

SECTION 16
WILDFIRE MITIGATION REGULATIONS
STAFF PROPOSED REVISIONS

16.1 PURPOSE AND LEGISLATIVE INTENT:

The purpose of this Section is to strengthen Ouray County’s wildfire resiliency by increasing the likelihood of citizens, first responders, and structures surviving a wildfire. Additionally, these regulations:

- Are based on current science regarding effective wildfire mitigation; and
- Implement one regulation for the entire County, rather than multiple ‘risk’ zones; and
- Recognize that embers or burning material (*firebrands*) may travel as far as 13 miles; and
- Attempt to balance protection of life and property with individual property rights; and
- Recognize cost factors regarding required constructions methods and elements; and
- Focus not just on the importance of proper construction but also on education.

16.2 APPLICABILITY:

A. These Regulations Apply To:

- (1) All new Dwelling Unit construction requiring a building permit; and
- (2) All additions and exterior remodels to existing Dwelling Units requiring a building permit; and
- (3) All new Accessory Dwelling Units and accessory structures requiring a building permit; and
- (4) All restoration or replacement of existing Dwelling Units, Accessory Dwelling Units, or accessory structures requiring a building permit; and
- (5) New Limited, Regular, Resort/Conference Center, and Vested Property Rights County-Approved Subdivisions/Planned Unit Developments (PUDs) initiated after the date these regulations are adopted.

B. These Regulations Do Not Apply To:

- (1) Vacant land or
- (2) Commercial structures.

C. Non-Conforming Structures

This Section upon adoption shall not make any existing structures non-conforming as set forth in the Non-Conforming Uses, Structures, and Parcels' section of this Code.

16.3 REGULATIONS AND REQUIREMENTS:

- A. All building permit applications submitted for new dwelling unit construction shall include a completed Wildfire Mitigation Building Permit Addendum Worksheet Worksheet (herein referred to as 'Worksheet') and a detailed site plan including the location of all existing or proposed structures as well as all significant vegetation. The submittal of aerial photographs are *strongly encouraged!*
- B. All new dwelling unit construction, including (detached) accessory dwelling units (ie. ADUs), must comply with all provisions found in Section A and B of the 'Worksheet'. (Note: *Defensible Space may or may not be required.*)
- C. All new additions of 500 square feet or more in size, must meet the provisions of Section A in the Worksheet, with the exception of **Section A7**. Requirements shall apply to the *addition* only and not the entire structure.
- D. Any proposed addition to a dwelling unit, equal to or greater than 50% in size of the existing structure, and at least 1,000 square feet, shall require the *entire existing structure* to comply with all provisions stated in Section A of the Worksheet with the exception all of **Section A7**.
- E. All new attached decks (ie. Decks that directly abuts home or other structure) must comply with Section **B2.1** of the Worksheet.
- F. All new attached fences (ie. Fences directly abuts home or other structure) must comply with **Section B2.2** of the Worksheet.
- G. All new attached garages must comply with the all provisions stated in Section A of the Worksheet with the exception of **Section A7**. If the new garage as well as the existing structure include combustible siding, then the entire structure must comply with **Section A.2.2** of the Worksheet. New structure must also comply with the following elements from **Section B.1.0, B2.0, and B3.0** of the Worksheet.
- H. Any building permit application for an addition of any size to an existing dwelling unit shall require the Land Use Department to provide the applicant or property owner with an information packet explaining services provided by the Colorado State Forest Service (CSFS), and the West Region Wildfire Council (WRWC), or other qualified agency or professional as identified by Staff, regarding the availability of site visit/evaluations performed by these entities to identify areas of concern and possible opportunities to implement changes or upgrades to reduce a structure's ignition vulnerability due to wildfire.
- I. The replacement of existing roofing materials shall require an approved building permit as well as the following: all newly installed roofing material must be 'Class-A' fire resistant, all vent screens must be 1/8" screening or screening otherwise specifically designed to prevent the intrusion of fire embers, approved spark-arrestors must be

