Section 300.6. Treatment of Sewage and Stormwater

A. Definitions

1. Sewage: The Council has adopted the definition of sewage set forth under Title 46, Chapter 12, Section 1 or the General Laws, to wit: "... any human or animal excremental liquid or substance, any decomposed animal or vegetable matter, garbage, offal, filth, waste, chemicals, acid, dyestuff, starch, coloring matter, oil and tar, radioactive substances and any compound solution, mixture or product thereof, and every substance which may be injurious to public health or comfort, or which would injuriously affect the natural and healthy propagation, growth or development of any fish or shellfish in the waters of this state, or of the nourishment of the same, or which would injuriously affect the flavor, taste, or value of food of any such fish or shellfish or which would defile said waters or injure or defile any vessel, boat, wharf, pier, or any public or private property upon, in or under said waters or any shore thereof."

For purposes of the Coastal Resources Management Program, "sewage" is further defined to include freshwater discharges including runoff that may significantly alter the salinity of tidal waters or salt ponds. The term "sewage" also includes discharges of heated waters.

2. Individual sewage disposal system (ISDS): any arrangement for sanitary sewage disposal by means other than discharge into a public sewer system.

3. Point source discharges: any conveyance including, but not limited to, any pipe, ditch, channel, tunnel, conduit, container, transport vehicle or vessel from which sewage is or may be discharged.

4. Sewage treatment plants: sewage collection and treatment facilities, including state, municipal, or privately owned and operated collection, pumping, treating, disposal or dispersion facilities designed for the treatment of sewage from residences, commercial buildings, industrial plants and institutions, together with any groundwater, surface water, or surface runoff that may be present in the waste stream.

5. Stormwater runoff: that portion of precipitation that does not naturally infiltrate into the landscape (e.g., without human influence) but rather travels overland as surface flow. It is also commonly referred to as "stormwater". Stormwater runoff can be a significant contributor of pollutants including sediments, bacteria, nutrients (e.g., nitrogen and phosphorus), hydrocarbons (e.g., oil and grease), metals, and other substances which can adversely affect water quality and the coastal environment. In addition, significant discharges of stormwater may alter salinity and thereby adversely impact the coastal environment, especially in poorly flushed estuaries and embayments.

6. Stormwater management plan: A stormwater management plan is a description of the proposed best management practices, detailed site plans, and written narrative that, when implemented, provides protection and restoration of receiving waters by reducing pollutant loadings and other negative impacts associated with changes in land use (i.e., urbanization).

7. Large Projects: For the purposes of the stormwater management requirements contained in this section, large projects are defined as any one of the following: subdivision of six (6) units or more; any structure serviced by an on-site sewage disposal system serving 2000 gallons or more per day; any activity which results in the creation of one (1) acre or more of parking facilities, roadways, or impervious surfaces; all new roads, highways, and bridges; all improvement projects to roads, highways, and bridges (excluded from these requirements are projects consisting only of pavement resurfacing, minor roadway repairs, or emergency roadway and drainage repairs); any activity which is subject to the RIPDES general permit requirements for construction activities or industrial activities; any activity subject to Section 300.8; any activity subject to Section 300.13; and any activity subject to Section 320.

8. Small Projects: For the purposes of the stormwater management requirements contained in this section, small projects are defined as all new development and redevelopment or modification of existing commercial and industrial

structures, or residential subdivisions of 5 units or less. In addition, activities which are classified as maintenance, and projects which receive a finding of no significant impact (FONSI) are excluded from these requirements.

B. Policies

1. It is the Council's policy to maintain and, where possible, improve the quality of groundwater and tidal and salt pond surface waters.

2. It is the Council's policy to minimize the amount of ISDS-derived nitrates and other potential contaminants which may leach into salt ponds and all other Type 1, 2, and 3 waters.

3. Applicants for Assents for ISDS' are encouraged to meet on site with CRMC staff prior to undertaking of ISDS groundwater and soil tests to discuss the location of the system and buffer zones.

4. It is the Council's policy to require the proper management and treatment of stormwater through the preparation and implementation of a stormwater management plan which satisfies the requirements of the RICRMP. All activities which meet the definition of a large project must prepare and implement a stormwater management plan which satisfies the requirements of Section 300.6.E.2.. All activities which meet the definition of small project must satisfy the stormwater management standards contained in Section 300.6.E.3.

