Bear Mountain – Plan Unit 19

Rating: Very High

Evacuation Data Summary					
Number of Structures	Number of Cars	Average Time to Evacuate (min)	Median Time to Evacuate (min)	Minimum Time to Evacuate (min)	Maximum Time to Evacuate (min)
247	534	60	60	47	69

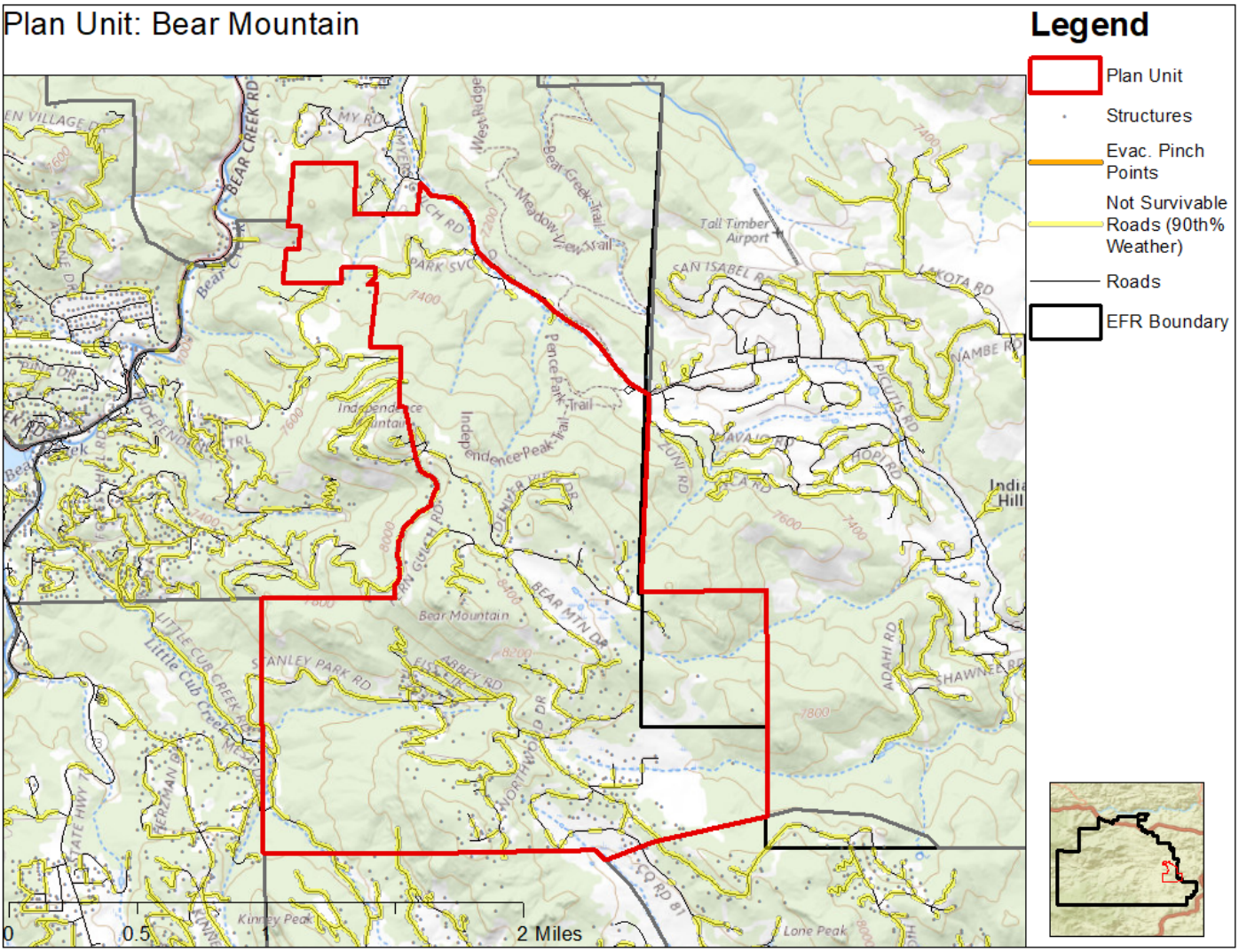
Most of Bear Mountain is thick timber, although on the west edge near Stanley Park Road there is some evidence of fuels reduction treatments in progress. Homes are dispersed across the landscape with good access, but predominantly located on dead-end spur roads. Overall, homes are high-end and newer, apart from the area near Edelweiss Circle and S Twin Spruce loop areas. Most homes have little to no defensible space surrounding them, with homes closely overtopped by trees or vegetation growing under wooden decks. Most homes have wood siding with Class A roof construction. Evidence of historic fuels management treatments were observed by the Bear Mtn. area which appear in need of maintenance for improved tactical response. Cisterns are located at the intersection of Stanley Park Rd and S Bear Mountain Dr.

