



# Oregon Coast Hospitality Disaster Planning Guidebook



Oregon Office of Emergency Management

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# Welcome to your guidebook

This guidebook is intended to provide an easy to follow guide to developing a disaster plan for your business. While this guide will get you started, it is not all inclusive of the information available for disaster planning. At the end of this guidebook, there are additional resources that can be accessed to aid in your disaster planning.

## About Oregon Office of Emergency Management

The purpose of the Office of Emergency Management is to execute the Governor's responsibilities to maintain an emergency services system as prescribed in ORS 401 by planning, preparing, and providing for the prevention, mitigation, and management of emergencies or disasters that present a threat to the lives and property of citizens of and visitors to the State of Oregon.

## Preparedness Questionnaire

Throughout this guidebook, there is a preparedness questionnaire for you to use. As you work through the book and answer the questionnaire, you will develop most of the content for your emergency disaster plan. There is a separate editable document that you may receive that allows you to type in the answers to make the process easier.

There are removable pages at the end of this guidebook for emergency telephone numbers and emergency utility shutoff access. Along with the removable pages, there is a resource list of more information about preparing your facilities and an emergency supply checklist for disasters at the back of this guidebook.

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# Hazards and Disasters in Oregon

## Natural hazards don't have to be disasters.

Oregon is at risk from many different hazards that can result in major disasters. While it is not possible to prevent natural hazards from occurring, it is possible to be prepared for them. Being prepared for the hazards helps reduce the impact of the disaster on individuals, businesses, and communities. A natural hazard does not have to lead to a disaster. Proper planning and preparations can keep disaster from closing your business. The goal of this program is help you to open your doors to visitors sooner after a natural hazard event and preventing it from being disastrous to your business. Some key natural hazards that can occur in Oregon will be explained throughout the following sections, including basic safety measures specific to the disaster that can be taken before, during, and after an event.

## Why emergency planning is important for your business.

Natural disasters affect everyone in their path. Businesses, large and small, are affected as well. Consequences from natural disaster can be long-lasting, and to some businesses, fatal. Small businesses are especially vulnerable to natural disasters because so few small business owners take the time to create an emergency or disaster recovery plan. When you complete the program outlined in this guidebook, you will have much of the work needed to make your business better able to respond to and recover from a major natural disaster.

## Who is responsible for planning and training in the business?

Many factors will influence who takes responsibility for creating emergency plans for your business depends on many factors. Many small businesses only have a few employees, all of whom wear many hats. "Safety Officer" is likely to be just another thing added to an already full plate. So this program is designed to get you started in planning and to give you the tools needed to continue to improve your business' ability to respond to and recover from natural hazards.

Once the individual or group tasked with developing the emergency plans has been designated, have the owner or manager fully support the process. This is very important in ensuring that necessary actions are taken to develop the plan and then to implement it.

## Analyze your business emergency preparedness needs

Listed below are steps to take begin your emergency preparedness efforts.

### Define the hazards

There are resources you can use to find out what kind of natural hazards your business may be vulnerable to. A good place to start is contacting your local emergency management agency. They may be able to give you guidance on the most damaging hazards in your area. This guide book will focus on a few key hazards:

- a. Individual Business Disasters
- b. Earthquake
- c. Tsunami
- d. Volcanic Eruption
- e. Severe Weather
- f. Floods and Flash Floods
- g. Wildfires

More information on these hazards can be found later in this guidebook. You are encouraged to seek out additional information on these hazards and how your business can best implement emergency planning in order to respond to and recover quickly from a natural disaster.

### Identify internal processes

Your business has an internal process that governs its day to day operations. Emergency planning can become one of those day to day things that are regularly scheduled and accomplished. Your emergency preparedness activities don't have to be completed all at once, but can best be done over time. Examine ways that emergency planning can be integrated with your regular activities.

### Identify internal resources

You probably already do many of the things needed to become better prepared. It will just take a few adjustments to how you think about preparedness to really strengthen your ability to respond and recover quickly from emergencies.

### Develop the plan

Using this guidebook, and connecting with your local emergency management agencies and first responders, you will have the opportunity to create an emergency preparedness plan for your business. While some natural hazards require specific planning and training, there are some common areas.

There are some basic safety actions that are the same regardless of the disaster.

#### Basic Safety Actions

1. Monitor NOAA Weather Radio or local radio stations for emergency alert notifications.
2. Have staff notify all guests when emergency conditions are expected to occur or are happening.
3. Keep telephone lines open for emergency use.
4. In the event of evacuation, have front-desk staff take the facility emergency plan, guest registration book or file, and emergency reports to the assembly point.

## Implement the plan

Once you have developed the emergency plan for your business, it is very important to train your employees and management. You will find that some of the processes or resources need to be adjusted as you move forward. This is to be expected. Your plan will develop over time and as you have more experience in emergency training.

## Enhance the plan

Think about sponsoring additional training for your staff and management. Your local first responders or the American Red Cross often offer training in first aid and Community Emergency Response Teams (CERT). By participating in your local community efforts to prepare for natural disaster, you are giving your visitors and guests the reassurance that you will be able to protect them in any emergency situation.

The following section will outline activities and planning strategies for specific natural hazards and emergencies. Take the time to answer the questions as you go along. By the time you get to the end of the guidebook, you will have the basis for a robust emergency plan ready for you to refine and implement.

# Preparedness Questionnaire: General

## General Questions

1. Is my facility within the inundation zone for a local tsunami? Yes No
2. Is my facility within the inundation zone for a tsunami from a distant earthquake? Yes No
3. How long does it take to walk from my facility to an area outside of the tsunami inundation zone?  
\_\_\_\_\_  
\_\_\_\_\_
4. Where is the community designated assembly area for tsunami evacuations that is closest to my facility?  
\_\_\_\_\_  
\_\_\_\_\_  
a. If there is no community designated assembly area near my facility, where is the nearest safe-area where my staff and guests will be told to assemble?  
\_\_\_\_\_  
\_\_\_\_\_
5. What is the most direct walking evacuation route to the nearest community designated assembly area?  
\_\_\_\_\_  
\_\_\_\_\_  
a. Does this route cross any bridges that might not withstand the earthquake?  
Yes No  
b. What is an alternative evacuation route, if the most direct route is blocked or otherwise unusable?  
\_\_\_\_\_  
\_\_\_\_\_
6. Does my facility have a NOAA weather radio? Yes No  
a. Where is it located and how will it be monitored for announcements?  
\_\_\_\_\_  
\_\_\_\_\_  
b. If no, does it have a battery-powered radio? Yes No  
i. If yes, where is it located?  
\_\_\_\_\_  
\_\_\_\_\_
7. How will my staff contact me or other managers in case we are away from the facility during the tsunami evacuation or other emergency?  
\_\_\_\_\_  
\_\_\_\_\_



8.	Does my facility have a disaster kit?	Yes	No
	a. If yes, what does the kit contain?		
	b. If yes, where is it located?		
	c. If yes, is it easily accessible if my facility is within the inundation zone?	Yes	No
	d. If yes, will it be accessible after a major local earthquake?	Yes	No
9.	What agency is responsible for emergency management in the local area of my facility?		
10.	What is the contact information for that agency?		

# Preparing for All-Hazards

## Individual Business Disasters

Every business has the potential for disasters or emergencies to occur on their facilities and not impact an entire community. These disasters or emergencies could include facility fires, ruptured water or sewer lines, road closures, and medical emergencies. The impacts for each of these will be different, but taking the steps now to plan and prepare will lessen the impacts. As part of your hazard analysis, determine how they will impact your business if one occurs.

- Could your facility handle a water main rupturing on your facility and the loss in revenue due to down time?
- What about the impacts of a structural fire?
- What are fire safety procedures?
- Where are the water and gas shut off valves for your business?
- Do you have off-site facility that can act as a backup location?

## Focus on prevention

The very best way to avoid an emergency is to make sure it doesn't happen in the first place.

- Regularly check your facility for safety issues and regularly test fire prevention and safety systems.
- Establish an evacuation plan for fire and practice how to respond with your employees and management. No one is too important that they get a free pass on fire safety day.
- Keep an updated list of emergency contact numbers in a key location on-site and off-site. Include a list of your suppliers, vendors and distributors.
- Protect your important documents and records. Back up electronically off-site.
- Purchase the appropriate insurance for the hazards in your area. Speak to your insurance agent about how best to insure your business. Did you know that the FEMA Flood insurance program covers tsunami damage?

On the following pages is information about community wide impacting disasters.

# Earthquake

Off of the beautiful Oregon coast lies the Cascadia Subduction Zone capable of producing megathrust earthquakes. The Cascadia Subduction Zone is where two tectonic plates meet with the Juan de Fuca plate diving under the North American plate. Currently, the leading edge of the North American plate has become locked against the subsiding Juan de Fuca plate. This zone stretches from Northern California up to British Columbia for about 600 miles and runs almost parallel to the Pacific Northwest's Pacific coastline for the entire length.



