

## Firewise Eligible Project Examples

Applications for hazard mitigation activities that focus on activities in the Mitigation Category are preferred and those with activities in multiple categories will receive priority. These preferences will not exclude applications submitted for the development of Community Wildfire Protection plans. Regional Firewise Specialists will work with communities to make sure grants meet the requirements.

### Category 1: Assessment Activities

The DNR can provide a generalized risk assessment and fuel map to participating communities. However, this information is not adequate for detailed planning necessary to inform risk reduction planning and decision making at the local level. Communities will need to undertake a detailed assessment of structures, independently or with support or assistance from the DNR. This activity or the improvement of an existing assessment can be included as part of the assessment activities in the grant application.

**Level 1 assessment** is a coarse scale evaluation of home ignition zones through the interpretation of aerial photographs, GIS applications, etc. Structures are classified on a scale of 1-5 based on the observation of distance from forest or tree cover. Level 1 assessments are used to identify and prioritize areas for Level 2 assessment. Any requests for Level 1 assessment activities must also include the completion of Level 2 assessments.

**Level 2 assessment** is an on-the-ground, field assessment of individual structures of significant value (e.g., homes, etc.). It includes individual house information such as address and GPS coordinates, in addition to an evaluation of specific risk factors. Activities must conform to DNR Firewise standards. Level 2 assessment typically follows an initial Level 1 assessment, however communities of fewer than 200 homes/businesses are recommended to skip Level 1 and perform a Level 2 assessment.

Regional Firewise Specialists can offer more details on each assessment type.

### Category 2: Planning Activities

Good planning involves a wide variety of partners working towards a common goal. A good mitigation plan provides the basis for making a community a safer, better place to live. The mitigation plan is a component of a Community Wildfire Protection Plan (CWPP). In addition to hazard mitigation, CWPPs address issues such as wildfire response, community preparedness or structure protection.

These grants encourage the creation of a quality Mitigation Plan for the Prevention of Damage caused by Wildland Fires. This plan must also be part of an overall strategy and plan for all hazards as supported by the Federal Emergency Management Agency (FEMA) and its state partner, the Minnesota Department of Homeland Security and Emergency Management (HSEM).

A good plan should address the current, existing situation and future concerns posed by continued development. The best way to deal with the problems of tomorrow is to create a plan that will mitigate future risks during the development phase.

**Activities** can include consultant fees, meeting costs, travel expenses for community staff, printing, materials distribution, etc. They cannot be used to hire new staff or to subsidize the costs of existing staff.

### Category 3: Mitigation Activities

Mitigation activities can include hazardous fuel reduction practices and risk mitigation activities.

1. **Hazardous Fuel Reduction Practices** The purpose for Fuel Reduction is to modify the fuel complex near the structure so that a wildfire will not exhibit erratic, aggressive behavior such as spotting, crowning, or torching or flame lengths more than one to two feet. These activities may occur inside or beyond a structure's 100 ft. Fuel Modification Zone (including the 30 ft. Defensible Space Zone).
  - a. Tree removal either as individuals, groups, or stands to eliminate defined fire hazards, making the treated area free of aerial fuels (more than 5 ft. tall). Includes the removal of an entire stand of trees deemed to pose a significant risk which cannot be effectively address by other mitigation activities. This practice does not apply to harvesting stands that would otherwise support a commercial harvest.
  - b. Stand Reduction, the removal of trees individually from stands to reduce the fuel loading and continuity of the residual stand while maintaining the basic characteristics of the stand. Reduction of pine (jack, scotch and red) and spruce stands where the stand is over dense and carries a significant risk of supporting a crown fire in aerial fuels. This applies to natural stands, tree farms, and windbreaks.
  - c. Vertical Fuel Abatement is designed to prevent wildfire from involving tree crowns either as torching (intermittent crown fire) or free-running, continuous crown fire. This is accomplished by removing ladder fuels, typically two to 10 feet tall.
    - i. Pruning: The removal of aerial fuels from trees that will remain after mitigation treatment. This branch free zone should be at least 10 ft. tall and include all trees in a structures defensible space.
    - ii. Brush/conifer regeneration removal: The removal of shrubs and brush more than one ft. tall within a structure's defensible space is a critical component of vertical fuel modification aimed at prevention of advanced fire behaviors. It can also be implemented in forest stands away from structures if it substantially reduces the risk of crown or torching fires.
    - iii. Understory Conifer Removal: The removal of highly flammable conifer shrubs and small understory trees, a critical component of fuel management within the defensible space. It can also be used in stands beyond the defensible space if the removal substantially decreases fire behavior and crown fire potential.
  - d. Fire Behavior Reduction Treatment in areas outside a structure's defensible space where the development of an uncontrollable, aggressive, rapidly spreading wildfire would pose a significant risk to many structures in a defined area.
    - i. Stand Removal: Removal of an entire stand of trees that pose a significant risk which cannot be effectively address by other mitigation activities. This practice does not apply to harvesting stands that would otherwise support a commercial harvest.
    - ii. Stand Reduction: The removal of trees individually from stands to reduce the fuel loading and continuity of the residual stand while maintaining the basic characteristics of the stand.
    - iii. Thinning in conifers: Reduction of pine (jack, scotch and red) and spruce stands where the stand is over dense and carries a significant risk of supporting a crown fire in aerial fuels. This applies to natural stands, plantations, and windbreaks.

