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# **BOSTON WETLANDS REGULATIONS**



## **BOSTON CONSERVATION COMMISSION BOSTON WETLANDS ORDINANCE CITY OF BOSTON CODE, ORDINANCES, CHAPTER VII-I.IV**

Approved by vote of the Boston Conservation Commission, 02/08/2022

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## **PART I. PURPOSE AND PROCEDURES**

### **Section I. Introduction, Authority, and Purpose**

#### **A. Introduction**

These regulations are promulgated by the City of Boston's Conservation Commission (hereinafter "the Commission") pursuant to the authority granted to it under the City of Boston Wetlands Ordinance (hereinafter "the Ordinance") in order to implement the purposes of the Ordinance and to protect the wetlands, related water resources and adjoining land areas of the City of Boston, by controlling certain activities, pursuant to Section II(B), located in one or more Resource Areas or their associated buffer zones, pursuant to Section II(A). These regulations set forth additional definitions, regulations and performance standards necessary to protect the values and intent of the Ordinance, protect additional Resource Areas and wetland values, and specify standards and procedures stricter than those of the Massachusetts Wetlands Protection Act, M.G.L. c. 131, § 40 (hereinafter "the Act") and implementing regulations at 310 CMR 10.00 (hereinafter "the Implementing Regulations").

#### **B. Authority**

These Regulations were promulgated by the Commission, pursuant to the authority granted to it under the Ordinance and under the Home Rule Authority of this municipality. These Regulations shall complement and effectuate the purposes of the Ordinance and shall have the force of law upon their effective date. Following public notice and a public hearing thereon, these Regulations may be amended or added to by a majority vote of the Commission.

The portion of these regulations concerning consultants and consultant fees are also promulgated pursuant to the authority granted the Commission under G.L. c. 44, § 53G.

#### **C. Purpose**

The Ordinance sets forth a public review and decision making process by which activities affecting areas subject to protection under the Ordinance are to be regulated in order to ensure the protection of the following resource area values, including but not limited to: protection of the public or private water supply and quality; protection of the public and private groundwater supply and quality; short term and long term coastal and stormwater flood control, erosion and sedimentation control; storm damage prevention, including coastal storm flowage; protection of surface water supply and quality, including water pollution control; flood conveyance and storage; protection of fisheries, land containing shellfish, wildlife habitat, rare and endangered plant and animal species and habitat, wetland plant habitat, and recreation, and to protect the health, safety, and welfare of the public and to mitigate impacts from climate change (collectively the

“Resource Area Values”). The purposes of these regulations are to define and clarify that process by establishing additional definitions, performance standards, and uniform procedures by which the Commission shall carry out its responsibilities under the Ordinance.

**Section II. Jurisdiction**

- A. The following areas are subject to protection under the Ordinance and these Regulations:
1. any freshwater or coastal wetlands, marshes, wet meadows, bogs, swamps, vernal pools, springs, banks, reservoirs, streams, brooks, creeks, rivers, lakes, ponds of any size, beaches, dunes, estuaries, flats, fens, the ocean, and lands under water bodies;
  2. lands adjoining these resource areas out to a distance of one hundred (100) feet, known as the Buffer Zone and excluding Land Subject to Coastal Storm Flowage and the Coastal Flood Resilience Zone;
  3. riparian lands adjoining rivers, streams, brooks, and creeks, whether perennial or intermittent out to a distance of twenty five (25) feet, known as the Riverfront Area;
  4. riparian lands adjoining rivers, streams, brooks, and creeks, whether perennial or intermittent out to a distance of two hundred (200) feet identified as Extended Riverfront Area, as established by the Commission;
  5. lands adjoining salt marsh out to a distance of one hundred (100) feet;
  6. lands subject to flooding or inundation by groundwater or surface water;
  7. lands subject to tidal action, coastal storm flowage, or flooding;
  8. lands adjoining coastal beach, dune, bank, tidal flats, rocky intertidal shores, salt marshes or land containing shellfish; or inland bank, lake, pond, intermittent stream, brook, creek or riverfront area out to a distance of twenty five (25) feet, known as the Waterfront Area;
  9. the Coastal Flood Resilience Zone, as established by the Commission;
  10. the Inland Flood Resilience Zone, as established by the Commission.
- B. The following activities are subject to regulations under the Ordinance and these Regulations:

1. Any activity proposed or undertaken that will remove, fill, dredge, build upon, over or under, degrade, discharge into, or otherwise alter or pose a significant threat to alter an area subject to protection listed in Section II(A).
2. Any activity proposed or undertaken, located in a Resource Area or associated buffer zone, pursuant to Section II(A), which is not set forth above but which activity the Commission, in its judgement, finds will remove, fill, dredge, build upon, over or under, degrade, discharge into, or otherwise alter or pose a significant threat to alter an area subject to the Ordinance and these Regulations will require the filing of a Notice of Intent. If any person wishes to have the Commission determine whether an activity may be subject to regulation under the Ordinance and these Regulations, they may submit a Request for Determination of Applicability pursuant to Section VI(A) of these Regulations.

**Section III. General Provisions**

A. Presumption of Significance

Each area subject to protection under the Ordinance and these Regulations is presumed to be significant to one or more of the Resource Area Values identified in the Ordinance and these Regulations.

B. Burden of Proof

The applicant for a permit shall have the burden of proving by a preponderance of credible evidence that the work proposed in the permit application will not have a significant or cumulative adverse effect upon the Resource Area Values protected by the Ordinance and these Regulations. Failure to provide adequate evidence to the Commission supporting this burden shall be sufficient cause for the Commission to deny the application for a permit along with any work or activity proposed therein.

C. Burden of Going Forward

The applicant shall have the burden of going forward by a preponderance of credible evidence from a credible source in support of all matters asserted by the applicant in accordance with their burden of proof pursuant to Section III(B) of these Regulations. This burden shall be upon the person contesting the Commission's position on appeal.

**Section IV. Promulgation of Regulations**

- A. The Commission may adopt such additional definitions, rules, regulations, policies, fees, and performance standards as it may deem necessary to protect the Resource Area Values. Said definitions, rules, regulations, fees, and performance standards shall become effective upon publication

following a public hearing for which public notice has been provided. Policies may be adopted by a majority vote of the Commission. The Commission may amend these Regulations after public notice and public hearing.

- B. For all proposed regulations, amendments, or reference maps delineating resource areas, the Commission shall conduct a public rule-making process, including but not limited to posting notice of a hearing on the proposed regulations, amendments, or reference map or maps, posting of the proposed regulations, amendments, or reference maps, providing written notice of posting to parties requesting such notice, and providing a minimum 30-day comment period. A written “response to comments” shall be drafted and posted by the Commission’s Agent not less than 7 days before a properly noticed public hearing, pursuant to Section VI(F)(4).
- C. Unless otherwise stated in the Ordinance or in the rules and regulations promulgated under the Ordinance, the definitions, procedures, and performance standards of the Act and Implementing Regulations as most recently promulgated shall apply.

**Section V. Definitions**

Except as otherwise provided in the Ordinance or these Regulations, the definitions of terms in these Regulations shall be as set forth in the Act and Implementing Regulations. The following definitions shall apply in the interpretation and implementation of the Ordinance and these Regulations.

*AE-zones.* Areas subject to inundation by 1% annual chance flooding with wave heights and wave run-up depths less than 3 feet (the “E” in AE indicates that a predicted elevation of water has been determined).

*AH-zones.* Areas subject to inundation by 1% annual chance shallow flooding (usually areas of ponding) where average depths are between one and three feet.

*Competent Source.* For the purposes of the performance standards for all resource areas and Resource Area Values protected by the Ordinance and these Regulations, evidence that is submitted by a registered professional land surveyor, a registered professional engineer, a professional wetland scientist, certified soil scientist, a professional hydrologist, a certified arborist, an individual with an education or certification as detailed within the Ordinance or these Regulations, or other person appropriately credentialed or experienced, as determined by the Commission, Commissioners or Commission staff, including those from another municipality, regional planning agencies, staff of the City of Boston (the “City”), its departments, agencies, quasi-city agencies, or boards, including, but not limited to, the Environment Department (the “Department”), the Boston Redevelopment Authority d/b/a Boston Planning and Development Agency (BPDA), and the Boston Water and Sewer Commission (BWSC), staff of the Commonwealth of Massachusetts, its departments or agencies, or staff



of the United States government, its departments, offices, or agencies is presumed to be from a competent source.

## **Section VI. Procedures**

Any person who proposes to perform work within an area subject to protection shall submit to the Commission a Request for Determination of Applicability or Notice of Intent for such work. Said requests shall include sufficient information to enable the Commission to find and view the area and to determine whether the proposed work will alter an area subject to protection under the Ordinance and these Regulations.

Any definitions, rules, regulations, policies, fees, and performance standards, set forth under the Act, Implementing Regulations, the Ordinance or these Regulations that are in effect at the time an application is filed with the Commission, shall apply.

These regulations shall not apply to the work approved under any permit, order, determination, decision, or other approval issued under the Act prior to the enactment of the Ordinance, unless otherwise stated herein.

Requests for Extensions of Orders of Conditions or Amendments to existing Orders of Conditions where the permitted work has already commenced do not require approval under the Ordinance but is subject to all procedural and notice requirements under the Ordinance.

Requests for Extensions of Orders of Resource Area Delineation issued under the Act that would otherwise include a delineation of an area subject to protection by the Ordinance will require a new filing under the Ordinance, in addition to the Act.

Requests for Extensions of Orders of Conditions where the permitted work has not yet commenced, or Amendments to existing Orders of Conditions issued under the Act, which would remove, fill, dredge, build upon, over or under, degrade, discharge into, or otherwise alter or pose a significant threat to alter an area subject to protection by the Ordinance will require a new filing under the Ordinance, in addition to the Act.

Requests for Certificates of Compliance are subject to all procedural and notice requirements under the Ordinance.

Additional specific filing requirements, instructions, and fees can be found in the Commission's filing guidelines, as most recently promulgated.

### **A. Request for Determination of Applicability (RDA)**

1. Any person who desires to know whether or not a proposed activity or an area is subject to the Ordinance and these Regulations, may submit to the Commission electronically and by certified mail, regular

mail, or hand delivery a written request for a determination of applicability and other application materials in accordance with the submittal requirements set forth in the Commission's filing guidelines.

2. Simultaneously with filing the Request for Determination of Applicability, the applicant shall provide notification to each abutter by hand delivery or certified mail, return receipt requested, or by certificates of mailing.
3. A Request for a Determination of Applicability shall include certification that the owner of the area subject to the request, if the person making the request is not the owner, has been notified that a determination is being requested under the Ordinance and these Regulations.