Area in and around Edelweiss Circle is rescue/drive by due to minimal defensible space and older construction homes. There is no evidence of fuels work in the surrounding undeveloped areas. Ponderosa Pine should be thinned to enable suppression during a wildfire.

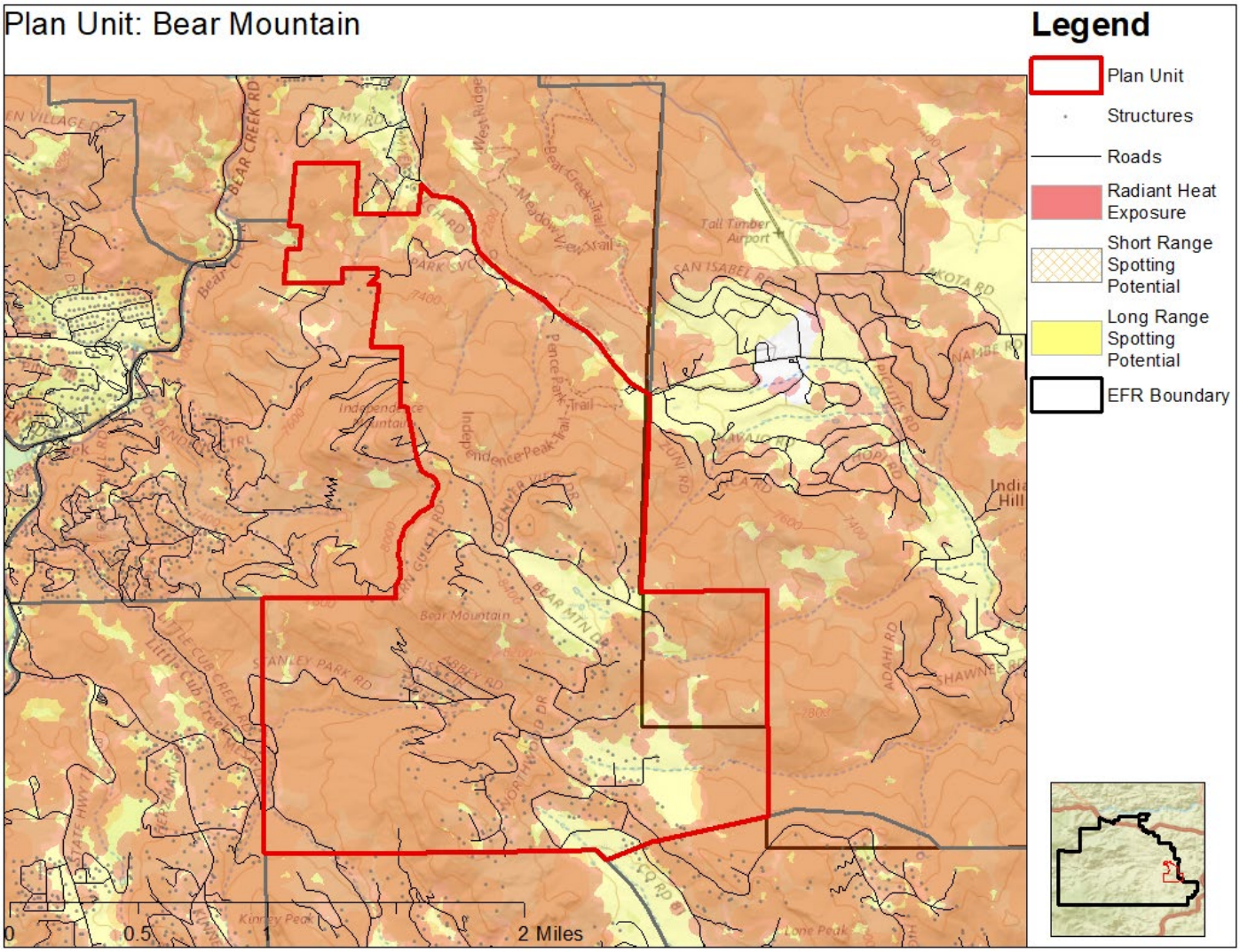
Some homes on the northern side of the Plan Unit, such as around Independence Trail and Denver View Drive have done defensible space work while others still need considerable work both on home hardening and increased defensible space.

