

Prepare and Protect Your Business from Wildfire

**BE WILDFIRE
READY**

A guide to help you protect your property from wildfire.

In a wildfire event, structures are ignited by embers, flames and/or radiant heat. Embers pose the greatest threat as wind can carry them ahead of a fire front, igniting spot fires in and around buildings. In communities where structures are lost, IBHS has documented a common lack of defensible space, the presence of wooden fences or attachments to buildings, vulnerable vents, excessive vegetation, combustible construction materials, or a combination of these factors.

Start with Critical Prep!

Protecting your building from wildfire requires a system of proactive measures. By combining the following critical actions, preparing your business, and creating defensible space, you significantly improve the likelihood of your building's survival. These are the specific actions building owners can take.

1. Create a wildfire plan

- **Create a business continuity plan for wildfire**
 - Conduct a risk assessment to identify vulnerability of your facilities, identify critical assets and operational functions that could be affected.
 - Establish an emergency response team responsible for developing and implementing the business continuity plan.
 - Determine who will act for last-minute building prep to move combustible items and inventory indoors and remove tree debris from around your building.
 - Define evacuation procedures for employees and customers. Identify evacuation routes, meeting locations, and communication protocols.
 - Implement an IT data backup and recovery system off-site or utilize a cloud-based location.
 - Identify alternate facilities or workspaces where your business could operate in case the primary location becomes inaccessible.
 - Create a communication plan for employees and customers during an event. Develop procedures for sharing updates and emergency procedures.
 - Develop an employee support plan. The plan may include guidelines for remote work and resources for mental health.
 - Conduct regular training and simulation drills.
- **Know what your insurance covers and what it doesn't and be sure to document your belongings.**
- **Begin proactive critical prep to protect your home before an impending wildfire.**
- **If your business has garages, parking structure gates or roller doors, know (or ensure tenants know) how to open these doors when the power is out.**



Why?

Having a wildfire plan in place ensures the safety of you and your staff. In the event of an evacuation, a plan enables you to make time-sensitive decisions, communicate clearly, and proactively implement measures to prevent damage, safeguard important documents or equipment and reduce business disruption.

- **Stay informed:**
 - Download the FEMA App to receive alerts from the National Weather Service.
 - Sign up for community alerts in your area.
 - Enable Wireless Emergency Alerts (WEAs) on your cell phone.
- **Know what your insurance covers and what it doesn't and be sure to document your inventory and equipment.**
- **Begin proactive critical prep to your building protect your business before an impending wildfire.**

PREPARE YOUR BUSINESS

2. Check and maintain your roof and gutters

- Implement a maintenance strategy to routinely keep your roof, gutters, and downspouts clear of all debris, including leaves and pine needles.
- Ensure your roof is Class A fire-resistant rated, based on ASTM E108 or UL 790. If you cannot determine your roof cover's fire rating, discuss it with a licensed roof contractor.

Flat/Low-slope roofs:

Many flat/low-slope roof systems are Class A, but documentation is needed to confirm.

- Replace sprayed polyurethane foam (SPF) roofing with a Class A roof.
- Class A roof cover assemblies typically include stone ballasted single-ply membranes, modified bitumen and built-up roofs.
- Single-ply membrane systems are also often Class A but verification of the entire assembly and its materials should be confirmed to ensure that it meets this rating.

Steep slope roofs:

- Replace wood shake or wood shingle roofs with a Class A fire-resistant-rated roof cover.
- Class A-rated roof covers include most asphalt shingles, tile, slate, and metal roofs.
- NOTE: Any openings between the roof covering and roof deck at the roof edge and/or ridge should be plugged using a noncombustible material (i.e., bird-stopped).
- Replace domed, plastic skylights with flat, multipaned, tempered glass skylights.
- Replace plastic gutters with metal gutters such as aluminum.



Why?

Embers can travel miles ahead of a fire front, landing on your roof and in open gutters. These embers can easily ignite combustible materials like wood shake shingles and built-up tree debris.

3. Install ember-resistant vents

- Install ember-resistant vents or cover existing vents with 1/8-inch metal wire mesh.
- Clean vent screens periodically by removing accumulated debris.
- Install spark arrestors with 1/2-inch metal wire mesh screening at the outlet of all chimneys.



