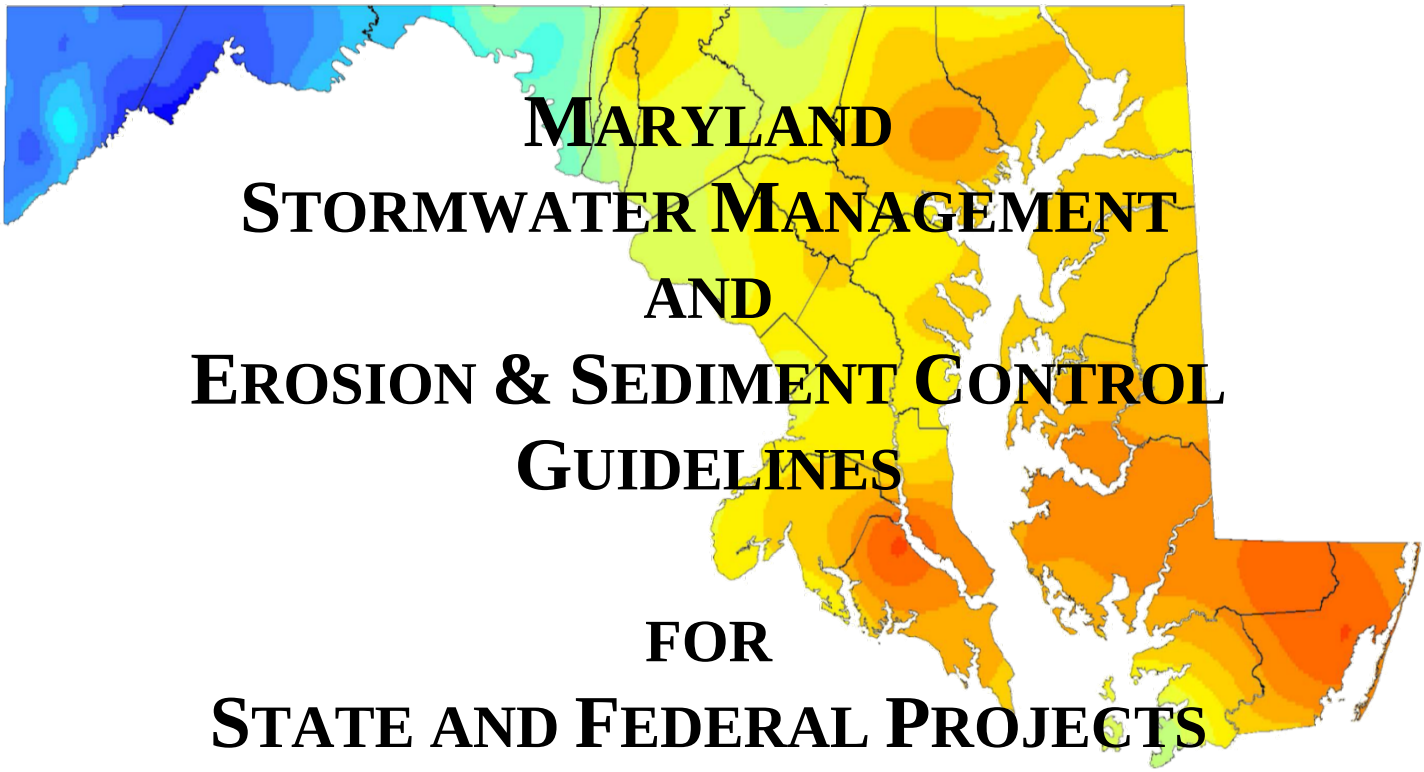

MARYLAND STORMWATER MANAGEMENT AND EROSION & SEDIMENT CONTROL GUIDELINES

FOR STATE AND FEDERAL PROJECTS

FEBRUARY 2015

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INTRODUCTION

The Environment Article, Title 4, Subtitle 1 requires the Maryland Department of the Environment (MDE) to implement a statewide erosion/sediment control program to control sediment-laden runoff from land disturbing activities. MDE's obligation in meeting this mandate includes adopting regulations that establish criteria and procedures for erosion/sediment control throughout Maryland. The Environment Article, Title 4, Subtitle 2 requires MDE to implement a statewide stormwater management program to control runoff from development. To meet this mandate, MDE has adopted regulations that establish criteria and procedures for managing stormwater throughout Maryland.

The Stormwater Management Act of 2007 (the Act) requires that the Code of Maryland Regulations (COMAR) be modified and guidance and ordinances be developed for the purpose of implementing environmental site design (ESD) to the maximum extent practicable (MEP) on all development. The Act defines ESD as "using small-scale stormwater management practices, nonstructural techniques, and better site planning to mimic natural hydrologic runoff characteristics and minimize the impact of land development on water resources." ESD promotes conserving natural features, drainage patterns, and vegetation; minimizing impervious surfaces; slowing down runoff; and increasing infiltration. Significant changes to COMAR and the "2000 Maryland Stormwater Design Manual, Volumes I & II" (Design Manual) were adopted in May 2009. These changes specify that ESD is to be implemented, that the MEP standard is to be met, and that the reviews of stormwater management and erosion/sediment control plans are to be integrated via a comprehensive review process.

In January 2012, MDE adopted revised erosion/sediment control regulations along with the "2011 Maryland Standards and Specifications for Soil Erosion and Sediment Control" (Standards and Specifications). The revisions include more stringent stabilization requirements and the establishment of a grading unit criteria. Additionally, the Standards and Specifications now describe how an erosion/sediment control plan will be designed in concert with a site's stormwater management plan as required by the Act. As part of this approach, the erosion/sediment control regulations require developers, designers, and plan review agencies to consider erosion/sediment control of runoff from the start of the land development design process. Adhering to the planning principles found in the Standards and Specifications should result in development that better fits existing site conditions and reduces both the extent and duration of soil disturbance during construction.

The "Maryland Sediment Control and Stormwater Management Guidelines for State and Federal Projects" (Guidelines) represent the next step toward meeting MDE's obligations under current law and serve as guidance for developing, reviewing, and approving both erosion/sediment control and stormwater management plans for State and federal projects. The definition of ESD as well as the procedures, practices, and minimum plan contents specified herein will guide all State and federal agencies submitting stormwater management and erosion/sediment control plans to MDE.

If there are any questions or comments regarding the Guidelines, please contact the Sediment and Stormwater Plan Review Division in the Water Management Administration of MDE at 410-537-3563.

MARYLAND
STORMWATER MANAGEMENT AND EROSION & SEDIMENT CONTROL GUIDELINES
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1.0 PURPOSE AND AUTHORITY

The purpose of the Guidelines is to protect, maintain, and enhance the public health, safety, and general welfare by establishing minimum requirements and procedures to mitigate soil erosion, minimize the discharge of pollutants, and reduce the adverse impacts associated with increased stormwater runoff. The goal is to manage stormwater by using environmental site design (ESD) to the maximum extent practicable (MEP) to reduce stream channel erosion, pollution, siltation, sedimentation, and local flooding and to use appropriate structural best management practices (BMPs) only when necessary. The intent of ESD is to restore, enhance, and maintain the chemical, physical, and biological integrity of streams, minimize damage to public and private property, and reduce the adverse impacts of land development.

The provisions of the Guidelines are pursuant to the Annotated Code of Maryland, Environment Article, Title 4, Subtitles 1 and 2, the Erosion and Sediment Control Regulations, Code of Maryland Regulations (COMAR) 26.17.01, and the Stormwater Management Regulations, COMAR 26.17.02. The Guidelines provide the minimum erosion/sediment control and stormwater management requirements for plans submitted by State and federal agencies to the Maryland Department of the Environment (MDE) for review and approval. These guidelines do not affect the validity of any portion of either the Environment Article or COMAR.

1.1 Reference Material

The following documents complement the Guidelines:

A. The *2000 Maryland Stormwater Design Manual Volumes I & II*, MDE, April 2000 and *Supplement 1*, MDE, May 2009 and any subsequent revisions (Design Manual) serving as the official guide for stormwater principles, methods, and practices;

B. The *2011 Maryland Standards and Specifications for Soil Erosion and Sediment Control,* MDE, December 2011 and any subsequent revisions (Standards and Specifications) serving as the official guide for erosion/sediment control standard principles, details, practices, and specifications;

C. The *Conservation Practice Standard, Pond Code 378*, United States Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS) Maryland, January 2000, or latest revision, (Pond Code 378) serving as the official guide for small pond principals, methods, and practices; and,

D. The *Sediment and Stormwater Procedures Manual for State and Federal Projects*, MDE Sediment and Stormwater Plan Review Division, as updated (the Procedures) serving as the standard procedures for the design, submittal, review, and approval of State and federal construction projects.

