

# Tsunami Hazard Overlay Zone

## 3.140 Tsunami Hazard (TH) Overlay Zone

### 3.141 Definitions

As used in Section 3.142:

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
  - 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 which exceeds 50 percent of the real market value of the structure.
5. "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.
6. "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 cover(s) the area *within the City of Rockaway Beach*. The TIMs display five scenarios, labeled as “T-shirt sizes” (i.e., S, M, L, XL, and XXL), showing the impact of a Cascadia Subduction Zone (CSZ) tsunami that reflects the full range of possible inundation. These size ranges are intended to be inclusive of the range of scenarios that a community might expect during a CSZ event.

### 3.142 Tsunami Hazard Overlay 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.** All lands identified as subject to inundation from the XXL magnitude local source tsunami event as set forth on the applicable Tsunami Inundation Map (TIM) published by the Oregon Department of Geology and Mineral Industries (DOGAMI), Open File Report 0-13-19, Tsunami inundation scenarios for Oregon, 2013, are subject to the requirements of this section. The TIM applicable to the City of Rockaway Beach (TIM-Till-04, Plate 1, Local Source Tsunami Inundation Map for Rockaway Beach, Oregon) is hereby incorporated into this section by reference.
3. **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 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 local source tsunami

event as set forth on the Tsunami Inundation Map (TIM), 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.

b. In areas identified as subject to inundation from the M magnitude local source tsunami event as set forth on the Tsunami Inundation Map (TIM), 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.

c. Notwithstanding the provisions of Article 7, 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 Type III procedure as set forth in Section 11.060.
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 Tsunami Evacuation Facilities Improvement Plan. Such measures may include:
- a. On-site improvements:
    - i. Improvements necessary to ensure adequate pedestrian access from the development site to evacuation routes designated in the Evacuation Route Plan 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 Tsunami Evacuation Facilities Improvement Plan. Such improvements shall be proportional to the evacuation needs created by 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 Tsunami Evacuation Facilities Improvement Plan. 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 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 may include 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 Evacuation Route Plan.
7. Tsunami Evacuation Structures
- a. All tsunami evacuation structures shall be of sufficient height to place evacuees above the level of inundation for the XXL local source tsunami event.

- b. Tsunami evacuation structures are not subject to the building height limitations as set forth in Article 3.

#### 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. 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.
- d. 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.
- e. Applications, review, decisions, and appeals for the Flexible Development Option shall be in accordance with the requirements for a Type II procedure as set forth in Section 11.030.
- f. 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.