

# NORTHEAST HOBART AREA

## COMMUNITY WILDFIRE PROTECTION PLAN

October 2012



Prepared by Madden & McNamara

with assistance from:

- King County Department of Natural Resources and Parks
- Washington State Department of Natural Resources
- Maple Valley Fire and Life Safety (King County Fire District 43)

# Acknowledgements and Approvals

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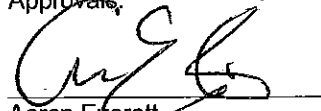
-Washington State Department of Natural Resources

-Maple Valley Fire and Life Safety (King County Fire District 43)

*Maple Valley Fire and Life Safety has partnered with Firewise and other King County agencies enhancing our ability to provide the skills, knowledge, and expertise necessary to increase community awareness of wildfire mitigation. This partnership will continue to encourage local solutions in protecting life and property from the risk of wildfire within our community.*

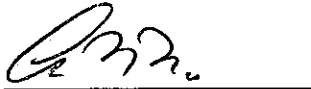
—Brad W. Doerflinger, Fire Chief

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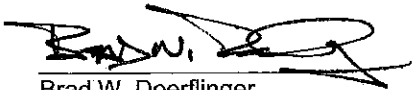
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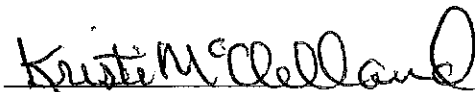


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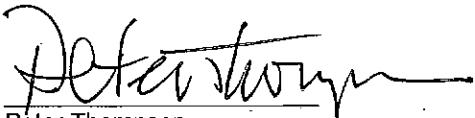


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# About The Plan

## What This Plan Includes

The Northeast Hobart Area Community Wildfire Protection Plan is designed to educate community members about the risks of wildland fire in the Hobart vicinity outside of Maple Valley, Washington (the properties and side roads off of the eastern most end of SE 208<sup>th</sup> Street, including 298<sup>th</sup> Ave SE, 301<sup>st</sup> Ave SE, and 303<sup>rd</sup> Ave SE). The plan includes general information about wildfire, specific wildland fire threats to the Northeast Hobart area, how these threats can be mitigated, and how residents can participate in the voluntary Firewise program (including getting recognition as a National Firewise Community). This plan was sponsored by King County's Department of Natural Resources and Parks using federal Firewise funds allocated under the Secure Rural Schools and Community Self-Determination Act, Title III.

## Who This Plan Is For

The plan was developed primarily for homeowners in the Northeast Hobart area. Residents in other nearby areas may use this information to develop their own plans. Elected officials and agency representatives may also find the content useful.

## How To Use This Plan

You don't need to read this document from cover-to-cover to get the most out of it. The following roadmap should help you effectively navigate through the plan.

- To learn about the **Firewise** program, read **Chapter 1** (page 3).
- To understand **how wildland fire behaves**, and **what you can do to reduce your risks** read **Chapter 2** (page 5) and **Chapter 3** (page 9).
- To get a **profile of the Hobart area** (including fire-related environmental characteristics), read **Chapter 4** (page 13).
- To find out about potential **wildland fire threats in the Hobart and Northeast Hobart areas**, read **Chapter 5** (page 19).
- To read about ways to **mitigate wildland fire threats in the Northeast Hobart area**, refer to **Chapter 6** (page 34).
- To see how **Northeast Hobart** area residents can gain **Firewise Communities USA recognition**, read **Chapter 7** (page 42).

A companion resource kit is also included with this plan. The CD-ROM resource kit contains a number of references, information sources and forms. To learn more about the kit, and what comes with it, refer to the README file on the CD-ROM.

# Chapter 1

## Firewise, Dollar and Sense Smart

### About Firewise

During the past hundred years, America's population has nearly tripled. Much of this growth has occurred in traditionally natural areas such as forests and grasslands. These areas are all subject to the natural process of wildfire. Wildland fires can be difficult to control. As a result, in places where development has encroached into natural areas (dubbed the *wildland/urban interface or WUI*) property, lives and natural resources are all at risk from wildfire.

Following the catastrophic fire season of 1985, government representatives met to discuss the increasing trend of wind-driven fires in populated areas. They formed the National Wildland/Urban Interface Fire Program. In 1992, the program's advisory group began to use the term *Firewise* to describe being knowledgeable and prepared for wildfire in residential or urban settings.

In 1996 a Firewise Web site ([www.firewise.org](http://www.firewise.org)) was launched. It was followed by national and regional workshops, public education efforts, and a community recognition project. Today the Firewise program is viewed as a successful example of partnering among communities, homeowners, private industry, tribes, and public agencies and officials to develop and implement local solutions for wildfire preparedness – before a fire starts.

### Firewise Fundamentals

Wildland fires are a natural part of the environment. Despite the best efforts of government agencies, they will occur. The Firewise vision is that with adequate planning and cooperation among varying interests, wildfires can occur without disastrous loss of life, property, and resources.

The best approach to wildfire preparedness involves utilizing the wide range of Firewise practices. The Firewise program offers a series of practical steps (such as landscaping, home construction and design, and community planning) that individuals and communities can take to reduce their vulnerability to wildfire.

Firewise doesn't mean cutting down all of the surrounding trees and creating a sterile environment to prevent a wildfire from spreading. People want to live close to nature for a reason, and aesthetics is a cornerstone of the Firewise program.

Examples of Firewise techniques for property owners include creating a defensible space around residential structures by thinning trees and brush, choosing fire-resistant plants, selecting ignition-resistant building materials, positioning structures away from slopes, and working with firefighters to develop emergency plans.

It's important to understand that Firewise is a voluntary program. Firewise offers proven, common-sense ways of reducing the risks of wildfire. It is ultimately up to community members whether they want to put these practices in place. It is also important to recognize all of the Firewise practices don't necessarily need to be implemented at once. A single practice reduces fire risk, and other practices can be added over time if desired. Relatively small investments of time and effort can produce great rewards when it comes to wildfire safety.

Community members can participate in Firewise Communities/USA. This program recognizes communities for working together to protect residents and property from fire in the wildland/urban interface. To receive Firewise Communities/USA recognition, communities must create and implement a local plan with cooperative assistance from state forestry agencies and local fire staff. In addition, communities are required to continue regular maintenance and education to retain recognition status. (The steps for gaining recognition are laid out in this plan.)

## **Benefits**

Applying Firewise practices have a number of benefits, including:

- Saving homeowner lives during a wildfire
- Increasing firefighter safety by reducing risks
- Saving homes and possessions from damage or destruction
- Preserving community aesthetics (both before and after a fire)

## **To Learn More**

The Firewise Web site ([www.firewise.org](http://www.firewise.org)) provides homeowners and agency staff with educational information about wildland/urban interface fires. The interactive site details how to mitigate wildfire risks at the homeowner and community levels. You can view streaming videos, download documents, browse an extensive list of helpful links, and access a searchable library of national, state, and local documents on a wide range of wildfire safety issues.

# Chapter 2

## Wildland Fire Behavior Basics

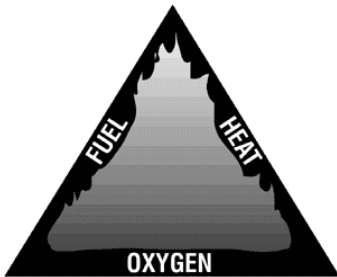
As a homeowner, if you want to reduce the risks of wildfire, you need to know a little about how fire behaves. This chapter presents the basics and tells you what you need to know about wildland fire behavior.

### Understanding the Fire Triangle

To begin with, three components are required for a fire to start and keep burning.

- Heat
- Fuel
- Oxygen

These components form what is called the *fire triangle* (as shown in Figure 2-1).



**Figure 2-1:** The fire triangle consists of heat, fuel and oxygen.

When there's not enough heat generated, when the fuel is exhausted, removed, or isolated, or when the oxygen supply is decreased, then a side of the triangle is broken and the fire goes out. Firefighters try to manage one or more of these three elements to control a fire.

### Zeroing In On Heat

The heat part of the fire triangle is very critical. Some form of heat source is required to ignite a fire (lightning, matches, cigarette butt, fireworks, etc.). Heat is also needed to keep the fire going and cause it to spread.

Fire is constantly producing heat and the transfer of heat to the surrounding environment is what makes a fire spread. Heat removes the moisture from surrounding combustible materials (grasses, trees, wood, paper, etc.) making it more prone to burn - the drier the fuel, the more combustible it becomes.

When it comes to fire, heat can be transferred three ways:

- **Convection** is heat transfer through the air, such as when hot air rises up through a chimney. Convection air currents can preheat leaves and branches carrying a ground fire upwards into a tree or shrub.
- **Radiation** transmits heat by the proximity to flame. Radiation accounts for most of the preheating of fuels surrounding a fire. The temperature of these fuels can sometimes grow so high that the fuels ignite before they even come in contact with the flames, thus spreading the fire.
- **Conduction** is direct transfer of heat from one fuel source to the next; such as when a stove burner heats a pan and its contents. Conduction allows the heat to be transferred inside and throughout the fuel, rather than only heating the surface. Conduction is usually not the primary mechanism of heat transfer in a wildfire since wood is a poor heat conductor.

How and how quickly heat is transferred plays a large role in wildland fire behavior. Each of the three heat transfer methods can cause a fire to behave differently, depending on the fuel, wind speed, and slope of the terrain.

## Focusing On Fuel

The fuel side of the fire triangle refers anything that can burn. Fuel types include:

- Living vegetation
- Dead vegetation (duff, twigs, needles, standing dead snags, leaves, and moss)
- Organic subsurface material (peat and coal)
- Combustible human-made materials and structures

Fine fuels (grasses, leaves, pine needles) ignite more easily and spread faster with higher intensities than coarser fuels (tree trunks, branches, logs). Generally, the more fuel there is and the more continuous it is, the faster the fire spreads and the higher the intensities.

Several other factors determine how a fuel will burn, including:

- **Moisture content** Determines how easily a fuel will burn. For example live trees usually contain a great deal of moisture and are more difficult to combust while dead logs burn easier because they contain very little moisture. Before a wet fuel can burn, the moisture must be converted to vapor through the heating process. The greater the moisture content, the higher the heat temperatures required to dry the fuel. The presence of moist fuel can affect the rate and direction that a wildland fire spreads. High moisture content slows the burning process since heat from the fire must first expel moisture.
- **Size and shape** in part determine a fuel's moisture content. Lighter fuels (often called *fine fuels*) such as grasses, leaves, and needles quickly expel moisture, and burn rapidly. Heavier fuels, such as tree branches, logs, and trunks, take longer to heat up and ignite. In areas of light fuel, the temperature required for ignition is lower than in areas of heavier fuel. The oxygen surrounds lighter fuels and allows the fuel to burn with greater intensity, quickly exhausting the fuel supply.