2.0 DEFINITIONS

For the purpose of the Guidelines, the definitions below describe the meaning of the following terms:

1. "Adverse impact" means any deleterious effect on waters or wetlands, including changes to quality, quantity, surface area, species composition, aesthetics or usefulness for human or natural uses which are or may potentially be harmful or injurious to human health, welfare, safety or property, to biological productivity, diversity, or stability or which unreasonably interfere with the enjoyment of life or property, including outdoor recreation.

2. "Applicant" means any State or federal governmental agency or other entities as required that execute the necessary documents to procure official approval to carry out construction of a project (i.e., the entity responsible for the project, not necessarily the land owner).

3. "Best management practice (BMP)" means a structural device or nonstructural practice designed to temporarily store or treat stormwater runoff in order to mitigate flooding, reduce pollution, or provide other amenities.

4. "Channel protection storage volume (Cp_V)" means the volume used to design stormwater management practices to control stream channel erosion. For environmental site design (ESD), Cp_V represents the portion of the ESD volume requirement beyond one inch of rainfall. See also "recharge volume," "water quality volume" and "environmental site design (ESD)."

5. "Clear" means any activity which removes the vegetative cover while leaving the root mat intact.

6. "Concept plan" means the first of three required plan approvals that includes the information necessary to allow an initial evaluation of a proposed project as described in Section 7.4.A. See also "site development plan" and "final plan".

7. "Critical Area" means all land within 1,000 feet of tidal waters or adjacent tidal wetlands to the Chesapeake and Atlantic Coastal Bays and their tributaries.

8. "Design Manual" means the *2000 Maryland Stormwater Design Manual and the 2009 Supplement* which serves as the official guide for stormwater management principles, methods, and practices.

9. "Detention structure" means a permanent structure that provides temporary storage to control stormwater runoff to prevent an increase in downstream channel erosion and decrease the frequency of overbank flooding without creating a permanent pool of water within the structure.

10. "Develop land" means to change the runoff characteristics of a parcel of land in conjunction with residential, commercial, industrial, or institutional construction

or alteration.

11. "Development activity" means an activity that develops land.

12. "Direct discharge" means the concentrated release of stormwater to tidal waters or vegetated tidal wetlands from new development or redevelopment projects in the Critical Area.

13. "Disturbance" means an activity by which the surface cover is removed or altered, therefore making the soil susceptible to erosion.

14. "Drainage area" means that area contributing runoff to a single point measured in a horizontal plane, which is enclosed by a ridge line. When runoff leaves the limit of disturbance as sheet flow, the "drainage area" means the area for which all water drains to the line of investigation.

15. "Dry weather period" means a forecasted period with a maximum chance of precipitation of 20 percent each day, as determined by the National Oceanic and Atmospheric Administration (NOAA), for a specified number of consecutive days for the region (ZIP code) in which the project is located.

16. "Easement" means a grant or reservation by the owner of land for the use of such land, or a portion thereof, by others for a specific purpose or purposes and which must be included in the conveyance of land affected by such easement.

17. "Environmental site design (ESD)" means using small-scale stormwater management practices, nonstructural techniques, and better site planning to mimic natural hydrologic runoff characteristics and minimize the impact of land development on water resources. Methods for designing ESD practices are specified in the Procedures and the *2000 Maryland Stormwater Design Manual Volumes I & II*.

18. "Erosion" means the process by which the land surface is worn away by the action of wind, water, ice, or gravity.

19. "Erosion and sediment control" means a system of protective measures, devices, and techniques that minimize soil erosion and off-site sedimentation.

20. "Erosion and sediment control plan" means an erosion/sediment control strategy and plan, designed in accordance with the *2011 Maryland Standards and Specifications for Soil Erosion and Sediment Control* and prepared and approved in accordance with the Guidelines and the Procedures, that minimizes erosion and prevents off-site sedimentation by containing sediment on-site or passing sediment-laden runoff through sediment control measures before being released from the site.

21. "Exemption" means those land development activities that are not subject to erosion/sediment control and/or stormwater management approval.

22. "Extended detention" means a stormwater design feature that provides gradual release of a volume of water in order to increase settling of pollutants and protect downstream channels from frequent storm events. Methods for designing extended detention BMPs are specified in the *2000 Maryland Stormwater Design Manual Volumes I & II*.

23. "Extreme flood volume" means the storage volume required to control those infrequent but large storm events in which overbank flows reach or exceed the boundaries of the 100-year floodplain.

24. "Federal unit" means any federal agency that intends to or does clear, grade, transport, or otherwise disturb the land or soil surface in the course of its activities.

25. "Final plan" means the last of three required plans that includes the information necessary to allow approval by MDE as described in Section 7.4.C. See also "concept plan" and "site development plan."

26. "Flow attenuation" means prolonging the flow time of runoff to reduce the peak discharge.

27. "Grade" means to cause the disturbance of the earth. This includes, but is not limited to excavating, filling, stockpiling of earth materials, grubbing, or disturbance of root mat or topsoil.

28. "Grading unit" means the maximum contiguous area allowed to be graded at a given time. A grading unit is limited to a maximum of 20 acres.

29. "Grub" means to expose the earth by removal of the root mat. It may also include the removal of tree stumps and other embedded items.

30. "Highly erodible soils" means those soils with a slope greater than 15 percent or those soils with a soil erodability factor, K, greater than 0.35 and having slopes greater than 5 percent.

31. "Impervious area" means any surface that does not allow stormwater to infiltrate into the underlying soil. Examples include pavement, rooftops, and certain gravel surfaces used for vehicular traffic.

32. "Impervious area requiring treatment (IART)" means the total impervious area that shall be treated for water quality to satisfy stormwater management requirements as outlined in the Procedures.

33. "Infiltration" means the passage or movement of water into the soil.

34. "Institutional management plan (IMP)" means an MDE-approved, long-term concept plan developed by a State or federal agency that addresses stormwater

management and future development for an institution on an overall watershed basis.

35. "Limit of disturbance (LOD)" means the boundary outside of which earth disturbance is not permitted to occur.

36. "Line of investigation (LOI)" means a location where runoff from a drainage area sheet flows from the project site. See also "point of investigation (POI)". References within these guidelines to POI also extend to LOI.

37. "Maintenance" means an activity whose purpose is to repair or restore an asset to its original function. With regard to disturbance of impervious surfaces it means pavement overlay, patching, and certain, limited in-kind replacement of deteriorated impervious surfaces, as well as the replacement of impervious surfaces removed for the purpose of underground utility and pipe work.

38. "Maximum extent practicable (MEP)" means designing stormwater management systems such that all reasonable opportunities for using ESD planning techniques and treatment practices are exhausted, and only where absolutely necessary are structural BMPs implemented.

39. "MDE" refers to Maryland Department of the Environment, Water Management Administration.

40. "MDE approved sediment control device or practice" means any control found in the *2011 Maryland Standards and Specifications for Soil Erosion and Sediment Control* that when designed and installed per these standards, and when maintained to ensure proper function, provides adequate treatment for a specific drainage area.

41. "New construction" means the construction of impervious area over an existing pervious area. "New construction" is not interchangeable with the definition for "new development". "New construction" refers to the construction activity, and "new development" refers to the classification of development. "New construction" is always "new development", but not all "new development" is "new construction."

42. "New development" means any new construction performed on existing pervious area as well as any reconstruction or alteration performed on existing impervious area for which the existing percentage of impervious area within the stormwater study area is 40 percent or less, at a project site where the existing land use is commercial, industrial, institutional, or multifamily residential. "New development" refers to the development classification and is not interchangeable with the definition of "new construction".

43. "Off-site stormwater management" means a BMP or stormwater system located outside the project site and designed and constructed to control stormwater from one or more sites.

44. “On-site stormwater management” means a BMP or stormwater system designed and constructed to control stormwater within the project site.

45. “Overbank flood protection volume (Q_P)” means the volume of stormwater runoff controlled by BMPs to prevent an increase in the frequency of out-of-bank flooding generated by development. Methods for calculating the overbank flood protection volume are specified in the *2000 Maryland Stormwater Design Manual Volumes I & II*.

46. “Owner/developer” means the person undertaking, or for whose benefit, any or all of the activities covered by the Guidelines commences or is carried on. This is not necessarily the land owner. General contractors, subcontractors, or both, without a proprietary interest in a project are not considered within this definition.

47. “P_E” represents the rainfall, in inches, used to determine ESD goals and size practices. Target rainfall (P_E) is listed in Table 5.3 of the *2000 Maryland Stormwater Design Manual Volumes I & II*.

