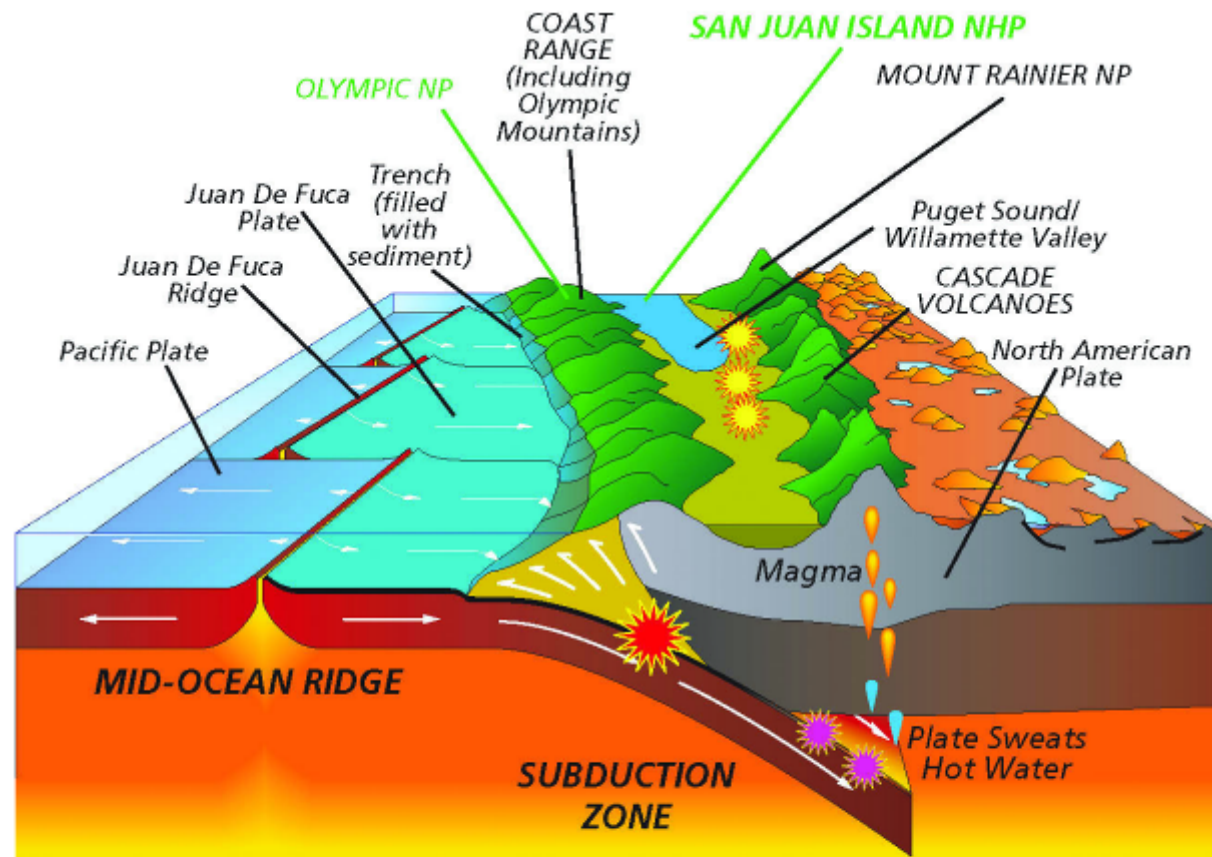


PrepLO

A red line graph is overlaid on the word 'PrepLO'. The line is flat and horizontal across the 'Prep' portion (blue letters) and the 'LO' portion (green letters). At the end of the 'LO' portion, the line spikes sharply upwards and then returns to the baseline. The word 'Prep' is in blue and 'LO' is in green.