## What is an earthquake?

An earthquake is caused by a sudden slip on a fault. Earth's tectonic plates are always slowly moving, but they get stuck at their edges due to friction. When the stress on the edge overcomes the friction, there is an earthquake that releases energy in waves that travel through the earth's crust and cause the shaking that we feel (U.S. Geological Survey).

There are three main types of earthquakes that can occur.

- **Deep/Intraplate** earthquakes are usually less than M7.5 and typically occur deep in the subsiding plate. These earthquakes occur every 10-30 years. They tend to do less damage overall because the energy has time and space to disperse before encountering the surface. There are also few, if any, aftershocks that occur. Generally speaking these quakes do not generate a tsunami, but could trigger a landslide that could cause a local tsunami.
- **Shallow/Crustal** earthquakes are caused by the edges of the crustal surface sliding against each other. Magnitude is usually less than magnitude 7.4. These tend to be short duration (20-60 seconds) earthquakes, with many aftershocks, and no expected tsunami. Throughout the Pacific Northwest, small shallow earthquakes are recorded every day.
- **Subduction zone** earthquakes are in the boundary where two tectonic plates collide and, because of differences in density, one dives beneath the other. This occurs frequently where an oceanic plate meets a continental plate. The denser and thicker oceanic plate is shoved underneath the less dense continental plate. When subduction zone earthquakes release their energy, we end up with megathrust M8.0+ earthquakes that can last for several minutes. These earthquakes also can create a tsunami wave. Tsunamis will be discussed in the next hazard section.

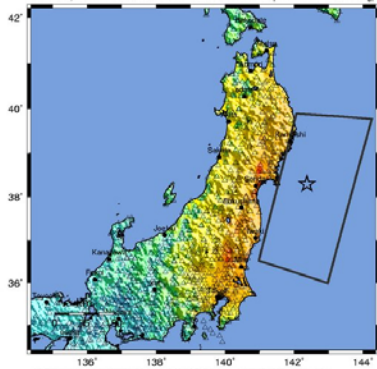
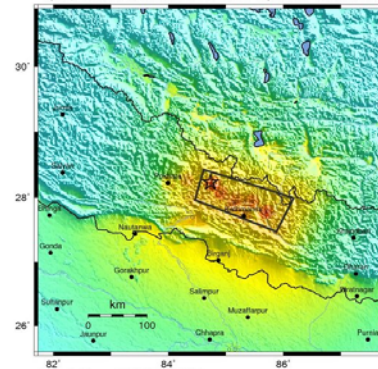
## Magnitude vs Intensity

It is important to understand the differences between magnitude and intensity as the effects of two different magnitude earthquakes can have similar damage due to the differences in the built environment and the preparedness of the population. The intensity is applicable to a certain point on the map and the effects on the population there. The magnitude helps inform about the size and scope of the earthquake.

Magnitude is the maximum motion at the epicenter of an earthquake. This is measured with a seismograph and reported along a magnitude scale, like the Richter magnitude or moment magnitude. Magnitude is defined as a number. Magnitude does not encompass the impacts on people or structures.

Intensity measures the amount of shaking at a particular location. This is measured with intensity scales like the Modified Mercalli Scale and the Rossi-Forel scale. Intensity scales use Roman numerals to define shaking. The intensity can vary depending on where a person is at the time that they feel the earthquake. The intensity scales also aim to describe the effects on the land surface, humans, and structures.

An example comparison of the impact is between the 2011 Japan earthquake and the 2015 Nepal earthquake.

	Japan	Nepal																																																																																																																								
Date of Event	March 11, 2011	April 25, 2015																																																																																																																								
Magnitude	M9.0	M7.8																																																																																																																								
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Shake Maps	<p>USGS ShakeMap : NEAR THE EAST COAST OF HONSHU, JAPAN Fri Mar 11, 2011 05:46:24 GMT M 9.0 N26.30 E142.37 Depth: 28 km ID:s0001kgo</p>  <p>Map Version 14 Processed Thu Aug 18, 2011 06:20:47 AM NOT - NOT REVIEWED BY HUMAN</p> <table><tr><th>PENETRATED BUILDING DAMAGE</th><th>Not felt</th><th>Weak</th><th>Light</th><th>Moderate</th><th>Strong</th><th>Very strong</th><th>Severe</th><th>Violent</th><th>Extreme</th></tr><tr><td>POTENTIAL DAMAGE</td><td>none</td><td>none</td><td>none</td><td>Very light</td><td>Light</td><td>Moderate</td><td>Moderate-heavy</td><td>Heavy</td><td>Very Heavy</td></tr><tr><td>PEAK ACC (mg)</td><td>&lt;.17</td><td>.17-1.4</td><td>1.4-3.0</td><td>3.0-6.2</td><td>6.2-18</td><td>18-34</td><td>34-65</td><td>65-124</td><td>&gt;124</td></tr><tr><td>PEAK VEL (cm/s)</td><td>&lt;0.1</td><td>0.1-1.1</td><td>1.1-3.4</td><td>3.4-6.1</td><td>6.1-18</td><td>18-37</td><td>37-60</td><td>60-118</td><td>&gt;118</td></tr><tr><td>PEAK DISP (cm)</td><td>&lt;.1</td><td>.1-1.1</td><td>1.1-3.4</td><td>3.4-6.1</td><td>6.1-18</td><td>18-37</td><td>37-60</td><td>60-118</td><td>&gt;118</td></tr><tr><td>INTENSITY</td><td>I</td><td>II-III</td><td>IV</td><td>V</td><td>VI</td><td>VII</td><td>VIII</td><td>IX</td><td>X</td></tr></table>	PENETRATED BUILDING DAMAGE	Not felt	Weak	Light	Moderate	Strong	Very strong	Severe	Violent	Extreme	POTENTIAL DAMAGE	none	none	none	Very light	Light	Moderate	Moderate-heavy	Heavy	Very Heavy	PEAK ACC (mg)	<.17	.17-1.4	1.4-3.0	3.0-6.2	6.2-18	18-34	34-65	65-124	>124	PEAK VEL (cm/s)	<0.1	0.1-1.1	1.1-3.4	3.4-6.1	6.1-18	18-37	37-60	60-118	>118	PEAK DISP (cm)	<.1	.1-1.1	1.1-3.4	3.4-6.1	6.1-18	18-37	37-60	60-118	>118	INTENSITY	I	II-III	IV	V	VI	VII	VIII	IX	X	<p>USGS ShakeMap : NEPAL Apr 25, 2015 06:11:25 UTC M 7.8 N28.23 E84.73 Depth: 8.2 km ID:us20052926</p>  <p>Map Version 9 Processed 2015-07-02 22:51:18 UTC</p> <table><tr><th>PENETRATED BUILDING DAMAGE</th><th>Not felt</th><th>Weak</th><th>Light</th><th>Moderate</th><th>Strong</th><th>Very strong</th><th>Severe</th><th>Violent</th><th>Extreme</th></tr><tr><td>POTENTIAL DAMAGE</td><td>none</td><td>none</td><td>none</td><td>Very light</td><td>Light</td><td>Moderate</td><td>Mod-heavy</td><td>Heavy</td><td>Very Heavy</td></tr><tr><td>PEAK ACC (mg)</td><td>&lt;0.05</td><td>0.3</td><td>2.8</td><td>6.2</td><td>12</td><td>22</td><td>40</td><td>75</td><td>&gt;150</td></tr><tr><td>PEAK VEL (cm/s)</td><td>&lt;0.02</td><td>0.1</td><td>1.4</td><td>4.7</td><td>9.8</td><td>20</td><td>41</td><td>86</td><td>&gt;178</td></tr><tr><td>PEAK DISP (cm)</td><td>&lt;.1</td><td>.1</td><td>1.4</td><td>4.7</td><td>9.8</td><td>20</td><td>41</td><td>86</td><td>&gt;178</td></tr><tr><td>INTENSITY</td><td>I</td><td>II-III</td><td>IV</td><td>V</td><td>VI</td><td>VII</td><td>VIII</td><td>IX</td><td>X</td></tr></table>	PENETRATED BUILDING DAMAGE	Not felt	Weak	Light	Moderate	Strong	Very strong	Severe	Violent	Extreme	POTENTIAL DAMAGE	none	none	none	Very light	Light	Moderate	Mod-heavy	Heavy	Very Heavy	PEAK ACC (mg)	<0.05	0.3	2.8	6.2	12	22	40	75	>150	PEAK VEL (cm/s)	<0.02	0.1	1.4	4.7	9.8	20	41	86	>178	PEAK DISP (cm)	<.1	.1	1.4	4.7	9.8	20	41	86	>178	INTENSITY	I	II-III	IV	V	VI	VII	VIII	IX	X
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While Nepal had a much smaller earthquake in magnitude (M7.8), the intensity for it was similar to what Japan had in 2011 with a larger earthquake (M9.0). Most of the damage and loss of life in Japan was due to the tsunami along the coast. Our built environment plays a huge role in the survivability of our communities.