48. “Person” means the federal government; the State; or other political subdivision of the State; or any of their units; or an individual, receiver, trustee, guardian, executor, administrator, fiduciary; or representative of any kind; or any partnership, firm, association, public or private corporation, or any of their affiliates, or any other entity.

49. “Planning techniques” means a combination of strategies employed early in project design to reduce the impact from development and to incorporate natural features into a stormwater management plan.

50. “Point of investigation (POI)” means a location where concentrated runoff from a drainage area flows from the project site. References within these guidelines to POI also extend to LOI.

51. “Post-development” means conditions that result from the completion of the proposed project. Post-development conditions are commonly referred to as proposed conditions.

52. “Pre-development” means conditions that exist prior to the conception of the proposed project. Pre-development conditions are commonly referred to as existing conditions.

53. "Professional engineer" means an engineer duly registered by the State to practice engineering in accordance with the provisions of Business Occupations and Professions Article, Title 14, Annotated Code of Maryland.

54. “Project site” means a location, bounded by the limit of disturbance, where development is proposed or occurring.

55. “Pollution” means the contamination or other alteration of the physical, chemical, or biological properties of any waters of the State, including changes in temperature, taste, color, turbidity, or odor of the waters, or the discharge or deposit of any organic matter, harmful organisms, liquids, gaseous materials, solids, radioactive materials, or other substances into any waters of the State that may render the water harmful, detrimental, or injurious to:

    a. Public health, safety, or welfare;

    b. Domestic, commercial, industrial, agricultural, recreational, or other legitimate beneficial uses; or

    c. Livestock, wild animals, birds, fish, or other aquatic life.

56. “Recharge volume (Re_V)” means that portion of the water quality volume used to maintain groundwater recharge rates at development sites.

57. “Reconstruction” means the removal of an existing impervious area and construction of a new impervious area within the same footprint. “Reconstruction” is not interchangeable with the definition of “redevelopment”. “Reconstruction” refers to the construction activity, and “redevelopment” refers to the classification of development. “Redevelopment” is always “reconstruction,” but not all “reconstruction” is “redevelopment.”

58. “Redevelopment” means any construction, alteration, removal, or improvement performed on existing impervious area at a project site where the existing land use is commercial, industrial, institutional, or multifamily residential and the existing imperviousness for the stormwater study area exceeds 40 percent. “Redevelopment” refers to the development classification based on the percentage of existing impervious and is not interchangeable with the definition of “reconstruction”.

59. “Responsible personnel” means any foreman, superintendent, or project engineer who is in charge of site clearing and grading operations or the implementation and maintenance of an erosion/sediment control plan and who has received MDE approved Responsible Personnel Certification Training for erosion/sediment control.

60. “Retention structure” means a permanent structure, such as but not limited to a pond, that provides for the storage of runoff by means of a permanent pool of water.

61. "Retrofitting" means the construction of a BMP to provide stormwater management in a previously developed area where stormwater management was previously not provided, the modification of an existing BMP to enhance functionality, or the implementation of a nonstructural practice to improve existing water quality conditions.

62. “Same-day stabilization” means an erosion/sediment control procedure in which the work area is stabilized by the end of the work day or within a 24-hour period for around the clock construction.

63. “Sediment” means soils or other surficial materials transported or deposited by the action of wind, water, ice, gravity, or artificial means.

64. “Site” means any tract, lot, or parcel of land, or combination of tracts, lots, and parcels of land that are in single ownership or are contiguous and in diverse ownership, where development is to be performed as part of a unit, subdivision, or project. Examples of these are military bases, university/college campuses, and roadway corridors.

65. “Site development plan” means the second of three required plan approvals that includes the information necessary to allow a detailed evaluation of a proposed project as described in Section 7.4.B.

66. “Stabilization” means the prevention of soil movement by covering exposed earth with erosion-resistant material including various vegetative and/or structural means. Stabilization requirements are defined as temporary and permanent and may be found in the *2011 Maryland Standards and Specifications for Soil Erosion and Sediment Control*.

67. “Stable conveyance” means there is no evidence of erosion, or potential for erosion to occur, in the receiving water course.

68. “Standards and Specifications” means the *2011 Maryland Standards and Specifications for Soil Erosion and Sediment Control* and any subsequent revisions.

69. “State unit” means any State agency that intends to or does clear, grade, transport, or otherwise disturb the land or soil surface in the course of its activities.

70. “Steep slopes” means, for the purposes of erosion/sediment control, those slopes with gradients of 20 percent or more.

71. “Stormwater” means water that originates from a precipitation event.

72. “Stormwater management” means, for:

    a. Quantitative control, a system of measures that control the increased volume and/or rate of surface runoff caused by man-made changes to the land; and
    b. Qualitative control, a system of measures that reduce or eliminate pollutants that might otherwise be carried by runoff.

73. “Stormwater management system” means natural areas, ESD practices, BMPs, and any other structural or nonstructural stormwater measures through which

stormwater flows, infiltrates, or filters prior to discharge from a site.

74. "Stormwater study area" means the boundary containing all areas necessary for determining the development classification for a point of investigation as outlined in the Procedures. It typically corresponds to the limit of disturbance.

75. "Variance" means the modification of the minimum stormwater management or erosion and sediment control requirements for exceptional circumstances such that strict adherence to the requirements would result in unnecessary hardship and would not fulfill the intent of these guidelines.

76. "Waiver" means the reduction of stormwater management requirements for a specific project on a case-by-case review basis.

77. "Watercourse" means any natural or artificial stream, river, creek, ditch, swale, gutter, channel, canal, conduit, culvert, drain, waterway, gully, or ravine in and including any adjacent area that is subject to inundation from overflow or flood water.

78. "Water quality volume (WQ_V)" means the volume needed to capture and treat 90 percent of the average annual runoff volume at a project site. In terms of ESD, the WQ_V represents the ESD_V for $P_E = 1$ inch.

79. "Watershed" means an extent of land or drainage area where surface runoff from rain, melting snow, and ice contributes to a single point.

80. "Watershed management plan" means a county or local municipality approved plan to manage specific watersheds that is acceptable to MDE.

81. "Waters of the State" includes:

    a. Both surface and underground waters within the boundaries of the State subject to its jurisdiction, including that portion of the Atlantic Ocean within the boundaries of the State, the Chesapeake Bay and its tributaries, and all ponds, lakes, rivers, streams, storm drain systems, public ditches, tax ditches, and public drainage systems within the State, other than those designated and used to collect convey, or dispose of sanitary sewage; and

    b. The floodplain of free-flowing water determined by MDE on the basis of the 100-year flood frequency.

82. "Wetlands" means an area having saturated soils or periodic high groundwater levels and vegetation adapted to wet conditions and periodic flooding as defined in Environmental Article, Title 5, Subtitle 9 and Title 16, Annotated Code of Maryland and COMAR 26.23.01 and 26.24.01 or by federal regulations.

3.0 APPLICABILITY

3.1 Scope

No State or federal agency shall clear, grade, develop, or redevelop any land without implementing an approved plan that provides erosion/sediment control measures and stormwater management to control or manage runoff from such activities during and after construction, except as provided within this section. Measures for clearing, grading, new development, and redevelopment shall be consistent with the Design Manual, the Standards and Specifications, and the Procedures, and constructed according to the final plan approved by the Sediment and Stormwater Plan Review Division of MDE.

3.2 Exemptions

The following are exempt from the provisions of the Guidelines:

A. Stormwater Management:

1. Agricultural land management practices;

2. Any project that does not disturb over 5,000 square feet of land area.

B. Erosion/Sediment Control:

1. Agricultural land management practices and agricultural BMPs;

2. Clearing or grading activities that disturb less than 5,000 square feet of land area <u>and</u> disturb less than 100 cubic yards of earth.

3.3 Stormwater Management Waivers

The 2007 Stormwater Management Act restricts stormwater management waivers because ESD must be implemented to the MEP. However, there will be development situations that warrant relaxing management obligations due to site specific circumstances.

A. MDE may grant a waiver of all quality and quantity stormwater management control requirements when an applicant demonstrates to the satisfaction of MDE that the disturbed area will be returned to the existing condition and will result in no hydrologic changes. Examples include maintenance projects, landscaping projects, and underground activities involving pipelines, conduits, tunnels, sanitary sewers, and in-kind storm drain replacement/remediation.