B. Determination of Applicability

1. Within 21 days after the date of receipt of the Request for a Determination of Applicability, all necessary supporting documentation and plans, and appropriate fees, the Commission shall hold a public hearing. Notice of the time and place of the public hearing at which the determination will be made shall be given by the Commission at the expense of the person making the request not less than five business days prior to such meeting, by publication in a newspaper of general circulation in the City of Boston. Notice shall also be given in accordance with the Open Meeting Law, M.G.L. c. 30A, §§18 - 25. Said determination shall be signed and issued by a majority of the Commission, and copies thereof shall be delivered by the Commission to the person making the request and to the owner, by certified mail or hand delivery, within 21 days of the close of the public hearing or any continuances thereof. Said determination shall be valid for three years from date of issuance and may not be extended or renewed.
2. The Commission shall have the authority to continue the public hearing to a date announced at the hearing, for reasons stated at the hearing. The applicant may also request to continue the hearing to a date announced at the hearing. Once the Commission closes the public hearing it shall issue a Determination of Applicability within 21 days.
3. The Commission shall find that the Ordinance and these Regulations apply to the land, or a portion thereof, if it is an area subject to protection under the Ordinance as defined in Section II(A). The Commission shall find that the Ordinance and these Regulations apply to the work, or a portion thereof, if it is an activity subject to regulation under the Ordinance as defined in Section II(B).

4. A Notice of Intent which is filed as a result of a Positive Determination of Applicability shall be filed with the Commission according to the procedures set forth in Section VI(D). A Determination of Applicability may also be conditioned by the Commission to protect the Resource Area Values of the resource areas involved.
5. A Request for Determination of Applicability or a Determination of Applicability shall not be used to evaluate or confirm the delineation of any Resource Area.

C. Abbreviated Notice of Resource Area Delineation (ANRAD)

1. To establish the extent of Bordering Vegetated Wetland and other Resource Areas subject to protection under the Ordinance and these Regulations, applicants may use the Abbreviated Notice of Resource Area Delineation for the confirmation of a delineated boundary of bordering Vegetated Wetlands and other Resource Areas on the site, prior to filing a Request for Determination of Applicability or Notice of Intent for the proposed work. Alternatively, the boundary of bordering vegetated wetland (or other Resource Area) may be determined through the filing of a Notice of Intent.
2. The ANRAD shall be submitted on the form and according to instructions provided by the Commission along with all necessary supporting documentation, plans, appropriate fees, and in accordance with the submittal requirements set forth in the Commission's filing guidelines. A public hearing shall be held as described in Section VI(G). Procedures for an ANRAD filing, hearing, and issuance of a decision follow those outlined for the Notice of Intent as described in Section VI(D).
3. If the Commission determines that the Resource Areas are correctly delineated, an approval Order of Resource Area Delineation (ORAD) will be issued.
4. If the Commission determines that the Resource Areas are incorrectly or incompletely delineated, they shall request that the applicant provide the correct delineation or missing information. If the correct delineation or missing information is not provided, the Commission shall close the ANRAD hearing and issue a denial Order of Resource Area Delineation within 21 calendar days, specifying each Resource Area that is incorrectly or incompletely delineated. The Commission shall have the authority to deny any proposed Resource Area delineation when
  - i) the application is incomplete;
  - ii) the delineation is incorrect, or

- iii) the Commission requires additional information that is not provided by the applicant.

D. Notice of Intent (NOI)

1. Any person intending to conduct any activity subject to regulation in an area subject to protection under the Ordinance and these Regulations shall not commence such activity without filing a written Notice of Intent and without receiving an Order of Conditions and provided all appeal periods have elapsed.
2. Such Notice shall be sent electronically and by certified mail or hand delivered to the Commission, in accordance with the submittal requirements set forth in the Commission's filing guidelines, including all plans as may be necessary to describe the proposed activity and its effect on the environment.
3. The Commission may require information in addition to the plans and specifications required to be filed by an applicant under M.G.L. c.131, § 40, in order to fulfill the requirements of the Ordinance and these Regulations. Such information shall take into consideration the effect that projected sea level rise, changes in storm intensity and frequency, and other consequences of climate change may have on resource areas and the activities proposed in the permit application, utilizing the best available data as determined by the City of Boston, its departments, agencies, quasi-city agencies, or boards.
4. No application shall be deemed complete without the submission of all application forms, plans, appropriate fees, and all requested additional materials by the posted filing deadline, including, but not limited to, a list of all permits and approvals both obtained, or necessary to be obtained, by the Applicant for the proposed activity, and if requested by the Commission or its Agent, copies of all documents submitted by the Applicant necessary to obtain such permits and approvals which contain information describing the impact of the proposed activity on Resource Area Values protected by the Ordinance.
5. Any supporting plans, calculations or other supporting material submitted as part of an application for a permit shall be prepared, signed, and, if applicable stamped, by a registered professional engineer, registered landscape architect, registered land surveyor, environmental scientist, geologist, or hydrologist when, in the Commission's judgment, the proposed work warrants such professional certification. Submitted materials may be used by the Commission to evaluate the effects of the proposed project on the Resource Area Values. Receipt of all required or requested materials does not imply approval of the project.

6. The Commission shall have the authority to continue the public hearing to a date announced at the hearing, for reasons stated at the hearing. The applicant may also request to continue the hearing to a date announced at the hearing. Once the Commission closes the public hearing it shall issue an Order of Conditions within 21 days.
7. In the event that only a portion of a proposed project or activity lies within an area subject to protection under the Ordinance and these Regulations, and the remainder of the project or activity lies outside those areas, only that portion within those areas must be described in the level of detail called for by the General Instructions issued by the Department of Environmental Protection, these Regulations, and the Commission's filing guidelines. Sufficiently detailed information on the remainder of the project or activity that lies outside an area subject to protection must be provided for the Commission to determine if said project or activity may alter an area subject to protection. Notwithstanding the foregoing, when the Commission has determined that an activity outside an area subject to protection has in fact altered an area subject to protection, it may require such plans, supporting calculations and other documentation as are necessary to describe the entire activity.
8. A Notice of Intent shall expire when the applicant has failed to diligently pursue the issuance of an Order of Conditions in proceedings under the Ordinance and these Regulations. A Notice of Intent shall be presumed to have expired one (1) year after the date of filing unless the applicant submits information showing that
  - i) good cause exists for the delay of proceedings under the Ordinance and these Regulations; and
  - ii) the applicant has continued to pursue the project diligently in other forums in the intervening period; provided, however, that unfavorable financial circumstances shall not constitute good cause for delay.
9. No Notice shall be deemed expired under the Ordinance or these Regulations when an appeal under the Ordinance and these Regulations is pending and when the applicant has provided all information necessary to continue with the prosecution of the case.

E. Abutter Notices

1. Any person filing a request, notice, permit, or other application with the Commission at the same time shall give written notice thereof, by certified mail (return receipt requested) or hand delivery, or by certificates of mailing to all abutters at their mailing addresses shown on the most recent applicable list provided by the tax assessor, including owners of land directly opposite on any public or private

street or way, and owners of land within three hundred (300) feet of the project property line including any in another municipality or across a body of water.

2. Where an abutter is a government agency or subdivision thereof, a reasonable effort must be made to properly identify the mailing address for the main office of the government agency or subdivision thereof. Evidence of such reasonable effort must be provided to the Commission.
3. A copy shall be provided in the same manner to the Commission of the adjoining municipality, if the request, notice, permit, or application pertains to property within three hundred (300) feet of that municipality.
4. The notice shall state a brief description of the project or other proposal and the date of any Commission hearing or meeting date if known. The notice to abutters shall be made using the template as designated by the Commission and shall also include a copy of the application or request, with plans, or shall state where copies may be examined and obtained by abutters.
5. An affidavit of the person providing such notice, with a copy of the notice mailed or delivered, shall be filed with the Commission. When a person requesting a determination is other than the owner, the request, the notice of the hearing, and the determination itself shall be sent by the Commission to the owner as well as to the person making the request.
6. Abutter notices shall be sent in both English and the second most commonly spoken language(s) in the neighborhood(s) where the project is proposed, per the instructions outlined in the Commission's filing guidelines. Notices shall also include babel cards for additional translation and language access services.

F. Public Hearings and Public Meetings

1. The Commission shall conduct a public hearing on any Request for Determination of Applicability, Abbreviated Notice of Resource Area Delineation, Notice of Intent, or other permit application. The Commission in an appropriate case may combine its hearing under the Ordinance and these Regulations with the hearing conducted under the Act and Implementing Regulations.
2. The Commission shall commence a public hearing within twenty-one (21) days from receipt of a completed request, notice, or permit application unless an extension is authorized in writing by the applicant.
3. The Commission shall have authority to continue the hearing

- i) to a specific date announced at the hearing, for reasons stated at the hearing,
  - ii) if the Commission finds that consideration of a project is premature due to review pending before any other city, state or federal permitting or regulatory body, or
  - iii) due to a lack of quorum.
4. Notice, including the date, time, place, and subject of any such hearing shall be given at least seven (7) days prior to the hearing by the Commission or its Agent, in a newspaper of general circulation at the expense of the applicant, and on the Commission's Website, as well as by any other method determined by the Commission to provide adequate notice to parties in interest. Notices shall be publicized, and hearings shall be conducted in accordance with the Open Meeting Law, M.G.L. c. 39, s. 23B.
5. If the Commission requests additional information from the applicant, it must be submitted to the Commission and its agent at least 7 days prior to the next hearing or on a date determined by the Commission at the hearing. If the additional information is subject to consultant review, pursuant to section VII(C) of these Regulations, it must be submitted at least two weeks prior to the next hearing or on a date determined by the Commission at the hearing.

G. Orders of Conditions Regulating Work (OOC)

1. Within twenty-one (21) days of closing the public hearing, the Commission shall either:
  - i) Determine the proposed activity is not significant to any of the Resource Area Values identified by the Ordinance and these Regulations;
  - ii) Decide that the proposed activity is significant to one or more of the Resource Area Values identified by the Ordinance and these Regulations and shall issue an Order of Conditions for the protection of said values; or
  - iii) Issue a denial pursuant to Section VI(H) of these Regulations.
2. The performance standards and presumptions to be used by the Commission in determining whether an area is significant to the Resource Area Values under the Ordinance and these Regulations are found in Part II of these Regulations.

3. The Commission is authorized to approve a permit when it determines by findings supported by credible evidence that the proposed work meets all applicable performance standards and procedures under the Ordinance and these Regulations or when work can be conditioned to meet all such performance standards, and where it determines by findings supported by credible evidence that the work will not result in significant or cumulative adverse effects upon wetland Resource Area Values protected by the Ordinance and these Regulations. If it issues a permit, the Commission may impose conditions that the Commission determines necessary or desirable to protect said Resource Area Values, and all activities shall be conducted in accordance with those conditions.
4. The Order of Conditions shall impose such conditions as are necessary to meet the performance standards set forth in Part II of these Regulations for the protection of those areas found to be significant to any of the Resource Area Values identified in the Ordinance and these Regulations. The Order shall prohibit any work or any portion thereof that cannot be conditioned to meet said standards.

