

# FLOYD HILL – PLAN UNIT 3

*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)
521	1154	74	75	51	88

This Plan Unit has three distinct zones in different wildfire readiness condition. No municipal water sources were observed in any three of the zones listed. Homes throughout have private bridges limiting access of large apparatus. The first zone is a densely vegetated drainage. Homes are close together, made of older construction materials, and a single roadway serves as ingress/egress for this population. The second zone has small lot sizes on steep slope with high grade roads. Increase density of homes and minimal defensible space around these homes increase threat of structure loss during a wildfire event. The third zone located further north has evidence of mitigation work and fire-resistant housing construction.



This image offers a view of the Plan Unit overall.





The first area, along Beaver Brook Canyon Road, is a tight, densely vegetated drainage. The road is winding to a single dead end. Thick overgrowth shows no evidence of mitigation work or home ignition zone improvement. Homes are close together, made of older construction materials, and one point in ingress/egress serves this population. Maintaining turn arounds and removing roadside fuels is recommended for this zone.





The second zone is between Meadow View Drive down to CO 183. Steep slopes with ingress/egress on windy steep roads combined with small properties and increased density of homes that have minimal defensible space makes this area very vulnerable to wildfire. Homes located mid-slope with very flammable construction materials makes home hardening a huge priority here. Numerous tight turns on narrow roads with no shoulder and long single vehicle driveways (single Type 6 width) with no visible turn around space will make it difficult to defend this neighborhood from wildfire. Drainages in the topography are highest priority for treatment as fire can race upslope there.





Lodgepole Pine occurs in patches around homes which requires cleaning up down, coarse woody debris. Cutting of live trees is not necessary, other than to follow guidelines set by the Colorado State Forest Service for Lodgepole Management in the WUI.