B. MDE may grant a waiver of the stormwater management quantity control requirements when the applicant demonstrates to the satisfaction of MDE that ESD has been implemented for a minimum of one inch of rainfall (i.e. P_E= 1 inch), that the outfall is stable, that the cumulative effects of waivers granted previously cause no adverse impacts to the downstream watercourse, and that:

1. The POI discharges to tidally influenced receiving waters:

   a. For direct discharges (Cp_V* and Q_P);

   b. For discharges within the site and with safe and stable conveyance from the POI to the tidal waters (Q_P) [see Section 4.1.A.5];

   c. For discharges into an existing closed storm drain system or lined channel that outfalls directly to tidally influenced waters and the storm drain system has:
      i. Adequate capacity for $Q_{1\text{-year}}$ (Cp_V*);
      ii. Adequate capacity for $Q_{10\text{-year}}$ (Cp_V* and Q_P); or

   *** Projects located in the Critical Area must comply with the respective Critical Area regulations which may include treating a runoff volume inclusive of the Cp_V.**

2. The POI discharges into a major waterway as identified in Table 1:

   a. For direct releases (Cp_V and Q_P);

   b. For discharges within the site and with safe and stable conveyance from the POI to the main stem of the waterway (Q_P) [see Section 4.1.A.5.];

   c. For discharges into an existing closed storm drain system or lined channel that outfalls directly to a major waterway and the storm drain system has:
      i. Adequate capacity for $Q_{1\text{-year}}$ (Cp_V);
      ii. Adequate capacity for $Q_{10\text{-year}}$ (Cp_V and Q_P); or

3. Historical downstream flooding problems do not exist and management of the overbank flood protection (Q_P) volume within the watershed (see Table 2) is not required by the local jurisdiction and is stated as such in a letter provided by the local jurisdiction to MDE. Cp_V shall be provided as required by the Design Manual.

C. A Stormwater Management Waiver Application shall be submitted to MDE by the applicant or authorized representative and specifically indicate the appropriate waiver category. The application shall be accompanied by sufficient descriptions, drawings, and other pertinent information necessary to evaluate the proposed project and confirm the applicability of the waiver request. A new Stormwater Management Waiver Application may be required in accordance with the provisions of this section when there are subsequent additions, extensions, or modifications to any portion of a project for which a waiver has already been applied. Waivers are only valid upon receipt of a written approval from MDE. A Stormwater Management Waiver Application is generally required for each eligible point of investigation (POI) and line of investigation (LOI). For projects with multiple POIs, waivers only apply to specific POIs and not the entire project. A copy of the Stormwater Management Waiver Application and associated submittal requirements may be found in the Procedures.

3.4 Variances

MDE may grant a written variance from any requirement of Section 4.0 Stormwater Management Criteria of the Guidelines or from the requirements of the Standards and Specifications if there are unique circumstances applicable such that strict adherence will result in unnecessary hardship and not fulfill the intent of the Guidelines. A written request for a variance, stating the specific variance sought, explaining the reasons for the request, and providing any evidence necessary to justify the request, shall be provided to MDE. A variance will not be granted by MDE unless and until sufficient justification, as deemed appropriate by MDE, is provided.

3.5 Classification of Development

A. **New Development.** A new development POI is classified as such by determining the existing imperviousness of the stormwater study area for the POI. If the existing imperviousness of the stormwater study area is equal to or less than 40 percent, the POI is classified as new development. This applies regardless of whether or not the drainage area to the POI includes reconstruction of existing impervious area and/or a decrease in impervious surfaces. New development POIs shall be designed in accordance with Section 4.1.

B. **Redevelopment.** A redevelopment POI has no net increase in impervious surface within the drainage area. If the existing imperviousness of the stormwater study area exceeds 40 percent and there is no net increase in impervious area, the POI is classified as redevelopment. This applies regardless of whether or not the drainage area to the POI includes new construction.

   The stormwater management goal for redevelopment is to gain water quality treatment on existing developed lands while supporting initiatives to improve urban areas. All options for ESD shall be exhausted during concept design of redevelopment POIs; however, it is recognized that a wide range of site constraints may limit effective implementation of ESD. Alternative management options after compliance with the ESD to the MEP are available. Quantity management, including Cp_V treatment, is not required for redevelopment POIs. Redevelopment will be designed in accordance with Section 4.2.

C. **Combination of New Development and Redevelopment.** Frequently, a POI has a combination of new development and redevelopment. When the study area for a POI has an existing imperviousness greater than 40 percent and a net increase in the total impervious area, the net increase portion shall be managed in accordance with Section 4.1 and the remaining portion in accordance with Section 4.2.

4.0 STORMWATER MANAGEMENT CRITERIA

4.1 Minimum Control Requirements for New Development

Stormwater management systems shall be designed such that all reasonable opportunities for using ESD planning techniques and treatment practices from Chapter 5 of the Design Manual are exhausted, and only where absolutely necessary are structural BMPs from Chapter 3 implemented. The standard of ESD to the MEP shall be implemented for all State and federal projects. Professional engineering judgment will be needed to determine whether site constraints prevent reasonable implementation of ESD.

A. The minimum control requirements are as follows:

1. The ESD standard is met when post-development hydrology is restored to natural hydrologic conditions assuring that channel stability is maintained, pre-development groundwater recharge is replicated, and nonpoint source pollution is minimized for the 1-year 24-hour frequency storm event. This requires capturing and treating from 1 inch to 2.6 inches of rainfall depending on the site conditions. Runoff from a minimum of 1 inch of rainfall must be treated using Chapter 5 ESD practices. The rainfall (P_E) above 1 inch should also be treated using ESD. Only when management of the full ESD_v using ESD practices is not practicable may Chapter 3 structural BMPs be used for treating rainfall (P_E) above 1 inch. When the entire IART is treated for the full target rainfall (P_E), thereby meeting the ESD_V storage volume requirements, the ESD requirements (including Cp_V, WQ_V, and Re_V) are completely satisfied. Management requirements shall be determined using the method outlined in the Procedures and the specific rainfall targets in Section 5.2 of the Design Manual. See the Procedures for clarifications on computing ESD_V, IART, WQ_V, Re_V, and Cp_V.

2. The IART is an integral part of meeting stormwater management quality requirements. Stormwater management plans shall incorporate a design to capture the entire IART as outlined in the Procedures.

3. Project sites may include previously approved or credited stormwater management measures, such as buffers or disconnections, or existing stormwater management facilities that provide quality and/or quantity management for existing conditions. A check shall be done to determine whether the proposed development results in a loss of existing management. If so, these losses shall be replicated in full, using current standards, by the proposed stormwater management design.

4. Refer to Table 2 to determine whether quantity control of the 2-year or 10-year 24-hour frequency storm events is required for addressing overbank flood projection volume (Q_p). The management of Q_p shall be in accordance with the Design Manual and the Procedures.

5. Stable and safe conveyance of the 10-year 24-hour frequency storm shall be provided for all points where flow leaves the project site. Discharge velocities for

the 10-year 24-hour frequency storm shall be non-erosive. The downstream impact analysis shall extend to a point downstream where the contributory drainage area is two times the drainage area to the POI or to the first downstream tributary whose drainage area equals or exceeds the contributory drainage area to the POI.

6. Management of extreme flood volume (Q_f) shall be based on requirements of the local jurisdiction in which the project is located.

7. Projects located in designated inter-jurisdictional Flood Hazard Watersheds (Jones Falls, Gwynns Falls, and Herring Run in Baltimore City/County and Carroll Creek in Frederick City/County) are required to provide management measures necessary to maintain the post-development peak discharges for the 100-year 24-hour frequency storm event at a level that is equal to, or less than, the 100-year 24-hour pre-development peak discharge rates. The stormwater management practices in these watersheds shall control the volume, timing, and rate of flow necessary to maintain no increase in the downstream peak discharge for the 100-year 24-hour frequency storm event.

B. MDE may require more than the minimum control requirements specified in the Guidelines when hydrologic or topographic conditions warrant, when historical downstream flooding exists, as determined by MDE or local jurisdiction, or when receiving channel degradation exists or has the potential to occur as a result of the project.

C. If a development activity changes runoff characteristics in a manner that creates points of concentrated flow, where previously there was sheet flow, or increases discharge rates or discharge volumes for the 1-year, 2-year, and/or 10-year 24-hour frequency storms, MDE may require additional quantity management and/or written consent from the downstream property owner affected by these changes. Affected downstream property owners include owners of those properties through which the runoff will travel before entering waters of the State.

D. MDE may institute alternate minimum control requirements. Alternative requirements may include preventative and corrective control measures for flood damage, accelerated stream erosion, water quality, and sedimentation. Comprehensive watershed studies may also be required.

E. Where applicable, stormwater management plans shall be consistent with adopted and approved institutional management plans, watershed management plans, or flood management plans as approved by MDE in accordance with the Flood Hazard Management Act of 1976.