#### H. Denials

1. Procedural Denials. If the Commission finds that the information submitted by the applicant is not sufficient to describe the site, the work, or the effect of the work on the Resource Area Values, it may issue a denial prohibiting the work. The denial shall specify the information which is lacking and why it is necessary. In writing the procedural denial, the Commission shall:
  - i) State that the denial is specifically based on lack of information describing
    - a. the site,
    - b. the work, or
    - c. the effect of the work on the wetland values; and
  - ii) List specific information needed in each of the three possible problem areas mentioned above, citing appropriate sections of these Regulations.
2. Substantive Denials. The Commission may deny permission for any activity within areas under its jurisdiction if, in its judgment, such



denial is necessary to avoid or prevent significant or cumulative effects upon the Resource Area Values. Due consideration shall be given to all possible effects of the proposal on all Resource Area Values. Substantive denials are based on an analysis of the proposed activity and the likely effects of the activity on the Resource Area Values. The Commission will base its judgment on the best information available at the time and in all cases will act to protect the Resource Area Values. The written decision will include the reasons for the denial, citing the Resource Area Values protected, and relevant regulations. The written decision will be signed by a majority of the Commissioners present.

3. Revocation. The Commission may revoke a permit, order, determination, or decision issued under the Ordinance and these Regulations, but only for violation of the Ordinance, these Regulations, or any permit, order, determination, or decision issued thereunder, and only after notice of the violation has been given to the permittee and abutters, and after a properly noticed public hearing.
  - i) The Commission reserves the right to revoke any permit, order, determination, or decision issued under the Ordinance and these Regulations, upon a determination that any person issued a permit, order, determination, or decision has committed a violation of the Ordinance, these Regulations, or any permit, order, determination, or decision issued thereunder.
  - ii) Revocation will be reserved for those instances where:
    - a. the violation continues to occur even after an enforcement order has been issued, pursuant to Section X of these Regulations,
    - b. the project under construction differs in a material manner to that permitted, or
    - c. if the permit, order, determination, or decision was obtained under fraudulent circumstances or based on circumstances not foreseeable or new information not available at the time of issuance.
  - iii) If the Commission decides to revoke a permit, order, determination, or decision, it will notify the permittee, in writing, twenty-one (21) days prior to the hearing. Notice of the hearing will also be provided in a newspaper of general circulation, to any abutters, and on the Commission's Internet Website, as well as by any other method determined by the

Commission to provide adequate notice to parties in interest, at least seven (7) days prior to the hearing.

- iv) If the Commission finds, after a hearing, that the permittee has committed such a violation, and failed to address the violation the Commission may, by majority vote, revoke the permit, order, determination, or decision.

I. Recording in the Registry of Deeds or Land Court

The Order of Conditions or Order of Resource Area Delineation shall be recorded in the County Registry of Deeds or Registry District of the Land Court, where appropriate, prior to the commencement of any of the proposed activities regulated by the Order of Conditions. No work shall commence until proof of recording is provided to the Commission. If work is undertaken without the applicant first recording the permit, the Commission may issue an enforcement order.

J. Validity

A Determination of Applicability, Order of Resource Delineation and Orders of Conditions shall be effective for three (3) years from the date of issuance.

K. Extensions of Orders of Conditions and Orders of Resource Area Delineation

1. The Commission may extend a permit for a period of up to an additional three (3) year period from the date of issuance. The request for an extension shall be made to the Conservation Commission at least thirty (30) days prior to the expiration of the permit or else the permit shall be deemed to have expired on the day that falls three (3) years from the date of issuance. The Commission shall hold a public hearing in accordance with the Ordinance and its regulations within twenty-one (21) days of receipt of said request. Should said public hearing be continued past the date of the expiration of the permit, the expiration date shall be stayed to the date on which the Commission votes on whether to extend the permit.
2. The Commission may deny the request for an extension and require the filing of a new Notice of Intent for the remaining work or a new Abbreviated Notice of Resource Area Delineation in the following circumstances:
  - i) Where no work has begun on the project, except where such failure is due to an unavoidable delay, such as appeals, in the obtaining of other necessary permits;
  - ii) Where new information, not available at the time the Order was issued, has become available and indicates that the Order

is not adequate to protect the wetland values identified in the Ordinance and these Regulations;

- iii) Where incomplete work is causing damage to the Resource Area and Resource Area Values in the Ordinance and these Regulations;
  - iv) Where work has been done in violation of the Order or Ordinance and these Regulations; or
  - v) Where a Resource Area delineation or certification in an Order of Resource Delineation is no longer accurate.
3. The Extension Permit shall be recorded in the Land Court or the Registry of Deeds, whichever is appropriate and evidence of the recording shall be delivered to the Commission prior to re-commencing the work that is the subject of the Extension Permit.

L. Certificate of Compliance (COC)

1. Upon completion of the work described in the Order of Conditions, the applicant shall request in writing the issuance of a Certificate of Compliance stating that the work has been satisfactorily completed. Upon written request by the applicant on the required form with all necessary supporting documentation and plans, and appropriate fees, a Certificate of Compliance shall be acted on by the Commission within 21 days of receipt thereof, and, if issued, shall certify on the required form that the activity or portions thereof described in the Notice of Intent and plans has been completed in compliance with the Order.
2. If a project has been completed in accordance with plans stamped by a registered professional engineer, architect, landscape architect or land surveyor, a written statement by such a professional person certifying substantial compliance with the plans and setting forth what deviation, if any, exists from the plans approved in the Order shall accompany the request for a Certificate of Compliance.
3. Prior to issuance of a Certificate of Compliance a site inspection shall be made by the Commission or its agent.
4. If the Commission determines, after review and inspection, that the work has not been done in compliance with the Order, it may refuse to issue a Certificate of Compliance. Such refusal shall be issued within 21 days of receipt of a request for a Certificate of Compliance, shall be in writing and shall specify the reasons for denial.
5. If the Order contains conditions which continue past the completion of the work, such as maintenance or monitoring, the Certificate of

Compliance shall specify which, if any, of such conditions shall continue. The Certificate shall also specify to what portions of the work it applies, if it does not apply to all the work regulated by the Order.

6. The Certificate of Compliance shall be recorded in the Land Court or Registry of Deeds, whichever is appropriate, and evidence of the recording shall be delivered to the Commission within fourteen (14) days of recording.

M. Emergency Certifications

1. The notice required by the Ordinance and these Regulations shall not apply to emergency projects necessary for the protection of the health or safety of the citizens of Boston and to be performed or ordered to be performed by an administrative agency of the Commonwealth, or a political subdivision thereof, or by the City, or a political subdivision thereof. Emergency projects shall mean any projects certified to be an emergency by the Commission or its agent. If issued by the Commission's agent, the emergency certification must be ratified at the next Commission meeting. An emergency certification shall be issued only for the protection of public health and safety.
2. The emergency certification shall include a description of the work which is to be allowed and shall not include work beyond that which is necessary to abate the emergency. If practicable, a site inspection shall be made prior to the certification.
3. The Commission or its agent may impose conditions upon emergency projects to protect the Resource Area Values protected under the Ordinance and these Regulations.
4. The time limitation for performance of emergency work shall not exceed 30 days unless written approval of the Commission or its agent is obtained. Failure to agree to or follow these conditions shall be due cause for stopping all work. Upon failure to meet these requirements, the Commission may order all such work stopped and require the filing of a Notice of Intent or other application.
5. The Commission may adopt emergency regulations in conformance with the Ordinance and these Regulations for limited durations after severe storms, flooding events, or other unusual events, notice of which shall be provided as soon as possible after their adoption.

N. Administrative Review and Decisions

**RESERVED**

**Section VII. Fees**

A. Filing Fees

The Commission is authorized to require an applicant to pay a fee to cover the reasonable costs and expenses borne by the Commission in processing and evaluating the application. At the time of filing an application, the applicant shall pay a filing fee specified in the filing fee schedule included in these Regulations. The fee is in addition to that required by the Act and Implementing Regulations. No application shall be deemed complete or timely without the payment of all required fees. All fees shall be doubled for applications submitted after the fact or in response to an Enforcement Order. Fees shall also be doubled for any Request for a Certificate of Compliance after the Order of Conditions has expired. The Commission may, at its discretion, waive the application fee, costs and expenses for an application. Application fees are not refundable.

B. Fee Schedule

1. Request for Determination of Applicability

- \$100 for project sites up to 1 acre
- \$25 for up to each additional additional acre

2. Abbreviated Notice of Resource Area Delineation

- \$3 per linear foot for each resource area (For each resource area fees shall not be less than \$100)

3. Notice of Intent

i) Category 1

- \$100

ii) Category 2

- \$300

iii) Category 3

- \$550

iv) Category 4

- \$750

v) Category 5

- \$4 per linear foot (The total fee shall not be less than \$100)

4. Request for an Amendment to an Order of Conditions

- \$50 Small Residential (1 to 4 units)
  - \$200 Large Residential (5+ units), Commercial, or other
5. Request for an Extension of an Order of Conditions
- \$100 Small Residential (1 to 4 units)
  - \$300 Large Residential (5+ units), Commercial, or other
6. Request for a Certificate of Compliance
- i) Partial Certificate of Compliance
- \$50 Small Residential (1 to 4 units)
  - \$100 Large Residential (5+ units), Commercial, or other
- ii) Full Certificate of Compliance
- \$50 Small Residential (1 to 4 units)
  - \$100 Large Residential (5+ units), Commercial, or other
- iii) Full Certificate of Compliance after Partial
- \$50 Small Residential (1 to 4 units)
  - \$100 Large Residential (5+ units), Commercial, or other
7. Request for a Reissuance
- \$75
8. Request for Administrative Approval
- **RESERVED**

C. Consultant Fees

1. As provided by M.G.L. Ch. 44, § 53G, the Commission may impose reasonable fees upon applicants for the purpose of securing the employment of outside consultants including engineers, wetland scientists, wildlife biologists or other experts in order to aid in the review of proposed projects or requests submitted to the Commission pursuant to the requirements of the Act, the Ordinance, these Regulations, or any other state or municipal statute, Ordinance or regulation, as they may be amended or enacted from time to time.
2. Funds received by the Commission pursuant to Section XI(B) of these Regulations shall be deposited with the City Treasurer who shall create a revolving fund specifically for this purpose. Additional consultant fees may be requested where the requisite review is more expensive than originally calculated or where new information requires additional consultant services.

3. In such instances the Commission shall notify the applicant in writing of this need and the estimated costs to be borne by the applicant, request payment of that fee, and provide the opportunity for the application to be amended or withdrawn. Notice shall be deemed to have been given on the date the Commission mails or hand delivers said notification. The applicant may withdraw the application or request within five (5) business days of the date notice is given without incurring any costs or expenses.
4. Expenditures from this fund may be made at the direction of the Commission without further appropriations as provided in M.G.L. Ch. 44, § 53G. Expenditures from this fund shall be made only in connection with the review of a specific project or projects for which a consultant fee has been collected from the applicant.
5. The fee must be received in its entirety prior to the initiation of consulting services. Failure by the applicant to pay the consultant fee specified by the Commission within ten (10) business days of the request for payment shall be cause for the Commission to determine that the application is administratively incomplete.
6. The consultant shall be chosen by, and report only to, the Commission or its Agent. Consultants must meet the minimum qualifications of: An educational degree in or related to the field at issue; or three or more years of practice in the field at issue or a related field. Such consultants shall work for and represent the interests of the Commission. The Commission shall return any unused portion of the consultant fee to the applicant unless the Commission decides at a public meeting that other further or additional or different services of the consultant are necessary to make an objective decision.

