

EXHIBIT A
Tsunami Resiliency Plan and Code Amendments
Planning Commission Hearing draft 3-7-19

Exhibit A Part 1: Gearhart Comprehensive Plan Resiliency Provisions

This document includes background text language and a set of model plan policies related to this effort that can be included within the Goal 7 Natural Hazards section of the Gearhart's Comprehensive Plan. Its intent is to provide general information related to community tsunami risk, preface the applicable tsunami plan policies, and support the community's land use resilience program.

GOAL 7 NATURAL HAZARDS

TSUNAMI HAZARD BACKGROUND – ADD THIS DESCRIPTION TO COMP PLAN GOAL 7 INTRO AND TO THE COMP PLAN BACKGROUND REPORT

0.01 Description of the Hazard: The Oregon coast is well known for its spectacular scenery and natural resources. However, because the coast lies at the interface between land and the Pacific Ocean, it also is a zone of great instability and vulnerability. Over time, we have gained a greater awareness of our coast's geologic hazards and its risks to people and property.

Coastal Oregon is not only vulnerable to chronic coastal hazards such as coastal erosion from winter storms and sea level rise, but it is also subject to the potentially catastrophic effects of a Cascadia earthquake event and related tsunamis. These types of powerful and devastating earthquakes of magnitude 9+ are generated at the Cascadia Subduction Zone where the eastward-moving Juan de Fuca tectonic plate dives under the westward-moving North American plate just off the Oregon coast. These large earthquakes will occur under the ocean just offshore of our coast and will produce extremely destructive tsunamis that can strike the coast as soon as 15 minutes after the earthquake, leaving devastation in their path. It is likely that in most Oregon coast communities, including Gearhart, the only warning of an approaching tsunami will be the earthquake itself.

The geologic record shows that the largest of these large Cascadia Subduction Zone earthquakes and accompanying tsunamis occur about every 500 years, plus or minus 200 years. The last such earthquake and tsunami occurred over 300 years ago, on the evening of January 26th, 1700. This means that we are in the time window where a destructive Cascadia earthquake and tsunami could occur and the probability of that occurrence will continue to increase over time. This time the stakes are much higher as the great earthquake and catastrophic tsunami could occur when tens of thousands of Oregonians and visitors are enjoying coastal beaches and towns. To address this increasing risk and substantially increase resilience within our community, the City of Gearhart is proactively addressing tsunami preparedness and mitigation within its land use program. Land use planning that addresses tsunami risk is an essential tool to help increase resilience to a potentially catastrophic tsunami event within the City.

0.02 Tsunami Hazard Maps: The Department of Geology and Mineral Industries (DOGAMI) have developed Tsunami Inundation Maps (TIMs) which provide the essential information for defining tsunami risk along the Oregon coast. The City of Gearhart has adopted the TIM's applicable to Gearhart, and its urban growth boundary, as a part of its comprehensive plan hazard inventory. These maps are also referenced within this natural hazards element of the comprehensive plan and are the basis for establishing the boundaries of Gearhart's Tsunami Hazard Overlay Zone. The TIMs are referenced in the tsunami related plan policies and within the overlay zone for purposes of differentiating between areas of higher versus lower risk.

0.03 Tsunami Related Policies: The City has adopted a set of comprehensive plan policies related to tsunami preparedness and recovery that are included within this and other applicable sections of the comprehensive plan. These policies have been developed to address the resilience goals of Gearhart. They are designed to support the City's resilience efforts within the comprehensive plan and implementing codes. They are a compliment to the Gearhart Hazard Mitigation Plan.