F. Additional protection measures for Tier II streams, Critical Areas, impaired waters, or waters with an established total maximum daily load (TMDL) may be required by MDE above ESD to the MEP.

4.2 Minimum Control Requirements for Redevelopment

A. Stormwater management for redevelopment shall be in accordance with the following:

1. The redevelopment design shall reduce existing impervious areas within the LOD by a minimum of 50 percent. When redevelopment reduces the existing impervious area within the LOD by 50 percent or more, water quality treatment is satisfied.

2. Alternatively, ESD shall be implemented to the MEP to provide water quality treatment for a minimum of 50 percent of the existing impervious area within the LOD. To meet stormwater management requirements for redevelopment, treatment shall be provided for the runoff from 1 inch of rainfall (i.e., $P_E = 1$ inch) for 50 percent of the redeveloped impervious area. See the Procedures for clarifications on treatment.

3. When a combination of impervious area reduction and stormwater management facilities is used, the combined reduction and treated areas shall equal, or exceed, 50 percent of the existing impervious area within the LOD.

B. Where conditions prevent impervious area reduction and/or the implementation of Chapter 5 ESD facilities, alternative management practices may be considered in accordance with Section 5.4.

C. If a redevelopment activity changes runoff characteristics in a manner that creates points of concentrated flow where previously there was sheet flow, or increases discharge rates or discharge volumes for the 1-year, 2-year, and/or 10-year 24-hour frequency storms, MDE may require quantity management and/or written consent from the downstream property owner affected by these changes. Affected downstream property owners include owners of those properties through which the runoff will travel before entering waters of the State.

4.3 Specific Design Criteria

The design criteria, methodologies, and construction specifications for stormwater management systems are those found in the Design Manual and the Procedures. The following shall be addressed when designing a stormwater management system:

A. Velocity dissipation devices or flow spreaders shall be placed at the outfall of all detention or retention structures, all storm drain outfalls, and along the length of any outfall channel as necessary to provide non-erosive velocities or promote sheet flow at the point of discharge.

B. If an increase in flooding or stream channel erosion could occur at a downstream dam, highway, structure, or natural point of restricted stream flow, the designed post-development release rate of the facility shall be reduced to existing discharge rates for the 10-year storm event, and in certain watersheds, the 100-year storm event.

C. When a structure meets the definition of a small pond as outlined by Pond Code 378 and

the Procedures, the structure shall be designed in accordance with Pond Code 378 and approved by MDE pursuant to the Environmental Article, Annotated Code of Maryland, Title 5, Subtitle 5. The hazard class of the structure shall be determined by a dam breach analysis.

D. Acceptable methods of modeling the stormwater discharge from a site are TR-55, TR-20, or other modeling software that uses the NRCS Type II Hydrograph method as approved by MDE. Model output sheets shall state that the NRCS Type II Hydrograph method is used and shall clearly show all required data and information in an organized manner.

E. In situations where controlling the peak discharge rate has the potential to adversely impact the hydrology or hydraulics downstream of the POI, the applicant shall submit to MDE an analysis of the impacts of stormwater flows downstream in the watershed. The analysis shall include hydrologic and hydraulic calculations necessary to determine the impact of hydrograph timing due to the proposed development upon a dam, highway, structure, or natural point of restricted stream flow. The point of analysis shall be established with the concurrence of MDE and should be located either at the point downstream of the POI, where the contributory drainage area is two times the contributory drainage area to the POI, or at the point downstream of the first downstream tributary whose drainage area equals or exceeds the contributing area to the POI. Based on the results of the analysis, appropriate management requirements will be determined.

F. When the existing impervious area being reconstructed drains to an existing stormwater management BMP, this area is considered treated as previously designed. If the BMP was constructed in accordance with current regulations, no additional management is necessary for the respective area. If the BMP was not constructed in accordance with current standards, current management requirements shall apply. For those existing BMPs where management upgrades are not necessary, the applicant shall verify the BMP is functioning as designed or shall provide necessary improvements to meet current standards. If an existing BMP is retrofitted, modified, or disturbed in any way, it shall be redesigned and reconstructed to meet the current requirements for that type of facility as well as to maintain existing management levels in accordance with the Procedures. All unmanaged existing impervious areas within the LOD shall be controlled in accordance with Section 4.1 or 4.2 as applicable. Impervious area being directed to an existing BMP under proposed conditions that was not directed to the existing BMP under existing conditions shall be treated in accordance with Section 4.1.

5.0 STORMWATER MANAGEMENT MEASURES

The planning techniques, nonstructural practices, microscale practices, and design methods specified in Chapter 5 of the Design Manual and the Procedures shall be used to implement ESD to the MEP. The use of ESD planning techniques and treatment practices shall be exhausted to MDE's satisfaction before using structural BMPs from Chapter 3 of the Design Manual. Stormwater management plans shall be designed using ESD sizing criteria for ESD_V, Re_V, WQ_V, Cp_V, and IART according to the Procedures and the Design Manual. Additionally, as required, stormwater management plans shall be designed to provide overbank flood protection (Q_p) and to prevent flood damage from large storms (Q_f).

5.1 ESD Planning Techniques

The following fundamental ESD planning techniques shall be applied according to the Design Manual to satisfy the applicable minimum control requirements established in Section 4.0 of the Guidelines:

1. Plan the development to fit the site;
2. Preserve and protect natural resources;
3. Protect and avoid steep slopes and highly erodible soils;
4. Conserve natural drainage patterns;
5. Minimize impervious area;
6. Use green roofs, permeable pavement, reinforced turf, and other alternative surfaces;
7. Reduce runoff volume;
8. Maintain 100 percent of the annual pre-development groundwater recharge volume;
9. Cluster development;
10. Limit soil disturbance, mass grading, and compaction; and
11. Use other measures that promote ESD as approved by MDE.

5.2 ESD Practices

The following ESD treatment practices shall be designed in accordance with the Design Manual and Procedures to satisfy the applicable minimum control requirements established in Section 4.0 of the Guidelines:

A. Alternative Surfaces:

1. Green roofs;
2. Permeable pavements; and
3. Reinforced turf.

B. Nonstructural Practices:

1. Disconnection of rooftop runoff;
2. Disconnection of non-rooftop runoff; and
3. Sheetflow to conservation areas.

C. Micro-scale Practices:

1. Rainwater harvesting;
2. Submerged gravel wetlands;
3. Landscape infiltration;
4. Infiltration berms;
5. Dry wells;
6. Micro-bioretention;
7. Rain gardens;
8. Grass swales;
9. Bio-swales;
10. Wet swales; and
11. Other practices approved by MDE.

D. ESD treatment practices that do not allow or promote groundwater recharge (i.e. practices with underdrains, green roofs) require additional measures to meet Re_V to fully satisfy the

ESD_V requirement. An enhanced filter or an acceptable gravel reservoir shall be provided to satisfy Re_V within a practice that contains an underdrain system. Note that the enhanced filter in Chapter 5 of the Design Manual is not a stand-alone ESD treatment practice.

E. The use of ESD planning techniques and treatment practices specified in this section shall not conflict with existing State law, regulations, or policies.

5.3 Structural Stormwater Management Practices

A. When the required ESD_V has not been fully provided after implementing ESD to the MEP and/or quantity management is required, structural BMPs shall be designed in accordance with Chapter 3 of the Design Manual and the Procedures, to satisfy the applicable minimum control requirements established in Section 4.0 of the Guidelines. These include:

1. Stormwater management ponds;

2. Stormwater management wetlands;

3. Stormwater management infiltration;

4. Stormwater management filtering systems; and

5. Stormwater management open channel systems.

B. When required by Section 4.1 of the Guidelines, structural BMPs shall be designed to provide stormwater quantity management for Q_P management and extreme flood events.

C. When selecting structural BMPs, the performance criteria specified in the Design Manual and the Procedures with regard to general feasibility, conveyance, pretreatment, treatment and geometry, environment and landscaping, and maintenance apply.

D. Structural BMPs shall be selected and designed to accommodate unique hydrologic or geologic conditions, such as high groundwater and Karst topography, encountered within certain regions of the State.