- **Quantity** - How much combustible fuel there is in a given area is known as known as *fuel loading*. Fuels may be arranged in a uniform pattern and distributed continuously across the ground, allowing a wildland fire to travel uninterrupted. Or, the fuel may be distributed unevenly in a patchy network, forcing the fire to find ways around rocks and other barriers. .
- **Vertical arrangement** - Whether fuels are positioned high or low is another important factor in wildfires. For example intense fires known as *crown fires* occur when fire spreads from the ground into the tops of trees - these fires burn independently of surface fires, with flames moving through the treetops. This type of fire is not very common in Western Washington. *Ground fuels* are all of the combustible materials found below the ground surface, and include tree roots, duff, and organic material. *Surface fuels* are found at the ground level, including twigs, grass, needles, wood, and other vegetation. *Aerial fuels* are standing vegetation including tree crowns, branches, leaves, snags, and hanging moss.

## Taking in Oxygen

The third component of the fire triangle is oxygen. Oxygen is required for combustion, or fire, to occur. Oxygen is in the air you breathe. Anywhere air can reach, oxygen can reach. Firefighters use dirt and other methods to smother burning fuels. The dirt replaces the air so no oxygen is available for the fire.

Densely packed fuels have less air available than loosely packed fuels. Less air means less oxygen and that makes it more difficult for the fire to spread. Loosely packed fuels have more air space, and thus more oxygen, which makes it easier for the fire to spread.

## Watching Out for Weather and Terrain

In addition to the components of the fire triangle, how intense a fire burns and how fast it spreads depends on weather and terrain (specific information about Lake 12 is discussed in Chapter 4). Here are some general rules of thumb:

- The combination of current or forecasted high temperatures, low humidity and strong winds can produce potentially dangerous fire conditions.
- Weather affects the moisture content of dead and live vegetation. Dead fine fuel moisture content is highly dependent on the relative humidity and the amount of sun exposure. The lower the relative humidity (RH) and the greater the sun exposure, the lower the fuel moisture content. Relative humidity tends to increase at night. Lower fuel moistures produce faster spread rates and higher fire intensities. This is why wildfires are prevalent in the summer months when rainfall is light and relative humidity is low.
- Fire typically follows wind direction. It's possible for the wind to carry embers (*firebrands*) ahead of the main fire and start new fires (known as *spot fires*).
- Wind speed significantly influences the rate of fire spread and fire intensity. The higher the wind speed, the greater the spread rate and intensity. This is due, in part, to the increased amount of oxygen (more air) and the wind driving heat into adjacent fuels. Strong dry winds originating from the east side of the state carry an even greater threat.
- Thunderstorms produce lightning, which is a source of ignition, and strong and often erratic winds.



- Large fires may generate enough heat to create their own weather. Called *plume dominated fires*, from the giant smoke plume that rises thousands of feet into the air, these fires are dangerous because of their erratic behavior.
- Terrain influences fire behavior by the steepness of the slope. Fires tend to burn uphill. In general, the steeper the slope, the faster a fire will spread and the more intense it will burn.
- The direction a slope faces (*aspect*) contributes to how a fire burns. Fuels on a south facing slope tend to be drier and will burn faster and more intensely than fuels on a shaded north slope.
- Narrow and box canyons can produce a chimney effect that creates strong upslope winds which can rapidly spread a fire.

*Terrain and weather considerations for the Northeast Hobart area are discussed in Chapter 4.*

# Chapter 3

## Getting In The Zone

Two factors generally determine the survivability of a house during a wildfire; the construction of the house itself and the area surrounding the house.

Depending on the construction, one house may be more likely to survive a wildland fire than another. For example because there is no source of exterior combustible fuel, a concrete structure with a metal roof will fare better than a house with a shake roof and wooden siding.

From a construction standpoint, you can make a house more fire survivable by using:

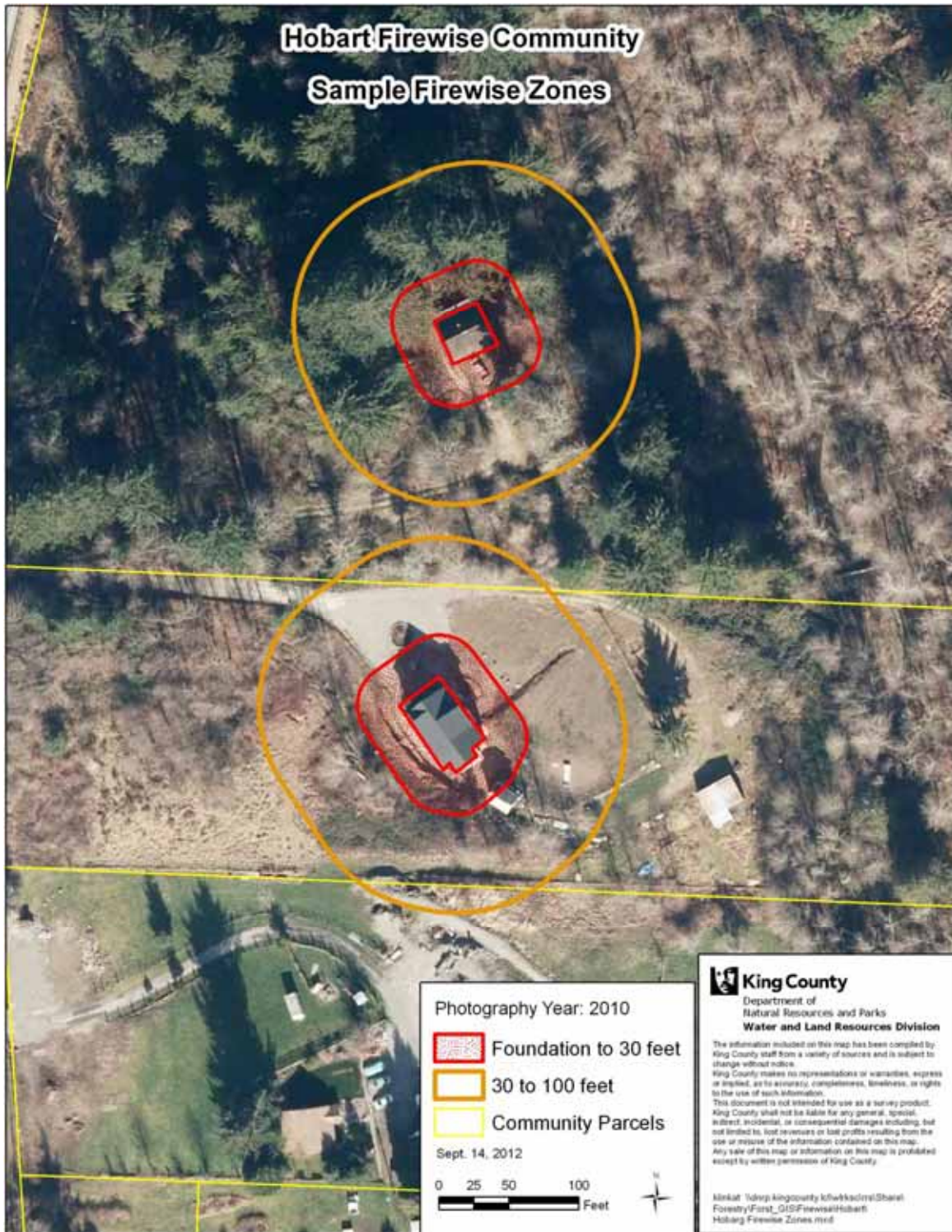
- Class A, B or C rated, fire-resistant roofing material
- Fire-resistant building materials on exterior walls, overhangs and attachments
- Double-paned or tempered glass in windows, skylights and doors
- Enclosed eaves, fascias, soffits and vents

See [www.firewise.org](http://www.firewise.org) for more tips on making your home safer.

Due to the cost and effort, it might not be practical to make structural modifications to your home. However you can still greatly reduce the risks of wildfire by focusing on the second factor that determines house fire survivability - the area surrounding the home.

It's important to understand that wildland fires aren't like avalanches or tsunamis. They don't spread by flowing over the landscape, engulfing whatever is in their path. Fires need fuel, heat and oxygen to burn and spread (see Chapter 2 for more details). If you can limit heat and fuel sources, you decrease the potential of the fire growing. If you reduce the amount and type of fuels around a house, you lower heat that's generated adjacent to the structure during a wildfire. This increases the home's survivability.

A *home ignition zone* includes the house and everything within 100 to 200 feet of the structure. While the wooden frame construction of a house is combustible, it takes a significant amount of heat to ignite. A mere 30 feet of distance from a crown fire is all that's required to reduce radiated heat to low enough levels that the house will not catch on fire. See Figure 3-1 to get a better idea of Firewise zones.



**Figure 3-1: Example Firewise Zones.** Examples of Firewise zones in the Hobart area . (King County GIS)

The first zone is 30 feet from the house. Figure 3-2 gives some ideas for managing this zone. In addition:

- Think lean, clean and green: Mow the lawn regularly.
- Plant fire-resistant vegetation (see the list in the Resource Kit) and keep plants, grass and trees regularly watered and healthy; especially during fire season.
- Remove dead vegetation (leaves and pine needles) from gutters, under decks and within 10 feet of the house.
- Prune back shrubs and tree branches – the lowest branches should be at least 6-10 feet from the ground and shouldn't overhang any part of the house.
- Take out *ladder fuels* (material on or near the ground that will carry fire into a tree) and provide fuel breaks (such as gravel walkways) to prevent fire from traveling along the ground to the house.
- Ensure firewood stacks are at least 30 feet from the house



**Figure 3-2:** Simple steps for turning a house into a Firewise home.



The next zone is 30 to 100 (or even 200) feet from the house. In this zone you should consider the type and number of trees. There can be more plantings, but continue to prune the trees and ensure there's separation between the branches of adjacent trees. The idea is to gradually reduce the amount of fuel sources as you get closer to your home.