At the end of Northwood Drive, some homes have improved stand spacing, but need to improve distances between trees and from homes using the Firewise defensible space criteria. Roadway access is great, but ingress/egress routes are limited.

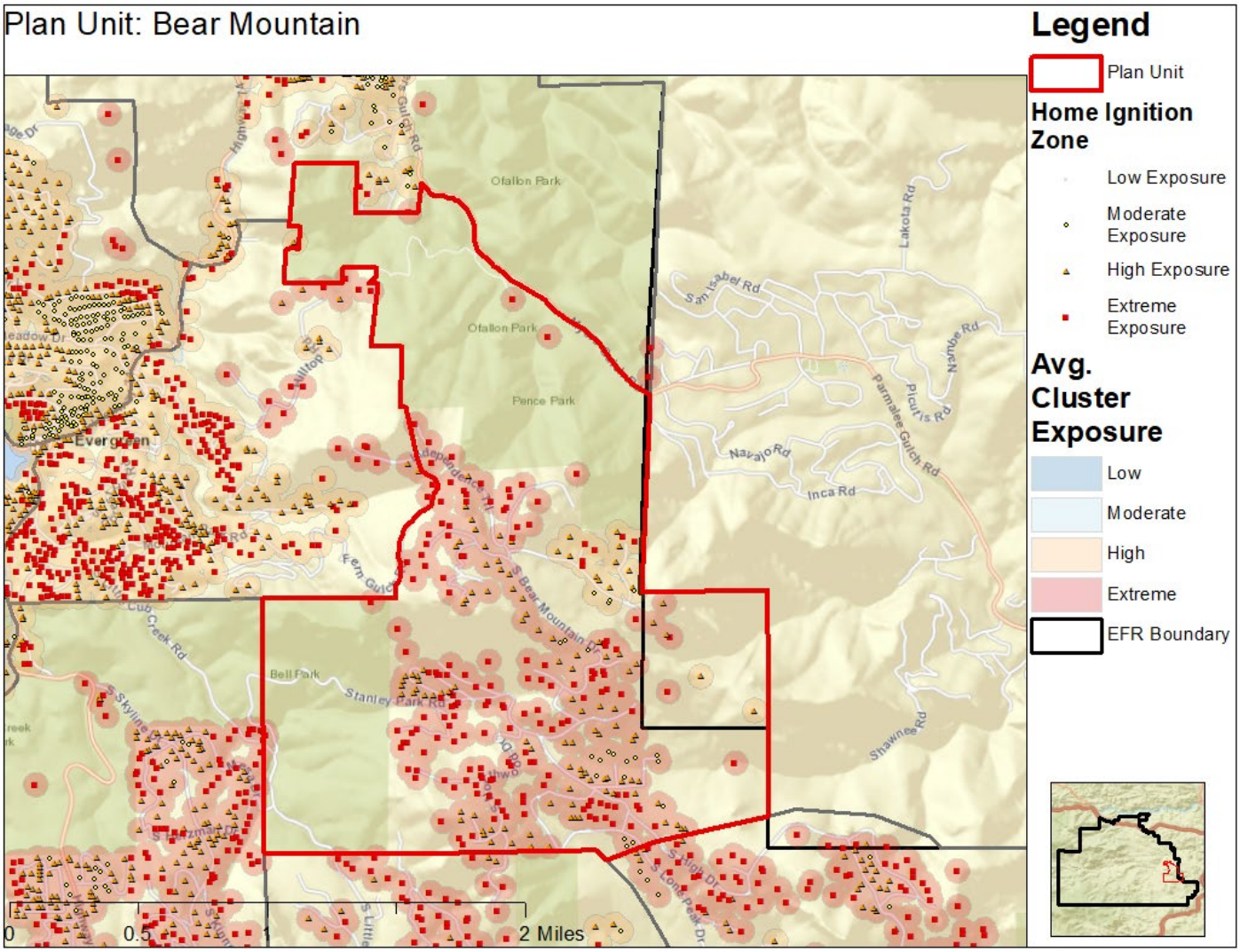
Thinning and piling along Stanley Park Road is very important for evacuation routes and should continue into the Bear Mountain Plan Unit both on undeveloped parcels and on current residences.