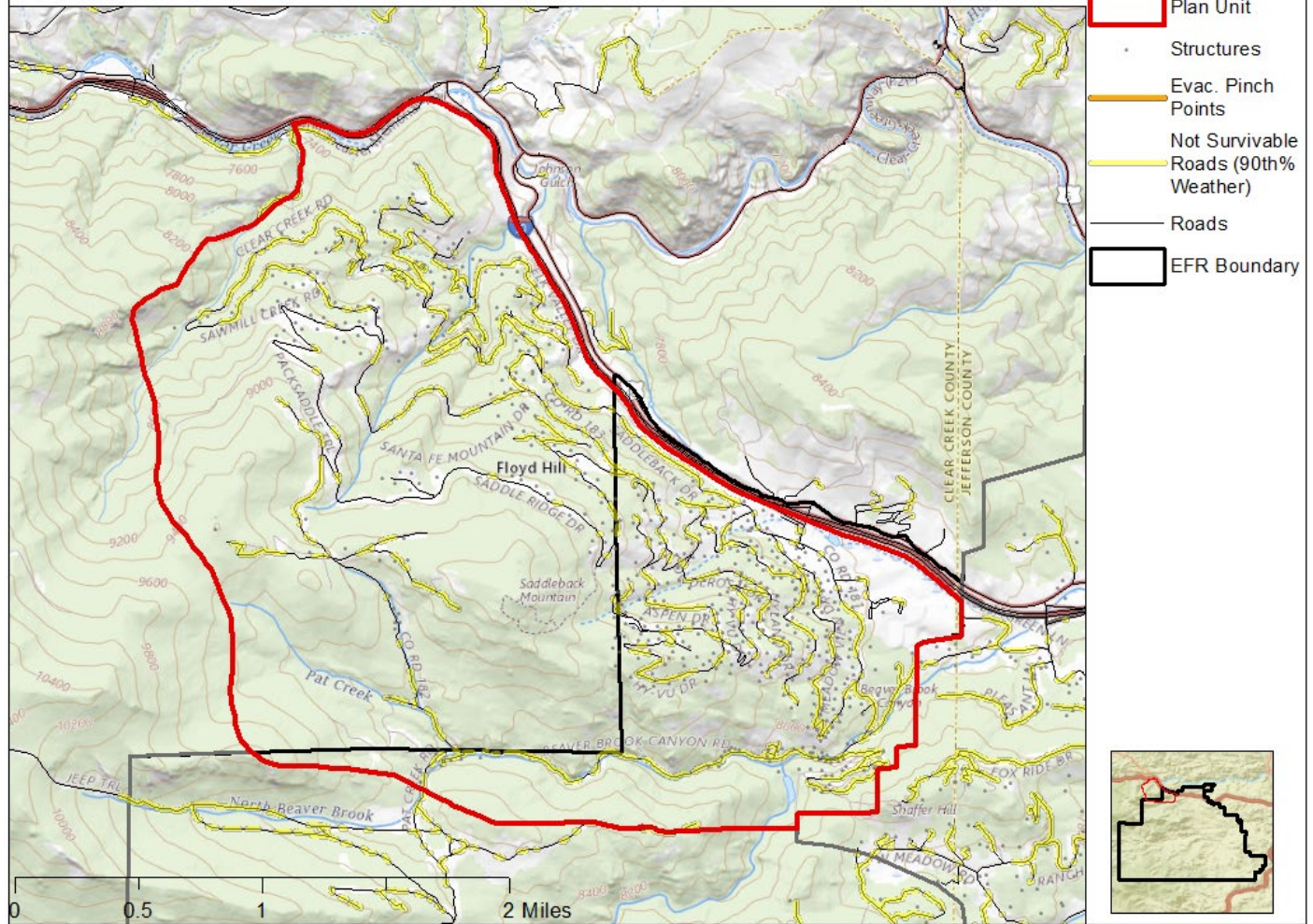


The third zone which is located up at the top of the hills in Lodgepole Pine dominated forest structure with larger parcel sizes, larger homes, and newer homes. Evidence of previous thinning treatments is present, and lack of surface fuel and continuity broken by roads and development makes risk slightly lower. Steep terrain slope influences recommendation for increased defensible space and home ignition zone. Maintaining and increasing the thinning treatments will decrease statistical risk during a large stand replacing fire event.