For more information on the home ignition zone and ways to make your home and property more fire safe, visit these Web sites:

- <http://www.firewise.org>
- <http://your.kingcounty.gov/dnrp/library/water-and-land/forestry/forestfire/FirewiseBrochure-rev.pdf>

# Chapter 4

## Area Profile

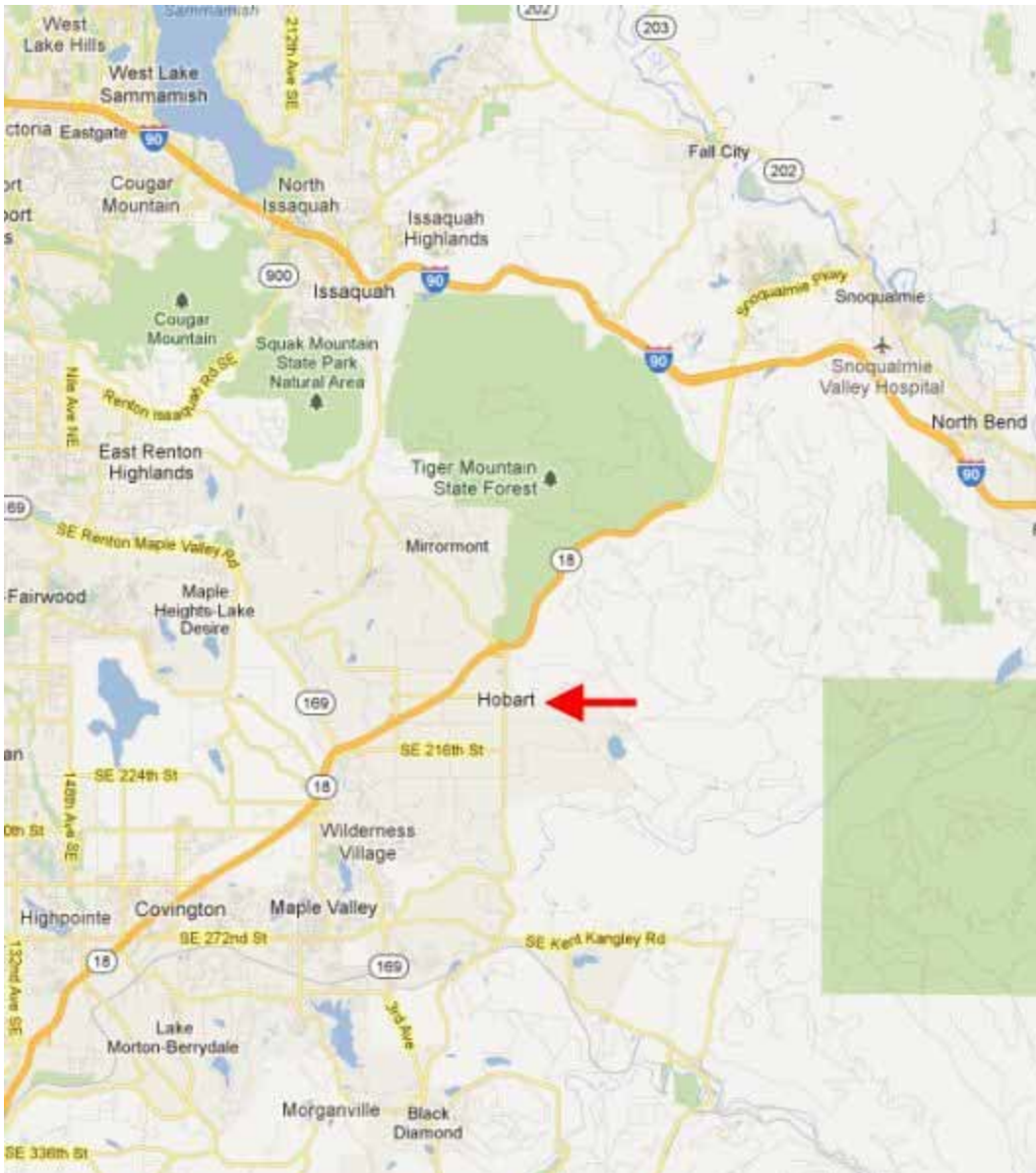
This chapter presents a brief profile of the Northeast Hobart Firewise planning area (see Figure 4-1). General demographic, economic, public safety and environmental features are discussed.



**Figure 4-1:** Northeast Hobart Firewise planning area boundaries in red with parcels shown in yellow. (King County GIS)

### Community

The Northeast Hobart Firewise planning area is approximately 5.5 miles northeast of Maple Valley on the east side of Highway 18 (see Figure 4-2). Located in unincorporated, rural King County, Northeast Hobart is about 1.25 miles east of 276<sup>th</sup> Ave. SE on SE 208<sup>th</sup> Street (Taylor Road). This includes the properties and side roads of the eastern most end of SE 208<sup>th</sup> Street, including 298<sup>th</sup> Ave SE, 301<sup>st</sup> Ave SE, and 303<sup>rd</sup> Ave SE.



**Figure 4-2:** Hobart is located east of Highway 18, between Maple Valley and Snoqualmie. The northeast portion of the area contains the planning area. (Google Earth)

There are 27 parcels in the planning area with 23 residential dwellings. According to 2010 census figures 51 residents live in the planning area. Residences are a mix of older homes and larger, newer houses on acreage (RA-5 zoning). The total assessed land value in the area is \$5,151,640 with improvements total taxable value is \$9,615,640.

The Hobart area is adjacent to the undeveloped lands of Taylor Mountain Forest (to the north, managed by King County) and the Cedar River Watershed (to the east, managed by Seattle Public Utilities).

Nearby commercial services include a gas station/market/post office complex on 276<sup>th</sup>, places of worship, and a number of home businesses.



## Fire Protection

Fire protection for the Northeast Hobart area is provided by Maple Valley Fire and Life Safety (King County Fire District 43). Fire station 85 is an unmanned facility located in Hobart at 27605 SE 208<sup>th</sup> Street. The nearest manned facility is the district's headquarters Station 80, located at 23775 SE 264th Street in Maple Valley; approximately 6 miles/15 minutes away. This station is staffed 24/7 by career firefighters.

Washington State Department of Natural Resources and the U.S. Forest Service typically staff engines in North Bend during fire season. In addition, Seattle Public Utilities has a crew of 18-20 wildland firefighters and 3 engines (2-Type 5 and 1-Type 6). While the primary responsibility is the Cedar River Municipal Watershed, these firefighting resources can be used to support other agencies.

Fire hydrants are not present in the community. Most residences are on private or community wells. Newer homes have internal fire sprinkler systems to comply with King County code. Lakes within a ten-mile radius could provide water sources for supplying fire engine tankers and/or fire helicopter bucket work. (Nearby Walsh Lake could be used by helicopters with Seattle Public Utilities permission.)

## Fuels

The Northeast Hobart planning area contains a mix of fuels. Some sections are heavily forested with coniferous and deciduous trees and native vegetation present. Other sections have been cleared and are being used as pastureland. Adjacent areas are both private and state owned and contain numerous tracts of forested land (see Figure 4-3 for an aerial view). Large sections of land surrounding the community remain undeveloped.



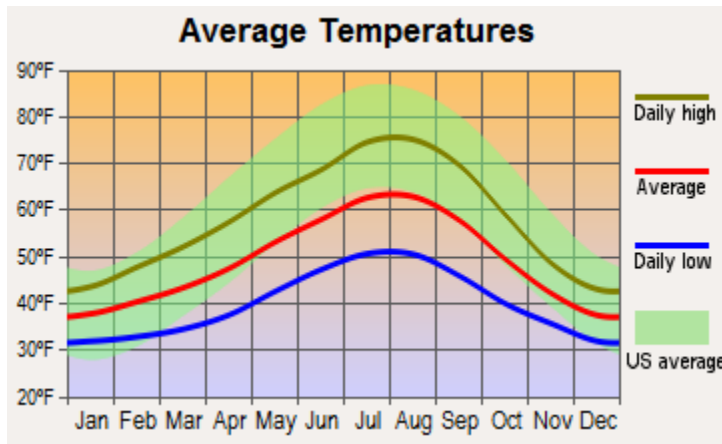
**Figure 4-3:** Aerial photo showing vegetation surrounding forested land surrounding the Northeast Hobart area. (King County GIS)

Of particular note are lands in the Taylor Mountain Forest and the Cedar River Watershed. The fuel loads in both these locations increase wildfire risk to the Northeast Hobart community. This threat is further discussed in Chapter 5.

There are several different fuel types in the Northeast Hobart area. Forested timber land primarily consists of mature stands of evergreens with minimal ladder fuel concentrations (NFDR model H and NWCG type 8). Cleared pastureland being used for livestock with annual grasses (NFDR model A and NWCG type 1) are common. Brush and small tree stands (NFDR model L and NWCG type 6) are also present in some open areas.

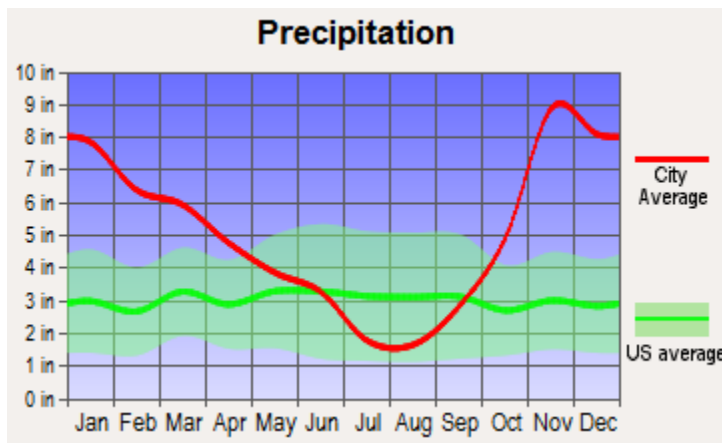
## Weather

Located at the base of the Cascades foothills, the Hobart area typically has higher rainfall amounts than other parts of the Puget Sound Basin. This additional precipitation tends to delay the start of fire season, with the driest and warmest times of the year occurring in July and August. (See Figures 4-4 and 4-5.)



**Figure 4-4:** Hobart average temperatures. (City-Data.com)

During the summer months temperatures may exceed 80 degrees for several days in a row; accelerating fuel drying.



**Figure 4-5:** Hobart average precipitation. (City-Data.com)

Local wind conditions can have a significant impact on fire behavior. As with many Cascades foothill communities, the Hobart area can be subject to strong wind events. Gusty east winds are of particular concern during dry conditions. These events occur when high pressure builds east of the Cascades range and warm, dry air is forced to the west. Because the air is compressed as it is pushed westward, gale force winds can form. Because of Tiger and Rattlesnake Mountains to the north, the Northeast Hobart vicinity is not as prone to as many east wind events as areas on the I-90 corridor.

While east winds depend on certain weather conditions, it's normal for afternoon upslope winds to occur in the area. These winds may be strong and cause fires to burn more intensely and rapidly spread uphill.

