STAFF REPORT

Date: January 11, 2024

To: TRPA Hearings Officer

From: TRPA Staff

Subject Moore Land Capability Challenge
362 and 370 Beaver Street, Kings Beach, Placer County, CA
APN: 090-212-010; TRPA File no: LCAP2023-0268 and
APN: 090-212-024; TRPA File no. LCAP2023-0269

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 parcels. This challenge changes the land capability from Class 1a and Class 5 (UmD, 5 to 15% slopes and UmF, 30 to 50% slopes) to Class 2 (JwF, Slopes 30 to 50%), and Class 4 (JwE, Slopes 15 to 30%). These changes are itemized on the table on Page 3 and depicted on a map included in Attachment C.

Background:
The project area consists of two parcels. The west (lower) part of the project area is currently mapped having Class 1a soil, while the east (upper) part is mapped having Class 5 soil. The Soil Conservation Service Soil Survey of Tahoe Basin Area, California-Nevada (Rogers, 1974) identifies both upper and lower parts as Umpa very stony sandy loam, with 5 to 15% slopes (UmD) to the east and 30 to 50% slopes (UmF) to the west. The Umpa soil type is derived from an andesitic volcanic flow. The Umpa series typically has bedrock occurring at 40 inches or less from the surface. The vicinity of the project area has a geomorphic mapping of D-2 Streamcut volcanic flowlands: Headlands (moderate hazard lands). The land area for the project area is 15,752 sf. Specifically, APN 090-212-010 (vacant parcel) is 6,751 sf. and APN 090-212-024 (residence parcel) is 9,001 sf. (land area calculated from surveyor's map).

While not required for a Land Capability Challenge, the project area does not have a Land Capability Verification (LCV). The 2-foot contour topography map indicates the west (lower) part would qualify as Class 1a due to slopes 30 to 50%, while the east (upper) part would qualify as Class 3 due to slopes 15 to 30%. A TRPA land capability challenge (LCAP2023-0268) was filed by the property owners and their planning consultant on September 29 , 2023. On October 13, 2023, the TRPA contractor (Phil Scoles, Terra Science, Inc.) conducted a site investigation. The TRPA contractor completed a detailed soil description using a backhoe-dug pit situated near the

transition from the less steep (east) to steeper (west) slopes. The TRPA contractor described the soil profile matrix colors and ped structures; measured soil horizon depths; determined soil textures; estimated gravel volume and root distribution; depth to bedrock, and conducted a walking tour of the remaining portion of the project area. The TRPA contractor compiled a soil description (Attachment D) and integrated the technical findings into this Staff Report. The observed gravelly to very gravelly sandy loam to clay loam soil appears representative of the entire project area, which ranges from 22 to 34% slopes (dips to west).

Findings:
The project area consists of an west sloping hillside formed from an ancient debris flow. The parent material is volcanic and contains andesitic and basaltic rock materials. The soil onsite has gravelly sandy loam colluvium in the upper part, and very gravelly to cobbly clay loam in the lower part. A 1.5-story house sits in the north-center of the project area (entirely within APN 090-212-034). There is an attached deck on the west side, plus a footpath and stairs connecting the driveway to the residence. Access from Beaver Street consists of an asphalt driveway. There are artificially steepened slopes surrounding the driveway. Since TRPA relies upon historic slope conditions for land capability mapping, the TRPA contractor utilized adjacent, natural slopes (33%) to interpolate the historic slope in the vicinity of the driveway (Attachment C). The project area has mostly native landscaping and volunteer vegetation. Such vegetation includes Jeffrey pine, white fir, incense cedar, huckleberry oak, bitterbrush, prostrate ceanothus, currant, and mixed forbs/grasses. The land surface has 50 to 60% duff cover. The land surrounding the residence and driveway has 10 to 15% scattered stones and 5 to 7% scattered boulders ("floaters") that are not connected to subsurface bedrock.

This land capability challenge utilized one backhoe soil pit, located about 25 feet northwest of the existing residence and deck, and 10 feet south of the north property line. This vicinity is mostly undisturbed (except for past tree clearing and defensible space understory trimming). Areas of past grading are associated with the residence and driveway. There is a retaining wall along the east and south sides of the driveway. A smaller retaining wall is present in the extreme southeast corner of APN 090-212-010. The TRPA contractor found the onsite soil is deep (60+ inches), well drained and moderate permeability (Hydrologic Soil Group B, HSG-B). The onsite soil does not have a shallow depth to bedrock, a limitation associated with the Umpa series (usually within 40 inches of the surface). Instead, the soil contains mixed parent materials that is commonly observed with the Jorge soil series.

