

# Appendix E: Progress Report on Local Mitigation Projects

Action ID	Hazard	Jurisdiction	Action Item	Lead	Status	Comments	Included in 2017 NHMP Actions?
1	Earthquake	Fairview	Obtain funding and retrofit important public facilities with significant seismic vulnerabilities.	Administration, Public Works	No Action/Deferred	Need to find grant for funding.	Yes
2	Earthquake	Fairview	Conduct a sidewalk survey of residential, commercial and industrial buildings in Fairview using the Federal Emergency Management Agency's (FEMA) Rapid Visual Screening to identify especially vulnerable buildings, raise awareness and encourage mitigation actions.	Public Works, Community Development, Building Official	No Action/Deferred	Significant staff cuts. Community Development department eliminated.	Yes
3	Earthquake	Fairview	Disseminate FEMA pamphlets to educate homeowners and business owners about structural and non-structural retrofitting of vulnerable buildings and encourage retrofit.	Administration, Community Development	No Action/Deferred	Significant staff cuts. Community Development department eliminated.	Yes
4	Earthquake	Fairview	Encourage owners of other critical facilities, including fire stations and schools, to conduct similar seismic vulnerability assessments and to establish priorities for retrofit or replacement where necessary.	Administration	No Action/Deferred	Significant staff cuts. Community Development department eliminated.	Yes
5	Earthquake	Fairview	Evaluate the seismic vulnerability of critical city-owned buildings, utilities and infrastructure and establish priorities to retrofit or replace vulnerable facilities to ensure adequate seismic performance of critical facilities.	Public Works, Building Official	No Action/Deferred	Need to find grants for funding.	Yes
6	Flood - in floodplain	Fairview	Complete inventory and geographic information systems (GIS) mapping of structures, critical facilities, and important transportation or utility system components within mapped floodplains or within areas subject to flood in the event of levee or dam failures, including elevation data and facility information.	Public Works, Community Development, Building Official	No Action/Deferred	The Multnomah County Drainage District (MCDD) has completed draft inundation maps for areas behind levees.	Yes
7	Flood - in floodplain	Fairview	Develop funding alternatives for replacement of Fairview Creek culverts at 223rd Avenue and Halsey Street and 223rd Avenue and Walnut Lane.	Public Works, Community Development, Building Official	NA/Recommend Removal	This is a county road.	Yes
8	Flood - in floodplain	Fairview	Develop specific mitigation strategies for high-risk facilities identified in short-term item #1.	Public Works, Community Development	No Action/Deferred	Dependent on Action #10.	Yes

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9	Flood - outside floodplain	Fairview	Evaluate and improve notification, evacuation and response planning for areas within the potential inundation area for levee or dam failures.	Police, Public Works	No Action/Deferred	Significant staff cuts. Community Development department eliminated.	No - response planning
10	Flood - outside floodplain	Fairview	Complete an inventory of structures, critical facilities and important transportation or utility system components in locations with a history of severe or repetitive flooding.	Public Works	No Action/Deferred	MCDD has developed inundation maps for areas behind levees (not mapped floodplain). Are there other areas with repetitive flooding that are not in a FEMA Special Flood Hazard Area?	Yes
11	Flood - outside floodplain	Fairview	For locations with repetitive flooding and significant damages or road closures, determine and implement mitigation measures such as upsizing culverts or stormwater drainage capacity: 28 projects identified in Fairview's 2007 Consolidated Stormwater Master Plan.	Public Works	No Action/Deferred	Significant staff cuts. Community Development department eliminated.	Yes
12	Landslide	Fairview	Complete the inventory of locations where buildings or infrastructure are subject to landslides.	Public Works	No Action/Deferred	Significant staff cuts. Community Development department eliminated.	Yes
13	Landslide	Fairview	Consider landslide potential in the permitting process for new development in the few areas of Fairview where landslide potential is not nil.	Community Development, Building Official	No Action/Deferred	Significant staff cuts. Community Development department eliminated.	Yes
14	Multi-Hazard	Fairview	Develop education programs aimed at mitigating the risk posed by hazards.	Community Development, Public Works	No Action/Deferred	Significant staff cuts. Community Development department eliminated.	Yes
15	Multi-Hazard	Fairview	Develop detailed inventories of at-risk buildings and infrastructure and prioritize mitigation actions.	Community Development, Public Works	No Action/Deferred	Significant staff cuts. Community Development department eliminated.	Yes
16	Multi-Hazard	Fairview	Develop public and private sector partnerships to foster hazard mitigation activities.	Administration, Public Works, Police	In Progress	Ongoing meetings.	Yes
17	Multi-Hazard	Fairview	Establish a formal role for the Local Mitigation Planning Team to develop a sustainable process to encourage, implement, monitor and evaluate citywide mitigation actions.	Public Works, Police	No Action/Deferred		No- part of plan implementation
18	Multi-Hazard	Fairview	Identify and pursue funding opportunities to implement mitigation actions.	Administration, Public Works, Police	In Progress	Working with Multnomah County DEM.	Yes
19	Multi-Hazard	Fairview	Integrate hazard, vulnerability and risk mitigation plan findings into enhanced emergency operations planning.	Police	In Progress		Yes