- installed. If a new gutter system is to be installed then it must be constructed of ignition-resistant materials as stated in **Section A.9.1** of the Worksheet.
- J. The installation of a new or replacement wood or pellet burning stove (*new or existing construction*) shall require the installation of an approved spark-arrestor as stated in **Section A.4.1** of the Worksheet.
 - K. Building permit applications for new detached accessory structures (*garage, barn, shed, shop, etc.*) 200 square-feet in size or greater must comply with all provisions stated in **Section A** of the Worksheet with the exception of all of **Section A7**.
 - L. All new construction, including residential dwelling units, accessory dwellings, attached garages, additions to existing structures, and accessory structures occurring in the Colona Zone, or any other county-approved high-density zoning district, shall be required to comply with the Section A of the Worksheet (only) with the exception of the 'Defensible Space' provisions and the requirements of **Section A.2.2**.

16.4 PLANNED UNIT DEVELOPMENTS

- A. Prior to submittal of a Sketch Plan, the application for a PUD shall be referred to the CSFS or WRWC, and the local fire department or fire district for review and recommendations regarding vegetation management outside of the building envelope areas.

All new PUD applications including Limited, Regular, Resort/Conference Center, and Vested Property Rights Subdivisions shall include the following elements regarding wildfire mitigation:

- (1) For internal subdivision roads that are greater than 660-feet in length, a secondary egress method is required (*if feasible*), including road width and adjacent cleared areas, or an internal access road built to accommodate access for emergency response vehicles, including both horizontal and vertical clearance. (i.e. road width and adjacent clearing allows adequate clearance for 2 typical size emergency vehicles to pass)
- (2) PUD applications must include recommendations from the CSFS, the WRWC, or other qualified agency or professional as identified by Staff.
- (3) The Board of County Commissioners may require some or all recommendations from the CSFS, WRWC, or other qualified agency or professional.
- (4) The PUD design shall include open space or non-building area arranged to allow for implementation of a fuel break as described in the 2013 National Fire Protection Association guidelines (fuel breaks typically 30-50 feet wide and located on the perimeter of the PUD).
- (5) Covenants submitted by Applicant or Developer shall include a provision requiring on-going maintenance of the area of the development identified as a fuel break.

- (6) Based on a determination by Land Use Staff, PUDs may require a design such that no houses may be constructed on separate parcels with less than thirty (30) feet of separation, and all building envelopes shall allow for a minimum of one-hundred (100) feet of defensible space around all dwelling units, individually or collectively. Such determination shall be based on forest/fuel concentration, lot size, and overall residential density. Lots created by PUDs/subdivisions approved by the County with a size of two (2) acres or less shall be exempted from this Section, 16.4(A)(6).
- (7) All building envelopes shall avoid, to the greatest degree possible, High Wildfire Risk Topographic Features.

16.5 PROCEDURES

- A. Building permit applications and related reviews regarding wildfire mitigation will be conducted by the County Land Use Department.
- B. Applications that may require assistance by the WRWC, CSFS, should be copied to those agencies as a courtesy as early on in the process as possible to avoid any potential delays.

16.6 EXCEPTIONS/VARIANCES/APPEALS

Any request for an exception, variance, or appeal related to the provisions of this Code Section shall be addressed as provided for in the Exceptions, Special Exceptions, Exemptions, and Variances section of this Code.

16.7 ADMINISTRATION/ENFORCEMENT/FEES

This Section will be administered by the Land Use Department and the costs of implementation will be recovered through fees established by the Board of County Commissioners as a part of PUD and building permit fees. Enforcement of these regulations shall be as provided for in the Administration and Enforcement section of this Code.

16.8 DUTIES/POWERS OF THE RATING ASSESSOR

The Rating Assessor is authorized to interpret and apply the regulations found in this Section. The Rating Assessor shall have the authority to render interpretations and to adopt policies and procedures in order to clarify the application of these regulations. Such interpretations shall be in conformance with the overall intent and purpose of this Section. The Rating Assessor will determine, using his/her best professional judgment, the degree to which a proposed material and/or proposed assembly shall be justifiably considered Ignition Resistant. In cases of restoration or replacement where a property owner may not be able to meet some requirements due to conditions beyond their control, the Rating Assessor shall have discretion with respect to compliance.

