Ordinance No. _____

AN ORDINANCE OF THE CITY OF OLYMPIA, WASHINGTON, ADOPTING REGULATIONS PERTAINING TO SEA LEVEL RISE FLOOD DAMAGE REDUCTION; AMENDING SECTION 16.00.000 OF THE OLYMPIA MUNICIPAL CODE; AND ADOPTING A NEW CHAPTER 16.80 OF THE OLYMPIA MUNICIPAL CODE.

WHEREAS, the Mayor and City Council have recognized that climate change has resulted in sea level rise and the need to address flooding now and into the future caused by climate change; and

WHEREAS, the regulations of flood damage prevention are recognized as a needed enhancement to construction practices in the downtown areas vulnerable to flooding by addressing sea level rise in the City of Olympia (the "City") finding it necessary to protect the public health, safety and welfare; and

WHEREAS, the Olympia City Council desires to protect the safety and welfare of the citizens of the City through implementing sea level rise regulations for flood damage protection involving construction activities and maintenance of buildings in the City; and

WHEREAS, the City has conducted previous studies and continues to examine the impacts of climate change and sea level rise flood damage prevention; and

WHEREAS, scientific data has been introduced supporting the need to address climate change and sea level rise related to flooding events; and

WHEREAS, City staff has undertaken a review of the more recent flood damage regulations related to climate change as compared to the City's history and flooding events; and

WHEREAS, City staff recommends adopting these new regulations provided for herein along with a newly developed sea level rise elevation map for the downtown; and

WHEREAS, City staff presented the flood damage prevention regulations and sea level rise flood damage reduction information provided for herein, along with downtown map as published and presented, to the City of Olympia Land Use and Environment Committee (LUEC); and

WHEREAS, the LUEC voted to recommend approval of the provisions regulating flood damage prevention and sea level rise hazard within the city limits of Olympia as provide herein at its meeting on July 21, 2016; and

WHEREAS, the City of Olympia has studied the effects and impacts of Climate Change, and it is known that climate change results in sea level rise resulting in contribution to flooding in the downtown areas of the City; and

WHEREAS, flood damage areas, including within the downtown areas of the City of Olympia, are subject to periodic inundation, which may result in loss of life and/or property, health and safety hazards, disruption of commerce and governmental services, extraordinary public expenditures for flood protection and relief, and impairment of the tax base, all of which adversely affect the public's health, safety, and general welfare; and

WHEREAS, flood losses are enhanced by the cumulative effect of climate change, of which one result is sea level rise conditions, which cause an increased flood damage water height and impact within the downtown core; and

WHEREAS, buildings that are inadequately floodproofed, poorly elevated, or otherwise not protected from flood damage contribute to flood loss and loss of use of downtown buildings; and

WHEREAS, the degree of flood protection based on sea level rise required by this Ordinance is considered reasonable for regulatory purposes and is based on scientific and engineering study and considerations; and

WHEREAS, larger floods can and will occur on rare occasions, and flood heights may be increased by man-made or natural causes; and

WHEREAS, Chapter 35A RCW and Article 11, Section 11 of the Washington State Constitution authorize and permit the City to adopt this Ordinance; and

WHEREAS, this Ordinance is supported by the staff report and materials associated with this Ordinance, along with other documents on file with the City of Olympia; and

WHEREAS, this Ordinance is also supported by the professional judgment and experience of the City staff who have worked on this proposal; and

WHEREAS, City Staff are known to the City Council, and staff's curriculum vitae shall be part of the record in support of this Ordinance;

NOW, THEREFORE, THE OLYMPIA CITY COUNCIL ORDAINS AS FOLLOWS:

Section 1. Amendment of OMC Section 16.00.000. Section 16.00.000 of the Olympia Municipal Code is hereby amended to read as follows:

16.00.000 Title Contents

Title 16
BUILDINGS AND CONSTRUCTION

Chapters:

16.04 Building Codes
16.05 Alternate Methods and Materials for Mixed Use Apartment Buildings
16.06 Property Maintenance Code
16.10 Unsafe and Unfit Buildings, Structures, and Premises
16.24 Electrical Code
16.32 Fire Code
16.36 Fire Hydrants
16.40 Fire Extinguishing Systems
16.44 Alarm Code
16.46 Security Alarm Systems
16.48 Grading and Clearing
16.54 Tree Protection and Replacement for Green Cove Basin
16.56 Landmark Tree Protection
16.58 Public Trees
16.60 Tree Protection and Replacement

16.70 Flood Damage Prevention

16.80 Sea Level Rise Flood Damage Reduction

Section 2. Adoption of OMC Chapter 16.80. There is hereby adopted a NEW CHAPTER 16.80 to Title 16 of the Olympia Municipal Code to read as follows:

CHAPTER 16.80
SEA LEVEL RISE FLOOD DAMAGE REDUCTION

16.80.000 Chapter Contents

Sections:

16.80.010 Purpose and Objectives

A. Statement of Purpose.

It is the purpose of this chapter to complement, but not replace, the City of Olympia Flood Damage Prevention Ordinance, OMC Section 16.70, as it relates to the National Flood Insurance Program while addressing sea level rise flood damage in the downtown areas of Olympia to promote the public health, safety, and general welfare of our citizens and visitors, to reduce the costs associated with flood damage and displacement of tenants and property owners within the downtown, and to minimize public and private losses due to flood conditions in specific areas by provisions designed:

1. To protect human life and health;

2. To minimize expenditure of public money and costly flood control projects;

3. To minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of the general public;

4. To minimize prolonged business interruptions;

5. To minimize damage to public facilities and utilities such as water and gas mains, electric, telephone and sewer lines, streets, and bridges located in areas of special flood hazard;

6. To help maintain a stable tax base by providing for the sound use and development of areas of the established sea level flood damage area so as to minimize future flood blight areas;

7. To ensure that potential buyers are notified that property is in an area of sea level rise hazard;

8. To ensure that those who occupy the areas of sea level rise flood damage assume responsibility for their responsibilities.

B. Objectives.

In order to accomplish its purposes, this ordinance includes methods and provisions for:

1. Regulating construction practices which are dangerous to health, safety, and property due to water or erosion hazards associated with climate change and sea level rise, or which result in damaging increases in erosion or in flood heights;

2. Requiring that structures vulnerable to floods, be protected against flood damage associate to sea level rise at the time of initial construction, substantial improvement or repair of substantial damage;

3. Controlling the impacts of damage associated to sea level rise and;

4. To reduce risks and avoid future costs associated with sea level rise.

16.80.020 Definitions

A. "Area of Sea Level Rise Flood Damage" is the land within the City of Olympia subject to flooding as determined by the downtown sea level rise map published by the City of Olympia including elevations of areas up to 16 feet mean sea level pursuant to the North America Vertical Datum (NAVD88).

B. "Critical Facility" Critical facilities include (but are not limited to) schools, nursing homes, hospitals, police, fire and emergency response installations, and installations which produce, use, or store hazardous materials or hazardous waste.

C. "Dry Floodproofing" means a floodproofed structure made watertight below the level that needs flood protection to prevent waters from entering.

D. "Elevation Certificate" means the official form used to track development, provide elevation information necessary to ensure compliance with community floodplain management ordinances.

E. "Elevated Building" means a non-basement building that has its lowest elevated floor raised above ground level by foundation walls, shear walls, post, piers, pilings, or columns.

F. "Floodproofing" means any combination of structural and non-structural additions, changes, or adjustments to structures which reduce or eliminate flood damage to real estate or improved real property, water and sanitary facilities, structures and their contents.

G. "Flood" or "Flooding" means a general and temporary condition of partial or complete inundation of normally dry land areas from:

1. The overflow of inland or tidal waters, and/or

2. The unusual and rapid accumulation of runoff of surface waters from any source.

H. "Lowest Floor" means the lowest floor of the lowest enclosed area (including basement). An unfinished or flood resistant enclosure, usable solely for parking of vehicles, building access, or storage in an area other than a basement area, is not considered a building's lowest floor, provided that such enclosure is not built so as to render the structure in violation of the applicable non-elevation design requirements of this ordinance provided there are adequate flood ventilation openings.