Why?

Wind-blown embers can enter your building through vents in the roof and walls, igniting materials inside.

4. Ensure a 6-inch vertical clearance on exterior walls

- Ensure there is a minimum of 6 vertical inches of noncombustible siding material around the base of the building and from any attached horizontal surface like a deck, ramp, patio, or balcony. Examples of noncombustible wall material include brick, stone, stucco, fiber-cement siding, and exposed concrete foundation.



Why?

Embers accumulate against buildings at the base of exterior walls and on other horizontal surfaces like decks, ramps, patios, or balconies that can ignite the building.

5. Clear and maintain building attachments

- **On top of your deck or patio**
 - Maintain your deck or patio by regularly clearing off vegetative debris.
 - Remove combustible furniture, including wood or plastic furniture.
 - Choose noncombustible furniture like metal or cast aluminum furniture.
 - Ensure any items like planters or mats are small enough to easily be moved inside on Red Flag days.
- **Underneath your elevated deck or ramps**
 - Remove anything stored under the deck or stairs.
 - Remove all vegetation—including grass or weeds—from under the deck and stairs.
- **For decks or ramps 4 feet or less (measured from the ground to the walking surface)**
 - Enclose the area underneath to keep debris and embers out by:
 - Installing 1/8-inch or finer metal wire mesh around the outer edge of the walking surface extending to the ground, or
 - Installing a noncombustible wall covering.

- **Balconies and patios**

On Red Flag Days:

- Communicate with the tenants of condos, apartments, townhomes and similar, to move ALL items from their balconies and patios indoors.
- For hotels and motels, ask staff to move all items from the balconies and patios to the interior.



Why?

Decks, ramps, patios, and balconies attached to or built near your business can provide a pathway for fire to reach your building. Reducing or eliminating the vulnerabilities of a deck, patio, or ramp—including items on top of or underneath—reduces their chance of ignition.

CREATE DEFENSIBLE SPACE

6. Create a 5-foot noncombustible buffer

It is crucial to establish a clear, noncombustible zone that extends 5 feet out from the exterior walls of your building or any nearby structures. This noncombustible area should also be created around attached decks, patios, ramps, balconies, porte cocheres and stairs and unattached structures like garbage containment and storage sheds. By implementing this zone, you can significantly reduce potential for ignition.

- **Remove all vegetation and groundcover in the first 5 feet**
 - Remove all vegetation, grass, weeds, shrubs, plants, trees, etc.
 - Remove wood mulch, pine straw, rubber mulch, or other combustible ground covers.
 - Trim back branches that overhang the 5-foot area.
 - Do not allow vines to grow on buildings, fences, or other structures within 5 feet of the building.
- **Install 5-feet of hardscape around your building**
 - Install groundcover material such as concrete, gravel, pavers, river rocks or steppingstones. Install 5 feet of hard groundcover surrounding any around attached decks, patios, ramps, balconies, porte cocheres and stairs and unattached structures like garbage containment and storage sheds.



Why?

During a wildfire, embers can travel miles ahead of a fire front and accumulate at the base of your building's exterior walls and within the first 5 feet. Anything combustible in this critical zone acts as a fuel source for ignition, increasing the risk of flames spreading to your building.

- **Replace combustible fencing within 5 feet**
 - Replace wood or plastic fencing and gates within 5 feet of the building with a noncombustible fence, such as metal (aluminum or chain link).
 - Replace combustible awnings
 - Remove combustible awnings or replace awnings with noncombustible material such as metal.
 - Maintain the Noncombustible Zone
 - Implement a maintenance strategy to keep the area clear of all tree debris, weeds, grass, and dead plant material at least monthly.
- Do not allow parking or storage of vehicles, boats, RVs, or ATVs. Ideally, vehicles stored on-site should be parked at least 30 feet away from the building.
- Do not store combustible items in this zone such as trash, cardboard boxes, wooden pallets, propane tanks, flammable liquids, etc. Small amounts of flammable liquids should be stored in fire-rated cabinets at least 30 feet away from the building.