5. The most recent version of the *Rhode Island Stormwater Design and Installation Standards Manual* provides the appropriate methods for the preparation of stormwater management plans and the treatment of stormwater with "Best Management Practices" (BMP) within the CRMC's jurisdiction. However, applicants are encouraged to consult other appropriate guidance and technical stormwater design manuals such as Schueler (1987) and Schueler (1992). The Council also recognizes that the most recent version of the *Rhode Island Soil and Erosion and Sediment Control Handbook*, and its amendments, published jointly by the Rhode Island Department of Environmental Management and the United States Department of Agriculture (USDA), Soil Conservation Service (SCS) provides additional guidance and supplemental information with respect to the management and treatment of stormwater.

6. After construction has been completed and the site has been permanently stabilized, the average annual total suspended solid loadings (TSS) shall be reduced by 80 percent. In addition, to the maximum extent practicable, the post development peak runoff rate and the average volume from 2-year, 25-year, and 100-year storm events shall be maintained at pre-development levels unless: i) the applicant has obtained local or state approval which certifies that the existing storm drain system has the capacity to accommodate the additional stormwater runoff; or ii) the stormwater runoff is conveyed, preferably without hardened channels, non-erosive to tidal waters.

7. All stormwater management plans required by the Council should clearly describe the Best Management Practices (BMP) as found in Rhode Island's Stormwater Design and Installation Standards Manual that will be used to treat and mitigate adverse environmental impacts associated with stormwater runoff. In addition, all stormwater management plans shall take into consideration all potential impacts associated with the discharge of stormwater runoff into the coastal environment. Potential impacts include, but are not limited to, the following: (i) impacts to coastal wetlands such as changes in species composition due to the introduction of freshwater to high marsh areas; (ii) changes in the salinity of receiving waters; (iii) thermal impacts to receiving waters; (iv) effects of introducing stormwater runoff to receiving waters that has low dissolved oxygen concentrations; and (v) other potential water quality impacts.

8. All sites should be planned, designed, and developed in order to: (1) Protect areas that provide important water quality benefits and/or are particularly susceptible to erosion and sediment loss; (2) limit increases of impervious surface areas, except where necessary; (3) limit land disturbance activities such as clearing and grading and cut and fill to reduce erosion and sediment loss; and (4) limit disturbance of natural drainage features and vegetation.

C. Prerequisites

1. Applicants for Council Assents to construct, alter, or extend individual sewage disposal systems or point source discharges shall first obtain a permit from the Department of Environmental Management.

2. All federal water pollution control requirements established by the Federal Water Pollution Control Act (Clean Water Act), as amended, or established by the federal government or by any state or local government pursuant to such act, are the water pollution control requirements of the Rhode Island Coastal Resources Management Program. Accordingly, all discharge standards, effluent limitations and/or pretreatment standards established pursuant to the Clean Water Act for discharges of pollutants to the waters of Rhode Island under the Rhode Island Pollutant Discharge Elimination System (RIPDES) shall be met (Rhode Island is an EPA delegated state with respect to the NPDES program). In addition, applicants shall obtain an Underground Injection Control (UIC) permit from the Rhode Island Department of Environmental Management when applicable. Applicants subject to RIPDES general permit requirements for construction activities and industrial activities shall apply to the Council prior to submitting an application to the RIDEM.

3. The Council shall formally review proposed actions only after all other applicable state/local requirements have or will be met. However, the Council will comment on preliminary plans for major facilities to assist in the planning process.

4. The Executive Director or the Council may require that a System Suitability Determination from RIDEM be obtained for septic systems that pre-date 1968.

D. Prohibitions

1. Point source discharges of sewage and/or stormwater runoff are prohibited on unconsolidated coastal banks and bluffs.

2. New and enlarged stormwater discharges to the high salt marsh environment bordering Type 1 and Type 2 waters and within salt marshes designated for preservation which border Type 3,4,5, and 6 waters are prohibited. Stormwater discharges to existing well flushed tidal channels within high marshes shall not be subject to this prohibition. However, all such discharges shall meet the standards contained in Section 300.6.E.2.