I. "Start of Construction" includes substantial improvement and means the date the building permit was issued. For a substantial improvement, the actual start of construction means the first alteration of any wall, ceiling, floor, or other structural part of a building, whether or not that alteration affects the external dimensions of the building.

J. "Substantial Damage" means damage of any origin sustained by a structure whereby the cost of restoring the structure to before damaged condition would equal or exceed 50 percent of the market value of the structure before the damage occurred.

K. "Substantial Improvement" means any repair, reconstruction, or improvement of a structure, the cost of which equals or exceeds 50 percent of the market value of the structure either:

1. Before the improvement or repair is started; or

2. If the structure has been damaged and is being restored, before the damage occurred. For the purposes of this definition "substantial improvement" is considered to occur when the first alteration of any wall, ceiling, floor, or other structural part of the building commences, whether or not that alteration affects the external dimensions of the structure.

The term can exclude:

1. Any project for improvement of a structure to correct pre-cited existing violations of state or local health, sanitary, or safety code specifications which have been previously identified by the local code enforcement official and which are the minimum necessary to assure safe living conditions, or

2. Any alteration of a structure listed on the National Register of Historic Places or a State Inventory of Historic Places, or as otherwise determined by the City of Olympia Community Planning and Development Director to be of historical significance.

L. "Water Dependent" means a structure for commerce or industry that cannot exist in any other location and is dependent on the water by reason of the intrinsic nature of its operations.

M. "Wet Floodproofing" means permanent or contingent measures applied to a structure or its contents that prevent or provide resistance to damage from flooding while allowing floodwaters to enter the structure or area. Generally, this includes properly anchoring the structure, using flood resistant materials below the Base Flood Elevation (BFE), protection of mechanical and utility equipment, and use of openings or breakaway walls.

16.80.030 General Provisions

A. Lands to Which This Ordinance Applies. This ordinance shall apply to all areas below 16 feet North America Vertical Datum (NAVD88) as designated sea level rise flood damage areas identified by the City of Olympia published map.

B. Basis for Establishing Areas of Sea Level Rise Flood Damage. The areas of sea level rise flood damage identified by the City of Olympia in a scientific and engineering map titled "Map for City of Olympia, Washington" (Exhibit A) is hereby adopted by reference and declared to be a part of this Ordinance. The sea level rise flood damage area map is on file at City of Olympia. The best available information for sea level rise flood damage area identification as outlined shall be the basis for regulation until a new sea level rise study is issued that incorporates data utilized by the City of Olympia.

E. Interpretation. In the interpretation and application of this ordinance, all provisions shall be:

1) Considered as minimum requirements;

2) Liberally construed in favor of the governing body; and,

3) Deemed neither to limit nor repeal any other powers granted under State statutes.

16.80.040 Administration

A. Establishment of Development Permit

1. Development Permit Required. A development permit shall be obtained before construction or development begins within any sea level rise flood damage area established by this ordinance. The permit shall be for all structures including manufactured structures, as set forth in the "Definitions," and for all development including fill and other activities, also as set forth in the "Definitions."

2. Application for Development Permit. Application for a development permit shall be made on forms furnished by the City of Olympia and may include, but not be limited to, plans in duplicate drawn to scale showing the nature, location, dimensions, and elevations of the area in question; existing or proposed structures, fill, storage of materials, drainage facilities; and the location of the foregoing. Specifically, the following information is required:

a. Elevation in relation to mean sea level, of the lowest floor (including basement) of all structures recorded on a current elevation certificate with Section B completed by the local building official or other designated representative;

b. Elevation in relation to mean sea level to which any structure has been floodproofed;

c. Certification by a registered professional engineer or architect that the floodproofing methods for any structure meet floodproofing criteria as outlined by the City of Olympia; and

B. Designation of the Local Administrator. Building Official is hereby appointed to administer and implement this ordinance by granting or denying development permit applications in accordance with its provisions.