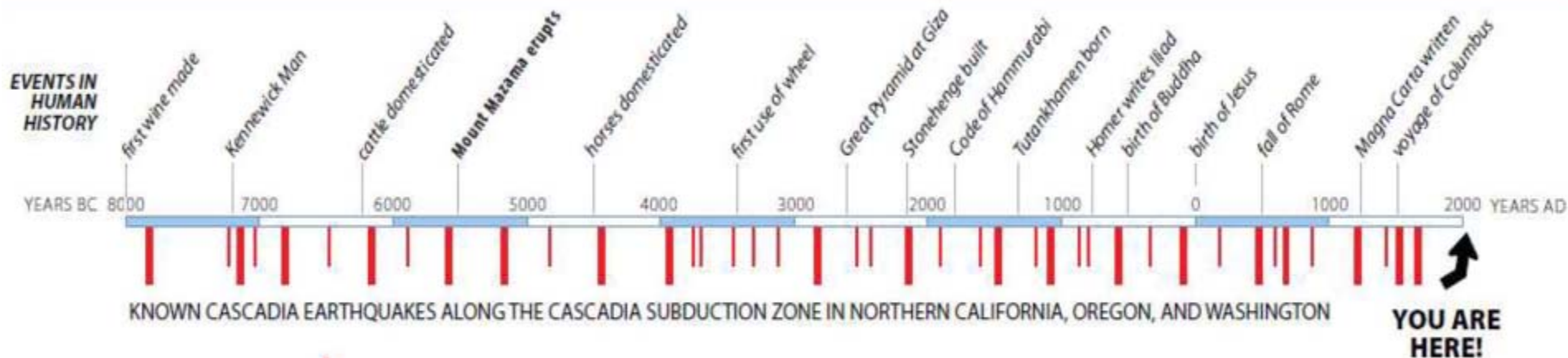
# Agenda

- Brief overview of the Cascadia Subduction Zone earthquake
- Description of where Neighborhood Associations are in the response structure
- Report on recent improvements in the readiness of the city's infrastructure
- Check-in with each chair on what kind, if any, organization already exists in your NA and what assistance you might need.



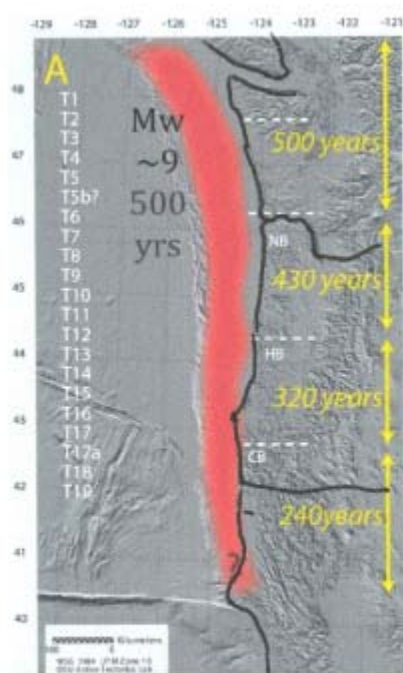
### Cascadia earthquake sources

Source	Affected area	Max. size	Recurrence
 Subduction Zone	West. WA, OR, CA	M 9	500-600 years (1700)
 Deep Juan De Fuca Plate	West. WA, OR	M 7+	30-50 years (1949, 1965, 2001)
 Crustal faults	WA, OR, CA	M 7+	hundreds of years? (CE 900, 1872)

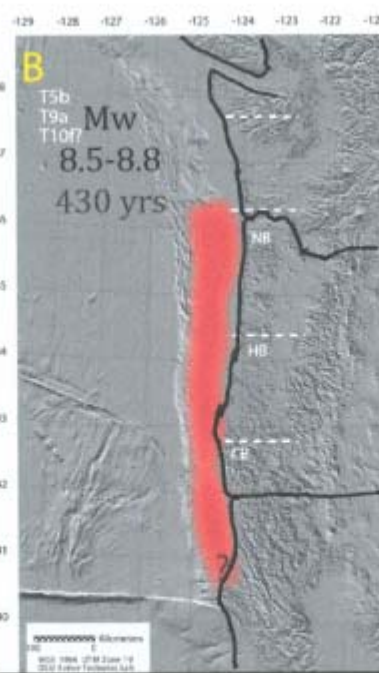


Earthquake of Magnitude 9+ (fault breaks along entire subduction zone)

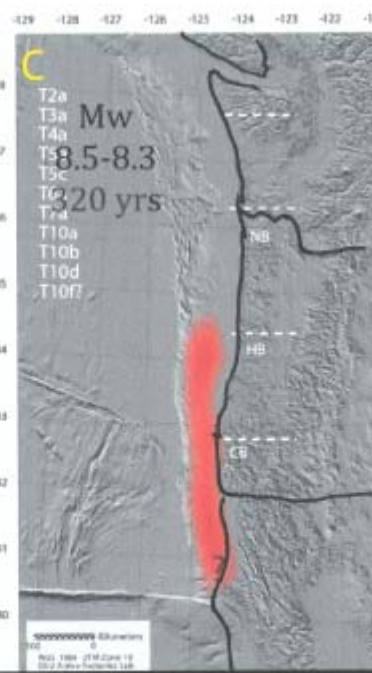
Earthquake of Magnitude 8+ (fault breaks along southern half of subduction zone)



