

Wildfire Recovery

Building and Planning

Resources and Information Packet

10/09/2020

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The Marion County Building and Planning Division understands the severity of the fires in the canyon. Our goal is to provide you with helpful resources and information as you recover from the fires and rebuild or repair structures on your property. The following information is current as of the posted date. We are working with state and local agencies to review procedures and regulations to make recovery as affordable and seamless as possible. The information provided in this packet may change in the future if new information becomes available.

WHAT TO DO AFTER FIRE?

- Planning Department – zoning, setbacks, floodplain permits within Marion County call 503-588-5038.
- Building Permits – for new, replacement and repair structures within Marion County call 503-588-5147.
- Septic Department – to confirm location, replacement requirements and other septic information within Marion County call 503-588-5147
- Wells: for information about wells please contact the State Department of Water Resources at 503-986-0854
- Property Lines – a survey may need to be conducted to locate individual property lines. A private surveyor can provide this service.
- Access/Driveway – to locate and verify existing access to property within Marion County call 503-584-7714
- Waste Disposal – for information about removing debris from damaged properties, call 503-588-5169
- **If your property is located within city limits or within Linn County please see the Contacts sheet attached.**



The Marion County Building and Planning Division

understand how difficult it can be to start rebuilding after a natural disaster such as a fire. This is a guide to help you cover all your bases and ease some of the work you will be facing.

As things progress and more information comes about we will frequently update our resource platforms.

Replacement dwellings information

For questions, contact your local
Planning jurisdiction.

Contact information is
found at the end of this packet

REPLACEMENT

Within one year

- Standard building and septic permits are required
- Must apply for permit, before one year has lapsed for no further land use actions
- Within a year of removal the structure can be replaced without any land use review.
- If the structure is legal non-conforming it must be replaced in the same footprint or meet the current regulations. Contact Building and Planning for more information if this is your circumstance.

After one year

- After the year timeframe has lapsed an Administrative Review will need to be submitted and approved.
 - Application can be found online or in our office.
 - Application fee is \$375
 - If the previous structure was legal, non-conforming the replacement will need to meet current regulations. Planning staff can help you consider if other options are available.
- * If your property is located within city limits or within Linn County please see the Contacts sheet attached.**

Rebuilding after the Fires

Marion County Building and Planning

F.A.Q. Sheet

The Marion County Building and Planning Division understands the severity of the fires in the canyon. Our goal is to provide you with helpful information as you recover from the fires and rebuild or repair structures on your property. The following information is current as of the posted date. We are working with state and local agencies to review procedures and regulations to make recovery as affordable and seamless as possible. The information provided in this FAQ may change in the future.

What do I do with debris from my property?

The Oregon Department of Environmental Quality (DEQ) recommends that you do not disturb ash or debris on your property, until after it has been assessed by hazardous materials response professionals. Visit the following link for additional information:

<https://www.oregon.gov/deq/wildfires/Pages/Wildfire-Debris-Removal.aspx>

Please see additional information about debris removal in this packet. Marion County can be reached at 503-365-3140.

PLEASE NOTE: Marion County disposal sites do not recycle ash or burned materials; solid household waste is accepted if it is asbestos free.

The Marion County Environmental Services webpage has helpful information about proper disposal and is updated as we receive new information.

<https://www.co.marion.or.us/PW/ES/disposal/Pages/Wildfire-Information.aspx>

How do I identify my property lines?

The county keeps track of recorded surveys and plats, which are prepared by private surveyors; however the county does not provide private surveying services. You may be able to locate the "pins" on your property from a historical survey. If you cannot locate your property lines, you will likely have to contact a private surveyor to help locate your property lines.

What do I do with my septic system?

It is important to stay off of your septic system to protect your septic tank and drain field area. Be careful when attempting to locate your tank as the fire may have compromised it. When locating your tank, make sure to flag it off with high visibility flagging so that you and others will remember where it is during the cleanup process.

If you are unable to locate your tank, Marion County may have records to help locate the system. Please note that the availability of records is dependent upon the year that your system was installed. Marion County Building records can be accessed at:

<https://www.co.marion.or.us/PW/BuildingInspection/Pages/onsite.aspx>

Once you have located the septic system it is recommended that a licensed and certified onsite septic system installer is hired to help with the process.

In addition to a septic tank, a full septic system requires a drain field. This drain field consists of an arrangement of piping that moves the sewage into the soil for proper breakdown and treatment. It is important to flag off this area as well, during the debris clean up. Heavy equipment usage may be part of the process and can damage the piping and soil within this area, compromising the system in a way that it may no longer be functional.

When replacing a home, a Marion County septic authorization inspection will be required to determine how your system is functioning per DEQ Onsite rules. An application is required for this inspection; please contact the Marion County Building Division to start the application process, prior to beginning the rebuilding process. Information about the requirements for the authorization inspection will be available soon. Once an authorization inspection has been done, a minor or major repair permit may be required if parts of the septic system have been damaged to a point where they no longer function. Please contact a licensed and certified onsite septic installer to help you understand the septic repair process and what is required for a repair permit. See additional information about septic systems after a wildfire, contained in this packet.

How do I reduce the amount of erosion from my property?

During the fall and winter after a fire, rain on bare soil can cause the soil to erode and run off. Seeding and mulching can help protect your soil following a fire. Protecting your soil keeps it healthy and also keeps soil from running off into rivers and streams.

For information on best practices for erosion control refer to the following documents: [Seeding for Erosion Control](#), and Marion County Erosion Control EPSC Best Management Practices, which provides ideas for different erosion control methods. Here is a very informative

document from Colorado State University Extension Service. Soil Erosion Control after Wildfire. Copies of these documents are included with this packet.

How do I reconnect utilities?

Please contact utility companies in your area to reconnect utility services. If the work is being done in the public right of way you may also need to obtain a work in the right-of-way permit from Marion County Land Development Department. Land Developments can be contacted at 503-588-5036. A permit may also be required from Marion County Building Inspection prior to reconnecting utilities. For more information contact Building Inspection at 503-588-5147.

How do I locate my driveway approach?

Marion County Land Development has historic records on approved permits and issues permits for new driveway approach connections to the public road. Please contact Land Development at 503-588-5036 for information. For properties on a state highway, contact the Oregon Department of Transportation (ODOT) at 503-986-2902. For properties within city limits, please contact the city your property is located in, using the information at the end of this packet.

How long do I have to replace my dwelling?

It depends on where your property is located. **If your property is located within city limits, contact the city's planning office listed at the end of this FAQ to find out if there is a time requirement to replace the dwelling.** Sometimes a dwelling in a commercial zone, for instance, has a limited amount of time to be replaced.

If the property is rural and in an Acreage Residential zone, dwellings are permitting outright and there is no time limit to replace them. Information on Marion County zoning codes can be found here:

<https://www.codepublishing.com/OR/MarionCounty/#%21/MarionCounty17/MarionCounty17.html>

If the property is rural and in a farm or forest zone, ORS 215.130 (6) provides up to a year to replace a dwelling destroyed by a fire. If you believe that you will need additional time, an Administrative Review application will need to be filed to replace the dwelling. The replacement dwelling permit is good for 4 years with an additional 2 year extension. Up to five additional, 1-year extensions can be granted by the county if the underlying laws allowing replacement of the dwelling have not changed.

Finally, there is one more circumstance that could come up. It's possible the previous dwelling that was destroyed by fire was in some way "non-conforming," for instance, it didn't meet the

minimum setbacks to the property line. You may want to apply for an administrative review to receive acknowledgment of the non-conforming setbacks and reserve the ability to rebuild into the future using those previous setbacks.

My dwelling is either gone or damaged to the point of being uninhabitable, can I live in an RV while waiting to rebuild? Can I replace a destroyed shop or accessory structure while the dwelling is gone?

If records show a dwelling was previously on the property, The Planning Department will consider the dwelling still present during the rebuilding period. Living in an RV during the rebuilding process is permitted. Also, rebuilding the shop destroyed prior to the dwelling being reconstructed is also permitted. If you intend to live in your RV while rebuilding your home, you will have to apply for a temporary power permit with Marion County Building Inspection.

How long can I live in an RV on someone's property?

Marion County Code allows living in an RV on someone else's property for up to 120 days in a calendar year. If you stay in an RV over the winter, this time limit will come into play the beginning of May 2021. Planning intends to work with you over a period of time to be able to move out of your RV into a permanent dwelling. If you are still living in an RV in May 2021, contact Planning at 503-588-5038 to discuss what the next steps can be and a time frame for moving into a permanent dwelling.

Can I hook up my RV up to a septic system? To utilities?

You can create an RV space which can permit septic and temporary utility connections. Contact Marion County Planning at 503-588-5038 for the requirements to create an RV space and Marion County Building Inspection at 503-588-5147 for the required permits to make the septic and utility connections.

Can I rebuild using a tiny home, shipping containers, or a yurt?

Different types of structures potentially can be used for a dwelling. Regardless of the type of structure used as replacement, the property previously had to have a dwelling on it in order for a dwelling to be replaced. Also, the structure has to meet the Oregon Residential Structural Code. Some types of structures have difficulty meeting aspects of this code for use as a residence. However, if the structure can meet the code, you can apply to use it for a residence on the property.

What Building Codes will apply when rebuilding?

The codes in effect at the time when you come in to apply for a permit will apply to that permit. Even though Planning may be able to reduce setbacks in some instances, there are times where

setbacks, such as fire separation distances and other standards, would apply from the Building Code to your construction.

My cabin was on federal land. Do I need a permit to rebuild?

You will not need a land use permit from Planning; however you will need a building permit from Building Inspection. Contact the Building Department at 503-588-5147, for information about rebuilding as a type of residence.

If your home or structure was destroyed by fire in a floodplain zone:

You will have to apply for a floodplain permit when you replace the dwelling. The permit will ensure that the replacement dwelling is constructed to current floodplain standards, such as the elevation of the first floor above the base flood elevation and openings in the foundation. If your home in a floodplain zone was partially destroyed by fire, contact Marion County Planning at 503-588-5038 to discuss whether a floodplain permit is required.

How can I rebuild my home to reduce the risk of impact from future fires?

The National Fire Protection Association has good information about how to prepare and protect your home from a wildfire. Please visit their site for more information: <https://www.nfpa.org/Public-Education/Fire-causes-and-risks/Wildfire/Preparing-homes-for-wildfire>. Discussing options with an architect or engineer and using materials such as fire-resistant siding and roofs, spark arresters on chimneys, maintaining a “primary fuel break” around the house, enclosing openings and decks, and/or use other means to help protect your home. You might also get together with the people in your neighborhood and form a Firewise USA Site. There is information about that process here: <https://www.nfpa.org/Public-Education/Fire-causes-and-risks/Wildfire/Firewise-USA/Become-a-Firewise-USA-site>

See additional information provided about how to prepare and protect your home from a wildfire contained in this packet.

Does Building Inspection have permit records or plans of my home?

Building Inspection is required to keep plans and records of permits a period of time after the structure is completed. Please contact the Building Inspection office at 503-588-5147 to find out what records are available and to obtain copies of these records. Records are also available online at: <https://apps.co.marion.or.us/bilfsearch/disclaimer.aspx>

Debris removal information

For questions, contact

Marion County, 503-365-3140



2020 Oregon Wildfire Recovery

Sept. 30, 2020

What's next for people whose homes or businesses burned?

Getting started

The State of Oregon is working with federal, state and local partners to safely address ash and debris from the 2020 Oregon wildfires. Removing fire debris is a two-step cleanup process. Step 1 is clearing properties of household hazardous waste to minimize exposure of hazardous materials to the public. Step 2 is removal of ash, debris and burned-out structures.

Step 1: Household hazardous waste removal – No cost to homeowner

Before you can rebuild, your property must be cleared of household hazardous waste or other hazardous substances. Crews that specialize in identifying and removing hazardous substances will visit properties, determine what hazardous materials need to be removed, and remove them for safe disposal. **This service is funded by federal and state government and provided free of charge to property owners in Jackson, Marion, Lincoln, Douglas, Klamath, Clackamas, Linn, Lane and Wasco counties.**

Household hazardous waste includes fuel and petroleum, pool chemicals, car batteries, antifreeze, used oil filters, solvents, fertilizers, pesticides, propane tanks, high pressure cylinders, disinfectants, aerosols, paint, bleach, ammunition and more. Crews will also safely identify and dispose of large pieces of asbestos materials.