The TRPA contractor found the soil also has in-situ clay accumulation (argillic horizon); whereas the 1974 mapped Umpa series has relatively little clay accumulation above the shallow bedrock. The onsite soil has few roots growing below 40 inches. No indication of seasonal ground water within 60 inches of the surface. The observed soils better match the Jorge-Tahoma map unit described in the 1974 Soil Survey of the Lake Tahoe Basin (designated as JwE and JwF). The land capability classes for the JwE and JwF soils were determined from Land-Capability Classification of the Lake Tahoe Basin, California-Nevada (Bailey, 1974). Specifically, Class 4 for slopes 15 to 30% (JwE) and Class 2 for slopes 30 to 50%. The table below summarizes the soil types, slope classes, as well as changes in land capability concluded by this land capability challenge.

Land Capability District	Slope Class (Range)	Estimated TRPA LCV* Area (sq. ft.)	2023 TRPA Contractor LCC Area (sq. ft.)	Net Change Total Area (sq. ft.)
Class 1a (UmF)	30 to 50%	8,062	0	-8,062
Class 2 (JwF)	30 to 50%	0	5,675	+5,675
Class 4 (JwE)	15 to 30%	0	10,077	+10,077
Class 5 (UmD)	5 to 15%	7,690	0	-7,690
Total Parcel Area		**15,752**	**15,752**	**n/a**

* No prior Land Capability Verification; however, 2-foot contour topographic map indicates 2 potential slope classes, 15 to 30% and 30 to 50%. The project area lacks natural slopes less than 15%, so these APNs are not eligible for Class 5 (as shown on current TRPA land capability map).

Contact Information:

This memorandum was jointly prepared by TRPA contractor Phil Scoles (Terra Science, Inc.) and TRPA Senior Planner, Julie Roll. If you have questions on this Hearings Officer item, please contact Julie Roll at 775-589-5247 or jroll@trpa.gov. To submit a written public comment, email publiccomment@trpa.gov with the appropriate agenda item in the subject line. Written comments received by 4 p.m. the day before a scheduled public meeting will be distributed and posted to the TRPA website before the meeting begins. TRPA does not guarantee written comments received after 4 p.m. the day before a meeting will be distributed and posted in time for the meeting.

Attachments:
A.   Vicinity Map and TRPA Land Capability Map
B.   Site Photographs (October 13, 2023)
C.   December 2023 Land Capability Challenge Recommendation Map
D.   TRPA Land Capability Contractor Soil Profile Description (1 soil pit)

BAILEY LAND CAPABILITY CHALLENGE FINDINGS

Site Information	
Assessor's Parcel No. (APN):	090-212-010 and 090-212-024
TRPA File No. / Submittal Date:	LCAP2023-0268 / September 29, 2023
Owner or Applicant:	Roger and Kathryn; 300 Glorietta Place, Coronado, Calif. 92118
Site Address:	362 and 370 Beaver Street, Kings Beach, CA 95143; T. 16N, R. 18E, Sec. 19.

Environmental Setting	
Bailey Soil Mapping Unit / Hydrologic Soil Group (HSG) / Land Class / Geomorphic Hazard Unit	Umpa very stony sandy loam, 5 to 15% slopes (UmD, HSG-B, Class 5) and 30 to 50% slopes (UmF, HSG-B, Class 1A) / D-2 Streamcut volcanic flowlands: Headlands (moderate hazard lands as per 1974 Bailey Land Capability Report)
Landform and Soil Parent Material	Hillside with colluvium atop ancient debris flow.
Slopes and Aspect	22 to 34% slopes / slopes to west.
Elevation and Datum	6,392 to 6,424 feet, Lake Tahoe datum (assumed); Epoch Geospatial Land Surveying Service (July 05, 2023)
Rock Outcrops and Surface Configuration	No rock outcrops, but 10 to 15% surface stones and 5 to 7% boulders ("floaters", not bedrock).
SEZ and Hydrology Source	None.
Vegetation	Jeffrey pine, white fir, incense cedar and tree saplings. Understory includes huckleberry oak, greenleaf manzanita, bitterbrush, currant, prostrate ceanothus, honeysuckle, dogbane, pinedrops, and forbs/grass.
Ground Cover Condition	Good (vegetation 40 to 50%, duff 50 to 60%)
Site Features	Residence, asphalt driveway, decks, pathway and stairs.

Field Investigation and Procedures	
TRPA Contractor and Address	Phil Scoles (TRPA subcontractor) Post Office Box 2100; Portland, OR 97208-2100
TRPA Contractor Field Dates	October 13, 2023.
SEZ Mapping / NRCS Hydric Soil	None.
Number of Soil Pits or Auger Holes and Description Depth	One backhoe pit excavated to 60+ inches (no bedrock encountered within 60 inches).
Additional or Repetitive TRPA Sample Locations	None.
Areas Not Examined	Residence, driveway, decks, and pathway/stairs.