**Section VIII. Exemptions**

- A. The applications and permits required by the Ordinance and these Regulations may not be required for maintaining, repairing, or replacing, but not substantially changing or enlarging, an existing and lawfully located structure or facility used in the service of the public to provide electric, gas, water, telephone, telegraph, or other telecommunication services, provided that written notice has been given to the Commission prior to commencement of work; the structure or facility will not be, as determined by the Commission or its agent, substantially changed or enlarged; and the work conforms to any performance standards and design specifications in regulations adopted by the Commission to the extent practicable as determined by the Commission.
- B. The following exemptions shall apply and no application or permit is required under the Ordinance and these Regulations for:

1. normal maintenance or improvement of land in agricultural or aquacultural use as defined by the Implementing Regulations at 310 CMR 10.04;
2. minor activities, identified in the Implementing Regulations at 310 CMR 10.02(2)(b)2 proposed or undertaken within the Buffer Zone to an area subject to protection under the Ordinance and these Regulations. In the judgment of the Commission any activity that will alter a resource area subject to the Ordinance and these Regulations is subject to regulation and requires the filing of a Notice of Intent.
3. emergency projects for the protection of the health and safety of the public pursuant to Section VI(M) of these Regulations.

**Section IX. Right of Entry**

The Conservation Commission, its agents, officers, and employees shall have authority to enter upon privately owned land for the purpose of performing their duties under the Ordinance and these Regulations and may make or cause to be made such examinations, surveys, or sampling as the Commission deems necessary, subject to the constitutions and laws of the United States and the Commonwealth.

**Section X. Enforcement**

- A. No person shall remove, fill, dredge, build upon, degrade, or otherwise alter resource areas protected by the Ordinance or these Regulations, or cause, suffer, or allow such activity, or leave in place unauthorized fill, or otherwise fail to restore illegally altered land to its original condition, or fail to comply with a permit or an enforcement order issued pursuant to the Ordinance or these Regulations.
- B. The Commission shall have authority to enforce the Ordinance, its regulations, decisions, and permits issued thereunder by letters, phone calls, and electronic communication, violation notices, fines, noncriminal citations under M.G.L. c. 40, § 21D, and civil and criminal court actions. Any person who violates the provisions of the Ordinance or these Regulations may be ordered to restore the property to its original condition and take other action deemed necessary to remedy such violations.
- C. The Commission shall have the authority to set fine amounts and levy fines for violations under the Ordinance and these Regulations and under the Act and Implementing Regulations.
- D. Upon request of the Commission, the Corporation Counsel shall take legal action for enforcement under civil law. Upon request of the Commission, the Chief of Police shall take legal action for enforcement under criminal law.



- E. Municipal boards and officers, including any police officer or other officer having police powers, shall have authority to assist the Commission in enforcement.
- F. Any person who violates any provision of the Ordinance, these Regulations, permits, or administrative orders issued thereunder, shall be punished by a fine established by the Commission. Each day or portion thereof during which a violation continues, or unauthorized fill or other alteration remains in place, shall constitute a separate offense, and each provision of the Ordinance, regulations, permits, or administrative orders violated shall constitute a separate offense. Each resource area, buffer zone or portion thereof in which a violation continues, or unauthorized fill or other alteration remains in place, shall constitute a separate offense, and each provision of the Ordinance, regulations, permits, or administrative orders violated shall constitute a separate offense
- G. As an alternative to criminal prosecution in a specific case, the Commission may issue citations with specific penalties pursuant to the non-criminal disposition procedure set forth in M.G.L. c. 40, § 21D.

**Section XI. Security**

As part of a permit issued under the Ordinance or these Regulations, in addition to any security required by any other municipal or state board, agency, or official, the Commission may require that the performance and observance of the conditions imposed thereunder (including conditions requiring mitigation work) be secured wholly or in part by any combination of the methods described below:

- A. By a proper bond, deposit of money or negotiable securities under a written third-party escrow arrangement, or other undertaking of financial responsibility sufficient in the opinion of the Commission, to be released in whole or in part upon issuance of a Certificate of Compliance for work performed pursuant to the permit.
- B. By accepting a conservation restriction, easement, or other covenant enforceable in a court of law, executed and duly recorded by the owner of record, running with the land to the benefit of this municipality whereby the permit conditions shall be performed and observed before any lot may be conveyed other than by mortgage deed.
- C. By any other method the Commission determines effective by preponderance of the evidence to achieve the purposes and intent of the Ordinance and these Regulations.

**Section XII. Appeals**

Any person with standing to challenge a decision of the Commission may appeal a decision of the Commission under the Ordinance and these

Regulations in the Superior Court within sixty (60) days following the date of issuance of the decision, in accordance with M.G.L. c. 249 § 4.

**Section XIII. Severability**

Should any term, condition, definition, language, section or provision of these Regulations be found invalid by competent legal authority, the validity of any other term, condition, definition, language, section or provision thereof shall not be affected, nor shall it invalidate any permit, approval, enforcement order or determination which previously has been issued.

## **PART II. PERFORMANCE STANDARDS FOR RESOURCE AREAS**

### **Section XIV. Isolated Vegetated Wetlands**

#### **A. Preamble**

Isolated Vegetated Wetlands (IVW) include but are not limited to Wet Meadows, Marshes, Swamps, Bogs, and Vernal Pools. IVW are likely to be significant to the Ordinance's protected Resource Area Values by protecting public and private water supply, to ground water supply, to flood control, to storm damage prevention, to prevention of pollution, to the protection of fisheries, and to wildlife habitat.

The plants and soils of IVW filter or detain sediments, nutrients (such as nitrogen and phosphorus) and toxic substances (such as heavy metal compounds) that occur in run-off and flood waters. Some nutrients and toxic substances are detained for years in plant root systems or in the soils. Others are held by plants during the growing season and released as the plants decay in the fall and winter. This latter phenomenon delays the impacts of nutrients and toxins until the cold weather period, when such impacts are less likely to reduce water quality.

IVW are areas where groundwater discharges to the surface and where, under some circumstances, surface water discharges to the groundwater. IVW may also be areas perched above the groundwater table due to confining layers of clay, calcrete, bedrock, or other material.

Vegetation in IVW may act to slow down and reduce the passage of flood waters during periods of peak flows by providing temporary flood water storage and by facilitating water removal through evaporation and transpiration. This process enhances flood storage capacity and may prevent damage to private and public property.

The Ordinance defines Freshwater Wetlands, including IVW, by hydrology and vegetation. Soil saturation or inundation is the driving force which creates IVW, but it is a transient, temporal characteristic. The presence of water at or near the ground surface during a significant portion of the year supports and in fact promotes the growth of wetland indicator plants. Prolonged or frequent saturation or inundation produces hydric soils and creates anaerobic conditions that favor the growth of wetland indicator plants. Hydric soils are direct indicators of long-term hydrologic conditions and are present throughout the year. Although the vegetational community can often be analyzed to establish an accurate wetland boundary, sole reliance on the presence of wetland indicator plants can be inconclusive because some species thrive in uplands and wetlands.

IVW vegetation supports a wide variety of insects, reptiles, amphibians, small mammals, and birds, which are a source of food for important game fish. Bluegills (*Lepomis macrochirus*), pumpkinseeds (*Lepomis gibbosus*), yellow perch (*Perca flavescens*), rock bass (*Ambloplites rupestris*) and all trout species feed upon non-aquatic insects. Large-mouth bass (*Micropterus salmoides*), chain pickerel (*Esox niger*) and northern pike (*Esox lucius*) feed upon small mammals, snakes, non-aquatic insects, birds, and amphibians.

IVW vegetation provides shade, which moderates water temperatures important to wildlife. The hydrologic regime, plant community composition and structure, soil composition and structure, topography, and water chemistry of IVW provide important food, shelter, migratory and overwintering areas, and breeding areas for many birds, mammals, amphibians, and reptiles. A wide variety of vegetated wetland plants, the nature of which are determined in large part by the depth and duration of water as well as soil and water composition, are utilized by various species as important areas for mating, nesting, brood rearing, shelter, and food. The diversity and interspersed structure of the vegetative structure is also important in determining the nature of its wildlife habitat. Different habitat characteristics are used by different wildlife species during summer, winter, and migratory seasons.

#### B. Definition, Critical Characteristics, and Boundary

1. IVW is defined by the Ordinance as a Freshwater Wetland, of at least one thousand (1,000) square feet in areas that do not border creeks, rivers, streams, ponds, or lakes. The types of IVW may include wet meadows, marshes, swamps, and bogs. In addition to the minimum size requirement, IVW must also meet the definition and characteristics of Bordering Vegetated Wetlands (BVW) stated in 310 Code Mass. Regs. 10.55(2) with the exception that IVW do not border any creeks, rivers, streams, ponds, lakes, or other water bodies.
2. The boundary of IVW is the line within which 50 percent or more of the vegetational community consists of wetland plants and saturated or inundated conditions exist. Wetland plants are defined by the Ordinance as any plant listed in the State of Massachusetts 2016 Wetland Plant List (published by the U.S. Army Corps of Engineers, 2016), or as most recently updated or replaced by the Massachusetts Department of Environmental Protection and codified at 310 CMR 10.55(2)(c), including the publication as condensed by the Massachusetts Department of Environmental Protection, Division of Wetlands and Waterways, April 1995, having an indicator category of obligate wetland, facultative wetland, or facultative.
  - i. Areas containing a predominance of wetland plants (50 percent or more) are presumed to indicate the presence of

saturated or inundated conditions. Therefore, the boundary as determined by 50 percent or more wetland plants shall be presumed accurate when:

- a. all dominant species have an indicator status of obligate, facultative wetland +, facultative wetland, or facultative wetland -, and the slope is distinct or abrupt between the upland plant community and the wetland plant community;
  - b. the area where the work will occur is clearly limited to the buffer zone; or,
  - c. the Commission determines that sole reliance on wetland plants will yield an accurate delineation.
- ii. When the boundary is not presumed accurate as described in Section XIV(B)(2)(i)(a) through (c) or in order to overcome the presumption set forth in Section XIV(C), credible evidence, which may include relevant expert reports, plans, or photographs, shall be submitted by a competent source demonstrating whether the boundary of IVW is the line within which 50 percent or more of the vegetational community consists of wetland plants and saturated or inundated conditions exist. The Commission must evaluate vegetation and indicators of saturated or inundated conditions if submitted by a competent source, or the Commission may require credible evidence of saturated or inundated conditions when determining the boundary of IVW.
- iii. For the purposes of Section XIV(B)(2)(ii), indicators of saturated or inundated conditions sufficient to support wetland plants shall include one or more of the following:
- a. groundwater, including the capillary fringe, within a major portion of the root zone;
  - b. observation of prolonged or frequent flowing or standing surface water;
  - c. characteristics of hydric soils.
- ii. Where an area has been disturbed (e.g. by cutting, filling, or cultivation), after the effective date of the Ordinance, the boundary is the line within which there are indicators of saturated or inundated conditions sufficient to support a predominance of wetland plants, a predominance of wetland plants, or credible evidence, including relevant expert reports,

plans, or photographs, from a competent source that the area supported or would support under undisturbed conditions a predominance of wetland plants prior to the disturbance of the IVW.

