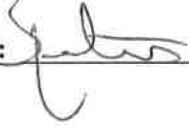


MARYLAND COAST SMART COUNCIL
COAST SMART CONSTRUCTION PROGRAM

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Summary of Contents

1. Introduction
 - a. The Maryland *Coast Smart* Council
 - b. The *Coast Smart* Construction Program
2. Criteria
 - a. Applicability
 - i. State Projects
 - b. Requirements
 - i. *Coast Smart* Practices
 - ii. Siting Criteria
 - iii. Design Criteria
3. Categorical Exceptions
 - a. Project Types and Uses
 - b. Process
 - c. Documentation
 - d. Consultation
4. *Coast Smart* Criteria Waivers
 - a. Waiver Considerations
 - b. Process
 - c. Routine Projects
5. Reporting
 - a. Annual Reporting to Council
 - b. Documentation
6. Criteria Incorporation
 - a. Procedural Manual for Professional Services
 - b. Facility Program Manual
 - c. State Hazard Mitigation Plan and State Disaster Recovery Plan
7. *Coast Smart* Construction Program: Annual Review and Analysis

Appendix A: *Coast Smart* Assessment and Certificate

Appendix B: *Coast Smart* Criteria Waiver Form

1. INTRODUCTION

a. The Maryland Coast Smart Council

House Bill 615 - Section 3-1001-3-1004 of the Natural Resources Article - entitled "Coast Smart Council" was enacted into law in 2014. This law establishes the Maryland Coast Smart Council (the Council) in the Department of Natural Resources (DNR), providing for private sector membership, State agency membership and assistance and staffing by DNR. One of the primary tasks of the Council is to establish *Coast Smart* siting and design criteria to address sea level rise and coastal flood impacts on capital projects.

Additionally, Md. STATE FINANCE AND PROCUREMENT Code Ann. § 3-602.3 requires that beginning on July 1, 2015, if a State capital project includes the construction of a structure or reconstruction of a structure with substantial damage, the structure shall be constructed or reconstructed in compliance with the siting and design criteria established by the Council. The Criteria shall include, guidelines, and any other directives applicable to the preliminary planning and construction of a proposed capital project; a requirement that the lowest floor elevation of each structure located within a Special Flood Hazard Area is built at an elevation of at least 2 feet above the base flood elevation; and provisions establishing a process to allow a Unit of State Government to obtain a waiver from complying with the requirements. The *Coast Smart* Construction Program establishes how these criteria will be put into practice.

b. The *Coast Smart* Construction Program

The *Coast Smart* Construction (Program) is for the use of all State of Maryland agencies that design and build facilities or prepare programs and budgets for the design and construction of facilities. It is intended specifically for the use of project managers, capital planners, and the professionals who will design and operate State-owned facilities. The Program will be reviewed on an annual or "as necessary" basis by the Council and revised to address issues which may occur as the building of State facilities and knowledge of *Coast Smart* building practices evolves.

For all questions concerning this program, refer to the Council's website at:
http://dnr.maryland.gov/climateresilience/Pages/cs_Council.aspx or contact:

Maryland Coast Smart Council
c/o Department of Natural Resources - Office of the Secretary
580 Taylor Ave., C-4
Annapolis, MD 21401
410.260.8101

2. CRITERIA

a. Applicability: The Program criteria and requirements shall be applied to all State capital projects planned or built by Units of State Government that are partially or fully funded with State funds.

i. State Projects: Beginning on July 1, 2015, if a State capital project includes the construction of a new structure or reconstruction of a structure with substantial damage, the structure shall be constructed or reconstructed in compliance with the Program criteria.

- 1) A "structure" is defined as a walled or roofed building; a manufactured home; or a gas or liquid storage tank that is principally above ground.
- 2) "Substantial damage" means damage caused by any source that is sustained by a structure such that the cost of reconstruction to its before-damaged condition is at least half of the structure's

replacement cost before the damage occurred.

b. Requirements: Projects required to comply with the Program shall satisfy the following:

i. Coast Smart Practices: All Units of State Government shall employ *Coast Smart* practices when constructing all new state structures, or reconstructing or rehabilitating substantially damaged state structures.