0.04 Zoning: Tsunami Hazard TH Overlay Zone: *Gearhart has adopted an overlay zone which utilizes the applicable DOGAMI Tsunami Inundation Maps (TIMs). The overlay zone includes all areas identified as subject to inundation by the largest (XXL) local source tsunami event which ensures that life safety and evacuation route planning and development are adequately addressed. Other land use resilience strategies and requirements included within the overlay zone, which are not life safety or evacuation related, are applied within a subset of the overlay to smaller inundation scenario areas. These measures are included within the overlay zone provisions and reflect the community's risk tolerance, application of mitigation measures, and ORS 455.446-447 requirements. The overlay zone boundary has been adopted as an amendment to the official zoning map for Gearhart.*

0.05 Evacuation Route Plan Maps: The City, as part of its land use program for tsunami preparedness, has adopted a Transportation System Plan (TSP) which includes a comprehensive list and maps of evacuation routes and assembly areas. The City may also develop a *Tsunami Evacuation Facilities Improvement Plan (TEFIP) suitable for Gearhart demographics and vulnerability characteristics. The TEFIP may expand on the designated evacuation routes and assembly areas in the TSP and add other necessary components of the local evacuation system, such as locations for a vertical evacuation structure, cache storage locations and costs associated with such evacuation improvements.* A TEFIP may provide additional evacuation measures and needed improvements to further the City's efforts to reduce risk to life safety by establishing a comprehensive evacuation system.

Proposed Comprehensive Plan Tsunami Related Policies

Goal 7: Areas Subject to Natural Hazards

General Policies: DRAFT PROPOSAL

To protect life, minimize damage and facilitate rapid recovery from a local source Cascadia Subduction Zone earthquake and tsunami, the City will:

1. Support tsunami preparedness and related resilience efforts.
2. Take reasonable measures to protect life and property to the fullest extent feasible, from the impact of a local source Cascadia tsunami.
3. Use the Oregon Department of Geology and Mineral Industries (DOGAMI) Tsunami Inundation Maps applicable to Gearhart to develop tsunami hazard resiliency measures.
4. Adopt a Tsunami Hazard Overlay Zone for identified tsunami hazard areas to implement land use measures addressing tsunami risk.
5. Implement land division provisions to further tsunami preparedness and related resilience efforts.
6. Consider potential land subsidence projections to plan for post Cascadia event earthquake and tsunami redevelopment.
7. Require a tsunami hazard acknowledgement and disclosure statement for new development in tsunami hazard areas.
8. The City will strive to identify and secure the use of appropriate land above a tsunami inundation zone for temporary housing, business and community functions post event.
9. As part of a comprehensive pre-disaster land use planning effort, consistent with applicable statewide planning goals, the City will strive to identify appropriate locations above the tsunami inundation zone for relocation of housing, business and community functions post event.

Evacuation Policy Concepts

To facilitate the orderly and expedient evacuation of residents and visitors in a tsunami event, the City will:

1. The City may adopt a Tsunami Evacuation Facilities Improvement Plan in addition to the Transportation System Plan that identifies current and projected evacuation needs, designates routes and assembly areas, establishes system standards, and identifies needed improvements to the local evacuation system.
2. Identify with the county and secure the use of appropriate land above a tsunami inundation zone for evacuation, assembly, and emergency response.
3. Ensure zoning allows for adequate storage and shelter facilities.
4. Provide development or other incentives to property owners that donate land for evacuation routes, assembly areas, and potential shelters.
5. Require needed evacuation route improvements, including improvements to route demarcation (wayfinding in all weather and lighting conditions) and vegetation management, for new development and substantial redevelopment in tsunami hazard areas.
6. Work with neighboring jurisdictions to identify inter-jurisdictional evacuation routes and assembly areas where necessary.
7. Provide for the development of vertical evacuation structures in areas where reaching high ground is impractical.
8. Continue to evaluate multi-use paths and transportation policies for tsunami evacuation route planning.
9. Encourage suitable structures to incorporate vertical evacuation capacity in areas where evacuation to high ground is impractical.
10. Install signs to clearly mark evacuation routes and implement other way finding technologies (e.g. painting on pavement, power poles and other prominent features) to ensure that routes can be easily followed day or night and in all weather conditions.
11. Prepare informational materials related to tsunami evacuation routes and make them easily available to the public.