## Topography

The topography of the Hobart area is characterized by flat terrain and rolling hills (see Figure 4-6 and 4-7). Some steep hills with marked elevation gain are present in the east sections. The elevation of the planning area ranges from approximately 600 to 950 feet above sea level depending on location.



**Figure 4-6:** Hobart area topography. (Google Maps)

To the north and east, Hobart is surrounded by Tiger (3,010 feet), Taylor (2,610 feet), and Lookout (2,220 feet) Mountains. The Cedar River flows to the south of the planning area.



**Figure 4-7:** Hobart area topography in 3D, with Tiger Mountain toward the top. (TopoFusion)

# Chapter 5

## Issues & Threats

In September 2012, the Firewise consulting team drove through the Hobart area, noting potential wildfire threats and completing a Washington State Department of Natural Resources evaluation form (included at the end of this chapter). The area as a whole scored 93, which is toward the upper end of the Moderate Hazard rating. Issues that contributed to the score such as fire history, vegetation, roads, and building construction are described in this chapter. Specific issues relating to the Northeast Hobart community are discussed at the end of the chapter.

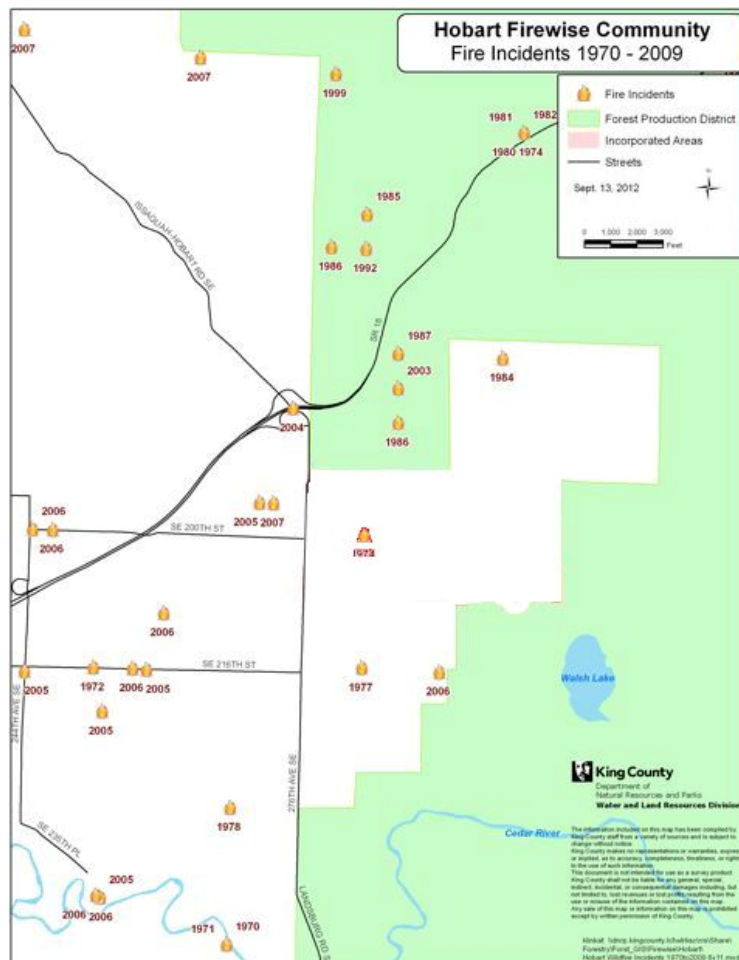
Before discussing wildfire issues and threats, it's important to note the Hobart area consists of two very diverse property types. Primarily wooded, especially those lots adjacent to King County and Seattle Public Utility managed lands, and mostly cleared, pastureland. Due to the proximity to higher fuel loads, wooded properties will tend to have more wildfire risk than those lots that are predominantly pasture.

### Fire History

In evaluating wildland fire threats, it's useful to first start with the fire history of an area. Figure 5-1 shows wildfires reported near Hobart from 1970 to 2009. There were 36 fires recorded during this period; any of which could have possibly spread into homes, depending on the conditions.

Historically, there were many wildfires in the area during the early 1900s. In 1910, a large fire started in Kerriston and spread to Taylor, Walsh Lake and Hobart. The community of Walsh Lake was destroyed, as were railroad trestles at Taylor and Sherwood. In 1922 a fire burned 24,000 acres in the Cedar River Watershed.

Many of the large stumps on Taylor Mountain bear evidence of these destructive fires.

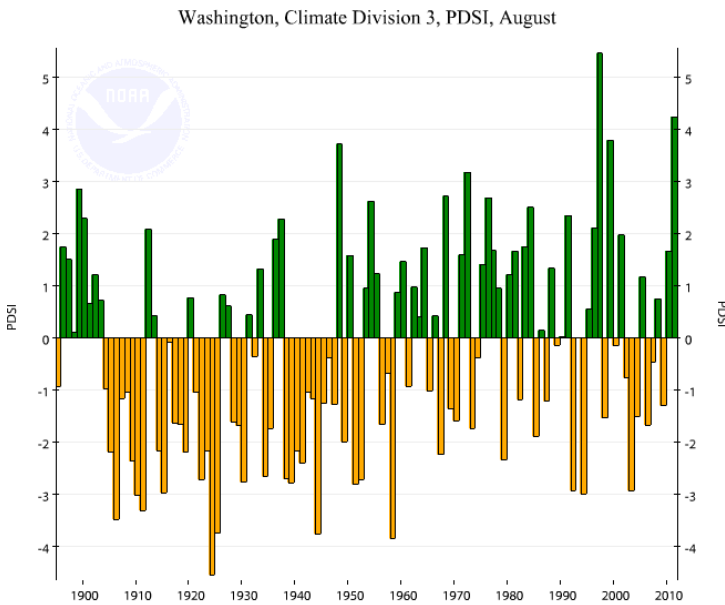


**Figure 5-1: Hobart area fire history, 1970 to 2009.**  
(King County GIS)



## Drought Conditions

In recent years, the Hobart area has experienced limited fire activity. This is mostly due to reduced logging, effective fire suppression efforts, and the high amounts of rainfall and humidity the Cascades foothills experience. Rain and moist air keeps vegetation green and fuel moisture levels elevated, reducing the chances of ignition and rapid spread of fire.



**Figure 5-2:** Palmer Drought Severity Index - Puget Sound Lowlands. August: 1895 to 2012. (NOAA)

Seasonally, August and September tend to be the driest months in the Puget Sound region, with little to no rainfall. If the Hobart area experiences prolonged dry conditions, the risk of fire increases; as the duration of the drought increases, so does the risk. Extreme fire seasons in the United States, such as the one in 1910, are almost always associated with prolonged drought conditions. Figure 5-2 shows wet (green) and dry (yellow) Augusts over the years.

During the 2012 wildfire season, unexpected and fast moving fires in Cle Elum, Wenatchee, and elsewhere in the state threatened or destroyed homes and property. An unprecedented two, red flag warnings (high fire danger

alerts) were issued for the Puget Sound region during August and September, with a record number of days without precipitation at SeaTac Airport. During such conditions, an unpredictable and dangerous fire can start from a carelessly discarded cigarette butt or an improperly extinguished campfire—even in areas with a low incidence of wildfires.



## Wind Driven Embers

One of the primary threats the Hobart area faces is a fire in the wooded areas to the north or east with accompanying north or easterly winds. Wind blown, burning embers (also called firebrands) shown in Figure 5-3, can spread a fire far in advance of the main flame front. While roads and cleared properties may provide a break from fire moving on the ground, there is nothing to stop air borne embers from spreading.

**Figure 5-3:** Wind driven burning embers (firebrands) can quickly spread a fire.

## Natural Fuels

Wildfire fuels are simply anything that may burn. All trees, brush, homes, structures and other flammable items are considered fuel. However, some types of vegetation and structures are more flammable than others.

Natural fuel in the Hobart area consists of grasses, understory, and a mix of deciduous and evergreen trees (Figure 5-4). The area has a number of fully and partially cleared parcels being used as pastures (Figure 5-5).

While a high average annual rainfall keeps fuel moisture levels high, prolonged summer drought conditions can dry out fine fuels, increasing wildfire risk; especially when there are concentrations of downed trees and limbs from storm events.



**Figure 5-4:** Average annual rainfall and humidity keeps vegetation green, even in the summer months.



**Figure 5-5:** Dry grass in pastures can burn hot and fast and quickly spread a fire.



There are two large sections of undeveloped land surrounding the Hobart area. The Taylor Mountain Forest (Figure 5-6) is between Northeast Hobart and North Bend. It is a an 1,822 acre working forest intended to demonstrate environmentally sound forest management, protect and restore ecological systems, and provide passive recreational opportunities. Taylor Mountain's trails are used by hikers, equestrians, and mountain bikers. (Recreational use does increase the chance of human-caused wildfires.)



The forest is managed by King County and has a comprehensive public use plan (available at: <http://www.kingcounty.gov/environment/waterandland/natural-lands/working-resource-lands/taylor-mountain-public-use-plan.aspx>). The county does not consider the forest a high risk for fire due to fuel types and seasonal precipitation.

**Figure 5-6:** The Taylor Mountain Forest is a working forest and recreation area managed by King County.

The other undeveloped section of land adjacent to the Hobart area is the Cedar River Municipal Watershed (see Figure 5-7). The 90,638-acre Watershed is owned by the City of Seattle, and is managed to support and supply clean drinking water to 1.4 million people in the greater Seattle area.



The Watershed does not allow recreational use, is posted no trespassing, and has many locked gates. Taylor Road does pass through Watershed land and provides access to Kerriston from Hobart.

On driving Taylor Road, forested land in the Watershed does not appear to be currently managed for fire protection. Ladder fuels and a significant amount of dead and downed trees were observed. The health of the forest presents significant risk if a large fire occurred during drought conditions.

For more information on the Watershed, visit: [http://www.seattle.gov/util/About\\_SPU/Water\\_System/Water\\_Sources\\_& Treatment/Cedar\\_River\\_Watershed/index.asp](http://www.seattle.gov/util/About_SPU/Water_System/Water_Sources_& Treatment/Cedar_River_Watershed/index.asp).

**Figure 5-7:** Cedar River Watershed land has a rainforest-like appearance, but contains a considerable amount of downed and dead trees and ladder fuels that could feed a large fire if ignited during prolonged dry conditions.