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20	Multi-Hazard	Fairview	Integrate the mitigation plan findings into planning and regulatory documents and programs.	Community Development, Public Works	Complete		Yes - revise
21	Volcanic Hazards	Fairview	Develop emergency evacuation protocols for lahar events and conduct exercises to test the protocols.	Police, Public Works	In Progress	The county and City of Portland procured a new Community Emergency Notification System (CENS). The county can include a lahar zone map that will enable quick call-outs to residents in the potential path of a lahar when such a warning is called for (in accordance with the protocols in the Mt. Hood Coordination Plan). The CENS system will be exercised on a regular basis.	No - response planning
22	Volcanic Hazards	Fairview	Update public education, emergency notification procedures and emergency planning for ash fall and lahar events.	Community Development, Public Works, Police	Complete	The Mt. Hood Coordination Plan identifies responsibilities of federal, regional and local agencies for public notifications and response. The county obtained public education materials from the U.S. Geological Survey (USGS) on ash and other volcanic hazards and is providing these at community outreach events (e.g., Fairview National Night Out).	No - response planning
23	Volcanic Hazards	Fairview	Quantify the lahar risk in Fairview via GIS mapping to overlay the lahar hazard zones with parcel data.	Community Development, Public Works	NA/ Recommend Removal	GIS metadata cautions that data is recommended to be used for general planning purposes, not at the structure level.	No
24	Wildland Urban Interface Fire	Fairview	Identify and map high-risk areas.	Public Works, Gresham Fire	Complete	The 2011 Community Wildfire Protection Plan (CWPP) and new risk assessment data provided by the Oregon Dept. of Forestry (ODF) has mapped high-risk areas within Fairview. This is being included in the Natural Hazards Mitigation Plan (NHMP) update.	Yes - revise

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25	Wildland Urban Interface Fire	Fairview	Disseminate fire-wise pamphlets and other educational materials to residents in high-risk areas.	Community Development, Gresham Fire	No Action/Deferred	Significant staff cuts. Community Development department eliminated.	Yes
26	Wildland Urban Interface Fire	Fairview	Encourage fire-safe construction practices for existing and new construction in high-risk areas.	Community Development, Building Official	Complete	Ongoing.	Yes - revise
27	Wildland Urban Interface Fire	Fairview	Participate in the upcoming development of the Multnomah County CWPP.	Community Development	Complete	Gresham Fire participated in the 2011 CWPP. Fairview's NHMP Steering Committee representative will be included in future updates of the CWPP as well.	Yes - revise
28	Winter Storm	Fairview	Ensure that all critical facilities in Fairview have backup power and emergency operations plans to deal with power outages.	Public Works for city-owned, other public and private facility owners	Complete		No - complete
29	Winter Storm	Fairview	Consider upgrading lines and poles to improve wind/ice loading, undergrounding critical lines, and adding interconnect switches to allow alternative feed paths and disconnect switches to minimize outage areas.	Portland General Electric (PGE)	NA/Recommend Removal		Yes
30	Winter Storm	Fairview	Conduct annual hazardous tree assessment and mitigation in city parks.	Community Development, Public Works	Complete		No - complete
31	Winter Storm	Fairview	Encourage new developments to include underground power lines.	Community Development	Complete		No - complete
32	Winter Storm	Fairview	Encourage property owners to trim trees near service drops to individual customers.	PGE	NA/Recommend Removal		Yes
33	Winter Storm	Fairview	Enhance tree trimming efforts, especially for transmission lines and trunk distribution lines.	PGE	NA/Recommend Removal		Yes

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34	Earthquake	Multnomah County	Evaluate the nonstructural vulnerabilities in county buildings and implement mitigation measures where necessary, including automatic seismic shut off valves on gas lines, flexible connections to gas-fueled equipment, bracing of fire sprinklers, bracing of contents and others.	Facilities and Property Management (FPM)	In Progress	Initial nonstructural assessments were performed on identified priority facilities in 1989. Since that time, FPM has incorporated many of the common recommended actions into its renovation activities. Automatic seismic shut off valves were installed in 10 larger, high-priority facilities. Focus is now on strategically replacing facilities whenever possible (i.e., downtown courthouse and Health Department headquarters). Recommend revising action to identify remaining gaps.	Yes
35	Earthquake	Multnomah County	Seismic upgrades to the Multnomah County courthouse.	FPM	Complete	New facility being built that will meet seismic codes.	No - complete
36	Earthquake	Multnomah County	Encourage school districts, fire agencies and private building owners to evaluate the structural vulnerability of buildings and retrofit or replace when necessary. Example: grant workshops.	Multnomah County Emergency Management (MCEM)	No Action/Deferred	We have participated in state organized grant workshops for seismic retrofit, however, we have had no active role in persuading public or private owners to retrofit. This action should be modified to be more specific to what role we can take in this effort.	Yes
37	Earthquake	Multnomah County	Complete and maintain an inventory of critical facilities and lifelines that are susceptible to severe disruption due to earthquake hazards.	MCEM	In Progress	In GIS and through the risk assessment in the NHMP and the Oregon Resilience Plan, we are beginning to identify those critical facilities and infrastructure.	Yes
38	Earthquake	Multnomah County	Enhance Multnomah County's staff earthquake expertise by attending training classes on nonstructural mitigation, post-earthquake seismic evaluations of buildings, and FEMA mitigation grants.	MCEM	Complete	County staff have taken ATC-20 classes, FEMA E-74 Reducing Risks of Nonstructural Earthquake Damage. The resilience planner has attended a webinar on new FEMA grant guidance and shared this info with steering committee.	No - complete