C. Presumption. Where a proposed activity involves the removing, filling, dredging, building upon, over or under, degrading, discharging into, or otherwise altering or posing a significant threat to alter an IVW, the Commission shall presume that such area is significant to the Resource Area Values specified in Section XIV(A). This presumption is rebuttable and may be overcome upon a clear showing that the IVW does not play a role in the protection of said Resource Area Values.

D. Performance Standards

1. Where the presumption set forth in Section XIV(C) is not overcome, any proposed work or activity, as those terms are defined by the Ordinance, shall not destroy or otherwise impair any portion of said area.
2. Notwithstanding the provisions of Section XIV(D)(1), the Commission may issue an Order of Conditions permitting work or activity which results in the loss of up to 50 percent of IVW, but not to exceed 5,000 square feet, when said area is replaced in accordance with the following general conditions and any additional, specific conditions the Commission deems necessary to ensure that the replacement area will function in a manner similar to the area that will be lost:
  - i. the surface of the replacement area to be created (the “replacement area”) shall be two times that of the area that will be lost (the “lost area”);
  - ii. the groundwater and surface elevation of the replacement area shall be approximately equal to that of the lost area;
  - iii. the replacement area shall be located within the same general area as the lost area to the extent feasible and in the following order of preference within the City: on-site; within the same sub-watershed; or within the same watershed as the lost area.
  - iv. at least 75 percent of the surface of the replacement area shall be reestablished with indigenous wetland plant species within three growing seasons, and prior to said vegetative reestablishment any exposed soil in the replacement area shall be temporarily stabilized to prevent erosion in accordance with standard U.S. Soil Conservation Service methods;

- v. the replacement area shall be provided in a manner that is consistent with all other provisions of the Ordinance, the Act, and the regulations and performance standards promulgated thereunder; and,
  - vi. a monitoring report based upon observations made near the end of each growing season shall be submitted to the Commission annually for at least three years following a year in which construction and planting of the replacement area was completed. The Commission may include a continuing condition in the Order of Conditions or Certificate of Compliance for continued annual reporting concerning the replacement area.
3. In the exercise of the Commission's discretion under Section XIV(D)(2), the Commission shall consider the magnitude of the alteration and the significance of the affected area to the Resource Area Values specified in Section XIV(A), the extent to which adverse impacts can be avoided, the extent to which adverse impacts are or could be minimized, and the extent to which mitigation measures, including replication or restoration, are provided by the project to contribute to the protection of the Resource Area Values identified in Section XIV(A).
4. Notwithstanding the provisions of Section XIV(D)(2), if the applicant provides credible evidence, including relevant expert reports from a competent source that replication is not feasible, the Commission may, in its sole discretion, require the applicant to restore or improve those portions of the affected resource area that are not affected by the proposed activity or work.
5. Notwithstanding the provisions of Section XIV(D)(1), the Commission may issue an Order of Conditions permitting work without replication or restoration which results in the loss of a portion of IVW when:
- i. said portion has a surface area less than 500 square feet;
  - ii. said portion extends in a distinct linear configuration ("finger-like") into adjacent uplands;
  - iii. loss of said portion will not reduce the overall size of the IVW below the minimum definitional requirements in Section XIV(B); and,
  - iv. in the judgment of the Commission it is not reasonable to scale down, redesign, or otherwise change the proposed work or activity so that it could be completed without loss of said portion of IVW.

6. Where the Commission permits work or activity in an IVW or its associated Buffer Zone under Sections XIV(D)(2), (5), or (7) that results in the removal of trees that have six-inch or larger diameters at breast height (DBH), the Commission may, in its discretion, require the planting of one or more indigenous trees of which the total DBH will equal or exceed the combined DBH of the trees removed, and of which no single tree shall have a DBH less than one-inch.
7. Notwithstanding the provisions of Section XIV(D)(1), the Commission may issue an Order of Conditions and impose such conditions as will contribute to the Resource Area Values identified in the Ordinance and permit limited projects as specified in the Act at 310 Code Mass. Regs. 10.24(7) or 310 Code Mass. Regs. 10.53(3).
8. Notwithstanding the provisions of Section XIV(D)(2) through (4) and (7), no project may be permitted that will have any adverse impact on specified habitat sites of rare vertebrate or invertebrate species indicated on the most recent Estimated Habitat Map of State-listed Rare Wetlands Wildlife (if any) published by the Massachusetts Natural Heritage and Endangered Species Program (NHESP).
9. Any proposed work or activity shall not destroy or otherwise impair any portion of an IVW that is within an Area of Critical Environmental Concern (ACEC). An ACEC is defined by the Ordinance as an area so designated by the Secretary of Environmental Affairs of the Commonwealth of Massachusetts (the "Secretary") pursuant to regulations (301 Code Mass. Regs. 12.00), said designation being due to the particular environmental factors which impact upon the areas in question and which highlight the importance of each area so designated, or an area so designated by the City of Boston according to criteria and guidelines established by the Commission and distinct from those used by the Secretary.
10. Section XIV(D)(9) shall supersede the provisions of Section XIV(D)(2) through (5), but it shall not apply:
  - i. if the presumption set forth in Section XIV(C) is overcome; and/or,
  - ii. to work proposed under 310 Code Mass. Regs. 10.53(3)(a), (d), (j), (k), (l), or (q) or under 310 Code Mass. Regs. 10.24(7)(b).
11. If the IVW affected by proposed work or activity is significant to the Resource Area Values described in Section XIV(A), the applicant shall take into consideration the impacts of climate change on IVW and its Buffer Zone and integrate climate resilience and adaptation strategies to protect the resource area and properties adjacent to said area. The



Ordinance defines Impacts of Climate Change to include, without limitation: extreme heat; the timing, frequency, intensity, and amount of precipitation, storm surges, and rising water levels; increased intensity or frequency of storm events or extreme weather events; and frequency, intensity, and duration of droughts. A Notice of Intent (NOI) must include a narrative that describes the Impacts of Climate Change on the site and surrounding resource areas that are reasonably expected to occur within the next 50 years based on the best available data and projections of the future Impacts of Climate Change. In the event that the proposed work or activity is temporary in nature, the narrative must describe the Impacts of Climate Change on the site and surrounding resource areas for the determined duration of the temporary work. At a minimum, the Impacts of Climate Change narrative may rely on available and most recent data and projections of Impacts of Climate Change made available by the Department and the Climate Ready Boston initiative or any successor initiative and must meet the requirements set forth in the Commission's filing guidelines. The NOI shall propose specific mitigation against and/or adaptation to the Impacts of Climate Change to IVW, such mitigation and/or adaptation to include the incorporation of building or site measures to reduce heat island effect; reduction of stormwater runoff that will result from increasing precipitation, sea level rise, and storm surge events; adaptation to increasing sea level rise, precipitation, and storm surge events; and minimization of lateral displacement of storm or flood water to surrounding resource areas or properties.

12. An Applicant's failure to take into account Impacts of Climate Change and incorporate mitigation, resiliency, and/or adaptation to the Impacts of Climate Change shall be an independent basis for the Commission to determine that a NOI is incomplete or will otherwise adversely impact the Resource Area Values protected by the Ordinance and these Regulations.

E. Effective Date

1. Section XIV shall become effective 60 days following the Commission's approval of the Final Regulations and the posting of the Final Regulations, the Statement of Fiscal Effect, and the Amended Small Business Impact Statement with the City Clerk and shall apply to all Notices of Intent filed on or after that date and any subsequent procedures related to such filings made on or after that date.
2. Section XIV shall not apply to any Notice of Intent filed prior to the effective date, or to any extensions of any Order of Conditions the Notice of Intent for which was filed prior to said effective date.

**Section XV. Vernal Pools and Vernal Pool Habitat**

A. Preamble

Vernal Pools are significant to the Ordinance's protected Resource Area Values of flood control and storm damage prevention because they serve as a ponding area for run-off or high groundwater that has risen above the ground surface. Vernal Pools provide a temporary storage area where run-off and high groundwater pond and slowly evaporate or percolate into the substrate. Filling of Vernal Pools may cause lateral displacement of the ponded water onto contiguous properties, which may in turn result in damage to said properties.

In addition, where such areas are underlain by pervious material, they are likely to be significant to the Resource Area Values of public or private water supply and to groundwater supply. Where such areas are underlain by pervious material covered by a mat of organic peat and muck, they are also likely to be significant to the interest of prevention of pollution. Vernal Pools that are underlain by pervious material provide a point of exchange between ground and surface waters. Contaminants introduced into said area, such as herbicides, pesticides, fertilizers, septic system discharges and road salts, find easy access into the groundwater. Where these conditions occur and a mat of organic peat or muck covers the substrate of the area, said mat serves to detain and remove contaminants, which might otherwise enter the groundwater.

Finally, Vernal Pools and Vernal Pool Habitat are significant to the interest of protection of wildlife habitat and they serve essential habitat functions. Vernal Pools are an essential breeding site for certain amphibians that require isolated areas that are generally flooded for at least two continuous months in the spring and/or summer and are free from fish predators. Vernal Pools are significant in the support of duckweed, caddis flies, and mollusks, thus providing habitat for members of the fingernail and pea clam family (*Sphaeriidae*), amphibians, reptiles, and other animals. Most of the amphibians that rely on Vernal Pools remain near the breeding pool during the remainder of their lifecycle. Specifically, the Jefferson salamander (*Ambystoma jeffersonianum*), blue-spotted salamander (*A. laterale*), marbled salamander (*A. opacum*), spotted salamander (*A. maculatum*), and wood frog (*Rana sylvatica*) rely on Vernal Pools for critical breeding habitat. Furthermore, Vernal Pools provide feeding and occasional breeding habitat for the gray treefrog (*Hyla versicolor*), spring peeper (*H. crucifer*), American toad (*Bufo americanus*), and four-toed salamander (*Hemidactylium scutatum*). Many reptiles, birds, and mammals also feed at Vernal Pools.