IMPORTANT: Property owners must sign an access agreement by October 16 to allow cleanup crews onto their property. Contact your county to find more information about how to submit your access agreement, or visit wildfire.oregon.gov/cleanup.

Step 2: Ash and debris removal

Ash and debris removal (Step 2) cannot begin until household hazardous waste removal (Step 1) is complete. State, county and federal partners are actively working to develop options for ash and debris removal. Find the latest information at wildfire.oregon.gov/cleanup.

What if I want to take care of the cleanup myself?

If you choose to clean up hazardous materials, it will be at your own cost. Removal of household hazardous waste and debris can be an incredibly expensive process, costing as much as \$75,000. Even with insurance, a majority of this cost may not be covered. The state and federal government is committed to paying for removal of household hazardous waste, which means that property owners can reserve their insurance funds for other recovery efforts.

DEQ and EPA strongly urge individual property owners not to remove hazardous materials and debris themselves because of the potential risks to health and safety. However, if you take on cleanup yourself, please consider the following:

- Contact your insurance provider before you begin cleanup to learn of requirements they may have for reimbursement.
- Contact your county or city code enforcement agency to determine their cleanup requirements for new construction permits.
- Before cleaning up ash and other debris, get the material tested to determine if it contains asbestos. State rules govern various aspects of managing and removing asbestos. Refer to guidance on DEQ's asbestos webpage or contact DEQ prior to starting any demolition activities. If it contains asbestos, hire a licensed asbestos abatement contractor
- Contact your local waste disposal site to learn what requirements they have for waste acceptance. Many landfills require specific documentation of the waste you drop off so they can handle it properly and comply with regulations. This can include lab results to determine what hazardous materials are in your debris. If you do not have the proper documentation, you may not be allowed to dispose of your debris.
- Cover ash and debris loads during transport.
- Recycle metal, concrete and wood debris. Clean recyclable materials with water prior to transport to reduce the spread of asbestos or other contaminants in the ash. Do not discharge water containing ash into the stormwater system or surface waters, as it can cause water quality issues.
- Follow safety precautions outlined at ordeq.org/afterthefire.

How can I stay safe while I search through my destroyed property for any remaining valuables?

If you choose to return to your property, follow safety tips at ordeq.org/afterthefire to protect yourself and your family.

Resources:

- 2020 Oregon Wildfire Response and Recovery assistance: wildfire.oregon.gov
- How to safely manage ash and debris from burned buildings: ordeq.org/afterthefire
- DEQ asbestos info: ordeq.org/asbestos
- Wildfire insurance resources: go.usa.gov/xGGq9



State of Oregon
DEQ Department of Environmental Quality

Septic information

For questions, contact your local
Building jurisdiction

Contact information is
found at the end of this packet

Marion County Building Inspection Post Fire Septic Information

For your safety, please locate and flag off your septic tank and drain field areas prior to debris removal to avoid any accidents or damage to systems.

- All septic tanks, treatment units, and cesspools should be located and roped off with caution tape to avoid accidents.
- Concrete tanks with cement risers are not expected to pose a threat, however they should be located so that during cleanup, crews know where these tanks are so they know not to drive heavy equipment in this area.
- Plastic risers on cement tanks have the potential to melt during fire events, leaving a 2x2 or 3x3 open holes. These risers, if still in place, may have been compromised as well and should be assessed for damage.
- Plastic tanks should be considered an immediate concern and flagged off until further evaluation can be done.
- Metal tanks rust and rot over time and should be considered an immediate concern as well.
- Very old systems may be actual cesspools, these cesspools will have been compromised not just by fire but by natural processes as well and need to be flagged off for health and safety concerns.

For Septic System Installation records:

<https://www.co.marion.or.us/PW/BuildingInspection/Pages/onsite.aspx>

If records are unavailable or incomplete contact a septic professional to locate your tank and drainfield.

Once the full septic system has been located, flag off this entire area to protect it against further damage. Septic systems should be further evaluated after debris removal phase has been completed.

**Contact Marion County Building Inspection with questions:
503-566-4118 or SepticFireResponse@co.marion.or.us**

Post-Wildfire Septic Information

Frequently Asked Questions



State of Oregon
Department of
Environmental
Quality

Onsite Program
165 E Seventh Ave.,
Suite 100
Eugene, OR 97401
Phone: 541-687-7338
Contact: Randy Trox
randall.trox@state.or.us
www.oregon.gov/DEQ

*DEQ is a leader in
restoring, maintaining
and enhancing the
quality of Oregon's air,
land and water.*

If my house was not destroyed or damaged by wildfire, do I need to have my septic inspected prior to returning?

No. You should be mindful of slow draining plumbing fixtures or wet spots in the yard in the absorption field and be aware that system components such as septic tanks, lids, control panels above ground or even below ground may be damaged. Contact a licensed sewage disposal service if you encounter these situations.

If I'm going to rebuild or replace my home, do I need to have my septic system inspected?

Yes, if you intend on reconnecting to the existing septic system. Try to avoid disturbing any existing septic system components, especially the drainfield area during demolition activities. After the debris removal has been completed, and before the building permit for the residence can be issued, you'll need to apply the local DEQ office or contract county to apply for an Authorization Notice to have the system inspected. If repairs are necessary, installation of new septic tanks and absorption fields cannot be permitted until after the debris removal is completed.

If my house is standing, but there's damage to the septic system, do I need a permit to make repairs?

Yes. You will need to secure a repair permit from the local DEQ office or contract county., A licensed and certified sewage disposal service must do the work, although a property owner or the property owner's employee may install their own system. A contractor is recommended to install a septic system, unless the property owner has excavation skills.

If I don't rebuild and want to sell my lot, do I need to have my septic inspected?

No. Septic systems on properties where the homes were destroyed or damaged by wildfire will not need to be inspected prior to transferring title. However, it is advisable to have an Existing System Evaluation Report completed to ensure any issues are identified. There are requirements on who can do these evaluations and the DEQ form must be used.

Can I get a copy of a map showing the location of my septic system?

Yes. Records are online only for Counties where DEQ provides direct service for the onsite program. For counties operated by local agencies, records management varies as to whether records are online or paper only. Contact the local agency or check their website for information.

If I'm rebuilding in a new location on the property, will I still be able to use the existing septic system?

It depends. The key factor is if you have enough fall, or difference in elevation, from the proposed structure site to the septic tank. You may need a minor alteration permit to install a new tank, possibly with a pump. There may be other challenges, such as a creek, ravine or road between the proposed structure and the existing septic system.

If the fire damaged my septic tank, do I have to replace the whole septic system?

No. Only that portion of the septic system that was damaged must be replaced. Typically, a septic system is comprised of a septic tank and a drainfield. The work must be performed under a permit issued by the local DEQ office or contract county when a septic tank or other portion of the system is replaced.

If the top of septic tank is damaged, can I repair it?

No. If the top of a septic tank is damaged, typically the inside of the tank is exposed. This poses a safety hazard for people and wildlife for falling into the tank. It also exposes people to the unhealthy wastewater inside. A septic tank that has undergone this kind of damage is required to be pumped out and filled with sand or gravel or removed. The tank cannot be repaired because the structural integrity of the tank has been compromised.

Alternative formats

DEQ can provide documents in an alternate format or in a language other than English upon request. Call DEQ at 800-452-4011 or email deqinfo@deq.state.or.us.

Erosion protection information

For questions in Marion County,
contact Public Works Land
Development, 503-588-5036

For questions in Linn County,
contact your local Planning
jurisdiction. Contact information is
found at the end of this packet



EPSC BEST MANAGEMENT PRACTICES (BMPs) LIST

EROSION PREVENTION

- Buffer Zone
- Dust Control
- Ground Cover
- Hydraulic Applications
- Matting
- Plastic Sheeting
- Preservation of Natural Vegetation
- Seeding (Temp/Perm)
- Sodding

RUNOFF CONTROL

- Check Dams
- Diversion Dikes & Swales
- Grass-Lined Swale
- Outlet Protection
- Pipe Slope Drain
- Surface Roughening

SEDIMENT CONTROL

- Bio-Filter Bags
- Construction Entrance
- Dewatering
- Filter Berm
- Inlet Protection
- Oak Mats
- Pre-Fabricated Barriers
- Sand Bags
- Sediment Basin
- Sediment Fence
- Sediment Trap
- Sidewalk Subgrade Gravel Barrier
- Tire Wash
- Straw Wattles

For more information, please refer to *Clean Water Services* "Erosion Prevention and Sediment Control Planning and Design Manual" for BMP details, which is available for viewing online at: <https://www.cleanwaterservices.org/media/1464/erosion-prevention-and-sediment-control-manual.pdf>

Note: *Clean Water Services (CWS)* is a Washington County, Oregon - based water resources management public utility. CWS is regionally recognized as a knowledgeable authority in erosion control BMPs.

EROSION CONTROL AT YOUR CONSTRUCTION SITE

Erosion can occur when rainwater flows over a construction site. Rainwater picks up sediment, debris, and chemicals and flows into storm drains that lead into local streams.

Preventing erosion is important not only to protect wildlife and our water sources, but also to keep construction costs at a minimum. It takes time and money to replace soil and vegetation, clean clogged storm drains, and fix damage to property and natural resources.

Easy Ways to Prevent Erosion

- Minimize clearing and exposed soil
- Protect streams, wetlands, and other sensitive areas by fencing or clearly marking these areas

Cover Exposed Soil –

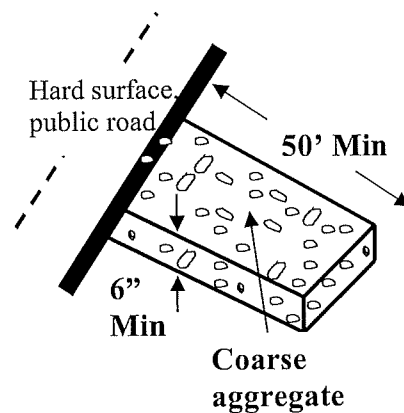
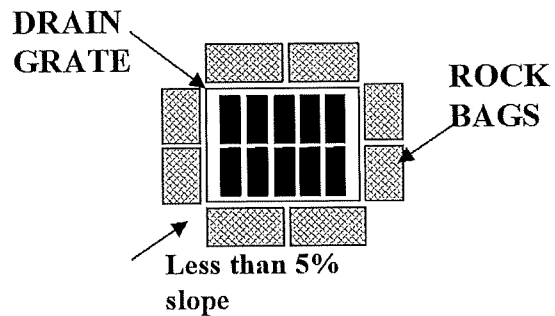
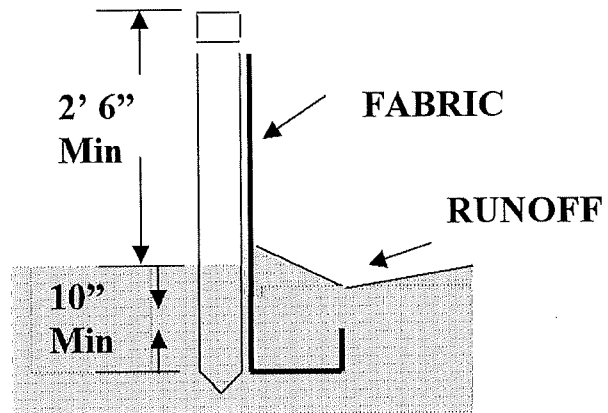
Barren soil is problematic. Cover exposed areas by reseeding and placement of mulch as soon as earth work is complete

Protect Storm Drain Inlets –

- Use rock bags and inlet filter fabric
- Maintain them regularly

Build a Gravel Construction Access –

- Use the access to remove mud and dirt from tires of vehicles before they enter paved roadways
- Make sure site entrances do not become buried in soil



**Department of Public Works
Environmental Services**



Protecting Your Soils After a Fire: SEEDING FOR EROSION CONTROL

During the fall and winter after a fire, rain on bare soil can cause the soil to erode and run off. Seeding and mulching can help protect your soil following a fire. Protecting your soil keeps it healthy and also keeps soil from running off into rivers and streams.

SELECTING YOUR SEED

High quality seed mixes or single grass seed species with a seed analysis tag showing no noxious weeds will help avoid bringing unwanted weeds onto your property. Look for a mix with an annual grass such as annual ryegrass. Perennial grasses such as blue wild rye, creeping red fescue, perennial ryegrass or turf-type fescue also work very well.