16.9 WILDFIRE MITIGATION BUILDING PERMIT ADDENDUM WORKSHEET

The regulations in this Section work conjointly with the Worksheet that is attached to this Section as '**Exhibit A**' and shall be considered to be part of the regulation in its entirety. The Worksheet may not be amended except through formal approval by the County Planning Commission and the Board of County Commissioners.

Wildfire Mitigation Building Permit Addendum Worksheet



Site Address: _____

Parcel Number: _____ Owner Name: _____

Initial Assessment Date: _____ Initial Assessment Completed by: _____

Final Assessment Date: _____ Final Assessment Completed by: _____

This Worksheet is part of the Wildfire Mitigation section of the Ouray County Land Use Code. Please refer to this Section of the Code for additional information about the entire wildfire mitigation regulations. This Worksheet is intended to encourage ignition resistant design, construction and landscaping practices in the County. These Wildfire Mitigation regulations do not supersede but work in concert with Ouray County's enforcement of the currently adopted building, mechanical, and/or energy codes. The Rating Assessor will determine, using his/her best professional judgement, the degree to which a proposed material and/or proposed assembly is legitimately considered Ignition Resistant in order to meet all required elements in the Worksheet. The Rating Assessor shall be designated by the County Planning Director.

ITEMS FOR CONSIDERATION - EDUCATIONAL PURPOSES ONLY!

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| INFO 1 | NEAR BUILDING COMBUSTIBLES - Combustible materials or items vulnerable to ignition should not be placed adjacent to any structure. Common combustible materials include (but are not limited to) propane tanks, firewood, woody debris (dead and down sticks, branches), pine/fir needles, leaves, patio furniture, ornamental wreaths, decorative displays, etc. should be at least 30-feet from any structure. |
| INFO 2 | BUILDING SITE SLOPE - Wildfires burn up slope faster and more intensely than along flat ground. A steeper slope will result in a faster moving fire with longer flame lengths. A structure situated on on a significant slope, and surrounded by flammable vegetation, is the most dangerous location when it comes to wildfires. Ideally a building site should have a slope of 20% or less! |
| INFO 3 | HIGH WILDFIRE RISK TOPOGRAPHIC FEATURE (HWRTF) - The direction and speed of wind can be greatly affected by topography. Ravines, gullies, canyons, etc. will funnel the wind, increase its speed, affecting as well as potentially intensifying fire behavior. It is recommended that structures are placed at a minimum, <u>150-</u> feet from any HWRTF. |
| INFO 4 | FOREST & FUEL DENSITY (ie. BACKGROUND FUELS) - The amount of fuels has a decided affect on wildfire behavior. Very low volumes of fuel can result in a low-intensity, 'creeping' fire. Alternatively, large volumes of fuel may result in a 'blow-up fire' that is difficult to control. Generally, the greater the volume of fuel, the more intense the fire will be. Also, the extent and density of vegetation around a structure can influence the ability of firefighters to prevent it from burning in a wildfire. Ideally, when building in the Wildland Urban Interface (WUI), adjacent vegetation should be predominantly grasses or herbaceous plants and woody fuels, if present, are sparse and highly isolated. |