TRPA Findings	
2006 Soil Survey Map Unit[1]	Jorge very cobbly sandy loam (Andic Haploxeralfs), 15 to 30% slopes (map unit 7152, Class 4, HSG-B).
Contractor Soil Mapping Determination and Rationale	Onsite soils do not match the Umpa series described in the 1974 soil survey. The Umpa series formed from an andesitic flow on hillsides, while the onsite conditions formed from colluvium atop an ancient debris flow. In particular, the observed soil has mixed parent material derived from volcanic andesite, basalt and related rock. Such conditions are similar to the Jorge series (hence Jorge-Tahoma complex mapping units). Unlike the Umpa soil, the observed soil is deep (60+ inches), well drained, and has moderate permeability in the subsoil. Textures range from sandy loam to very gravelly-cobbly clay loam textures, that qualifies as an argillic horizon (in-situ layer from 15 to 45-inch depth). See staff report and TRPA contractor profile description for additional discussion.
Slope Determination	Slopes range from 22% (east, upper part) to 34% (west, lower part). There are slope classes for 0 to 15% slopes. See land capability map based upon WLS topographic survey. Artificially steepened slopes flank the driveway. Undisturbed adjacent slopes measured at 33% and utilized for driveway vicinity.
TRPA Conclusion(s)	Class 4 Jorge-Tahoma soil (JwE), HSG-B for 15 to 30% slopes; and Class 2 for Jorge-Tahoma soil (JwF), HSG-B for 30 to 50% slopes.
Applicable Area	Entire site (see map, Attachment C, December, 2023).

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[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. The 2006 soil survey update has not yet been formally adopted by TRPA for use with land capability matters.

Attachment A
Vicinity Map and TRPA Land Capability Map

VICINITY MAP (no scale)

TRPA LAND CAPABILITY MAP

ROGER & KATHRYN
MOORE PARCEL
APN 090-212-010 &
090-212-024
362 & 370 Beaver St.
Kings Beach, Placer
County, Cal.