Ryegrasses (both annual and perennial) will sprout and start growing quickly to protect your soil this first fall and winter, and the perennial grass will create a longer lasting cover.

Annual ryegrass is likely the economical choice for restoration projects. Smaller quantities can be found at most hardware and garden retailers. Larger bulk quantities can be purchased from many Oregon seed dealers. A seed dealer listing for ryegrasses and fescues can be found at: <https://www.ryegrass.com/dealers.html>

PREPARING THE AREA FOR SEEDING

If possible, roughen the soil by harrowing or raking, then create a firm soil surface by rolling. If this is not possible, you may want to apply your seed at a higher rate. A firm soil surface helps your seed come into contact with the soil and this helps increase the number of seeds that sprout.

SEEDING

You may use a hand-held seeder, scatter your seed by hand or use a mechanical drill for your seed. For very large areas or rough terrain, seed is commonly flown on with aircraft.

Below are some possible seeding mixes and recommended application rates. There are also erosion control seed mixes available – check with your local supplier.

Fertilizer

If possible, broadcast slow-release fertilizer at the time of seeding. You should aim to apply about 25 pounds of nitrogen per acre this fall and another 25 to 50 pounds per acre in the late winter or early spring. This is not always possible, but it can increase the success of healthy, productive grass cover.

Mulching

After you seed and fertilize, scatter straw over the soil if you are able to find weed-free straw. Pull the straw apart if it is in a bale and scatter it over the soil so that about one-third to one-half of the soil is covered.

Know Before You Sow

Always use seed that has a seed analysis tag attached to the bag. The tag contains important information, but pay particular attention to the listing for "Noxious Weeds." Only use seed that states "no" or "none found."

Crop	Annual Ryegrass
Variety	ABC
Lot#	86-W6-17-2Q-8902
Origin (state)	OR
Pure Seed	99.91%
Other Crop	0.00%
Inert Matter	0.09%
Weed Seed	0.00%
Noxious Weed	None Found
Germination	91%
Hard Seed	5%
Date Tested	
	Purity 3-15-2018
	Germ 3-19-2018
Net wt.	50 lbs.

For More Information

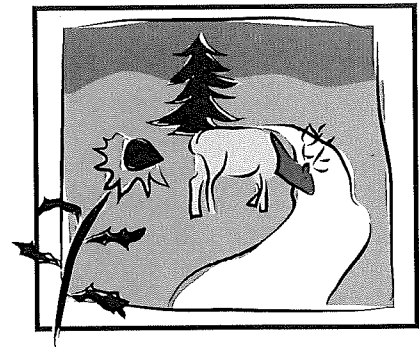
Contact your local Soil and Water Conservation District, OSU Extension office or Oregon Department of Forestry office for more detailed information on sources of seed, site preparation, seeding rates and mixes, and fertilizer and mulching.

- Visit the State of Oregon's Wildfire page: <https://wildfire.oregon.gov>
- Find your local Soil and Water Conservation District: <https://oda.direct/SWCD>
- Find your local watershed council: <https://oda.fyi/watershedcouncils>
- Visit Oregon State University's After a Wildfire page, <https://oda.fyi/AfterWildfire>, or find your local OSU Extension office, <https://oda.fyi/FindExtension>
- Visit the Oregon Department of Forestry's Help After a Wildfire page, <https://oda.fyi/HelpAfterWildfire> or find an Oregon Department of Forestry forester, <https://oda.fyi/FindForester>
- Visit the USDA Natural Resources Conservation Service Resources for Recovery page: <https://oda.fyi/RecoveryResources>
- For wholesale suppliers of seed, visit the Oregon Ryegrass Commission website: <https://www.ryegrass.com/dealers.html>

Soil Erosion Control after Wildfire

Fact Sheet No. 6.308

Natural Resources Series | Forestry



by R. Moench and J. Fusaro*



After a severe fire, soil erosion can cause adverse effects on many ecosystems.

The potential for severe soil erosion is a consequence of wildfire because as a fire burns it destroys plant material and the litter layer. Shrubs, forbs, grasses, trees, and the litter layer break up the intensity of severe rainstorms. Plant roots stabilize the soil, and stems and leaves slow the water to give it time to percolate into the soil profile. Fire can destroy this soil protection. There are several steps to take to reduce the amount of soil erosion. A landowner, using common household tools and materials, can accomplish most of these methods in the aftermath of a wildfire.

Hydrophobic Soils

In severe, slow-moving fires, the combustion of vegetative materials creates a gas that penetrates the soil profile. As the soil cools, this gas condenses and forms a waxy coating. This causes the soil to repel water – a phenomena called hydrophobicity. This hydrophobic condition increases the rate of water runoff. Percolation of water into the soil profile is reduced, making it difficult for seeds to germinate and for the roots of surviving plants to obtain moisture.

Hydrophobic soils do not form in every instance. Factors contributing to their formation are: a thick layer of litter before the fire; a severe slow-moving surface and crown fire; and coarse textured soils such as sand or decomposed granite. (Finely textured soils such as clay are less prone to hydrophobicity.)

The hydrophobic layer can vary in thickness. There is a simple test to determine if this water repellent layer is present:

1. Place a drop of water on the exposed soil surface and wait a few moments. If the water beads up and does not penetrate the soil than it's hydrophobic.
2. Repeat this test several times, but each time remove a one-inch thick layer of the soil profile. Breaking this water repellent layer is essential for successful reestablishment of plants.

In addition, freezing and thawing, and animal activity will help break up the hydrophobic layer.

Erosion Control Techniques

The first step after a wildfire is reseeding grass in the severely burned areas. Remember many plants can recover after fire depending on the severity of the burn. It is important to leave existing vegetation if the plants do not threaten personal safety or property (hazardous trees in danger of falling should be identified first).



A simple test can determine whether a water repellent layer is present.

Quick Facts

- The most immediate consequence of fire is the potential for soil erosion.
- Intense heat from fire can make the soil repel water, a condition called hydrophobicity.
- Landowners should take quick action to minimize erosion once it's safe to return to the property:

fell damaged trees to slow water runoff after rainfall;

create check dams in drainages using straw bales;

spread straw to protect the soil and reseeding efforts;

use water bars to reduce soil erosion on roads.

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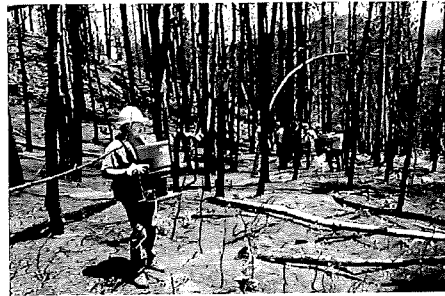
www.ext.colostate.edu



*R. Moench, manager, Colorado State Forest Service; J. Fusaro, rangeland management specialist, Natural Resources Conservation Service. 1/2012



A positive initial step after a wildfire is to reseed grass in the affected area.



A "cyclone" seeder works well to broadcast grass seed.

Seed can be purchased throughout Colorado. It's a good idea to obtain certified (blue tag) seed – this guarantees the variety, that it was tested under field conditions, and that it is recommended for the state.

Varieties recommended (this is not an all inclusive list) include mountain brome grass, slender wheat-grass, bluebunch wheatgrass, western wheatgrass, Arizona fescue, streambank wheatgrass, Idaho fescue (western slope), thickspike wheatgrass, steambank wheatgrass, and blue gramma. Species selection will vary from one site to another. Species selection is based on soils, elevation, aspect, and location in the state. You may plant a nurse crop with the grass mix to provide a quick cover (oats or a sterile hybrid such as Regreen™ or QuickGuard™) until the native grasses germinate.

Seeding tips for hand planting

1. Roughen the soil surface to provide a better seedbed by breaking through the hydrophobic layer. A steel rake works well for this, or, depending on the slope, a small tractor drawn harrow could be used.

2. Broadcast the seed (a "Cyclone" seeder works well). Seeding rate depends upon the variety of seed sown. A good estimate is 10 to 20 pounds per acre of grass seed with another 10 to 15 pounds per acre of the nurse crop.

3. Rake or harrow in 1/4 inch to 3/4 inch deep.

4. If the area is small enough, roll or tamp the seed down to ensure good soil/seed contact.

5. Spread certified, weed-free hay straw. If the area is small, crimp the hay in with a shovel. (This will help keep soil, seed, and mulch in place during wind and rain.)

6. Control weeds as needed by cutting off the flower heads before they can produce seed.

7. Do not use herbicides for broadleaf weed control until after the grass has germinated and developed five leaves.

Weed Control

Weeds are among the first plants to recolonize after a fire. In many instances they are not a problem. However, if the weeds are listed as noxious, they must be controlled. Noxious weeds displace native plants and decrease wildlife habitat, plant productivity, and diversity. They can spread downstream or into agricultural areas, resulting in high control costs. Control of noxious weeds is best accomplished through an integrated pest management system that includes chemical, biological, mechanical, and cultural controls. (See fact

sheet 3.106, *Weed management for small rural acreage owners.*)

Mulching

Straw provides a protective cover over seeded areas to reduce erosion and create a suitable environment for revegetation and seed germination. If possible, the straw should be crimped into the soil, covered with plastic netting or sprayed with a tacking agent. If you can only broadcast the straw, do so; it's better to have some coverage than none at all. The straw should cover the entire reseeded section and extend into the undamaged section to prevent wind and water damage. Use only certified weed-free hay straw to avoid spreading noxious weeds. (Contact the State Department of Agriculture for a listing of Certified Weed Free Hay growers.)

Straw should be applied to a uniform depth of two to three inches. When applied at the proper density, 20 to 40 percent of the soil surface is visible. One typical square bale will cover about 800 square feet. (Figure 1.) For small areas a product call StrawNet™ (a pelletized, weed-free, straw fiber with binding agents) can be broadcast over the seeded area.

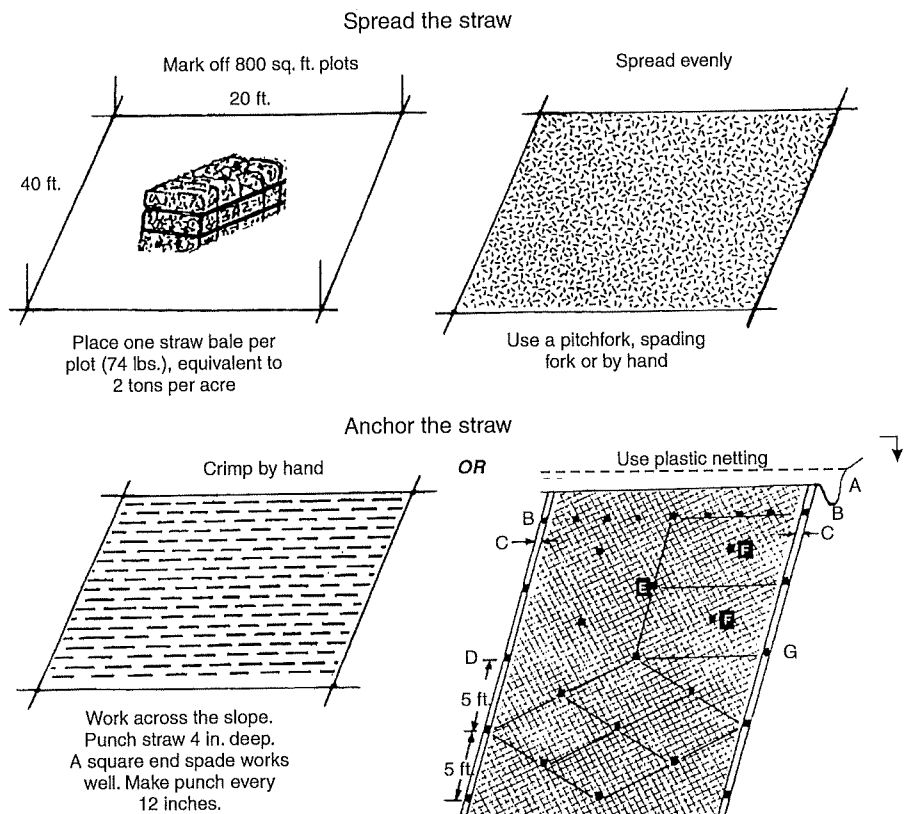


Figure 1: Application of straw to prevent erosion control (graphic courtesy of Natural Resources Conservation Service.)