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39	Earthquake	Multnomah County	Evaluate the structural vulnerability of critical county buildings and retrofit or replace when necessary.	FPM	Complete	Multiple structural assessments have been performed in the past on county buildings. These assessments are used to identify structural deficiencies. This information aids in the planning of needed upgrades and/or replacement of structures. Consider including a new action that is more specific and aligned with FPM strategy.	Yes - revise
40	Earthquake	Multnomah County	Obtain and update earthquake map data as it becomes available through the Oregon Dept. of Geology and Mineral Industries (DOGAMI) and other partners.	GIS	NA/ Recommend Removal	This is part of the NHMP risk assessment process.	Yes
41	Earthquake	Multnomah County	Retrofit or replace key bridges with substantial seismic vulnerabilities.	Transportation	In Progress	The Sellwood Bridge has been replaced and the new Tilikum Bridge provides another seismically safe crossing. The 2015 Bridge capital improvement plan (CIP) Update identified seismic mitigation projects for the county's Willamette River bridges.	Yes
42	Earthquake	Multnomah County	Retrofit suspended ceilings, including light fixtures, as replacement becomes necessary.	FPM	Revised	Policy and/or code requirement supports bringing these building components up to current seismic code when they are impacted due to renovation. Additionally, discovered structural or nonstructural safety issues are addressed during the course of a renovation and prioritized accordingly. Revised action should be to identify which facilities to target and to pursue funding (grant or capital improvement) as it becomes available.	Yes - revise

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43	Flood - in floodplain	Multnomah County	Complete an inventory and GIS mapping of structures, critical facilities, and important transportation or utility system components within mapped floodplains and/or within areas subject to flood in the event of levee or dam failures, including elevation data.	GIS	NA/ Recommend Removal	We don't have elevation of structures data. Can use HAZUS to estimate this to some degree. Should be part of regular risk assessment update.	Yes
44	Flood - in floodplain	Multnomah County	Encourage local jurisdictions to post high-water marks around the county to aid citizens and first responders in visually assessing flood hazards.	MCEM	No Action/Deferre d	The Oregon Museum of Science and Industry (OMSI) has some high-water marks on the Willamette. Are there others? MCDD has this as a goal in its Levee Improvement Program.	Yes
45	Flood - in floodplain	Multnomah County	Facilitate an identification and prioritization process for the purpose of defining a candidate list of localized inundation scenarios related to levee failures that result from different hazard events.	MCEM	Complete	MCDD has developed inundation maps for areas behind levees for 100-year and 500-year flood events on the Columbia, as well as the design water surface elevation. The areas mapped are not within the FEMA Special Flood Hazard Area (SFHA).	No - complete
46	Flood - in floodplain	Multnomah County	Conduct a targeted risk assessment for all areas within the county containing public facilities, private industry and/or residential facilities that were previously flooded or flood-prone.	MCEM	NA/ Recommend Removal	The NHMP risk assessment shows flood risk. If this action stays, it should identify target areas that need more study and what the purpose of that study would be, e.g., to develop a mitigation grant to elevate or flood-proof buildings.	Yes - revise
47	Flood - in floodplain	Multnomah County	Use targeted flood risk assessments to educate stakeholders on need to take mitigation and/or preparedness actions in order to reduce flood hazard impacts.	MCEM	NA/ Recommend Removal	Work on this action is dependent on Action #46.	Yes - revise
48	Flood - in floodplain	Multnomah County	Implement mitigation actions for identified high-risk buildings or infrastructure as funding becomes available.	MCEM	NA/ Recommend Removal	This is not specific enough to be helpful.	Yes - revise
49	Flood - outside floodplain	Multnomah County	Complete an inventory and GIS mapping of structures, critical facilities, and important transportation or utility system components in locations with a history of severe or repetitive flooding.	GIS	NA/ Recommend Removal	Are there areas outside the mapped flood zones that have severe or repetitive flooding? Are these areas covered by Stormwater Master Plans?	Yes - revise

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50	Flood - outside floodplain	Multnomah County	For locations with repetitive flooding and significant damages or road closures, determine and implement mitigation measures such as upsizing culverts or stormwater drainage capacity.	Transportation	In Progress	Road maintenance crews notify drainage engineer when problems exist. Drainage engineer evaluates and makes recommendations. Inventory and mapping of all county culverts is underway. County maintains a five-year CIP for fish passage culverts which is updated every two years.	Yes
51	Landslide	Multnomah County	Inventory utility and communication infrastructure in areas with a history of landslides or which are within mapped landslide hazard areas.	GIS	No Action/Deferred	This will be deferred until a more detailed lidar-based analysis of landslide risk is conducted by DOGAMI in 2016. MCEM does not have access to detailed locations of utility and communication infrastructure. Discussions with those organizations will need to occur to see if they would like to share data or if they would like to conduct the analysis themselves.	Yes - revise
52	Landslide	Multnomah County	Compile inventory of county road segments with a history of landslides or which are within mapped landslide hazard areas.	Transportation	No Action/Deferred	This will be deferred until a more detailed lidar-based analysis of landslide risk is conducted by DOGAMI in 2016. Existing slope hazard maps have not been overlaid with roads.	Yes - revise
53	Landslide	Multnomah County	Review the hillside development ordinance to consider amendments that address areas at risk from landslides for areas not already identified on the County Slope Hazard Map or otherwise subject to the hillside development zoning code.	Land Use Planning	In Progress	Being considered as part of the comprehensive plan update currently underway. The focus of the Comprehensive Plan policy conversation is currently whether the hillside development maps should be updated and whether code amendments are needed to address landslide risks to hillside development. Project is roughly half-way to completion.	Yes

