling or excavation) were grouped with the unaltered soils to reflect historic conditions (rather than modified land surfaces). The sandy loam textures and somewhat excessively drained conditions are consistent with Hydrologic Soil Group B. The rolling ridge (to the south and east), has steeper slopes, such as 12 to 30 percent. The very steep lands below Lake Parkway (in the south corner) have slopes 30 to 45 percent. These hillside soils are also somewhat excessively drained and mostly have a Hydrologic Soil Group B rating.

Where Stream Environment Zones (SEZs) are present, the soils become somewhat poorly to very poorly drained; thus, they qualify as Hydrologic Soil Groups C and D (high water table, poor drainage). Most of the SEZs have primary indicators (i.e. primary riparian plant community), but lack a near-surface water table (normal for field conditions in mid- to late October). The lowest situated swale near the south corner also qualified on the basis of primary water table. The soil consultant described one soil (XXX-3) which failed to qualify as SEZ due to both primary and secondary indicators, but still had evidence of a water table within 40 inches of the surface (hence Class 5). Lastly, several soil map units were defined by steepness of slope or shallow depth to bedrock, or both.

The soils within developed portions of the parcel (APN 1318-27-001-007) are significantly different from the central concept of the Elmira-Gefo and Jabu shallow variant soil types, as mapped by the Soil Survey of the Lake Tahoe Basin (1974). The Jabu soils have a dense,

somewhat brittle subsoil horizon (i.e. fragipan) that restricts deep percolations and root penetration – such a layer was not observed at any of the 6 backhoe pits, hand-dug pits, or auger holes evaluated by R. J. Poff & Associates. Instead, the soils in this part of the study area do not resemble a named soil type in the 1974 soil survey. These soils share some common characteristics of the Elmira soil, but they also show more soil development, as evident by redder matrix colors and/or subsurface accumulation of clay (noted as a “Bw” horizon on the soil profile descriptions). Such differences also fall outside of the range of Gefo soils (similar to Elmira soil). For such reasons, the developed areas, plus the rolling ridge in the east-south part of the site, are considered XXX soils. Lacking any root-restrictive layers, these unnamed XXX soils qualify as Class Class 6 for slopes 0 to 9 percent. Such determination was made per Page 20, Table 4 of Land-Capability Classification of the Lake Tahoe Basin, California-Nevada (Bailey, 1974). The remaining soils typically qualified for land capability classes based on shallow-to-bedrock situations having 15 to 30 percent slopes (Class 2) and 30 to 50 percent (Class 1a). Lastly, areas qualifying as SEZ are Class 1b. The following table summarizes the proposed Bailey and capability class changes.

Land Capability District, Slope Range	TRPA Land Capability Map; Area (ac.)	2017 Land Capability Challenge; Area (ac.)	Net Change (ac.)
Class 1a (CaF), 30-50% sl.	0	1.87	+1.87
Class 1b (SEZ), various sl.	6.11	9.01	+2.90
Class 2 (CaE), 15-30% sl.	0	1.57	+1.57
Class 3 (JeD), 5-15% sl.	21.47	0	-21.47
Class 4 (CaD), 5-15% sl.	1.71	0	-1.71
Class 5 (XXX-3), 0-9% sl.	0	0.90	+0.90
Class 6 (XXX-1), 0-15% sl.	0	5.35	+5.35
Class 6 (XXX-2), 0-9% sl.	0	18.56	+18.56
Class 7 (EfB), 0-5% sl.	7.97	0	-7.97
Total Parcel Area	37.26	37.26	0

This memorandum was jointly prepared by TRPA contractor Phil Scoles (Terra Science, Inc.) and TRPA Associate Planner, Julie Roll. If you have questions on this Hearings Officer item, please contact Julie Roll at 775-589-5247 (jroll@trpa.org).

BAILEY LAND CAPABILITY CHALLENGE FINDINGS

Site Information	
Assessor's Parcel Numbers (APN)	1318-27-001-007 (MontBleu hotel-casino-parking) and 1318-27-002-006 (vacant adjacent parcel)
TRPA File No. / Submittal Date	LCAP 2017-0325 (MontBleu parcel) / September 29, 2017 and LCAP 2017-0327 (vacant parcel) / November 09, 2017.
Owner or Applicant	Edgewood Companies (Brandon S. Hill)
Address	55 U.S. Highway 50, Stateline, Douglas County, NV

Environmental Setting	
Bailey Soil Mapping Unit¹ / Hydrologic Soil Group (HSG) / Land Class / Geomorphic Hazard Unit	Predominantly EfB (Elmira-Gefo loamy coarse sand, 0 to 5%) / HSG A / E2 – Outwash, till and lake deposits (low hazard lands as per 1974 Bailey LC Report). Also JeD (Jabu coarse sandy loam, shallow variant, 5 to 15%) / HSG D / C1 – Streamcut granitic mountain slopes, granitic foothills (moderate hazard lands). See soil consultant report for additional detail.
Soil Parent Material	Granitic colluvium / lake sediments
Slopes and Aspect	4 to 7% slopes / West by northwest (MontBleu parcel) 4 to 45+% slopes / West and north (Vacant, adj. parcel)
Elevation and Datum	6277 to 6378 feet (Welsh-Hagen, Lake Tahoe datum)
Rock Outcrops and Surface Configuration	Few, very large surface boulders present near north corner of 1318-27-002-006 and also in the landscaped inclusion (picnic area) on the east edge of 1318-001-007. It is plausible these boulders were placed as either landscaping or sidecast / stockpiled for past construction work. Vacant parcel has rolling ridge-undulations and very steep slope below Lake Parkway (south corner). Small and incidental locations with in vacant parcel previously excavated/alterd. MontBleu parcel mostly slopes northwest (toward U.S. Highway 50). As a developed parcel, the surface slopes have been modified for parking, buildings and surface drainage. No ditching observed.
SEZ and Hydrology Source	Four SEZ features – Two small SEZs along east edge of 1318-27-002-006 (just below Lake Parkway). Two large SEZ swales that merge near the west edge of 1318-27-