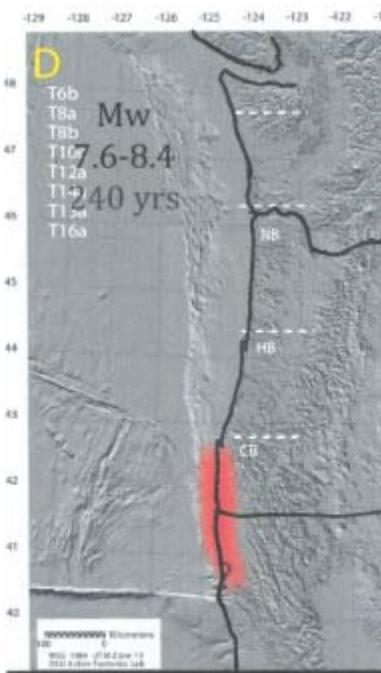
**21 EQ**  
**>9.0 Mw full rupture**



**3 EQ**  
**8.5-8.8 Mw**



**11 EQ**  
**8.5-8.3 Mw**

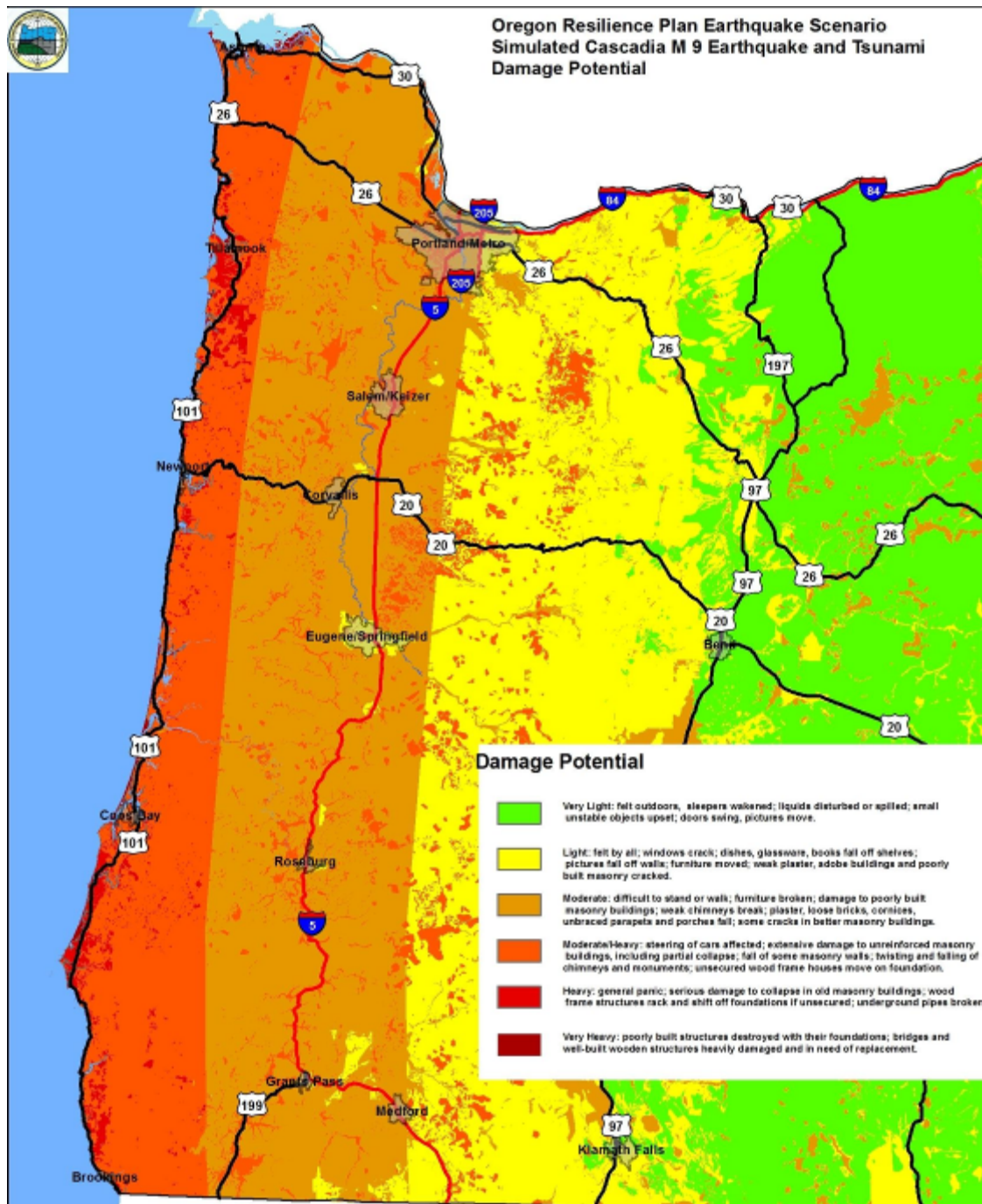


**8 EQ**  
**7.6-8.4 Mw**





# Oregon Resilience Plan Earthquake Scenario Simulated Cascadia M 9 Earthquake and Tsunami Damage Potential



# Levels of Response

Federal

State

County

City

Neighborhood Associations (PrepLO)