B. Definition, Critical Characteristics, and Boundary

1. Vernal Pool is defined in the Ordinance to mean:
  - i. those areas defined as Vernal Pool under the Act and its regulations at 310 Code Mass. Regs. 10.00 et seq.; or

- ii. any confined basin or depression not occurring in existing lawns, gardens, landscaped areas, or driveways which, at least in most years, holds water for a minimum of two continuous months during the spring and/or summer, contains at least 200 cubic feet of water at some time during most years, is free of adult predatory fish populations, and provides breeding and rearing habitat functions for amphibians, reptile, or other Vernal Pool community species, regardless of whether the site has been certified by the Massachusetts Division of Fisheries and Wildlife, and as long as it meets the definitional requirements established in the Ordinance.
2. Vernal Pool Habitat is defined in the Ordinance to mean the area adjacent to a Vernal Pool. The Commission shall presume that the Vernal Pool Buffer Zone, as defined in Section 7-1.4(b) of the Ordinance, consists of Vernal Pool Habitat and performs essential habitat functions.
3. Vernal Pools are characterized by a depression or closed basin that holds water, for an extended period of time or continuously, but are too small to be called a pond or a lake. The depression may occur in otherwise flat topography where the water may pool to the surface at least once a year or may occur on a downslope of a sidehill steep.
4. Vernal Pools typically produce a well-developed layer of organic matter, primarily through trapping airborne leaves in the fall. The presence of water-stained leaves in a dry depression is a good indicator that the area temporarily serves to pool water, which may suggest the presence of a Vernal Pool.
5. The vegetation and hydrology of a Vernal Pool may be like the vegetative community and hydric soil found in a Freshwater Wetland, but it need not be.
6. The boundary of a Vernal Pool shall be the mean annual high-water line defining the depression, or, if such data is not available, the maximum observed or recorded water level in a topographic depression, so long as such depression meets the other criteria described in Section XV(B)(1) and such information is supported by credible evidence, including relevant expert reports, photographs, or plans, and provided from a competent source.
7. Many of the indicators of Vernal Pool and Vernal Pool Habitat are seasonal. Consequently, failure to find evidence of breeding or the presence of the indicator species specified in Section XV(A) only has evidentiary value if the investigation is conducted during those periods in which breeding is likely to occur or when the indicator

species are likely to be present. Prior to making a determination of the existence of a Vernal Pool or Vernal Pool Habitat in response to a Request for Determination of Applicability (RDA), NOI, ANRAD, or enforcement proceedings by the Commission, the Commission may require that the pool be investigated by a competent source at least two times in the spring and/or summer, but not within seven (7) days of each other. In the case of challenges to the presumptions of Vernal Pool or Vernal Pool Habitat in Section XV(C), the Commission may require that a determination on any proposed work or activity under Section XV be postponed until such time period that investigation may be made during those time periods in which breeding is likely to occur or when indicator species are likely to be present notwithstanding any other provisions of these Regulations concerning time periods for the Commission to render determinations.

8. Should any confined basin or depression that the Commission believes may function as a Vernal Pool contain any of the following characteristics when dry, the area shall be presumed to contain a Vernal Pool unless and until demonstrated otherwise by investigation by a competent source in the spring and/or summer during Vernal Pool breeding season:
  - i. Stained leaves in a confined basin or depression;
  - ii. Water stains or siltation marks on surrounding tree trunks or vegetation;
  - iii. Trees with buttressed trunks or stilt trunks;
  - iv. Wetland plants growing in a dry confined basin or depression;
  - v. Hydric soils;
  - vi. Cases of caddisfly larvae;
  - vii. Adults, juveniles, or shells of either freshwater clams or amphibious, air-breathing snails;
  - viii. The skins or exuviae of dragonfly or damselfly larvae on vegetation along the edge of the dry depression.

C. Presumptions.

1. Where a proposed activity involves the removing, filling, dredging, building upon, over or under, degrading, discharging into, or otherwise altering or posing a significant threat to alter a Vernal Pool or Vernal Pool Habitat, the Commission shall presume that such area is significant to the Resource Area Values specified in Section XV(A).

Except as otherwise provided in Section XV(C)(2), this presumption is rebuttable and may be overcome upon a clear showing that the Vernal Pool or Vernal Pool Habitat do not play a role in the protection of said Resource Area Values .

2. Where an area has been determined by the Commission to meet the definition of Vernal Pool, including the adjacent area known as Vernal Pool Habitat, the Commission shall presume that said area performs essential habitat functions. This presumption is rebuttable only upon the presentation and preponderance of credible evidence that the basin or depression or surrounding area does not provide essential habitat functions. To be credible, any evaluation of whether said area provides essential habitat functions should be performed by an individual who at least meets the qualifications outlined in 310 Code Mass. Regs. 10.60(1)(b).

#### D. Performance Standards

1. Where the presumptions set forth in Section XV(C) are not overcome, any proposed work or activity, as those terms are defined by the Ordinance, shall not destroy or otherwise impair any Vernal Pool or Vernal Pool Habitat area.
2. Notwithstanding the provisions of Section XV(D)(1), the Commission may only issue an Order of Conditions permitting a Resource Area Enhancement of the Vernal Pool itself. All other proposed work or activity within the Vernal Pool shall be prohibited.
3. Notwithstanding the provisions of Section XV(D)(1), the Commission may issue an Order of Conditions permitting work or activity in the adjacent Vernal Pool Habitat so long as any proposed work permitted by the Commission shall not result in any of the following:
  - i. any impairment of the capacity of the Vernal Pool or Vernal Pool Habitat to provide wildlife habitat;
  - ii. any adverse impact on public or private water supply or groundwater supply, where said area is underlain by pervious material;
  - iii. any adverse impact on the capacity of said area to prevent pollution of groundwater, where said area is underlain by pervious material covered by a mat of organic peat or muck;
  - iv. any adverse impact on specified wildlife habitat of rare vertebrate or invertebrate species indicated on the most recent Estimated Habitat Map of State-listed Rare Wetlands Wildlife (if any) published by the Massachusetts NHESP; or

- v. any impairment to any portion of a Vernal Pool or Vernal Pool Habitat that is within an ACEC.
4. In the exercise of the Commission's discretion under Section XV(D)(2), the Commission shall consider the magnitude of the alteration and the significance of the affected area to the Resource Area Values specified in Section XV(A), the extent to which adverse impacts can be avoided, the extent to which adverse impacts are or could be minimized, and the extent to which mitigation measures, including replication or restoration, are provided by the project to contribute to the protection of the Resource Area Values identified in Section XV(A).
5. If the Commission permits work or activity in accordance with Section XV(D)(2), the Commission may, in its sole discretion, require that the area affected be replaced in accordance with the following general conditions and any additional, specific conditions the Commission deems necessary to ensure that the replacement area will function in a manner similar or equivalent to the Vernal Pool Habitat area that will be lost:
  - i. the surface of the replacement area to be created (the "replacement area") shall be equal to that of the Vernal Pool Habitat area that will be lost (the "lost area");
  - ii. the groundwater and surface elevation of the replacement area shall be approximately equal to that of the lost area;
  - iii. the surface hydrology of the depression shall not be altered and the permitted work or activity will not impair the ability of the Vernal Pool to receive precipitation or stormwater runoff;
  - iv. the replacement area shall be located within the same general area as the lost area to the extent feasible.
  - v. the replacement area shall provide and maintain corridors for the migration of wildlife for feeding and breeding to a substantially similar extent as the lost area;
  - vi. the replacement area shall be provided in a manner which is consistent with all other general replication provisions of the Ordinance, the Act, and the regulations and performance standards promulgated thereunder; and,
  - vii. a monitoring report based upon observations made during the vernal pool species' breeding season shall be submitted to the Commission annually for at least three years following construction of the replacement area. The Commission may

include a continuing condition in the Order of Conditions or Certificate of Compliance for continued annual reporting concerning the replacement area.

6. If the applicant provides credible evidence, including relevant expert reports, from a competent source that replication is not feasible, the Commission may, in its sole discretion, require the applicant to restore or improve those portions of the affected resource area that are not affected by the proposed activity or work.
7. Where the Commission permits work or activity in a Vernal Pool or Vernal Pool Habitat under Sections XV(D) that results in the removal of trees that have six-inch or larger diameters at breast height, the Commission may, in its discretion, require the planting of one or more indigenous trees of which the total DBH will equal or exceed the combined DBH of the trees removed, and of which no single tree shall have a DBH less than one-inch.
8. If the Vernal Pool or Vernal Pool Habitat affected by proposed work or activity is significant to the Resource Area Values described in Section XV(A), the applicant shall take into consideration the impacts of climate change on Vernal Pool and Vernal Pool Habitat and integrate climate resilience and adaptation strategies to protect the resource area and properties adjacent to said area for the next 50 years. The Ordinance defines Impacts of Climate Change to include, without limitation: extreme heat; the timing, frequency, intensity, and amount of precipitation, storm surges, and rising water levels; increased intensity or frequency of storm events or extreme weather events; and frequency, intensity, and duration of droughts. A Notice of Intent (NOI) must include a narrative that describes the Impacts of Climate Change on the Vernal Pool and Vernal Pool Habitat that are reasonably expected to occur within the next 50 years based on the best available data and projections of the future Impacts of Climate Change. In the event that the proposed work or activity is temporary in nature, the narrative must describe the Impacts of Climate Change on the site and surrounding resource areas for the determined duration of the temporary work. At a minimum, the Impacts of Climate Change narrative may rely on available and most recent data and projections of Impacts of Climate Change made available by the Department and the Climate Ready Boston initiative or any successor initiative and must meet the requirements set forth in the Commission's filing guidelines. The NOI shall propose specific mitigation against and/or adaptation to the Impacts of Climate Change to Vernal Pool and Vernal Pool Habitat, such mitigation and/or adaptation to include the incorporation of building or site measures to reduce heat island effect; reduction of stormwater runoff that will result from increasing precipitation, sea level rise, and storm surge events; adaptation to increasing sea level rise, precipitation, and

storm surge events; and minimization of lateral displacement of storm or flood water to surrounding resource areas or properties.

9. An Applicant's failure to take into account Impacts of Climate Change and incorporate mitigation, resiliency, and/or adaptation to the Impacts of Climate Change shall be an independent basis for the Commission to determine that a NOI is incomplete or will otherwise adversely impact the Resource Area Values protected by the Ordinance and these Regulations.

E. Effective Date

1. Section XV shall become effective 14 days following the Commission's approval of the Final Regulations and the posting of the Final Regulations, the Statement of Fiscal Effect, and the Amended Small Business Impact Statement with the City Clerk and shall apply to all Notices of Intent filed on or after that date and any subsequent procedures related to such filings made on or after that date.
2. Section XV shall not apply to any Notice of Intent filed prior to the effective date, or to any extensions of any Order of Conditions the Notice of Intent for which was filed prior to said effective date.

**Section XVI. Replication & Restoration**

A. Replication

The success of wetland replication has mixed results. Scientific studies conclude that for the most part replications fail to reproduce the range of values, both in quantity and quality, of the wetlands they replace. In particular, difficulties in replicating proper hydrological conditions in a consistent and enduring fashion seem to be the source of the problem.

Accordingly, the Commission strongly discourages any plan that requires replication. In those instances where replication is not approved by the Commission, additional mitigation may, at the discretion of the Commission, be provided in the form of wetland restoration, existing wetland function enhancement, and permanent conservation restrictions. The Applicant is responsible for obtaining approval from DEP under M.G.L. Chapter 131 section 40 and 310 CMR 10.00 for nontraditional wetland replication.