Policies Related to Reducing Development Risk in High Tsunami Risk Areas

The City will:

1. Prohibit comprehensive plan or zone map amendments that would result in increased residential densities over 10 du per acre, or more intensive uses in tsunami hazard areas unless adequate mitigation is implemented. Mitigation measures should focus on life safety and tsunami resistant structure design and construction. *(See code section Prohibited Uses 4. a. in "M" inundation area)*
2. Encourage open space, public and private recreation and other minimally developed uses within the tsunami inundation zone area.
3. Prohibit the development of those essential facilities and special occupancy structures identified in ORS 455.446 and ORS 455.447 within the "L" tsunami inundation area.
4. Consider the use of transferrable development credits as authorized by ORS 94-531-94.538 to facilitate development outside of tsunami inundation zones.
5. Encourage, through incentives, building techniques that address tsunami peak hydraulic forces which will minimize impacts and increase the likelihood that structures will remain in place.
6. Protect and enhance existing dune features and coastal vegetation to promote natural buffers and reduce erosion.

Hazard Mitigation Planning

The City will:

1. Address tsunami hazards and associated resilience strategies within the community's FEMA approved natural hazard mitigation plan.
2. Incorporate and adopt relevant sections of the natural hazard mitigation plan by reference into the comprehensive plan.
3. Ensure natural hazard mitigation plan action items related to land use are implemented through the comprehensive plan and implementing ordinances.

Tsunami Awareness Education and Outreach

The City will:

1. Encourage and support tsunami education and outreach, training, and practice.
2. Implement a comprehensive and ongoing tsunami preparedness community education and outreach program, such as the CERT program.
3. Collaborate with local, state and federal planners and emergency managers for the purpose of developing a culture of preparedness supporting evacuation route planning and other land use measures that minimize risk and maximize resilience from tsunami events.

Debris Management

The City will:

1. Identify and work to secure the use of suitable areas within the tsunami inundation zone for short and long-term, post-disaster debris storage, sorting and management.
2. Work with other public and private entities to establish mutual aid agreements for post-disaster debris removal and otherwise plan for needed heavy equipment in areas which may become isolated due to earthquake and tsunami damage.

Hazardous Materials

The City will:

1. Limit or prohibit new hazardous facilities as defined in ORS 455.447 within tsunami inundation zones. Where limiting or prohibiting such facilities is not practical, require adequate mitigation measures consistent with state and federal requirements.

Goal 11: Public Facility and Services

The City will:

1. Consider and address tsunami risks and evacuation routes and signage when planning, developing, improving, or replacing public facilities and services.
2. Update public facility plans to plan, fund, and locate future facilities outside of the tsunami inundation zone, whenever possible.

Goal 12: Transportation

The City will:

1. Develop multi-use paths that both enhance community livability and serve as tsunami evacuation routes.
2. Coordinate evacuation route and signage planning in conjunction with the Gearhart Transportation System Plan pedestrian and bicycle route planning efforts.
3. Locate new transportation facilities outside the tsunami inundation zones where feasible.
4. Where feasible design and construct new transportation facilities to withstand a Cascadia event earthquake and be resistant to the associated tsunami.

Goal 14: Urbanization

The City will:

1. Limit the allowable uses on property in the tsunami hazard area vacated as the result of an urban growth boundary expansion to relocate existing development. Such limitations shall include permitting only low risk uses, or requiring uses which implement adequate protection or mitigation measures for seismic and tsunami hazards.
2. Restrict the development of lodging facilities and higher density residential housing in tsunami inundation zones or require the implementation of protective measures.
3. Plan for the location or relocation of critical facilities outside of tsunami hazard area when conducting the land needs analysis.
4. Include pre- and post-tsunami disaster planning as part of urban reserve planning processes.