5.4 Alternative Stormwater Management Measures

Where conditions prevent impervious area reduction and/or the implementation of ESD, alternative management measures may be considered subject to the discretion of MDE. Alternative planning techniques, treatment practices, innovative technologies, and structural stormwater measures may only be used for managing stormwater when they meet the performance criteria established in the Design Manual, the Procedures, and all subsequent revisions and are approved by MDE. The following order of preference shall apply:

A. An on-site structural BMP designed in accordance with Chapter 3 of the Design Manual and the Procedures;

B. An off-site structural BMP, designed in accordance with Chapter 3 of the Design Manual and the Procedures, located within the project watershed, included as part of the project;

C. Retrofitting an existing BMP in the project watershed to meet current standards;

D. Stream restoration of a stream or tributary within the project watershed; or

E. Innovative technologies as approved by MDE.

5.5 Compensatory Stormwater Management

MDE may allow compensatory stormwater management for a specific project or portion of a project. Compensatory management means the stormwater from an area different from the area being developed is being managed. The level, type, and location of management provided by compensatory management shall meet the requirements of Section 4.0 of the Guidelines. Additionally, compensatory stormwater management must meet the specific requirements detailed in the Procedures for one of the following categories:

A. Compensatory stormwater management shall be provided as part of the project's stormwater management plan; or

B. Compensatory stormwater management (i.e., the Water Quality Bank) shall be implemented in accordance with a previously approved Memorandum of Agreement (MOA) between MDE and the State or federal applicant; or

C. The compensatory stormwater management shall be consistent with any applicable watershed management plan approved by the local stormwater management authority and acceptable to MDE.

5.6 Institutional Stormwater Management Plan

An institutional management plan (IMP) is an MDE-approved, long-term master plan developed by a State or federal agency to address stormwater management on an overall watershed basis for existing and future development within an institution. Examples of institutions include university campuses, parks, military bases, airports, or any site in State or federal ownership.

Developing an IMP is elective. An IMP does not relinquish the State or federal agency from the obligation of meeting ESD and other minimum stormwater management control requirements for each and every development project, nor does it address erosion and sediment control. The purpose of an IMP is to allow the stewards of large public properties to plan for stormwater management more effectively and efficiently. The IMP catalogues the existing stormwater management features of the site and outlines the course for future stormwater management. This tracking of existing and proposed stormwater management features provides a record and path for future agency staff to follow. Depending on the level of detail and forecasting, the IMP could serve as a concept plan for future development. Alternatively, it could be limited in its scope and purpose and, for example, address only quantity management or future development in a limited area. The scope of the IMP will be defined in the MDE approval letter. An IMP is

valid for the time period agreed upon by the applicant and MDE.

The IMP shall, depending on the prescribed scope:

A. Explain the purpose, function, and limits of the IMP;

B. Identify and the predominant soil types and locations;

C. Identify existing flooding areas and receiving stream channels;

D. Include detailed hydrologic and hydraulic analyses on a drainage area or sub-watershed basis to determine pre-development and post-development hydrograph timing;

E. Include cumulative impact assessment of current and future development as it relates to impervious area, IART, P_E, ESDv, WQv, Rev, Cpv, Qp_2, Qp_{10}, or other relevant criteria;

F. Evaluate both quantity and quality management and opportunities for ESD implementation for the entire area covered under the IMP;

G. Identify proposed protection and restoration areas;

H. Specify where on-site quantitative and qualitative stormwater management practices and watershed improvements are or will be implemented;

I. Include associated engineering computations;

J. Be consistent with the General Performance Standards for Stormwater Management in Maryland found in Section 1.2 of the SWM Design Manual;

K. Be consistent with any relevant local watershed management plan(s);

L. Include a detailed site map indicating the location, type, and size of all existing and future stormwater management practices as well as the delineated drainage area to each practice at a minimum scale of 1inch=50 feet;

M. Develop and maintain an accounting system for tracking water quality treatment and quantity management especially as it pertains to compensatory stormwater management;

N. Update mapping and accounting with each project approval;

O. Provide any additional information listed in the Procedures and as required by MDE.

P. Be signed and dated by the applicant;

Q. Be signed and dated by the professional engineer who prepared the plan; and

R. Be approved and dated by MDE.

6.0 EROSION/SEDIMENT CONTROL CRITERIA

Erosion/sediment control plans, details, practices, and measures shall be designed in accordance with the Standards and Specifications and the Procedures.

6.1 Principles

Acceptable erosion/sediment control plans are designed to capture sediment on-site, mitigate on-site soil erosion, and protect against downstream erosion by preventing increases in runoff from the construction area. The following principles described in Section A of the Standards and Specifications shall be followed in developing erosion/sediment control plans that prevent erosion, protect against downstream erosion, capture sediment on-site, and meet applicable requirements:

A. Use ESD Planning Techniques from Section 5.1 of the Guidelines;

B. Minimize disturbed areas;

C. Stabilize exposed soils as soon as practicable;

D. Control and/or manage on-site and off-site runoff;

E. Protect perimeter areas and retain sediment on-site; and

F. Make provisions for inspecting and maintaining sediment controls.

6.2 Stabilization

Earth disturbances shall be stabilized as soon as possible and as dictated by the approved plan. At a minimum, all perimeter controls and slopes steeper than 3:1 require stabilization within three (3) calendar days of initial soil disturbance or re-disturbance, and all other disturbed areas require stabilization within seven (7) calendar days of initial soil disturbance or re-disturbance. Only areas under active grading, or on certain sites such as interior areas of surface mines and sanitary landfill cells, are exempt from these requirements. Accelerated stabilization may be required based on site characteristics or as specified by MDE. All stabilization requirements shall be indicated on the erosion/sediment control plan.

6.3 Grading Units

To reduce the potential for erosion, the extent and duration of soil exposure shall be minimized, and grading shall be completed and stabilized as soon as possible after it is initiated. Plans shall phase construction and earth disturbance activities to ensure that only areas under active construction are exposed.

As defined in COMAR 26.17.01, a grading unit is the maximum contiguous area allowed to be graded at a given time and is limited to 20 acres. Plans shall include phasing and/or sequencing demonstrating how a project will comply with the 20 acre grading unit restriction. A project shall be sequenced so that grading activities begin on one grading unit at a time. Work may proceed to a subsequent grading unit when at least 50 percent of the disturbed area in the preceding

grading unit has been stabilized and approved by MDE. Unless otherwise specified and approved by MDE, no more than 30 acres cumulatively may be disturbed at a given time.

Any activity pursuant to Title 15 Mines and Mining of the Environment Article or Title 9, Section 204 regarding sanitary landfills, as defined in COMAR 26.04.07.02(26), is exempt from the grading unit restriction.

All projects with a disturbed area greater than 20 acres shall comply with the grading unit criteria. An exception may be granted by MDE only when the applicant has sufficiently demonstrated that a project cannot be phased or sequenced to meet the criteria due to the uniqueness of the project or the site. The justification for an exception will not include the cost of moving dirt multiple times, the need to install interim sediment practices, or an increase in the cost and/or total construction time due to phasing requirements.

6.4 Design Methodology

The design of erosion/sediment control must be integrated with the stormwater management plan. Specific erosion/sediment control submittal requirements for meeting ESD to the MEP include: showing and labeling slopes steeper than 20 percent, highly erodible soils, and vegetative buffer strips on drainage area maps; including a narrative describing how erosion/sediment control will be integrated into the stormwater management strategy; and providing a detailed sequence of construction that describes how the grading unit restriction will be met. The following steps are necessary for an erosion/sediment control plan to achieve ESD to the MEP:

A. Identify existing drainage patterns, drainage area boundaries, and slopes;

B. Identify areas of special concern;

C. Fingerprint project site and layout development;

D. Determine phasing requirements and select initial erosion/sediment controls;

E. Identify interim drainage patterns, drainage area boundaries, and slopes and select interim controls;

F. Identify proposed drainage patterns, drainage area boundaries, and slopes and select final controls; and

G. Provide a sequence(s) of construction.

7.0 PLANS

The ESD process begins at project conception and proceeds through final approval. Plans shall be developed for the concept, site development, and final project designs. Additionally, stormwater management and erosion/sediment control strategies shall be considered together starting in the initial stages of site development. The objective is that review comments be obtained early in the approval process to promote feedback for more effective and improved erosion/sediment control and stormwater plans.

The design, review, and approval process for the three phases of project development will better ensure that all important resources have been mapped and protected and all opportunities to enhance natural areas have been explored early in project design. Impervious cover should be minimized, nonstructural practices should be used to disconnect impervious surfaces where possible, and the use of alternative surfaces should be explored. Additionally, project planning shall incorporate the erosion/sediment control design to prevent sediment contamination and constructability issues in later phases.

7.1 Plan Submission

A. Plans shall be submitted and approval obtained for the concept, site development, and final project designs.

B. A Transmittal Form for Sediment Control/Stormwater Management Plan Review shall be completed and provided with each submittal. Refer to the Procedures for the transmittal form as well as complete submittal requirements. Submissions without a completed transmittal form will not be processed. Submittals shall be made on paper, not electronically.