## Plan Unit: Floyd Hill

## Legend



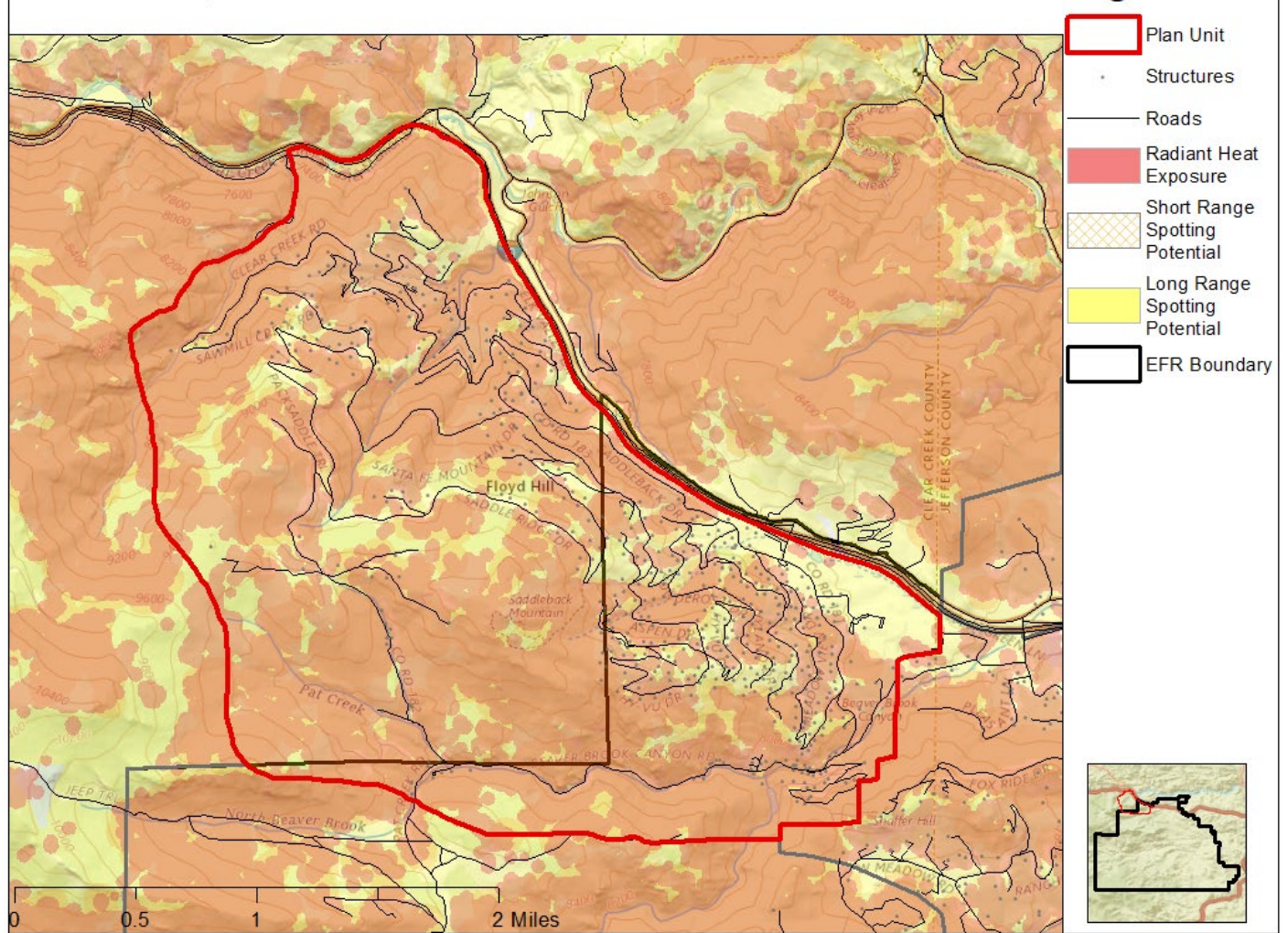
Roadways that overlap with predicted greater than 8 ft flame lengths under 90<sup>th</sup> percentile fire weather conditions are non-survivable. If the model indicates high evacuation congestion and non-survivable roadway are in the same place, there is a high risk to life safety. These sites are referred to as Evacuation Pinch Points. More information about this analysis can be found in the Roadway Survivability and Evacuation Sections of the CWPP document.

Floyd Hill has no modeled Evacuation Pinch Points. CO Road 181, 183 and feeder roads exiting to I-70 are parts of a major evacuation corridor and should be mitigated as highest priority. Almost all this corridor is not survivable during a wildfire and will be more congested than individual neighborhood roads. If alternate evacuation routes are considered, those major pathways would also be top priority. The investment in these other routes should be a decision made by the Floyd Hill Plan Unit leadership and Evergreen Fire Rescue.



