

Community Wildfire Protection Plan

HUNTERS POINTE



MARCH 2010

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EXECUTIVE SUMMARY: HAZARD AND RISK ASSESSMENT

Technically, wildfire hazard is a function of the forest fuel situation as it affects wildfire ignition and resistance to control; risk is defined as the probability of a wildfire starting.

A wildland fire hazard and risk assessment was conducted in Hunters Pointe in March, 2010, by the SC Forestry Commission. The assessment instrument rates wildfire hazard and risk as “Low,” “Moderate,” “High,” and “Extreme.” According to the survey, Hunters Pointe’s raw numerical rating is 62, placing it into the “Moderate” category. See Appendix A.

The assessment instrument, the *South Carolina Wildfire Hazard & Risk Assessment Score-sheet*, was developed by the SC Forestry Commission and based on National Fire Protection Administration guidelines (NFPA 1144). It takes into consideration accessibility, vegetation, topography, building construction and roofing assembly, availability of fire protection resources, placement of gas and electric utilities, and other factors.

The following factors are primary wildfire safety concerns in your community:

- 1. Minimal defensible space around homes.**
- 2. Highly flammable natural vegetation in and around community.**
- 3. Limited egress should evacuation become necessary.**

The remainder of this plan discusses specific hazard and risk issues in detail, and provides recommended mitigation measures to reduce the threat of wildfire.

* * *

COMMUNITY COLLABORATION

Community Representatives

Homeowner: Mr. Allen Petricek

County Government

Hartsville Fire Department: Chief William Heathman

State Government

SC Dept. of Natural Resources: Johnny Stowe and Allen Bridgman

SC Forestry Commission: Michael Bozzo, Ken Cabe, and David Hodge

APPROVED: _____

Michael J. Bozzo, Firewise Coordinator
SC Forestry Commission



OBJECTIVES

Using National Fire Prevention funds, the South Carolina Forestry Commission has committed personnel to assess the danger from wildland fire to communities within our state. Hunters Pointe lies in what has been designated a wildfire prone area.

Wildland fire experts from the Forestry Commission, in cooperation with community leaders and the SC Department of Natural Resources, have completed an assessment of Hunters Pointe with regard to the threat from wildland fire. This report shows the results of that assessment.

The objectives of this report are to identify wildfire threats and provide recommendations to mitigate those threats. By implementing these recommendations, community leaders and residents can reduce wildland fuels and decrease structure ignitability, thus better protecting the community and its essential infrastructure.

Specifically, the plan includes community-centered actions that will:

- Educate citizens about wildfire, its risks, and ways to protect life and property.
- Focus on collaborative decision-making and citizen participation.
- Develop and implement effective mitigation strategies.
- Develop and implement effective community covenants and codes.

In addition to improving wildfire safety, Hunters Pointe can earn recognition as a Firewise Community/USA. The criteria are as follows:

- Having a wildfire expert conduct a wildfire hazard/risk assessment. (Done)
- Developing a Community Wildfire Protection Plan. (Done)
- Establishing a Firewise Council to address wildfire protection concerns.
- Annually investing at least \$2 per capita in wildfire protection work.
- Sponsoring an annual Firewise workday involving community members.
- Submitting an annual report documenting Firewise activities.

The Forestry Commission is available to assist property owners with mitigation practices recommended in this report. For more information, contact the SC Forestry Commission at 803-494-8488

COMMUNITY WILDFIRE PROTECTION PLAN

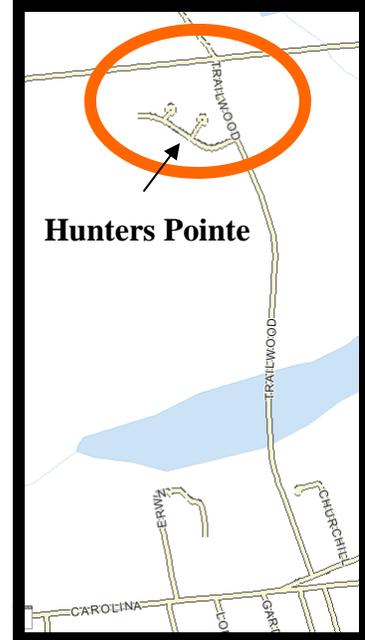
PART 1

WILDFIRE HAZARD AND RISK

1.1 COMMUNITY DESCRIPTION

Location: Hunters Pointe is located in Darlington County just west of Trailwood Drive, two-tenths of a mile south of Golf Course Road. The entrance to the community is by Crooked Creek Drive.

