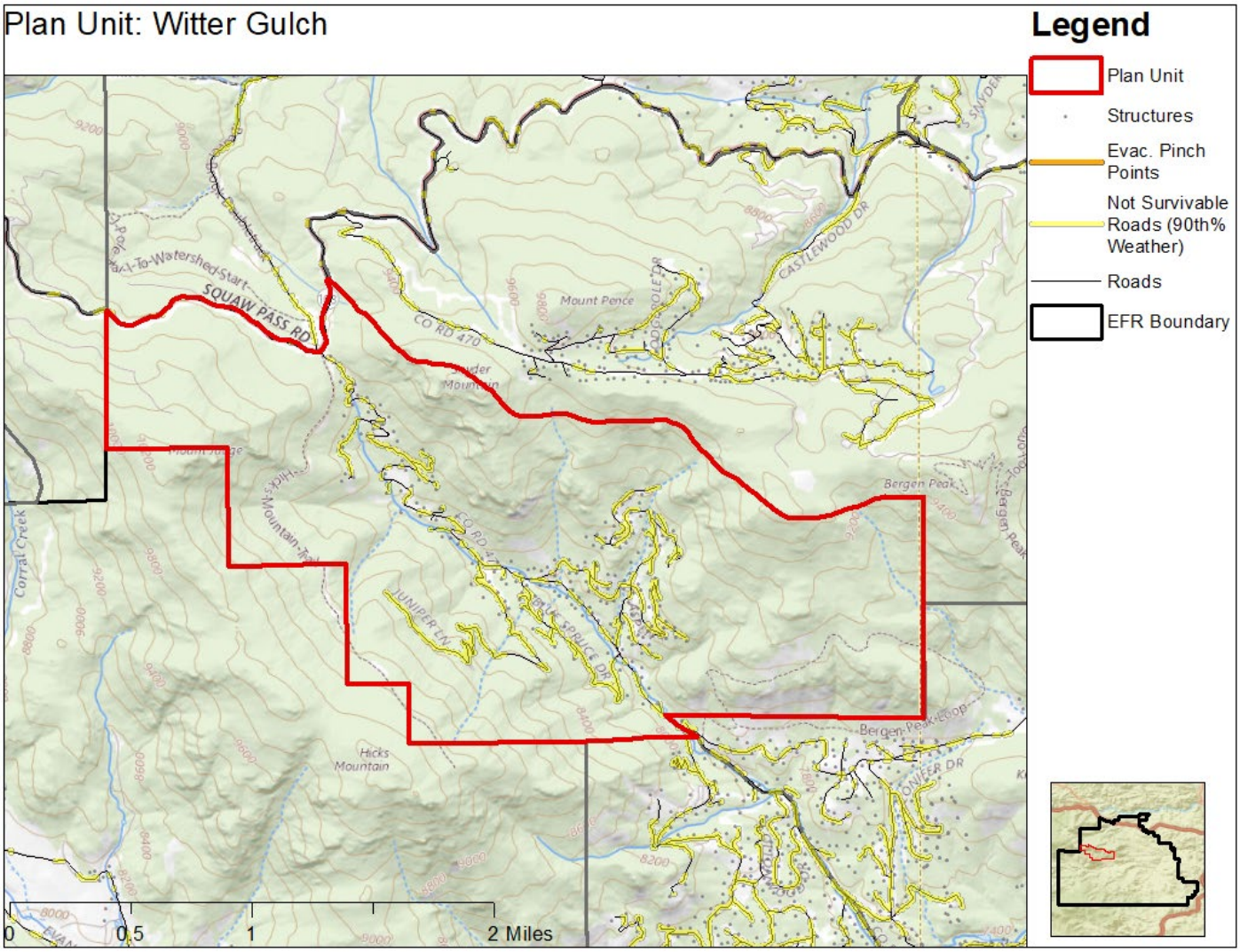
Witter Gulch – Plan Unit 16

Rating: Extreme

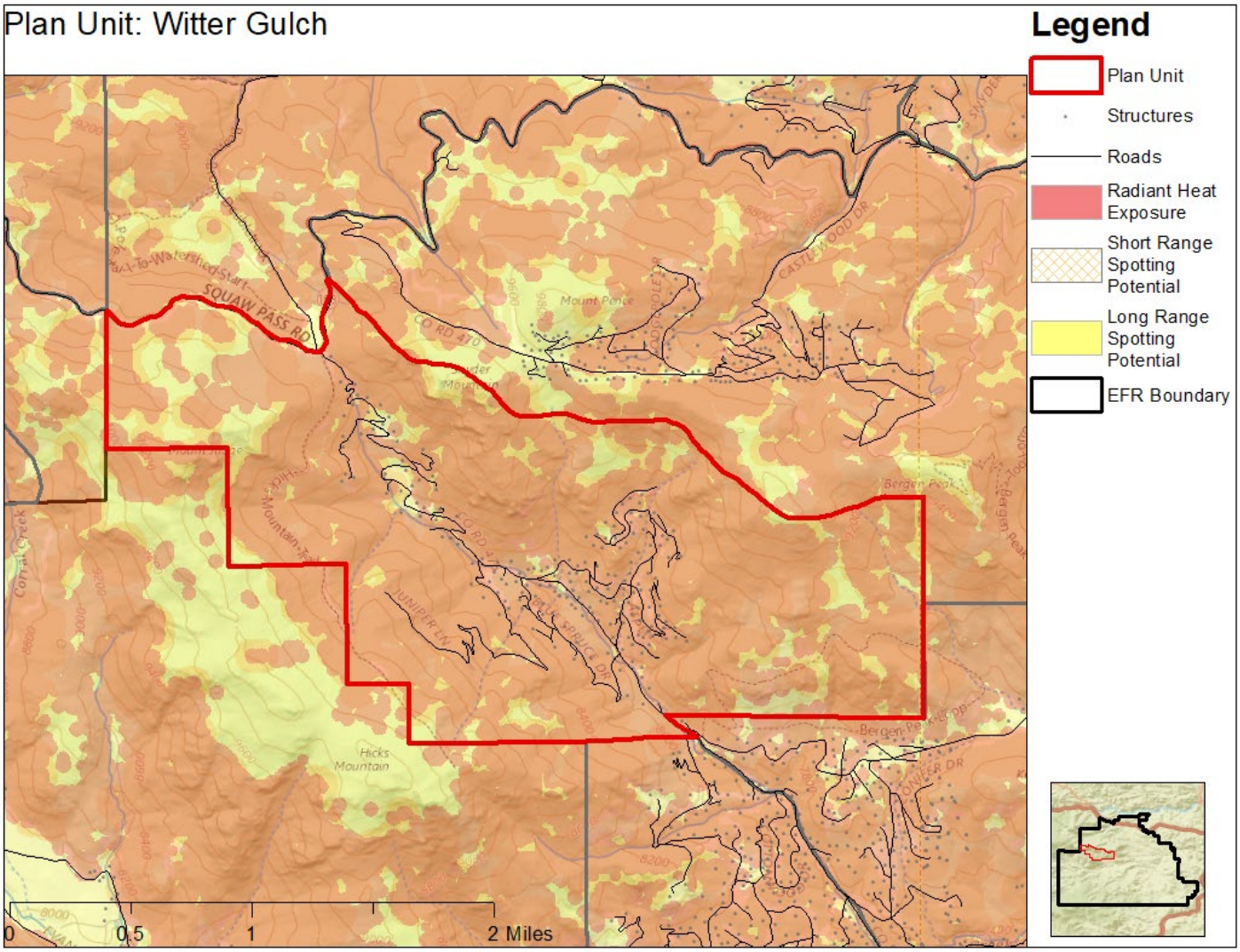
Evacuation Data Summary					
Number of Structures	Number of Cars	Average Time to Evacuate (min)	Median Time to Evacuate (min)	Minimum Time to Evacuate (min)	Maximum Time to Evacuate (min)
182	364	69	69	58	78

Fire risk is extreme throughout the entire Plan Unit. Topography, intense fuel loads and poor access make portions of Witter Gulch a worst-case scenario. Entire canyon is full of late succession, dense mixed conifer, confined by steep ridges on three sides. A substantial portion of dense flammable homes with little to no defensible space sit in this drainage and in one drainage along Snyder Mountain Road. Much of the population here lives up a steep slope with one roadway for ingress/egress. Discussion with a homeowner revealed that some members of the community actively working on wildfire mitigation but they are hindered by slash and timber removal, need for professional arborists due to slopes, a reluctance to remove "landscaping/privacy" trees on their small properties, and neighbors who may not be as proactive.