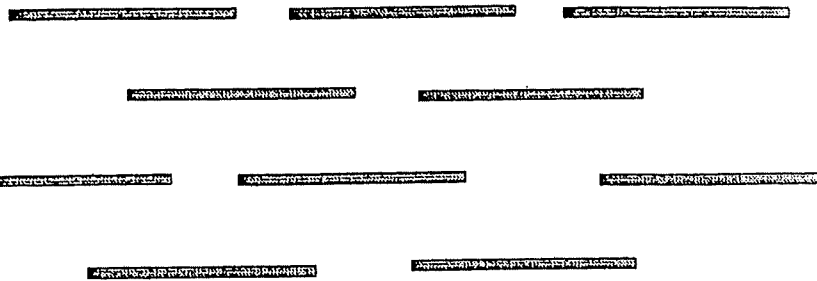


Figure 2: Contour Log Terrace. These barriers are an effective, first-year treatment for hydrophobic soils, low ground cover density, and severely burned areas (graphic courtesy of Natural Resources Conservation Service).

Contour log terraces

Log terraces provide a barrier to runoff from heavy rainstorms. Dead trees are felled, limbed, and placed on the contour perpendicular to the direction of the slope. Logs are placed in an alternating fashion (Figure 2.) so the runoff no longer has a straight downslope path to follow. The water is forced to meander back and forth between logs, reducing the velocity of the runoff, and giving water time to percolate into the soil.

Logs should be 6 to 8 inches in diameter (smaller logs can be used) and 10 to 30 feet long. The logs should be bedded into the soil for the entire log length and backfilled with soil so water cannot run underneath; backfill should be tamped down. Secure the logs from rolling by driving stakes on the downhill side. It is best to begin work at the

top of the slope and work down. (It is easier to see how the water might flow by looking down on an area to better visualize the alternating spacing of the logs.)

Straw wattles

Straw wattles are long tubes of plastic netting packed with excelsior, straw, or other material. Wattles are used in a similar fashion to log terraces. The wattle is flexible enough to bend to the contour of the slope. Wattles must be purchased from an erosion control material supplier.

Silt fences

Silt fences are made of woven wire and a fabric filter cloth. The cloth traps sediment from runoff. These should be used in areas where runoff is more dispersed over a broad flat area. Silt fences are not suitable

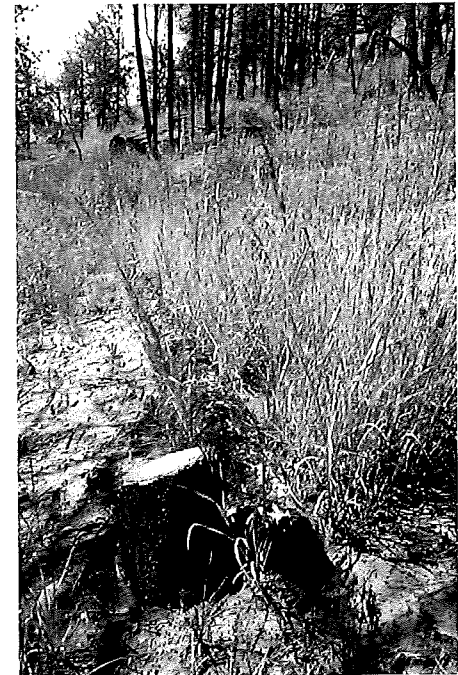
for concentrated flows occurring in small rills or gullies. Silt fences are made from materials available at hardware stores, lumberyards, and nurseries. (Figure 3.)

Straw bale check dam

Straw bales placed in small drainages act as a dam – collecting sediments from upslope and slowing the velocity of water traveling down slope. Bales are carefully placed in rows with overlapping joints, much as one might build a brick wall. Some

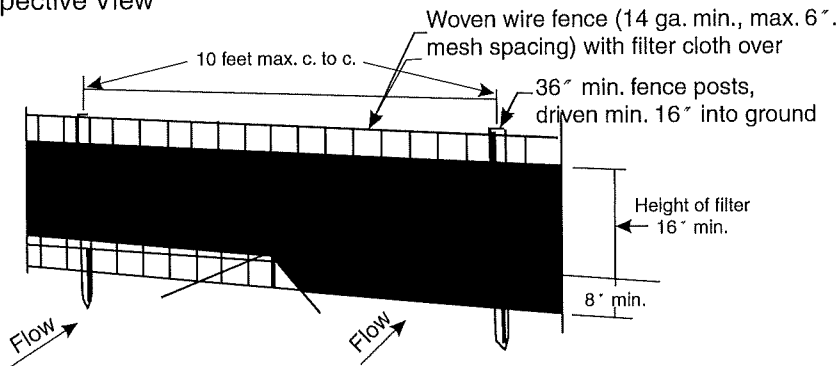


Spread straw over seeded areas to prevent erosion.



Contour log terraces (above and below).

Perspective View



Section View

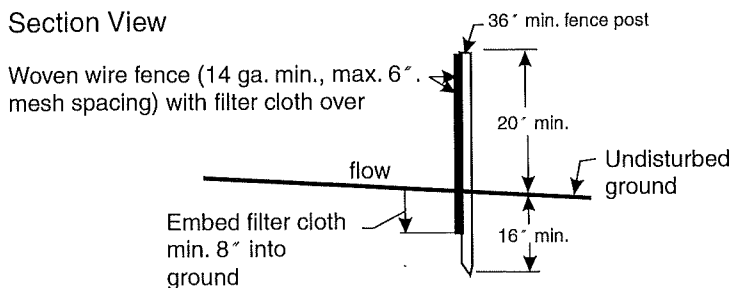


Figure 3: Silt fences are suitable for areas where runoff is in the form of "sheet flow" (graphic courtesy of Natural Resources Conservation Service).

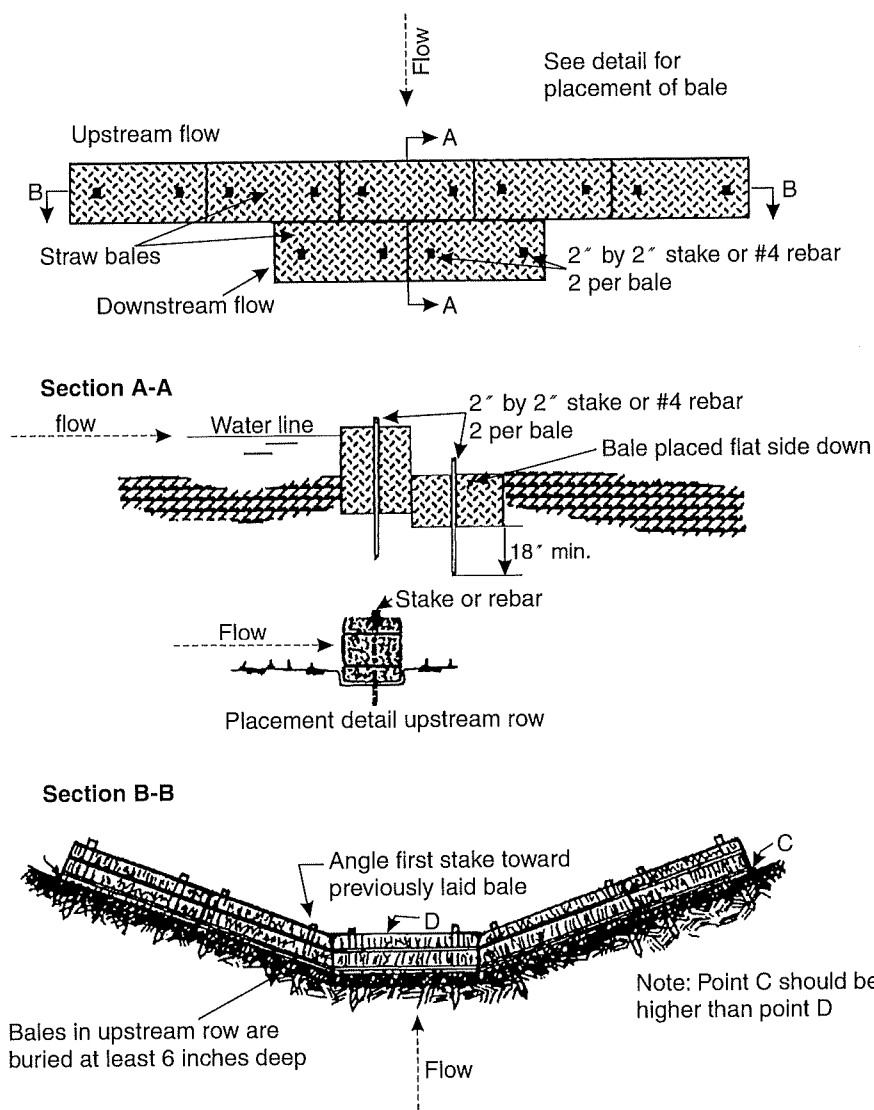


Figure 4: Typical Straw Bale Check Dam

excavation is necessary to ensure bales butt up tightly against one another forming a good seal. Two rows (or walls) of bales are necessary and should be imbedded below the ground line at least six inches. (Figure 4.)

Water bars and culverts

Bare ground and hydrophobic soils left after a fire increase water runoff. This requires intervention to channel water off of the burned area and release it to the streams below. The two most common structures to do this are culverts and water bars. Determining the type of drainage practice to use depends on the soil, type of road use, slope, speed of vehicles, season of use, and amount of use.

Culverts

A professional engineer is able to determine the size of the drainage area and the amount of runoff for rainfall events of varying intensity that needs carried by culverts. Once sized, the culverts must be installed properly at the correct locations. Installing more culverts than previously existed before the fire may be required. The inlet sides must be regularly maintained to prevent sediment and trash from plugging the pipe. It is common practice to armor the ground at the outlet end with rock rip rap in order to dissipate the energy of the discharged water and to spread it over the slope below. The inlet side can have a drop inlet so as to allow sediment to settle out before water enters the pipe. Armoring the inlet side with rock will also prevent water from scouring under and around the pipe and flowing under the road.



Straw wattles are used in a similar fashion to log terraces.



To be effective, culverts must be installed properly and at proper locations.

Water bars

Water bars are berms of soil or bedded logs that channel water off roads and trails to avoid the creation of gullies. Water bars are angled downslope to the outlet side. These bars can divert water to a vegetated slope below or redirect it to a channel that will take it to a culvert. On-site soils and the road grade will dictate spacing. (Figure 5.)

References

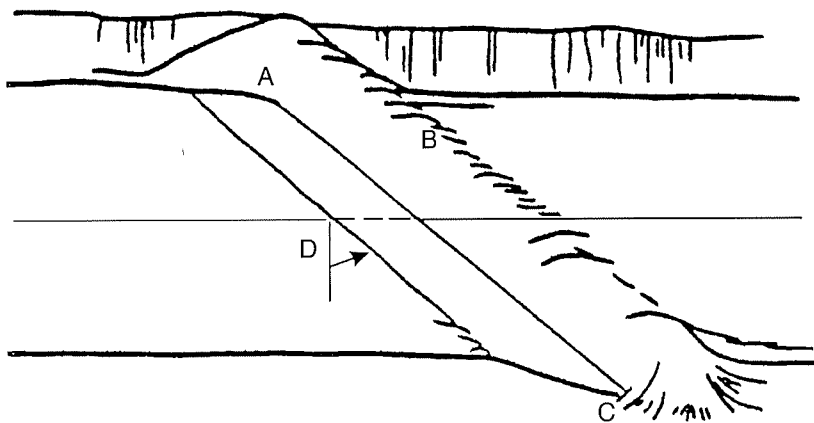
USDA Natural Resources Conservation Service, New Mexico State Office, 6200 Jefferson NE, Albuquerque, NM 87109; (800) 410-2067; www.nm.nrcs.usda.gov
 USDA NRCS Fact Sheet, Vegetation Establishment for Soil Protection
 USDA NRCS Fact Sheet, Temporary Erosion Control Around the Home Following a Fire

USDA NRCS Fact Sheet, *Straw Mulching*
 USDA NRCS Fact Sheet, *Contour Log Terraces*
 USDA NRCS Fact Sheet, *Straw Bale Check Dam*
 USDA NRCS Fact Sheet, *Silt Fence*
 USDA NRCS Fact Sheet, *Drainage Tips*
 From Colorado State Forest Service, Colorado State University-Foothills, 5060 Campus Delivery, Fort Collins, CO 80523-5060; (970) 491-6303; Fax (970) 491-7736; www.colostate.edu/Depts/CSFS:
 6.302, *Creating Wildfire-Defensible Zones*
 6.303, *Fire-Resistant Landscaping*
 6.304, *Forest Home Fire Safety*
 6.305, *FireWise Plant Materials*
 6.307, *Vegetative Recovery after Wildfire.*



FIREWISE is a multi-agency program that encourages the development of defensible space and the prevention of catastrophic wildfire.