TRPA LAND CAPABILITY

Class 1A (lime)
Class 5 (tan)
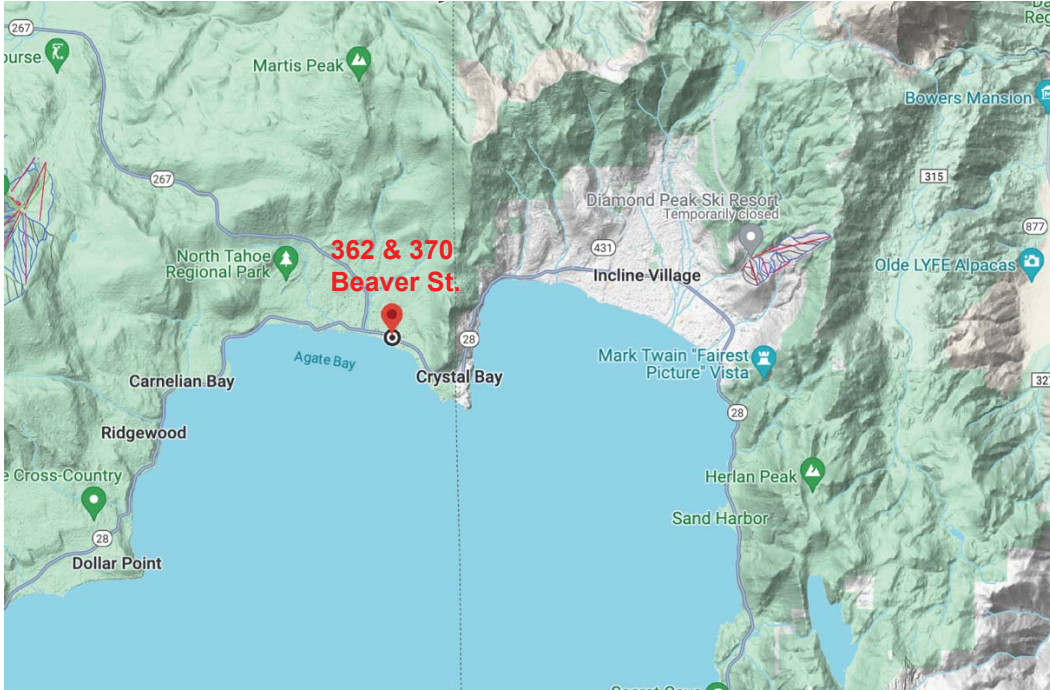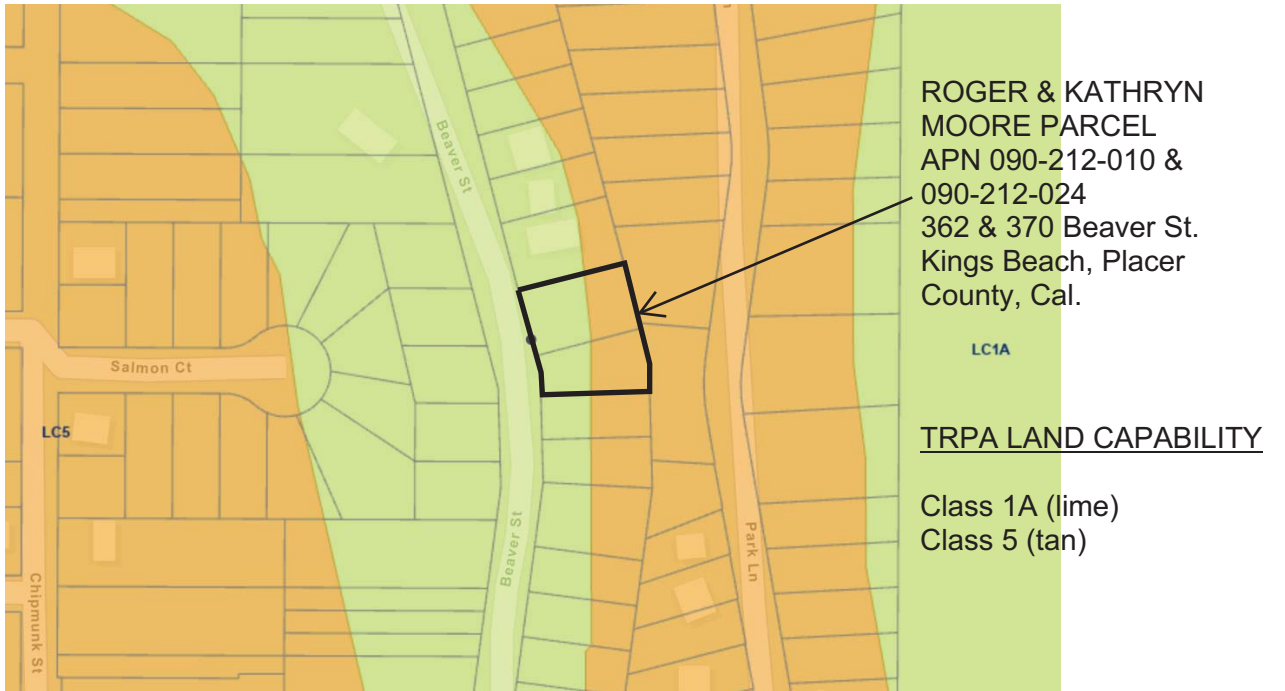
Attachment B
Site Photographs (October 13, 2023)

TAHOE
REGIONAL
PLANNING
AGENCY

Mail
PO Box 5310
Stateline, NV 89449-5310

Location
128 Market Street
Stateline, NV 89449

Contact
Phone: 775-588-4547
Fax: 775-588-4527
www.trpa.org

362 and 370 Beaver St., Kings Beach, Cal.
(Roger & Kathryn Moore Parcels; APN: 090-212-010 & 090-212-024)

Photo 1 – View to east and southeast from northwest corner of project area. Slopes are 30 to 33% just below the residence. Slopes are artificially steeper adjacent to driveway; however, historic slope condition is utilized for land capability challenges.

Photo 2 – View to north by northeast from southwest corner of project area. Natural slopes are 30 to 33% in left portion of photo and decreasing to 24% at far right. Dominant trees are Jeffery pine, white fir, with lesser amounts of incense cedar. Surface stones and boulders amount to 15 to 20% ground cover.

imagine. plan. achieve.

Photo 3 – View to west (downslope) from southeast corner of APN 090-212-024 (residence parcel). Understory saplings and shrubs (huckleberry oak, bitterbrush) have been thinned around residence for fire protection. Boulders in foreground are free-standing (not attached to bedrock).

Photo 4 – View to south to southwest from northeast corner of project area. The east (upper) part of project area has 21 to 29% slopes. Where fewer trees, vegetated ground cover is 40 to 50% and duff cover is 50 to 60%. The observed soils are deep (60+ inches), well drained and have moderate permeability in the subsoil. Such conditions are consistent with Hydrologic Soil Group B (no subsurface water or root penetration limitations).

