

queuing area pavement overlay will be funded if the bid process shows available funding.

12. Groundwater

Groundwater impacts are not anticipated.

13. Flood Hazard/Shoreland

Please see below

14. Wetlands

Disturbance of the harbor bottom for pier construction is considered a wetlands alteration. The project is undergoing a complete Natural Resources Protection Act (NRPA) review by the State DEP as part of the Ocean Gateway permitting process. Please see the Shoreland Section below.

VI. FLOOD PLAIN REVIEW

As development in a coastal flood hazard area, the project is subject to the City's Flood Plain Management ordinance. The receiving station is located partially in the area designated in the A2 flood zone. The Terminal Building presents some questions for the Board in the administration of the ordinance due to deficiencies of the current FIRM flood map. Not only is the Pier 2 omitted from the FIRM, the terminal building site is located beyond the mapped limits of the flood study (the FIS.) The nearby Maine State Pier was mapped as an A2 zone.

Please see Attachment 1 for the narrative section of the May 11, 2004 Workshop memo on flood plain issues for additional background information.

In the absence of FIS base flood data and without having the subject site shown as either an A or a V zone designation, the consultant team has hired PND engineers of Seattle, WA to provide additional data to help the Board administer the ordinance. PND researched available marine and airport weather data and applied a site-specific analysis to the proposed terminal location. Please see Attachment 10 for the PND analysis.

The City has retained Robert Gerber, Stratex LLC, to peer review the PND report and to provide a recommendation to the Board. Mr. Gerber's review has confirmed the basis of PND's findings, which are summarized as follows.

100 year "still water" flood elevation: 9.6 feet NVGD

Mean Wave Height: 3.6 feet (1.8 feet of impact above the “still water”)
Safe finished floor elevation: 12.3 feet NVGD

In the opinion of the project team and the of the review consultant, given a finished floor elevation of 12.3 feet, the terminal building will be reasonably safe from damaging waves during the 100 year storm. Without the impact of damaging waves, the “A” standards from the ordinance are the most applicable to the project.

The finished floor elevation of 12.3 will place the building slightly higher than the current design height and a condition of approval has been suggested in the Motions.

The applicant team has also indicated that the project will be provided with additional wave screening as an added safety measure.

Flood Plain Standards

Associate Corporation Counsel Penny Littell has provided the Board with a memo describing the application of the applicable standards for this project.

To: Members of the Portland Planning Board
From: P. Littell, Associate Corporation Counsel
Re: Ocean Gateway
Date:05/20/04

Introduction

In an area of the City where flooding may occur, and where the Planning Board is reviewing a development application for subdivision or site plan, the Planning Board must determine whether the proposed development is in compliance with the standards contained within the City’s Flood Plain Management Regulations and thus qualifies for a “flood hazard development permit.”¹

Policy To Be Achieved By Compliance with Flood Hazard Development Permit Standards

§14.450.7 of the Portland City Code requires that the Planning Board *assure* that:

1. the proposal is consistent with the need to minimize flood damage
2. all public utilities and facilities, such as sewer, gas, electrical and water systems are located and constructed to minimize or eliminate flood damages.
3. adequate drainage is provided so as to reduce exposure to flood hazards.
4. the proposal includes base flood elevations and flood boundaries. These determinations shall be based on engineering practices recognized by the Federal Emergency

¹ See §14-450.7(a).

- Management Agency.
5. the development plan must include a condition of plan approval requiring that structures on lots in the development be constructed in accordance with section 14-450.8 of this division. The condition shall clearly articulate that the municipality may enforce any violation of the construction requirement. The construction requirement shall also be clearly stated on any map, plat, or plan to be signed by the Planning Board or planning authority as part of the approval process.

To ensure that the above policy objectives are achieved, the Planning Board must apply the standards found in §14-450.8 (listed below). In applying these standards the Planning Board is required to “obtain, review and reasonably utilize any base flood elevation data available from federal, state or other reasonably reliable sources.” §14-450.7(c) [Such information is provided through the applicant’s consultant, PND, the City’s Peer Reviewer, Robert Gerber, and any other reliable sources.] Incorporated into these standards are federal requirements contained in 44 CFR Parts 59 and 60.

What Zone Is the Site In and What Standards Does the PB Apply?