There are no modeled Evacuation Pinch Points in Bear Mountain, however, the majority of roadway is not survivable during a 90th percentile fire weather event. S Bear Mountain Drive has major portions that are non-survivable, as well as Stanley Park Road. These two major evacuation corridors need to be mitigated to ensure resident safety.



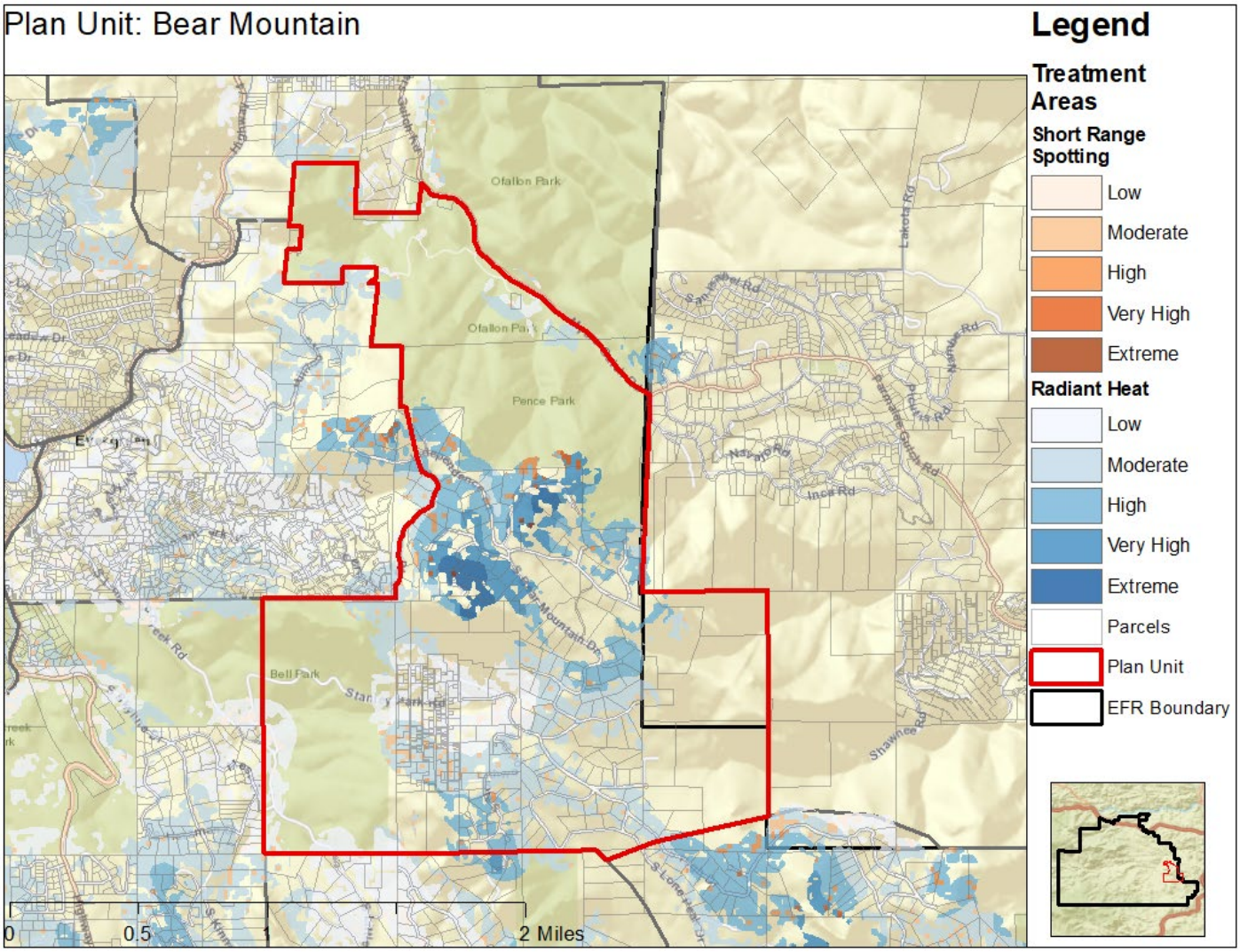
Radiant Heat exposure is designed to show neighborhoods where vegetation will create fire behavior extreme enough to ignite home materials. Short- and long- range spotting is when embers travel a distance from the fire and continue its spread away from the main fire –this can be a deluge of embers that is difficult to combat. These ignition risks are present to extreme degrees in Evergreen Fire Protection District. Different visualizations of this data are mapped on the following pages and will give residents a clearer path forward to mitigation.