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Photo 5 – View to north at driveway (left) and stairs to residence (right). The slopes immediately above and below driveway are artificially steepened. Natural slopes in this area are 33% (apparent on parcel immediately to south), which qualifies such land as Class 1A. The soil pit location (center, background) was undisturbed, except for fire protection vegetation thinning.

Photo 6 – View to west (downslope) at APN 090-212-010. This parcel is vacant and has similar vegetation and ground cover conditions as the residence parcel (APN 090-212-024, beyond right edge of photo). Due to potential damage to pathway, stair damage, and access around boulders, it was not possible to excavate a soil pit on the vacant parcel. The observed soil profile has 3 inches of duff, then 12 inches of a dark olive brown topsoil (A horizon). The underlying subsoil (argillic Bt horizon) is a dark grayish brown clay loam having 40 to 60% gravel, cobbles and stones. At 45 inches, the soil material becomes highly decayed bedrock (C horizon) having very gravelly sandy loam textures. While the observed soil does not match the NRCS mapped Umpa series, it does resemble the Jorge-Tahoma soil mapping unit identified in the 1974 Soil Survey of Lake Tahoe Basin. For slopes 15 to 30%, the Jorge-Tahoma soil qualifies as Class 4.

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Attachment C
December 2023 Land Capability Challenge Recommendation Map

LEGEND

BB . . . . BEAR BOX
EM . . . . ELECTRICAL METER
FF . . . . FINISH FLOOR
GA . . . . GUY ANCHOR
GM . . . . GAS METER
JP . . . . JOINT POLE
OHW . . . . OVER-HEAD WIRE
SSCO . . . . SANITARY SEWER CLEAN OUT
WV . . . . WATER VALVE
WMPB . . . . WATER METER PULL BOX
#P . . . . DIAMETER TREE
P-PINE F-FIR JUN-JUNIPER
O . . . . NOTHING FOUND OR SET
△ . . . . SURVEY CONTROL
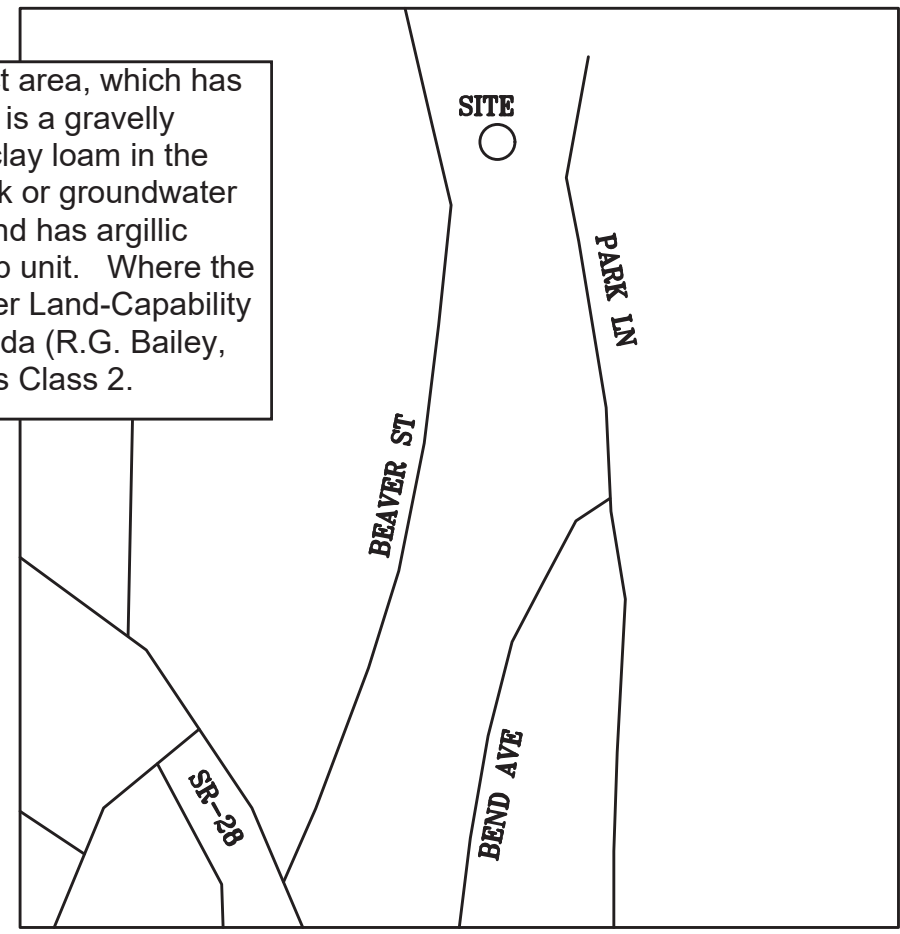
TRPA Land Capability Challenge for

LCAP2023-0268 for APN 090-212-010
362 Beaver St., Kings Beach, Placer County, Cal.
and LCAP2023-0269 for APN 090-212-024
370 Beaver St., Kings Beach, Placer County, Cal.

