My name is James Goodrich. My family has owned the property at 624 Palomar Drive since December 1941.

My professional background is in engineering. I have an MSE in Engineering Economic Systems and a Ph.D. in Mechanical Engineering, both from Stanford University. For 5 years I was a Naval officer on the staff of Admiral Rickover with the Atomic Energy Commission working on the design and development of Naval nuclear power systems. I have testified as an expert witness in regulatory hearings in venues across the country. For 11 years, I served as a Trustee of the North American Electric Reliability Corporation (NERC). NERC is responsible for the reliability of the bulk electric system in North America

Regarding the proposed new residence at 634 Palomar Drive, I have the perspective of a long-time Palomar Park resident, property owner, and professional engineer. From all perspectives, I believe it is highly unwise to proceed with the proposed project.

The proposed project would be located on top of an active aquifer that is extremely unstable. From the founding of Palomar Park nearly a century ago until the mid-1940s, this aquifer was the source of potable water for all residents. Since the 1950s, three homes on property adjacent to 634 Palomar have been destroyed by mudslides. I witnessed two of these tragedies. As recently as 2019, a mudslide on the 634 Palomar property swept down to Los Cerros Road. These events do not bode well for the proposed project.

My brother, Joe Goodrich, is a geologist, chemist, and civil engineer. He supervised the design and construction of running tracks worldwide for Chevron Asphalt Company. In February 2009, he wrote a report (which was filed with San Mateo County) that identified all formations in San Mateo County with geological structures similar to the Los Cerros' aquifer. There are 50 such formations. It is not a coincidence that the 50 locations are "almost exclusively used as cemeteries, undeveloped stream headwaters, parks, golf courses, recreational area, wildlife reserves, and country clubs." He concluded that "areas associated with springs…in San Mateo County are allocated to low-risk usages at a 95+% confidence level."

The 634 Palomar project proposal - to cut 880 cubic yards of soil, then fill with 90 cubic yards and remove seven significant trees on a parcel that has a history of being extremely unstable - certainly does not qualify as "low risk."

Specifically, after removing the earth and placing a crushed rock footing, the proposed home and structures will still be vulnerable to the site's historically known geologic instability. That is to say, the buildings, simply attached to a slab foundation, and sitting on a crushed rock base, will still be subject to the site's unstable, decomposing shale[1] (~150my, Jurassic-Cretaceous, Franciscan Assemblage). [2,3]

Moreover, the proposed project will divert rainwater, add irrigation water, and distribute septic drainage, all of which will destabilize the inherently moisture-susceptible shale soil.

Alarmingly, access to the proposed project depends on an early 1950s dirt ledge graded out of the steep cut above Palomar Drive. This proposed access sits above a dangerous Palomar Drive hairpin curve. The homeowner-built shelf was made as a fire break and for erosion control; it was never engineered to carry traffic. Perhaps appropriate as a public access trail, I strongly invoke safety concerns in my objection to its proposed use during construction and permanently by private and emergency vehicles.

I encourage the protection of every tree on the 634 Palomar. My reason is not purely aesthetic; tree root systems extend well beyond their drip line. Maintaining healthy roots raises the local water table and will mitigate soil erosion and slumping. Nurturing every tree is particularly essential for those along the northwestern property boundary.