Section A

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| A1.0 | Roofing - A description of the roof covering and construction assembly of the roof. Roofing has been shown to have the single most significant impact on the survivability of home during a wildfire, increasing chance of structure survivability by up to 80%! |
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| A1.1 | <p>Class A Roof Covering: The construction of the roof utilizes a roof covering material that has been tested to be a <u>Class A material</u> in accordance with UL 790 (ASTM E108). Some materials may rely on additional underlying materials to improve their fire ratings. Both "by assembly" and "stand-alone" materials are considered acceptable so long as the material has been installed in accordance with their listing and the manufacturers' installation instructions and the full assembly has been constructed to ensure the Class A rating status has been achieved.</p> | Must Meet Standard A1.1 to Pass | PASS | FAIL |
| A2.0 | <p>Exterior Cladding & Siding: A description of the materials and construction assembly of the exterior cladding and siding of the building and its resistance to ignition from embers, as well as radiant and convective heat. <u>Applicants may choose to construct using 'ignition resistant siding' or may use 'combustible siding'.</u> The proposed use of combustible siding <u>requires</u> ember mitigation as described in Section A2.2 and <u>may</u> trigger the requirement for development and implementation of a '<i>defensible space plan</i>' as described in Section B1.0 and B1.1 of this worksheet. If Staff confirms that defensible space is required, applicant must sign affidavit, swearing or affirming '<i>defensible space plan</i>' will be developed by either the Colorado State Forest Service or West Region Wildfire Council and will be implemented within one (1) year of issuance of the Certificate of Occupancy, but preferably as part of site preparation and no later than final inspection depending on seasonal timing restrictions for thinning of pinyon trees. All affidavits must be submitted to the Land Use Department along with a refundable deposit equal to 1% of the valuation stated on the original building permit application. (Payable at the time of issuance of the building permit.) Upon satisfactory proof that the defensible space plan has been implemented within one (1) year of the issuance of the Certificate of Occupancy, associated deposit shall be refunded to the Applicant. (Note: Subject to adequate time for administrative processing of said refund with the County Administration and/or the County Treasurer.) <i>Applicants should be aware that most manufactured or mobile homes utilize combustible siding which may require the implementation of defensible space.</i></p> | | | |
| A2.1 | <p>Ignition Resistant Siding: The building will feature exterior cladding and siding that are constructed of Ignition Resistant materials. Ignition Resistant materials include, but are not limited to: heavy timber log construction that is 6" in diameter or greater; fiber-cement board, 3 stage stucco, masonry, brick, manufactured stone, etc. Rating Assesor will determine, using best professional judgement, degree to which a proposed material and proposed assembly is justifiably considered "ignition resistant" to meet this standard.</p> | | PASS | FAIL |
| A2.2 | <p>Combustible Siding WITH Ember Mitigation AND Defensible Space: The building will feature combustible (ie. <i>non-ignition resistant</i>) exterior cladding and siding; however, measures have been taken to ensure that the base of exterior walls, (where the walls meet the ground, decks or any other horizontal surfaces), as well as junctures between exterior walls and rooflines (e.g. dormers, complex roof features, etc.) and other structural projections, etc. have no less than 6 inches of a non-combustible material (e.g. metal flashing, skirting, concrete foundation, etc.) to reduce the likelihood of ignition from embers (ie. <i>ember mitigation</i>) <u>AND</u> the property meets the standard stated in B1.1 for defensible space (ie. 100-feet) to mitigate the risk of ignition from radiant and convective heat sources. If the property owner cannot meet the defensible space criteria they may elect to utilize "Ignition Resistant Siding".</p> | Must meet Standard A2.1 <u>OR</u> A2.2 in order to Pass. | PASS | FAIL |
| A3.0 | <p>Vents: A description of all vents, including but not limited to attic, soffit, and gable vents. Any vent that connects the outside of the building with the inside of the building is covered under this element unless the vent emanates from a combustion chamber or an ignition-resistant chamber. (<i>ex. clothes dryer or range hood with solid metal duct to the exterior vent</i>)</p> | | | |