## Aftershocks

Aftershocks are earthquakes that can occur after the initial shock. They are smaller than the main earthquake, but can still be very large. Aftershocks can continually occur for days, months, or years. General rule of thumb is the larger the main earthquake, the larger and more numerous the aftershocks, and the longer they can occur.

## Preparing for an earthquake

- Reduce your risk and liability.
  - Look around your facility to secure heavy objects and possible falling items that could injure employees and guests.
  - Fasten large appliances or furniture like refrigerators and bookshelves to the walls.
  - Put locks inside cabinets to keep them from opening and items falling out.
  - Consider retrofitting your facility to current building standards to prevent building collapse.
- Look for safe places to take cover in areas around the facility.
- Practice getting to those safe places with drills and exercises. Build muscle memory so when an earthquake happens your body will remember for you. Participate in drills such as tsunami evacuation drills and the Great Oregon ShakeOut in October.
- Have an emergency supply cache for up to 2 weeks for employees and guests.
- Have a plan with meeting places and multiple communication plans.
- Know the location of assembly area locations.
  - Have a mobile emergency kit to take with you in case you need to evacuate.

## During an earthquake

- Drop, Cover, and Hold On
  - Most earthquake injuries are caused by falling objects like lamps, furniture/appliances, ceiling tiles, etc.
  - Get under a table or other sturdy furniture. Stay away from windows or glass objects. Be ready to move with the furniture.
- Use caution exiting buildings as the greatest danger exists directly outside buildings and along exterior walls. Many fatalities occur due to falling debris when people run outside.
- While driving:
  - Stop the vehicle safely and stay inside.
  - Avoid parking near a bridge, trees, utility wires, and buildings.
- When outdoors:
  - If you can, get away from buildings, trees, wires or any potential falling objects.
  - If you can't (like in a city), duck into a building as quickly as possible to avoid falling debris.

## After an earthquake

- If in a tsunami hazard zone ...
  - Follow the directions for a Local Tsunami.
- If outside a tsunami hazard zone ...
  - Once the shaking stops, see if there is a safe path away from damaged areas. If there is, head for safety.
    - Do not return until officials tell you it is safe to return.
  - Advise all guests and staff to use the stairs and not the elevators.
  - Be careful entering buildings and stay away from downed power lines.
  - Inspect buildings. Look for gas leaks, broken pipes, and electrical system damage. These can pose a fire danger and other hazards, so if one is broken shut down that system until it can be repaired. Clean up broken glass and debris.
    - Restrict access to damaged areas.
    - Do not flush toilets until sewer lines and pipes are inspected.
  - If in a tsunami inundation zone (Oregon Coast) head for higher ground as soon as possible.
  - If you or others are trapped do not move around and kick up dust.
    - If possible attempt to call for help with a cell phone.
    - Tap on a pipeline or wall to alert others of your whereabouts.
  - Check yourself and others for injuries.
  - Use the phone only if it is an emergency to call 9-1-1. Phone lines will either be down or very busy, so limiting the amount of traffic allows for emergency calls to possibly go through.
  - Once safe, monitor news (radio, TV, social media etc.) for emergency information.
  - Be prepared for aftershocks and Drop, Cover, and Hold On again when one occurs.

# Tsunami

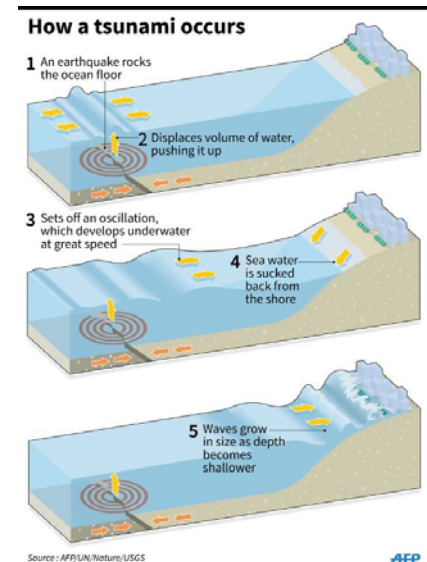
Tsunamis are a series of large sea waves usually produced by movement of the ocean, such as an undersea earthquake. In deep water, tsunamis are hardly noticeable waves moving at about 500 miles per hour. As the wave gets closer to land and the ocean depth decreases, the wave height will increase.

## Facts about tsunamis:

- Tsunamis can occur day or night, 365 days a year.
- A tsunami contains a series of waves, where the first wave may not be the largest.
- The danger can last for several hours, even between waves.
- Large aftershocks can cause another tsunami to occur.

## Local Tsunami

A local tsunami is generated from undersea earthquakes that happen close to the Oregon coast. Primarily the focus on this type is in conjunction with a Cascadia Subduction Zone earthquake as described in the previous section. The last local tsunami that occurred was in 1700. This tsunami destroyed coastal communities of Native Americans and immediately decimated forests.



## Distant Tsunami

A distant tsunami is generated from an undersea earthquake that occurs further away from the Oregon coast. The closest area that is able to generate a distant tsunami is the Aleutian Trench near Alaska. Tsunamis can reach Oregon from as far away as Japan, Chile, and other areas around the Pacific rim of tectonic plates. In general, these tsunamis do not create as high of a wave or are as impactful as a local tsunami would be, but they still carry significant amount of energy and force with them.

Here are two examples of distant tsunamis and their impacts:

- In 1964, Alaska experienced a 9.2 magnitude earthquake in the Aleutian Trench. This earthquake created a tsunami wave that reached the Oregon coast in about 4 hours and was as high as 10 feet in some areas. The tsunami itself caused an estimated \$750,000 to 1 million dollars in damage in Oregon (cost not adjusted for inflation).
- In 2011, Japan experienced a 9.0 magnitude earthquake in the subduction zone off their coast. The earthquake sent a tsunami wave across the Pacific Ocean to the West Coast of the United States that reached the coastline in about 9 hours. When this tsunami wave reached the coastline here, it was about 4 feet high and caused billions of dollars in damage, primarily in harbors, along the coast.

## Distant Tsunami Emergency Notifications

**It is critical to understand that if a local Cascadia earthquake is occurring there will not be time to issue an emergency notification. You must get to high ground as quickly as possible. The longer you wait to get to high ground during a local event the less likely you are to reach safety in time.**

For a distant tsunami, emergency notifications are automatically issued based on the size of an earthquake and then refined once more information arrives.

There are many ways that you can use to be informed of possible emergency alerts. Have redundant methods of receiving emergency information.

Here are several methods for staying informed during emergencies:

- National Weather Service radios.
- Local mass notification systems.
  - Contact your local emergency management agency to sign up for this notice.
- Follow local responders and emergency management agencies on social media.
- Tune in to the local radio and television stations designated as emergency information providers.
- Use smart phone apps and online alert systems.

The tsunami alert levels are:

- **INFORMATION BULLETIN**
  - No action suggested, minor waves at most
- **ADVISORY**
  - Possible dangerous currents, move off the beach and stay out of the water
- **WATCH**
  - Potential danger is possibly going to occur and stay alert for more information
- **WARNING**
  - DANGER! Flood wave possible, go to designated assembly area, follow emergency instructions, and don't evacuate if you don't need to.
  - Danger is occurring at that moment

It is most likely that in the event of a necessary evacuation in the case of a distant tsunami, you will have many hours before your facility must be evacuated. Take this time to verify information with local emergency officials so that your guests are safely evacuated.

Plan for how you will re-open after the evacuation has been cancelled. There will not be an "all-clear", but officials will allow cautionary re-entry after the tsunami warning or advisory has been cancelled. There may be a delay of at least one full tidal cycle after the cancellation to allow for the return of safe seas.



## Safety Actions during a Tsunami

### Local Tsunami

- Signs of locally generated tsunamis:
  - Strong ground shaking
  - Water may withdraw from the shoreline
  - A loud ocean roarIf you experience any of these signs, IMMEDIATELY evacuate to higher ground. This is your only warning signal. **DO NOT** wait for sirens or official evacuation announcements.
- Follow evacuation routes indicated by the Tsunami Evacuation Route signs.
- If people seem not to know what to do, tell them what is happening and help get them to safety.
- If you are unable to get far enough inland quickly, multi-story buildings may provide a safe place if you are able to get to the highest floor possible. However, most buildings will not withstand the impact from a tsunami and should be considered a very last resort.

### Distant Tsunami

- Help local officials by communicating with your guests to stay clear of the low lying land and off beaches until cautionary re-entry is allowed.
- Monitor the NOAA Weather Radio for updates on the tsunami.
- Stay away from low-lying areas, such as the beach, rivers, and streams during a tsunami warning or advisory.

