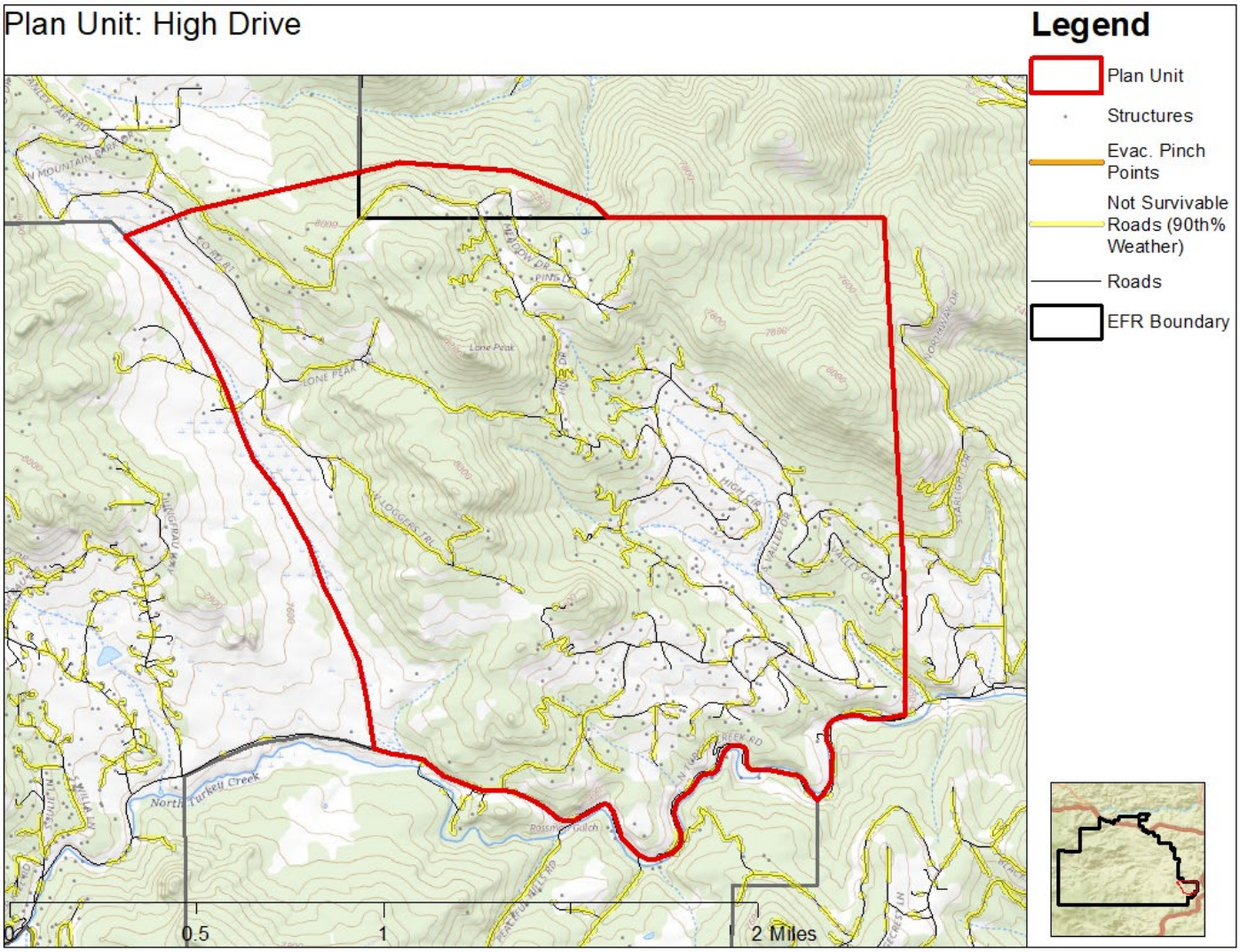
High Drive – Plan Unit 18

Rating: High

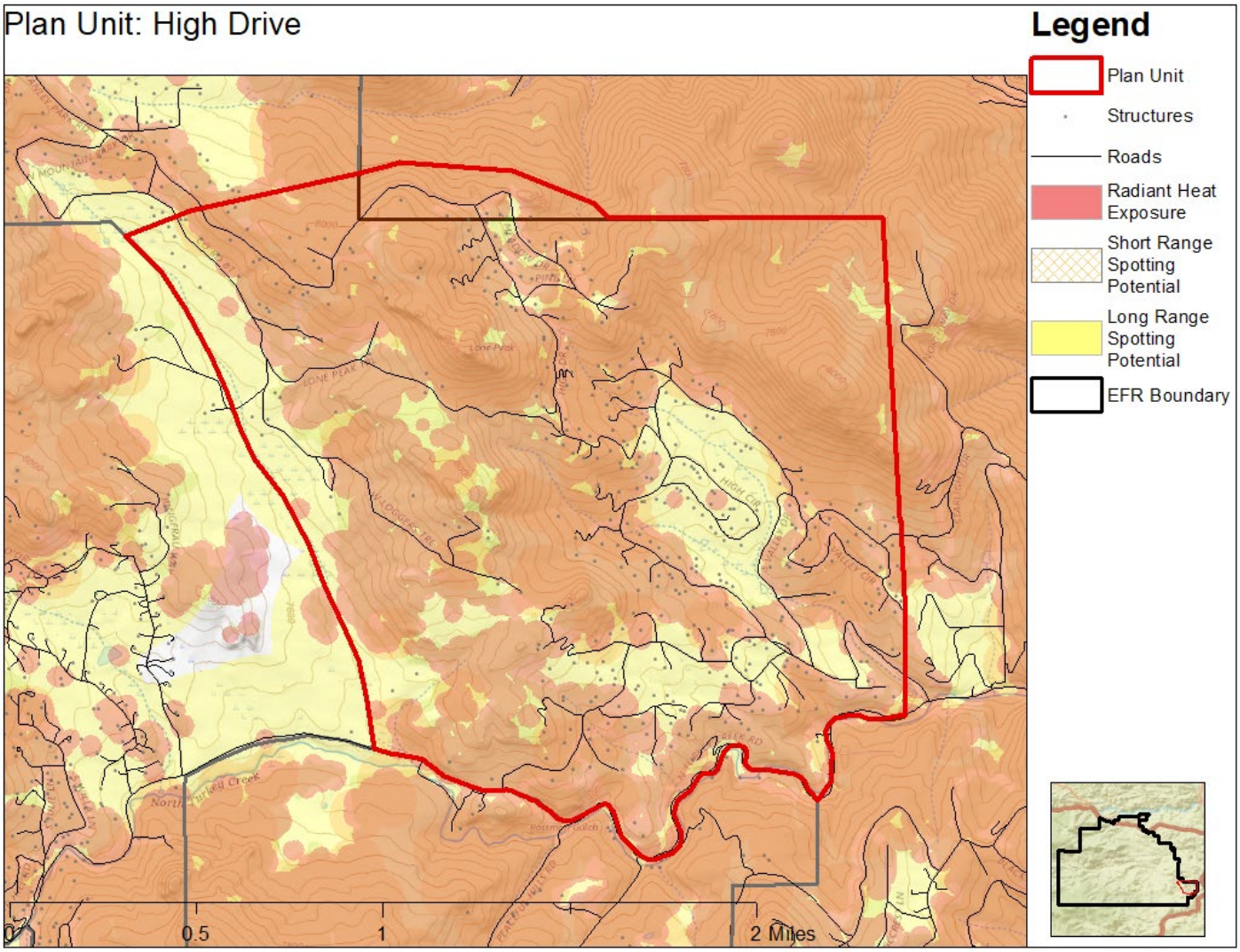
Evacuation Data Summary					
Number of Structures	Number of Cars	Average Time to Evacuate (min)	Median Time to Evacuate (min)	Minimum Time to Evacuate (min)	Maximum Time to Evacuate (min)
300	664	67	67	53	82

Developed areas exhibit low catastrophic fire risk due to sparse Ponderosa Pine stands and generally good defensible space. High rate of fire spread is likely but would be restricted to surface needle and grass fuels. Areas of dense Ponderosa Pine should be thinned which will make a large difference – a little work here will go a long way. Forest stands adjacent to residential areas will create high risk due to traveling embers if home hardening and increased defensible space work is not done. Roadways are wide with good access, though no water sources were obvious.