Field Investigation: October 13, 2023
Data Analysis: December 22, 2023
Conducted By: P.Scoles (Soil Scientist)

Test Pit no. 1 -- This location is representative of project area, which has two slope classes (15 to 30% and 30 to 50%). The soil is a gravelly sandy loam in the upper part and very gravelly-cobbly clay loam in the lower part. Soil is well drained and HSG-B. No bedrock or groundwater encountered within 60 inches of surface. Soil is deep and has argillic horizon consistent with the Jorge-Tahoma complex map unit. Where the slopes are 15 to 30%, the soil qualifies as Class 4 as per Land-Capability Classification of the Lake Tahoe Basin, California-Nevada (R.G. Bailey, 1974). Where slopes are 30 to 50%, the soils qualify as Class 2.

Slopes along driveway are oversteepened. For land capability purposes, TRPA utilizes the historic slope, which is estimated at 33% (see adjacent slope measurements).

VINCINITY MAP (N.T.S.)

SITE
PARK LN
BEAVER ST
SR-28
BEND AVE

PREPARED AT THE REQUEST OF:
KATHY MOORE-TRUSTEE OF THE
REEDER MARIAN G TRUST

SITE ADDRESS:
362 & 370 BEAVER STREET
KINGS BEACH, CA

VERTICAL DATUM:
ASSUMED

2FT CONTOUR INTERVAL BASED
ON TOPOGRAPHIC FIELD SURVEYS
DATE: 7/5/23

EXISTING ONSITE COVERAGE:
ASPHALT DRIVEWAY . ±643.0 SQFT
DECK . . . . ±346.5 SQFT
(3:1 REDUCTION . . . . . ±191.0 SQFT)
HOUSE . . . . ±956.3 SQFT
WOOD STAIRS . . . . ±219.4 SQFT

EXISTING OFFSITE COVERAGE:
ASPHALT DRIVEWAY . ±291.8 SQFT

EPOCH GEOSPATIAL & LAND SURVEYING SERVICES
WWW.EPOCH-GEO.COM

ON BEHALF OF EPOCH GEOSPATIAL:

PROFESSIONAL LAND SURVEYOR
MICHAEL CHARLES FARRAUTO
LS 8854
EXPIRES DEC 31, 2023
STATE OF CALIFORNIA

MICHAEL C. FARRAUTO PLS 8854   DATED:7/25/23

Survey Drawing Labels

N75°05'00"E 120.00'
Slope: 21%
FOUND 3/4" OPEN IRON PIPE NO TAG
6" CED
APN 090-213-010 LOT 10 D MAPS 68, ORPC
Slope: 33%
DIRT
Slope: 28%
5 6387.77 60D
BB
APN 090-212-024 LOT 58 D MAPS 30, ORPC
12"F 12"F 12"F ROCK 11"P 11"F
19"P
22"P
WMPB
APN 090-212-024 LOT 57 D MAPS 30, ORPC
DECK
ROCK AREA
MAIN RESIDENCE
FINISH FLOOR EL:±6417.7'
DECK EL:±6417.2'
RIDGE EL:±6438.9'
5"CED
16"P
12"P
FOUND 3/4" OPEN IRON PIPE NO TAG
6427.0 SSMH
3 6427.10 60D
6386.0 SSMH
ASPHALT DRIVEWAY
ROCK WALL
25"P 12"F
APN 090-212-024 LOT 56 D MAPS 30, ORPC
ROCK
DIRT
APN 090-213-009 LOT 9 D MAPS 68, ORPC
12"P 18"P
GM EM
23"P
CED
CLASS 4, 10,077 sq. ft.
Jorge-Tahoma very stony sandy loam (JwE),
15 to 30% slopes.
BEAVER (SKID ROAD) STREET
EDGE OF PAVEMENT
WOOD STAIRS
18"P
15"P
7"F
ROCK
16"P
CLASS 2, 5,675 sq. ft.
Jorge-Tahoma very stony sandy loam (JwF),
30 to 50% slopes.
27"P
12"F
Slope: 24%
21"P
APN 090-212-010 LOT 55 D MAPS 30, ORPC
FOUND 3/4" OPEN IRON PIPE NO TAG
9"P
15"P
13"P
4 6416.59 60D
12"P 19"P
20"P
10"F
ROCK WALL
APN 0090-213-008 LOT 8 D MAPS 68, ORPC
Slope: 33%
GA
DIRT
APN 090-212-010 LOT 54 D MAPS 30, ORPC
10"F 7"F
16"F
20"P
DIRT
11"F
11"F
S88°11'00"W 120.00'
APN 090-212-011 LOT 53 D MAPS 30, ORPC
APN 0090-213-007 LOT 7 D MAPS 68, ORPC
JP JP
OHW
N01°49'00"W 20.91'
21.57'
S14°55'00"E 110.35' OVERALL
35.35'
34.69'
S01°49'00"E
N14°55'00"W 96.57' OVERALL
23.00' 25.00' 25.00'