## After a Tsunami

- Return only when officials inform you it is safe to do so.
- Check yourself and others for injuries.
- Help people who require special assistance, such as infants, elderly people, and people with disabilities.
- Watch out for animals. Tsunami floodwater can wash snakes and other animals out of their homes.
- Avoid using the telephone, except for emergency calls.
- Stay out of buildings that have flood water around them. Floors and walls can crack or collapse due to tsunami wave damage.
- Use only battery-operated lighting when inspecting buildings as gas leaks may occur.
- Inspect buildings. Look for gas leaks, broken pipes, and electrical system damage. These can pose fire hazards and other dangerous conditions. If there is any damage to any of the systems, turn off that system until it can be repaired. Clean up broken glass and debris.
  - Safe water can be obtained from undamaged water heaters only. Otherwise do not assume that the water is safe to drink.

# Volcanic Eruption

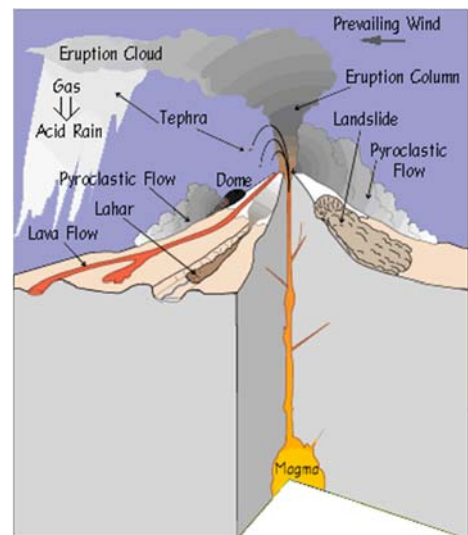
Oregon's scenic views of the Cascade Mountain Range is dotted with volcanoes. Volcanoes are created from the movement of tectonic plates, just like earthquakes. Magma from deep within the Earth makes its way to the surface. This magma can be seen in lava flows and ash deposits. Occasionally, volcanoes have explosive eruptions. The Cascade range volcanoes tend to have two eruptions per century. The most recent eruptions were Mount St. Helens, Washington (1980-86, 2004-8) and Lassen Peak, California (1914-17).

The impacts of a significant volcanic eruption can be felt for hundreds of miles with ash being carried through the air; and lahar and pyroclastic flow entering the waterways, disrupting natural habitats, and blocking river flow. Following Mount St. Helens' eruption in the 1980s, ash was detected around the globe within 2 weeks.

Unlike earthquakes, volcanoes tend to provide precursor activity to an eruption. Volcanoes are actively monitored for movement throughout the Pacific Northwest by the U.S. Geological Survey. It is unlikely that a volcano will impact the coast of Oregon, but it is possible and should be included in your natural hazards planning.

## Volcano Terms

- **Volcanic Gas:** gases released from magma during eruptions, can contain steam, carbon dioxide, sulfur dioxide, hydrogen chloride, and other compounds
- **Pyroclastic flow:** avalanche of hot ash, pumice, rock fragments, and volcanic gas that rushes down the side of a volcano, can move at 60mph
- **Lahar:** mixture of rock debris and water rapidly flowing, formed typically by rapid melting of snow and ice by pyroclastic flows
- **Lava Flow:** masses of molten rock that pour onto land surfaces during an eruption



Source: U.S. Geological Survey

## Before an Eruption

- Know where to get information about current activity.
  - NOAA Weather Radio
  - Emergency Alert System (EAS) messages on radio or TV
  - Volcano Updates at <http://vulcan.wr.usgs.gov>
- Maintain your facility's emergency supply stock.

## During or After an Eruption

- Follow official orders about evacuation or sheltering-in-place, and advise guests to follow official recommendations as well.
  - If evacuating, front-desk staff should take the guest registration, emergency reports, and the facility's disaster plan with them to the safe site.
- Avoid driving in ash unless absolutely necessary. If you must drive in it, drive slowly with windows up, vents closed, headlights on, and using windshield washer fluid.
- If you must go outside with ash in the air, wear a breathing mask to limit inhalation of ash and other particles.
- Close all windows, doors, and ventilation systems to help prevent ash from entering your facility.
- Listen to radio, TV, and weather radio for updates and instructions from authorities.
- Once the danger has passed, organize crews to inspect the facilities and begin clean-up.
- If you are in an area where lahar is occurring in a valley near a volcano, get to high ground.

To learn more about volcanoes, go to <http://vulcan.wr.usgs.gov/>.

# Severe Weather

Severe weather can occur throughout the year. The hazards include thunderstorms, tornadoes, high winds, floods and flash floods from intense rain or rain on snow events, snow, freezing rain, coastal flooding and tidal overflows from extreme wave action, and extreme heat. The primary sources of information about severe weather and flood conditions will be the National Weather Service, your local emergency management office or the NOAA Weather Radio.

## Emergency Notifications

The National Weather Service (NWS) issues alerts for severe weather conditions. The primary notifications are watch and warning. There also may be an advisory notification issued.

- **ADVISORY**
  - Severe weather conditions are expected and may be hazardous.
- **WATCH**
  - A severe weather event could happen within the next 48 hours. Be aware and be ready to act immediately if need be.
  - Review your plan and supplies. Monitor NOAA Weather Radio, local radio, and/or television stations for information and alert notifications.
- **WARNING**
  - A severe weather event is imminent or occurring. Take action immediately if advised to.

## Before the storm

- Maintain an up-to-date Emergency Telephone Contact sheet.
- Secure loose items that are outside, such as patio furniture.
- Listen to your NOAA Weather Radio, commercial radio and television for the latest alerts from the National Weather Service and local emergency management agencies.
- Maintain your emergency supply stock.

## During the storm

- Limit driving and outdoor activity.
- When using alternate heat from a fireplace, wood stove, space heater, etc. use fire safeguards and ventilate properly.
- If power goes out,
  - Close off unneeded rooms, stuff towels in cracks under doors, and cover windows at night to limit heat escaping.
  - Conserve water, especially if your facility uses a well.
  - Keep refrigerator and freezer doors closed.
  - Try not to use a kerosene heater, gas lantern, or stove indoors. If you must, maintain ventilation to avoid toxic fumes building up.

- Have a supply of glow sticks and battery-operated flashlights for alternative lighting.
- Consider purchasing a generator. This becomes essential if someone requires electricity to run life-sustaining equipment.
- Register life-sustaining and medical equipment with your utility company.
- Check neighboring facilities to determine if you are the only one without power. If you are, check the fuse box or circuit breaker panel. Turn off appliances before resetting circuits or replacing fuses.
- Have a corded telephone available as cordless phones will not work when the power goes out.
- During windstorms, stay indoors as falling trees or blowing debris can cause fatalities. Also, secure loose objects as they can become flying projectiles.
- Know if anyone in your facility may need special assistance during the storm, such as the elderly, disabled, or non-English speaking people.

### During Severe Heat Waves (or heat episodes)

- Recognize the first signs of heat illness (dizziness, nausea, headaches, muscle cramps). If these occur, move the person to a cooler location, have them slowly drink a cool electrolyte-containing fluid, and put cool washcloths on them. Call 9-1-1 if the person does not feel better within a few minutes. Watch for signs of worsening conditions.
- Encourage guests to stay indoors and in an air-conditioned environment as much as possible.
- Provide plenty of fluids, but avoid alcohol, caffeine, or lots of sugar.
- Try to cover windows that receive morning and afternoon sun. By using awnings or louvers, heat entering a building can be reduced by as much as 80 percent.
- Avoid working outdoors during the hottest part of the day.
- Never leave children or pets alone in enclosed vehicles and encourage guests not to either.

# Floods and Flash Floods

Floods are one of the most common disasters that occur in the United States. There are two types of flooding: slow-onset and rapid-onset. Traditional flooding are slow-onset situations and normally take a few days to a week to develop. These floods can take months before floodwaters recede completely. Flash floods are rapid-onset, caused by periods of extremely heavy rain, or when levees, dams, ice jams, or water systems break. Flash floods can take a few hours to a few days to form with floodwaters receding within a few days.

## Emergency Notifications

The National Weather Service (NWS) issues alerts for flood and flash flood conditions. The primary notifications are watch, warning, and evacuation notice.

- **WATCH**
  - A flood could happen with additional rainfall. Be aware and be ready to evacuate immediately if need be.
  - Review your plan and supplies. Monitor NOAA Weather Radio, local radio, and/or television stations for information and alert notifications.
- **WARNING**
  - A flood is imminent or occurring. Immediately evacuate if advised to.
- **EVACUATION NOTICE**
  - Issued when danger is significant. Issued by local authorities.
  - Evacuation notices could be issued to advise citizens to get ready (pack supplies and monitor information sources), to get set (ready to leave at a moment's notice), or to go (evacuate the area immediately).

## Preparing for a flood

- Maintain your emergency supply stock.
- Have a plan with meeting places and multiple communication plans.
- Know if your facility is in the flood plain area or a tsunami inundation zone.
- Consider taking mitigation measures if your facility is in a flood plain. Measures can include:
  - Elevating critical utilities,
  - Ensuring basement areas are waterproofed and that sump pumps are working,
  - Clearing debris from gutters and downspouts before an incoming storm, and
  - Storing sandbags if your facility frequently has the potential to flood.
- Standard insurance does not cover flood damages.
  - Get flood insurance to aid in repairs through the National Flood Insurance Program.