7. Extend your Defensible Space (5-30 Feet)

o Implement a routine maintenance strategy

- Cut grass to at most 4 inches and keep watered.
- Routinely clear tree debris such as leaves and pine needles.
- Make sure areas around fences and underneath gates are clear of debris, as this is another area where embers can collect.
- Remove dead vegetation, including piles from pruning and firewood.

o Trim trees

- Remove tree branches less than 6 feet above the ground.
- Trim tree canopies to ensure at least 10 feet of horizontal space between trees.
- Work with your neighbors to address trees near the property line that affect both properties.
- Ask your power company to remove branches that are near power lines. Never attempt to do this job yourself.

o Shrubs

- Choose low growing, fire-resistant plants.
- Relocate any shrubs or bushes located under or near trees.
- Keep low growing bushes and shrubs spaced out or in small groupings (no more than 3 shrubs) that will result in a discontinuous path of vegetation.
- Remove any hedges or rows of bushes that will create more fuel and a pathway for fire to reach your structures

• Maintain structures near your building

- o Place structures at least 10 feet away from the building or from any attached structure such as a deck or accessibility ramp.
- o Create a 0-5-foot noncombustible Building Ignition Zone around each structure.
- o Install an enclosed structure for garbage containment.
- o Ensure there is a minimum of 6 vertical inches (measured from the ground up) of noncombustible material at the base of each structure, like the building. For an elevated structure, enclose the base with 1/8-inch metal wire mesh.
- o If you have multiple structures, such as garbage containment and a storage shed, ensure these structures are spaced at least 10 feet apart. Have at most 3 of these structures within 30 feet.
- o Move any large propane tanks from this zone to at least 30 feet away from your building and away from any structures.



Why?

Embers from afar can ignite spot fires near your building. Extending your defensible space to at least 30 feet by spacing out vegetation and routinely clearing tree debris will slow fire spread and reduce intensity near your building. Removing ladder fuels by spacing out bushes and trees will help as well.

These fundamental steps serve as a starting point before progressing to the next set of exterior building upgrades, which provide additional layers of wildfire protection.

Building Upgrades to Further Protect Against Wildfire

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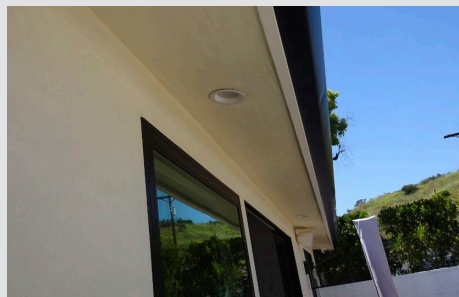
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Level Up!

After addressing the critical building prep, this group of exterior building improvements will give your structure an additional level of protection against flame exposure during a wildfire.

1. For steep-slope roofs, enclose the underside of eaves and overhangs

- Enclose eaves and overhangs on the underside by installing noncombustible or ignition-resistant soffits (e.g., a noncombustible siding material) or 2-inch or thicker lumber.
 - Remember, all soffit vents should be covered with 1/8-inch metal wire mesh.



Why?

Because of their geometry, radiant heat can build up in an open eave and ignite exposed materials. Flames from nearby fuels such as storage sheds, or vegetation can also ignite vulnerable open eaves.

2. Cover gutters

- Install noncombustible gutter guards.
- Ensure gutter covers are clear of tree debris.



Why?

Tree debris can collect in gutters providing fuel for embers to land on and ignite. When ignited, this debris could expose the fascia, roof, and attic to flames. While regularly cleaning gutters can also address this vulnerability, adding gutter covers reduces maintenance.

3. Move structures farther away from your building

- Move structures like sheds, gazebos, garbage containment, covered sitting areas, and other outbuildings at least 30 feet away from the building.
- Ensure storage of combustible materials does not exceed 10 feet in height and is located at least 50 feet away from the building.
- Store large quantities of combustible and flammable liquids at least 50 feet away from the building or in detached noncombustible buildings.
- Move LP tanks at least 50 feet from the building and other structures on the property.



Why?

Burning sheds, gazebos, and other structures increase the risk to a building because of the additional radiant heat, flames, and embers produced. Moving these accessory structures farther away better protects the building.