## Flammable Landscaping

Certain landscape plantings can increase fire risk. Some residences in the community had vegetation growing in close proximity to structures (Figure 5-8). Highly flammable plants, such as decorative arborvitae and yews (Figure 5-9), should not be used within 30' of a residence. Even away from homes, resinous plants can increase fire risk since flames can quickly spread from plant to plant. (Wildland firefighters sometime refer to ornamental junipers as *little green gas cans*.) When it comes to landscaping, there are a variety of fire resistant plantings that are safer, yet are still aesthetically pleasing and can provide privacy.



**Figure 5-8:** Certain types of natural or landscaped plants in close proximity to a home can increase fire risk. Fire resistant plant varieties are a safer choice.



**Figure 5-9:** Even when located away from a residence, resinous plants can quickly spread flames between plantings, catching other fuels on fire.



## Roofs

Structures with cedar shake roofs are at greater risk of being destroyed or damaged by a wildfire. In various studies, buildings with Class A fire resistant material roof such as asphalt or metal are 95% more likely to survive a wildfire compared to structures with wooden roofs.

Wind blown embers can catch and collect on roofs. Because of the flammability of cedar roofs (especially older roofs that were not chemically pressure treated) a home can quickly burn to the ground. If a number of homes are threatened by a wildfire, firefighters with limited resources may elect to protect homes with composite roofs versus those with cedar roofs because of a greater likelihood of saving them. Embers are produced as a cedar roof burns and may spread a fire to other homes.

While the majority of residences in the Hobart area have composite roofs, a few were noted with cedar shakes.

Another roof-related threat to residences is the accumulation of branches, twigs, and other vegetation. This dried material can easily ignite, posing a threat to homes with older, worn composite roofs that do not offer the fire resistance of newer roofing material.

## Fences and Decks

Anything connected to a house that can burn can be a hazard, especially if there are flammable plants nearby. Embers landing on wooden fences (Figure 5-10) and decks can start those structures on fire. The fire can then spread to a house or other buildings.



**Figure 5-10:** *Wooden fences connected to a residence can spread fire to the home. In this case opening the gate would prevent fire from traveling to the main structure.*

Wind blown dead vegetation such as leaves, pine needles and small branches can easily gather under raised wooden decks and porches that doesn't have screening or lattice (as shown in Figures 5-11). These accumulations can be ignited by embers, potentially setting the deck or porch on fire.



**Figures 5-11:** *Unscreened, raised wooden porches and decks can accumulate flammable material underneath.*

## Firewood

Firewood stacks (such as in Figure 5-12) nearby a structure or adjacent to flammable vegetation can pose a threat to a home or outbuilding in case of ignition. Dried, seasoned wood is especially vulnerable to fire and can be easy to ignite.

**Figure 5-11:** *Firewood stacked next to a house or outbuilding increases fire risk.*



## Outbuildings

Many types and sizes of outbuildings (Figure 5-12) were observed in the Hobart area. According to King County records there are 299 structures in the general area, 116 of them with house numbers. While most emphasis is placed on protecting residences from wildfire, outbuildings such as detached garages, shops, storage sheds, and barns can be equally if not more vulnerable to fire. In addition to losing a structure, possessions, and possibly livestock, outbuildings can also be a source of embers, further spreading a fire. Unenclosed exterior rafters, stored flammable liquids and other combustible materials, and unsafe electrical wiring increase the chances of an outbuilding and its contents being lost to a fire.



**Figure 5-12:** Outbuildings are often overlooked when mitigating wildfire risk.

## Propane Tanks

Above ground propane tanks were noted in the community (see Figure 5-13). These tanks can be a fire hazard if exposed to extreme heat and should be kept well away from structures and flammable materials.



While it is very rare that these tanks actually explode, they can overheat and vent their gas via their overflow valves. This may result in a jet of flame burning upward until the fuel is exhausted. Vegetation surrounding a tank should be maintained so it doesn't overtop the tank or help spread fire toward a residence.

**Figure 5-13:** Above ground propane tank with nearby flammable materials.



## Outdoor Fire/Barbeque Pits

Outdoor fire pits are common in rural settings. Residents should be aware that the use of fire/barbeque pits during dry and/or windy conditions can increase the risk of a wildfire.

## Aboveground Utilities

Aboveground telephone and electric utilities are throughout the planning area. These utilities can be impacted by wildland fires (poles can burn causing them to fall and lines can also be destroyed by a hot burning fire). With power and communications disrupted, fighting the fire and communicating with residents during an emergency can become difficult. Close-by flammable vegetation increases the risk a pole or line may be damaged or destroyed by fire.



**Figure 5-14:** Utility lines can be damaged during a wildfire disrupting electricity and telephone communications.

## Difficult to See Street Address Numbers

Easily seen house address numbers on the street can be important for emergency personnel responding to emergencies; especially during darkness or limited visibility conditions. Many properties had difficult to read address signs at the street. A number of residences only had address numbers on mailboxes (Figure 5-15). Some properties appeared not to have address numbers.



**Figure 5-15:** A difficult to read or confusing street address number could delay emergency responders.

## Road Access

Road access is always a consideration when dealing with the threat of wildland fires. Residents should have good evacuation routes and firefighters should have quick and ready access to roads that will get them near a fire.

The Hobart area has several paved, main roads that lead to 276<sup>th</sup> Avenue SE. 276<sup>th</sup> provides the only access into the area (there are a number of primitive roads behind locked gates on both King County and City of Seattle land).



**Figure 5-16:** *Narrow stretches of gravel roads with overhanging brush, and limited visibility and turnarounds for fire equipment increase risk.*

Access to properties varied considerably. Several had wide gravel driveways with good visibility and adequate turnaround room for fire equipment. Other properties had narrow roads and driveways, limited visibility, lack of turnarounds, and steep grades (Figure 5-16). These residences would be most at risk during a wildfire as emergency response personnel would likely be hesitant to access because of potential difficulties getting out.

A number of gated properties were noted (such as the one shown in Figure 5-17). Locked gates can also slow down or prevent emergency responders from accessing a fire.



**Figure 5-17:** *Locked gates can prevent responders from accessing a property during an emergency.*



## Horses and Livestock

The Hobart area and surrounding communities have a number of horse properties (Figure 5-18). During a wildland fire, evacuation of horses and other livestock can be difficult, complicating firefighting efforts and residential evacuations.



*Figure 5-18: During a fast moving wildfire, evacuation of horses and livestock can be challenging.*

## Northeast Hobart Specific Issues & Threats

In addition to the general issues and threats described for Hobart as a whole, there are some specific observations that apply to the Northeast Hobart planning area that are worth noting.

**Forested land** – Northeast Hobart has significant portions of adjacent forested land compared to other locations in the Hobart area. This increases risk in the event of a wildland fire.

**Terrain** – Northeast Hobart is hillier than most of the Hobart area. There is a small ridgeline that runs SE/NW through the middle of the area. The increased elevation affects both how fire travels and road access to residences.

**One-way in and out** – All of the roads to properties have a single way in and out. If a road is blocked during an emergency, residents would not be able to leave the area.

**Narrow roadways** – Some of the access roads to homes were narrow and could limit the size of a responding fire truck. Narrow roadways also are a consideration when shared with multiple residences as they can become congested or blocked during an evacuation.

**SE 208<sup>th</sup> Street** – 208th is the sole evacuation route for the area; not only for Northeast Hobart but also for Kerriston residents and anyone using 208th to access Taylor Mountain for recreational purposes. The closer to Hobart, the more people will be using 208th during an evacuation.

# Neighborhood Wildfire Hazard Evaluation Form

This form is based on 2006 International Wildland-Urban Interface Code Appendix C and 2002 NFPA 1144 Annex A

<b>Community Name – Hobart Area</b>
<b>Location – Hobart, WA</b>
<b>Primary Access Road Name – SE 276<sup>th</sup> Street</b>
<b>Evaluation Date - 9/12/2012</b>
<b>Evaluators - Jeff Madden, Joel McNamara</b>

A: Neighborhood Design	Score	Rating
<b>Access</b>		
Two or more primary roads	0	5
One road through	3	
One road in and out (entrance & exit are the same)	5	
<b>Gate</b>		
Not gated	0	3
Locked gate	5	
<b>Bridges</b>		
No bridges or bridges with no weight and width restrictions	0	0
Low weight or narrow bridge restricting emergency vehicle access	5	
<b>Road Width</b>		
20' or more	1	2
Less than 20'	3	
<b>Road Grade</b>		
5% or less	1	1
Greater than 5%	3	
<b>Road Type</b>		
All weather, paved	0	2
All weather, gravel	3	
Limited access or unmaintained	5	
<b>Secondary Road Terminus</b>		
Loop roads or cul-de-sacs, outside turning radius of 45' or more	1	5
Cul-de-sac, outside turning radius of less than 45'	2	
Dead-end road, less than 200' long	3	
Dead-end road, more than 200' long	5	
<b>Street Signs</b>		
Present, with ≥4" reflective letters	1	3
Missing, or present with <4" letters or non-reflective letters	3	
		<b>Sum:</b> 21

**Notes:**

- Many private gates
- Main roads fine for fire apparatus
- Side roads 1 lane average, poor or no shoulders
- Side roads gravel
- No turnarounds or pullouts
- Addresses poorly marked
- Side-by-side roads poorly marked

<b>B: Vegetation / Fuels</b>	<b>Score</b>	<b>Rating</b>
<b>Fuel Type</b>		
Light (e.g., grasses <6", deciduous leaf litter)	1	7
Medium (e.g., grasses >6", conifer litter, light brush, small trees)	5	
Heavy (e.g., dense brush, timber)	10	
Very heavy (e.g., logging slash, high volume of dead and down)	15	
<b>Ladder Fuels</b>		
Most tree branches pruned up >6' above ground or understory fuels	0	2
Most tree branches close to ground or understory fuels	5	
<b>Defensible Space</b>		
70% or more of neighborhood	1	10
30 - 70% of neighborhood	10	
Less than 30% of neighborhood	20	
	<b>Sum:</b>	<b>19</b>

**Notes:**

Mixed conifer/deciduous fuel types (previously logged 50-75+ years ago)  
 Dead and downed trees (especially in Cedar River Watershed)  
 Some Scotch Broom present  
 Flammable vegetation next to some homes  
 Many cleared, grass pastures (horse properties)  
 Watershed forest not being managed, appears unhealthy  
 Lots of variation in vegetation based on location

<b>C: Topography and Weather</b>	<b>Score</b>	<b>Rating</b>
<b>Weather</b>		
History of high fire occurrence	0 - 5	2
Exposed to unusually severe fire weather and strong, dry winds	0 - 5	
Local weather conditions and prevailing winds	0 - 5	
<b>Slope</b>		
8% or less	1	1
8 - 19%	4	
20 - 29%	7	
More than 30%	10	
<b>Topographic features*</b>		
Topography that adversely affects fire behavior	0 - 5	1
<i>* Consider attributes like ridges, saddles, steep slopes, steep narrow draws, small canyons, etc.</i>	<b>Sum:</b>	<b>8</b>