Ember exposure outputs (radiant heat, short range spotting, and long-range spotting, as seen above) were overlaid with structure points buffered as the Home Ignition Zone (100 ft). Structures in which greater than 50% of the home ignition zone was covered by radiant heat, short range spotting, or long-range spotting were defined as being at risk from that hazard. Extreme exposure means all three factors are present, as the model indicates.

These values were then aggregated at the structure cluster level which are dissolved 100 m buffers of structures. If a structure's 100m buffer intersects a different structure's buffer, they are part of the same cluster. Average exposure to all the structures in the cluster is displayed behind the structure point on the above map. This means that even though some structures may be a lower risk due to the wildland fuels adjacent to their home, they will be still at extreme risk as home to home ignition is extremely likely.

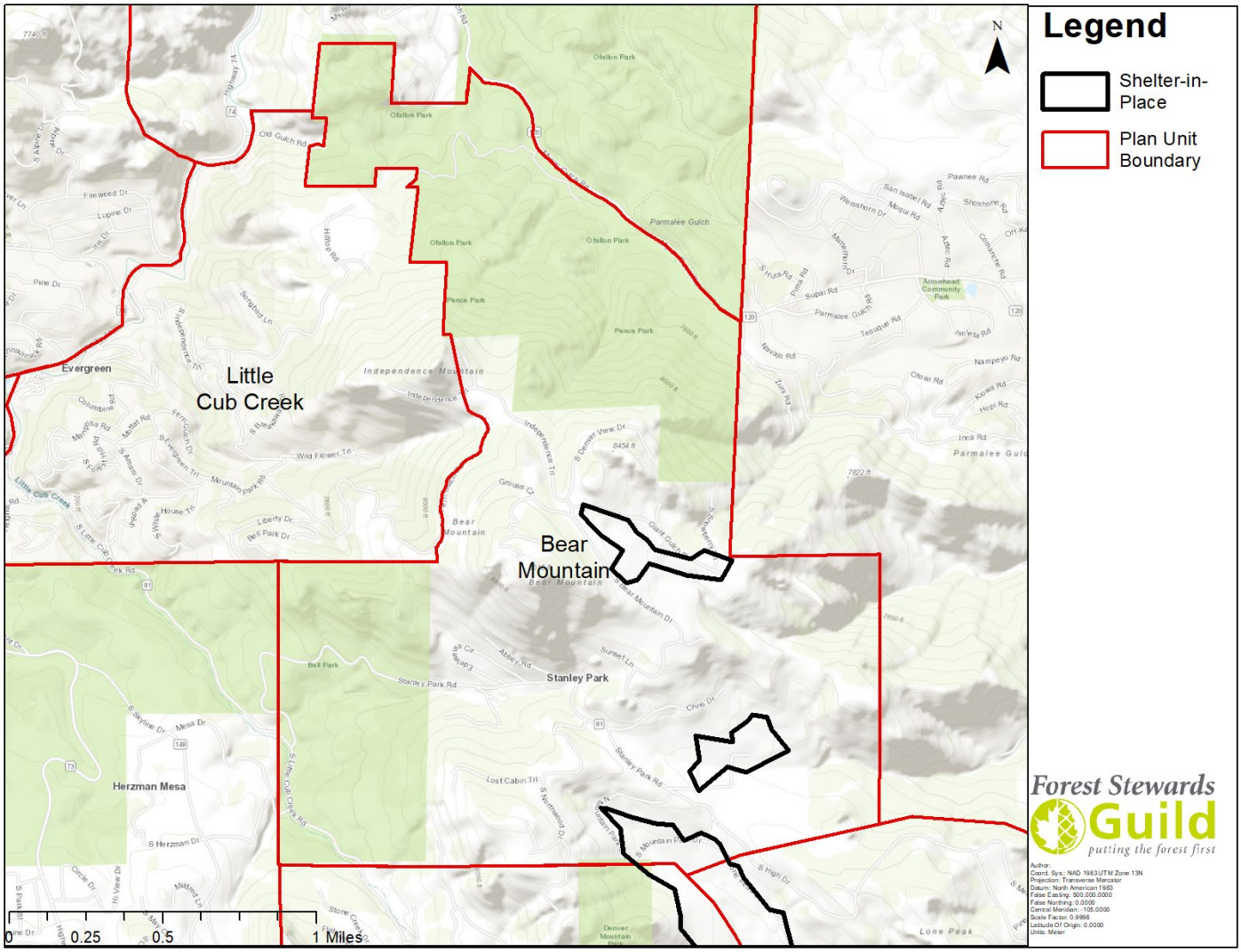
Bear Mountain has many extreme exposure structures, and the average cluster exposure is extreme. This extreme cluster exposure means homes that are at lower risk from radiant heat & short- and long-range spotting are put at higher risk by their connection to other, higher risk structures. Developing robust defensible space work and implementing home hardening practices will reduce the rating of this cluster. The highest priority area will be centrally located, in the area surrounding Independence Trail.



Radiant heat and short-range ember exposure are displayed and filtered by accessible treatment areas (by slope and distance to a roadway). High to Extreme risk areas displayed in those maps are highest priority to protect from radiant heat and short-range spotting, however, this does not negate the need for defensible space treatment across the landscape.