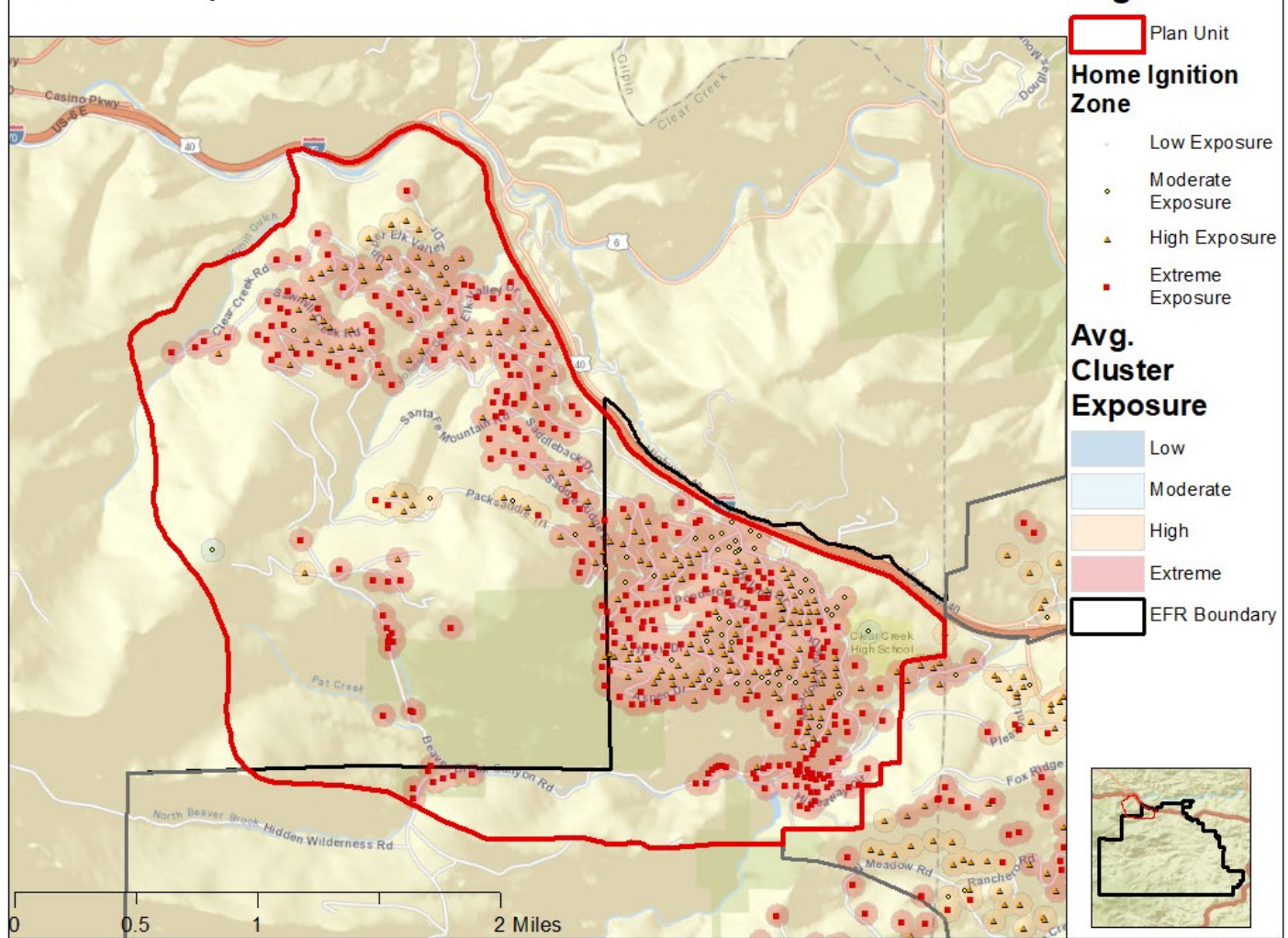
## Plan Unit: Floyd Hill

## Legend



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.

## Plan Unit: Floyd Hill



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.

Floyd Hill has many extreme exposure structures, with most of the related housing clusters experiencing extreme risk on average. Homes along the edge of this community closest to wildland fuels will be a crucial place to engage in defensible space work and home hardening. 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.