The community is surrounded by the SC Department of Natural Resources' Segars-McKinnon Heritage Preserve.



Terrain: This area is characterized by mostly flat terrain with sandy soils that are generally well-drained. The west and south sides of the neighborhood are bordered by wetlands.

Forest Cover: The dominant forest type in the immediate area is pine-hardwood. The primary tree species are loblolly pine, sweetgum, blackgum, and various species in the red oak group. Of special interest are patches of Atlantic white cedar growing in the wetlands adjacent to the neighborhood.



Forest Fuels: Forest fuel includes any natural material, living or dead, that will burn. Fuel accumulation in the woodland adjacent to Hunters Pointe is heavy. The primary surface fuel consists of pine straw and dead leaves. Other significant fuels include waxmyrtle and gallberry brush. There is also a sphagnum moss component in some of the wet area that suggests the possibility of sub-surface fuels.



Fire History: Wildfire is an uncommon occurrence in the immediate vicinity of Hunters Pointe. The Forestry Commission generally responds to 2-3 wildfires each year within two miles of the community. Most of these are small. Historically, careless debris burning has been the primary fire cause. Woods arson is the second leading fire cause in Darlington County, followed by equipment use.



Infrastructure:

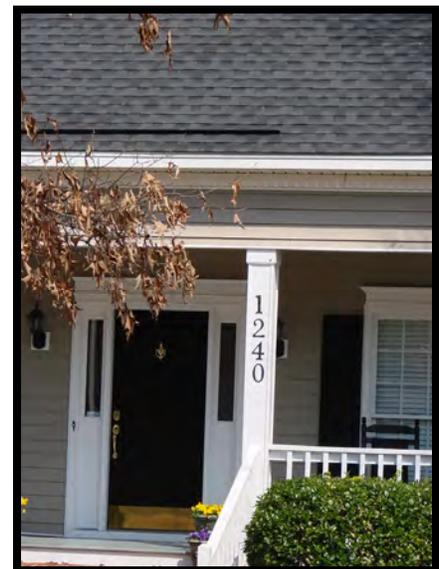
Hunters Pointe is served by a two-lane hard surface road and several short streets with cul-de-sacs. The road width is adequate for most firefighting apparatus, but the turning radius on cul-de-sacs is a bit tight for large equipment. There are no sidewalks, but road shoulders are drivable in most places. The only egress to Trailwood Drive is by Crooked Creek Drive.



Electrical service is underground, but street lights are supported by wooden poles. Heating gas is LP with some tanks above ground. Sewage disposal is by septic tank. Garbage pick-up is available from private contractors on a fee basis.

Water service is through the county water system. Fewer than half the homes have in-ground irrigation; many of these are served by wells.

Street signs are easily readable and non-flammable. While there appears to be no standard system, most house numbers are plainly posted on mailboxes or on the house itself.



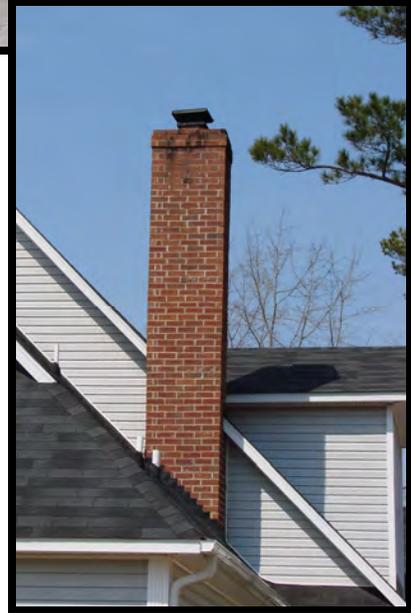
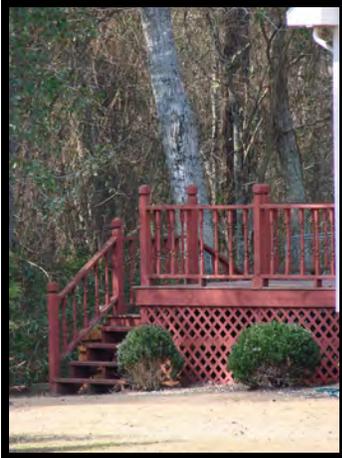
Development: Development in Hunters Pointe began in 1991. The neighborhood consists of about 20 homes situated on lots ranging in size from a half-acre to more than one acre. There are a few vacant lots remaining.