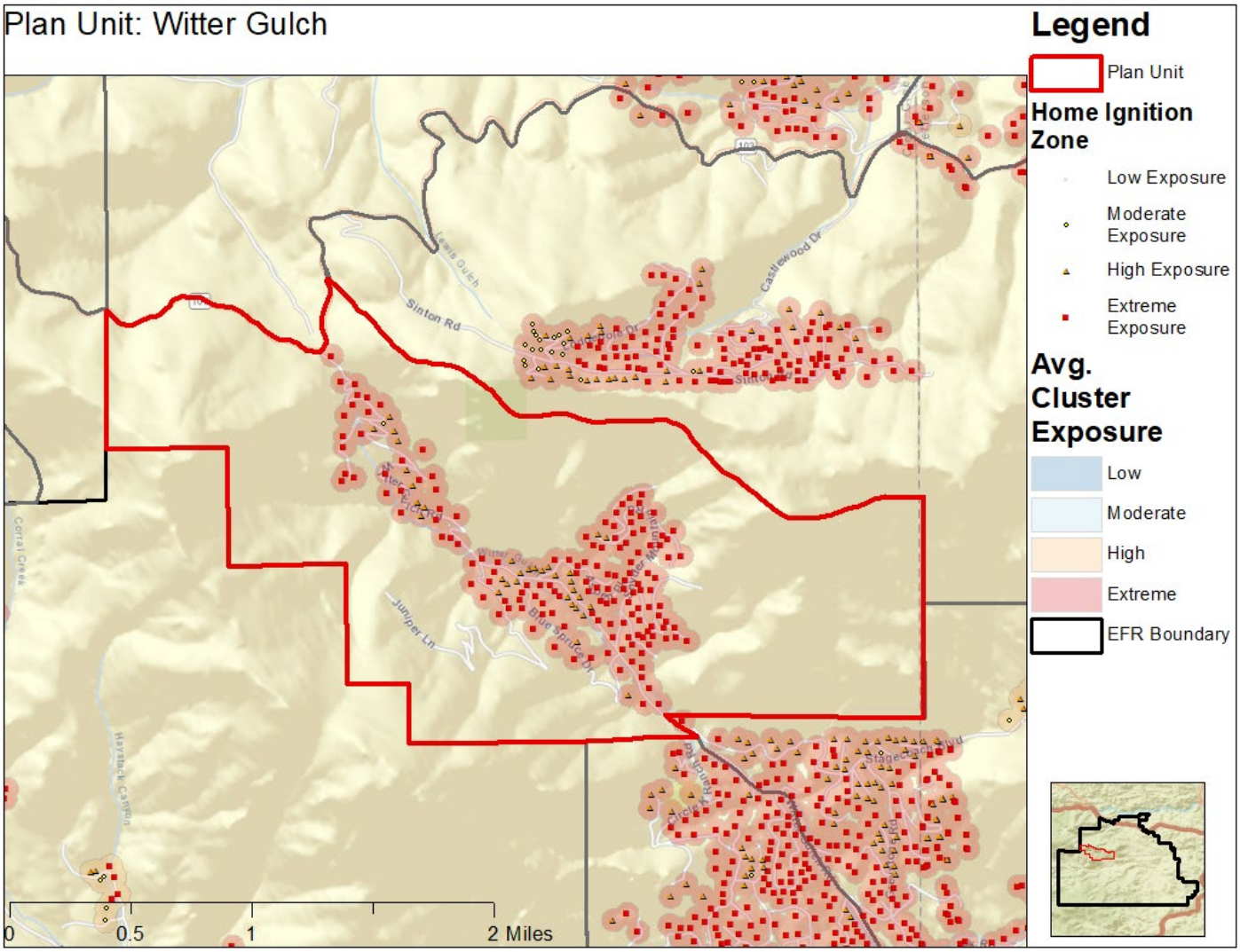
Typical view in Witter Gulch of dense timber fuels in steep ravines directly adjacent to homes. Dramatic home hardening and defensible space is required, along with robust evacuation planning. Under certain wildfire and weather conditions, firefighters could not safely defend this neighborhood.



There are no modeled Evacuation Pinch Points in Witter Gulch due to the model showing few congestion points. However, almost all the roadways in this Plan Unit are not survivable under 90th percentile fire weather conditions. Due to slope and fuel type, some locations might not be feasible for cutting or thinning, but to the extent possible, CO Road 475 needs to become more survivable during a wildland fire.