Blocks

Household

# Maintenance Center



# Public Works & Parks Facility





# ROADS AND BRIDGES









# WATER

## Unprotected



DENSE GRAVEL  
SILTY SAND  
SANDY SILT

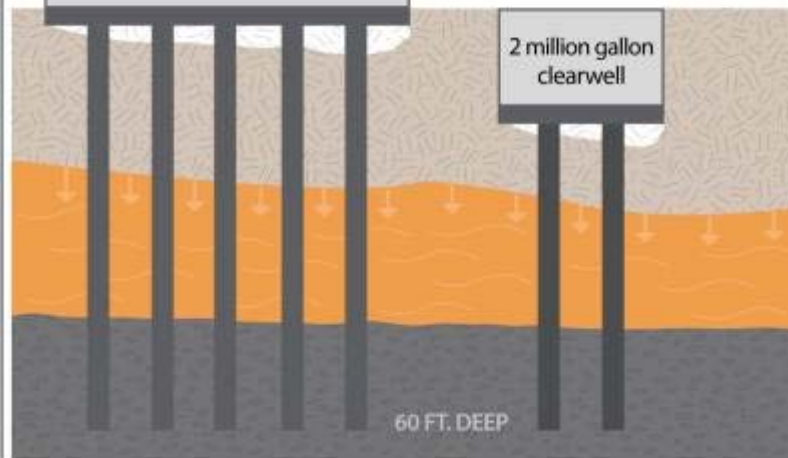
LIQUEFACTION ZONE  
SETTLEMENT

## Protected Upgraded WTP

All WTP buildings  
and process structures  
will be pile supported

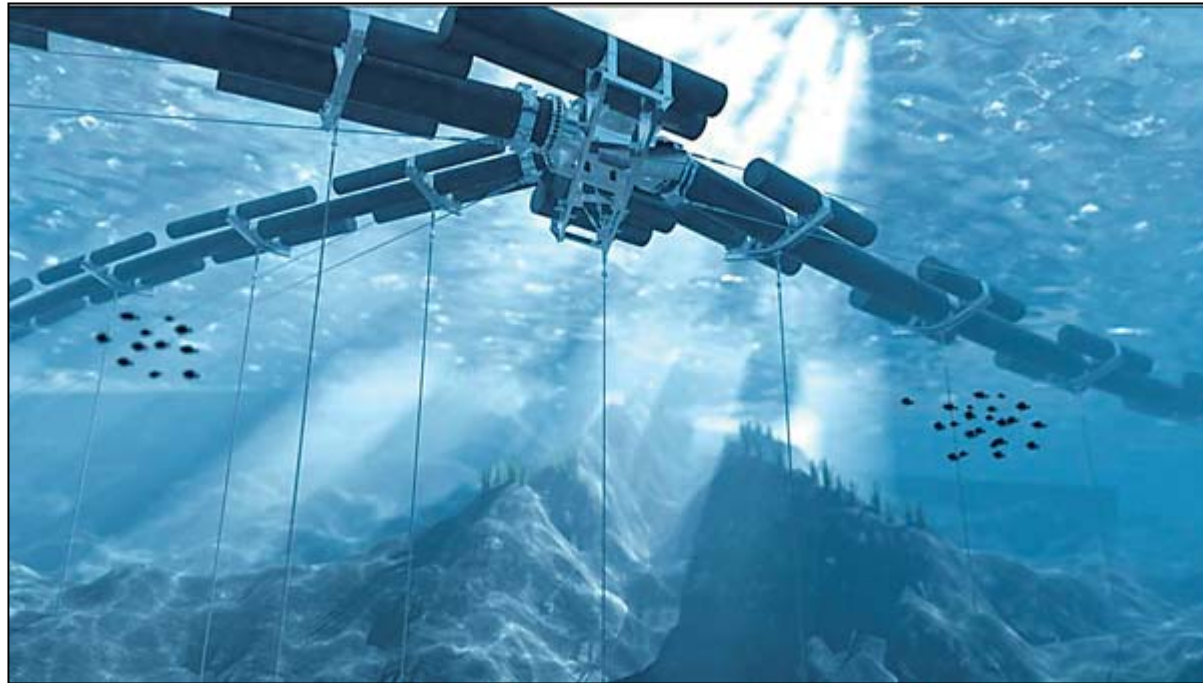
2 million gallon  
clearwell

60 FT. DEEP





# SEWER



# ELECTRICITY







# NATURAL GAS







# NW Natural Earthquake Preparedness

## NW Natural's Pipeline System:

- Our pipeline system exceeds federal pipeline safety regulations.
- We have one of the most modern systems in the nation, with no bare steel or cast iron pipe left. The materials in our system are more ductile (flexible) and perform better in land movement.
- NW Natural also has thousands of shut-off valves to control our system in the event of any emergency. Some close automatically; some are controlled remotely from our Gas Control Center; and others are manually operated.
- Further, NW Natural has installed more than 200,000 excess flow valves (EFVs) throughout our system intended to automatically shut off gas in the event of damage to the service line.
- NW Natural maintains emergency first responders around the clock. In the event of an earthquake, field personnel will be called out to respond to the event. We also have mutual assistance agreements with other natural gas utilities across the Western U.S. which allows access to additional trained personnel in case of an extended event.



### BEFORE an Earthquake:

- Secure your gas equipment to minimize movement during a quake.
- Replace semi-rigid gas connectors with flexible connectors.
- Move combustibles away from appliances.



### AFTER an Earthquake:

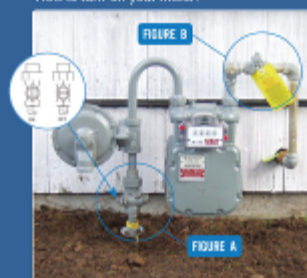
- If you detect a natural gas odor, leave the area on foot and then call NW Natural at 800.882.3377.
- **ONLY** turn off your gas, if it is safe to do so.
- If you turn off your gas, **DO NOT** turn it back on yourself. Leave it off and contact NW Natural.