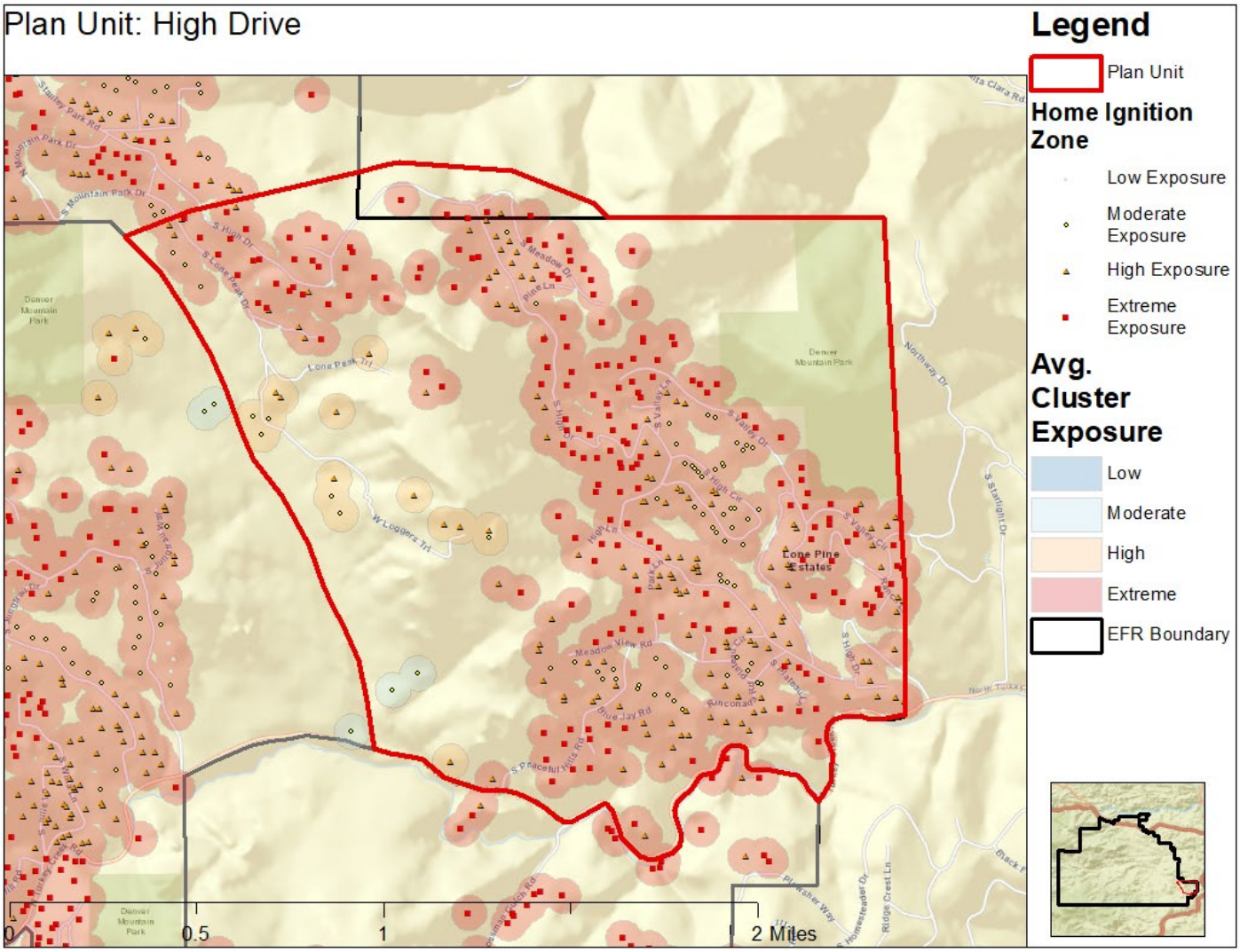
Low density timber fuels with continuous needle cast and grass surface fuels. Properties that do not have high quality defensible space can make a large difference by following Firewise guidelines and increasing crown spacing to 15 feet.



There are no modeled Evacuation Pinch Points in High Drive. CO Road 81, a major evacuation corridor leaving High Drive, is largely not survivable during a 90th percentile modeled fire scenario and must be a priority for treatment. Working from this major corridor to smaller streets and expanding roadway survivability throughout the Plan Unit is the best way to tackle this problem in High Drive.