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54	Landslide	Multnomah County	Encourage the relocation of identified critical or essential facilities and high-occupancy facilities in high-landslide-hazard areas, or mitigation of the landslide hazard if feasible.	MCEM	No Action/Deferred	New DOGAMI analysis in 2017 using lidar should assist in identifying high-landslide-hazard areas. Next step will be to identify if there are any facilities in these areas.	Yes
55	Landslide	Multnomah County	Obtain completed detailed lidar-based inventory of historical and active landslides and areas with high landslide risk to update the county's slope hazard maps.	GIS	Complete	Have Statewide Landslide Information Database for Oregon (SLIDO) 3. Next analysis by DOGAMI due in 2017.	Yes - revise
56	Severe Weather	Multnomah County	Work with stakeholder groups to identify common criteria for defining extreme heat and cold events for the sake of determining proper mitigation, protection or preparedness strategies.	MCEM	Complete	MCEM has developed a standard operating procedure (SOP) for severe weather that defines heat and cold event triggers for monitoring and response. The Climate Change Preparedness Plan identifies impacts from high-heat days and objectives for mitigation and preparedness.	Yes - revise
57	Severe Weather	Multnomah County	Develop a strategy that encourages property owners to trim trees that could impact life safety and damage property.	MCEM	NA/Recommend Removal	This is not a priority public education topic for MCEM. May be more appropriate for another agency.	No
58	Severe Weather	Multnomah County	Encourage utilities to upgrade lines and poles to improve wind/ice loading, undergrounding critical lines, and adding interconnect switches to allow alternative feed paths and disconnect switches to minimize outage areas.	MCEM	NA/Recommend Removal	Utilities are privately owned so we cannot pursue grants on their behalf. There is not a lot we can do to encourage this and it's in the interest of utilities to reduce their risk of damages from winter storms.	Yes - revise
59	Severe Weather	Multnomah County	Ensure that all critical facilities in Multnomah County have backup power and/or coordination of operations plans in place to withstand loss of grid power.	Facilities and Property Management	In Progress	Continuity of Operations Planning (COOP) is in progress. Fuel planning needs are also being assessed. New facilities that are priority will have generator power. May want to pursue potential grant funding if facility meets criteria.	Yes
60	Severe Weather	Multnomah County	Conduct tree trimming activities on county roads where Multnomah County Transportation has jurisdictional responsibility.	Transportation	In Progress	Road maintenance crews conduct tree trimming activities.	Yes

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61	Volcanic Hazards	Multnomah County	Update public education, emergency notification procedures and emergency planning for ash fall and lahar events.	MCEM	Complete	The Mt. Hood Coordination Plan identifies responsibilities of federal, regional and local agencies for public notifications and response. The county obtained public education materials from USGS on ash and other volcanic hazards and is providing these at community outreach events (e.g., Troutdale Summerfest, National Night Out events, etc.). The county also has displayed maps with the lahar zone at Troutdale and Corbett outreach events.	No - complete
62	Volcanic Hazards	Multnomah County	Develop emergency evacuation protocols for lahar events and conduct exercises to test the protocols.	MCEM	No Action/Deferred	The county and City of Portland procured a new Community Emergency Notification System (CENS). The county can include a lahar zone map that will enable quick call-outs to residents in the potential path of a lahar when such a warning is called for (in accordance with the protocols in the Mt. Hood Coordination Plan). The CENS system will be exercised on a regular basis.	No - response planning

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63	Wildland Urban Interface Fire	Multnomah County	Consider how Multnomah County Land Use Planning should coordinate with fire agencies' planning for wildland urban interface fires.	Land Use Planning	Complete	This action item is complete. Land Use Planning amended zoning regulations in 2011 to clarify and streamline fire agency review of development applications in unincorporated Multnomah County. County zoning code was amended to defer review of access standards to fire departments to assure either safe emergency vehicular access or the use of structural fire sprinkler systems. Land use codes currently require establishment of fire safety zones around new structures in forest zones to minimize wildfire risk. New development in all zones is currently subject to fire department review. Extending structural fire safety standards to additional zoning districts is a policy question which will be considered as part of the ongoing Comprehensive Plan update project.	Yes - revise
64	Wildland Urban Interface Fire	Multnomah County	Review and amend as necessary planning and development regulations to incorporate mitigation strategies for urban/wildland interface fires considering the recommendations in the 2011 Multnomah County CWPP.	Land Use Planning	In Progress	Policy direction for amendments to zoning regulations are being considered as part of the Comprehensive Plan update currently underway. Project is roughly half-way to completion.	Yes
65	Wildland Urban Interface Fire	Multnomah County	Track and report progress of action items in the CWPP.	MCEM	In Progress	The county is currently considering how this plan could be better integrated with the NHMP and is proposing that the CWPP Committee become a subcommittee of the NHMP Steering Committee.	Yes
66	Earthquake	Troutdale	Obtain funding and retrofit important public facilities with significant seismic vulnerabilities.	Finance	In Progress	Incorporated into ongoing training, and as circumstance and federal and state funding opportunities wax and wane.	Yes