## Plan Unit: Floyd Hill

## Legend

### Treatment Areas

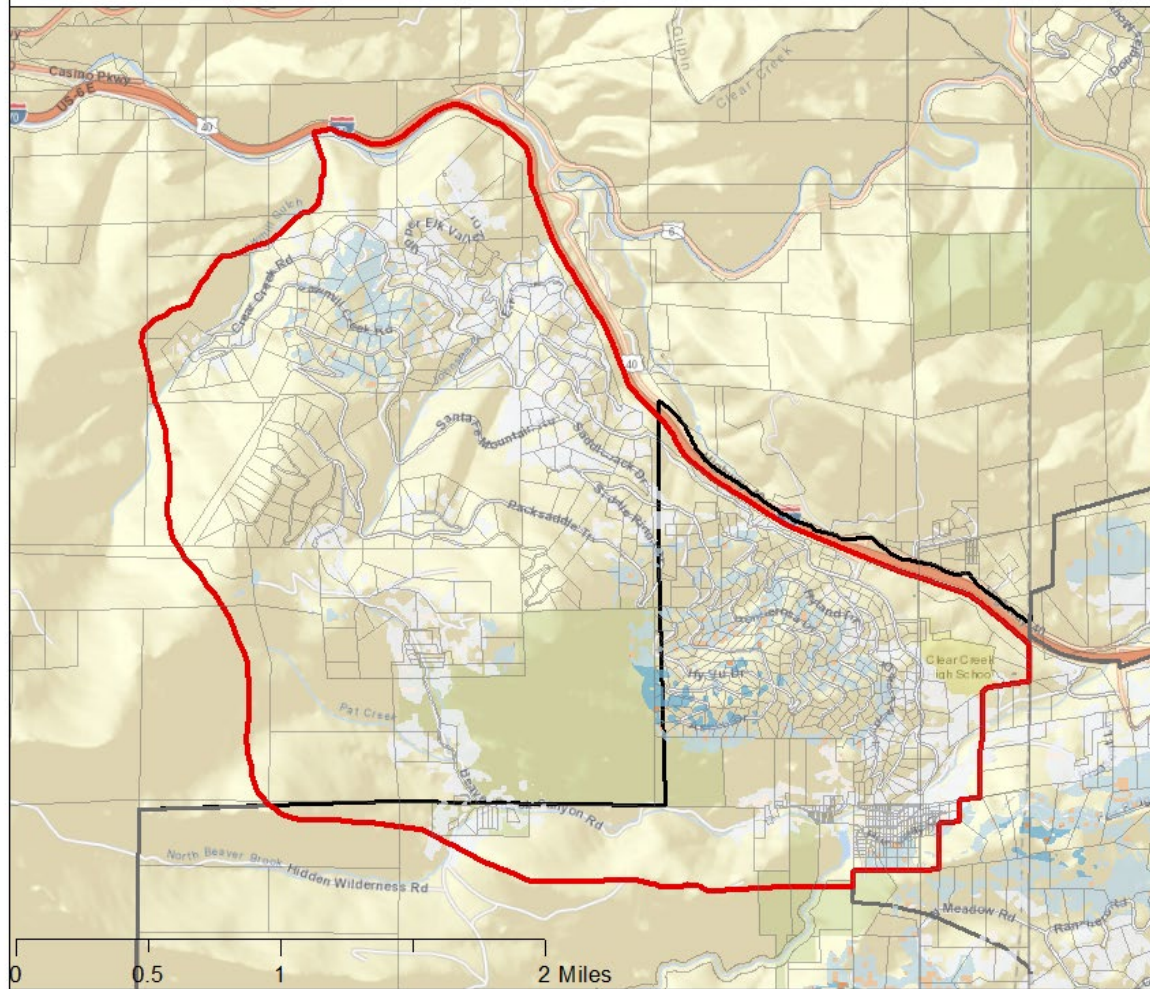
### Short Range Spotting

- Low
- Moderate
- High
- Very High
- Extreme

### Radiant Heat

- Low
- Moderate
- High
- Very High
- Extreme

- Parcels
- Plan Unit
- EFR Boundary

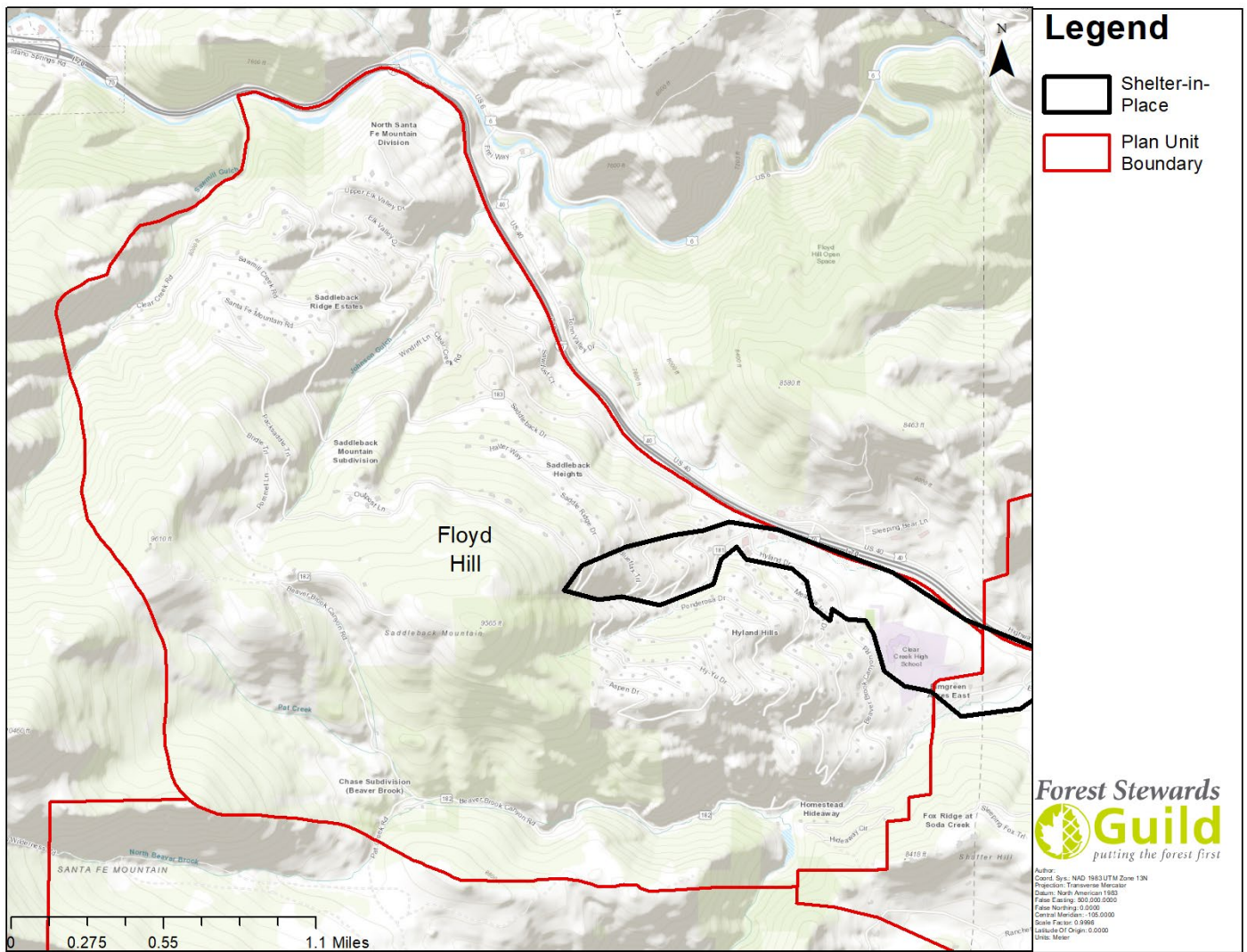


Radiant heat and short-range ember exposure are displayed and filtered by accessible treatment areas (by slope and distance to a roadway). High to Extreme risk areas displayed in those maps are highest priority to protect from radiant heat and short-range spotting, however, this does not negate the need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

In Floyd Hill, the most important areas to treat that are accessible are in the residential areas from Aspen Drive to Hyland Drive, as seen on the above map. This north facing slope contains heavy fuel loading and is adjacent to unmitigated wildland fuels directly south in Clear Creek County Open Space surrounding Saddleback Mountain. This area and the residents that live there need immediate action to protect property, lives, and provide tactical options for first responders.