Goal 16: Necanicum Estuary, Goal 17 Shorelands and Goal 18 Beaches and Dunes

The City will:

1. Protect and enhance existing dune features and coastal vegetation to promote natural buffers and reduce erosion.

Part 3: Map Amendments

The comprehensive plan and development code text amendments developed will need to be accompanied by associated map amendments. The following maps should be adopted or otherwise incorporated into the appropriate elements of the local comprehensive plan and implementing regulations:

- a. DOGAMI Tsunami Inundation Map (TIM): Communities should adopt the map, or maps in the DOGAMI Tsunami Inundation Map (TIM) Series applicable to their jurisdiction as a part of the comprehensive plan inventory, as they provide the essential information for defining tsunami risk. The TIMs include five inundation scenario areas including small, medium, large, extra-large, and extra extra-large tsunami events. The TIMs will typically be referenced in the natural hazards element of the comprehensive plan, and will also be used as the basis for establishing the boundaries of a Tsunami Hazard Overlay zone. The TIMs may also be referenced in plan policies and/or the overlay zone for purposes of differentiating between areas of higher versus lower risk. For example, the official [ORS 455 tsunami inundation zone](#) (which is currently being considered for updating), will identify the area to which ORS 455 development restrictions will apply.
- b. Tsunami Hazard Overlay Zone Map (THO): The overlay zone map(s) should be developed using the applicable DOGAMI Tsunami Inundation Maps or TIMs. In developing the overlay map, it is recommended that the overlay area include all five inundation scenarios identified on the TIMs (S, M, L, XL, and XXL) which would ensure that life/safety and evacuation route planning and development are adequately addressed. Other land use resilience strategies and requirements included within the overlay zone, which are not life safety or evacuation related, may be applied within a subset of the overlay to smaller inundation scenario areas subject to the community's risk tolerance, application of mitigation measures, and ORS 455.446-447 requirements. A community may also coordinate with DOGAMI to develop water depth mapping associated with various tsunami inundation scenarios found on the TIMs which could be used to further define or clarify areas where land use provisions would apply.
- c. Tsunami Evacuation Facilities Improvement Plan (TEFIP): The TEFIP will typically include a map or maps that identify designated evacuation routes, assembly areas and other components of the local evacuation system. The Gearhart TSP has that information mapped and defined. If a TEFIP is developed map it could be incorporated into the Gearhart TSP or adoption of the overall TEFIP in turn, could be incorporated into the community's comprehensive plan or transportation system plan, as appropriate.

EXHIBIT A PART 2: Zoning Ordinance Land Use Regulations and Definitions

Section 0000 Tsunami Hazard Overlay (THO) Zone

0000 Definitions for Section 0000

1. “Essential Facilities” means:
 - a. Hospitals and other medical facilities having surgery and emergency treatment areas;
 - b. Fire and police stations;
 - c. Tanks or other structures containing, housing or supporting water or fire- suppression materials or equipment required for the protection of essential or hazardous facilities or special occupancy structures;
 - d. Emergency vehicle shelters and garages;
 - e. Structures and equipment in emergency preparedness centers; and
 - f. Standby power generating equipment for essential facilities.
2. “Hazardous facility” means structures housing, supporting or containing sufficient quantities of toxic or explosive substances to be of danger to the safety of the public if released.
3. “Special occupancy structures” means (*per ORS 455.446*)
 - a. Covered structures whose primary occupancy is public assembly with a capacity greater than 300 persons;
 - b. Buildings with a capacity of greater than 250 individuals for every public, private or parochial school through secondary level or child care centers;
 - c. Buildings for colleges or adult education schools with a capacity of greater than 500 persons;
 - d. Medical facilities with 50 or more resident, incapacitated persons not included in subsection (a) through (c) of this paragraph;
 - e. Jails and detention facilities; and
 - f. All structures and occupancies with a capacity of greater than 5,000 persons.
4. “Substantial improvement” means any repair, reconstruction, or improvement of a structure, the cost of which exceeds 50 percent of the real market value of the structure.
5. “TEFIP” means Tsunami Evacuation Facilities Improvement Plan that identifies current and projected evacuation needs, designates routes and assembly areas, establishes system standards, and identifies needed improvements to the local evacuation system such as short and long-term post disaster debris storage areas, cache locations for emergency supplies, equipment storage yards areas that may become isolated by an earthquake or tsunami, and vertical evacuation structures.
6. “Tsunami vertical evacuation structure” means a building or constructed earthen mound that is accessible to evacuees, has sufficient height to place evacuees above the level of tsunami inundation, and is designed and constructed with the strength and resiliency needed to withstand the effects of tsunami waves.