Structure Density: Structure density is medium, with homes 40-80 feet apart.

Construction: Hunters Pointe is a community of site-built homes. Exterior faces include brick, hardiplank and vinyl; roofing throughout is asphalt shingles. Most homes have open gutters. Eaves and soffits are enclosed; some chimneys have spark arrestors and some do not. All homes are built on brick foundations, but some porch crawl spaces are screened with lattice.

About 25% of the homes have wooden decks attached. Garden hoses are attached to some outdoor faucets.



Landscaping: Landscapes in the neighborhood are mature; plantings range from simple to fairly complex. Use of volatile landscape plant materials is not a significant problem, but pine straw is used extensively as mulch. Except for a few interior properties, the distance between homes and the adjacent woodland is less than 30 feet. Several homes have wooden fences running to within a few feet of the wood line. Properties are well maintained.



Fire Suppression Resources Available: Quick, effective initial attack is the key to managing wildland fires. Rapid response by firefighters depends on early detection and accurate reporting. Residents should immediately report suspicious smoke or fire to Darlington County 911.

Firefighting resources presently available to Hunters Pointe are listed below. Response times are estimates based on ideal response conditions.

**HARTSVILLE FIRE DEPARTMENT
2-3 MINUTES**



**SC FORESTRY COMMISSION
30 MINUTES**



Water Supply: Water for firefighting is available through pressurized hydrants on the Darlington County water system; flow is estimated to be around 800 gallons per minute. There are no reflective hydrant locators embedded in the streets.



Two ponds just north of Golf Course Road (.3 mile) and Prestwood Lake (.9 mile to the southeast) offer potential helibucket dip sites.



1.2 WILDFIRE HAZARD

Wildfire Hazard: The type, condition, amount, and arrangement of forest fuels that contribute to wildfire ignition and resistance to control.

Fine fuels are usually the first to ignite and contribute to the early spread of a wildfire. The primary fine fuel in woodlands adjacent to Hunters Pointe is pine straw. In addition to heavy concentrations of pine straw in the woods, it is also the primary mulch material used in planting beds throughout the neighborhood.



Sphagnum moss is present in some of the low areas. The moss growing on the surface behaves like a fine fuel during very dry periods. Underground accumulations (commonly called peat) behave more like heavy fuels, smoldering for weeks and producing noxious smoke.

Intermediate fuels consist of dead branch wood, vines, and living brush. Significant are the heavy concentrations of waxymrtle and other volatile shrubs in the forest understory. These green plants provide a fuel ladder whereby flames can travel from the ground to the crowns of the trees. There is also a significant loading of dead branchwood in the Atlantic white cedar stands near the neighborhood.



Atlantic white cedar



Volatile shrubs

Heavy fuels like dead logs and stumps do not ignite readily, but once ablaze they will burn for a long time. These fuels contribute significantly to fire intensity, fire duration, and smoke production. Smoke production is a special concern as it can create significant health and safety problems. There is a moderate component of heavy fuel in the woodlands around Hunters Pointe.



1.3 PRIORITIZED HAZARD MITIGATION RECOMMENDATIONS

1. Clear fine fuels that are immediately adjacent to homes.

Residents should clear fine fuels immediately adjacent to their own homes. These fuels, including pine straw mulch, can ignite from wind-borne embers originating in wildfires burning up to a mile away.