If the Commission allows replication, the replication will be evaluated on what it is expected to do, rather than how closely the actual construction matches the design plans. Standards for the replication shall be specified and verified in terms of wetland functions, the supported Resource Area Values, and actual performance. Technical and engineering specifications used for the design and construction of the replication areas shall be considered approximate. Criteria for acceptance and approval shall be based solely on function and performance as specified in the Order of Conditions.



For example, although elevations may be used for design and planning of a pond the standards shall be set in terms of volume and depth of water over the course of a year. In vernal pool restoration the pool must be capable of sustaining full development of vernal pool species, regardless of design elevations, sustained hydroperiods, or siting.

Replications that do not properly perform the approved functions and values as specified in the Order of Conditions will not be deemed acceptable no matter how closely they adhere to approved engineered plans. The Commission may set other conditions on a project or site specific basis.

1. If an Applicant proposes, or the Commission requires, traditional wetland replication of an area subject to protection, as defined in the Ordinance and these Regulations, as mitigation for work or activities permitted in an area subject to protection, the following standards and conditions shall apply:
  - i. The replicated wetland must be constructed in full and be conditionally approved by Commission Staff prior to the construction of any structures or commencement of other work, aside from minimal site preparation work or approved wetland impact activities in cases where soils and/or plants from the impacted wetland are to be reused.
  - ii. At minimum the replicated wetland must reproduce all the Resource Area Values and wetland functions of the original wetland, as determined by the Commission. Site conditions permitting, the Commission may require that additional Resource Area Values and wetland functions be incorporated into the replication design. In particular, in circumstances where replacement of specific wetland functions and Resource Area Values would require substantial amounts of time before being completely replicated (for example, those provided by large mature trees) the Commission may require additional compensation of area, wetland functions, Resource Area Values, etc. beyond those required in other sections of the Ordinance and these Regulations.
  - iii. The area of replication must be at least twice as large as the area of the original area that will be destroyed. The actual area ratio of replacement shall be decided on a case-by case basis in accordance with Section XVI(A)(1)(ii).
  - iv. In most instances the replication of wetland resource areas will result in the destruction of adjacent upland resource areas within the Buffer Zone. In such instances the Buffer Zone will be redesignated in accordance with the definition in the Ordinance. Replication of new Buffer Zone shall follow Section XVI(A)(1)(ii) and Section XVI(A)(1)(iii).

- v. The top 12" of soil from the original wetland must be transplanted with soil structure, especially lamination and density profile, intact to the replication area. This is intended to preserve plant, invertebrate, and planktonic communities of the wetland and inhibit the blossoming of invasive species. The Commission may waive this requirement in instances where the soil to be reused is documented, by a competent source, to be inappropriate, such as due to the presence of invasive species, contamination, or other relevant reason.
  - vi. Any replication or restoration work that would create an area subject to protection on abutting properties shall require either written permission or an easement from the abutting property owner covering the full extension of the area subject to protection on that property prior to commencement of the work.
  - vii. A security, as defined in Section XI of these Regulations, shall be required by the Commission in order to ensure the replication will be completed should the Applicant fail to fulfill the obligations set forth in the Order of Conditions.
2. Any Order of Conditions for permitted work or activity that includes replication shall include a continuing condition that prohibits any work or activity within the replicated area, except as needed to maintain the area subject to protection in its replicated condition.

#### B. Restoration

1. For the purposes of these Regulations, restoration shall mean measures that improve, restore, and protect Resource Areas and further the Resource Area Values to which each Resource Area is significant. Such measures include but are not limited to planting native vegetation, grading, improving site drainage and infiltration, and removing trash and debris.
2. If an Applicant proposes, or the Commission requires, restoration of a Resource Area or Buffer Zone, as those terms are defined in the Ordinance, as mitigation for work or activities in a Resource Area or Buffer Zone, the following standards and conditions shall apply:
  - i. Where planting native vegetation is incorporated, an Applicant shall combine seeding, transplanting, and new plantings of native species, including but not limited to herbaceous, shrub and tree species, as appropriate as determined by the Commission, in order to reestablish the vegetated community. Invasive species and poor soils shall be removed from the restoration area. The Applicant shall submit to the Commission's staff for review and approval a restoration plan

that details the species and location of invasive species to be removed and the restoration plantings.

- ii. The Applicant shall grade the area to be restored to a topography that reduces runoff and increases infiltration.
  - iii. The Applicant shall place topsoil coverage at a depth that is consistent with natural conditions at the site of the restoration area.
3. Any Order of Conditions for permitted work or activity that includes restoration shall include a continuing condition that prohibits any work or activity within the impacted Resource Area or Buffer Zone, except as needed to maintain the Resource Area or Buffer Zone in its restored condition.

## **Section XVII. Land Subject to Coastal Storm Flowage**

### **A. Preamble**

Land Subject to Coastal Storm Flowage (LSCSF) is significant to the Ordinance's protected Resource Area Values of storm damage prevention, flood control, protection of wildlife and wildlife habitat, prevention of pollution, erosion and sedimentation control, and to mitigate the impacts of climate change.

Velocity ("V") Zones and A-zones of LSCSF are areas which are subject to hazardous flooding, wave impact, and, in some cases, significant rates of erosion as a result of storm wave impact and scour. V- and A-zones in coastal areas are generally subject to repeated storm damage which can result in loss of life and property, increasing public expenditures for storm recovery activities, historic taxpayer subsidies for flood insurance and disaster relief, and increased risks for personnel involved in emergency relief programs. Alteration of land surfaces in A-zones or AE-zones, could change drainage characteristics that could cause increased flood damage on adjacent properties.

AH-zones and A-zones that are hydraulically constricted can contribute to storm damage prevention and flood control through their ability to store flood waters. As such, any proposed activities or work within these zones may cause lateral displacement of flood waters or result in increases to the horizontal extent and depth of flood waters.

The topography, soil characteristics, vegetation, potential for erosion and permeability of the land surface within V- and A-zones are critical characteristics that determine how effective an area is in dissipating wave energy and in protecting areas within and landward of these zones from storm damage and flooding. The gentler and more permeable that a

seaward-sloping land surface is, the more effective that land surface is at reducing the height and velocity of incoming storm waves. Wave energy may be expended in eroding and transporting materials comprising the land surface within the V- and A-zones, as well as by percolation or the downward movement of the stormwater through more permeable land surfaces, thereby lessening the effects of backrush, scour, and erosion. Development V- and A-zones may impair or destroy said characteristics of LSCSF, which are critical to the Resource Area Values described in this Section XVII(A).

LSCSF is also significant to the prevention of pollution. LSCSF can mitigate adverse impacts associated with human disturbance and pollutants. Natural or relatively undisturbed LSCSF can reduce erosion and sedimentation, and, in a vegetated state, can prevent pollutants contained in surface runoff from directly entering waterways and other wetland resource areas during flood events.

Dredging or the removal of materials within V- and A-zones may increase the landward velocity and height of storm waves, thereby allowing storm waves to break further inland and to impact upland wetland resource areas which might not otherwise be impacted. Filling and the placement of solid fill structures within V- and A-zones may cause refraction, diffraction, or reflection of waves, thereby forcing wave energy onto adjacent properties, natural resources, and public or private ways resulting in storm damage. When struck with storm waves, solid structures within V- and A-zones may increase localized rates of erosion and scour. In some cases, the placement of fill within hydraulically constricted portions of LSCSF may increase flood levels in conjunction with heavy rainfall events. The placement of fill within A-zones, where ponding occurs generally as a result of over-wash in LSCSF, may increase flood levels on the subject and adjacent properties above pre-fill flood levels.

In many areas, LSCSF has been previously altered or modified through human activity. While these areas may not function the same as natural or relatively undisturbed LSCSF, these areas are still significant to storm damage prevention and flood control.

LSCSF may also be significant to the protection of wildlife and wildlife habitat. LSCSF is often made up of low-lying areas that are ecologically transitional areas between marine and estuarine ecosystems and upland areas. Other resource areas within LSCSF are often important habitats for a large variety of wildlife species. For example, salt marshes provide habitat for many crustaceans and mollusks and serve as critical nursery areas for numerous fin fish species which in turn provide food for those species higher-up in the food chain. These resource areas provide important over-wintering and stopover areas for many species of waterfowl. LSCSF that is adjacent to other wetland resource areas provide important wildlife functions, such as nesting and roosting habitat, and also serve as wildlife

corridors connecting coastal zone resources with freshwater wetland resources. In addition, these adjacent areas within LSCSF serve as transitional zones which are needed to protect the coastal wetland resource's ability to provide essential habitats.

Climate change is expected to cause more extreme storm events with increased flooding in low-lying areas like LSCSF, which is particularly vulnerable to more intense precipitation, storm surges, and more powerful storm waves. LSCSF and other wetland resources within LSCSF buffer against the effects of coastal storms and flooding, reducing damage to property, infrastructure, and the environment. Therefore, LSCSF is also significant to mitigate the impacts of climate change.

B. Special Considerations for Sea Level Rise and other Impacts of Climate Change

1. If LSCSF is affected by proposed work or activity that is significant to the Resource Area Values described in Section XVII(A), the applicant shall take into consideration the impacts of climate change on LSCSF and integrate climate resilience and adaptation strategies to protect the resource area and properties adjacent to said area for the the next 50 years. The Ordinance defines Impacts of Climate Change to include, without limitation: extreme heat; the timing, frequency, intensity, and amount of precipitation, storm surges, and rising water levels; increased intensity or frequency of storm events or extreme weather events; and frequency, intensity, and duration of droughts. Consideration should also be given to the depth of flood waters and duration of a flooding event.
2. SLR, specifically, is defined by the Ordinance as the rise in sea level over time. Due to climate change, the warming of global ocean water and consequent thermal expansion, subsidence, and the melting of glaciers, ice caps, and the Greenland and Antarctic ice sheets, SLR will continue to accelerate and pose greater risks over time to human safety and infrastructure, and the City of Boston will experience more frequent and increased coastal inundation, elevated storm surge flooding levels, saltwater intrusion to public and private water supply, loss of coastal recreational resources, coastal erosion, and loss of coastal habitats and resources.
3. All applicants proposing work or activities in LSCSF must include in the NOI a narrative that describes the Impacts of Climate Change on LSCSF that are reasonably expected to occur within the next 50 years based on the best available data and projections of the future Impacts of Climate Change. In the event that the proposed work or activity is temporary in nature, the narrative must describe the Impacts of Climate Change on the site and surrounding resource areas for the determined duration of the temporary work. At a minimum, the

Impacts of Climate Change narrative may rely on available and most recent data and projections of Impacts of Climate Change made available by the Department and the Climate Ready Boston initiative or any successor initiative and must meet the requirements set forth in the Commission's filing guidelines. The NOI shall propose specific mitigation against and/or adaptation to the Impacts of Climate Change, including but not limited to employing such strategies and details as are suggested through the Climate Ready Boston initiative or other successor initiative of the City, which may include improvements and enhancements to the resource area to protect LSCSF from the Impacts of Climate Change; the incorporation of building or site measures to reduce heat island effect; reduce stormwater runoff as a result of increasing precipitation, sea level rise, and storm surge events; adapt to increasing sea level rise, precipitation, and storm surge events; and prevent the lateral displacement of storm or flood water to surrounding resource areas or properties.