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| A3.1 | Ember Resistant Screening: Vents are screened with 1/8" screening, an acceptable louvered venting system (as is common for dryer vents) and/or a similar screening system that has been specifically designed to prevent the intrusion of embers. | Must meet Standard A3.1 to Pass | PASS | FAIL |
| A4.0 | Chimneys and Other Heating Appliances: Approved spark arresters required on all wood burning appliances. | | | |
| A4.1 | Approved Spark Arrester Installed: Approved spark arrester or cap is properly installed on the chimney. | Must meet Standard A4.1 to Pass | PASS | FAIL |
| A5.0 | Building Perimeter Hardened Zone: This standard is applicable to the ground level area directly adjacent the building perimeter extending out to 5 feet. The building perimeter includes any attachments, such as combustible decks, combustible fences, attached outbuildings, etc. | | | |
| A5.1 | 5 Foot Hardened Zone: Hardened zone extends out 5 feet from the building perimeter. A hardened zone is void of all combustible fuels including grasses, vegetation, landscape mulch, combustible building materials, etc. The hardened zone must be covered so as to prevent eventual growth of grasses/weeds. Minimum standard - Weed barrier fabric and rock/gravel. | Must meet Standard A5.1 to pass. | PASS | FAIL |
| A6.0 | Exterior Doors: A description of all exterior doors. Doors represent a vulnerable point for fire intrusion. | | | |
| A6.1 | Ignition Resistant Doors: Exterior doors are ignition resistant or solid core not less than 1 3/4-inches thick, or constructed with aluminum or fiberglass cladding. Windows within doors, and glazed doors, are tempered safety glass or multi-layered glazed panels. County Staff or Rating Assessor will determine, using best professional judgement, the degree to which a proposed material and proposed assembly is justifiably considered ' <i>ignition resistant</i> ' to meet this standard. | Must meet Standard A6.1 to pass. | PASS | FAIL |
| A7.0 | Private Road & Driveway Emergency Vehicle Access: Private roads and driveways should conform to Ouray County Road Standards as set forth in this Code. EXCEPTION: Homes, driveways, or portions of driveways, located on mining claims above 9480-feet in elevation may be exempt from these standards. Note: Driveway design may require a ' <i>plan and profile</i> ' to be prepared by a Colorado State Registered Professional Engineer. Please refer to the Ouray County Land Use Code for more information and applicability. | | | |
| A7.1 | Driving surface at least twelve feet (12') wide. | Must meet Standard A7.1 to pass. | PASS | FAIL |
| | Interior radii shall be at least thirty-two feet (32') | | PASS | FAIL |
| | Driveway Opening at least sixteen feet (16') wide | | PASS | FAIL |
| | Grades do not exceed twelve percent (12%) | | PASS | FAIL |
| | Adequate sight distance, angle of approach, crowning/cross sloping, adequate drainage meet County standards. | | PASS | FAIL |
| A8.0 | Addressing: The address sign shall adhere to Ouray County Land Use Code and Resolution No. 2017-048 which sets the standard for address signs in the County. | | | |

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| A8.1 | Address Sign Visible & Meets Standard: All new address signs installed in the unincorporated portions of Ouray County shall conform to the current standard for address signs as set forth by the Board of County Commissioners. | Must meet Ouray County Address Sign Standard to Pass | PASS | FAIL |
| A9.0 | Gutter System: A description of any proposed gutter system, including gutters, downspouts and gutter caps, including their materials and construction assembly. Regardless of the installed gutter system, regular maintenance of gutters, to clear them of any accumulated combustible materials, is highly recommended. To reduce maintenance, installation of a non-combustible (ie. <i>ignition-resistant</i>) gutter cap is recommended. | | | |
| A9.1 | Ignition-Resistant Gutter System: Gutters are made out of ignition-resistant material AND gutters are installed such that the leading edge of the roof is finished with a metal drip edge so that no wood sheathing is exposed. The drip edge extends in to the gutter. | Must meet A9.1 to pass. | PASS | FAIL |
| SECTION B - MAY BE REQUIRED - SEE REGULATIONS AND SECTION HEADINGS | | | | |
| ID | Name | | | |
| DEFENSIBLE SPACE - ONLY WHERE SPECIFICALLY REQUIRED BY LAND USE CODE | | | | |
| B1.0 | Defensible Space (If Applicable): A description of the current and/or planned extent and quality of defensible space around the proposed building. Please refer to "Protecting Your Home from Wildfire: Creating Wildfire-Defensible Zones" (CSFS 2012-1) - OR current and relevant replacement of this document - for additional information and standards related to the creation of <i>Defensible Space</i> . <i>Note: Defensible space does not mean clearcutting or complete removal of all vegetation!</i> | | | |
| B1.1 | Full Zone: No less than 100 feet of adequate D-Space in all directions or to the boundary of the subject property. | Must meet Standard B1.1 to pass. | PASS | FAIL |
| ARCHITECTURAL DESIGN & CONSTRUCTION ELEMENTS | | | | |
| B2.0 | New Decks and Fencing: A description of the construction materials, design and assembly of the fencing and decks that are attached to the building. | | | |