Typically, in looking at flood plain issues, a reviewing body would merely retrieve the Flood Plan Map established by the Federal Emergency Management Agency (FEMA) and identify the appropriate zone delineated on the map. In this case, the proposed building at issue is not in a mapped zone.² As a result, the PB must determine the applicable base flood elevation and the applicable standards to apply based on information provided to it. Determining the zone is necessary in the first instance because it dictates the standards to be applied by the Board. The applicant has analogized this area to an A-2 zone. This zoning analogy is supported by the Peer Reviewer and the staff. Should the Planning Board determine this to be the appropriate zone, it will apply the A-2 zone standards contained in the Code.

Standards To Be Applied

Included below are the standards contained within §14-450.8 that must be satisfied.³

(a) *All development:* All development shall:

1. Be designed or modified and adequately anchored to prevent flotation

² Lou Seidel of the State Planning Office’s Division of Flood Plain Management agrees that nowhere on the FEMA map for Portland is this site mapped.

³ I have taken the liberty to reference only those standards which apply to this development (i.e. I have excluded standards for manufactured housing, recreational vehicles etc.. The full text of the standards is contained in the City Code.)

(excluding piers and docks), collapse or lateral movement of the structure resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy;

2. Use construction materials that are resistant to flood damage;
3. Use construction methods and practices that will minimize flood damage; and
4. Use electrical, heating, ventilation, plumbing, and air conditioning equipment, and other service facilities that are designed and/or located so as to prevent water from entering or accumulating within the components during flooding conditions.

(b) *Water supply:* All new and replacement water supply systems shall be designed to minimize or eliminate infiltration of flood waters into the systems.

(c) *Sanitary sewage systems:* All new and replacement sanitary sewage systems shall be designed and located to minimize or eliminate infiltration of flood waters into the system and discharges from the system into flood waters.

(d) *On-site waste disposal systems:* On-site waste disposal systems shall be located and constructed to avoid impairment to them or contamination from them during floods.

(e) *Watercourse carrying capacity:* All development associated with altered or relocated portions of a watercourse shall be constructed and maintained in such a manner that no reduction occurs in the flood carrying capacity of the watercourse.

(f){sic} *Nonresidential:* New construction or substantial improvement of any nonresidential structure located within:

1. Zones A1-30, AE, and AH shall have the lowest floor (including basement) elevated to at least two (2) feet above the base flood elevation, or together with attendant utility and sanitary facilities shall:
 - a. Be floodproofed to at least two (2) feet above the base flood elevation so that below that elevation the structure is watertight with walls substantially impermeable to the passage of water;
 - b. Have structural components capable of resisting hydrostatic and hydrodynamic loads and the effects of buoyancy; and
 - c. Be certified by a registered professional engineer or architect that the design and methods of construction are in accordance with accepted

standards of practice for meeting the provisions of this section. Such certification shall be provided with the application for a flood hazard development permit, as required by section 14-450.6(b)4d and shall include a record of the elevation above mean sea level to which the structure is floodproofed.

4. Zone A shall have the lowest floor (including basement) elevated to at least two (2) feet above the base flood elevation utilizing information obtained pursuant to section 14-450.6(b)4.a.ii.; section 14-450.7(b)4; section 14-450.7(c)1.

(p) *Coastal flood plains:*

1. All new construction located within Zones A1-30, AE, A, V1-30 and VE shall comply with all applicable local, state and federal regulations.⁴
3. A registered professional engineer or architect shall:
 - a. Develop or review the structural design, specifications, and plans for the construction, which must meet or exceed the technical criteria contained in the *Coastal Construction Manual, (FEMA-55/February, 1986)*; and
 - b. Certify that the design and methods of construction to be used are in accordance with accepted standards of practice for meeting the criteria of section 14-450.8(p)2.

Additionally, the project team has a provided flood plain narrative that is included in attachment 11.

VII. SHORELAND REVIEW

The project is being reviewed for conformance under the Shoreland Zoning ordinance. The applicant has provided a detailed narrative addressing the requirements of the overlay zone. This narrative is included under a separate tab located in the project binder.

The Shoreland standards with review comments by staff are included below.

Sec. 14-449. Shoreland Zone land use standards.

(a) *Principal and accessory structures:*

1. *Principal and accessory structure set back:*

⁴ Federal standards do not apply because this site is located in an unmapped zone.