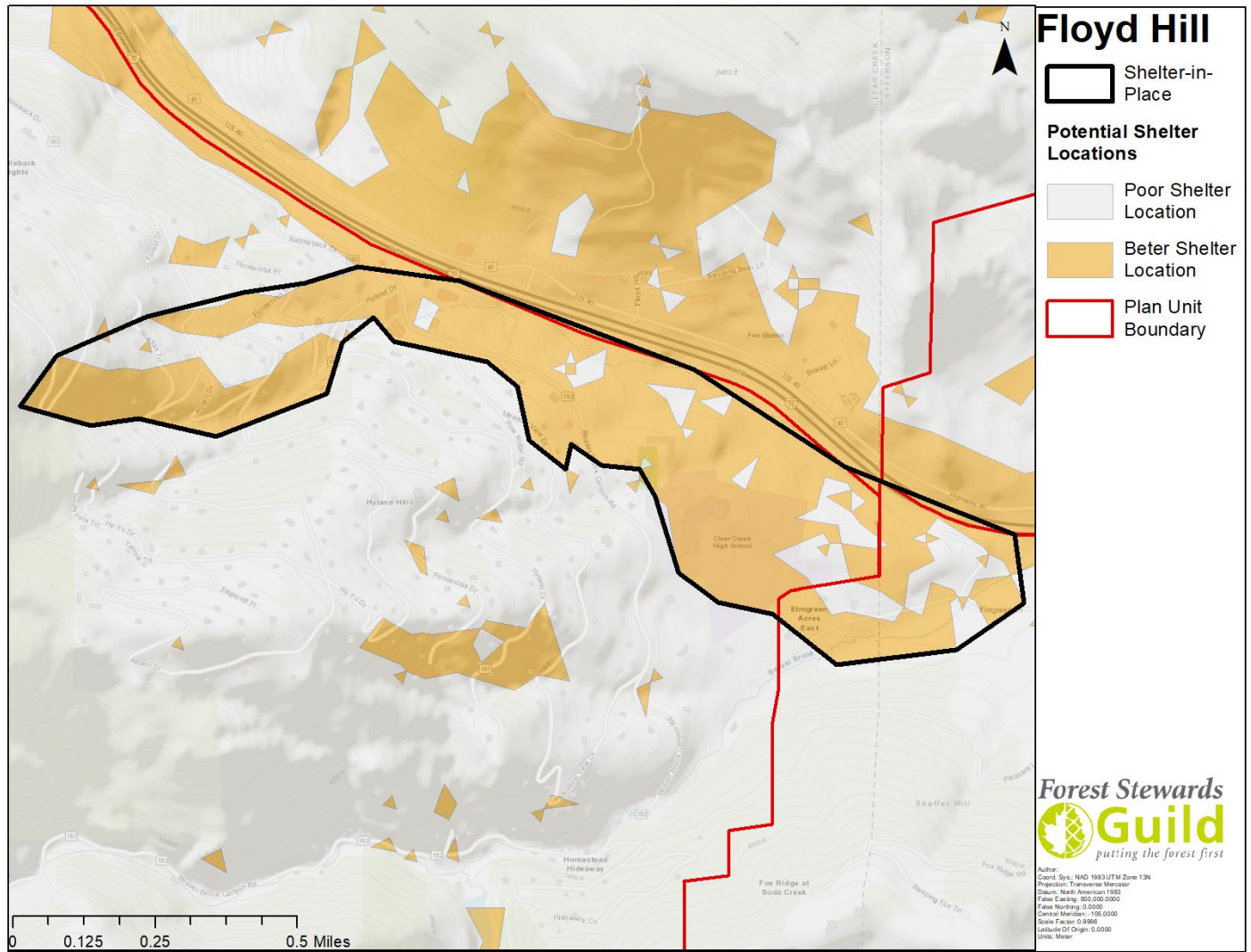
## Shelter-in-place



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.

In Floyd Hill Plan Unit, a section of area would be possible for a shelter location, around Clear Creek High School and extending to the west. The location shown in the above map is recommended for Evergreen Fire Protection District to improve. If residents are unable to access the highway or alternative evacuation corridors, this location will become a crucial option for survival. This location falls on private land and will need collaboration from Plan Unit leaders to implement and maintain.





This is a close view of the proposed Shelter-in-Place location for Floyd Hill. This is a decently large area compared to others in Evergreen. 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.