ANNEX 5: EARTHQUAKE

An earthquake is ground shaking and radiated seismic energy caused most commonly by a sudden slip on a fault, volcanic or magmatic activity, or other sudden stress changes in the earth. Although it has been over four decades since the last destructive earthquake in Montana, small earthquakes are common in the region, occurring at an average rate of 7-10 earthquakes per day. An earthquake with a magnitude of less than "3" is rarely felt. An earthquake with a magnitude of "5" is considered moderate and can cause damage to poorly constructed buildings, while a "6" or lager causes major damage.

Earthquakes can result in fatalities, injuries, and major property damage to the campus. Secondary effects from earthquakes can be cascading or compounding including;

- Fires can occur as a result of ruptured gas lines, and if water main breakages occur, this combination makes firefighting very difficult.
- Landslides are a common post-earthquake event, particularly if the earthquake strikes during periods of heavy rains in already saturated soils.
- Historically, liquefaction is responsible for a tremendous amount of damage in historical earthquakes around the world. Liquefaction occurs when ground shaking reduces the strength and stiffness of the soil, which loses the ability to support the foundations of structures.

Part of Lewis and Clark County is in a high-hazard seismic zone, which means that an earthquake here could cause major damage. This area includes Helena, East Helena and Lincoln. The worst quakes to hit the Helena area were a 6.3 earthquake that occurred on October 18, 1935. A 6.0 earthquake struck that same year on October 31. Four people were killed, and property damage exceeded $4 million. About 60 percent of the buildings in Helena were damaged to some degree.

General Guidelines

If indoors:

- DROP to the ground; take COVER by getting under a sturdy table or other piece of furniture; and HOLD ON to what you are taking cover under until the shaking stops. If there isn't a table or desk near you, cover your face and head with your arms and crouch in an inside corner of the building. Close your eyes to protect yourself from dust and debris.
- Stay away from glass, windows, outside doors and walls, and anything that could fall, such as lighting fixtures or furniture.
- Use a doorway for shelter only if it is in close proximity to you and if you know it is a strongly supported, loadbearing doorway.
- Stay inside and hold your position until the shaking stops.
- DO NOT USE ELEVATORS!

- Use extreme caution when evacuating the building (Either self-assessment or by direction)
- Be aware that the electricity may go out or the sprinkler systems or fire alarms may turn on.

If outdoors:

- Stay there! Move away from buildings, streetlights, and utility wires.
- Once in the open, stay there until the shaking stops. The greatest danger exists directly outside buildings, at exits, and alongside exterior walls. Most earthquake-related casualties result from collapsing walls, flying glass, and falling objects.

If in a moving vehicle:

- Stop as quickly as safety permits and stay in the vehicle. Avoid stopping near or under buildings, trees, overpasses, and utility wires.
- Proceed cautiously once the earthquake has stopped. Avoid roads, bridges, or ramps that might have been damaged by the earthquake.

If trapped under debris:

- Do not light a match.
- Do not move about or kick up dust.
- Cover your mouth with a handkerchief or clothing.
- Tap on a pipe or wall so rescuers can locate you. Use a whistle if one is available. Shouting only as a last resort. Shouting can cause you to inhale dangerous amounts of dust.

Following an Earthquake:

- Remain calm and be prepared for aftershocks. Earthquakes sometimes occur in a series of tremors, which could last for a period of several days. Aftershocks may last from a few seconds to as long as 5 minutes.
- Do not use elevators
- When safe, HC Emergency Response Team members should conduct a search of the buildings for anyone who might be trapped or afraid to leave.
- Do not attempt to move injured persons unless there is a danger of further injury from collapsing structures, fire, etc.
- When safe to do so, use extreme caution when evacuating from buildings. Exit quickly and distance yourself away from buildings as quickly as possible. Report to the safest Evacuation Assembly Locations

- Emergency Coordinators should turn off electricity and gas should the building/area be damaged if safe to do so.
- Students, faculty, and staff will be directed to secure shelter locations if applicable.
- Facilities Services, Executive Director of Operations, along with necessary contractors will conduct building inspections to determine if the building(s) is safe to re-enter.

Protect Yourself

Using a Cane?

Using a Walker?

Using a Wheelchair?

30 Minute/ 3 Hour/ 3 Day Response

Earthquake

30-Minute Response

- Stop, Drop, and Hold On.
  - Wait for the shaking to stop.
  - Check yourself for injury (Call 911 to request medical).
  - Check others in your vicinity for injuries (Call 911 to request medical).
- If significant damage to building, (Call 911 for Fire Suppression and Search and Rescue Needs).
- Contact Helena College Leadership;
  - Call (617) 446-3691 (Kelley Turner, Executive Director of Operations), or
  - (406) 594-3419, (Tommi Haikka, Asst. Director of Facilities), or
  - (406) 461-0635, (Jason Grimmis, Director of Crisis & Emergency Management), or
  - (208) 305-1042, (Stephanie Hunthausen, Executive Director of CTE).
- Public Information Officer:
  - If safe to do so, send out templated message with Earthquake Safety Procedures
- When deemed safe, use extreme caution when evacuating buildings. Seek safety in wide open spaces. Respond to pre-designated assembly locations.
- Supervisors- Account for your direct reports.
- Faculty Members- Account for your students.
- All employees- Account for any guests or 3rd party contractors you had on campus.

3-Hour Response (Stabilize)

- Accountability for Students, Staff, Faculty, Guests, 3rd Party Contractors etc.
- Provide medical treatment to those in need
- Consider Academic Plan.
- Smaller earthquakes with no damage: Business as usual or postpone classes for up to 8 hours)
- Larger earthquakes with damage: Suspend academics until the integrity of buildings can be inspected by licensed and trusted engineers.
- Consider contacting northwestern energy and Fire Department to turn off gass and assess for leaks.
- Contact OCHE and UM-Missoula President.
- Start visual assessment of damages to buildings, vehicles, parking lots, and geographical area.

- Continue on-going communications with your constituents.
- Consider opening up Helena College Emergency Website or link to act as public information center and communications.

3-Day Response (Recovery)

- Maintain communications with OCHE and UM-Missoula President. Request assistance early and often. Resources can always be cancelled.
- Consider contacting a licensed and trusted engineer to perform building inspection.
- Consider contacting Northwest Energy to turn off or assess gas lines/leaks.
- Consider contacting Fire Department do perform site inspection.
- Activate Academic Affairs Unit (Academic Planning and Deliverables).
- Continue on-going communications with internal and external constituents.
- Consider activating Helena College Emergency Website or link to act as public information center and communications.

Depending on the magnitude of earthquake, number of injuries, and extent of damages, consider activating other Emergency Support Functions as necessary.