**Notes:**

~35 fires since 1970 (one in planning area)  
 Nearby recreation spots increase threat of human-caused fires  
 Mostly flat terrain and rolling hills, but some steep roads to the east  
 East winds reduced by surrounding mountains

<b>D: Building and Property Construction</b>	<b>Score</b>	<b>Rating</b>
<b>Roofing</b>		
More than 75% of homes have metal, tile, class A asphalt or fiberglass shingles	0	5
50 - 70% of homes have metal, tile, class A asphalt or fiberglass shingles	10	
Less than 50% of homes have metal, tile, class A asphalt or fiberglass shingles	15	
More than 50% of homes have wood roofs	20	
<b>Siding and Decks</b>		
More than 75% of homes have noncombustible siding/deck	0	10
50 - 70% of homes have noncombustible siding/deck	5	
50 - 70% of homes have noncombustible siding and combustible deck	10	
Less than 50% of homes have noncombustible siding and combustible deck	15	
More than 50% of homes have combustible siding/deck	20	
<b>Foundations / Crawlspace</b>		
More than 75% of homes have enclosed foundations with vents covered by $\leq 1/4$ " metal mesh	0	5
50 - 70% of homes have enclosed foundations with vents covered by $\leq 1/4$ " metal mesh	5	
Less than 50% of homes have enclosed foundations with vents covered by $\leq 1/4$ " metal mesh	15	
More than 50% of homes have open foundations	20	
	<b>Sum:</b>	<b>20</b>

**Notes:**

Mostly composite roofs, but a few cedar shake roofs present  
 Mix of older and newer homes  
 Many outbuildings present

<b>E: Fire Protection - Water Source</b>	<b>Score</b>	<b>Rating</b>
500 GPM hydrants spaced within 1,000'	0	7
Hydrants spaced >1,000' apart or < 500 GPM hydrants	2	
Other water source available within community (tanks, pools, lakes, etc.)	5	
Water source located within 20 minute or less round trip	7	
Water source located farther than 20 minute but less than 45 minute round trip	10	
Water source farther than 45 minute round trip	15	
<b>Notes:</b>	<b>Sum:</b>	<b>7</b>

No fire hydrants present  
 Limited nearby water sources (Walsh Lake may be used with permission)  
 Nearest manned fire station in Maple Valley (unmanned on 208<sup>th</sup>)  
 Newer homes have sprinkler systems to meet King County code  
 Private or community wells

<b>F: Utilities</b>	<b>Score</b>	<b>Rating</b>
<b>Electric</b>		
Underground, clearly marked	0	3
Underground, not clearly marked	1	
Overhead, with adequate right of way (>20')	2	
Overhead, with right of way not maintained	5	
<b>Gas</b>		
Underground, clearly marked	0	3
Underground, not clearly marked	1	
Aboveground, with 15' of brush clearance and >30' from structures	2	
Aboveground, with no brush clearance or <30' from structures	5	
	<b>Sum:</b>	<b>6</b>

**Notes:**

Overhead utility/some with right away not well maintained  
LPG tanks near residences

<b>G: Surrounding Landscape</b>	<b>Score</b>	<b>Rating</b>
Neighborhood is predominately within low fire hazard mapping area	0	12
Neighborhood is predominately within moderate fire hazard mapping area	10	
Neighborhood is predominately within high fire hazard mapping area	15	
Neighborhood is predominately within extreme fire hazard mapping area	20	
	<b>Sum:</b>	<b>12</b>

**Notes:**

fire in surrounding area presents risk to the community

<b>Neighborhood Hazard Ratings</b>	<b>Sum</b>
<b>A: Neighborhood Design</b>	21
<b>B: Vegetation / Fuels</b>	19
<b>C: Topography and Weather</b>	8
<b>D: Building and Property Construction</b>	20
<b>E: Fire Protection - Water Source</b>	7
<b>F: Utilities</b>	6
<b>G: Surrounding Landscape</b>	12
<b>Total:</b>	<b>93</b>

<b>Neighborhood Hazard from Wildfire Rating Scale</b>	
Low – 70 or less	◀
Moderate – 71 to 110	
High – 111 to 135	
Extreme – 135 or more	

# Chapter 6

## Recommendations

Chapter 5 discusses some wildfire vulnerabilities and threats to the Hobart area. This chapter provides recommendations for decreasing the risk of loss of life and property from a large fire incident.

The recommendations include:

- Educate property owners about Firewise principles
- Reduce natural fuel sources
- Review landscaping choices
- Evaluate roofing and other home construction
- Mitigate firewood, fire pit, and propane tank risks
- Emphasize the dangers of fireworks
- Improve house/address numbers
- Keep utility poles and lines clear of fuel sources
- Explore the use of emergency communication systems
- Establish a formal evacuation plan
- Work with Maple Valley Fire and Life Safety and other agencies to determine “safe zones” and other alternatives if evacuation is not possible
- Consider forming a Community Emergency Response Team (CERT)

It's important to note that these recommendations can be phased in over time (a suggested plan is included at the end of this chapter). For example, some communities focus on public education the first year and then move on to projects the second year. Much depends on the community and level of involvement. The key is to make forward progress on reducing fire risk, no matter how gradual that progress is.

### Firewise Landscaping and Public Education

Education is one of the strongest tools for reducing the risk of harm or loss from wildfire. The Firewise program is primarily educational, and seeks to create a sustainable balance that allows communities to live safely in natural settings.

Educating community members about 30' defensible space zones, fire-resistant plants for landscaping (and where to locate them, such as interspersed in a row of flammable shrubs), the dangers of legal and illegal fireworks, and other Firewise principles should be a priority.

To reach the greatest possible number of people, a variety of methods should be used such as presentations by recognized authorities, written material targeted to property owners, and distributing readily available Firewise educational material.

Other public outreach ideas include:

**Walk-arounds** – An effective way to demonstrate Firewise landscaping and defensible space principles is to take a walk around neighborhood residences, pointing out good and not so good examples of Firewise practices. A walk could begin at a home with a short presentation on Firewise principles by county or state representatives. After a discussion, the attendees would visit selected properties and ask questions about landscaping and construction features.

**Firewise Literature** - Most homeowners should have already received King County's Firewise brochure. Additional brochures should be kept on hand for new residents that move into the community.

**Spread the Word, Not the Fire** – While Firewise practices within a neighborhood area will help reduce wild fire risk inside the community, the Maple Valley and Northeast Hobart area as a whole is at risk due to the large amount of urban interface land. The more property owners that employ Firewise practices the better. For example the spread of a fire might be stopped at a Firewise neighborhood down the road before it had a chance to move toward houses in the Northeast Hobart area. Getting the word out by simple word of mouth or suggesting Firewise presentations in public and/or home schools can help. Beyond that, Firewise communities have used a number of different techniques to get the message out about the program, including:

- Articles in local newspapers
- Information booths at local events
- "Give-away" items with tips, hints and other Firewise-related information.
- Plantings of fire resistant plants at local fire stations

## Fire History

Just because residents have not experienced a large wildland fire in their lifetimes, does not mean it isn't a threat. The Northeast Hobart area survived devastating wildfires only 80 to 100 years ago during extended periods of drought. While similar weather conditions have not occurred since those times, that is not to say they won't be repeated in the future. Being aware of fire risks during abnormally dry periods is essential. As George Santayana said, "Those who cannot remember the past are condemned to repeat it."

## Wind Driven Embers

Wind-driven embers can start fires up over a mile away from the main fire. If an ember lands in an appropriate fuel, it can start a fire in a matter of seconds.

The best protection from wind borne embers and firebrands is to make sure there is no fuel to catch fire. This can mean:

- Cleaning out gutters
- Using gravel, compost and other non-flammable materials for mulch in planting beds (and avoiding the use of decorative bark)
- Enclosing the bottoms of decks and porches with 1/8 inch metal screening
- Making sure attic and crawlspace vents are covered with 1/8 inch metal screening

## Natural Fuels

Identifying land that contains vegetation and fuels that increase fire danger can help to mitigate wildfire risk. A healthy forest is a safe forest, and the more property owners that manage their undeveloped forest land in a wise and thoughtful way, the more fire risk is reduced for the entire community. For adjoining properties, once hazardous fuel sources are identified, residents can work with the landowners and the county to reduce fuel loads, keep roads day-lighted from overhanging tree branches, and establish natural firebreaks.



One helpful Firewise activity is to have the community work together and get a wood chipper for a day. This would allow neighbors to work on cleaning out the unwanted brush and downfall on their properties and having it disposed on site. Participating property owners would simply drag the unwanted brush to the roadside where a volunteer or professional crew could easily chip and dispose of the brush. The community could share the costs of a renting an appropriate sized chipper or work with the county (and the King Conservation District) to get the use of a chipper. The chips may be hauled off to an appropriate site or offered to farms in the area as livestock bedding.

## **Flammable Landscaping**

Residents should be aware of the fire risks of some types of landscape plantings. Flammable plants (usually fairly resinous varieties such as cedars, yews, and junipers) should only be used 30' or more away from the house. The Resource Kit CD-ROM includes a list of plants that are less flammable and safer to use closer to structures.

The King County Web site also has a great online native plant tool for landscape planning. Check it out at: <http://green.kingcounty.gov/gonative/>

## **Roofing and Other Home Construction**

Cedar shake roofs increase the risk of fire damage or loss to a house and surrounding residences. Residents should be educated about the threat and encouraged to replace roofing with Class A fire resistant material when they have an opportunity.

As an interim measure to replacing a roof, home owners should know about other structural improvements that are less costly yet can still help reduce fire risk. Simple measures such as enclosing the bottom of wooden decks with screens as mentioned below can make a difference in protecting a home.

The national Firewise program has many additional suggestions for home construction on their web site: <http://firewise.org/information/who-is-this-for/homeowners.aspx>

## **Fences and Decks**

Wooden fences and decks should not be connected directly to a residence. If an ember should land against a fence and start it on fire, the fire can easily spread to the house. There are a couple of easy fixes for this situation. A simple gate at the connection point allows the homeowner to open the gate and interrupt the path of the fire. A metal gate would not even have to be opened. The fence could be terminated with a stone or metal post next to the house. If the fence must be connected to the house, use metal connectors and avoid direct wood-to-wood contact.