None Required

2. *The first floor elevation or openings of all buildings and structures including basements shall be elevated at least one (1) foot above the elevation of the one hundred (100) year flood, the flood of record, or in the absence of these, the flood as defined by soil types identified as recent flood plain soils.*

Please see Flood Plain Section discussion above.

3. *Stairways or similar structures in areas of steep slopes or unstable soils:*

NA

- (b) *Piers, docks, wharves, bridges and other structures and uses extending over or beyond the normal high water line of a water body or within a wetland:*

1. *Access from shore shall be developed on soils appropriate for such use and constructed so as to control erosion;*

The Scotia Prince roll on/off ramp will be fixed to the shore on a structural bulkhead to be reinforced with driven steel piles for stability.

2. *The location shall not interfere with existing developed or natural beach areas;*

NA

3. *The facility shall be located so as to minimize adverse effects on fisheries;*

No such impacts are anticipated. Please see the applicant's shoreland narrative in the Project Binder.

4. *The facility shall be no larger in dimension than necessary to carry on the activity and shall be consistent with existing conditions, use and character of the area;*

The facility, at 21,000 gross, aggregated square feet in building area sited on 12,500 square feet of new pier space has been minimized to the extent needed to carry out its intended function as a marine passenger terminal.

5. *Except in the W-C, W-PD, W-SU, and I-B zones, no new structure shall be built on, over or abutting a pier, wharf, dock or other structure extending beyond the normal high water line of a water body or within a wetland unless the structure requires direct access to the water as an operational necessity;*

The site is located in the WPDZ and therefore exempt from this provision

6. *No existing structures built on, over or abutting a pier, dock, wharf or other structure extending beyond the normal high water line of a water body or within a wetland shall be converted to residential dwelling units in any zone.*

NA

- (c) *Clearing of vegetation:*

No significant clearing of vegetation is proposed since none exists.

- (d) *Erosion and sedimentation control:*

A detailed sedimentation and erosion control plan has been submitted as sheet C203 in the applicant's plan set. The plan has been reviewed by the DRC and found to be sufficient.

- (e) *Soils:*

The application has been designed with consideration for geotechnical stability and erosion control.

- (f) *Water quality:*

Please see the Stormwater Section of the Site Plan Review below.

- (g) *Archaeological sites:*

An exploratory archaeological excavation was performed on the Ocean Gateway site to evaluate the potential for finding or disturbing archeological resources. As expected, the dig found evidence of early railroad related buildings, but did not in the opinion of the Maine Historical Commission reveal significant or protected resources.

- (h) *Installation of public utility service:*

By this standard under the Shoreland ordinance, all public utility installations must follow issuance of final permits by the City.

- (i) *Roads and driveways:*

Construction of public and private roadways are permissible in Portland's Waterfront Zones.

- (j) *Parking areas:*

Parking adjacent to the water is permissible in Portland's Waterfront Zones.

- (k) *Stormwater runoff:*
Please see Site Plan Standards Section

- (l) *Agriculture:*
NA

- (m) *General site plan features:* The planning board or planning authority shall approve a site plan located within a shoreland zone if it finds that the following standards, in addition to the standards set forth in section 14-526, are met:

- 1. *The proposal will maintain safe and healthful conditions;*

The proposal is not anticipated to create unsafe or unhealthful conditions.

- 2. *The proposal will not result in water pollution, erosion, or sedimentation to surface waters;*

Please see the Stormwater Section of the Site Plan Review.

- 3. *The proposal will adequately provide for the disposal of all wastewater;*

Wastewater from the terminal facility will utilize the City sanitary sewer. No vessel berthed at the facility is to discharge gray water or black water waste.

- 4. *The proposal will not have an adverse impact on spawning grounds, fish, aquatic life, bird or other wildlife habitat;*

No such impact is anticipated. While some disturbance of the bottom is inevitable during the construction of a pile-supported pier, the site has been surveyed and no significant fisheries or wildlife resources were discovered. Please see the applicant's Shoreland narrative for further discussion.

- 5. *The proposal will conserve shore cover and visual, as well as actual, points of access to inland and coastal waters;*

The proposal includes significant new landscaping to provide increased shoreland cover. Species selection has purposefully utilized indigenous coastal plantings to augment ecological benefits and ensure long-term viability with a minimum requirement of maintenance.

Public access to the water will be improved in the area of the VRAP containment site and during the non-operational season at the facility. Currently, as an industrial