C. Duties and Responsibilities of the Local Administrator. Duties of the Building Official shall include, but not be limited to:

1. Permit Review

a. Review all development permits to determine that the permit requirements of this ordinance have been satisfied.

b. Review all development permits to determine that all necessary permits have been obtained from those Federal, State, or local governmental agencies from which prior approval is required.

c. Review all development permits to determine if the proposed development is located in the sea level rise flood damage area. If located in the sea level rise flood damage area, assure that the encroachment provisions of this ordinance are met.

2. Information to be Obtained and Maintained

a. When new structures are placed, the City of Olympia shall obtain from the owner and record the actual (as-built) elevation (in relation to mean sea level) of the lowest floor (including basement) of all new or substantially improved structures, and whether or not the structure contains a basement. Recorded on a current elevation certificate.

b. Maintain for public inspection all records pertaining to the provisions of this ordinance.

16.80.050 Provisions for Sea Level Rise Flood Damage Reduction

A. General Standards. In all areas of sea level rise hazard, the following standards are required:

1. Elevation of Lowest Floor

a. All new construction and buildings defined as substantial improvements shall have the lowest floor elevated, dry floodproofed or shall be provided with other acceptable methods of floodproofing as approved by the City of Olympia, Building and Safety Division to an elevation of 16 feet or greater.

b. All manufactured structures shall have the lowest floor elevated to a minimum of 16 feet and shall be anchored to prevent flotation, collapse, or lateral movement, and shall be installed using methods and practices that minimize flood damage.

2. Construction Materials and Methods

a. All new construction and substantial improvements shall be constructed with materials and utility equipment protected to a level of 16 feet or greater to resistant flood damage.

b. All new construction and substantial improvements shall be constructed using materials, methods and practices that minimize flood damage.

c. Electrical, heating, ventilation, plumbing, and air-conditioning equipment and other service facilities shall be designed and/or otherwise elevated or located so as to prevent water from entering or accumulating within the components during conditions of flooding below 16 feet elevation. Locating such equipment below the 16 feet elevation is not allowed unless it can be demonstrated that the equipment is protected from flooding by an approved method.

3. Utilities

a. All new and replacement water supply systems shall be designed to minimize or eliminate infiltration of flood waters into the systems.

b. New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of flood waters into the systems and discharges from the systems into flood waters.

c. Onsite waste disposal systems shall be located to avoid impairment to them or contamination from them during flooding.

4. Review of Building Permits. Where elevation is required, applications for building permits shall be reviewed to assure that proposed construction will be reasonably safe from flooding and that design is in compliance with the lowest floor or protection height requirement of 16 feet elevation or greater.

B. Specific Standards. In all sea level rise flood damage areas the following provisions are required:

1. Residential Construction

a. New construction and substantial improvement of any residential structure located in the sea level rise flood damage area shall have the lowest floor, including basement, protected from flooding or elevated to 16 feet NAVD88 or greater pursuant to the most current requirements of structural design for flood prevention including, but not limited to ASCE-24 and the currently adopted Washington Construction Codes. Designs for meeting this requirement must either be

certified by a registered professional engineer or architect or must meet or exceed the following minimum criteria:

b. Fully enclosed habitable and occupied areas below the lowest floor that are subject to flooding are prohibited. Areas that are not considered habitable shall be designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for the entry and exit of floodwaters. Designs for meeting this requirement must either be certified by a registered professional engineer or architect or must meet or exceed the following minimum criteria:

i. A minimum of two openings having a total net area of not less than one square inch for every square foot of enclosed area subject to flooding shall be provided.

ii. The bottom of all openings shall be no higher than one foot above grade.

iii. Openings may be equipped with screens, louvers, or other coverings or devices provided that they permit the automatic entry and exit of floodwaters.

c. Additional requirements for below-grade crawlspace construction:

The interior grade of a crawlspace below the sea level rise flood damage area elevation of 16 feet must not be more than two-feet below the lowest adjacent exterior grade. The height of the below-grade crawlspace, measured from the interior grade of the crawlspace to the top of the crawlspace foundation wall must not exceed four-feet at any point. The height limitation is the maximum allowable unsupported wall height according to the engineering analyses and building code requirements for flood damage areas.