Decks should be built with fire resistant materials if possible. Another readily solved issue with decks (and porches) is preventing the buildup of dead vegetation underneath. Dry vegetation can be extremely flammable and if an ember should reach it, the fuel could easily ignite the deck or porch and spread the fire to the house. An easy way to reduce this risk is to screen in the undersides of decks/porches with 1/8-inch metal mesh. This type of screening reduces the amount of flammable material that builds up under these structures and prevents embers from

reaching any vegetation that may be present. A wooden lattice or other structure may be added for aesthetic purposes if desired.

In addition to screening underneath decks and porches, any crawl space or attic vents should also be screened for the same reason. Houses tend to “breathe” throughout the day as they heat up and cool down. Air is drawn through attic and crawlspace vents. This same airflow can draw embers into the house and start insulation or other materials on fire. Screens prevent embers from entering the house and have the added benefit of keeping out rodents and other unwanted wildlife.

## Firewood

Dry firewood can quickly spread a wildfire. A wind-blown ember can start smaller pieces and kindling on fire and soon an entire stack of wood becomes an unwanted and potentially dangerous bonfire. Firewood should never be kept next to the house. Ideally, firewood would be kept in a covered structure at least 30 feet from the main residence.

## Outbuildings

Detached garages, shops, storage sheds, barns, and other outbuildings should be assessed for fire vulnerabilities. Most Firewise practices that apply to residences can also be used with outbuildings. In addition, any flammable and combustible liquids and materials should be stored so they are not readily exposed to embers or flames.

## Propane Tanks

Propane tanks (large and small) should be sited away from a residence or structure in case of fire. Even small barbeque tanks should be kept away from buildings to reduce the chance of fire spreading in the event of combustion. Propane tanks typically won't explode under high heat, but will bleed off gas, which may ignite. Because of this, fire resistant plantings should be used around aboveground propane tanks.

## Fire Pits/Outdoor Burning

If a property owner uses an outdoor fire or barbeque pit, it should be built according to Washington State Department of Natural Resources specifications.

- Located at least 25 feet away from any structure,
- Dug deep enough to reach mineral soil (no leaf litter or other organic material),
- Backfilled with at least four inches of cement,
- Lined with a metal or other non-combustible ring no more than three feet in diameter, and
- Surrounded by rocks at least 1.5 feet around the ring.

See the Campfire Brochure file included on the Firewise Resource Kit CD-ROM for more details on safe outdoor fires.

## **Fireworks**

In 2009, fireworks and explosives started 790 fires and caused over \$5.4 million in loss statewide. 85% of all wildfires are caused by man-made activities. The use of fireworks is a major contributor of fire starts. Educating residents and others about the dangers of using fireworks in heavily forested areas and the surrounding lands should be an ongoing effort.

## **Utility Poles and Lines**

Concentrations of flammable material should be kept clear of utility poles and lines to reduce the chances of ignition. Poles at risk should be identified and reported to utility company responsible for their maintenance.

## **Difficult to See Street Address Numbers**

If there is an urgent situation, fire and emergency personnel need to be able to easily find individual homes in the community. While address numbers may be present on homes, emergency personnel must slow down and examine each home for to determine the address. Address numbers should be clear and easily read at a distance, in both directions, in the darkness or under low visibility conditions.

Placing clear, easy to see, non-combustible markers on the street in front of each home makes it much easier for responding personnel to locate a specific house. These numbers could be located at the driveway entrance for all homes. If desired, the community may be able to work with Maple Valley Fire and Life Safety to come up with a uniform address marker for everyone to use.

## **Narrow Drives**

While a winding, narrow drive may have a nice, rural appearance, it can prevent or create problems for emergency vehicles from accessing a property. Even if your car or truck can easily fit down the drive, a much larger vehicle such as a fire truck may have to push through brush and limbs. If the drive is long and narrow, firefighters unfamiliar with the area may not know if they can turn around at the end.

Brush and limbs should be pruned to a minimum width of 12-feet and up to a minimum height of around 15-feet to ensure most fire fighting equipment can access the drive without damaging equipment. Narrow roads with low hanging limbs may prevent the fire fighters from driving down the lane.

In addition, there should be adequate space for a large vehicle to turn around at the end of the drive (40 - 80 feet is recommended depending on the type of turnaround). If the drive is very long, consider putting in pull-outs so two vehicles can pass each other without forcing one vehicle to back out the full length of the drive.

## **Gated Properties**

While a locked gate provides security for a property, it can also delay or prevent fire personnel from responding to an emergency. Residents with gated property should consider installing a Knox Box; a secure key box that allows fire personnel to quickly gain access to a locked gate without damaging it. Refer to the Resource Kit for more information on Knox Boxes.

## Emergency Communications

In the event that landline or cell phone service is available during an emergency, consider establishing a phone tree system for contacting residents. This is a fast and efficient way of providing the latest information about a wildfire or other emergency. A phone tree could be easily expanded outside of the area by adding contacts for other neighborhoods. In addition to a phone tree, email addresses should be exchanged as part of an emergency communication plan. (A free Yahoo! account and group has been set up for Northeast Hobart area Firewise use. Information is included in the CD-ROM Resource Kit.)

**Reverse 911:** Maple Valley Fire and Life Safety uses the Reverse 911 service to notify residents of emergencies. During certain emergencies, an automated phone call is placed to residents in the affected area with information about the emergency. However, only landlines are automatically registered with this service. If you wish to receive Reverse 911 on your cell phone or Voice Over Internet Protocol (VOIP) phone, you need to register your phone number with the emergency 911 dispatch center. More information on registering your phone can be found at <http://www.norcom.org/reverse911.cfm>.

**Amateur Radio:** Above ground utilities can be disrupted during a wildland fire. Cell phone service can also be interrupted during an emergency when circuits are overloaded or transmission facilities are damaged. Because of this, the community should examine alternative emergency communication methods in case phone service is not available. This could consist of handheld FRS (Family Radio Service) radios, which are relatively inexpensive, don't require a license and work over distances of around a mile. Amateur (HAM) radio is another option, although radios are more expensive and require training and a license to operate. The local ARRL (American Radio Relay League) group should be contacted for more information.

## Evacuation Plan

Fire can be an unpredictable and powerful force. Despite the best efforts of federal, state and local fire agencies, a fire may burn out of control and threaten residents and homes in an area. As a contingency Maple Valley Fire and Life Safety should have an evacuation plan in place for the Northeast Hobart area. Residents should educate themselves on how to prepare for an evacuation, when to evacuate, how to leave their homes in a fast and efficient way, and when they can return once the area is safe. Pets and livestock should be included in considerations. Refer to the Resource Kit CD-ROM for more information on evacuation plans.

Because of the single road access to some properties and the surrounding fuel loads, a quick moving fire could prevent residents from evacuating. Establishing a "safety zone" (a large, cleared area) where residents could gather and safely wait out a fire if a road is blocked should be part of the evacuation plan.

Additionally, evacuation plans for horses and other livestock should be considered. The Washington State Animal Response Team (<http://www.washingtonsart.org>) is a volunteer organization that can help residents organize to evacuate their pets and livestock during an emergency.

One possible project could be to work with the Maple Valley Fire and Life Safety and the Washington State Department of Natural Resources to conduct a wildfire drill in the Northeast Hobart area. This could be a simple tabletop exercise where the community tests its communications and evacuation procedures.

## CERT

Another all-hazards way to reduce risk from fires and natural and human-caused disasters is to consider starting or joining an existing Community Emergency Response Team (CERT). CERT is a U.S. government sponsored program that educates people about disaster preparedness for hazards that may impact their area and trains them in basic disaster response skills, such as fire safety, light search and rescue, team organization, and disaster medical operations. Using the training learned in the classroom and during exercises, CERT members can assist others in their neighborhood or workplace following an event when professional responders are not immediately available to help. CERT members also support emergency response agencies by taking a more active role in emergency preparedness projects in their community.

CERT training is usually coordinated by the local fire department. Northeast Hobart area residents interested in CERT training should contact Maple Valley and Life Safety for details on the CERT class. More information about CERT can be found at:  
<https://www.citizencorps.gov/cert/>

## Northeast Hobart Specific

Many of the preceding recommendations apply to the Hobart area as a whole, including parts of Northeast Hobart. But there are a few suggestions that Northeast Hobart residents should specifically take note of:

- As fire travels faster uphill, residents in Northeast Hobart should be aware that they may require larger areas of defensible space. Also, a fast moving fire may leave little time for evacuation preparations.
- Where possible, owners of larger lots should make sure they are taking care of the entire forested land on their properties, not just the defensible space. Property owners should monitor forest health and take measures to ensure the forest stays healthy. A healthy forest is a safe forest.
- Narrow, single lane roads can make it difficult for vehicles to pass each other. For example, if while evacuating someone pulling a livestock trailer encounters an emergency vehicle heading to the fire, one of them may have to back up. In the best case, emergency response is slowed. Where practical, the residents should consider widening the road or installing pull outs so vehicles can pass each other safely. The community should discuss this with the fire department to determine the size of pullouts and how many to install on a specific road.
- With only one primary way out (SE 208<sup>th</sup> Street) and single roadway access to SE 208<sup>th</sup> Street, residents should be prepared to evacuate early or move to pre-designated safe areas in the event of a wildland fire.



## A Suggested Plan

This basic plan can be used by neighbors in the Northeast Hobart community who are interested in reducing the risk of wildfire. King County or Maple Valley Fire and Life Safety representatives can help tailor the plan to your specific location and needs, as well as help put you in touch with others in the area who are considering implementing Firewise plans.

### First six months

- Distribute Firewise literature to neighborhood residents
- Conduct a Firewise neighborhood tour
- Implement simple Firewise risk reduction measures (cleaning gutters, trimming shrubs, relocating wood piles, etc.) on individual properties
- Make sure roads and drives have sufficient clearance for emergency vehicles
- Create emergency contact phone tree
- Apply for Firewise Community status

### Year one

- Hold a neighborhood cleanup event, work with county to have a “Chipper Day”
- Participate in a fire evacuation drill and have individual and/or neighborhood emergency plans in place
- Develop an alternative communications (FRS or Amateur Radios) plan
- Develop an evacuation plan for livestock and pets
- Conduct an annual Firewise audit to measure fire risk reduction and identify areas of improvement
- Renew Firewise Community status

### Year two

- Implement more labor intensive Firewise risk reduction measures
- Work with surrounding neighborhoods to implement Firewise practices, work with the county to expand “Chipper Day” participation
- Conduct the annual Firewise audit and renew Firewise Community Status

### Year three

- Continue working with state and/or county on a large Firewise project
- Implement more costly Firewise risk reduction measures
- Conduct the annual Firewise audit and renew Firewise status

# Chapter 7

## Getting Firewise Communities/USA Recognition

While any homeowner can implement Firewise practices, it's important to note that fire doesn't recognize property boundaries. By working together, a community can increase the safety for all homes in an area. The Firewise Communities/USA program gives special recognition to communities that come together to create a more fire-safe place to live.