## During a flood

- If a flood watch or warning is issued, take immediate action.
- Avoid walking and/or driving through flood waters.
  - Just 6 inches of swift flowing water can sweep a person off their feet.
  - Flood waters can be deeper than originally thought and can quickly carry a vehicle away.
  - Once a vehicle is in deep water, the water pressure outside the vehicle will be too great to open the doors.
  - Determining water depth is very difficult along roads, especially at night. Be cautious.
- If told to evacuate:
  - Communicate the evacuation notice to your guests. Inform them of the safest route out of the area, especially if any roads are blocked.
  - Turn off gas, water, and electricity.
  - Put sandbags around your property.
  - Move to higher ground.
    - If you are unable to leave your facility, evacuate the lower level and instruct staff and guests to go to higher floors.

## After a flood

- Return only after officials have deemed it safe to do so.
  - Before entering your facility look around for damages (foundation, water pipes, gas lines etc.).
  - Be mindful of debris or hazards that may have been brought in with the flood waters.
- Be mindful of eroded roadways and/or walkways.
- Photograph damages for insurance.
- Stay informed on available aid on the news, TV, radio etc.
- Verify the water supply has not been contaminated.
- Discard any food and water supplies that may have come into contact with flood waters.

## Flash Floods

- Flash flood waters rise quickly. Water depth can increase from inches to feet in mere seconds.
- Know where the high ground is and the quickest route.
- Be extremely cautious during the night as danger is harder to see in the dark.
- Do not cross flowing water if more than knee depth. Do not cross if there are any doubts.
- If your vehicle stalls, leave it and get to higher ground immediately.

# Wildfire

Wildfires are becoming larger and causing more impact on our communities across Oregon. Conditions like prolonged heat and drought increase the chances and the severity of wildfires. While on the Oregon Coast, wildfires used to not be as regular as severe storms, they are becoming more prevalent of a threat. Taking the steps now to make sure your facility is protected and your plans in place can help save your facility.

## Emergency Notifications

The National Weather Service (NWS) issues alerts for fire weather. The primary notifications are fire weather watch, fire weather/red flag warning, and evacuation notice.

- **FIRE WEATHER WATCH**
  - Issued when potentially dangerous fire weather conditions are possible over the next 12 to 72 hours.
- **FIRE WEATHER/RED FLAG WARNING**
  - Issued when fire danger exists and weather patterns that support wildfires are either occurring or expected to occur within 24 hours.
  - Oregon communities also use the National Fire Danger Rating System. This system provide a daily estimate of the fire danger with the levels of low, moderate, high, very high, and extreme.
- **EVACUATION NOTICE**
  - Evacuation notices could be issued to advise citizens to get **ready** (pack supplies and monitor information sources), to get **set** (ready to leave at a moment's notice), or to **go** (evacuate the area immediately).

## Preparing for a wildfire

- Find out if your facility is in an area prone to wildfires.
- Know what alert systems are used in your area.
- Have an emergency kit with necessary supplies for up to 2 weeks.
- Have a plan with meeting places and multiple communication plans.
- Know the location of emergency mass sheltering locations.
  - Have a mobile emergency kit to take with you in case you need to evacuate.
- Store hazardous and/or flammable materials in a fire resistant area or cabinet.
- Keep gutters, eaves, porches and decks clear of leaves and other debris.
- Water landscaping and plants to keep from drying out.
- Create a 30 foot defensible space around your facility. For more information on how to create a defensible space, go to [www.firewise.org](http://www.firewise.org).
- During the Fire Weather Watches and Red Flag Warnings, inform guests of the potential danger, encourage them to not use anything flammable, and to actively use responsible fire prevention behaviors.



## During a wildfire

- Monitor news (radio, TV etc.) for updates on progress and evacuation orders.
- Evacuate when told to.
  - Advise guests of the evacuation notification.
  - Evacuate entire facility.
  - Close windows, vents, doors, fireplace screens, and any other closeable opening.
  - Staff should take guest registries, cash balances, facility disaster plans, and lock facility behind them.
- Be aware of smoke levels; when smoke levels are high keep windows closed and use air circulation features on home and vehicle heating/cooling units.
  - Do not burn anything that decreases air quality.
    - Candles
    - Fireplaces
    - Gas stoves
- If burned, seek medical attention.
  - Cover burns to reduce infection and/or further injury.

## After a wildfire

- Return only after officials have deemed it safe.
- Check your facility for embers (including the crawl spaces) as winds may have blown them into the facility.
- Check with authorities about the safest way to dispose of potentially hazardous and/or flammable materials.
  - Cleaning products
  - Paint/paint products
  - Fuel

# Evacuation Procedures

Every facility should develop its own emergency evacuation plan specific to the hazards it faces. Some of this work you may already have worked on because of having fire evacuation facility maps. During a major disaster, the evacuation plan may be more extensive and require the coordination of evacuation to an alternate site.

Most important thing to do is **STAY CALM**.

## Evacuation Plan

- Include all staff in the development of the plan to make sure all areas are sufficiently addressed.
- Practice your evacuation plan twice a year, just like changing your clocks. The practice drills should include all staff.
  - If in a tsunami zone, practice walking the tsunami evacuation route.
- Update the plan after each drill to address new issues.
- If you need to evacuate, staff should take guest registries, cash balances, facility disaster plans, and lock facility behind them, if there is time.

## Tsunami Evacuation

Evacuate only if you are in the inundation zone based on the type of tsunami. Responses to a local tsunami versus a distant tsunami are very different. Know what you need to do for each.

### For a Local Tsunami

- If you feel strong shaking or rolling, evacuate by foot **IMMEDIATELY** to high ground. The first waves from a tsunami could arrive within 15 minutes. There will be no time to send an emergency alert notification.
- If you are not able to get to high ground, move to higher levels in a building. This is called vertical evacuation and may be the only choice.
- The danger from tsunami waves can last for hours. Waves could occur minutes to hours apart and later waves can be larger. **DO NOT** reenter the hazard zone until local officials allow reentry.

### For a Distant Tsunami

- Local authorities will issue directions that are to be followed in the event of a distant tsunami. Ensure you have multiple means of receiving alerts.

### When at the Beach

- **If the ground shakes, move inland and to higher ground immediately. Do not hesitate or wait for a warning.**
- **If the ocean suddenly recedes from the shoreline, move inland and to higher ground immediately. Do not hesitate or wait for a warning.**
- **If a warning or advisory is issued, evacuate the beach, stay out of the water, and stay away from harbors and marinas.**

## On-Site Evacuation Procedures

1. **STAY CALM!**
2. Management should take control of the situation, if present. If management is not present, designate an alternate chain of authority. This may be maintenance or security personnel, or other designee.
3. Have a pre-designated safe gathering place identified, should evacuation be necessary. Depending on the emergency, the safe place may change. For a hotel fire, the safe place may be the parking lot, but for a tsunami, it could be another hotel or business outside the inundation zone. Consider the average occupancy of your facility and look for places that can accommodate that many people.
4. For any emergency, all department heads should maintain contact to enhance cooperative efforts, effectiveness of the plan, and safety of guests and staff.
5. Determine how notification of an event will occur. Consider the location of your NOAA weather radio and the staff that can monitor that 24 hours a day as the likely source of notification.
6. Inform all occupied rooms of the disaster occurring. Write a prescribed message to convey the necessary information that the staff should communicate.
7. Instruct guests to use stairwells to exit. If you have guests that are unable to use the stairwells, such as the elderly, injured, or the physically challenged, to use the elevators instead.
8. Check all guest areas: fitness area, pools, saunas, public restrooms, restaurant, and other areas.
9. Evacuate all remaining personnel, including yourself. Take guest registries, cash balances, facility disaster plans, and lock facility behind them, if there is time.
10. All staff and guests should gather at the predesignated safe place. Conduct a roll call and determine who is there and who is missing. Be able to provide that information to the authorities.
11. Do not reenter your facility or the area until authorities declare it safe to. All guest and staff should stay at the safe place until authorities give further instructions.

## Evacuating to a Shelter or Assembly Area

1. Monitor the weather radio to ensure that your area is in the evacuation area. Areas at greatest risk will be evacuated and designated by authorities. Also, listen for information on evacuation routes, shelter locations, and procedures.
2. If instructed to evacuate, calmly and quickly leave the area.
3. If evacuating to a shelter or assembly area, follow the route given by authorities.
4. Call 9-1-1 only for emergencies. Avoid any unnecessary telephone use in order to not overload the telephone network.
5. The shelter will not have everything you may need. Take your disaster supply kit, if possible.
6. Traffic will likely be heavy and parking limited, so carpool to the evacuation site, if possible.
7. Staying calm will aid in making rational decisions and helping you move safely to the evacuation site.