E. Standards

1. For individual sewage disposal systems (ISDS):

(a) See standards given in "Filling, Removing, or Grading" (Section 300.2).

(b) Grading around the ISDS shall direct the flow of surface runoff water away from the ISDS.

(c) Subdrains constructed to lower groundwater levels in an area where an ISDS shall be built shall (1) have a minimum pipe diameter of 6 inches, (2) have no piping located between the anticipated ISDS and the shore, (3) be constructed so as to prevent clogging by soil fines, and (4) have outfalls suitably protected against shoreline erosion and scour.

(d) When existing buildings are changed from seasonal to year-round use, or expanded by adding one or more rooms, certification shall be obtained from the Department of Environmental Management's ISDS Office that the existing ISDS is capable of treating sewage effluent adequately.

(e) Connections to ISDS' and cesspools that are abandoned shall be removed, blocked, or otherwise disconnected, and abandoned cesspools and septic tanks shall be pumped dry and filled with clean fill.

(f) Where necessary, barriers shall be constructed to prevent vehicles from passing over septic systems.

2. Stormwater Management for Large Projects

(a) All stormwater management plans shall be consistent with the Best Management Practices (BMP) and the stormwater design and performance standards found in the *Rhode Island Stormwater Design and Installation*

Standards Manual. In addition, all stormwater management plans shall take into consideration all potential impacts associated with the discharge of stormwater runoff into the coastal environment. Potential impacts include, but are not limited to, the following: (i) impacts to coastal wetlands such as changes in species composition due to the introduction of freshwater to high marsh areas; (ii) changes in the salinity of receiving waters; (iii) thermal impacts to receiving waters; (iv) effects of introducing stormwater runoff to receiving waters that has low dissolved oxygen concentrations; and (v) other potential water quality impacts.

(b) After construction has been completed and the site is permanently stabilized, the average annual total suspended solid loadings (TSS) shall be reduced by 80 percent. In addition, to the maximum extent practicable, the post development peak runoff rate and the average volume from 2-year, 25-year, and 100-year storm events shall be maintained at pre-development levels unless: i) the applicant has obtained local or state approval which certifies that the existing storm drain system has the capacity to accommodate the additional discharge of stormwater runoff; or ii) the stormwater runoff is conveyed, preferably without using hardened channels, non-erosive to tidal waters.

(c) The discharge from any stormwater facility must be conveyed through properly constructed watercourses to provide for non-erosive flows during all storm events. The proposed stormwater conveyance system consisting of open channels, pipes, etc. shall, at a minimum, accommodate the runoff associated with a 10-year storm event or greater if required by other local, state, or federal regulations. These stormwater conveyance systems shall provide for non-erosive flows to receiving waters.

(d) All stormwater detention basins shall be constructed to safely withstand or pass through the discharge from the 100-year runoff flows from the contributing drainage area. Specifically, detention basins shall be constructed to "withstand" the 100-year runoff flows and shall be capable of controlling these flows without failure or damage to the basin and/or detaining berms. Certification by the design engineer as to meeting this requirement shall be provided on the design plans for the proposal.

(e) New or enlarged stormwater discharges to salt marshes and well flushed tidal channels within high marshes shall only be permitted when the applicant can clearly demonstrate that no reasonable alternatives exist (e.g., no other discharge locations having a gravity flow outlet are available and impervious surfaces have been kept to an absolute minimum) and when no adverse impacts to the salt marsh environment will result. In these instances, the applicant shall, at a minimum, meet all applicable standards contained in the *Rhode Island Stormwater Design and Installation Standards Manual.* This standard does not apply to low salt marsh environments with an average width along the property of less than 35 feet.

(f) If the Council determines that any proposed stormwater discharge will result in an unacceptable discharge of pollutants to the waters of Rhode Island, the Council shall require the applicant to mitigate the pollutant loads to acceptable levels. Frequently, this can be accomplished using appropriate Best Management Practices in series in order to achieve higher pollutant removal efficiencies.

(g) Whenever possible, existing natural vegetation shall be left intact along natural drainage easements so as to minimize bank erosion.

(h) No connections to storm, surface, or subsurface drains shall be made to either a individual building sanitary sewer or individual (on-site) sewage disposal system (ISDS), nor shall any such drains be constructed within 25 feet of an existing ISDS.