This limitation will also prevent these crawlspaces from being converted into habitable spaces. There must be an adequate drainage system that removes floodwaters from the interior area of the crawlspace. The enclosed area should be drained within a reasonable time after a flood event. The type of drainage system will vary because of the site gradient and other drainage characteristics, such as soil types. Possible options include natural drainage through porous, well-drained soils and drainage systems such as perforated pipes, drainage tiles, or gravel or crushed stone drainage by gravity or mechanical means provided the structural design and integrity is not compromised.

The velocity of floodwaters at the site should not exceed five-feet per second for any crawlspace. For velocities in excess of five-feet per second, impervious foundations shall be used. Any building utility systems within the crawlspace must be elevated above the sea level rise flood damage elevation of 16 feet or designed so that floodwaters cannot enter or accumulate within the system components during flood conditions. Ductwork is not allowed

below 16 feet to the bottom of the ductwork and sealed from floodwaters. Below grade crawlspace construction in accordance with the requirements listed above will not be considered basements.

2. Nonresidential Construction. New construction and substantial improvement of any commercial, industrial or other nonresidential structure shall either have the lowest floor, including basement, elevated to 16 feet NAVD88 or greater, or together with attendant utility and sanitary facilities, shall:

a. Be floodproofed so that any portion of the structure below 16 feet NAVD88 is watertight with and substantially impermeable to the passage of water;

b. Have structural components capable of resisting hydrostatic and hydrodynamic loads and effects of buoyancy;

c. Be certified by a registered professional engineer or architect that the design and methods of construction are in accordance with accepted methods and materials and standards of practice including ASCE24 and currently adopted construction codes for meeting provisions of this subsection based on their development and/or review of the structural design, specifications and plans. Such certifications shall be provided to the building official.

d. Nonresidential structures that are elevated, not floodproofed, must meet the same standards for space below the lowest floor as described in item 1, b above.

C. Critical Facility. Construction of new critical facilities shall be, to the extent possible, located outside the limits of the sea level rise flood damage area (SLRDA). Construction of new critical facilities shall be permissible within the SLRDA if no feasible alternative site is available. Critical facilities constructed within the SLRDA shall have the lowest floor elevated or protected to one foot above the required 16 feet elevation. Access to and from the critical facility should also be protected to the height utilized above. Floodproofing and sealing measures must be taken to ensure that toxic substances will not be displaced by or released into floodwaters. Access routes elevated to or above the level of the 16 foot flood elevation shall be provided to all critical facilities to the extent possible.

Section 3. Findings of Fact. The recitals in the Ordinance are hereby also deemed as findings of fact in support of this Ordinance.

Section 4. Severability. If any provision of this Ordinance or its application to any person or circumstance is held invalid, the remainder of the ordinance or application of the provisions to other persons or circumstances shall remain unaffected.

Section 5. Ratification. Any act consistent with the authority and prior to the effective date of this Ordinance is hereby ratified and affirmed.

Section 6. Effective Date. This Ordinance shall take effect five (5) days after publication, as provided by law.