C. MDE will review the stormwater management and erosion/sediment control plans and documentation included with each submittal and provide the applicant with comments as warranted. With each resubmission of the plans and documentation, the applicant shall provide a point-by-point response letter with substantive responses to all of MDE's comments. An approval will be issued at each phase of the project design. For concept design submission, only the material required for evaluating the concept design will be reviewed. After the concept design is approved, a more detailed review will ensue.

D. For final plan submittal, the applicant shall provide two identical sets of plans. For concept and site development plan submittals, only one set of plans is necessary.

E. Proposed modifications to an approved stormwater management and/or erosion/sediment control plan shall be submitted to and approved by MDE in accordance with Section 8.1.F and the Procedures.

F. Erosion/sediment control plans for State projects located in the Severn River Watershed shall additionally be submitted to the Anne Arundel Soil Conservation District for review and approval.

7.2 Preparation of Plans

A. The stormwater management and erosion/sediment control plans shall be prepared by an individual whose qualifications are acceptable to MDE. MDE requires that stormwater management and erosion/sediment control plans be prepared, stamped, and signed by a professional engineer, professional land surveyor, or landscape architect licensed in the State of Maryland. For designs and plans prepared "in-house" by a federal agency, MDE encourages the same.

B. If a dam safety permit or small pond approval is required by MDE, the plans and design computations for the respective pond shall be prepared, stamped, and signed by a professional engineer licensed in the State of Maryland. For designs and plans prepared "in-house" by a federal agency, MDE encourages the same. An MDE Pond Summary Sheet found in the Procedures shall be completed and submitted to MDE.

7.3 Review and Approval of Plans

A. Stormwater management and erosion/sediment control plans are reviewed to determine compliance with the Guidelines, the Procedures, the Design Manual, the Standards and Specifications, and Pond Code 378 prior to approval. In approving the plan, MDE may impose additional conditions that may be deemed necessary to ensure compliance with the provisions of COMAR 26.17.01, COMAR 26.17.02, COMAR 26.17.04, and the preservation of public health and safety.

B. Concept and site development approvals expire two (2) years from the date of issuance unless extended or renewed by MDE.

C. The final erosion/sediment control and stormwater management plan for the project is considered approved upon issuance of a written approval letter and the plans being stamped and signed by the MDE Sediment and Stormwater Plan Review Division Chief or designee.

D. Approved plans remain valid for two (2) years from the date of approval unless extended or renewed by MDE. Surface mines and landfill plans remain valid for five (5) years from the date of approval, unless extended or renewed by MDE.

E. MDE reserves the right to deny approval, re-approval, or extensions or to impose conditions necessary to prevent a nuisance or dangerous condition, sediment pollution, or adverse impacts to public safety and welfare.

F. MDE may withhold approval or rescind an approval when it determines that an owner/developer has not complied with the provisions of an outstanding order or there is a violation of an existing stormwater management or erosion/sediment control plan or related approval.

7.4 Contents of Plans

The plan shall be accompanied by a report that includes sufficient information to evaluate the environmental characteristics of affected areas, the potential impacts of the proposed development on water resources, and the effectiveness and acceptability of measures proposed for managing stormwater runoff. The minimum information submitted to support the stormwater management and erosion/sediment control plans or waiver application shall be in accordance with the following:

A. **Concept Design.** The owner/developer shall submit a concept plan that provides sufficient information for an initial assessment of the proposed project. The plan and report submitted for concept design approval shall include, at a minimum:

1. A narrative that supports the concept design for both erosion/sediment control and stormwater management, describes how ESD to the MEP will be used to meet the minimum requirements, justifies any management measures not considered ESD, and addresses Q_p management and extreme flood volume, if deemed appropriate;

2. A plan at a minimum scale of 1 inch = 100 feet, or other as deemed necessary by MDE, showing:

   a. Site location, property boundaries or rights-of-way, topography, existing natural features, drainage patterns, bodies of water, highly erodible soils, steep slopes, wetlands, and any other sensitive resources requiring special protection during construction;

   b. The proposed LOD, the preliminary location of all existing and proposed improvements including but not limited to buildings, roadways, parking areas, sidewalks, other impervious areas, alternative surfaces, existing stormwater management facilities, proposed stormwater management facilities, storm drain systems, utilities, and hot spots; and

   c. Preliminary drainage area delineations to all proposed BMPs.

3. A general description of the predominant soil types on the project site, as described by the appropriate soil survey information available through the Soil Conservation District or from the NRCS;

4. Preliminary drainage area maps at a minimum scale of 1 inch = 100 feet, or other as deemed necessary by MDE, showing the location of all existing and proposed locations of discharge from the project site to be identified as POIs or LOIs;

5. The identification of new points of concentrated discharge as well as overall impacts to adjacent property owners. Note that MDE may require easements or other necessary property interests concerning stormwater discharge onto adjacent properties, where deemed necessary due to increased volume or rate of discharge from the project site. Approval of a stormwater management plan does not create or affect any right to direct runoff onto adjacent property without that property

owner's permission. It is the responsibility of the applicant to provide verification of said easements or other necessary property interests prior to final plan approval. Alternatively, a right-to-discharge agreement may be signed by the affected downstream property owner(s) and provided to MDE when an increased volume and/or rate of discharge is proposed from the project site;

6. A preliminary drawing showing a breakdown of the project site's impervious area including new construction, reconstruction, impervious areas removed (i.e. demolition), and maintenance areas. The acreage/square footage of these areas shall be estimated on the drawing;

7. Preliminary estimates of the unified sizing criteria for each POI based on the identified stormwater study area as well as and including IART, target P_E, ESD_V, WQ_V, Cp_V, Re_V, and Q_P as outlined in the Procedures. Intentions to seek waivers and/or variances shall be indicated;

8. The selection and location of alternative surfaces, nonstructural ESD practices, micro-scale ESD practices, structural BMPs, and alternative management measures to be used;

9. Identification of any additional protection measures for Tier II streams, Critical Areas, impaired waters, or waters with an established TMDL above the required ESD to the MEP;

10. Completed and signed checklists (see Procedures); and

11. Other information in the Procedures and as required by MDE.

B. **Site Development Design**. Following concept plan approval by MDE, the owner/developer shall submit a site development plan that addresses comments received during the previous review phase. Plans and reports submitted for site development approval shall be of sufficient detail to allow site development to be reviewed and shall include but not be limited to:

1. One copy of a report providing the content information listed in Section 7.4.D of the Guidelines;

2. A plan overlaying the types and locations of erosion/sediment control and stormwater management practices to be used;

3. One copy of the construction plans containing the content information listed in Section 7.4.E of the Guidelines;

4. Any information required for the final plan that the applicant elects to include as part of the site development plan;

5. Completed and signed checklists; and

6. Other information in the Procedures and as required by MDE.

C. **Final Design.** Following site development approval by MDE, the owner/developer shall submit final erosion/sediment control and stormwater management plans that address the comments received during the previous review phase. Plans and reports submitted for final approval shall be of sufficient detail to allow all approvals and permits to be issued and shall include the following:

1. Two copies of the final stormwater management and erosion/sediment control plans shall be submitted for approval in the form of construction drawings accompanied by one copy of the report. The plans and report shall include the sufficient information to evaluate the effectiveness of the proposed runoff control design as listed in Sections 7.4.D and 7.4.E of the Guidelines;

2. Stormwater Management Waiver Applications, indicating the appropriate waiver category, shall be signed and submitted for each POI for which a waiver is being requested;

3. When a variance has been sought, a formal letter explaining the variance being requested and providing the justified basis for the variance shall be prepared and signed by the owner/developer;

4. An easement shall be secured or a right-to-discharge agreement shall be signed by the affected downstream property owner(s) when an increased volume and/or rate of discharge is proposed from the project site;

5. The Owner/Developer Certification and Design Certification shall be signed and dated;

6. When the applicant has a Water Quality Bank, Water Quality Summary Sheets shall be prepared, signed, and dated (see Procedures);

7. Pond Summary Sheets shall be signed and dated by the Maryland registered professional engineer certifying the design of a Pond Code 378 small pond (see Procedures);

8. Checklists shall be completed and signed; and

9. Other information in the Procedures and as required by MDE shall be provided.

D. **Report.** A stormwater management and erosion/sediment control report shall be submitted for site development and final plan approval in accordance with the following:

1. The report shall be on 8 1/2" x 11" paper and bound in a 3-ring binder. The report shall be typed, however certain computational sheets may be handwritten. Any maps, diagrams, or figures that are larger than 8 1/2" x 11" shall be folded to a size of 8 1/2" x 11" or smaller and placed within the report. All maps, diagrams, or figures shall be clearly labeled and legible. All pages, including appendices,

shall be numbered.