7. "Tsunami Inundation Maps (TIMs)" means the map, or maps in the DOGAMI Tsunami Inundation Map (TIM) Series, published by the Oregon Department of Geology and Mineral Industries, which covers the area within the City of Gearhart. Defines the tsunami magnitude size in terms of a Small, Medium, Large, Extra Large or Extra ,Extra Large event (S, M, L, XL & XXL)

Section 0000 Tsunami Hazard Overlay (THO) Zone

1. **Purpose.** The purpose of the Tsunami Hazard Overlay Zone is to increase the resilience of the community to a local source (Cascadia Subduction Zone) tsunami by establishing standards, requirements, incentives, and other measures to be applied in the review and authorization of land use and development activities in areas subject to tsunami hazards. The standards established by this section are intended to limit, direct and encourage the development of land uses within areas subject to tsunami hazards in a manner that will:
 - a. Reduce loss of life;
 - b. Reduce damage to private and public property;
 - c. Reduce social, emotional, and economic disruptions; and
 - d. Increase the ability of the community to respond and recover.

Significant public and private investment has been made in development in areas which are now known to be subject to tsunami hazards. It is not the intent or purpose of this section to require the relocation of or otherwise regulate existing development within the Tsunami Hazard Overlay Zone. However, it is the intent of this section to control, direct and encourage new development and redevelopment such that, over time, the community's exposure to tsunami risk will be reduced.

2. **Applicability of Tsunami Hazard Overlay Zone Boundary.** All lands identified as subject to inundation from the XXL magnitude local source tsunami event as set forth on the applicable Tsunami Inundation Map(s) (TIM) published by the Oregon Department of Geology and Mineral Industries (DOGAMI) and adopted by the city are subject to the requirements of this section.
3. **Permitted Uses.** In the Tsunami Hazard Overlay Zone, except for the prohibited uses set forth in subsection (4), all uses permitted pursuant to the provisions of the underlying zone may be permitted, subject to the additional requirements and limitations of this section.
4. **Prohibited Uses.** Unless authorized as an exception in accordance with subsection (5), the following uses are prohibited in the specified portions of the Tsunami Hazard Overlay Zone:
 - a. In areas identified as subject to inundation from the "L" magnitude (95% of Gearhart) local source tsunami event as set forth on the Tsunami Inundation Map Series (TIMs), the following uses are prohibited:
 - i. Hospitals and other medical facilities having surgery and emergency treatment areas.
 - ii. Fire and police stations.
 - iii. Structures and equipment in government communication centers and other facilities required for emergency response.
 - iv. Buildings with a capacity greater than 250 individuals for every public, private or

- parochial school through secondary level or child care centers.
- v. Buildings for colleges or adult education schools with a capacity of greater than 500 persons.
- vi. Jails and detention facilities.

(The following Essential Facilities and Special Occupancy Structures are currently permitted in the tsunami inundation zone, subject to consultation with DOGAMI regarding mitigation for tsunami risks. See ORS 455.447(4) the tsunami regulatory line. It is recommended that local governments evaluate these uses and relative levels of risk to determine whether it is appropriate to place additional limitations on these uses in higher risk areas.)

- b. In areas identified as subject to inundation from the “M” magnitude local source tsunami event as set forth on the Tsunami Inundation Map Series (TIMs), the following uses are prohibited:
 - i. Tanks or other structures containing, housing or supporting water or fire-suppression materials or equipment required for the protection of essential or hazardous facilities or special occupancy structures.
 - ii. Emergency vehicle shelters and garages.
 - iii. Structures and equipment in emergency preparedness centers.
 - iv. Standby power generating equipment for essential facilities.
 - v. Covered structures whose primary occupancy is public assembly with a capacity of greater than 300 persons.
 - vi. Medical facilities with 50 or more resident, incapacitated patients.