Waterbar –
Top view



Waterbar –
Cross-section

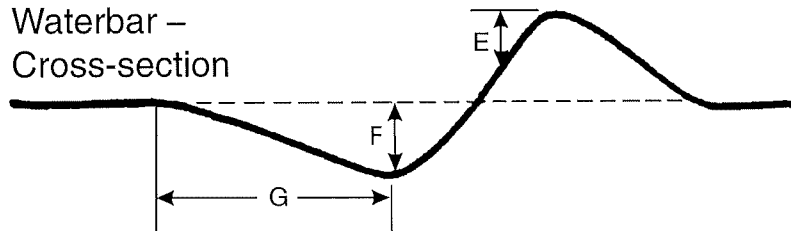


Figure 5: Waterbar construction for forest or ranch roads with little or no traffic. Specifications are average and may be adjusted to conditions.

- A. Bank tie-in point; cut 6 inches to 1 foot into the roadbed.
- B. Cross drain berm height 1 to 2 feet above the roadbed.
- C. Drain outlet cut 8 inches to 16 inches into the roadbed.
- D. Angle drain 30 to 45 degrees downgrade with road centerline.
- E. Up to 2 feet in height.
- F. Depth to 18 inches.
- G. 3 to 4 feet.

**Colorado
State
FOREST
SERVICE**

This fact sheet was produced in cooperation with the Colorado State Forest Service.

Colorado State University, U.S. Department of Agriculture and Colorado counties cooperating. CSU Extension programs are available to all without discrimination. No endorsement of products mentioned is intended nor is criticism implied of products not mentioned.

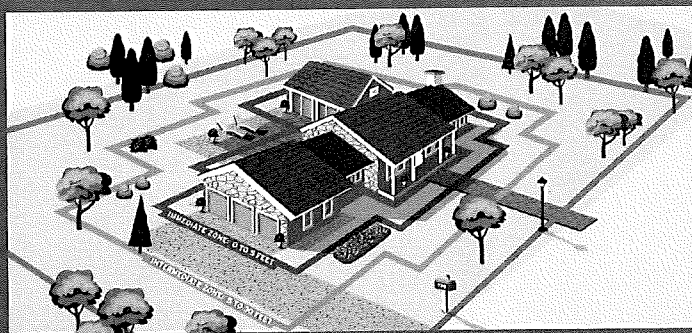
Dwelling siting standards and fire risk reduction

For questions, contact your
local Planning jurisdiction

Contact information is
found at the end of this packet

HOW TO PREPARE YOUR HOME FOR WILDFIRES

WILDFIRE RISK REDUCTION STEPS THAT CAN MAKE YOUR HOME SAFER DURING A WILDFIRE



■ VEGETATION MANAGEMENT

1. HOME IGNITION ZONES

To increase your home's chance of surviving a wildfire, choose fire-resistant building materials and limit the amount of flammable vegetation in the three home ignition zones. The zones include the **Immediate Zone**: (0 to 5 feet around the house), the **Intermediate Zone** (5 to 30 feet), and the **Extended Zone** (30 to 100 feet).

2. LANDSCAPING AND MAINTENANCE

To reduce ember ignitions and fire spread, trim branches that overhang the home, porch, and deck and prune branches of large trees up to 6 to 10 feet (depending on their height) from the ground. Remove plants containing resins, oils, and waxes. Use crushed stone or gravel instead of flammable mulches in the **Immediate Zone** (0 to 5 feet around the house). Keep your landscape in good condition.

■ FIRE RESISTIVE CONSTRUCTION

3. ROOFING AND VENTS

Class A fire-rated roofing products, such as composite shingles, metal, concrete, and clay tiles, offer the best protection. Inspect shingles or roof tiles and replace or repair those that are loose or missing to prevent ember penetration. Box in eaves, but provide ventilation to prevent condensation and mildew. Roof and attic vents should be screened to prevent ember entry.

4. DECKS AND PORCHES

Never store flammable materials underneath decks or porches. Remove dead vegetation and debris from under decks and porches and between deck board joints.

5. SIDING AND WINDOWS

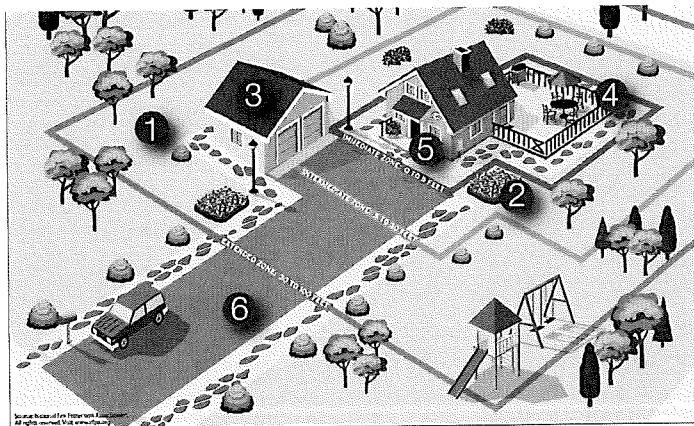
Embers can collect in small nooks and crannies and ignite combustible materials; radiant heat from flames can crack windows. Use fire-resistant siding such as brick, fiber-cement, plaster, or stucco, and use dual-pane tempered glass windows.

■ BE PREPARED

6. EMERGENCY RESPONDER ACCESS

Ensure your home and neighborhood have legible and clearly marked street names and numbers. Driveways should be at least 12 feet wide with a vertical clearance of 15 feet for emergency vehicle access.

- Develop, discuss, and practice an emergency action plan with everyone in your home. Include details for handling pets, large animals, and livestock.
- Know two ways out of your neighborhood and have a predesignated meeting place.
- Always evacuate if you feel it's unsafe to stay—don't wait to receive an emergency notification if you feel threatened from the fire.
- Conduct an annual insurance policy checkup to adjust for local building costs, codes, and new renovations.
- Create or update a home inventory to help settle claims faster.



TALK TO YOUR LOCAL FORESTRY AGENCY
OR FIRE DEPARTMENT TO LEARN MORE
ABOUT THE SPECIFIC WILDFIRE RISK
WHERE YOU LIVE.



FIREWISE USA®
RESIDENTS REDUCING WILDFIRE RISKS

VISIT FIREWISE.ORG FOR MORE DETAILS

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Order a Reducing Wildfire Risks in the Home Ignition Zone checklist/poster at Firewise.org

Chapter 17.138

TIMBER CONSERVATION ZONE DWELLING SITING REQUIREMENTS

17.138.060 Special use and siting requirements.

The following regulations apply to new and replacement dwellings, structures accessory to a dwelling, and may also be applied as a condition of approval for other uses in MCC 17.138.040:

A. Special Siting Requirements.

1. Dwellings and structures shall comply with the special requirements in subsection (A)(2) or (3) of this section. Compliance with the provisions in subsections (A)(2) and (B), (F) and (G) of this section satisfies the criteria in subsection (A)(3) of this section. Alternative sites that meet the criteria in subsection (A)(3) of this section may be approved concurrently with any land use application or as provided in Chapter 17.116 MCC.

2. Siting Standards for Dwellings and Other Buildings.

a. Dwellings shall be at least 200 feet from any abutting parcel in farm use or timber production. Buildings other than a dwelling shall be located at least 100 feet from any abutting parcel in farm use or timber production.

b. The special setback in subsection (A)(2)(a) of this section shall not be applied in a manner that prohibits dwellings approved pursuant to ORS 195.300 through 195.336 nor should the special setback in subsection (A)(2)(a) of this section prohibit a claimant's application for homesites under ORS 195.300 through 195.336.

c. The dwelling or other building shall be located within 300 feet of the driveway entrance on an abutting public road; or, if the property does not abut a public road for a distance of at least 60 feet, the dwelling or other building shall be located within 300 feet of the point where the driveway enters the buildable portion of the property.

3. Review Criteria for Alternative Sites. Sites for dwellings or buildings that do not meet the siting requirements in subsection (A)(2) of this section may be approved if the proposed site will meet the following criteria:

- a. The site will have the least impact on nearby or adjoining forest or agricultural lands;
- b. The site ensures that adverse impacts on forest operations and accepted farming practices on the tract will be minimized;
- c. The amount of agricultural and forest lands used to site access roads, service corridors, the dwelling and structures is minimized; and
- d. The risks associated with wildfire are minimized.

B. Declaratory Statement. For all dwellings, and other uses deemed appropriate, the property owner shall be required to sign and allow the entering of the following declaratory statement into the chain of title for the lot(s) or parcel(s):

The property herein described is situated in or near a farm or forest zone or area in Marion County, Oregon, where the intent is to encourage, and minimize conflicts with, farm and forest use. Specifically, residents, property owners and visitors may be subjected to common,

customary and accepted farm or forest management practices conducted in accordance with federal and state laws that ordinarily and necessarily produce noise, dust, smoke and other impacts. The grantors, including their heirs, assigns and lessees do hereby accept the potential impacts from farm and forest practices as normal and necessary and part of the risk of establishing a dwelling, structure or use in this area, and acknowledge the need to avoid activities that conflict with nearby farm or forest uses and practices, grantors will not pursue a claim for relief or course of action alleging injury from farming or forest practice for which no action is allowed under ORS 30.936 or 30.937.

C. Domestic Water Supply.

1. The applicant shall provide evidence that the domestic water supply is from a source authorized in accordance with the Water Resources Department's administrative rules for the appropriation of groundwater or surface water and not from a Class II stream as defined in the Forest Practices Rules (OAR Chapter 629).
2. Evidence of a domestic water supply means verification from a water purveyor that the use described in the application will be served by the purveyor under the purveyor's rights to appropriate water; or a water use permit issued by the Water Resources Department for the use described in the application; or verification from the Water Resources Department that a water use permit is not required for the use.
3. If the proposed water supply is from a well and is exempt from permitting requirements under ORS 537.545, the applicant shall submit the well constructor's report upon completion of the well.

D. Road Access. As a condition of approval, if road access to the dwelling is by a road owned and maintained by a private party or by the Oregon Department of Forestry, the Bureau of Land Management, or the U.S. Forest Service, then the applicant shall provide proof of a long-term road access use permit or agreement. The road use permit may require the applicant to agree to accept responsibility for road maintenance.

E. Tree Planting.

1. Prior to issuance of a building or siting permit for the dwelling on a tract of more than 10 acres in size, the landowner shall plant a sufficient number of trees on the tract to demonstrate that the tract is reasonably expected to meet Department of Forestry stocking requirements at the time specified in Department of Forestry administrative rules.
2. At the time required by the Department of Forestry rules the owner shall submit a stocking survey report to the county assessor and the assessor shall verify that the minimum stocking requirements have been met.

F. Fire Protection.

1. The dwelling shall be located upon a parcel within a fire protection district or shall be provided with residential fire protection by contract. If the dwelling is not within a fire protection district, the applicant shall provide evidence that the applicant has asked to be included within the nearest such district.
2. If inclusion within a fire protection district or contracting for residential fire protection is impracticable, an alternative means for protecting the dwelling from fire hazards may be approved pursuant to the procedures set forth in Chapter 17.115 MCC, subject to the requirements of subsections (F)(3) of this subsection.
3. Alternative means of fire protection may include a fire sprinkling system, on-site equipment and water storage or other methods that are reasonable, given the site conditions.

a. If a water supply is required for fire protection, it shall be a swimming pool, pond, lake, or similar body of water that at all times contains at least 4,000 gallons or a stream that has a continuous year-round flow of at least one cubic foot per second. The applicant shall provide verification from the Water Resources Department that any permits or registrations required for water diversion or storage have been obtained or that permits or registrations are not required for the use.

b. Road access shall be provided to within 15 feet of the water's edge for fire-fighting pumping units. The road access shall accommodate the turnaround of fire fighting equipment during the fire season. Permanent signs shall be posted along the access route to indicate the location of the emergency water source.