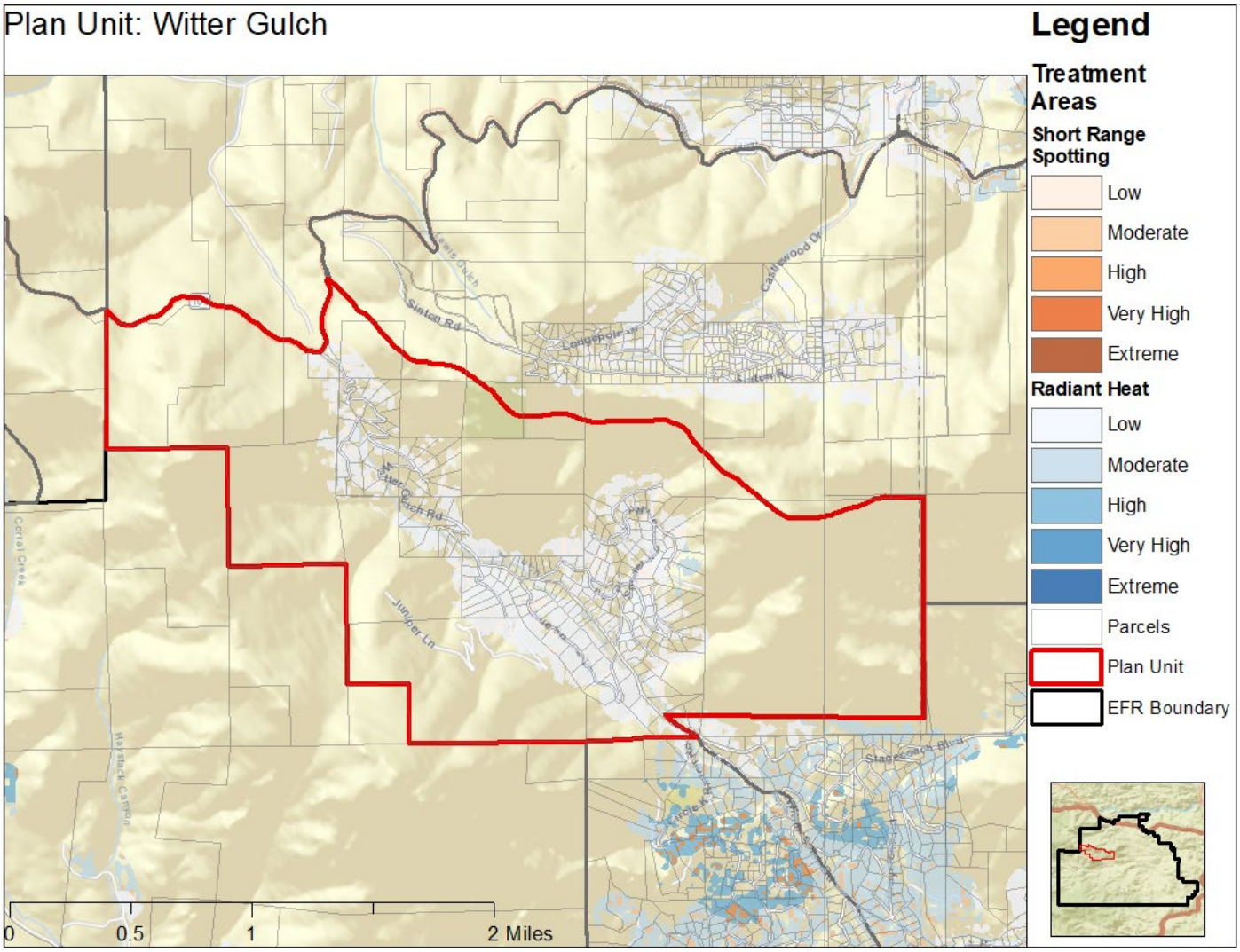
Radiant Heat exposure is designed to show neighborhoods where vegetation will create fire behavior extreme enough to ignite home materials. Short- and long- range spotting is when embers travel a distance from the fire and continue its spread away from the main fire –this can be a deluge of embers that 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.

Witter Gulch has mostly 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.



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.

In Witter Gulch, locations of high risk are not easily treatable due to slope. One option for this Plan Unit would be to treat all treatable areas, shown above on this map, and reduce the risk of wildfire transmission while improving tactical firefighting options. The other option would be to work with a hand crew and do fuel treatment in the areas of highest risk on steeper slopes, surrounding homes and structures with extreme risk.

Shelter-in-place

There are no locations to recommend for shelter-in-place in this Plan Unit. Wildland fuel loading is too extreme, and slopes are too high to make an area that would be safe to shelter.