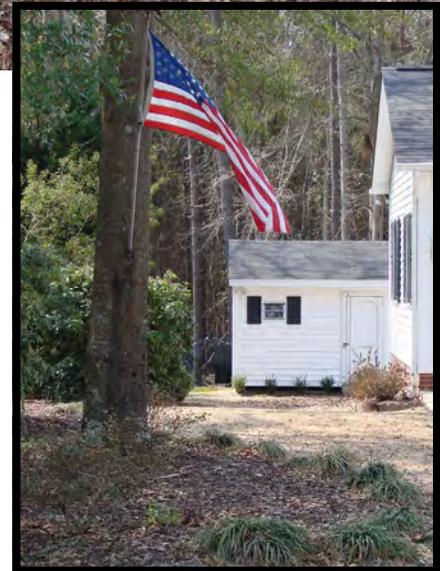
2. Establish and maintain defensible space.

Defensible space is an area around the home that is maintained in such a way as to retard fire spread and allow fire-fighting access. Residents should maintain a minimum of 30 feet of defensible space between the home and adjacent woodlands. The average defensible space in Hunters Pointe is 15-25 feet. (See Appendix C.)



3. Clear brush and dead logs from within 30 feet of any structure.

Brush should be removed within 30 feet of any structure. Residents are encouraged to use suitable deadwood for fireplace or wood stove fuel. Wood fuel should be stacked at least 30 feet from any structure. Unusable deadwood should be hauled away or scattered naturally rather than piled or bunched. (See Appendix D.)



4. Keep roofs clear of vegetative debris.

Pine straw and dead leaves accumulate quickly on rooftops, especially in roof valleys, behind chimneys, and in gutters. Special care should be taken to keep roofs clear of vegetative debris during the January-April wildfire season.

5. Avoid highly flammable landscape material.

Landscaping with highly flammable material is discouraged. Pine straw or pine bark mulch should not be used within 3 feet of any flammable structural component; juniper ground cover should be no closer than 6 feet. Pampas grass should not be planted within 15 feet of flammable structural material; it should be cut back in February or March to prevent accumulations of dead material. Maintain 15-20 feet of separation between waxmyrtle planting and structures. (See Appendix E.)

1.4 WILDFIRE RISK

***Wildfire Risk:* The chance of a wildfire starting, as influenced by forces of nature and the activities of people.**

In South Carolina, over 95% of all wildfires are caused by people and their activities. Wildfire risk is related to weather conditions, and risk increases when outdoor activities coincide with periods of low humidity, high wind, or drought.

Risk factors affecting Hunters Pointe include both internal and external influences. External risks include wildfires encroaching from woodlands, grasslands, or rights-of-way adjacent to the community. Such fires could be accidental or incendiary in origin. Specific external risk areas include:

- 1. Fires originating on the Segars-McKinnon Heritage Trust tract.**
- 2. Vehicle-related ignitions along Trailwood Drive and Golf Course Road. These include careless smoking, hot exhaust systems and brakes, and sparks from dragging metal.**

Risk of wildfire originating within the community is low. The most significant sources of ignition within the community may be related to:

- 1. Structure fires spreading to adjacent vegetative fuels or other structures.**
- 2. Careless disposal of coals and ashes from fireplaces and barbeque grills.**
- 3. Equipment malfunction, including sparks from yard maintenance equipment.**
- 4. Fires escaping from debris burning in neighborhood.**

1.5 RISK MITIGATION RECOMMENDATIONS

Wildfire occurrence in and around Hunters Point is historically low, but risk minimization should still be a high priority. Risk minimization recommendations are as follows:

1. Encourage residents to plan and prepare for wildfire emergencies.

Residents should keep garden hoses attached to outside faucets at all times and insure that in-ground sprinklers are functional; all family members should know how to manually activate sprinklers in case of evacuation. Essential documents and photos should be stored in a fireproof safe or kept in a container that can be easily transported in event of evacuation. When evacuating, residents should close all windows, doors, crawl space entrances, and garage doors.

2. Participate in the Forestry Commission's Red Flag Fire Alert program.

Upon agreement with the homeowner's association, the Forestry Commission will provide a Red Flag to be flown at the main entrance to the community. The flag serves as a warning that wildfire danger is increasing; it is only flown when the Forestry Commission has declared an Alert for your area.