G. Fire Hazard Reduction.

1. The owners of a dwelling, or structure occupying more than 200 square feet, shall maintain a primary fuel-free break area on land surrounding the dwelling that is owned or controlled by the owner in accordance with the provision in "Recommended Fire Siting Standards for Dwellings and Structures and Fire Safety Design Standards for Roads" dated March 1, 1991, and published by the Oregon Department of Forestry.
2. The dwelling shall have a fire-retardant roof.
3. The dwelling shall not be sited on a slope of greater than 40 percent.
4. If the dwelling has a chimney or chimneys, each chimney shall have a spark arrester.

H. Road and Drainage Standards.

1. Public road access to structures of more than 200 square feet in area or dwellings shall comply with the Marion County Department of Public Works Engineering Standards applicable at the time the application was filed.
2. Except for private roads and bridges accessing only commercial forest uses, private road or driveway access to structures of more than 200 square feet in area or dwellings shall meet the requirements of the local fire protection district or forest protection district except that the county maximum grade standard for a private road is 15 percent. A greater grade may be approved by the fire district or, if the site is not in a fire district, by the State Department of Forestry.
3. Drainage standards for private roadways shall comply with the Marion County Department of Public Works Engineering Standards except that corrugated metal culverts of equivalent size and strength may be used. [Ord. 1313 § 4 (Exh. A), 2011; Ord. 1271 § 5, 2008; Ord. 1204 § 4, 2004; Ord. 1168 § 5, 2002; Ord. 1125 § 10, 2000. RZ Ord. § 138.060.]

LAND USE PLANNING NOTES ▶▶▶▶



“STEWARDSHIP IN FORESTRY”

NUMBER 1 • MARCH 1991

PURPOSE: This technical bulletin has been developed jointly by the Department of Forestry and structural fire protection agencies in Oregon as technical guidance and recommended minimum standards to meet the requirements of new administrative rules, OAR 660-06-035 (fire siting standards for dwellings and structures) and OAR 66006-040 (fire safety design standards for roads) adopted by the Land Conservation and Development Commission for forest land zones (Goal 4 lands). Counties are encouraged to adopt stricter rules in forest zones where these recommendations might not adequately address a particular hazard or risk.

RULE REQUIREMENTS:

OAR 660-06-035 (Fire Siting Standards for Dwellings and Structures) requires that:

“[T]he following fire siting standards or their equivalent apply to new dwelling or structures in a forest or agriculture/forest zone:

“(1) If a water supply is available and suitable for fire protection, such as a swimming pool, pond, stream, or lake, then road access to within 15 feet of the water’s edge shall be provided for pumping units. The road access shall accommodate the turnaround of fire fighting equipment during the fire season. Permanent signs shall be posted along the access route to indicate the location of the emergency water source.

“(2) Road access to the dwelling shall meet road design standards described in OAR 660-06-040.

“(3) The owners of the dwellings and structures shall: maintain a primary fuel-free break area surrounding all structures; clear and maintain a secondary fuel-free break area; and maintain adequate access to the dwelling for fire fighting

Recommended Fire Siting Standards for Dwellings and Structures *and* Fire Safety Design Standards for Roads

Published by:

Oregon Department of Forestry
Resource Planning Office
2600 State Street
Salem, OR 97310

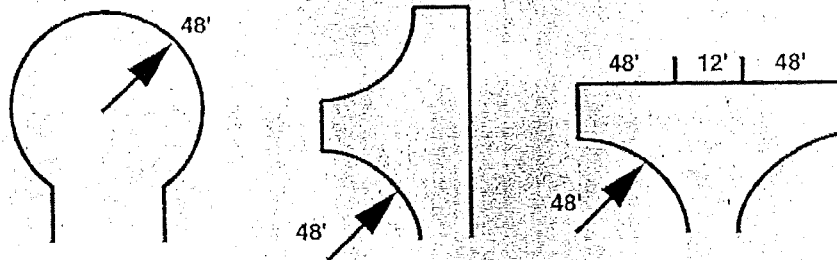
equipment vehicles in accordance with the provisions in *Protecting Your home from Wildfire* (National Fire Protection Association)."

OAR 660-06-040 (Fire Safety Design Standards for Roads) requires that:

"[T]he governing body shall establish road design standards, except for private roads and bridges accessing only commercial forest uses, which ensure that public roads, bridges, private roads and driveways are constructed so as to provide adequate access for fire fighting equipment. Such standards shall address maximum grade, road width, turning radius, road surface, bridge design, culverts, and road access taking into consideration seasonal weather conditions. The governing body shall consult with the appropriate Rural Fire Protection District and Forest Protection District in establishing these standards."

Though there are no similar rule requirements to be met in rural residential zones in forested areas, the Department of Forestry encourages the adoption by local government of these recommended fire safety standards in these zones as well.

Turn-Around Types



Though some of the recommendations are strictly to accommodate structural fire protection apparatus and needs, it is recommended that the standards be applied to all lands within forest zones, regardless of the presence or absence of a rural (structural) fire protection district. The standards should be applied in anticipation of structural fire protection eventually becoming present.

RECOMMENDED FIRE SITING STANDARDS FOR DWELLINGS AND STRUCTURES:

A. Water Supply Standards:

1. Access— If a water supply—such as a swimming pool, pond, stream, or lake—of 4,000 gallons or more exists within 100 feet of the driveway or road at a reasonable grade (12%) an all-weather approach to a point within 15 feet of the water's edge should be provided. The all-weather approach should provide a turn-around with a **48-foot** radius of one of the types shown in the illustration below.

2. Identification— Emergency water supplies should be clearly marked along the access route with a county approved sign.

B. Fuel Break Standards:

1. Primary Safety Zone— The primary safety zone is a fire break extending a minimum of **30 feet** in all directions around structures. The goal within the primary safety zone is to remove fuels that will produce flame lengths in excess of one foot. Vegetation within the primary safety zone could include green lawns and low shrubs (less than 24 inches in height). Trees should be spaced with greater than 15 feet between the crowns and pruned to remove dead and low (less than 8 feet) branches. Accumulated leaves, needles, limbs and other dead vegetation should be removed from

beneath trees. Nonflammable materials (i.e., rock) instead of flammable materials (i.e., bark mulch) should be placed next to the house.

As slope increases, the primary safety zone should increase away from the house, parallel to the slope and down the slope, as shown in the table and illustration on the next page.

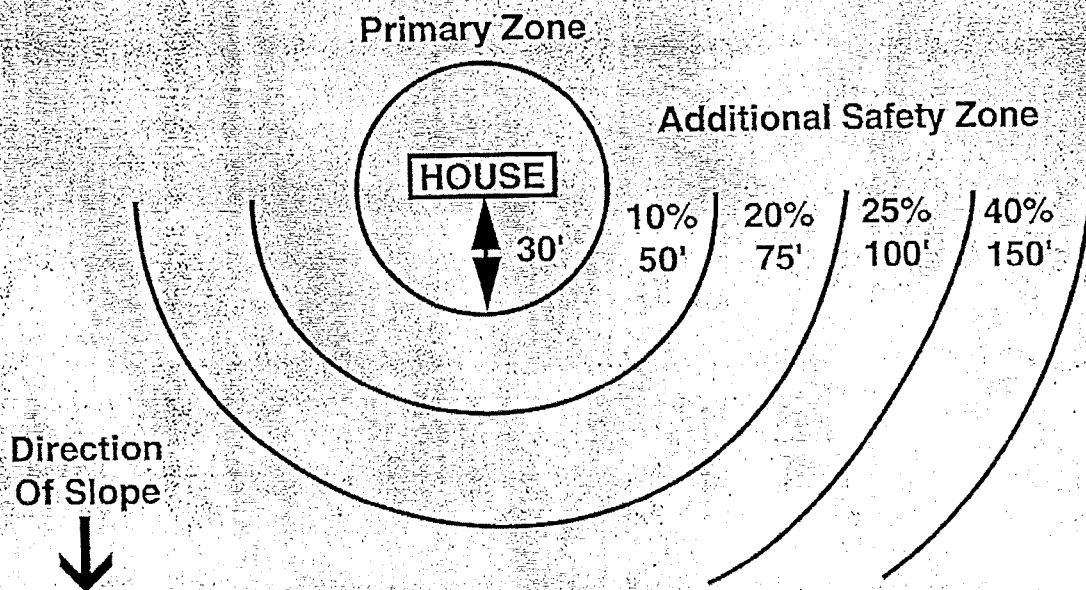
2. Secondary Fuel Break— The secondary fuel break is a fuel break extending a mini-

Size of Primary Safety Zone by Percent Slope

Slope	Feet of Primary Safety Zone	Feet of Additional Safety Zone Down Slope
0%	30	0
10%	30	50
20%	30	75
25%	30	100
40%	30	150

Buildings should be restricted to slopes of less than 40 percent.

EXAMPLE OF SAFETY ZONE SHAPE



imum of **100** feet in all directions around the primary safety zone. The goal of the secondary fuel break should be to reduce fuels so that the overall intensity of any wildfire would be lessened and the likelihood of crown fires and crowning is reduced. Vegetation within the secondary fuel break should be pruned and spaced so that fire will not spread between crowns of trees. Small trees and brush growing underneath larger trees should be removed to prevent spread of fire up into the crowns of the larger trees. Dead fuels should be removed.

RECOMMENDED FIRE SAFETY DESIGN STANDARDS FOR ROADS:

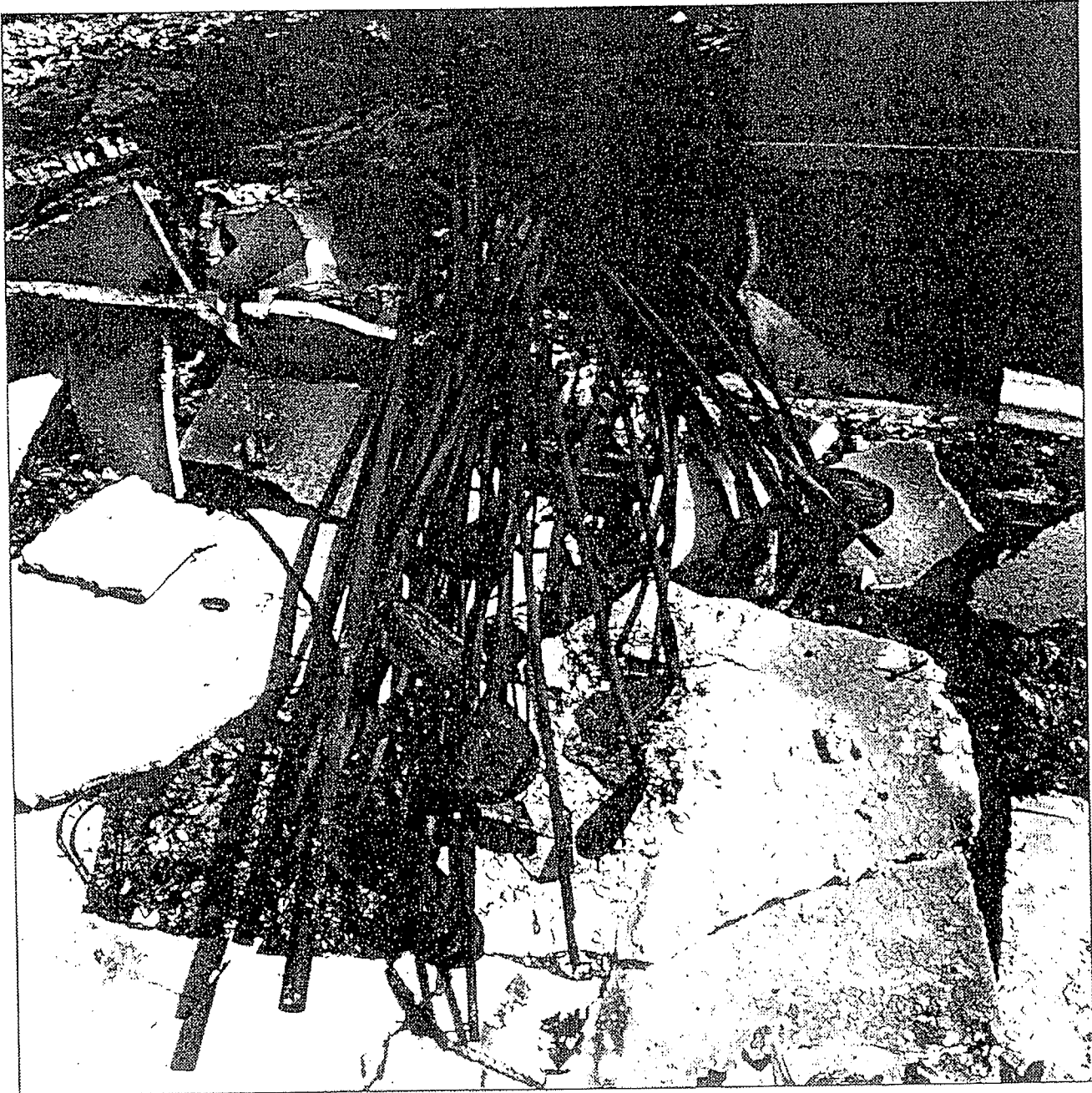
A. Road Standards (public roads and private roads accessing 2 or more residences):

- 1. Right-of-ways**— Roads should be built and maintained to provide a minimum 20 foot width of all-weather surface capable of supporting gross vehicle weights of **50,000** pounds, a minimum curve radius of **48** feet and a vertical clearance of **13'6"**.