- 1) *Coast Smart* Practices are practices in which, preliminary planning, siting, design, construction, operation, maintenance, and repair of a structure avoids or, in the alternative, minimizes future impacts associated with coastal flooding and sea level rise.
- 2) "*Coast Smart*" includes both siting and design guidelines that are applicable throughout the entire life cycle of a project.

ii. Siting Criteria: The following specifications related to the location of a structure or use on a lot or parcel or within a larger geographic area are required:

- 1) Construction of new state structures and the reconstruction of substantially damaged state structures shall be avoided, to the fullest extent practicable, within areas likely to be inundated by sea level rise within the next 50-years.
- 2) New state "critical or essential facilities" shall not be located within Special Flood Hazard Areas designated under the National Flood Insurance Program (NFIP), specifically "V" Zones, Coastal "A" Zones or floodways.
- 3) Manufactured homes shall not be allowed in floodways or "V" Zones.
- 4) Natural and nature based features that may serve to buffer the project from the impacts of future sea level rise, coastal flooding or storm surge (e.g., vegetated or forested buffers, dunes, wetland adaptation areas) or that support general climate adaptation practices (e.g., habitat adaptation areas), shall be identified and should be protected and maintained to the maximum extent practicable.
 - a. All projects shall be in compliance with COMAR 27.02.05, Critical Area Commission for the Chesapeake and Atlantic Coastal Bays, Development in the Critical Area Resulting from State and Local Agency Program.
- 5) Whenever possible, onsite mitigation measures should enhance, restore or create natural and nature based features to provide additional protection against future sea level rise and coastal storm impacts.

iii. Design Criteria: The following structural specifications related to the shape, size, or form of construction practice guidelines are required:

- 1) All projects shall be designed to avoid or minimize future impacts associated with future sea level rise, coastal flooding and storm surge over the anticipated design life of a project.
- 2) All new non-critical State structures and the reconstruction or rehabilitation of substantially damaged non-critical State structures located in Special Flood Hazard Areas shall be constructed with a minimum of two (2) feet of freeboard above the 100-year base flood elevation, as defined by the NFIP.
 - a. For State purposes, the regulatory 100-year floodplain elevation is defined on the Flood Insurance Rate Map (FIRM) or Digital Flood Insurance Rate Map (DFIRM) that will be in effect at the time construction will begin.
- 3) All new "critical and essential" structures and reconstruction or rehabilitation of such substantially damaged structures located in the Special Flood Hazard Areas shall be constructed with a minimum of three (3) feet of freeboard above the 100-year base flood

- elevation, as defined by NFIP.
- 4) State structures serving transportation purposes that are not water dependent or dependent on integral infrastructure shall be constructed with a minimum of two (2) feet of freeboard above the 100-year base flood elevation, as defined by the NFIP.
 - 5) Flooding potential should be considered when choosing building materials for all structural projects, including minor improvements or maintenance and repair, as corrosion and other environmental and health consequences can become a concern for materials subjected to flood waters¹.
 - 6) Utilize FEMA standards (44CFR60.3(c)(3)(ii)) for dry-proofing wet-proofing parts of a structure located below base flood elevation to prevent or minimize the effect of coastal flooding.
 - 7) Structures and infrastructure proposed within a Limit of Moderate Wave Action (LiMWA) boundary, also known as the "Coastal A Zone," when mapped under the NFIP shall be designed in compliance with construction standards applicable for V Zones.
 - 8) The LiMWA is a boundary that identifies the landward location of the 1.5 ft wave height delineating a zone called the "Coastal A Zone" where wave damage is substantial.

3. CATEGORICAL EXCEPTIONS

a. Project Types and Uses: The following project types may be determined by the Using Agency to be exempt from strict application of *Coast Smart* Construction Criteria, provided that it can be demonstrated that the project has been designed to increase resiliency to future impacts.