4. Upgrade windows and doors

WINDOWS

- Replace all exterior single pane and annealed windows with tempered, multipaned glass or glass blocks, especially first floor windows on a multi-story business.

DOORS

- Upgrade exterior personnel doors to solid exterior doors that have a metal threshold and are constructed with a noncombustible or ignition-resistant material such as metal, fiberglass, or solid hardwood.
- If you choose a door that includes glass, make sure it is made with tempered, multipaned glass.



Why?

During a wildfire, windows and doors are susceptible to flames. Upgrading windows and doors can help keep flames from entering and igniting materials inside the building.

5. Install noncombustible wall cladding

- Replace combustible wall cladding including wood, wood-fiber, or vinyl with a noncombustible material that meets ASTM E136 like concrete, brick, stucco, or stone veneer.
- Install noncombustible business name signage.



Why?

Radiant heat, embers, and flames can ignite combustible wall cladding. While the 6-inch vertical noncombustible zone protects against embers, replacing all combustible wall cladding provides greater protection against flames and radiant heat. Flames can spread across combustible wall claddings to reach other vulnerable areas—like windows, combustible signage and eaves on steep-slope roofs—and can begin a cascade of damage.

6. Enclose under extruded exterior wall

- Enclose the area underneath a ground floor exterior wall extrusions with noncombustible cladding.



Why?

The geometry of ground-level extruded walls (similar to bay windows on homes) traps heat which can ignite the building. Embers can also collect under these wall extrusions and ignite tree debris.

7. Build fire-resistant building attachments (i.e., decks, ramps, patios, balconies)

- When designing a new building attachment, use metal joists and a fire-resistant walking surface such as fire-rated composite, aluminum, or lightweight concrete.
- When retrofitting an existing building attachment, use noncombustible materials such as metal, stone veneer, or lightweight concrete to:
 - Ensure the bottom 6 inches of posts are noncombustible.
 - Select noncombustible hand railings especially in the first 5 feet attached to the building.
 - Choose a solid (no gap), noncombustible walking surface, including the stairs.



Why?

Building attachments made from combustible material are vulnerable to ignition and can be a pathway to carry fire to your building. Eliminating the combustible material reduces this risk.

8. Remove back-to-back fencing

- If you and your neighbor(s) have separate, parallel fences that are less than 5 feet apart, work with your neighbor to remove any sections of back-to-back fencing.



Why?

Back-to-back fences can trap debris between them, creating a susceptible fuel bed for embers to ignite both fences. The two fences together provide greater fuel for a more intense fire.

9. Improve site access and fire-fighting capabilities

PROVIDE PROPER BUILDING IDENTIFICATION

- Building identification should be provided at each vehicle access entrance and should be visible from both directions of travel.
- Street numbers should be at least 4 inches high, reflective, and applied on a contrasting background.

ENSURE PROPER EMERGENCY VEHICLE ACCESS

- Entrances and driveways should be at least 12 feet wide with at least 13.5 feet of vertical clearance between the roadway and vegetation.
- The angle of approach and departure should be designed to allow for emergency vehicle access without damaging the equipment when entering or leaving the driveway.

ACCESS FOR GATED PROPERTIES

- The gate should open inward and have an entrance at least 2 feet wider than the driveway.
- Locate gates at least 30 feet from a roadway intersection.
- If secured, the gate should have a key box or lock of a type approved by the local Authority Having Jurisdiction (AHJ).

FIRE HYDRANTS

- Place fire hydrants within 250–500 feet from the building and connect them to a reliable public or private water supply.
- If there are no fire hydrants within 500 feet of the building, contact the fire AHJ, or the local water department to find alternatives.



Why?

When there is an emergency you will want to make sure emergency services personnel can quickly locate your building to render services.

10. Work with your neighbors and community

- Talk to your neighbors and other business owners about wildfire, what you've proactively done and how they can make improvements.
- Work with community-organized fire safe councils to help spread the message and prepare for wildfire at scale.



Why?

Communities are growing and businesses are likely near suburban neighborhoods. This makes working with neighbors vital. No matter how well-prepared your property may be, it is not immune to fire if a neighboring business or neighborhood catches fire. What your neighbors have on their property will likely affect what will happen to yours.