(The next two items are not included in the DOGAMI consultation for possible permission. A Plan policy says they could be allowed if protective measures are made as part of the construction. PC decided not to allow new dense development in the “M” inundation area per vii and viii below. Section 5 Use Exceptions allows consideration for prohibited uses)

- vii. Residential uses, including manufactured home parks, of a density exceeding 10 units per acre. *(Gearhart ‘s R-3 zone)*
- viii. Hotels or motels with more than 50 units.

- c. Notwithstanding the provisions of Article 10 Nonconforming Uses the requirements of this subsection shall not have the effect of rendering any lawfully established use or structure nonconforming.

- 5. Use Exceptions. A use listed in subsection (4) of this section may be permitted upon authorization of a Use Exception in accordance with the following requirements:
 - a. Public schools may be permitted upon findings that there is a need for the school to be within the boundaries of a school district and fulfilling that need cannot otherwise be accomplished.
 - b. Fire or police stations may be permitted upon findings that there is a need for a strategic location.
 - c. Other uses prohibited by subsection (4) of this section may be permitted upon the following findings:

- i. There are no reasonable, lower-risk alternative sites available for the proposed use;
 - ii. Adequate evacuation measures will be provided such that life safety risk to building occupants is minimized; and,
 - iii. The buildings will be designed and constructed in a manner to minimize the risk of structural failure during the design earthquake and tsunami event.
- d. Applications, review, decisions, and appeals for Use Exceptions authorized by this subsection shall be in accordance with the requirements for a Quasi-Judicial procedure as set forth in GZO Article 13.

THO Overlay Zone Required Development Improvements

6. Evacuation Route Improvement Requirements. Except single family dwellings on existing lots and parcels, all new development, substantial improvements and land divisions in the Tsunami Hazard Overlay Zone shall incorporate evacuation measures and improvements, including necessary vegetation management, which are consistent with and conform to the adopted Gearhart Transportation System Plan (TSP) evacuation route designations. Such measures shall include:
- a. On-site improvements:
 - i. Improvements necessary to ensure adequate pedestrian access from the development site to evacuation routes designated in the Gearhart TSP or TEFIP in all weather and lighting conditions.
 - ii. Frontage improvements to designated evacuation routes that are located on or contiguous to the proposed development site, where such improvements are identified in the Gearhart TSP or Tsunami Evacuation Facilities Improvement Plan (TEFIP). Such improvements shall be proportional to the evacuation needs created by the proposed development.
 - iii. Where identified in the Gearhart TSP or TEFIP as the only practicable means of evacuation, tsunami evacuation structure(s) of sufficient capacity to accommodate the evacuation needs of the proposed development.
 - b. Off-site improvements: Improvements to portions of designated evacuation routes that are needed to serve, but are not contiguous to, the proposed development site, where such improvements are identified in the Gearhart TSP or TEFIP. Such improvements shall be proportional to the evacuation needs created by the proposed development.
 - c. Evacuation route signage consistent with the standards set forth in the Gearhart TSP or Tsunami Evacuation Facilities Improvement Plan. Such signage shall be adequate to provide necessary evacuation information consistent with the proposed use of the site.
 - d. Evacuation route improvements and measures required by this subsection shall include, at a minimum, the following:
 - i. Improved streets and/or all-weather surface paths of sufficient width and grade to ensure pedestrian access to designated evacuation routes in all lighting conditions;
 - ii. Improved streets and paths shall provide and maintain horizontal clearances sufficient to prevent the obstruction of such paths from downed trees and structure failures likely to occur during a Cascadia earthquake; and

- iii. Such other improvements and measures identified in the Gearhart TSP or TEFIP.
- e. When it is determined that improvements required by this subsection cannot be practicably accomplished at the time of development approval, payment in lieu of identified improvements shall be provided in accordance with GZO Section 6.300 5.