## Shelter-in-Place

During a disaster, you may be instructed to shelter-in-place, meaning to go indoors and stay there until authorities deem it safe to exit.

- Have plastic sheeting and duct tape on hand to seal up entryways and windows.
- Maintain a supply of flashlights and new batteries to change them out when a disaster occurs.

### Actions to take:

1. Close and lock doors and windows.
2. Turn off ventilation systems, such as heating, air conditioning, and fireplace vents.
3. Communicate with guests about what is occurring.
4. Go to an interior room with the fewest doors and windows, and seal the room.
  - a. Remember to have guests get into the sealed rooms as well. You may need to identify multiple rooms that can serve this purpose to accommodate the number of guests you may have.
5. Monitor NOAA weather radio, commercial radio, and TV for local authorities' instructions.

# Preparedness Questionnaire: Evacuation

## Evacuation Questions

1. Who is in charge of making decisions about an evacuation from my facility?

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a. Is the same person/position in charge at night?	Yes	No
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2. How does your community notify you for disasters or emergencies your community?

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a. Is my facility registered for the notification systems?	Yes	No
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i. If yes, what systems are you registered for and how is the notification issued?

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3. How do I plan to deal with our responsibility to notify guests that a local tsunami (minutes before the tsunami arrives) may be on its way and that they need to evacuate?

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4. How will my notification plan differ for a distant tsunami (hours before the tsunami arrives)?

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5. How will the notification plan for a tsunami work if:

a. The electricity is out?

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b. The phone system is out?

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c. It is daytime and most guests are away from the facility?

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d. It is nighttime and most guests are asleep?

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6. How do I expect my staff to handle the evacuation of elderly, disabled, or physically handicapped guests?

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7. How do I expect my staff to deal with non-English speaking guests during an evacuation?

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8. How will my notification plan differ for other types of disasters?

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## Staff Evacuation Responsibility Questions

9. Do my staff members know how to protect themselves during a major earthquake followed by a tsunami? Yes No

10. How do I plan to communicate information about earthquake and tsunami personal preparedness to my staff?

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11. Is my staff trained in the way that I want them to react to a tsunami evacuation in terms of my facility and guests? Yes No

a. How often does that training occur, and what form does it take?

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12. Do I expect all my staff members to stay at the facility until all of the guests are evacuated?

Yes No

a. If all of my staff members are not expected to stay, then who is expected to stay?

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13. How does this expectation change for a local versus distant tsunami?

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14. When will I allow my staff members to seek out their family members and determine their safety?

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15. What tasks do I want my staff to perform during an evacuation?

a. First priority?

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b. Second priority?

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16. Which of my staff are trained in CPR and first aid?

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17. Does my staff know the locations of the main turn-off valves and switches for the gas, propane, electricity, and water services? Yes No

a. Who will be responsible for turning off the gas, propane, electricity, and water?

18. Where have I posted, for my staff, the emergency telephone numbers that they need to have?

## Guest Preparedness Questions

19. What information will I provide to my guests about general personal tsunami preparedness and evacuation?

20. What information will I provide to my guests about a tsunami evacuation from my facility?

a. What form will this information take?

b. How will I provide information to non-English speaking guests?

# Business Continuity

Disaster planning must include a part of the plan that addresses business continuity. It is estimated that 75% of organizations without a plan fail within three years of a disaster. A loss of that many businesses can quickly decimate a community's ability to recover. People need a way to return to work and if the majority of businesses fail, then people will move on to where the jobs are and leave their community behind. Business continuity planning focuses on what happens after the disaster so that the business can survive. In this section, there is a brief overview of business continuity planning.

There are three main steps to business continuity planning: Identify Your Risk, Develop a Plan, and Take Action.

## 1. **Identify Your Risk**

Earlier in this guidebook, the hazards that could potentially impact your facility were listed. Part of identifying the risk is to now evaluate each hazard and determine your facility's vulnerability to each one. An example is that a hotel facility may be out of the tsunami inundation zone, but could be more at risk from a landslide than another facility. To identify your risk, start by evaluating the hazards, the impacts, and the sustainability of your facility.

## 2. **Develop a Plan**

Take the assessment of your risks and begin formulating a plan to mitigate the risks, develop a team responsible for continuity of operations, and write down what the plan is following a disaster.

- Plans for mitigation actions may include performing seismic retrofitting on a facility and installing earthquake straps to furniture throughout all rooms.
  - Remember to factor in costs for mitigation actions. Consider conducting a cost-benefit analysis to determine the most effective mitigation actions to focus on.
- A team for continuity of operations should include considerations of who knows the bank account and insurance information, the facility ins and outs, the supplier information, and any other critical business function.

## 3. **Take Action**

Begin performing your mitigation actions, develop a training for your staff on your business continuity plan, have your staff get more prepared, and exercise your entire disaster and business continuity plan once a year. Other actions may include:

- Have staff take first aid and CPR/AED training.
- Develop procedures of how to communicate the risks to your guests.
- Participate in local preparedness efforts.

There are many available resources to help with business continuity planning. Look in Appendix A: Resources for a list of available resources and find what that works for your facility.



# Preparedness Questionnaire: Business Continuity

## Business Continuity Questions

1. Do my staff members have a procedure for taking the guest registration information with during an emergency? Yes      No
  - a. If yes, what is the procedure and who is responsible?  
\_\_\_\_\_  
\_\_\_\_\_
2. Do my staff members have a secure way to take the money receipts and guest credit card information with during an emergency? Yes      No
  - a. If yes, what is the procedure and who is responsible?  
\_\_\_\_\_  
\_\_\_\_\_
3. What is my insurance coverage?  
\_\_\_\_\_  
\_\_\_\_\_
4. Where is my insurance coverage information kept?  
\_\_\_\_\_  
\_\_\_\_\_
5. Do I have a way to record the damage to the facility for documentation in later insurance claims? Yes      No
  - a. What is it and where is it located?  
\_\_\_\_\_  
\_\_\_\_\_
6. Do I have a list of my principal suppliers? Yes      No
  - a. Which suppliers are within the inundation zone?  
\_\_\_\_\_  
\_\_\_\_\_
7. What alternative suppliers are available?  
\_\_\_\_\_  
\_\_\_\_\_
8. Do I have a back-up plan for my business files and records? Yes      No
9. Are those backup files and records presently kept within the inundation zone? Yes      No
10. What are alternative storage sites?  
\_\_\_\_\_  
\_\_\_\_\_

11. What pieces of machinery and computer equipment are essential to the smooth operation of my business?

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12. What is my back-up plan for the repair or replacement of any damaged equipment?

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## Post-Disaster Questions

13. How do I find out if the “all clear” has been given and the danger of more tsunamis is past?

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14. What will I expect my staff and guests to do during aftershocks?

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15. How will I get an assessment of the structural damage to my facility?

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16. What is the procedure to account for all registered guests after an evacuation?

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17. What actions will my staff take regarding guests who are not accounted for?

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18. How will I keep guests and staff from re-entering an unsafe structure to retrieve their belongings?

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19. What alternative lodging arrangements might be available for my guests if my facility is no longer safe?

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20. How will I tell my guests about alternative arrangements, and who will pay for those arrangements?

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21. How will I handle refunds for guests who cut their stay short?

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22. How will I get in touch with staff to come in and help with the disaster relief?

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23. Do I expect my staff to help with search and rescue efforts within my facility?      Yes      No

a. Where are the extrication tools stored?

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24. Do I plan to stockpile supplies for use during the period immediately following the disaster?

Yes      No

a. What are those supplies and where will they be stored?

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b. Who will know about the stored items and how to access them?

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25. What agencies will be available to help me with my post-disaster problems?

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26. What are the contact numbers of those agencies?

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# Conclusion

While it is impossible to stop disasters from occurring, their impacts can be reduced by being better prepared. Through this guidebook you have learned about the hazards that may impact your facility, learned about how to be better prepared, and answered questions about your facility's plan. It is important to remember that preparedness is an ongoing journey and takes the whole community to be successful. Once you have completed your disaster and business continuity plan, train your staff and exercise your plan. The best way to make sure it works is to put it into practice. Also, participate in local community preparedness efforts.

In the appendices, you will find additional information and resources, including emergency contact sheets and emergency utility shutoff access that can be removed and added to your plan.