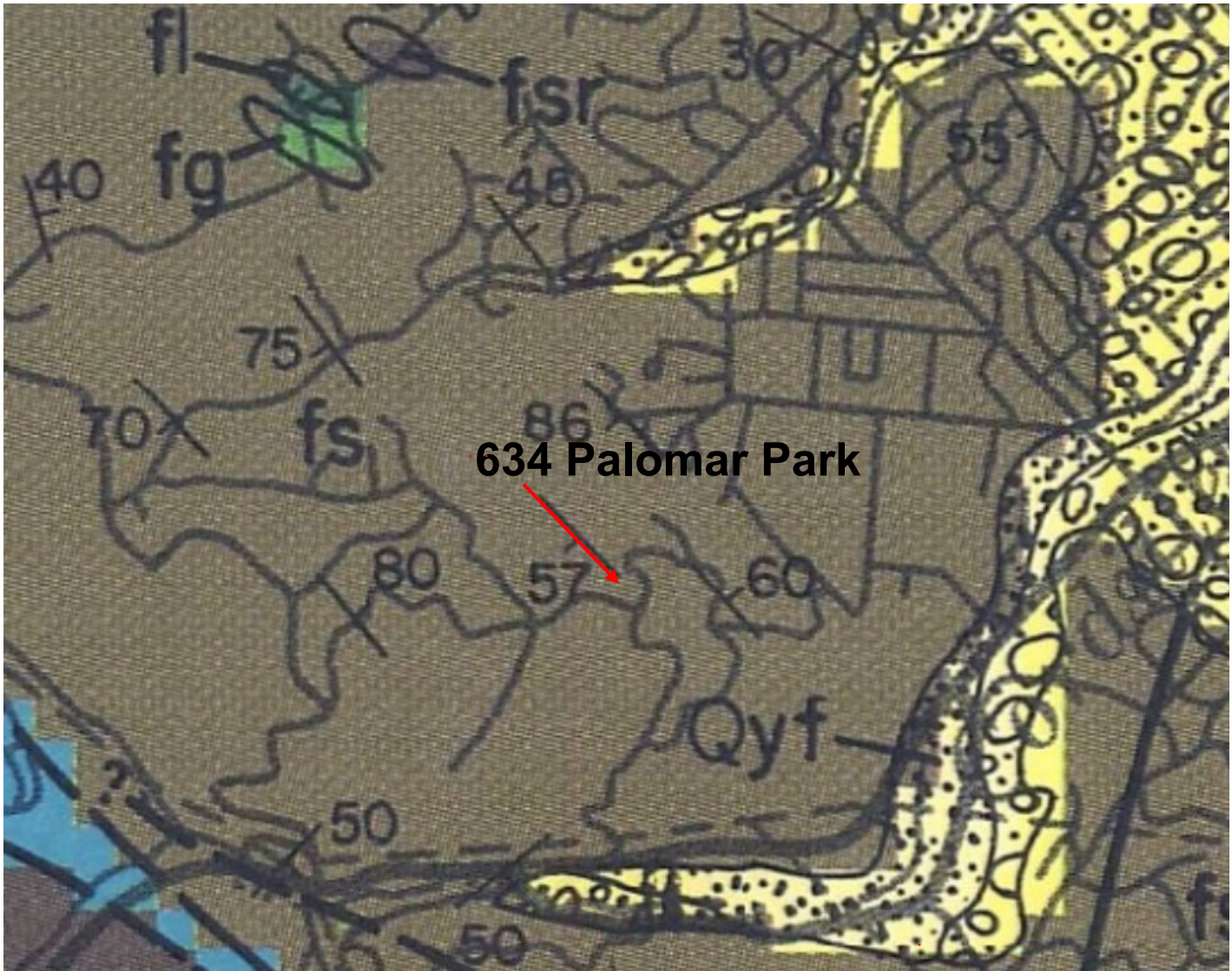
As engineers and scientists, my brother and I are trained to evaluate risk. Clearly defined risk management, essential for the safety and welfare of the residents of Palomar Park, appears to be overlooked in the proposed 634 Project.

The project at 634 Palomar Drive should not proceed without a certified, comprehensive, and independent engineering analysis. I believe that such a ris analysis would expose the project's unacceptable risks to the property owners, immediate neighbors, Palomar Park residents, and San Mateo County.

[1] Google: What happens when shale weathers?

"Shale is the rock most often associated with landslides. Weathering transforms the shale into a clay-rich soil which normally has a very low shear strength – especially when wet. When these low strength materials are wet and on a steep hillside, they can slowly move downslope."

[2]Geologic Map of San Mateo County



KJf

FRANCISCAN ASSEMBLAGE, UNDIVIDED (Jurassic and Cretaceous)—Mostly graywacke and shale (fs). May be variably sheared. Partly coeval with Pigeon Point Formation (Kpp), granitic rocks of Montara Mountain (Kgr), unnamed shale (Ksh), unnamed volcanic rocks (KJv), and unnamed sandstone (KJs). Locally divided into:

fs

SANDSTONE—Greenish-gray to buff colored fine- to coarse-grained sandstone (graywacke), with interbedded siltstone and shale. Siltstone and shale interbeds constitute less than 20 percent of unit, but in places form sequences as much as several tens of meters thick. In many places shearing has obscured bedding relations, and rock in which shale has been sheared to gouge constitutes about 10 percent of unit. Gouge is concentrated in zones that are commonly less than 30 m wide but in places may be as much as 150 m wide. Total thickness of unit is unknown but is probably at least many hundreds of meters