(i) Wet ponds must have a permanent pool volume equal to the water quality volume calculated by multiplying one-inch by the impervious surface area.

(j) Extended detention dry ponds must detain the water quality volume over a 36-hour period (brim draw-down time).

(k) Infiltration methods must be designed to retain and exfiltrate the water quality volume over a maximum 72-hour period.

(l) During the preparation of the stormwater management plan, the applicant shall: 1) protect areas that provide important water quality benefits and/or are particularly susceptible to erosion and sediment loss; 2) limit increases of impervious surface areas, except where necessary; 3) limit land disturbing activities to reduce erosion and sediment loss; and 4) limit disturbances of natural drainage features and vegetation.

(m) All stormwater management plans shall have a maintenance plan which satisfies the recommended maintenance procedures outlined in the most recent version of the *Rhode Island Stormwater Design and Installation Standards Manual*.

3. Stormwater Management for Small Projects

(a) After construction has been completed and the site is permanently stabilized, the average annual TSS loadings must be reduced by 80 percent. New construction or modifications to single-family dwellings are exempt, except when new impervious driveway surfaces (e.g., asphalt or concrete) are proposed. In such cases, adequate treatment of the first 0.5 inches of runoff from the new impervious driveway surface must be provided for in accordance with Section 300.6.E.3(h).

(b) To the maximum extent practicable, the post development peak runoff rate and average volume shall be maintained at levels similar to pre-development levels.

(c) In order to reduce the inflow of pollutants carried by surface water runoff, all activities or alterations shall be required to minimize and/or mitigate any significant adverse impacts associated with surface runoff from the project. All applicants must provide appropriate measures to this end such as the use of infiltration devices, permeable surfaces, and the use of overland flow.

(d) Concentrated runoff shall be minimized to the maximum extent practicable. The use of sheet flow through vegetated areas shall be employed whenever practicable to prevent erosive flows. In addition, roof top runoff shall be directed away from erosion prone areas.

(e) Whenever possible, existing natural vegetation shall be left intact along natural drainage easements so as to minimize bank erosion.

(f) At a minimum, all drainage structures shall be designed to adequately convey the runoff from a ten-year storm event. In the event that a muni-cipality in which the structure is located specifies a greater than 10-year storm event as a minimum design standard, then such greater design standard shall apply. The design of the drainage structure shall consider all impacts on adjacent properties and mitigate any adverse impacts.

(g) No connections to storm, surface, or subsurface drains shall be made to either a individual building sanitary sewer or individual (on-site) sewage disposal system (ISDS), nor shall any such drains be constructed within 25 feet of an existing ISDS.

(h) When applicable, the design and installation standards contained in Section 300.6.E.2 shall be met and the management of stormwater from small projects shall be consistent with the BMPs and the design and installation standards contained in the most recent version of the *Rhode Island Stormwater Design and Installation Standards Manual.*

4. For catch basins:

(a) Catch basins shall be employed when necessary to reduce runoff-induced infiltration of particulates into water bodies.

(b) A maintenance and cleaning program for catch basins shall be detailed.

(c) Catch basins shall have a minimum sump depth of 3 feet.

(d) Wherever possible, catch basins with permeable sides and/or bottoms shall be used so as to minimize outflow.

5. For outfalls:

(a) Work on outfalls, drainage channels, etc., shall proceed from the shoreline toward the upland in order that no unfinished or un-stabilized lower channel portions be subjected to erosion-producing velocities from upstream. If this cannot be accomplished, all flow shall be diverted from the unfinished areas until stabilization is completed.

(b) Where possible, outfall pipe slopes shall be designed for an exit velocity of less than 5 feet per second.

(c) Screens or grates shall be placed over the end of large outfalls to trap debris.

(d) Beaches or other coastal features in front of outfalls shall be returned to original grade.

(e) Riprap placed on beaches shall not increase the grade of the beach higher than one foot in order to maintain lateral access below mean high water.

(f) Riprap shall be compact, hard, durable, angular stone, with an approximate unit weight of 165 lbs./cubic foot.

(g) Riprap shall be placed with an adequate bedding of crushed rock or other suitable filtering material.