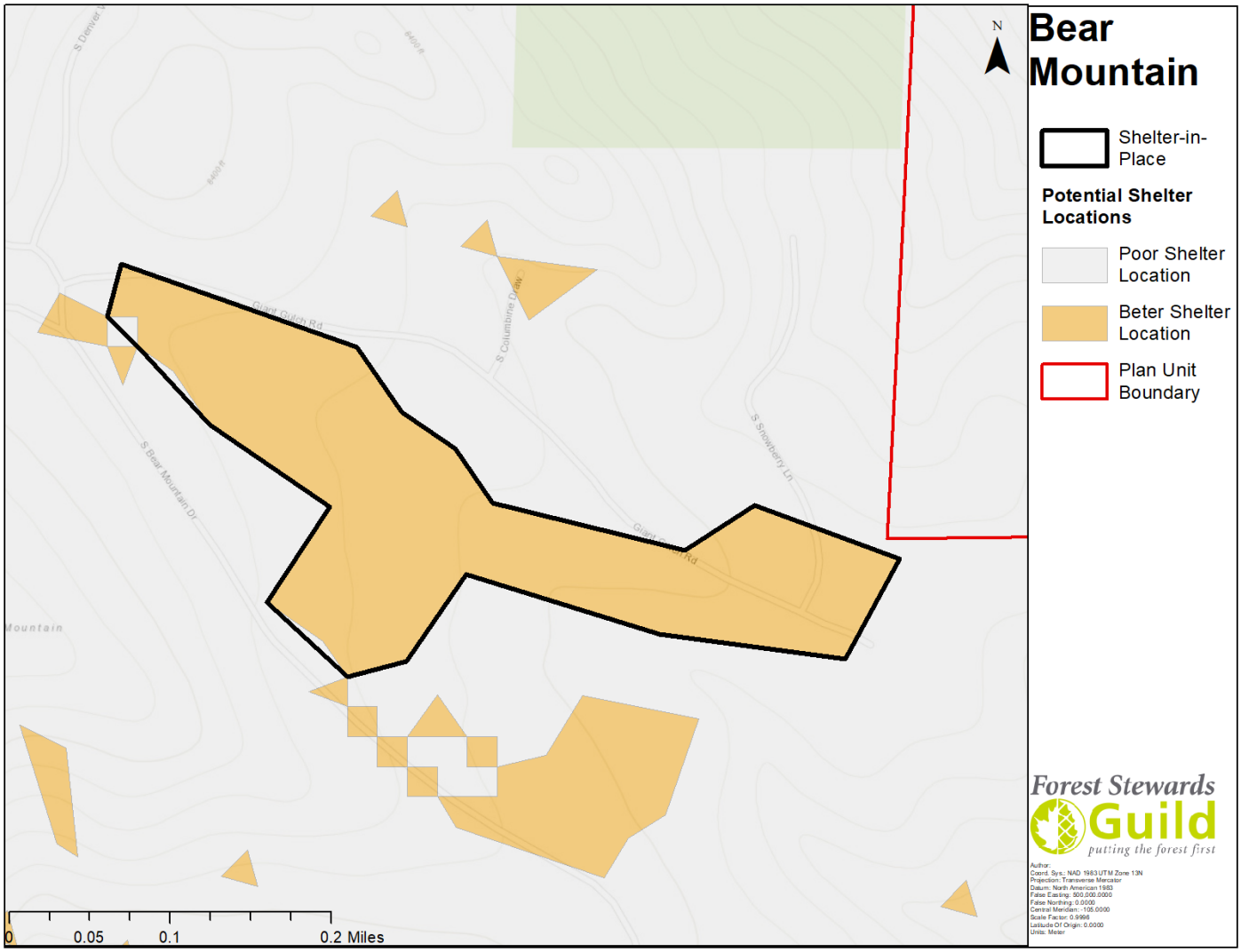
High importance areas for home hardening and defensible space, along with wildland fuel treatment are these areas of extreme exposure. Between Independence Trail, S Bear Mountain Drive, and Mountain Moss Court, there is an extremely dense patch of vegetation that needs to be thinned and maintained to protect this Plan Unit.