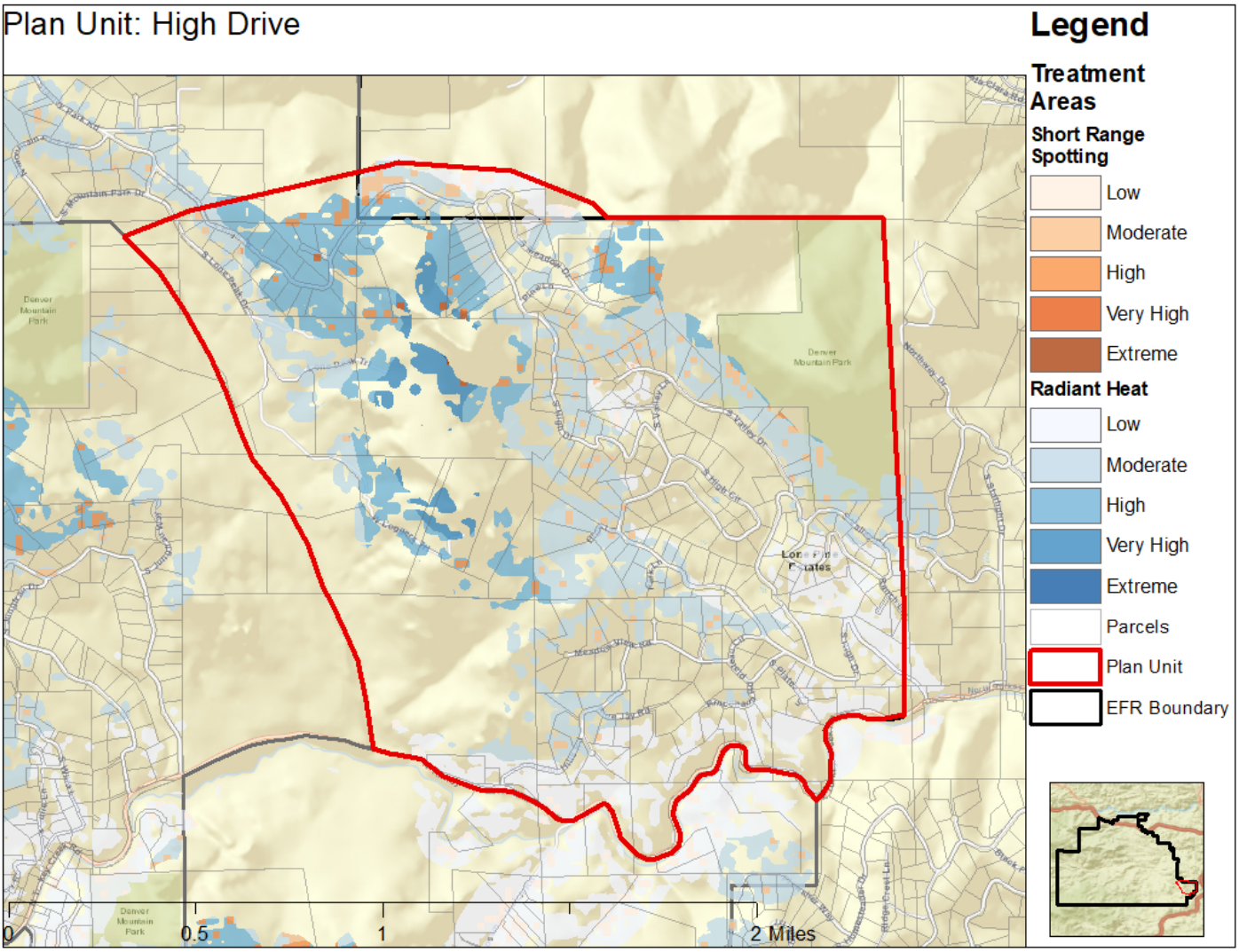
Radiant Heat exposure is designed to show neighborhoods where vegetation will create fire behavior extreme enough to ignite home materials. Short- and long- range spotting is when embers travel a distance from the fire and continue its spread away from the main fire –this can be a deluge of embers that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

High Drive has a large population of 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. A priority area is the areas around High Drive and Lone Peak Drive.



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 High Drive, large areas are at extreme risk of radiant heat and short-range ember exposure. Much of this area is accessible for treatment. The northwest corner of the Plan Unit is the best place to start, and therefore reduce risk to the other parts of the neighborhood. Topography and untreated vegetation create conditions of extreme risk, and residential areas between Lone Peak Trail and High Drive are the right place to start.

Shelter-in-place

This Plan Unit does not have a currently recommended shelter-in-place location. Residents should assist North Turkey Creek with the shelter locations in need of improvement that will work for High Drive evacuees. These potential locations fall on potential evacuation routes for High Drive residents.