- i. *Water-dependent uses.* Projects that require continued direct access to the water as an integral part of the use, or facilities that directly support water dependent uses.
- ii. *Existing transportation system assets.* Projects that support the continued function of existing transportation system assets.
- iii. *Passive public access.* Projects that provide either recreational or scenic access to water bodies or shoreline areas which, need to be within a flood zone for their purpose.
- iv. *Historic structures.* The necessity of continued investment of state resources in properties individually listed or determined eligible for listing in the National Register of Historic Places or a contributing resource within a historic district listed on or determined eligible for listing in the National Register.
- v. *Temporary structures or uses.* Structures intended to be in place for less than 180 consecutive days in any given calendar year or will be removed at the end of a construction project.
- vi. *Stabilization projects.* Actions to secure and maintain assets, structures, and natural and cultural resources to prevent additional damage and to prevent future resource/ facility damage; efforts to mitigate a safety or environmental hazard; mold remediation; facility weatherization; silt fencing; and minor repairs and restorations.
- vii. *Emergency use.* Structures essential to save lives and protect property, public health and safety.

b. Process: Projects not subject to comply with the Program requirements, including projects eligible for Categorical Exceptions, shall employ *Coast Smart* principles and practices, wherever practicable.

c. Documentation: Using Agencies shall submit documentation and reporting materials to Coast Smart Council on an annual basis. Reporting documents will be used by the Council for the purposes of further development and/or refinement of *Coast Smart* Siting and Design Criteria, Categorical Exceptions, and or

¹ Maryland Department of Environment. 2014. *Maryland Model Floodplain Management Ordinance*. Maryland Department of Environment, Baltimore, Maryland.

general standards and procedures for applying and obtaining a compliance waiver.

d. Consultation: Using Agencies may request a formal consultation with the Coast Smart Council for the purposes of reviewing a proposed project and/or to seek a determination of compliance with the Categorical Exception provisions, as specified above.

4. COAST SMART CRITERIA WAIVERS

Any Unit of State Government may request a waiver from one or more of the specific *Coast Smart* Siting and/or Design Criteria. Waiver requests will be reviewed for approval by the Governor's Smart Growth Subcabinet, established under Code State Government Article, §9- 1406.

a. Waiver Considerations: Exceptions to the Criteria may be granted based on consideration of the following factors:

- i. *Cost-Benefit Analysis.* The full extent of short-term and long-term costs, including those associated with additional shore protection, emergency response during extreme weather events, and the potential necessity of rebuilding or repairing damaged structures. Included in this analysis should be the costs of providing government services during and after flood conditions, including maintenance and repair of public utilities and facilities such as sewer, gas, electrical, and water systems, and streets and bridges.
- ii. *Importance of the services.* Determination of the level of importance of services to the State of Maryland provided by the proposed project.
- iii. *Socio-Economic and Cultural Considerations.* The necessity of continued investment of state resources in coastal communities in order to protect and stimulate economic growth and revitalization or maintain a unique cultural value.
- iv. *Structural and Natural and Nature-Based Resiliency Measures.* Proposed construction practices and site development standards for the protection of structural and ecological features on site, in anticipation of the need to prepare for, respond to, and recover from extreme weather events, sea level rise inundation, coastal flooding, storm surges and shoreline erosion.
- v. *Statutory/Regulatory Conflicts.* Statutory or regulatory requirements (e.g., Americans with Disabilities Act) that may conflict with the strict application of the *Coast Smart* Siting and Design Criteria.
- vi. *Federal Grant Funding Criteria.* Specific grant requirements which may specify alternative construction standards or practices and/or may preclude application of strict interpretation of the Siting and Design Criteria.
- vii. *Mapping Error.* Land elevations shown on mapping products or tools are proven to be inaccurate by a licensed surveyor or engineer.
- viii. *Public Health, Safety and Welfare.* An analysis of the danger that materials may be swept onto other lands to the injury of others or the danger to life and property due to flooding or erosion damage.
- ix. *Suitability of alternative locations.* Availability of suitable alternative project locations that are subject to a lower risk of flooding or erosion damage.
- x. *Emergency Response and Access.* Safety of access to and from a site, facility or the structure or infrastructure by passenger and emergency vehicles during a flood.

b. Process: The Agency requesting the waiver shall provide a brief (no more than two pages) letter of request for a waiver to the Governor's Smart Growth Subcabinet established under Code State Government Article, §9-1406, explaining and demonstrating 1) why a proposed project is unable to meet Program requirements and; 2) how the project is eligible for a waiver based on one or more of the

considerations listed above. The waiver request should be provided in MS Word or pdf format for distribution, review and consideration by the Smart Growth Coordinating Committee and Smart Growth Sub-Cabinet. Using Agencies should allow up to 8 weeks for a response to waiver requests. See Appendix D for more information on the Waiver submittal package and process.

c. Routine Projects: The Council may establish, in writing, an agency-specific procedure by which certain routine projects may be handled in an expedited way without individual waiver approval.