- iv. Pruning: the removal of aerial fuels from trees that will remain after mitigation treatment. This branch free zone should be at least 10 feet.
- v. Prescribed Burning: The use of fire is natural and appropriate to reduce wildland fuels both inside and beyond the Fuel Modification Zone. It is a specific practice applied in general and broadcast to the entire area being treated. It must be exercised with all due caution by trained personnel, properly equipped, under appropriate conditions, and under appropriate authorization and permits.  
Note: This technique does not include the burning of piles or gathered fuels. This activity is a separate practice.
- vi. Slash disposal is a one-time activity resulting from a separate forestry activity such as stand harvest, stand reduction, thinning, or pruning. It may be applied as a low intensity fire under a residual overstory of trees or to an area, which has been cleared of trees.
- vii. Type maintenance burning is a continuing maintenance activity and may need to be repeated in the future in areas where the activity is undertaken to control understory vegetation which would be expected to regrow. These burns are typically of low intensity and occur under an overstory of residual trees that should not be damaged by the activity.
- viii. Reduction of fuels buildup is warranted in areas where needle fall, branch drop, and other natural activity increases the loading of downed fuels to levels that would support fires with flame lengths more than two feet. It is potentially a continuing maintenance activity. Warning: Most understory broadcast burning is not recommended in Minnesota as it degrades the value of the timber. Pulp companies cannot accept any char in their raw materials.
- e. Fuel break construction and maintenance: This would build and maintain areas around structures or communities that would modify the behavior of an approaching wildfire such that it would stop spreading or could be effectively initial attacked by firefighters.
  - i. Establishment of hardwood windbreaks: Hardwood trees present a reduced risk of carrying a wildfire and would be an acceptable alternative to conifer windbreaks where a windbreak is desired for other reasons, such as energy conservation or wind control, but where there is a significant risk of wildfire. In these cases, a hardwood windbreak of 100 feet beyond a minimum 30 feet defensible space is an appropriate activity.
  - ii. Establishment and maintenance of grass fuelbreaks as a barrier between an ignition source and a wildland fuel complex or as the predominant ground cover within a defensible space zone around a structure. These fuel breaks must be maintained by watering and mowing (as necessary during the growing season to keep the vegetation to a height no greater than 6") to preclude fire spread. The vegetative mix used must be approved by the local DNR-Forestry Area forester in consultation with the Regional Firewise Specialist.
  - iii. The establishment and maintenance of bare ground fuelbreaks as a barrier between an ignition source and a wildland fuel complex or to break up a large area of hazardous fuels. These fuelbreaks must be actively maintained such as disking or herbicide in a manner to maintain bare ground as a barrier to fire spread.