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67	Earthquake	Troutdale	Conduct a sidewalk survey of residential, commercial and industrial buildings in Troutdale using FEMA's Rapid Visual Screening to identify especially vulnerable buildings, raise awareness and encourage mitigation actions.	Building Official	Revised	Reassigned to the building official who is better qualified to make this assessment. Over the last 18 months, the building official has reviewed all projects proposed for compliance. Sites that are not associated with a building permit have not been surveyed.	Yes
68	Earthquake	Troutdale	Disseminate FEMA pamphlets to educate homeowners and business owners about structural and nonstructural retrofitting of vulnerable buildings and encourage retrofit.	Community Development	In Progress	During pre-applications we encourage the use of underground power lines in conjunction with PGE requirements.	Yes
69	Earthquake	Troutdale	Encourage owners of other critical facilities, including fire stations and schools, to conduct similar seismic vulnerability assessments and to establish priorities for retrofit or replacement where necessary.	Administration	In Progress	Fire stations have been evaluated for seismic risk, and the most vulnerable retrofitted. City Hall was abandoned and functions moved into less vulnerable buildings, and a new police facility was constructed to current seismic standards for an Emergency Operations Center (EOC). Pre-application conferences over the last 18 months have included comments from the building official concerning seismic upgrades required under the provisions of Chapter 34 of the Oregon Structural Specialty Code (OSSC). Recent approval of a charter school in an existing building required seismic upgrades.	Yes
70	Earthquake	Troutdale	Evaluate the seismic vulnerability of critical city-owned buildings, utilities and infrastructure and establish priorities to retrofit or replace vulnerable facilities to ensure adequate seismic performance of critical facilities.	Community Development	In Progress	Fire stations have been evaluated for seismic risk, and the most vulnerable retrofitted. City Hall was abandoned and functions moved into less vulnerable buildings, and a new police facility was constructed to current seismic standards for an EOC.	Yes

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71	Flood - in floodplain	Troutdale	Complete an inventory and GIS mapping of structures, critical facilities, and important transportation or utility system components within mapped floodplains and/or within areas subject to flood in the event of levee or dam failures, including elevation data and structure/facility information.	Public Works	In Progress	Subject to revision with pending Flood Insurance Rate Maps (FIRMs). MCDD has completed draft inundation maps for areas behind levees.	Yes
72	Flood - outside floodplain	Troutdale	Evaluate and improve notification, evacuation and response planning for areas within the potential inundation area for levee or dam failures.	Police	Complete	Flood-prone properties have been identified and an evacuation drill was performed.	No - response planning
73	Flood - outside floodplain	Troutdale	Complete an inventory of structures, critical facilities and important transportation or utility system components in locations with a history of severe or repetitive flooding.	Public Works	In Progress	Subject to revision with pending FIRMs.	Yes
74	Flood - outside floodplain	Troutdale	For locations with repetitive flooding and significant damages or road closures, determine and implement mitigation measures such as upsizing culverts or stormwater drainage capacity.	Public Works	In Progress	Locations with repetitive flooding and significant damages or road closures have been identified in the stormwater master plans and the projects are currently on our CIP list.	Yes
75	Landslide	Troutdale	Complete the inventory of locations where buildings or infrastructure are subject to landslides.	Community Development	No Action/Deferred	Inventory of locations where buildings or infrastructures are subject to landslides are currently done as permits are issued. No additional survey has been done at this point.	Yes
76	Landslide	Troutdale	Consider landslide mitigation actions for slides seriously threatening buildings or infrastructure.	Community Development	No Action/Deferred	Mitigation actions are part of the permit process for new and remodeled buildings. Nothing has been done to formalize a process of mitigation of existing buildings or infrastructure.	Yes
77	Landslide	Troutdale	Limit future development in high-landslide-potential areas.	Community Development	Complete	Steep slope protection standards have been adopted.	Yes - revise
78	Multi-Hazard	Troutdale	Develop detailed inventories of at-risk buildings and infrastructure and prioritize mitigation actions.	Public Works	No Action/Deferred	Proposed in our 2015-2016 budget, but was not funded.	Yes
79	Multi-Hazard	Troutdale	Develop education programs aimed at mitigating the risk posed by hazards.	Administration	In Progress	Educational materials, including data on city GIS layers and pamphlets, are available to the public and permittees, and educational programs have been provided.	Yes