MAYOR

ATTEST:

CITY CLERK

APPROVED AS TO FORM:

Darren Nienaber DCA

CITY ATTORNEY

PASSED:

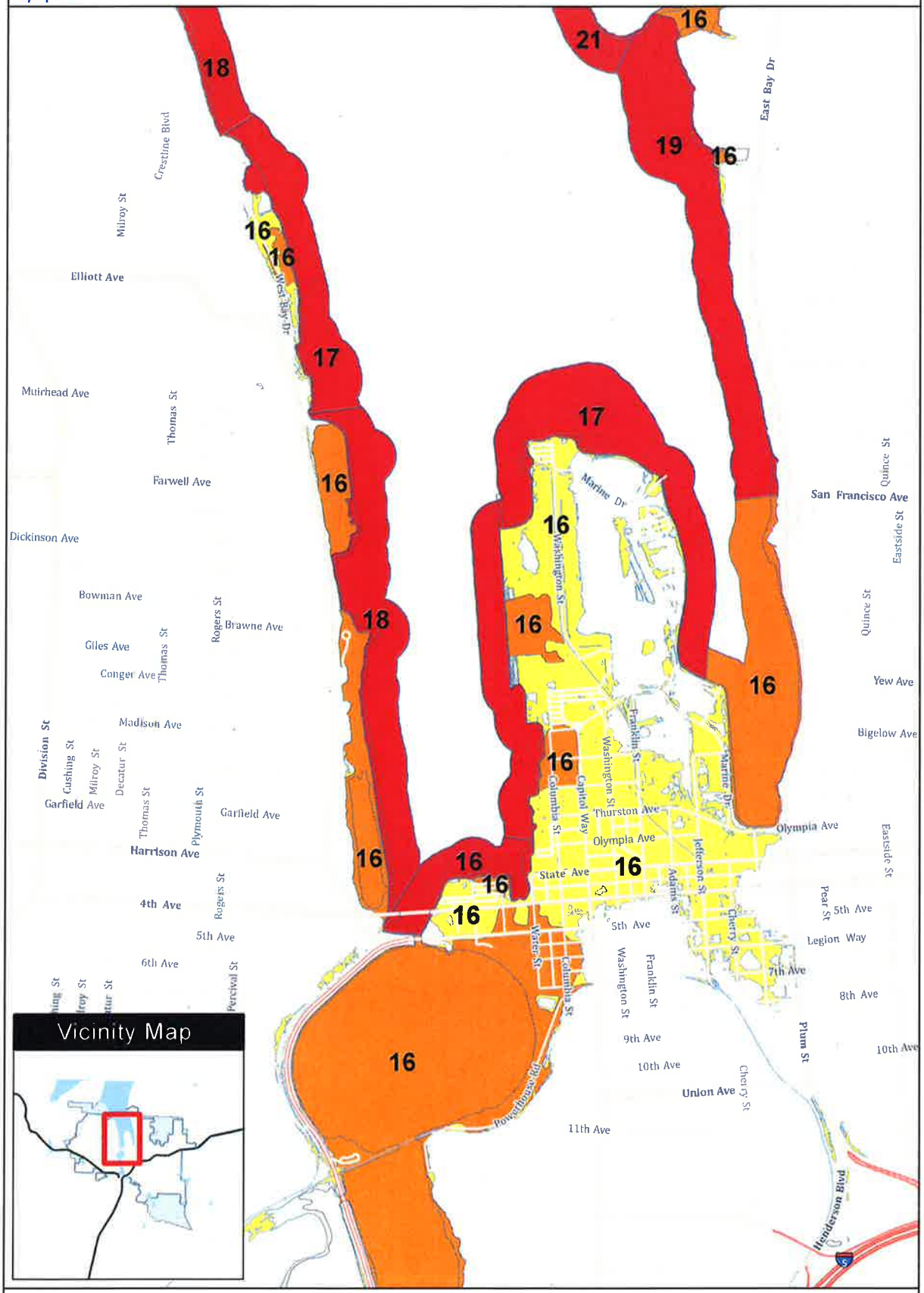
APPROVED:

PUBLISHED:

EXHIBIT A

Sea Level Rise Flood Protection Ordinance

Minimum Floor Elevations (NAVD88)



0 1,000 2,000 Feet

Map printed 7/21/2016
For more information, please contact:
Eric Christensen
echriste@ci.olympia.wa.us

1 inch = 1,000 feet

Legend

FLOOD ZONE — Sea level rise ordinance extents

AE

VE

This map is intended for 11x17" portrait printing.