3. Use neighborhood communication instruments (newsletters, e-mail, meetings) to present fire protection information.

Incorporate wildfire safety messages into any neighborhood communications. Distribute printed material (available from the Forestry Commission) at community events.

4. Prohibit outdoor burning in Hunters Pointe.

If not already included in the neighborhood covenants, the community should consider adding language that prohibits all outdoor debris burning. If burning is to be allowed, residents should be advised to carefully follow both the state's Notification and Precautions Law (SC Code of Laws, Title 48, Chapter 35) and all local ordinances. The Forestry Commission burning notification number is 800-986-3742.

5. Require spark arresters on all chimneys and flues in new construction.

While not a major issue, sparks from chimneys can cause unwanted ignitions; arresters are an inexpensive way to eliminate this wildfire source. Your local building code may already address this; if not, add the requirement to neighborhood covenants.



**COMMUNITY WILDFIRE
PROTECTION PLAN**

PART 2

ACTION PLAN

2.1 ACTIVITY PLAN

1. Establish a Firewise Council or assign wildfire planning to the existing Homeowner's Association.

For maximum effectiveness, a community council should be designated to oversee wildfire protection efforts. This may be an existing committee or a special group convened just for this purpose.

Members should include Hunters Pointe residents, SCFC officials, and Hartsville Fire Department representatives. The Council should meet periodically to review progress toward mitigation goals; appoint special committees; delegate tasks; and work with state, federal, and local officials to develop goals and action plans.

The Council may need to assign committees or persons to fill specific roles in the Firewise process:

1. Liaison to work with the Forestry Commission and Fire Department experts
2. Funding specialist to write grants and explore funding sources
3. Publicity specialist to generate news media interest in firewise efforts
4. Covenants specialist to incorporate firewise amendments into governing documents
5. Coordinators/managers for special events and work days

2. Host a Firewise workshop for community residents.

At the request of the Homeowner's Association, the Forestry Commission will present a two hour community workshop entitled "How To Have A Firewise Home." This workshop provides specific information on how to reduce your home's vulnerability to wildfire. Door prizes and catered refreshments will be provided. The community will be responsible for reserving an adequate meeting place and pre-registering participants. The cost of the workshop will be borne by the Forestry Commission.

3. Enroll as a participant in the Forestry Commission's Red Flag Fire Alert Program.

Participation requires a signed agreement between the Homeowner's Association and the Forestry Commission. Under terms of the agreement, the Forestry Commission will supply a Red Flag Fire Alert pennant to the community and notify the community any time the Alert is activated. The community must agree to fly the flag prominently and take it down as soon as the Alert is over. An agreement form is available by calling 803-896-7944.

4. Organize a community-wide wildfire hazard reduction workday.

Designate a Saturday for a community wildfire hazard reduction event. The event can begin with a morning briefing, then residents spend the morning on hazard reduction projects at their homes. The Forestry Commission can provide an educational exhibit, refreshments, and wildfire experts to conduct individual home hazard/risk assessments.

2.1.1 PROPOSED SPECIAL FUEL MITIGATION PROJECT

As a neighbor to Hunters Pointe, the SC Department of Natural Resources has proposed a wildfire protection partnership involving the DNR, the SC Forestry Commission, and Hunters Pointe. Recognizing that wildfires burning across Segars-McKinnon Heritage Preserve could possibly endanger Hunters Pointe, the DNR is offering to develop a fuel break around the community.

Using a mastication machine (mulcher), the DNR will grind brush in a 30' wide strip around the perimeter of the community, as specified by the Forestry Commission. While the fuel break is not designed to stop a wildfire, it will reduce fire intensity and radiant heat if fire approaches Hunters Pointe. This will make it much easier for firefighters to defend homes in the neighborhood and reduce the threat of homes being damaged by a wildfire.

The fuelbreak will not adversely affect wildlife, environmental quality, or aesthetics. Equipment will be furnished by the DNR and costs will be paid by a wildfire protection grant from the SC Forestry Commission.

The fuel break, in its entirety, will be constructed on property belonging to the Heritage Preserve. Fuel treatment will not encroach upon privately owned property.