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| <p>B2.1</p> | <p>Hardened Decking Design/Construction:</p> <p>a) decking composed of composite material; and b) Wood joists are covered with a metal cap or similar covering (foil-faced tape bitumin is also recommended) to reduce ember ignitions on exposed joists between deck boards; and c) gaps between decking boards are 1/4" or more (narrower gaps have been shown to increase fire spread); and d) the decking is not elevated above ground level or, if elevated less than 30-inches from the underside of the framing to ground level, it is completely enclosed such that neither convective nor radiant heat can penetrate the deck from the bottom up OR if full enclosure is not feasible the property meets the requirements of 100 feet of defensible space as defined in B1.1; and e) bottom of deck enclosure (if applicable), where it meets grade, meets ignition resistant standards as described in A2.1; and f) entire area under deck must be covered with a weed barrier and covered with an ignition-resistant material such as crushed rock or gravel; and</p> | <p>Must meet B2.1.</p> | <p>PASS</p> | <p>FAIL</p> |
| <p>B2.2</p> | <p>Hardened Fencing Design/Construction:</p> <p>a) fences, (if present, attached to home are composed of an ignition-resistant material), will feature at least 5 feet of ignition-resistant fencing where the fence attaches to the structure to reduce the likelihood of the fence carrying fire to structure. b) hardened zone extends out 5 feet from the deck perimeter, void of all combustible fuels including grasses, vegetation, landscape mulch, combustible building materials, etc. Hardened zone must be covered so as to prevent eventual growth of grasses/weeds. A weed barrier fabric and rock/gravel are recommended.</p> | <p>Must meet B2.2. Note: Where fence is directly adjacent to home or other structure. Ie. Not a 'property line fence'.</p> | <p>PASS</p> | <p>FAIL</p> |
| <p>B3.0</p> | <p>Eaves, Overhangs and Structural Projections: A description of any portion of the attached building where projections or overhangs are part of the design element. These areas are vulnerable to heat and ember collection.</p> | | | |
| <p>B3.1</p> | <p>Ignition Resistant Projections: All eaves are soffitted and all eaves, overhangs and structural projections are composed of or enclosed by ignition resistant materials (as described in "Exterior Cladding and Siding" - Section A2.2).</p> | <p>See Section A2.2 for applicability and specific provisions.</p> | <p>PASS</p> | <p>FAIL</p> |
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| <p>B4.0</p> | <p>Windows: A description of all exterior windows. Windows are vulnerable to fire intrusion through window frame failure (<i>primarily due to heat exposure</i>) and glazing (ie. glass surface) failure.</p> | | | |

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| B4.1 | Preferred Exterior Windows: (a) all exterior windows have an 'Insulated Glazing Unit' (IGU) consisting of 2 or 3 panes, and; (b) tempered or laminated glass for one or all panes, and; (C) low-e coating on the inner surface of the exterior pane; and (d) all exterior window frames are composed of Ignition Resistant materials. (Note: If Defensible Space is 30-feet or greater then requirements 'c and d' above are eliminated.) | Stick-built homes must meet the standard in Section B4.1. | | |
| B4.2 | Less Preferred Exterior Windows: (a) All exterior windows have an 'Insulated Glazing Unit' (IGU) consisting of 2 or 3 panes; and (b) all exterior window frames are composed of Ignition Resistant materials. | Manufactured / modular homes must meet the standard in Section B4.2. | PASS | FAIL |
| B4.3 | Fire Vulnerable Exterior Windows: Windows do not conform with B4.1 or B4.2. | Mobile homes are exempt from the requirement for ignition-resistant windows. | | |
| EMERGENCY ACCESS ELEMENTS - NEW PRIMARY DWELLING UNITS ONLY! | | | | |
| B5.0 | Driveway Clearances: In addition to Required Element A7.0 "Driveways", this is a description of the driveway's horizontal and vertical clearances which allow for unimpeded emergency response vehicular access. Typical impediments to safe horizontal and vertical access include trees, branches, shrubs, gateways, archways, etc. The horizontal clearance does not require that additional road base material be laid down, instead this is solely looking at the ability for emergency vehicles to access the site. | | | |
| B5.1 | Driveway is 24 feet wide, or, if driveway is less than 24 feet wide and at least 200 feet in length, an area along the driveway provides a "pullout" for emergency vehicles. The "pullout" is at least 24 feet wide (as measured with the driveway and the pullout combined) and is at least 35 feet in length if possible so that two emergency vehicles can pass one another along the driveway. The pullout should be approximately midway between the structure and the access point off of the County Road system. | Must meet B5.1. | PASS | FAIL |