- f. Piling and burning slash: Local needs may dictate that slash cannot be disposed of by broadcast burning. Slash can be piled or otherwise concentrated at a specific location on the site and then burned when weather conditions are favorable to burning the piles, but where the risk of the fire spreading, or endangering homes is minimized.
  - g. Slash bailing can be used to dispose of slash from a site where the bails can be utilized in an energy production or other commercial facility.
  - h. Brush Disposal: Burning of brush or slash by the local fire department at a centralized collection site approved by the local fire department and under appropriate burning conditions and permits. This practice is limited to locations where other disposal techniques, such as bailing and energy production, are not feasible.
2. **Risk mitigation activities** focus on the reduction of damage to structures and other assets when a wildfire occurs. Activities center on making the suppression response more effective or to making the structure self-defensible by mitigating specific risks within a 100 ft. Fuel Modification Zone. Specific activities may be defined as mandatory within the 30 ft. Defensible Space Zone.
- a. Creation of defensible space: Structures need to have a defensible space surrounding them that provide a reduction in fire behavior (flame lengths and heat load) sufficient to reduce or eliminate the chance of ignition from radiant heating, elimination of dangerous fuels and materials from locations near the structure that could spread fire, improve access and operations of firefighters providing direct structure protection during the wildfire. Activities include reducing or eliminating tree and brush fuels within the defensible space and stand reduction techniques including complete removal of slash resulting from these activities within the Fuel Modification Zone. In general, it is anticipated that a higher level of mitigation activity will be applied to the Defensible Space Zone particularly with reference to maintaining an effective operating space for direct structure protection.
  - b. Relocation of permanent flammable assets: All permanent flammable assets, such as fixed propane tanks, will be in accordance with the Minnesota Uniform Fire Code. This practice is only available where relocation by the gas utility at no charge is NOT available.
  - c. Access improvement: Access to structures for direct protection during a wildfire is a critical activity. This provides better safety for firefighters and an improved tactical, protection opportunity. It is assumed that firefighters will not protect a structure where they and their equipment are placed at greater risk due to access issues. Firewise supports provisions of the Minnesota Uniform Fire Code (MUFC) and cost share funds can only be used for access improvement where the MUFC is followed.
    - Trees removed to provide a minimum access width of 20 ft. at the narrowest point of the access. This may need to be widened if the access turns or curves.
    - Trees pruned along the access to 14 ft. to permit the passage of fire equipment beneath the lowest branch.
  - d. Signage: Good signage is critical if fire units dispatched to protect structures during a wildfire can find their assigned structure in a timely manner. During the confusion, fire crews from adjacent communities, unfamiliar with geography, will have a difficult time locating a specific location if signage is poor or lacking. Signage may include identification signs on the structure, individual house signage at the end of the driveway, or street signs at intersections.

- i. **Access and road signage:** Good street and road signage is critical for fire crews to maintain their orientation. Signs should be highly visible and metal to resist damage in a fire or pre-incident vandalism. The signage should be fully treated with a high quality, reflector material to be easily seen in the dark. They should be placed in a conspicuous location. This signage includes street signs at intersections and location signage at the entry to a driveway from the access road.
- ii. **Individual location signage:** Used to identify individual resources, such as structures or water access points. They include signage on the access road at the end of the driveway and on the structure. Signage placed on the access road should be metal, non-flammable, and reflectorized and placed in a conspicuous location. Signage placed on the structure does not need to be non-flammable but should be sufficiently large (at least 4 in. tall), contrasting, and conspicuous to be easily located and read. It is strongly suggested to be reflectorized.

#### Category 4: Information and Education Activities

Ultimately, making a community safe from wildfire is a local responsibility. It is the intension of the Firewise Community Grant Program to initiate a self-sustaining program in the community. For this to happen, it is recognized that a large component of a community's program needs to be focused on providing information and education to community residents.

##### **1. Materials preparation, procurement, and distribution**

Communities will be provided with various, standard brochures and fliers explaining various aspects of the program designed to support the Minnesota Firewise Program. Communities may need to develop additional, detailed material supporting its program with specific details needed by community members. In all cases, communities may incur costs in the distribution including mailing, residential delivery, or publishing. Publishing costs may include assorted activities ranging from advertising costs in a local paper to development costs associated with placing program information on an existing community website.

##### **2. Public meetings and special events (e.g., fairs and shows)**

A community may incur expenses in presenting program information at a public meeting, fair, or other special event. These costs are limited to out-of-pocket expense and cannot include reimbursement of staff time. Staff time used in this manner can be used to match grant funds.

##### **3. Improved wildland fire training for firefighters**

Most communities have focused firefighter training on the needs for structure fires. Techniques are different for wildfire suppression and structure protection from wildfire. DNR offers this training on a cost recovery basis to local communities. With prior approval, costs associated with Wildland Urban Interface (WUI) training can be included as part of this activity.