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# Appendix A: Resources

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# Resources

## Oregon Hazard Information

- Oregon Office of Emergency Management: [www.oregon.gov/omd/oem](http://www.oregon.gov/omd/oem)
- Oregon Tsunami Clearinghouse: [www.oregontsunami.org](http://www.oregontsunami.org)
- Oregon Department of Geology and Mineral Industries: [www.oregongeology.org](http://www.oregongeology.org)
  - Hazard Viewer: [www.oregongeology.org/hazvu](http://www.oregongeology.org/hazvu)
- U.S. Geological Survey: [www.usgs.gov](http://www.usgs.gov)
- Cascades Volcano Observatory: [vulcan.wr.usgs.gov](http://vulcan.wr.usgs.gov)
- National Weather Service: [www.weather.gov](http://www.weather.gov)

## Preparedness Resources

- American Red Cross: [www.redcross.org](http://www.redcross.org)
- FEMA's Ready: [www.ready.gov](http://www.ready.gov)
- Great Oregon ShakeOut: [www.shakeout.org/oregon](http://www.shakeout.org/oregon)
- Aftershock: [www.opb.org/aftershock](http://www.opb.org/aftershock)
- FireWise: [www.firewise.org](http://www.firewise.org)

## Business Continuity

- State of Oregon Chief Information Office:  
[www.oregon.gov/DAS/CIO/pages/bcp/forms\\_examples.aspx](http://www.oregon.gov/DAS/CIO/pages/bcp/forms_examples.aspx)
- FEMA's Ready: [www.ready.gov](http://www.ready.gov)
- FEMA QuakeSmart: [www.fema.gov/quakesmart](http://www.fema.gov/quakesmart)
- Ready Rating: [www.readyrating.org](http://www.readyrating.org)
- Insurance Information Institute: [www.iii.org](http://www.iii.org)
- Insurance Institute for Business & Home Safety: [www.disastersafety.org](http://www.disastersafety.org)
  - "Open for Business Basic"
- Community Emergency Response Teams (CERT):
  - [www.fema.gov/community-emergency-response-teams](http://www.fema.gov/community-emergency-response-teams)

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## Appendix B:

# Tsunami Evacuation Maps

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# Tsunami Evacuation Maps

The State of Oregon Department of Geology and Mineral Industries, in partnership with local jurisdictions, have put together tsunami evacuation maps for each populated area along the Oregon coast. These maps show several things, including:

- The pedestrian walking route out of a community during a tsunami evacuation
  - Routes are marked by arrows that direct to the accessible paths out of the area
  - Most routes are also marked by evacuation route signs, similar to the one below:



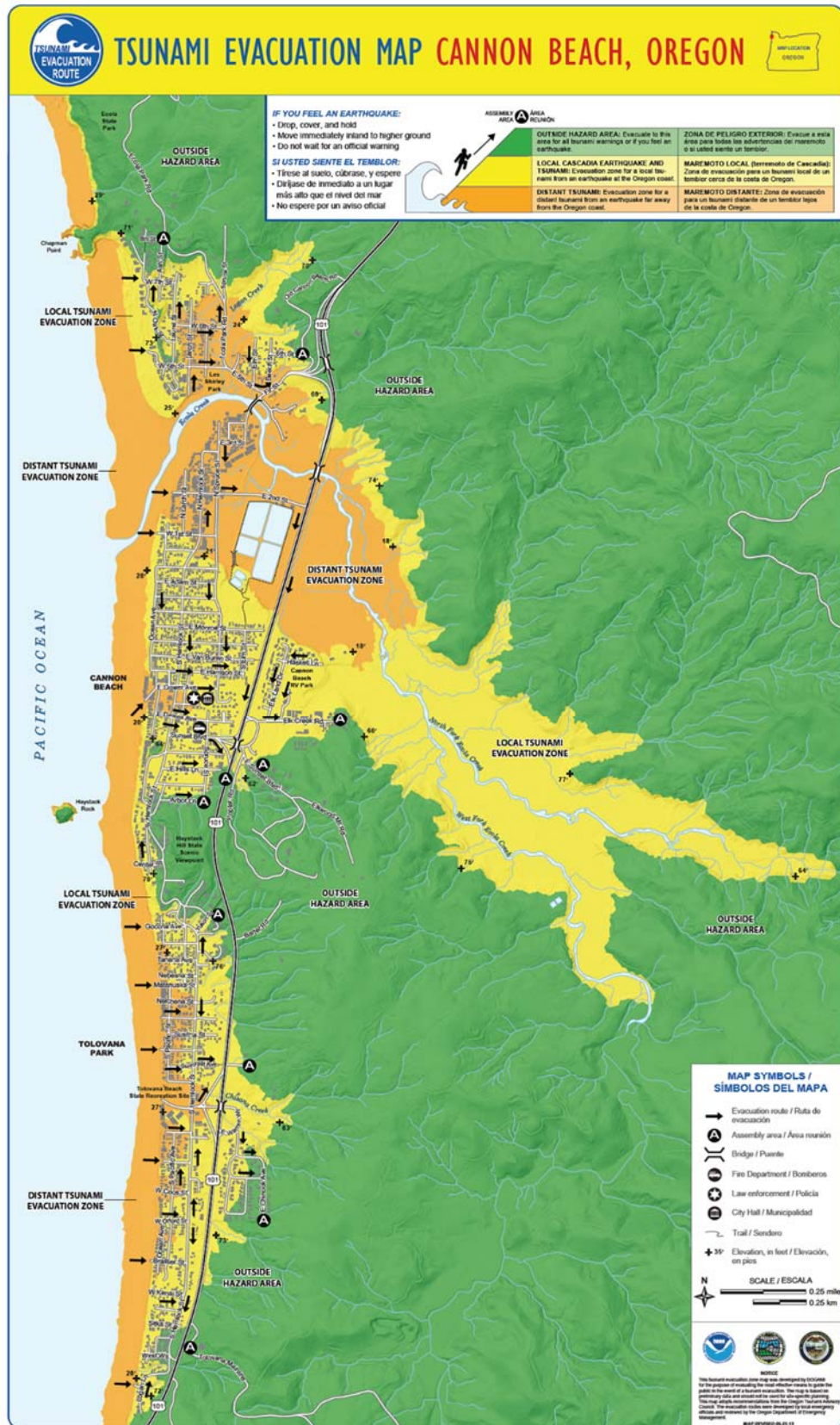
- The worst case scenario for tsunami inundation limits for distant and local tsunamis.
  - **Distant tsunami** inundation zone is marked in **orange** and impacts less area.
  - **Local tsunami** inundation zone is marked in **yellow** and impacts much greater area.
  - **Outside the Hazard Area** is marked in **green** and is the area that should be outside the inundation zone that visitors and community members alike should head to during a local tsunami event.
- The assembly areas in the communities that people should head for.

The tsunami evacuation maps also have information about what tsunamis are, what the colors on the map mean, and safety procedures should a tsunami event be occurring.

**Are you off the map?** If you live or have your facility outside the map boundaries shown on the PDFs below, don't worry. Use the evacuation zone web map viewer to type in an address or to see areas not included on the map brochures.

All tsunami evacuation maps for Oregon and the map viewer can be found at [www.oregontsunami.org](http://www.oregontsunami.org).

## Example Tsunami Evacuation Map



## Appendix C: Weather Radios

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# Weather Radios

## NOAA Weather Radio (NWR)

NWR is a nationwide network of radio stations broadcasting continuous weather information directly from the nearest National Weather Service office. NWR broadcasts official Weather Service Warnings, Watches, Forecasts and other hazard information 24 hours a day, 7 days a week.

Working with the Federal Communication Commission's (FCC) Emergency Alert System, NWR is an "All Hazards" radio network, making it your single source for comprehensive weather and emergency information. In conjunction with Federal, State, and Local Emergency Managers and other public officials, NWR also broadcasts warning and post-event information for all types of hazards – including natural (such as earthquakes or avalanches), environmental (such as chemical releases or oil spills), and public safety (such as AMBER alerts or 911 Telephone outages).

Weather radios come in many sizes and with a variety of functions and costs. Many of the radios sound a tone alarm and/or turn on the audio when severe weather announcements or emergency information are broadcast.

NWR broadcasts 4 main types of messages:

- A **WARNING** is an event that alone poses a significant threat to public safety and/or property, probability of occurrence and location is high, and the onset time is relatively short.
- A **WATCH** meets the classification of a warning, but either the onset time, probability of occurrence, or location is uncertain.
- An **EMERGENCY** is an event that, by itself, would not kill or injure or do property damage, but indirectly may cause other things to happen that result in a hazard. For example, a major power or telephone loss in a large city alone is not a direct hazard, but disruption to other critical services could create a variety of conditions that could directly threaten public safety.
- A **STATEMENT** is a message containing follow up information to a warning, watch, or emergency.

Specific Area Message Encoding (SAME) allows listeners and Emergency Alert System (EAS) participants to pre-select the areas in which they receive warnings, watches, and statements for. The NWR SAME system may activate for the following events, but are not limited to those only:

### SAME Alerts

- Tsunamis
- Severe Thunderstorms
- Flash Floods
- Special Marine Warnings
- Tornado
- Alerts for potentially historic events of:
  - Winter Storms
  - Wind Storms
  - Flooding

## Hazards Relayed From Local Authorities

*\*These alerts are determined by local needs for activation*

- 9-1-1 Telephone Outages
- Child Abductions
- Civil Emergencies
- Earthquakes
- Evacuation Immediate
- Fire Warnings
- Hazardous Materials Warnings
- Law Enforcement Warnings
- Local Area Emergency
- Nuclear Power Plant Warnings
- Radiological Hazard Warnings
- Shelter-in-place
- Volcanoes
- Weekly, Monthly, & Periodic Tests

## Programming Instructions

Find a weather radio model that works well for your business. Recommendation is to find one that has the capability to both run off an AC/DC outlet and batteries. Ensure that your weather radio is plugged in all the time at the front desk or other similar location that can be grabbed if needing to evacuate. Keep extra batteries with the radio as a backup method if need be.