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80	Multi-Hazard	Troutdale	Develop public and private sector partnerships to foster hazard mitigation activities.	Administration	In Progress	Regional partnerships have been developed.	Yes
81	Multi-Hazard	Troutdale	Establish a formal role for the Local Mitigation Planning Team to develop a sustainable process to encourage, implement, monitor and evaluate citywide mitigation actions.	Administration	In Progress	City Management Team meetings of the key departments and staff training is ongoing.	No- part of plan implementation
82	Multi-Hazard	Troutdale	Identify and pursue funding opportunities to implement mitigation actions.	Finance	In Progress	Ongoing.	Yes
83	Multi-Hazard	Troutdale	Integrate hazard, vulnerability and risk mitigation plan findings into enhanced emergency operations planning.	Public Works	In Progress	Ongoing.	Yes
84	Multi-Hazard	Troutdale	Integrate the mitigation plan findings into planning and regulatory documents and programs.	Community Development	In Progress	Ongoing. The building official has integrated flood, earthquake and known landslide mitigation during both pre-application and building permit issuance.	Yes
85	Volcanic Hazards	Troutdale	Develop emergency evacuation protocols for lahar events and conduct exercises to test the protocols.	Administration	NA/ Recommend Removal	The frequency of such events and the likely advance warning time for volcanic-related activity makes such drills impractical, except as a general EOP principle.	No - response planning
86	Volcanic Hazards	Troutdale	Develop GIS overlay maps of parcel and building data within lahar zones.	Public Works	NA/ Recommend Removal	GIS metadata cautions that data is recommended to be used for general planning purposes, not at the structure level.	No
87	Volcanic Hazards	Troutdale	Update public education, emergency notification procedures and emergency planning for ash fall and lahar events.	Administration	Complete	The Mt. Hood Coordination Plan identifies responsibilities of federal, regional and local agencies for public notifications and response. The county obtained public education materials from USGS on ash and other volcanic hazards and is providing these at community outreach events. MCEM gave out these materials and also displayed maps with the lahar zone at the Troutdale Summerfest.	No-complete

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88	Wildland Urban Interface Fire	Troutdale	Identify specific parts of Troutdale at high risk for wildland urban interface fires because of fuel loading, topography and prevailing construction practices.	Community Development	No Action/Deferred	We are currently reviewing the criteria concerning wildfire hazard zones.	Yes
89	Wildland Urban Interface Fire	Troutdale	Encourage fire-safe construction practices for existing and new construction in high-risk areas.	Community Development	In Progress	The State of Oregon amended the IRC to include wildfire hazard mitigation with the statement that wildfire hazard zones shall be determined using criteria by ODF.	Yes
90	Wildland Urban Interface Fire	Troutdale	Identify evacuation routes and procedures for high-risk areas and educate the public.	Police	In Progress	Evacuation procedures will be developed based on the wildfire zones established by ODF.	No - response planning
91	Winter Storm	Troutdale	Ensure that all critical facilities in Troutdale have backup power and emergency operations plans to deal with power outages.	Public Works	In Progress	Addressed as part of structural rehabilitation or new construction, as occurred with the new police facility.	Yes
92	Winter Storm	Troutdale	Consider upgrading lines and poles to improve wind/ice loading, undergrounding critical lines, and adding interconnect switches to allow alternative feed paths and disconnect switches to minimize outage areas.	PGE	In Progress	Undergrounding power line is an ongoing program.	Yes
93	Winter Storm	Troutdale	Encourage new developments to include underground power lines.	Community Development	Complete	During pre-applications we encourage the use of underground power lines in conjunction with PGE requirements.	No - complete
94	Winter Storm	Troutdale	Encourage property owners to trim trees near service drops to individual customers.	Code Enforcement	In Progress	This is an ongoing task.	Yes
95	Winter Storm	Troutdale	Enhance tree trimming efforts especially for transmission lines and trunk distribution lines.	PGE	In Progress	This work is currently being completed by PGE.	Yes
96	Earthquake	Wood Village	Obtain funding and retrofit important public facilities with significant seismic vulnerabilities.	Administration	No Action/Deferred		Yes
97	Earthquake	Wood Village	Conduct a sidewalk survey of residential, commercial and industrial buildings in Wood Village using FEMA's Rapid Visual Screening to identify especially vulnerable buildings, raise awareness and encourage mitigation actions.	Public Works	No Action/Deferred	A staff member would need training to perform this type of assessment. Many homes were constructed before 1983 under different standards.	Yes
98	Earthquake	Wood Village	Disseminate FEMA pamphlets to educate homeowners and business owners about structural and nonstructural retrofitting of vulnerable buildings and encourage retrofit.	Public Works, Administration	No Action/Deferred	Make information available to public through pamphlets, newsletter articles and city website.	Yes