2. Cul-de-Sacs— Cul-de-sacs should be defined as dead-end roads over 150 feet in length. Cul-de-sacs should have turn-arounds of not less than 48 feet radius at a maximum spacing of 500 feet between turn-arounds. All turn-arounds should be marked and signed as "NO PARKING."

3. Bridges and Culverts— Bridges, culverts, and other structures in the road bed should be constructed and maintained to support gross vehicle weights of 50,000 pounds.

4. Road Grades— Road grades should not exceed an average of 8 percent, with a maxi-



A set of burned golf clubs lay in the ruin of a home burned by the 1990 Awbrey Hall Fire. Twenty-two homes burned during this fire, which raced along the outskirts of Bend, Oregon. Most of the burned homes had insufficient fuel breaks surrounding them.

Photograph courtesy of The Bulletin, Bend

mum of 12 percent on short pitches. Variances could be granted by the fire service having responsibility for the area when topographic conditions make these standards impractical.

5. Identification— Roads should be uniquely named or numbered and visibly signed at each road intersection. Letters or numbers should be a minimum of three inches in height and constructed of reflectorized material.

B. Driveway Standards (private roads accessing a single residence):

1. Driveways— Driveways should be built and maintained to provide a minimum 12-foot width of all-weather surface capable of supporting gross vehicle weights of 50,000 pounds, a minimum curve radius of 48 feet and a vertical clearance of 13'6".

2. Vehicle Passage Turnouts— Driveways in excess of 200 feet should provide 20-foot wide by 40-foot long passage space (turnouts) at a maximum spacing of 1/2 the driveway length or 400 feet, whichever is less. Whenever visibility is limited, these distances should be reduced appropriately.

3. Dead-end driveways— Dead-end driveways are defined as dead-end roads over 150 feet in length serving a single residence. Dead-end driveways should have turn-a-rounds of not less than 48 feet radius.

4. Bridges and Culverts— Bridges, culverts, and other structures in the road bed should be constructed and maintained to support gross vehicle weights of 50,000 pounds.

5. Driveway Grades— Driveway grades should not exceed an average of 8 percent, with a maximum of 12 percent on short pitches. Variances could be granted by the fire service having responsibility for the area when topographic conditions make these standards impractical.

6. Identification— Driveways should be marked with the residence's address unless

the residence is visible from the roadway and the address is clearly visible on the residence. Letters or numbers should be a minimum of three inches in height and constructed of reflectorized material.

C. Certification:

1. If bridges or culverts are involved in the construction of a road or driveway, written verification of compliance with the 50,000 gross vehicle weight standard should be provided from an Oregon Registered Professional Engineer. Otherwise, written verification of compliance should be provided by the applicant.

BASIS FOR RECOMMENDATIONS:

A. Water Supply

Water is a critical tool in fire suppression. Hydrants are generally not available in forested areas. Therefore, fire suppression in forested areas is dependent upon the water carried in the responding fire equipment and water sources available for refill or that can be pumped from an engine. Water available for refilling an engine can mean the difference between saving or losing a structure, or preventing a wildfire from escaping initial attack. When a fire engine or tanker runs out of water, turn around time to a refill site may be quite lengthy. A 4,000 gallon water supply is large enough to refill a large tanker or several smaller fire engines. Requiring construction of an all weather approach to within 15 feet of 4,000 gallon or larger water sources within 100 feet or less of a driveway or road will greatly help fire protection agencies.

B. Fuel Breaks

The steeper the slope, the greater the flame length, the hotter the flame front, and the faster the rate of fire spread. This greater fire activity is primarily due to preheating of the vegetation upslope from the fire, increased draft of fresh air to the fire from below, and more flame contact with upslope fuels. On steeper slopes, failure to provide for larger safety zones downslope from a residence will make it more difficult for fire personnel to protect the structure. The

firefighter is also in a more tenuous safety position.

On the last page are two graphs showing the relationships of flame length and dozer line construction speeds to slope for two fuel types. Flame lengths increase with slope and dozer fire line construction rates decrease. Other fire fighting methods such as water attack and hand line construction are also hampered by steep slopes. Generally, hand lines are useless when flame lengths reach 4 feet; dozer lines fail with 8-foot flame lengths.

C. Road & Driveway Specifications

Fire fighting apparatus (fire engines, tankers, dozer and lowboy, etc.) are much larger and heavier than personal vehicles. These vehicles

require greater road width and clearance for passage, wider road curves for turning, and level or at most moderate road grades for maintaining vehicle engine performance and driver safety.

- The 1988 Oregon Uniform Fire Codes, Chapter 10.207 specifies that all roads shall be all weather surfaced, minimum 20 feet width, and have a vertical clearance of 13' 6".

- A filled, fully equipped 3,000 gallon tanker weighs around 40,000-45,000 pounds. Many rural fire departments utilize this size tanker as a water source for the small fire engines. A minimum road surface load limit of 50,000 pounds provides for this load plus an appropriate safety margin.

- Large, heavy vehicles have difficulty driving up and down steep road grades. Additionally, most rural fire departments are principally staffed by volunteers and most forest fire agency employees are seasonal. While these people are capable drivers, very few are professional truck drivers and they may have a more difficult time maneuvering a truck up a steep winding road than would the professional driver.

- Rural address identification is extremely important. While the local resident may be familiar with the localized road or driveway system, emergency responders generally will not. Proper signing of roads and driveways with 3" or larger reflectorized letters or numbers will assist fire fighters in locating threatened residences, especially when visibility is impaired by darkness or smoky conditions.

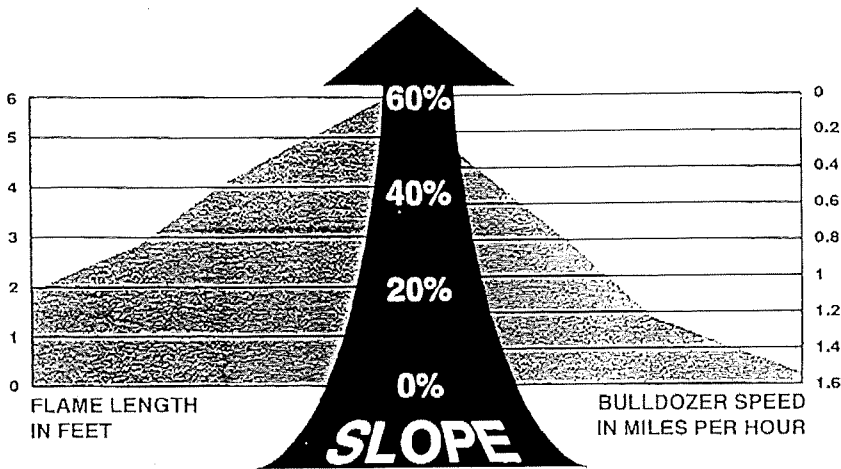
- It is very difficult to back up long distances in large fire apparatus, and this difficulty can be compounded if driveway grade is not level. Therefore, turnouts and turnarounds are very important.



The 1989 Dooley Mountain Fire threatened the residents of Baker City.

Photograph courtesy of the Democrat-Herald, Albany

The Relationship of Flame Length to Fuel Type and Slope: Two Situations

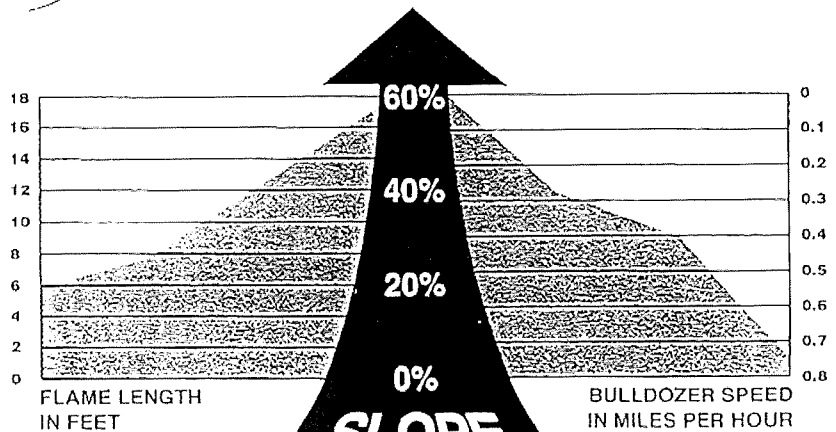
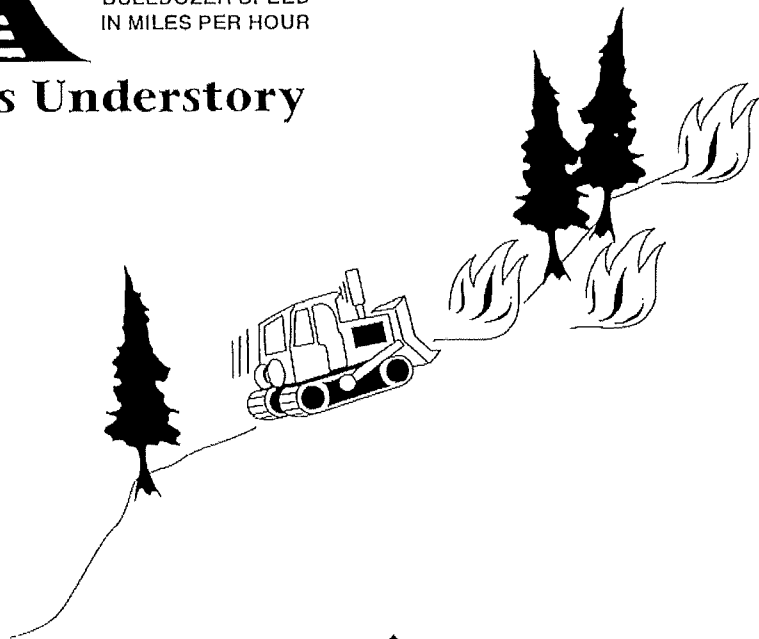


Timber with Grass Understory

These two graphs illustrate the effect of slope on flame length and bulldozer speed in two common fuel types.

In open timber with grass, flames traveling up a 20% slope can reach 3-4 feet in length. Chaparral, on the same slope, will generate flame lengths of 6-8 feet. Hand-constructed fire lines usually fail to stop fires having 4-foot or longer flame lengths. Bulldozer-constructed fire lines usually fail to stop fires having 8-foot or longer flame lengths.

Fire lines become less effective as slope increases and as fuel loads increase.



Chaparral

Information Provided By:

Oregon Department of Forestry
Resource Planning Office

Land Conservation and
Development Commission

Office of State Fire Marshal

Oregon Fire Chiefs Association

To Order Copies of This Publication
Call or Write:

Oregon Department of Forestry
Public Affairs Office
2600 State Street
Salem, Oregon 97310
503-378-2562



Oregon Department of Forestry
Resource Planning Office
2600 State Street
Salem, OR 97310

"STEWARDSHIP IN FORESTRY"

Insurance information

For questions, contact your
insurance agent



Filing a homeowner claim after a fire



Losing your home or experiencing damage after a fire can be challenging and stressful. The Division of Financial Regulation's consumer advocates are here to help you understand your insurance coverage and navigate the claims process.

If you have questions or need help with a problem regarding your claim following a fire at your home, contact the division at 888-877-4894 (toll-free) or visit dfr.oregon.gov.