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

	002-006. These drained to large culvert that extends under the MontBleu parcel (outlet located offsite, not investigated). Precipitation is primary hydrology source, but SEZ along west property line appears sustained by groundwater as well.
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Vegetation	<p>MontBleu parcel: Ornamental trees, shrubs, and lawn. Few native pine trees.</p> <p>Vacant adjacent parcel: Jeffrey pine, sagebrush, rabbitbrush, currant, mixed grasses, and forbs.</p> <p>SEZs: Sedge, Baltic rush, bentgrass, wild rose, willows, aspen, and lodgepole pine.</p>
Ground Cover Condition	<p>MontBleu parcel almost entirely paved or developed. Several small, vegetated inclusions with varying degrees of landscaping. Vacant adjacent parcel undeveloped, except old fill along edge of Lake Parkway. Vacant parcel has good ground condition (vegetation 60 to 100%, duff, forbs, grasses, sedges, etc.)</p>
Site Features	<p>MontBleu parcel: Hotel, casino, playfield, parking garage, parking lot, service area, access roads, and landscaped areas.</p> <p>Vacant adjacent parcel: Mostly upland forest, with lesser amounts of scrub-shrub wetland and emergent wetland/riparian areas. No buildings, but portions of land previously excavated along northwest edge to match grade of Mont Bleu parcel. One or two water mains dissect east part of parcel.</p>

Field Investigation and Procedures	
Consultant and Address	Roger Poff (Soil Scientist), R.J. Poff & Associates Post Office Box 2073, Nevada City, CA 95959-1942 (530) 273-1709; roger.poff@icloud.com
TRPA Staff Field Dates	October 09 and 24, 2017. Field meetings with soil consultant on both dates.
SEZ Mapping / NRCS Hydric Soil	Yes – 5-23-2004 SEZ mapping for APN 1318-27-001-007 refined by soil consultant using historical aerial imagery and stereoscope analysis. Similar analysis for APN 11318-27-002-006.
Additional or Repetitive TRPA Sample Locations	TRPA contractor examined three soil pits jointly with soil consultant. No additional sampling necessary, since soil conditions similar to nearby mapping of Edgewood cabin and mountain parcels.

Notable Soil Features and Depth	High capability soils in the vicinity of MontBleu hotel and parking areas have reddish-brown loamy coarse sand to sandy loam profiles. Soil lacks fragipan and other root-restricting subsoil layers associated with the Jabu soil. Forest soils on vacant, adjacent parcel are typically deeper than originally mapped in 1974 soil survey. SEZ soils are generally dark due to organic matter accumulation – approaching organic soil for lowest situated SEZ. Study areas lack limitation of shallow depth to bedrock. Instead, steep slopes or high water table are primary limitations.
Areas Not Examined	Buildings, paved surfaces, previously excavated and fill areas, service areas and small landscape areas (parking lot islands, for example).

TRPA Findings	
1974 Soil Survey Map Unit and Hydrologic Soil Group (HSG)	Class 7 EfB (Elmira-Gefo loamy coarse sand, 0 to 5%, HSG A); Class 4 CaD (Cagwin-Rock outcrop complex, 5 to 15% slopes, HSG C); Class 3 JeD (Jabu coarse sandy loam, shallow variant, 5 to 15%, HSG D); Class 2 CaE (Cagwin-Rock outcrop complex, 15 to 30% slopes) and Class 1b SEZ (Stream Environment Zone, HSG D).
2006 Soil Survey Map Unit²	North and west parts: Urban land (no land capability class assigned). East part: Oneidas coarse sandy loam, 5 to 15% slopes (Class 1b); South part: Tahoe, 0 to 2% slopes (Class 1b) and Cassenai loamy coarse sand, 5 to 15% slopes (Class 6).
Consultant Soil Mapping Determination and Rationale	XXX (2 types) – both HSG B. Soil is deep, somewhat excessively drained, loamy coarse sand to coarse sandy loam textures (similar to Elmira soil, but finer textures, more pedogenic development). Another XXX soil is HSG C due to high water table, but does not qualify as SEZ. The hillside and ridge soils are deeper than Cagwin series (such as Cassenai series in 2006 soil survey). Cagwin-Rock outcrop – Only on steep slopes. Extensive detail included in soil consultant report.
Slope Determination	On colluvial / ancient shoreline landforms: 0 to 9%, 0 to 15%. On hillsides, ridges: 9 to 3%; 30 to 50%.
TRPA Conclusion(s)	XXX-1, HSG B, Class 6 for 0 to 15% slopes and XXX-2, HSG B, Class 6 for 0 to 9% slopes XXX-2, HSG C, Class 4 for 9 to 30% slopes Cagwin (CaE), HSG C, Class 2, 15-30% slopes Cagwin (CaF), HSG C, Class 1a, 30-50% slopes Stream Envir. Zone (SEZ), HSG D, Class 1b
Applicable Area	Both parcels (see map, Attachment C, Jan. 2018)

Attachments:

- A. Site Plan showing May 25, 2004 TRPA land capability verification for APN 1318-27-001-007.
- B. Site Plan showing proposed land capability challenge recommendations
- C. Applicant's soil consultant land capability soil report

² TRPA currently relies upon the Soil Survey of Tahoe Basin, California-Nevada (Rogers and Soil Conservation Service, 1974), which the Bailey Land Capability system is predicated upon. The 2006 soil survey update has not yet been formally adopted by TRPA for use with land capability matters.