2.2 EDUCATION AND OUTREACH

Distribute Informational Resources

Using community notification resources already in place (newsletters, e-mail, bulletin boards, etc.) provide wildfire protection information to residents of Hunters Pointe. This may include:

- Printed material available on request from the SC Forestry Commission
 - Living With Fire
 - Flammable Plants List
 - Homeowner's Checklist
- Internet resources, including:
 - www.trees.sc.gov
 - www.firewise.org
 - www.flash.org

2.3 SUSTAINABILITY

To accurately assess progress and effectiveness of the Action Plan, the Hunters Pointe Firewise Council should implement the following:

1. Annually review the wildfire risk assessment to determine if hazard and risk have changed.
2. Update Action Plan based on the assessment. Plan at least one community Firewise work-day or activity each year.
3. Publish an annual report detailing hazard mitigation work and other projects which have been initiated and/or completed. Include a financial statement of funds received, funds expended, and in-kind services utilized. The report should include a “state of the community” section that critically evaluates Firewise progress and needs.

COMMUNITY WILDFIRE PROTECTION PLAN

APPENDICES

APPENDIX A

South Carolina 's Wildfire Hazard & Risk Assessment Scoresheet

** This document is based upon the NFPA 1144

Community: HUNTERS POINTE

County: DARLINGTON

Lat/Lon: 34-22 / 80-06

A. Means of Access

1. Ingress and egress

a. Two or more roads in/out	0
b. One road in/out	7

7

2. Road width

a. Greater than or equal to 24 feet	0
b. Greater than or equal to 20 feet and less than 24 feet	2
c. Less than 20 feet	4

1

3. All-season road condition

a. Surfaced road, grade is less than or equal to 5%	0
b. Surfaced road, grade is greater than 5%	2
c. Non-surfaced road, grade is less than or equal to 5%	3
d. Non-surfaced road, grade is greater than 5%	5
e. Other than all-season	7

0

4. Fire service access (road length)

a. Majority of dead-end roads are less than or equal to 300 feet long	0
b. Majority of dead-end roads are greater than 300 feet	5

0

5. Fire service turnaround capability

a. Turnarounds or cul-de-sacs have a radius of at least 50 feet	0
b. Turnarounds or cul-de-sacs have a radius less than 50 feet	2
c. Dead ends have no cul-de-sacs or turnarounds	5

2

6. Street signs

a. Present, lettering 4 inches high, non-flammable and reflective	0
b. Present but wooden, non-reflective, or lettering less than 4"	3
c. Not present	5

0

B. Vegetation

1. Characteristics of predominate vegetation within 300 feet

a. Light: short grasses and shrubs less than 2 feet high	5
b. Medium: tall grasses and shrubs 2-6 feet high (palmetto-gallberry understory)	10
c. Heavy: dense brush, bay vegetation, shrubs over 6 feet high	20
d. Slash: harvesting residue; insect/disease/fire-killed timber	25

10

2. Defensible space

a. More than 100 feet defensible space between structure and wildland	1
b. 71 - 100 feet defensible space between structure and wildland	3
c. 30 - 70 feet defensible space between structure and wildland	10
d. Less than 30 feet defensible space between structure and wildland	25

25

C. Topography within 300 feet of structures

1. Slope

a. Slope is less than or equal to 9%	1
b. Slope 10% to 20%	4
c. Slope 21% to 30%	7
d. Slope > 30%	10

1

D. Additional Rating Factors (rate all that apply)**1. Miscellaneous**

a. Topographical features that adversely affect wildland fire behavior and/or firefighting	0-5	0
b. Areas with a history of high fire occurrence.	0-5	0
c. Areas that are periodically exposed to severe fire weather and strong dry winds	0-5	2
d. Structure-to-structure fire spread likely due to close spacing	0-5	0

E. Roofing Assembly**1. Roof composition of the majority of homes**

a. Metal, ceramic tile, slate, or other non-flammable material	0	5
b. Asphalt/fiberglass shingles	5	
c. Wood shakes/shingles	25	

F. Building Construction**1. Building construction of homes, siding, eaves, and deck**

a. 75% of homes with noncombustible siding, eaves, and deck	0	2
b. 75% of homes with noncombustible siding and eaves, but combustible deck or fence	5	
c. 75% of homes with combustible siding, eaves and deck, or 75% mobile homes	10	