Setting up each radio will be different from other models, but there are basic things to ensure are set up.

1. You may choose at least two county codes that your radio can be preset to or leave the presets off to get all warnings in your nearby vicinity. The list to the right has the 6 digit SAME codes for each county in Oregon.
2. Select the best channel to receive the clearest message for your area. Remember that the mountains, valley, forest land and more can interfere with the strength of signal.
3. Set an audio alarm for the weekly test. This will aid in making sure the radio is functioning correctly in case you do have a major disaster coming.

More information about NOAA Weather Radios can be found at: <http://www.nws.noaa.gov/nwr/>

County Name	SAME # (County Code)
Baker	041001
Benton	041003
Clackamas	041005
Clatsop	041007
Columbia	041009
Coos	041011
Crook	041013
Curry	041015
Deschutes	041017
Douglas	041019
Gilliam	041021
Grant	041023
Harney	041025
Hood River	041027
Jackson	041029
Jefferson	041031
Josephine	041033
Klamath	041035
Lake	041037
Lane	041039
Lincoln	041041
Linn	041043
Malheur	041045
Marion	041047
Morrow	041049
Multnomah	041051
Polk	041053
Sherman	041055
Tillamook	041057
Umatilla	041059
Union	041061
Wallowa	041063
Wasco	041065
Washington	041067
Wheeler	041069
Yamhill	041071

*Table 1. SAME Alert County Codes. You can choose to program at least 2 codes into your weather radio to focus alerts to your area or leave the codes off to receive all SAME Alerts for your general area.*

## Appendix D:

# Emergency Supply Checklists

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# Emergency Supply Checklist

Disasters can occur anytime and anywhere. It is important to have supplies on hand before the disaster occurs as you will likely not have much time to respond. If you have gathered the supplies beforehand, then your business can better withstand an evacuation or confinement of guests and staff. Maintain the supplies you will need to shelter-in-place at your facility.

- ☐ Prepare to be self-supporting for at least 2 weeks
- ☐ Store supplies in a easily accessible location and known by all staff
- ☐ Change water supply and batteries once a year
- ☐ Rotate stored food every 6 to 12 months
- ☐ Re-evaluate the needs and plans for your facility
- ☐ Train your staff to carry a minimum of 3-day supply of personal medication and extra eye glasses with them, and encourage them to prepare their families

## Water

- ☐ Have enough water for the average occupancy of your facility
- ☐ At least 1 gallon per person per day
- ☐ Store water in plastic containers, such as plastic barrels or soft drink bottles. Do not use containers that can break or decompose, like milk cartons or glass bottles

## Food

Include foods that require no refrigeration, preparation, or cooking and little to no water, such as:

- ☐ Ready-to-eat canned meats, fruits, and vegetables

- ☐ Canned juices, non-perishable pasteurized milk
- ☐ Soups (if dry, store extra water)
- ☐ High energy foods: peanut butter, granola bars, trail mix
- ☐ Comfort foods: cookies, instant coffee, tea bags, hard candy
- ☐ Staples: sugar, salt, pepper
- ☐ Foods for infants, elderly persons, or people with special dietary needs
- ☐ Meals Ready-to-Eat (MREs)
- ☐ Include food serving supplies:
  - Paper cups, plates, plastic utensils, and cooking utensils
  - Plastic storage bags for food
  - Sterno™ supply to heat foods
  - Pots to cook food in
  - Non-electric can openers

## First Aid Supplies

- ☐ First aid kit and first aid manual
- ☐ Extra adhesive bandages
- ☐ Extra sterile gauze pads and rolls
- ☐ Triangle bandages
- ☐ Scissors, safety pins, tweezers, needle
- ☐ Antibiotic ointment, antihistamines, and disinfectant for wound cleaning
- ☐ Hand sanitizer
- ☐ Cold packs
- ☐ Aspirin or substitute
- ☐ Various non-prescription medications, such as anti-diarrhea medication, laxatives, antacids, pain relievers, ipecac, and hydrocortisone cream
- ☐ Disposable gloves
- ☐ Thermometer & sleeves for thermometer tip

# Emergency Supply Checklist

## Hygiene Supplies

- ☐ Feminine supplies
- ☐ Personal cleansing agent/soap
- ☐ Toilet paper, towelettes
- ☐ Liquid dish detergent, paper towels

## Other Supplies

- ☐ Weather radio with AC/DC power and battery operated capabilities
- ☐ Flashlights
- ☐ Extra batteries for weather radio and flashlights
- ☐ Fire extinguishers, small canister, ABC type

- ☐ Sturdy shoes or work boots, work gloves
- ☐ Matches in a waterproof container
- ☐ Rain gear
- ☐ Blankets or sleeping bags
- ☐ Wrench (to turn off utilities), pliers, other tools
- ☐ Plastic sheeting and duct tape
- ☐ Map of the area
- ☐ Plastic buckets with tight lid for wastes
- ☐ Plastic bags for sanitation
- ☐ Dust masks
- ☐ Pens and note paper
- ☐ Whistles
- ☐ Glow sticks

## Appendix E:

# Emergency Telephone Numbers

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# Emergency Telephone Numbers

Emergency Dial: \_\_\_\_\_  
Outside Line

**9 1 1**

For life-threatening events only.

*List only emergency phone numbers here. Do not add numbers for non-emergency contacts, such as vendors, service organizations, and other groups. This list should be posted in an easy accessible location for staff to use during emergencies.*

Name of Establishment:		
Street Address:		
Front Desk Telephone:		Extension: _____
Maintenance:		Extension: _____
Housekeeping:		Extension: _____
Restaurant:		Extension: _____
Police Non-Emergency:		
Fire Non-Emergency:		
Hospital:		
Coastal Medical Clinic:		

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# Emergency Telephone Numbers

## General Manager

Name: \_\_\_\_\_  
Office: \_\_\_\_\_ Extension: \_\_\_\_\_  
Home: \_\_\_\_\_ Cellular: \_\_\_\_\_

## Assistant General Manager

Name: \_\_\_\_\_  
Office: \_\_\_\_\_ Extension: \_\_\_\_\_  
Home: \_\_\_\_\_ Cellular: \_\_\_\_\_

## Regional Manager

Name: \_\_\_\_\_  
Office: \_\_\_\_\_ Extension: \_\_\_\_\_  
Home: \_\_\_\_\_ Cellular: \_\_\_\_\_

## Restaurant Manager

Name: \_\_\_\_\_  
Office: \_\_\_\_\_ Extension: \_\_\_\_\_  
Home: \_\_\_\_\_ Cellular: \_\_\_\_\_

Gas Utility	Daytime: _____	After Business Hours: _____
Electricity Utility	Daytime: _____	After Business Hours: _____
Water Utility	Daytime: _____	After Business Hours: _____
Propane Utility	Daytime: _____	After Business Hours: _____

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## Appendix F:

# Emergency Utility Shutoff Access

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# Emergency Utility Shutoff Access

## Hotel/Motel Gas Main Shut-Off

Include typed instructions and a simple illustration of how to shut off the utility. Make sure to include exactly where the utility shut-off is at the facility.

## Restaurant Gas Main Shut-Off

Include typed instructions and a simple illustration of how to shut off the utility. Make sure to include exactly where the utility shut-off is at the facility.



# Emergency Utility Shutoff Access

## Hotel/Motel Propane Main Shut-Off

Include typed instructions and a simple illustration of how to shut off the utility. Make sure to include exactly where the utility shut-off is at the facility.

## Restaurant Propane Main Shut-Off

Include typed instructions and a simple illustration of how to shut off the utility. Make sure to include exactly where the utility shut-off is at the facility.





# Emergency Utility Shutoff Access

## Hotel/Motel Electricity Main Shut-Off

Include typed instructions and a simple illustration of how to shut off the utility. Make sure to include exactly where the utility shut-off is at the facility.

## Restaurant Electricity Main Shut-Off

Include typed instructions and a simple illustration of how to shut off the utility. Make sure to include exactly where the utility shut-off is at the facility.



# Emergency Utility Shutoff Access

## Hotel/Motel Water Main Shut-Off

Include typed instructions and a simple illustration of how to shut off the utility. Make sure to include exactly where the utility shut-off is at the facility.

## Restaurant Water Main Shut-Off

Include typed instructions and a simple illustration of how to shut off the utility. Make sure to include exactly where the utility shut-off is at the facility.