Getting Firewise Communities/USA recognition is an achievable goal that demonstrates a community's commitment to reducing the risks of wildfire. This chapter outlines the requirements and what residents in the Northeast Hobart area need to do to be awarded this distinction.

### Why Become Recognized?

Why should a community or neighbors apply for national Firewise recognition? Here are some good reasons:

- Helps create a sense of community, of belonging. People who work together for a common goal tend to build stronger neighborhoods. The program opens up communications between neighbors.
- Engages more neighbors in preparing for wildfire safety. The more Firewise homes, the less chance that a home may catch fire and spread to other homes in the neighborhood.
- Encourages attractive and welcoming landscapes. Firewise landscaping is aesthetically pleasing.
- Establishes relationships with local fire agencies.
- Increases possible grant sources for common projects.
- Provides access to national Firewise organizations resources including:
  - Quarterly publications
  - Online Learning Center
  - National biannual Convention

### What's Involved?

Here are the steps involved in getting Firewise Communities/USA recognition:

1. Establish a Firewise Board. The board consists of community members who are interested in helping their part of Northeast Hobart become more fire-safe. (The more subsections of the general Hobart area, the better.)
2. Complete a community assessment and create a plan that identifies agreed-upon achievable solutions to be implemented by the community. State, county and local agency representatives must approve the assessment and plan. (The plan and assessment in this document fulfills both of these requirements and has been approved.)
3. Observe a Firewise Communities/USA Day each year that is dedicated to a local Firewise project. Projects can include yard debris cleanup days, public education events, or any community project designed to reduce the risks of wildfire. The first Firewise Day may be getting together to complete the forms to receive Firewise recognition.

4. Invest a minimum of \$2 per capita annually in local Firewise projects. Most communities meet this requirement through volunteer time. See the "How Much Does It Cost?" section below for details.
5. Complete and submit a Firewise Communities/USA application form. A copy of the form (Firewise Community Application.doc) is included with the CD-ROM Resource Kit that comes with this plan. The form should be submitted to the WA-DNR contact listed in Appendix A of this document.

It's up to the Firewise Board, in cooperation with Maple Valley Fire and Life Safety, to pursue Firewise Communities/USA status. When approved, Northeast Hobart achieves recognition and is included among a select group of neighborhoods in the United States; at present only a handful of communities in King County have received this distinction. (See: [http://submissions.nfpa.org/firewise/fw\\_communities\\_list.php](http://submissions.nfpa.org/firewise/fw_communities_list.php) for a nationwide list of communities.)

Each year the Firewise Board submits an application and documentation to renew their Firewise Communities/USA status. The annual requirements include holding a Firewise Day event and investing a minimum of \$2 (usually as "in-kind dollars", see below) per community member in Firewise activities.

## How Much Does It Cost?

It doesn't cost anything to apply for Firewise Communities/USA status (or renew annually, once a community is recognized).

The program does stipulate that the community must invest a minimum of \$2.00 per capita annually in local Firewise projects if they want to maintain their recognition status.

According to 2010 Census data, there are 51 people who live in the NE Hobart planning area. This means each year they would need to spend a total of \$102 on Firewise projects. Keep in mind that doesn't mean the residents need to raise that much money or spend out-of-pocket dollars each year. First, volunteer time counts. The current rate for volunteer compensation is just under \$22 an hour (\$21.79 in 2011 according to [www.independentsector.org/volunteer\\_time](http://www.independentsector.org/volunteer_time)). So if a single person volunteers an hour of time on a Firewise project, he or she has met the annual \$2.00 per capita requirement for 10 people. It also doesn't matter how many people are logging the hours (although the more the better), just that the hours are recorded. (Volunteer forms are included in the Resource Kit CD-ROM included with this report.)

Second, individual efforts count toward the community. Let's say you landscaped your yard and used fire tolerant plantings. The total cost of your landscaping could be applied to the community's total required annual Firewise investment.

As you can see, it's easy to meet this monetary requirement.

Here are some examples of Firewise projects that could count toward the yearly requirement:

- Providing public education (presentations or information booths on Firewise concepts)
- Cleaning your gutters
- Creating defensible space around your house
- Attending Firewise meetings (local board meetings or national conferences)
- Participating in community projects (such as removing overhanging limbs from streets, creating fuel breaks, or improving emergency road access)

## **How Long Does The Process Take?**

On a national level, most communities take 12 to 24 months to complete all of the Firewise Communities/USA requirements. However, in the case of the Northeast Hobart area the process will be accelerated since the wildfire assessment and plan have been completed and the fees involved in creating this report can be applied to the annual \$2 per capita investment. The primary requirements are holding a Firewise Day event and submitting an application. Once these tasks are completed, the approval process should take 6 to 8 weeks.

## **Is There Grant Money Available for Projects?**

The Firewise Board may identify large-scale projects such as fuels reduction or road improvements that could significantly reduce wildfire risk. These projects may be too costly for the community to undertake. However it is possible there may be funding available for certain projects through federal, state and county grants. The Resource Kit contains information on potential funding sources.

## **For More Information**

Check out the official Firewise Communities/USA Web site at:

<http://www.firewise.org/usa/index.htm>

You'll find stories and photos from a number of communities that have received the distinction.

# Appendix A

## Contacts

### Firewise

King County Department of Natural Resources and Parks  
Kristi McClelland, Forester  
201 S Jackson St, Suite 600  
Seattle, WA 98104-3855  
kristi.mcclelland@kingcounty.gov  
206.296.7820

Maple Valley Fire and Life Safety  
Brad Doerflinger, Chief  
23775 SE 264th Street  
Maple Valley, WA 98038  
bradd@maplevalleyfire.org  
425.432.0200

Washington Department of Natural Resources  
Jane Potter, Wildlands Fuel Specialist  
950 Farman Ave N  
Enumclaw, WA 98022  
jane.potter@dnr.wa.gov  
360.802.7030

Sarah Foster, State Firewise Coordinator  
Olympia, WA  
sarah.foster@dnr.wa.gov

National Firewise Communities  
[www.Firewise.org](http://www.Firewise.org)

### Emergency & Law Enforcement

Seattle Public Utilities  
Darian Davis, Manager Emergency Management & Watershed Protection  
Cedar River & South Fork Tolt Watersheds  
Office: 206.386.4221  
Cedar Falls HQ: 206.233.1524

Valley (Fire) Communications  
27519 108th Ave SE  
Kent, WA 98030  
253.372.1300

King County Police  
Precinct 3  
22300 SE 231st  
Maple Valley, WA 98038  
206.296.3883



King County Office of Emergency Mgmt.  
Washington State Patrol  
2803 156th Ave SE  
Bellevue, WA 98007  
425.649.4370  
206.296.3830

## **Utilities**

King County Dept of Transportation  
Road Services Division  
201 S Jackson St.  
Seattle, WA 98104  
206.296.6590  
1.800.527.6237

Washington State Dept of Transportation  
NW Region Office  
15700 Dayton Ave.  
Shoreline, WA  
P.O. Box 330310 Seattle, WA 98133  
206.440.4000

Puget Sound Energy  
P.O. Box 97034  
Bellevue, WA 98009  
888.225.5773

Seattle Public Utilities  
see Emergency & Law Enforcement

## **Other**

Red Cross (King County Chapter)  
1900 25th Ave S  
P.O. Box 3097  
Seattle, WA 98114  
206.323.2345

Metro Transit  
201 S Jackson St  
Seattle, WA 98104  
206.684.1162

## Appendix B

# Contents of the Northeast Hobart Area Firewise Resource Kit

The Northeast Hobart Area Firewise Resource Kit is a CD-ROM that contains a number of different information sources designed to help you create and maintain a Firewise Community. This document lists the contents of the CD-ROM and describes each file on it.

Most of the files are in Adobe Acrobat (PDF) format and can be viewed and printed with Adobe Reader. (If you don't have a copy of the program you can download it from [www.adobe.com](http://www.adobe.com).) Firewise Community application forms are in Microsoft Word (.DOC) format and can be opened by many different word processors. Click on a link to open a document.

## What's On The CD-ROM

**2009 Fire in Washington.pdf** - The Washington State Fire Marshall's annual report of emergency responses in the state. Full of data on fires, their causes and costs.

**2010 Fire in Washington.pdf** - The latest Washington State Fire Marshall's report.

**Campfires.pdf** - DNR information about campfire and fire pit safety.

**CERT FAQ.pdf** - Frequently asked questions about the U.S. government's Citizen Emergency Response Team program.

**Citizens Corps Volunteer Liability Guide.pdf** - An overview of legal issues and approaches to address liability for volunteers.

**DNR Fireworks Safety.pdf** - A Firewise Safety poster produced by the Washington State Department of Natural Resources. It may be freely copied and distributed.

**Firewise Community Application.doc** - A Microsoft Word document that contains the application for becoming a Firewise Community.

**Firewise Community Renewal.doc** - An application for annually renewing your Firewise Community status once you have achieved the distinction.

**Firewise Contacts.doc** - A list of state and county Firewise contacts.

**Firewise Funding Sources.pdf** - Information about funding sources for Firewise projects and how to apply for grants.

**Firewise Matching Funds for Homeowners.pdf** - A form for recording Firewise activities for matching fund grants.

**Firewise Plant List 2009.pdf** - A list of fire resistant landscape plants for the Puget Sound Basin.

**Firewise Volunteer In-Kind Tracking.pdf** - A form for tracking in-kind volunteer Firewise hours.

**Firewise Volunteer Signup Sheet.pdf** - A volunteer signup form for Firewise projects.

**Firewise Volunteer Time Sheet.pdf** - A form for tracking hours spent volunteering on Firewise activities.

**Northeast Hobart Firewise Assessment.pdf** - Assessment form completed by Madden & McNamara during a September 2012 fire assessment of the Northeast Hobart area.

**Northeast Hobart Community Wildfire Protection Plan.pdf** - An electronic version of the September 2012 Northeast Hobart Firewise plan. (Microsoft Word format documents of the plan chapters are also included.)

**Internet Communication Resources.pdf** - Information about using the Internet for Firewise communications including Yahoo! accounts that have been created for your community.

**Knox Box Information.pdf** - Information about lock boxes used to provide emergency fire department access to locked gates.

**Wildfire Evacuation Process.pdf** - Information about community fire evacuations.