2. Building setback relative to slopes of 30% or more

a. Not applicable	0	0
b. Greater than or equal to 30 feet from slope	1	
c. Less than 30 feet from slope	5	

G. Available Fire Protection**1. Water source availability**

a. Pressurized water availability - >1000 gpm; hydrants <1000' apart	0	1
b. Pressurized water availability - >500 gpm; hydrants <1000' apart	1	
c. Pressurized water availability- <500 gpm	3	
d. No pressurized water, but draft water point on-site	5	
e. No pressurized water, but draft water point off-site within 1 mile	7	
f. Available water more than 1 mile distant	10	

2. Organized response resources

a. Nearest station is within 5 miles of structures	1	1
b. Nearest station is more than 5 miles from structures	5	

3. Fixed fire protection

a. Outdoor sprinkler system	1	3
b. None	5	

H. Placement of Gas and Electric Utilities**1. Placement of utilities**

a. Both underground	0	2
b. One underground, one aboveground	3	
c. Both aboveground	5	

I. Totals for Home or Subdivision (total of all points)**62**

Hazard Assessment	Total
Low	< 40
Moderate	40-69
High	70-112
Extreme	> 112

APPENDIX B

STRUCTURE IGNITABILITY

A structure's ability to survive a wildfire is directly related to material and design. This is especially significant where fire hazard is high and fire suppression is difficult.

Researchers at the US Forest Service Fire Sciences Laboratory in Missoula, MT have studied structure survival on large wildfires around the country. Some of their findings are as follows:

1. Roof materials are the single most important factor in construction.

- a) Ceramic or metal roofing materials are probably the safest. Some ceramics are made to look like wood shakes.
- b) Fiberglass-asphalt shingles do not ignite readily. In some cases they melt rather than ignite.
- c) Wood shingles pressure treated with fire retardant may provide some protection for up to five years. Observations indicate that the effective life of the treatment may be as little as eighteen months. Re-treatment by spraying on retardant may be effective for about a year.

2. Wood siding does not ignite readily unless exposed to direct flame.

- a) Siding (T-111 or board) is more likely to ignite when direct flame is applied to the edges.
- b) No flammable materials should be allowed within 3' of wood siding.
- c) Firewise alternatives to wood siding include brick, stucco, and hardiplank.

3. Expanses of glass, especially on down-slope side of homes, can increase vulnerability.

- a) Double-paned glass reduces the amount of heat energy transmitted into the home. If the outside pane breaks from the heat, the second pane still affords some protection.
- b) Double-paned tempered glass is best; double-paned non-tempered is adequate.
- c) Pane size is significant. Large windows are more likely to break under heat; several smaller panes are preferable to one large sheet of glass.

4. A clean, simple exterior design minimizes surface exposed to heat and flame.

- a) Avoid designs that include many angles and set-backs in exterior walls. Limit valleys and dormers in roof construction.
- b) If the house or deck overhangs a slope, the underside should be sealed or screened, and kept immaculately clean of any flammables. Fire under the structure may be pulled into the underbelly as air chimneys around support posts.
- c) Support posts under decks should be non-flammable.
- d) Vents should be non-flammable and screened with one-eighth inch non-flammable mesh.

5. Gutters should be installed on an as-needed basis.

- a) Use gutters only to deflect water from entrances and move water away from the structure.
- b) Covered gutters are preferable.
- b) Open gutters must be kept clear of vegetative debris, especially during fire season.

6. Structure density can be significant.

- a) For single story homes with 18' roof peaks, there should be a minimum horizontal separation of 25-30' between homes.
- b) Two-story homes should be separated by 50-60' of horizontal distance.

APPENDIX C

DEFENSIBLE SPACE

Defensible space is the managed area between the home and the wildland. It involves both fuel management and spatial management. The most critical area is within a 30-foot radius of the home.

Fuel management reduces fire intensity and slows its spread.

Avoid highly flammable landscape plants near house.

Use less-flammable mulch within three feet of flammable structural components.

Water landscape plants and keep mulch moist during dry periods.

Keep roof and gutters free of pine straw and dead leaves.

Prune tree branches that touch or hang over the house.