Shelter-in-place

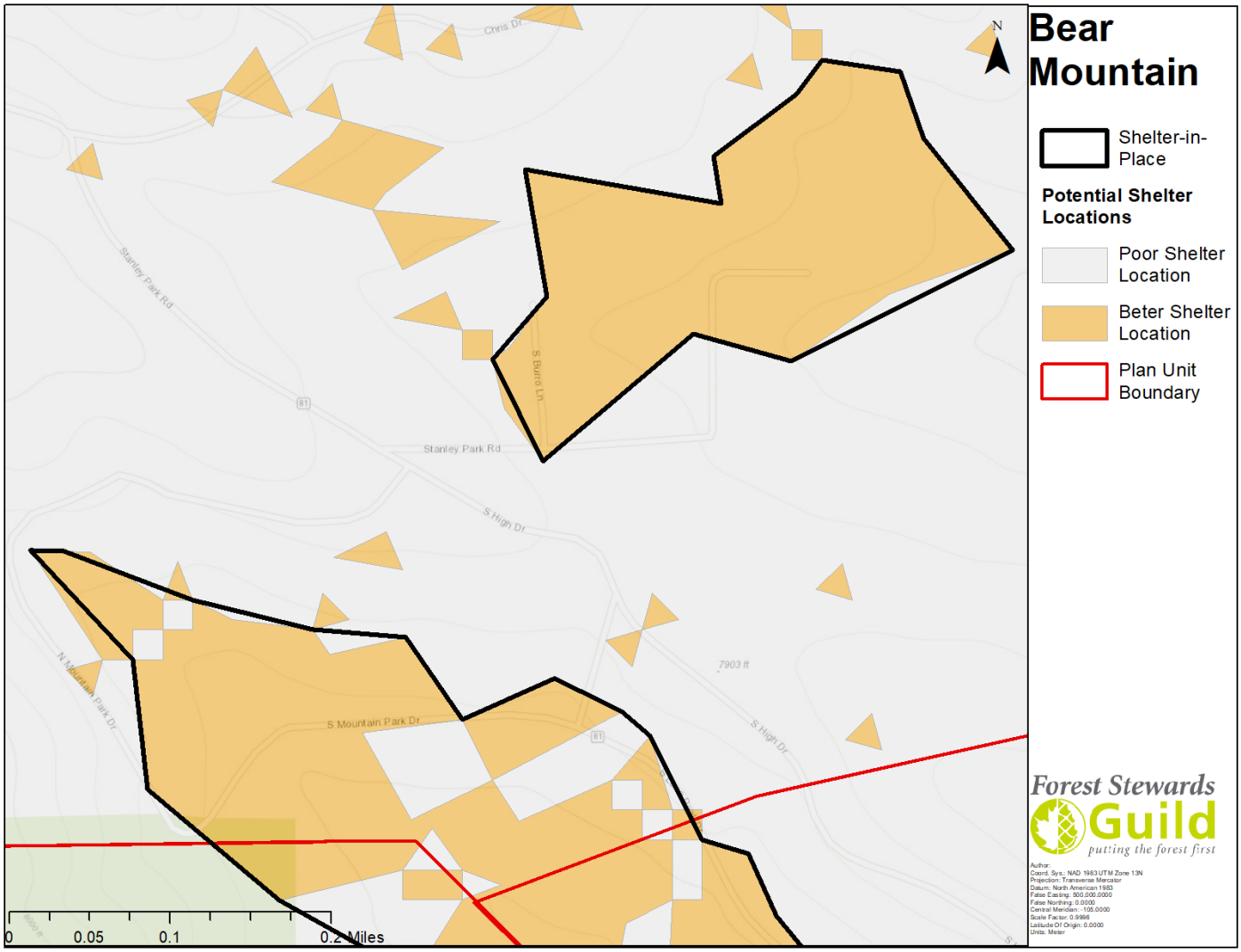


For the purposes of this CWPP, a shelter-in-place location is a location within a neighborhood that residents could drive to and survive the flame front of a wildfire. Shelter-in-place locations are a worst-case scenario option where all other evacuation and rescue efforts have failed. A shelter-in place location is an area where a person can stay safe during a flaming front. No resident should view these locations as a great place to go during a wildfire. If these locations are needed, first responders will direct vehicles in the right direction and determine how many vehicles will be safe during that wildfire event. Evergreen Fire Protection District was modeled for slope and vegetation throughout Evergreen and 20 mph winds using the Butler equation, described in detail in the Shelter-In-Place fuel treatment prescription section.

Between S Bear Mountain Drive and Giant Gulch Road, agricultural fields are good for shelter-in-place, but adjacent fuels need to be mitigated to expand this area. Similarly, agricultural fields at the end of Stanley Park Road could be great locations with some clearing to the east where wildland vegetation is too dense.



This is a close view of the proposed shelter-in-place location for Bear Mountain. Poor shelter locations within this boundary are areas where fuel loading is still too high. These areas should be mitigated to improve the overall shelter location.



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