4. In determining whether to permit proposed work or activities in LSCSF, the Commission shall consider current and anticipated SLR expected to occur within the next 50 years, the Applicant's inclusion of resilience and adaptation planning in the design and proposed construction of the project, and any adverse impacts the project may have on LSCSF and wetland resource areas within LSCSF as they currently exist and as are reasonably expected to exist based on projected impacts of SLR to such resource areas expected to occur within the next 50 years. An Applicant's failure to take into account Impacts of Climate Change and incorporate mitigation, resiliency, and/or adaptation to the Impacts of Climate Change shall be an independent basis for the Commission to determine that a NOI is incomplete or will otherwise adversely impact the Resource Area Values protected by the Ordinance and these Regulations.

C. Definition, Critical Characteristics, and Boundary

1. LSCSF is defined by the Ordinance as land subject to any inundation caused by coastal storms up to and including that caused by the 100-year storm, surge of record, or storm of record, whichever is greater. The seaward limit of LSCSF is mean low water.
2. For the purposes of Section XVII(C)(1), the 100-year storm means the storm that results in a base flood having a one percent chance of being equaled or exceeded in any given year. The Commission shall presume that the 100-year storm is that which is designated as the Area of Special Flood Hazard by the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRM) for Boston. If such data is unavailable or deemed by the Commission to be outdated, inaccurate, or not reflective of current or reasonably anticipated

conditions, the boundary of LSCSF may be determined from other evidence, including the best available data provided by the City or the Commonwealth of Massachusetts, or by engineering calculations completed by a competent source that results in a LOMA or LOMR being issued by FEMA on expected conditions due to climate change.

3. The topography, soil characteristics, vegetation, potential for erosion, and permeability of LSCSF allow for the dissipation of storm wave energy and, therefore, are the physical characteristics of LSCSF that are critical to the protection of LSCSF values described in Section XVII(A). In addition, for areas in AH-zones that are subject to ponding or A-zones that are hydraulically constricted areas, the ability to store a volume of flood water is a critical characteristic. Hydraulically constricted A-zones are those in which the base flood elevation (BFE) is lower on the landward side of the structure.

D. Presumption. Where a proposed activity involves the removing, filling, dredging, building upon, over or under, degrading, discharging into, or otherwise altering or posing a significant threat to alter LSCSF, the Commission shall presume that such area is significant to the interests specified in Section XVII(A). This presumption is rebuttable and may be overcome upon a clear showing that the LSCSF does not play a role in the protection of said Resource Area Values .

E. Performance Standards

1. When the Commission determines that LSCSF overlays or overlaps with other resource areas protected under the Ordinance, the applicable performance standards for each resource area shall be independently as well as collectively applied, and the project shall be conditioned to protect the Resource Area Values of all resource areas affected by the project and the ability of such other resource areas to protect the Resource Area Values described in Section XVII(A).
2. If LSCSF affected by proposed activity or work is significant to the Resource Area Values described in Section XVII(A), such activity shall not have an adverse impact on the subject site, adjacent properties, properties located in the adjacent Coastal Flood Resilience Zone, or any public or private way by increasing the elevation or velocity of flood or storm waters or by increasing flows due to a change in drainage or flowage characteristics.
3. If LSCSF is significant to flood control or storm damage prevention, the proposed activity or work shall not result in flood damage due to filling, which causes lateral displacement of flood waters that, in the judgment of the Commission, would otherwise be confined within said area. The Commission, in its sole discretion, may permit such activity so long as the activity will not have an adverse impact on said

area's ability to provide storm damage prevention and flood control; provided, further, that the activity or work incorporate best management practices to reduce or eliminate damage resulting from SLR and coastal storms.

4. If LSCSF receives and holds coastal flood waters, the proposed activity or work shall not impact the ability of the area to receive, hold, and laterally spread flood waters if it causes unnatural redirection, refraction, diffraction, or reflection of coastal flood waters and waves.
5. If LSCSF receives coastal flood waters that naturally flow across the landform surface without redirecting or channeling the flow, the proposed activity or work shall not cause flood water to become redirected or channeled or increase in velocity, so as to cause erosion, scour, and increased storm damage to the project's locus and adjacent areas.
6. If LSCSF is significant to wildlife and their habitat, proposed activity or work shall not impair the capacity of those portions of LSCSF to provide important wildlife habitat functions.
7. If LSCSF is significant to the prevention of pollution, proposed activity or work shall not have an adverse impact on the characteristic of the LSCSF to remove suspended solids and other contaminants from runoff before entering into other wetland resource areas or a body of water.
8. Proposed work or activity in LSCSF which results in alteration to vegetative cover, interruptions in the beneficial supply of sediment to other wetland resource areas, or changes to the form or volume of a dune or beach, and such result will have an adverse impact on said dune or beach's ability to provide storm damage prevention and flood control, is prohibited.
9. Notwithstanding Sections XVII(E)(1) through (8), the Commission may, in its sole discretion, permit the following activities provided that the applicant demonstrates to the satisfaction of the Commission that best available measures, as defined by the Ordinance, are utilized to minimize or eliminate adverse impacts on the critical characteristics of and Resource Area Values protected by LSCSF described in Section XVII(A) herein, and provided further that all other performance standards for overlapping or overlaying wetland resource areas are met:
  - i. Limited projects as specified in the Act at 310 Code Mass. Regs. 10.24(7);



- ii. Beach and bank nourishment and restoration projects, including fencing, native plantings, and other projects designed to increase resource area stabilization and decrease erosion;
  - iii. Pedestrian walkways for public shoreline access and non-motorized use;
  - iv. Improvements necessary to maintain or improve the structural integrity or stability of an existing coastal engineering structure, as that term is defined by the Ordinance;
  - v. Projects which will protect, restore, rehabilitate, or create a wetland resource area;
  - vi. Projects that are approved, in writing, or conducted by the Commonwealth of Massachusetts Division of Marine Fisheries that are specifically intended to increase the productivity of land containing shellfish, including aquaculture, or to maintain or enhance marine fisheries;
  - vii. Projects that are approved, in writing, or conducted by the Commonwealth of Massachusetts Division of Fisheries and Wildlife that are specifically intended to enhance or increase wildlife habitat;
  - viii. Projects that are designed and intended to reduce the risk of coastal flooding, inland flooding, extreme weather events, SLR, and other adverse impacts of climate change, including, but not limited to, strategies and plans described in Climate Ready Boston or any successor initiative of the City,
  - ix. Flood mitigation projects designed and intended to have no significant adverse effect on the ability of LSCSF to protect from storm damage and flood control, and
  - x. Projects involving the installation of scientific testing and monitoring equipment provided that it is temporary in nature and will not alter LSCSF.
10. In the interest of storm damage prevention, flood control, and prevention of pollution, should the Commission permit activity or work in LSCSF that is part of new construction or constitutes substantial improvement to an existing structure, the Commission may condition the permitted activity or work so that any critical building systems, infrastructure, or equipment is located two (2) feet above the anticipated BFE expected to occur within the next 50 years based on the best available data and projections of SLR.

- i. In the event that the proposed work or activity is temporary, then any critical building systems, infrastructure, or equipment shall be located two (2) feet above the anticipated BFE at the conclusion of the project's determined duration of the temporary work.
  - ii. At a minimum, the anticipated BFE shall be based on the best available and most recent data and projections for SLR made available by the City or any of its agencies, boards, commissions, or quasi-City agencies, including, but not limited to, data and information made available through the Climate Ready Boston initiative or any successor initiative.
  - iii. In the event that elevating or relocating critical building systems, infrastructure, or equipment is not practicable, as determined by the Commission, the Commission may require the Applicant to employ other floodproofing strategies such as floodwalls or shields, and the Applicant shall, at a minimum, secure such equipment with anchors or tie-downs to prevent flotation.
11. When any proposed work or activity in LSCSF is located within an ACEC, the proposed work or activity shall have no adverse impact upon the Resource Area Values described in Section XVII(A) and shall fully mitigate any impacts resulting from the proposed work or activity.
  12. Section XVII(E)(11) shall supersede the provisions of Section XVII(E)(9)(i) through (viii), but it shall not apply if the presumption set forth in Section XVII(D) is overcome.
  13. Notwithstanding the provisions of Section XVII(E)(2) through (X), no project may be permitted which will have any adverse impact on specified habitat sites of rare vertebrate or invertebrate species indicated on the most recent Estimated Habitat Map of State-listed Rare Wetlands Wildlife (if any) published by the Massachusetts NHESP.

F. Redevelopment Within Previously Developed LSCSF

1. For purposes of this section, Redevelopment shall mean work or activity within previously developed or degraded areas prior to December 19, 2019. A previously developed or degraded area contains impervious surfaces from existing structures or pavement, absence of topsoil, junkyards, or abandoned dumping grounds. Redevelopment of these areas of LSCSF should not adversely impact LSCSF. Areas that were once previously developed or degraded that have since been

remediated and/or over time become natural or relatively undisturbed, including through the presence of topsoil and other vegetation, are no longer considered redevelopment.

2. Notwithstanding the provisions of Section XVII(E), the Commission may permit work or activity that constitutes a Redevelopment, provided that the work or activity shall conform to the following criteria:
  - i. At a minimum, proposed work or activity shall result in an improvement over existing conditions of the capacity of LSCSF to protect at least one of the Resource Area Values described in Section XVII(A) and adaptations to or mitigation against the impacts of SLR on the project and the area of the proposed work or activity;
  - ii. Stormwater management is provided according to the performance standards established in 310 Code Mass. Regs. 10.05(6)(k), as applicable to the proposed work or activity, including such performance standards as are applicable to proposed Redevelopment.
  - iii. The proposed work or activity shall not inhibit any planned flood resilience, adaptation, or mitigation solutions and shall not inhibit the ability to enact such solutions in a timely and practical manner as referenced by Climate Ready Boston or any successor initiative of the City.
3. Notwithstanding the provisions of Section XVII(E)(12), the provisions of Section XVII(E)(9),(10), (11), and (13) shall apply to proposed Redevelopment.

#### G. Effective Date

1. Section XVII shall become effective 90 days following the Commission's approval of the Final Regulations and the posting of the Final Regulations, the Statement of Fiscal Effect, and the Amended Small Business Impact Statement with the City Clerk and shall apply to all Notices of Intent filed on or after that date and any subsequent procedures related to such filings made on or after that date.
2. Section XVII shall not apply to any Notice of Intent filed prior to the effective date, or to any extensions of any Order of Conditions the Notice of Intent for which was filed prior to said effective date.