Remove tree branches within 10 feet of the ground if foliage is flammable.

Thin trees to prevent branch contact between trees.

Clear dead plant material from your yard.

Store firewood at least 30 feet from your home.

Clear natural underbrush within 30 feet of your home.

Do not attach flammable fences to the house.

Spatial management provides adequate room for firefighting access.

Insure garden fences and walls have openings or functioning gates.

Don't allow structural landscape elements to impede access.

Make sure vehicles and recreational equipment won't block firefighters.

APPENDIX D

FUEL MITIGATION ZONES

A fuel mitigation zone is a specified area of wildland where the natural fuel has been physically modified or reduced. Fuel mitigation is designed to reduce the intensity of an oncoming wild-fire as it approaches a high value area. Lower fire intensity provides two benefits: firefighting efforts are more effective, and vulnerable structures are subjected to less radiant heat.

Fuel mitigation may be accomplished by prescribed burning, mowing, herbicide application, mastication, or thinning. Selecting a mitigation method should consider environmental and aesthetic values, cost, contractor availability, and the physical fuel situation.

In some cases, 8-10 foot wide cleared firebreaks are integrated into the fuel mitigation zone for added protection. Such firebreaks can be valuable as walking trails or wildlife observation corridors.

Large scale fuel mitigation projects must consider the following:

Cost. The cost may range from \$25 per acre (prescribed burning) to more than \$500 per acre (mastication). Firewise grants may be available for some projects.

Environmental Impact. Some mitigation may be limited by air and water quality considerations. Low impact methods like mowing, mastication, and chipping are especially useful in sensitive environmental situations.

Maintenance. If fuels include living brush or accumulations of pine straw and dead leaves, the area will need to be re-treated every two to five years. While cost will generally decrease after the initial treatment, communities must still budget for regular maintenance of fuel mitigation zones.

Lack of consensus. For various reasons, some property owners may resist modifying the wildland. Handling such situations may require negotiation and diplomacy, depending on ownership of property in the mitigation zone and the community's legal structure.



Fuel mitigation is most critical within 30 feet of structures. If feasible, less intense fuel mitigation should be employed from 30-100 feet from structures.

APPENDIX E: PLANT FLAMMABILITY

High Flammability

Arborvitae (*Tsuga* spp)
Cedar, eastern red (*Juniperus virginianus*)
Eucalyptus (*Eucalyptus* spp)
Gallberry (*Ilex glabra*)
Juniper, Chinese (*Juniperus chinensis*)
Mountain laurel (*Kalmia latifolia*)
Pampas grass (*Cortaderia selloana*)
Pine (*Pinus* spp.)
Switchcane (*Arundinaria gigantea*)
Waxmyrtle (*Myrica cerifera*)
Yaupon, dwarf (*Ilex vomitoria*)
Yew (*Taxus* spp)

Moderate Flammability

Abelia, glossy (*Abelia x grandiflora*)
Azalea (*Rhododendron* spp)
Boxwood (*Buxus microphylla*)
Juniper, Ashe (*Juniperus ashei*)
Laurelcherry, Carolina (*Prunus caroliniana*)
Leyland cypress (*Cupressocyparis leylandii*)
Rhododendron

Low Flammability

Adam's needle (*Yucca filamentosa*)
Bayberry (*Myrica pennsylvanica*)
Butterfly bush (*Buddleia* spp)
Beautyberry, French mulberry (*Callicarpa dichotoma*)
Camellia (*Camellia japonica*)
Forsythia (*Forsythia* spp)
Gardenia (*Gardenia* spp)
Hydrangea (*Hydrangea* spp)
Holly, Blue (*Ilex*)
Holly, Foster (*Ilex*)
Holly, winterberry (*Ilex verticillata*)
Oleander (*Nerium oleander*)
Pittosporum (*Pittosporum* spp)
Pyracantha (*Pyracantha coccinea*)
Sasanqua (*Camellia sasanqua*)

Fire-Resistant Groundcovers

Ajuga (bugleweed)
Pachysandra
Periwinkle, dwarf (*Vinca minor*)
Phlox, creeping (*Phlox ovata*)
Sedum (stonecrop)
Thyme, creeping