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99	Earthquake	Wood Village	Encourage owners of other critical facilities, including fire stations and schools, to conduct similar seismic vulnerability assessments and to establish priorities for retrofit or replacement where necessary.	Public Works, Building Department	NA/ Recommend Removal	Wood Village has no schools or fire stations. New development is guided by building code requirements. Make information available to public through pamphlets, newsletter articles and city website.	No
100	Earthquake	Wood Village	Evaluate the seismic vulnerability of critical city-owned buildings, utilities and infrastructure and establish priorities to retrofit or replace vulnerable facilities to ensure adequate seismic performance of critical facilities.	Public Works	Complete	City reservoirs were evaluated for retrofit. Project would be cost-prohibitive and it was determined that the retrofit would not be effective.	Yes - revise
101	Flood - in floodplain	Wood Village	Complete an inventory and GIS mapping of structures, critical facilities, and important transportation or utility system components within mapped floodplains and/or within areas subject to flood in the event of levee or dam failures, including elevation data and structures/facility information.	Planning	NA/ Recommend Removal	This information was included in the 2010 NHMP. It states that the entire city is outside the 500-year floodplain.	No
102	Flood - in floodplain	Wood Village	Evaluate and improve notification, evacuation and response planning for areas within the potential inundation area for levee or dam failures.	Public Works	NA/ Recommend Removal	This information was included in the 2010 NHMP. It states that the entire city is outside the 500-year floodplain.	No
103	Flood - outside floodplain	Wood Village	Identify locations where improvements to the stormwater drainage system are desired.	Planning	In Progress	The Master Plan identified two city intersections and three Multnomah County intersections within Wood Village that require improvements. Other improvements are made as needed.	Yes
104	Flood - outside floodplain	Wood Village	For locations with repetitive flooding and significant damages or road closures, determine and implement mitigation measures such as upsizing culverts or stormwater drainage capacity.	Public Works	In Progress	The Master Plan identified two city intersections and three Multnomah County intersections within Wood Village that require improvements. Other improvements are made as needed.	Yes
105	Landslide	Wood Village	Complete the inventory of locations where buildings or infrastructure are subject to landslides.	Public Works	No Action/ Deferred	One location was identified in the city in the 2010 NHMP, categorized as a low to moderate risk. This item deferred until the new mapping comes out.	Yes

Action ID	Hazard	Jurisdiction	Action Item	Lead	Status	Comments	Included in 2017 NHMP Actions?
106	Landslide	Wood Village	Consider landslide mitigation actions for slides seriously threatening buildings or infrastructure.	Public Works	No Action/Deferred	One location was identified in the city in the 2010 NHMP, categorized as a low to moderate risk. This location is in Multnomah County's Right of Way (ROW) so would be the county's responsibility.	Yes
107	Landslide	Wood Village	Limit future development in high-landslide-potential areas.	Planning	No Action/Deferred	One location was identified in the city in the 2010 NHMP, categorized as a low to moderate risk. This location is in Multnomah County's ROW so would be the county's responsibility.	Yes
108	Multi-Hazard	Wood Village	Develop detailed inventories of at-risk buildings and infrastructure and prioritize mitigation actions.	Public Works, Building Department	No Action/Deferred	A staff member would need training to perform this type of assessment.	Yes - revise
109	Multi-Hazard	Wood Village	Develop education programs aimed at mitigating the risk posed by hazards.	Administration	In Progress	Make information available to public through pamphlets, newsletter articles and city website.	Yes
110	Multi-Hazard	Wood Village	Develop public and private sector partnerships to foster hazard mitigation activities.	Public Works, Administration	Complete	Intergovernmental Agreements are in place for staff, equipment, resource, information sharing in case of an incident.	Yes - revise
111	Multi-Hazard	Wood Village	Establish a formal role for the Local Mitigation Planning Team to develop a sustainable process to encourage, implement, monitor and evaluate citywide mitigation actions.	Public Works	In Progress	The Public Works director is designated as the city's emergency manager. He receives ongoing training and monitors the city for issues.	No- part of plan implementation
112	Multi-Hazard	Wood Village	Identify and pursue funding opportunities to implement mitigation actions.	Administration	In Progress	All opportunities are pursued for grant funds for needed equipment, etc.	Yes
113	Multi-Hazard	Wood Village	Integrate hazard, vulnerability and risk mitigation plan findings into enhanced emergency operations planning.	Public Works	Complete	The City of Wood Village's 2010 Natural Hazard Mitigation Plan (NHMP), Water System Emergency Response Plan, Emergency Operations Plan; documents are updated as needed or required.	No - complete

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114	Multi-Hazard	Wood Village	Integrate the mitigation plan findings into planning and regulatory documents and programs.	Administration	Complete	The City of Wood Village's 2010 NHMP, Water System Emergency Response Plan, Emergency Operations Plan; documents are updated as needed or required.	Yes - revise
115	Volcanic Hazards	Wood Village	Develop emergency evacuation protocols for lahar events and conduct exercises to test the protocols.	Public Works, Administration	No Action/Deferred	Evacuation likely would follow Multnomah County routes. See Action #62.	No - response planning
116	Volcanic Hazards	Wood Village	Update public education, emergency notification procedures and emergency planning for ash fall and lahar events.	Public Works, Administration	In Progress	The city makes information available to public through pamphlets, newsletter articles and city website. MCEM provided USGS education materials on ash and other volcanic hazards at the Wood Village National Night Out event.	Yes
117	Wildland Urban Interface Fire	Wood Village	Identify specific parts of Wood Village as high-risk for wildland urban interface fires because of fuel loading, topography and prevailing construction practices.	Public Works, Gresham Fire	Complete	This information was included in the 2010 NHMP.	No - complete
118	Wildland Urban Interface Fire	Wood Village	Encourage fire-safe construction practices for existing and new construction in high-risk areas.	Public Works, Building Department	In Progress	Wood Village building department encourages fire-safe construction practices and materials.	Yes
119	Wildland Urban Interface Fire	Wood Village	Identify evacuation routes and procedures for high-risk areas and educate the public.	Public Works	No Action/Deferred	Make information available to public through pamphlets, newsletter articles and city website.	No - response planning
120	Winter Storm	Wood Village	Ensure that all critical facilities in Wood Village have backup power and emergency operations plans to deal with power outages, including the Public Works Operations Building and the Shea Lift Station.	Public Works	Complete	Critical facilities have backup generators and emergency procedures in place.	No - complete
121	Winter Storm	Wood Village	Evaluate the adequacy of foundations or tie-downs for mobile homes and encourage upgrades to improve wind resistance if necessary.	Public Works	In Progress	This would be determined by the Building Department, not the Public Works Department. Tie downs are required and wind resistance standards on the building codes must be followed.	Yes - revise