SCALE: 1"=10'

10 0 5 20 30 (scale bar)

SURVEYORS NOTES:

1. THE BOUNDARY SHOWN IS BASED ON RECORD INFORMATION PER THE ADDITION TO BROCKWAY VISTA SUBDIVISION RECORDED IN D MAPS 30, ORPC AND MONUMENTS LOCATED.
2. NO INVESTIGATION HAS BEEN MADE FOR EASEMENTS OF RECORD, ENCUMBRANCES, COVENANTS AND CONDITIONS OWNERSHIP, TITLE EVIDENCE, OR ANY OTHER FACTS WHICH A CURRENT TITLE SEARCH MAY DISCLOSE, OTHER THAN THOSE SHOWN HEREON.
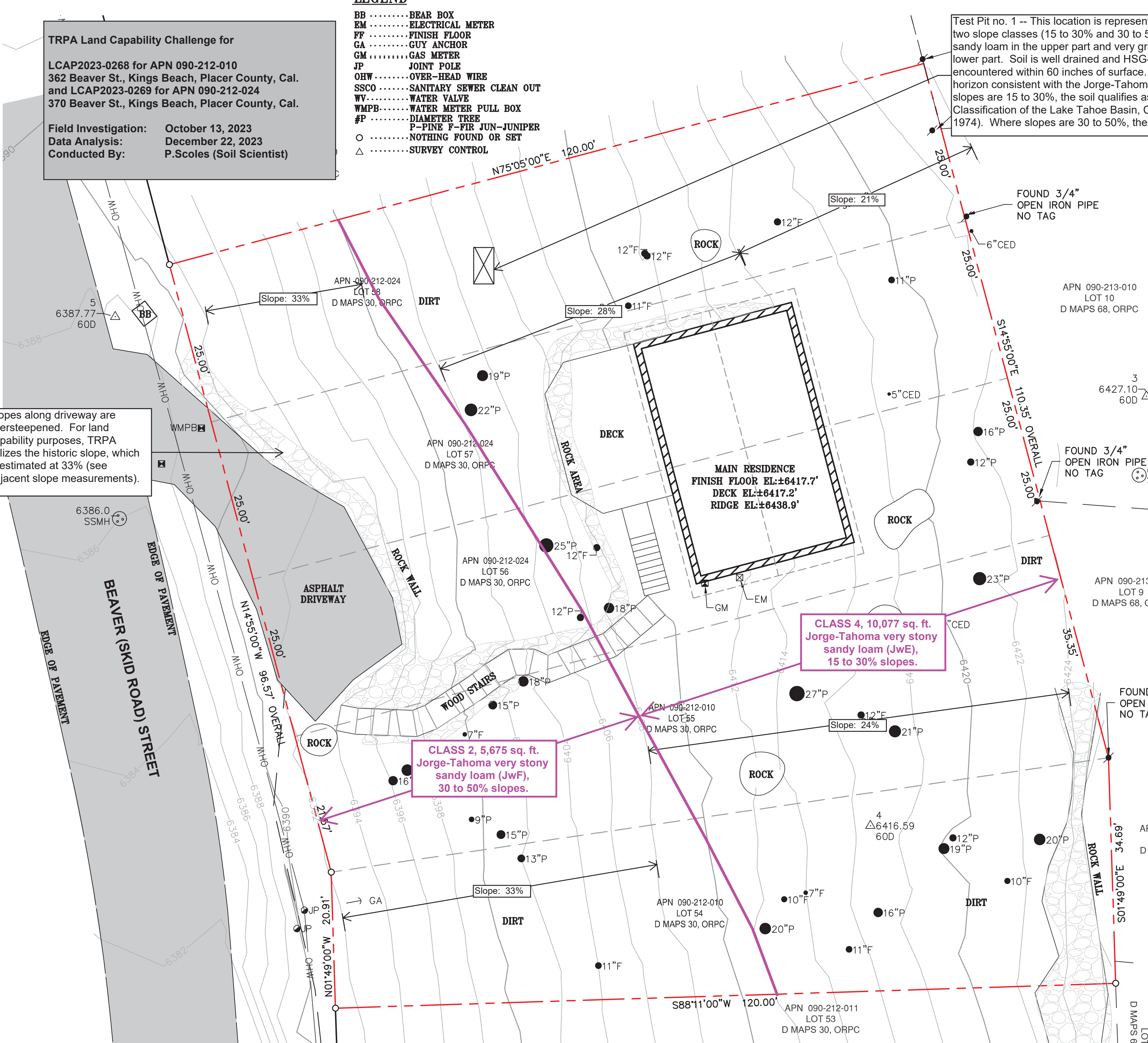3. THIS EXHIBIT IS FOR THE SOLE AND EXCLUSIVE USE OF THE CLIENT NAMED.