7. Tsunami Vertical Evacuation Structures

- a. All tsunami vertical evacuation structures shall be of sufficient height to place evacuees above the level of inundation for the XXL local source tsunami event.
- b. Tsunami vertical evacuation structures are not subject to the building height limitations of the Gearhart Zoning Ordinance.

8. Flexible Development Option

- a. The purpose of the Flexible Development Option is to provide incentives for, and to encourage and promote, site planning and development within the Tsunami Hazard Overlay Zone that results in lower risk exposure to tsunami hazard than would otherwise be achieved through the conventional application of the requirements of this chapter. The Flexible Development Option is intended to:
 - i. Allow for and encourage development designs that incorporate enhanced evacuation measures, appropriate building siting and design, and other features that reduce the risks to life and property from tsunami hazard; and
 - ii. Permit greater flexibility in the siting of buildings and other physical improvements and in the creation of new lots and parcels in order to allow the full realization of permitted development while reducing risks to life and property from tsunami hazard.
- b. The Flexible Development Option may be applied to the development of any lot, parcel, or tract of land that is wholly or partially within the Tsunami Hazard Overlay Zone.
- c. The Flexible Development Option may include any uses permitted outright or conditionally in any zone, except for those uses prohibited pursuant to subsection (4) of this section.
- d. Overall residential density shall be as set forth in the underlying zone or zones. Density shall be computed based on total gross land area of the subject property, excluding street right-of-way.
- e. Yards, setbacks, lot area, lot width and depth, lot coverage, building height and similar dimensional requirements may be reduced, adjusted or otherwise modified as necessary to achieve the design objectives of the development and fulfill the purposes of this section.
- f. Applications, review, decisions, and appeals for the Flexible Development Option shall be in accordance with the requirements for a quasi-judicial procedure as set forth in Article 13 of the Gearhart Zoning Ordinance.
- g. Approval of an application for a Flexible Development Option shall be based on findings that the following criteria are satisfied:
 - i. The applicable requirements of sub-paragraphs (b) and (d) of this subsection are met; and
 - ii. The development will provide tsunami hazard mitigation and/or other risk reduction measures at a level greater than would otherwise be provided under

conventional land development procedures. Such measures may include, but are not limited to:

1. Providing evacuation measures, improvements, way-finding techniques and signage at a level greater than required by subsection (6) of this section;
2. Providing tsunami evacuation structure(s) which are accessible to and provide capacity for evacuees from off-site;
3. Incorporating building designs or techniques which exceed minimum structural specialty code requirements in a manner that increases the capacity of structures to withstand the forces of a local source tsunami; and
4. Concentrating or clustering development in lower risk portions or areas of the subject property and limiting or avoiding development in higher risk areas.

9. Hazard Acknowledgement and Disclosure Statement

All applications for new development or substantial improvements in the Tsunami Hazard Overlay Zone shall be accompanied by a Hazard Acknowledgement and Disclosure Statement, executed by the property owner and kept on file at City Hall. A developer may also include this statement in the CC&R's of the development. The statement sets forth the following:

- a. A statement that the property is subject to inundation by a local source Cascadia event tsunami, including the DOGAMI scenarios (S, M, L, XL, or XXL) that could potentially flood the site, and that development thereon is subject to risk of damage from tsunami;
- b. A statement that a local source tsunami poses a potential life safety threat to occupants of the property, and that the protection of life safety will require occupants to evacuate to high ground in the event of a local source tsunami; and
- c. A statement acknowledging that the property owner accepts and assumes all risks of damage from tsunami associated with the development of the subject property.
- d. A statement that the City of Gearhart, its agents and employees are released from any and all claims which may arise as a result of damages, losses, or injuries sustained by the property owner and his/her heirs, successors and assigns from local tsunami hazards affecting the subject property.

***OTHER possible post disaster related GZO amendment

- a. *Add post disaster shelters, debris storage, and heavy equipment storage as an outright or conditional use in the Beaches and Dunes zone, the RCPD zone, the Public and Semi Public Zone and the Park Zone.*