### Regarding Earthquake Shut-off Valves:

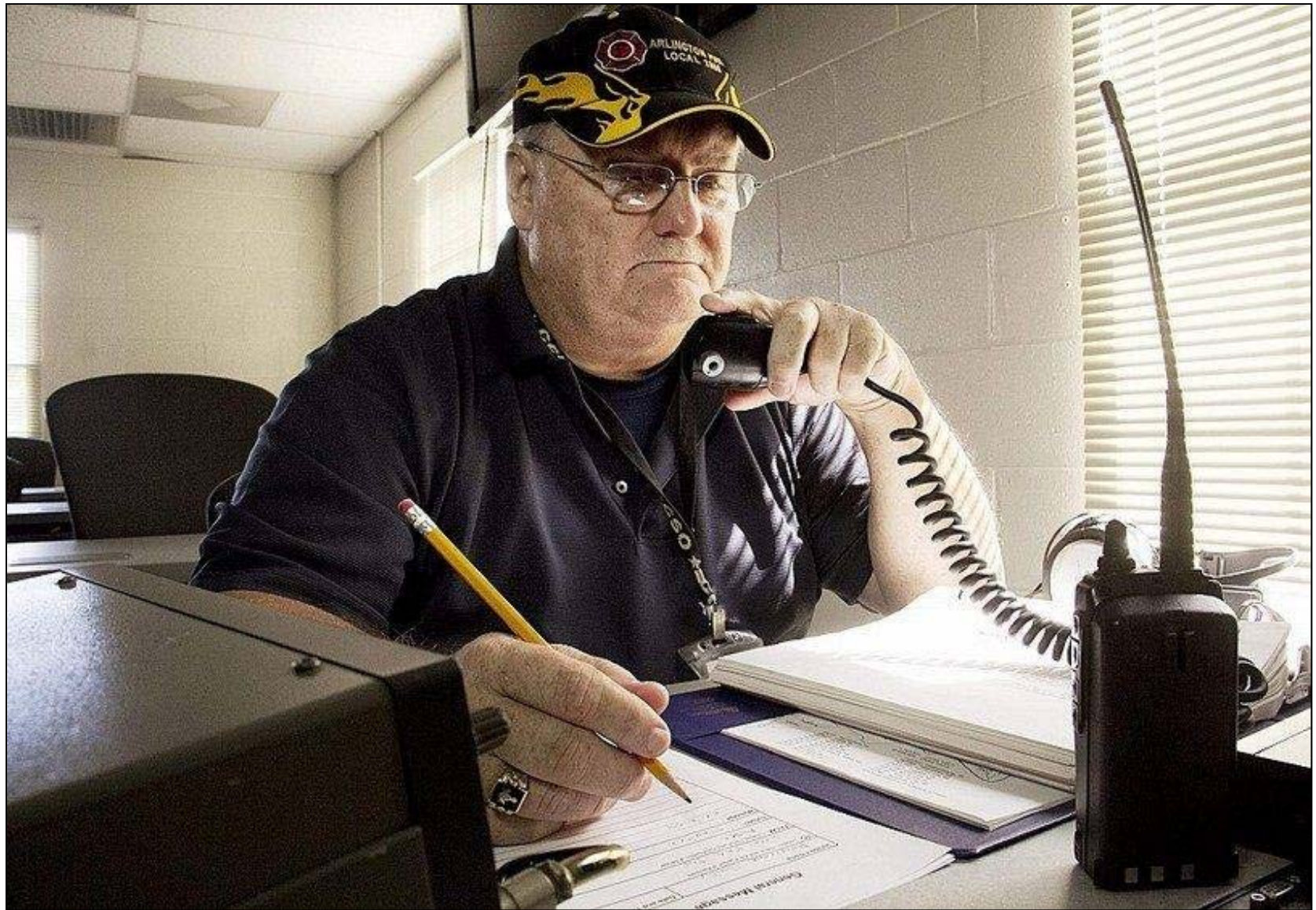
- If you choose to install an earthquake shut-off valve, be sure to use a qualified, licensed contractor.
- Earthquake shut-off valves must be installed on the customer's side of the meter, not on NW Natural's.
- If the shut-off valve has closed you will need to contact a qualified, licensed contractor to reset the valve and relight your natural gas appliances.

How to turn-off your meter:



# COMMUNICATIONS







# SCHOOLS





# Summary

## **Within 5 years LO will have**

- A new LOCOM/police facility
- New waste water treatment facility
- New county-wide communication network
- New maintenance facility
- New water treatment plant
- New sewer interceptor
- One new junior high school/emergency shelter

All built to withstand a 9.0 earthquake



**Let's make it our job to have  
all of our neighborhoods organized  
and citizens prepared  
by 2021**

# How to organize your NA

**No one answer** – each has done it differently

## **Common elements:**

- **A driving force** – one or two people who are passionate about it.
- **Divide neighborhood into sections.**
- **Educational gatherings**
  - Large group for a speaker at NA general meetings
  - Small group classes on different subjects



# Goals

- Individuals prepare their own homes and families
- Individuals make plans with their immediate neighbors
- Develop a communication system for reporting to the closest fire station

**Overarching goal: make everyone feel like they will be taken care of and have a part to play in recovery.**

# Tools

## Individuals

- Websites - [www.preporegon.org](http://www.preporegon.org)
- ***Living on Shaky Ground*** brochures available from Bonnie Hirschberger at City Hall
- Educational gatherings
- Handout

## Immediate neighbors (blocks)

- ***Map Your Neighborhood*** exercise – available at Main Fire Station

## Communication System

- Will develop as a result of dividing up, and activating, sections of your neighborhood