TOPOGRAPHIC & BOUNDARY SURVEY
362 & 370 BEAVER STREET
A PORTION OF
SECTION 19, T.16 N., R.18 E., M.D.B.&M.
KINGS BEACH
PLACER COUNTY, CA
AGENDA ITEM NO. V.D.
SCALE: 1"=10' JULY 25, 2023

Attachment D
TRPA Land Capability Contractor Soil Profile Description (1 soil pit)

TAHOE REGIONAL PLANNING AGENCY

Mail
PO Box 5310
Stateline, NV 89449-5310

Location
128 Market Street
Stateline, NV 89449

Contact
Phone: 775-588-4547
Fax: 775-588-4527
www.trpa.gov

362 and 370 Beaver Street (Roger & Kathryn Moore Parcels; APN: 090-212-020 and 090-212-024); Kings Beach, Placer County, Calif. – Test Pit 1 (TP-1)

Photo A – View of soil profile showing bottom depth of 60+ inches. Fine and medium root penetration in sub-stratum. No indication of seasonal water table. HSG-B.	Photo B – View south at Test Pit 1, located 25 feet northwest of residence (downgradient front yard). This vicinity has a 28% slope above (east) the test pit, and 32% slope below (west) of the pit. The surface layers are composed of mixed colluvium, while the underlying landform is an ancient debris flow. Large boulders In substratum appear to be 'floaters' (not attached to bedrock). Ground cover is good (40-50% vegetation, 50-60% duff).

Layer	Depth (In.)	Color (moist)	Soil Properties / Features
Oi	0 to 3	Black	DUFF, pine and fir needles, brush leaves and twigs; abrupt boundary.
A1	3 to 8	Very dark brown (10YR 2/2)	LOAM to SANDY LOAM, weak fine granular structure, 10% gravels and 2% cobbles; loose, non-plastic, slightly sticky and slightly plastic; no redox features, many fine and common medium roots; many fine interstitial pores, abrupt boundary.
A2	8 to 15	Dark olive brown (2.5Y 3/3)	Gravelly SANDY LOAM, weak fine granular structure, 15% gravels and 5% cobbles; very friable, non-plastic, slightly sticky and slightly plastic; no redox features, many fine and medium roots, few coarse roots; many fine interstitial pores, clear boundary.
Bt1	15 to 32	Very dark grayish brown (2.5Y 3/2)	Very gravelly CLAY LOAM, weak fine subangular structure, 25% gravels and 15% cobbles; friable, non-plastic, non-sticky, no redox features, many fine and medium roots, common coarse roots; many fine interstitial pores, clear boundary.
Bt2	32 to 44	Grayish brown (2.5Y 5/2)	Very gravelly and cobbly CLAY LOAM, moderate fine subangular structure, 30% gravels, 15% cobbles and 15% stones/boulders; slightly hard, sticky and plastic; no redox features, common fine roots, many med. roots, few coarse roots; common fine interstitial pores, clear bndy.
C	45 to 60+	Olive brown (2.5Y 4/3)	Very gravelly SANDY LOAM, massive structure, 30% gravels, 10% cobbles and 15% stones/boulders; slightly hard, non-plastic, slightly sticky and slightly plastic; no redox features, few fine and medium roots; many fine interstitial pores.

Soil does not match 1974 soil survey (Umpa very stony sandy loam, 5 to 15% slopes, UmE and 15 to 30% slopes, UmF). Onsite soil conditions formed from colluvium and ancient debris flow, which is consistent with Jorge-Tahoma very stony, sandy loam, 15 to 30% slopes (JwE) and 30 to 50% slopes (JwF). The Jorge-Tahoma soil is well drained and moderate subsoil permeability (HSG-B). In accordance with the Land-Capability Classification of the Lake Tahoe Basin (Bailey, 1974), the JwE soils with slopes 15 to 30% qualify as Class 4, while JwF soils with slopes 30 to 50% qualify as Class 2.