i. Require a control structure with a diameter smaller than the minimum diameter; or

ii. Result in a dewatering time that exceeds the maximum dewatering time.

(5) Any regulated development that results in impervious area exceeding the design parameters of an existing detention or infiltration facility shall either expand the existing stormwater management facility, or include a control measure designed to reduce the additional volume of runoff from the regulated development, such as a rain garden or the replacement of existing impervious pavement with permeable pavement.

d. Stormwater Management Facilities

(1) Basic Requirements

The following requirements apply to the stormwater management facilities for all regulated development required to meet the Stormwater Storage Requirements of this Ordinance.

i. Offsite runoff may be bypassed around a proposed stormwater management facility.

ii. Stormwater management facilities shall be sized for the runoff from any public road improvements required as part of the regulated development.

iii. Stormwater management facilities shall be designed to dewater within 72 hours following the end of the design storm.

iv. A stable overflow shall be provided for each stormwater management facility. The overflow shall be capable of passing the unattenuated inflow from the 100 year critical duration storm from the entire tributary area without increasing flood heights on upstream adjoining properties or resulting in flood damage at the development site, based on runoff calculations meeting the Runoff Rates and Storage Volume Standards of this Ordinance. The overflow elevation shall be at or above the 100 year design high water elevation.

v. A minimum freeboard of one 1 foot shall be provided above the design high water surface elevation of the 100 year flow through the overflow.

vi. Stormwater management facilities serving more than one property shall be located in a deed or plat restriction with access to the stormwater management facility from the public right-of-way. The Enforcement Officer may waive the requirement for a deed or plat restriction where an increase in flood heights on upstream properties is unlikely to result from the lack of maintenance of the stormwater management facility.

vii. The applicant shall notify adjoining downstream property owner(s) via certified mail return receipt of any proposed stormwater management facility outlet location and design. Notification shall occur prior to preliminary Planned Unit Development or Plat of

Subdivision or shall be provided at the first permit application submittal, whichever is earlier.

viii. The applicant shall notify any drainage district within the watershed where the development site is located via certified mail return receipt of any proposed stormwater management facility outlet location and design. Notification shall occur prior to preliminary Planned Unit Development or Plat of Subdivision or shall be provided at the first permit application submittal, whichever is earlier.

ix. Concentrated discharges from a development site shall be connected to an existing drain tile, where possible; however, the primary outlet from the development site should be a surface discharge and the drain tile connection shall be designed as a secondary, low flow outlet. When no reasonable alternative exists, the Enforcement Officer may approve the connection of a concentrated discharge from a development site to an existing drain tile as the primary outlet, provided the existing drain tile has adequate hydraulic capacity and structural integrity and is located within a recorded deed or plat restriction to the point it discharges into a channel. The deed or plat restriction must be approved by the Enforcement Officer prior to issuance of a stormwater management permit.

x. Stormwater management facility discharges onto adjoining properties shall be designed to release as sheet flow using a level spreader, or other energy dissipation device, approved by the Enforcement Officer.

xi. An off-site outfall shall be constructed to convey the release from a stormwater management facility if an analysis demonstrates that adequate downstream stormwater capacity cannot be achieved or if land damage to an agricultural swale may occur.

(a) The off-site outfall shall be evaluated to the nearest open channel. If the outfall is located within a publicly owned storm drainage system, it shall be evaluated to the downstream location directed by the Enforcement Officer.

(b) Stormwater management facility discharges to downstream agricultural surface drainage systems with no base flow must be conveyed 100% underground within forty-eight (48) hours after a storm event up to and including the 100 year, 24 hour storm event.

(c) Off-site outfalls shall be located within a public right-of-way or deed or plat restricted area and marked on the as-built plans. The deed or plat restriction language shall clearly define the individual or entity responsible for perpetual maintenance.

(d) If an off-site outfall is required to be constructed and the downstream property owner(s) refuse(s) to grant access across his or her property, and construction within a right-of-way or alternate route is not feasible or reasonable, the applicant shall provide the Enforcement Officer a two (2) year post-

development security for the engineer's estimate of probable construction cost for the off-site outfall plus a ten percent (10%) contingency. If the downstream property owner has not granted access for construction of the improvements within two (2) years following completion of the development, the Enforcement Officer shall release the security.

(2) Detention Facilities

In addition to other applicable Stormwater Management Facility Standards, the following requirements apply to detention facilities for all regulated development required to meet the Stormwater Storage Requirements of this Ordinance.

i. Single pipe outlets shall have a minimum inside diameter of 12 inches. Control structures such as orifices, weirs, and perforated risers may be used to meet the allowable release rates. Outlet pipes and control structures shall be designed to minimize the need for maintenance and prevent tampering.

ii. Control structures shall have a minimum diameter of 4 inches when a single pipe outlet or an orifice plate is used to restrict the outflow from a detention facility. If a smaller diameter is necessary to meet the allowable release rates, the control structure shall be designed to prevent clogging.

iii. Detention facilities shall be designed with appropriate tailwater conditions, as approved by the Enforcement Officer.

iv. Inlets to the detention facility shall be located as far from the outlet as possible. Paved low flow channels shall not be allowed between inlets and the outlet.

v. The side slopes at the shoreline of wet bottom and wetland detention facilities (from at least 6 inches below to at least 6 inches above normal water level) shall be no steeper than 10:1 to prevent shoreline erosion due to wave action and fluctuating water levels. Above shoreline areas, or in dry detention facilities, the maximum side slope shall be 4:1.

vi. Wet bottom detention facilities with a permanent pool depth greater than 3 feet shall include a safety shelf with a minimum 8 foot width that is no more than 1 foot below normal water level.

(3) Online Detention

In addition to other applicable Stormwater Management Facility Standards, the following requirements apply to online detention facilities for all regulated development required to meet the Stormwater Storage Requirements of this Ordinance.

i. Online detention shall not be allowed on perennial streams.

ii. Online detention shall not be allowed in HQAR.

iii. Online detention shall not be allowed where the offsite to onsite tributary area ratio is greater than 10:1, except for regulated