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122	Winter Storm	Wood Village	Consider upgrading lines and poles to improve wind/ice loading, undergrounding critical lines, and adding interconnect switches to allow alternative feed paths and disconnect switches to minimize outage areas.	PGE	No Action/Deferred	PGE responsibility.	Yes - revise
123	Winter Storm	Wood Village	Encourage new developments to include underground power lines.	PGE, Planning	Complete	All new development is required to underground utilities.	No - complete
124	Winter Storm	Wood Village	Encourage property owners to trim trees near service drops to individual customers.	PGE	In Progress	The city encourages residents to trim their trees, but if too close to power lines PGE will trim them.	No - complete
125	Winter Storm	Wood Village	Enhance tree trimming efforts, especially for transmission lines and trunk distribution lines.	Public Works	Complete	Public Works will trim trees on city streets as needed; homeowners are contacted to trim trees when necessary.	No - complete
126	Multi-Hazard	Gresham	Assess the vulnerability of properties on the border of city-maintained open space to landslides and wildfire. (This assessment would cover 457 private properties along 839 acres of open space, or about 60,996 linear feet.)	Parks and Rec.	No Action		Yes - revise
127	Multi-Hazard	Gresham	Create a program for small business mitigation and preparedness outreach.	Emergency Management	Completed		No - completed
128	Multi-Hazard	Gresham	Develop public official information kit that can be distributed to elected officials and community decision makers. The kit should include pertinent information regarding the NHMP and the steering committee and its activities, as well as facts and figures on the natural hazard the city is facing.	Emergency Management	No Action		Yes
129	Multi-Hazard	Gresham	Establish a seasonal citizen awareness and outreach campaign.	Emergency Management	Completed		
130	Multi-Hazard	Gresham	Develop formal agreements (such as Memoranda of Understanding [MOUs]) with internal and external partners to work together on risk reduction efforts in the city.	Emergency Management	No Action		Yes - revise
131	Multi-Hazard	Gresham	Explore funding opportunities with partners (both internal and external) to implement the actions identified in the plan.	Emergency Management	Remove	Included in 2017 NHMP plan, in Mitigation Strategy.	No - part of plan implementation
132	Multi-Hazard	Gresham	Establish mitigation benchmarks to assist in evaluating and updating the plan.	Hazard Mitigation Tech Advisory Committee	Remove	Included in 2017 NHMP plan, in Mitigation Strategy.	No - part of plan implementation

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133	Flood - in floodplain	Gresham	Continue participation in the National Flood Insurance Program (NFIP), and investigate participation in the Community Rating System (CRS).	Emergency Management	Remove	Not enough properties in flood plain to make participation cost effective.	No
134	Severe Weather	Gresham	Formalize hazardous tree mitigation strategies.	Department of Environmental Services / Natural Resource Program	In Progress		Yes
135	Wildland Urban Interface Fire	Gresham	Develop education program aimed at making homeowners aware of nonstructural mitigation actions options to reduce their risk from wildfires.	Fire and Emergency Services	Completed		Yes - revise
136	Multi-Hazard	Gresham	Conduct analysis of the likelihood that slope/soil instability will impact wastewater collection and underground utility conveyance infrastructure. The result of the analysis should used to prioritize mitigation actions.	Wastewater Services Division	No Action		Yes - revise
137	Multi-Hazard	Gresham	Based on the outcome of the Regional Critical infrastructure Assessment, develop a program to mitigate any critical building that is at risk.	Emergency Management	In Progress	One remaining station to be retrofitted.	Yes
138	Earthquake	Gresham	Provide seismic upgrades to suspended wastewater conveyance pipelines (i.e., roadway crossings, pipe bridges, etc.).	Wastewater Services Division	No Action/ Deferred		Yes
139	Earthquake	Gresham	Develop an earthquake awareness and mitigation assistance outreach program aimed at low-income residents who may not speak English.	Emergency Management	Completed		Yes - revise
140	Flood - in floodplain	Gresham	Flood-proof wastewater manholes and pipelines within the 100-year floodplain.	Wastewater Services Division, Watershed Management Div.	No Action/ Deferred		Yes - revise
141	Flood - in floodplain	Gresham	Seek to acquire lands that preserve open space in the floodplain from willing sellers, and elevate other homes or businesses.	Department of Environmental Services	No Action/ Deferred		Yes - revise
142	Flood - outside floodplain	Gresham	Assess the condition of stormwater infrastructure on railroad mainline and state highway crossings.	Department of Environmental Services	No Action/ Deferred		Yes -revise
143	Flood - outside floodplain	Gresham	Develop a stormwater management and flood mitigation plan for Pleasant Valley.	Watershed Management, Engineering Division	Completed		Yes - revise

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144	Flood - outside floodplain	Gresham	Develop a stormwater management and flood mitigation plan for Springwater.	Stormwater Engineering Division	In Progress		Yes