What to do immediately following the fire

- If you don't have a copy of your policy, contact your agent or the company for a replacement.
- Report your claim to your insurance company or your local agent. Have a copy of your policy and home inventory on hand. If you cannot find the company or agent's number, call the division at 888-877-4894 (toll-free).
- Take reasonable steps to prevent further damage or theft, but don't rush into repairs or rebuilding before getting instructions from your insurance adjuster. Save all receipts.
- Take photos of the damage and remove undamaged personal property if your home cannot be secured.
- Do not dispose of property until your insurance adjuster has reviewed it for your claim.
- If you must find other lodging due to evacuation or damage, keep records of all expenses and receipts related to the cost of being displaced. Homeowner and renter insurance generally provides coverage for additional living expenses such as meals, rent, and transportation that exceed your normal expenses before the incident.
- If you do not have a home inventory, make a list of items by going room to room from memory. Include as much detail as possible, such as where and when the item was purchased, cost, brand name, and model.

What to expect from your company

- Your insurance company will send an insurance adjuster to survey the damage at no cost to you.
- Do not feel rushed or pushed to agree on a settlement. If there are disagreements, try to resolve them with your insurer. If you continue to have concerns about how the claim is being handled, contact the division for help.
- Your full claim may come in multiple payments. The first will likely be an emergency advance and may include additional living expenses. The payment for your personal property and any additional living expenses will be made out to you. Payments for the structure may be payable to you and your lien holder if there is a mortgage on your home.

Making repairs

- Fraudsters take advantage of the chaos following a fire. When choosing a contractor to make repairs, check licensing and references before hiring. Get licensing information from the Construction Contractors Board at www.Oregon.gov/ccb or 503-378-4621.
- Always insist on a written estimate before repairs begin and do not sign any contracts before the adjuster has examined the damage. The adjuster may want to see the estimate before you begin making repairs.
- Do not pay a contractor the full amount up front or sign over your insurance settlement payment. A contractor should expect a down payment when the contract is signed and the remainder when the work is completed.
- If the contractor finds hidden damage that was not discovered in the original assessment by the adjuster, contact your insurance company as soon as possible to resolve the difference. For any disagreements that cannot be resolved, contact the division for help with your claim.

More information

- If your insurance company delays in responding to your claim, call the claims department to find out if an adjuster has been assigned. Verify your contact details, especially if you have evacuated your home. Call the division for help if the delay is unreasonable.
- Even after settling your claim, if you think of items that were not in your initial loss list, contact your insurance company. Unless the company has paid the entire limit for the coverage of those types of items, the company may make an additional payment.
- If your damages exceed the amount of your coverage, federal agencies will occasionally provide grants or low-interest loans to help with recovery following major disasters. Check with your local disaster center or the division.

After you have rebuilt or relocated

- Once you have re-established your home, take time to do a new home inventory.
- Once you have completed the home inventory, talk with your agent to make sure your homeowner or renter insurance policy is adequate to cover your new home or the contents at your new location.

For more information, contact the
Oregon Division of Financial Regulation
888-877-4894 (toll-free), dfr.oregon.gov



FEMA

Disaster

Assistance

Information



FEMA

DISASTER ASSISTANCE

To register and follow-up inquiries, call:

1-800-621-3362

If you use a TTY: 1-800-462-7585
711 or Video Relay Service (VRS): 1-800-621-3362

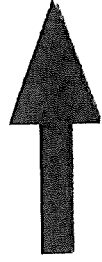
Please have the following available:

- Your address with zip code
- Condition of your damaged home
- Insurance information, if available
- Social Security number
- Phone number where you can be contacted
- Address where you can get mail or email address to receive electronic notifications

Direct Deposit: Disaster assistance funds can be sent directly to your bank account. Please provide your bank account type, account number and bank routing number.

Stay in touch with FEMA: When you register, you will be given a FEMA registration number. Write down your number and save it. You will need the number whenever you contact FEMA

**Online registration
also available**



DisasterAssistance.gov
ACCESS TO DISASTER HELP AND RESOURCES

Disaster assistance is available without regard to race, color, religion, national origin, sex, age, disability, English proficiency or economic status.

Repairing/Rebuilding After a Wildfire – Resources You Can Use

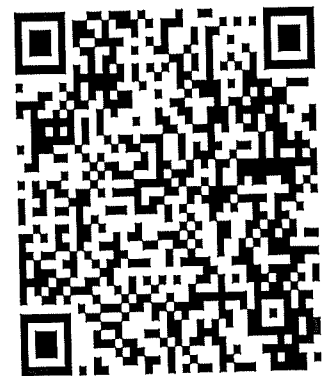
Mitigation is acting now to reduce future risk. You can repair/rebuild safer and stronger after wildfires and straight-line winds and Community Education and Outreach can help you on your recovery journey.

- Would you like information on how to make your home safer in a wildfire?
- Would you like information on how to rebuild with wildfire-resistant construction materials?
- Do you know what plants are wildfire-resistant?
- Do you have Flood Insurance?
- Do you know what is your new risk for flash flooding following a fire near you?

To Contact a Hazard Mitigation Specialist:

email us at FEMA-R10-MIT@FEMA.DHS.GOV

1. Download a FREE QR Code Reader on the Apple Store and the Play Store
2. Scan the code
3. Open the document and review the information



FEMA

FEMA FACT SHEET: DSA Teams Provide Help to Survivors Virtually and In Person

FEMA's Disaster Survivor Assistance teams provide survivors of the ongoing Oregon wildfires a means to access and apply for disaster assistance.

- The virtual response is being conducted to ensure the safety of wildfire survivors and FEMA staff in a COVID-19 environment. DSA teams will not be going door to door.
- They will operate at fixed locations such as community centers, libraries, covered parking lots, etc. The teams will follow CDC safety guidelines for COVID-19 including social distancing and use of protective equipment. Locations will be determined by local officials and near the most heavily impacted areas.

DSA helps survivors in different ways:

- Conduct outreach in Clackamas, Douglas, Jackson, Klamath, Lane, Lincoln, Linn and Marion counties.
- Assist survivors wanting to register for FEMA assistance in their communities.
- Check the status of an application already in the system and can make minor changes to applications.
- Through callouts to faith-based organizations, community-based organizations, private sector (businesses) and public libraries that may have the capability to distribute disaster-related information to survivors in the impacted counties.
- Identify organizations providing disaster-related services and/or resources to the general public for immediate and long-term recovery.
- Gather situational awareness about impacts to communities.
- Provide electronic flyers in English, Spanish and other languages explaining how to apply for disaster assistance.
- Provide civil rights and disability integration assistance information to ensure equal access.

###

Disaster recovery assistance is available without regard to race, color, religion, nationality, sex, age, disability, English proficiency or economic status. If you or someone you know has been discriminated against, call FEMA toll-free at 800-621-FEMA (3362) 711/VRS - Video Relay Service). Multilingual operators are available. (Press 2 for Spanish). TTY call 800-462-7585.

Follow FEMA Region 10 on [Twitter](#) and [LinkedIn](#) for the latest updates and visit [FEMA.gov](#) for more information.

Oregon Office of Emergency Management
3225 State St Ste 115
Salem, OR 97301

U.S. Department of Homeland Security
FEMA Region 10
130 228th Street, SW
Bothell, Washington, 98021-9796



FEMA

News Release

September 26, 2020
NR-DR-4562-OR-06
OEM News Desk: 503-373-7872
FEMA News Desk: 425-487-4610

Disaster Unemployment Assistance Available for Oregon Wildfire Survivors

SALEM, OR – Certain Oregon disaster survivors who have lost work as a direct result of the Oregon wildfires since Sept. 7 are eligible for Disaster Unemployment Assistance (DUA).

DUA benefits are available to workers in the eight Oregon counties that have been federally designated for disaster assistance: **Clackamas, Douglas, Jackson, Klamath, Lane, Lincoln, Linn, and Marion.**

DUA is funded by FEMA and administered by the Oregon Employment Department.

The purpose of DUA is to help workers whose primary incomes have been lost or interrupted by a federally declared disaster. It differs from regular state unemployment insurance because it also provides benefits to people who are self-employed, farmers, loggers and employees who work on commission. In addition, it helps those who are unable to reach their place of employment or are unable to work because of an injury as a direct result of the fires.

To receive DUA, an individual must not receive regular state unemployment, pandemic emergency unemployment compensation or pandemic unemployment assistance. Claimants must also meet normal eligibility requirements for an Oregon Unemployment Insurance claim.

The deadline to file a claim is **Oct. 23, 2020**. Required documentation, including proof of employment or self-employment at the time of the wildfires or income for 2019, must be submitted within 21 days of filing. To apply:

- Visit www.oregon.gov/EMPLOY/Disaster
- Call **503-570-5000** between the hours of 8 a.m. and 5 p.m.
- Packets are available at some evacuation sites and state WorkSource Centers.

AFTER THE FIRE

Resources for Recovery



FINANCIAL ASSISTANCE AVAILABLE FOR WILDFIRE RECOVERY IN OREGON

APPLICATIONS DUE:
OCTOBER 30 AND
DECEMBER 30

USDA's Natural Resources Conservation Service (NRCS) has funding available to help farmers, ranchers and forest landowners recover from wildfire impacts on private agricultural lands affected by the recent wildfires in Marion, Clackamas, Linn, Lane, Douglas, Jackson, Tillamook, Washington, Yamhill, Lincoln and Josephine.

**Contact Your
Local Field Office
to Learn More**

<https://go.usa.gov/xGAgz>

Eligible land includes forest, crop, range, pasture and associated agricultural land. Available conservation practices include:

- Conservation Cover
- Cover Crop
- Woody Residue Treatment
- Mulching

Find Us Online

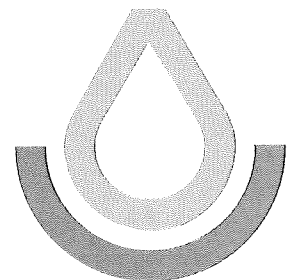
www.or.nrcs.usda.gov

Learn more about NRCS Oregon's fire assistance sign-up in the west at: <https://go.usa.gov/xGGgT>.

Assistance may also be available through the **Environmental Quality Incentives Program (EQIP)**. This program provides financial and technical assistance to agricultural and forestry producers to address natural resource concerns and deliver environmental benefits, such as improved water and air quality, conserved ground and surface water, reduced soil erosion and sedimentation, and improved or created wildlife habitat. Contact your local field office to learn more.



Sign up
online at
farmers.gov



www.or.nrcs.usda.gov

Natural Resources Conservation Service

CONTACTS

City	To contact Planning	For a new Building Permit	For an existing Building Permit
Idanha	Idanha City Hall: <u>503-854-3313</u>	Idanha City Hall: <u>503-854-3313</u>	Marion County Building Inspection: <u>503-588-5147</u>
Detroit	City Hall Temporarily Closed Number when they reopen: <u>503-854-3496</u>	City Hall Temporarily Closed Number when they reopen: <u>503-854-3496</u>	Marion County Building Inspection: <u>503-588-5147</u>
Gates	City Hall Temporarily Closed Number when they reopen: <u>503-897-2669</u>	City Hall Temporarily Closed Number when they reopen: <u>503-897-2669</u>	Marion County Building Inspection: <u>503-588-5147</u>
Lyons north of river	Marion County Planning: <u>503-588-5038</u>	Marion County Building Inspection: <u>503-588-5147</u>	Marion County Building Inspection: <u>503-588-5147</u>
Lyons south of river	Lyons City Hall: <u>503-859-2167</u>	Lyons City Hall: <u>503-859-2167</u>	Linn County Building & Planning: <u>541-967-3816</u>
Mill City	Mill City Hall: <u>503-897-2302</u>	Mill City Hall: <u>503-897-2302</u>	Linn County Building & Planning: <u>541-967-3816</u>
Mehama	Marion County Planning: <u>503-588-5038</u>	Marion County Building Inspection: <u>503-588-5147</u>	Marion County Building Inspection: <u>503-588-5147</u>
Unincorporated Marion Co	Marion County Planning: <u>503-588-5038</u>	Marion County Building Inspection: <u>503-588-5147</u>	Marion County Building Inspection: <u>503-588-5147</u>
Unincorporated Linn Co	Linn County Building & Planning: <u>541-967-3816</u>	Linn County Building & Planning: <u>541-967-3816</u>	Linn County Building & Planning: <u>541-967-3816</u>