5. REPORTING

a. Annual Reporting to Council: Beginning on October 1, 2016, and for every year thereafter, all Units of State Government shall report to the Council on individual State agency actions, which were undertaken within the previous fiscal year and related to implementation of *Coast Smart* Construction program, including Categorical Exception and Waiver determinations.

b. Documentation: Reporting materials shall include all documentation used to determine compliance with *Coast Smart* Construction Siting and Design Criteria, including the Project Screening Checklist (See Section II, page 8 of Appendix A). Reporting documents will be used by the Council for the purposes of further development and/ or refinement of *Coast Smart* Siting and Design Criteria, Categorical Exceptions, and or general standards and procedures for applying and obtaining a compliance waiver.

6. CRITERIA INCORPORATION

a. Procedural Manual for Professional Services: The Maryland Department of General Services (DGS) shall incorporate the *Coast Smart* Construction Program Requirements into Chapter II, Section 6 of the Procedural Manual for Professional Services, as appropriate.

- i. The Procedural Manual serves as a guide for providing professional services during all phases of design and preparation of contract documents for capital projects involving the construction, alteration or renovation of state buildings with an estimated construction cost greater than \$2 million. It is intended that the procedures also be followed to the fullest extent practicable for other state public improvements such as facilities renewal projects, special structures, roads, utilities, and site improvements. Chapter II, Section 6 of the Manual outlines Coastal/Flood Plain Design Requirements in two subsections: 6.1 Chesapeake Bay Critical Area Consideration and 6.2 Climate Change and '*Coast Smart*' Construction. Appendix C of the Manual covers Floodplain Management Criteria for Flood Prone Areas.

b. Facility Program Manual: The Department of Budget and Management (DBM) and DGS shall amend the Facility Program Manual to incorporate *Coast Smart* Construction Program requirements.

- i. Section 3-602(d) of the State Finance and Procurement Article requires that before an appropriation may be authorized for a capital project, the unit of State government requesting the appropriation shall submit a facility program justifying the project (Part I) and describing, in detail, the scope and purpose of the project (Part II). The Facility Program Manual defines and describes the content of a facility program; provides instruction on the preparation of a facility program; and provides information regarding facility program submission requirements.

c. Maryland State Hazard Mitigation Plan and State Disaster Recovery Plan: The Maryland

Emergency Management Agency (MEMA) shall incorporate the *Coast Smart* Construction Criteria into the 2016 State Hazard Mitigation Plan Update and into the State Disaster Recovery Plan. MEMA should also review and update progress on actions and additional recommended *Coast Smart* Construction Siting and Design Guidelines² including the following:

- i. Inventory hazard risks to state-owned facilities and identify their risks to hazards including climate change related hazards (e.g., sea level rise, coastal and riverine stream erosion, and increased flooding);
- ii. Incorporate climate change and coastal hazard considerations into building codes for coastal communities (e.g., freeboard, septic siting); and
- iii. Leverage relationships with universities/scientists, through programs such as Cooperative Extension, to educate on hazards and climate change.

7. COAST SMART CONSTRUCTION PROGRAM: ANNUAL REVIEW AND ANALYSIS

The Coast Smart Council will meet quarterly, or as deemed necessary, for the purposes of further development and/or refinement of *Coast Smart* Siting and Design Criteria, Categorical Exceptions, and or general standards and procedures for applying and obtaining a compliance waiver.

² Z.P. Johnson (ed.). 2013. Climate Change and Coast Smart Construction: Infrastructure Siting and Design Guidelines. Special Report of the Adaptation and Response Working Group of the Maryland Commission on Climate Change. Maryland Department of Natural Resources, Annapolis, MD.