2. The report shall be organized into the following format:

   a. Cover sheet with applicant's name, project title, date, MDE number, and name and address of designer;

   b. Table of contents;

   c. List of figures or tables;

   d. Introduction;

   e. Methodologies used;

   f. A narrative supporting the stormwater management and sediment control designs;

   g. Summary, summary tables, and conclusions of stormwater management analysis;

   h. Stormwater management analysis;

   i. Erosion/sediment control analysis; and

   j. Appendices with all the background information and supporting documentation used in the erosion/sediment control design, stormwater management analysis, and, when applicable, pond design. The background information shall be sufficient to facilitate a straightforward review.

3. At a minimum, each report shall contain the following:

   a. An updated narrative that supports the final design for both erosion/sediment control and stormwater management, describes how ESD to the MEP will be used to meet the minimum requirements, justifies any management measures not considered ESD, and addresses Q_p management and extreme flood volume, if deemed appropriate;

   b. A final drawing showing a breakdown of the site's impervious area including new construction, reconstruction, impervious areas removed (i.e. demolition), and maintenance areas. The acreage/square footage of these areas shall be quantified on the drawing;

   c. Stormwater management drainage area maps, at a minimum scale of 1 inch = 100 feet, or other as deemed necessary by MDE, depicting both pre-development and post-development conditions. The drainage area maps shall delineate drainage area boundaries and show acreage to all

stormwater management practices and to all points of discharge from the site. Maps will include soil types, ground cover, land uses, POIs, LOIs, and time of concentration (tc) flow paths;

d. Pre-development photographs of the overall site and each POI clearly labeled on a location map. Photographs shall be labeled to match the map, include POI identification numbers and direction of view, and show upstream and downstream views;

e. A final assessment and summary table(s) of the unified sizing criteria requirements for each POI as well as and including IART, target P_E, ESD_V, WQ_V, Cp_V, Re_V, and Q_P compared with stormwater management provided by all the ESD practices, BMPs, and alternative management measures in the respective POI;

f. Hydrologic computations for all ESD practices, BMPs, and alternative management measures in accordance with the Design Manual and Procedures;

g. TR-55 work sheets including computations for drainage, runoff curve number and time of concentration;

h. Hydraulic computations for all ESD practices, BMPs, and alternative management measures including those used to develop elevation-discharge-storage tables;

i. TR-20 analysis including schematic diagrams showing reach lengths, curve numbers, drainage areas, and structure locations, and clearly labeled printouts giving input data, output data, and hydrographs;

j. All spillway computations;

k. Results from geotechnical investigation including boring logs and locations, site specific recommendations, and any additional information necessary for the final stormwater management design;

l. Where deemed necessary by MDE, an analysis of the impacts of stormwater flows downstream in the watershed. The analysis shall include photographs as well as hydrologic and hydraulic calculations necessary to determine the impact of hydrograph timing and flow rate modifications resulting from the proposed development upon a dam, highway, structure, or natural point of restricted stream flow, established with the concurrence of MDE, and shall extend downstream:

i. to the first downstream tributary whose drainage area equals or exceeds the contributing area to the BMP; or

ii. to the downstream point where the contributing drainage area is

two times the contributing drainage area at the point of investigation.

m. Completed and signed Stormwater Management Waiver Applications for each POI as appropriate (see Procedures);

n. Signed variance request letter(s) and supporting documentation as appropriate;

o. Completed and signed Water Quality Summary Sheets as appropriate (see Procedures);

p. Pond Summary Sheets and dam breach analyses as appropriate for Pond Code 378 small ponds (see Procedures);

q. Erosion/sediment control computations and supporting documentation;

r. Any non-standard erosion/sediment control specifications; and

s. Other information specified in the Procedures and as required by MDE.

E. Construction Plans. At a minimum, drawings submitted for site development and final plan approval shall include:

1. Name of the project, the owner/developer, and the designer (all sheets);

2. Title sheet;

3. An index of plan sheets;

4. MDE project number (on title sheet and all sheets related to stormwater management, erosion/sediment control, demolition, grading, roadway, and landscaping);

5. Date (all sheets);

6. Certification by the owner or developer (see Procedures) that any clearing, grading, construction, or development will be done pursuant to the approved plan and that responsible personnel involved in the construction project will have a Certificate of Training at an MDE approved training program for the control of erosion/sediment prior to beginning the project. Additionally, the owner or developer shall certify right of entry for periodic on-site evaluation by MDE Compliance Inspectors;

7. Certification by the designer (see Procedures) that the plans have been designed in accordance with appropriate approved stormwater management and sediment control regulations and standards (shall be completed and signed on final plan - see Procedures);

8. Professional Certification, seal, and signature (see Procedures) by a licensed professional engineer, professional land surveyor, or landscape architect in accordance with Section 7.2 Preparation of Plans. (all sheets);

9. Standard Stabilization Note (see Procedures) stating, "Following initial soil disturbance or redisturbance, permanent or temporary stabilization shall be completed within three (3) calendar days as to the surface of all perimeter controls, dikes, swales, ditches, perimeter slopes, and all slopes steeper than 3 horizontal to 1 vertical (3:1); and seven (7) days as to all other disturbed or graded areas on the project site not under active grading";

10. A vicinity map (title sheet);

11. A location map (title sheet);

12. North arrow (all plan sheets and drainage area maps);

13. Horizontal/vertical datum used;

14. Minimum scale of 1 inch = 50 feet, or other as deemed necessary by MDE;

15. A legend including standard symbols for sediment controls and other relevant content;

16. A note to contractor on all sediment control sheets stating, "Note to Contractor: Erosion/sediment control will be strictly enforced";

17. Existing site characteristics including but not limited to:

    a. A topographic survey showing all existing contours at a minimum of 2 foot intervals, or other as deemed necessary by MDE, and extending a minimum of 200 feet beyond the limit of disturbance;

    b. All easements, rights-of-entry, rights-of-way, and property lines;

    c. All existing features including, but not limited to, watercourses, impoundments, wooded areas, structures, hot spots, and utilities;

    d. Delineation, if applicable, of the 100-year floodplain, any wetlands, and waters of the State within or adjacent to the project that receive runoff from the project site; and

    e. All existing stormwater management BMPs and ESD practices including buffers, disconnections, conservation areas, etc.

18. Proposed site improvements including but not limited to:

a. Contours for proposed grading at a minimum of 2 foot intervals, or other as deemed necessary by MDE;

b. New or proposed changes to easements, rights-of-entry, rights-of-way, and property lines;

c. Site layout showing all proposed improvements including the location of buildings and other structures, roads and other impervious surfaces, hot spots, utilities, and storm drain systems;

d. Stormwater management practices including alternative surfaces, disconnections, conservation areas, ESD practices, and structural BMPs;

e. Profiles for all components of the proposed drainage system(s) and stormwater management facilities, including the hydraulic grade lines as well as velocities (V_{10}) and discharge flow rates (Q_{10}) from all stormwater management facilities and outfalls;

f. Construction details including representative sections for all components of the proposed drainage system and stormwater management facilities including appurtenances, drawn to scale unless a typical detail is provided with a table of values to address multiple uses of the detail. The typical detail shall be drawn to be proportionately correct;

g. All necessary construction and material specifications including, but not limited to, those from Pond Code 378 and pertinent tables from Appendix B of the Design Manual; and

h. Permanent maintenance access to all stormwater management facilities.

19. Erosion/sediment control measures to minimize on-site erosion and prevent off-site sedimentation including:

a. Limit of disturbance delineated using MDE's standard LOD symbol;

b. Limit of grading (as applicable);

c. A grading unit plan that identifies grading unit boundaries of 20 acres or less and clearly labels the unit areas and order of progression to minimize disturbance and comply with the grading unit restriction;

d. Phased sediment control plans as appropriate for transitioning from one project segment to another or from one grading unit to another (horizontal phasing);

e. Phased sediment control plans as appropriate for depicting significant changes between initial, interim, and final conditions during grading operations (vertical phasing);

f. A minimum of one stabilized construction entrance for ingress into and egress out of site;

g. When applicable, a designated staging/stockpile area with appropriate sediment controls;

h. Location and type of all proposed sediment control devices shown using the MDE standard symbols and drawn to scale when appropriate. All disturbed areas shall drain to a sediment control device during all phases of construction, and all proposed controls shall meet the design criteria established in the Standards and Specifications;

i. Erosion/sediment control drainage area maps, at a minimum scale of 1 inch = 100 feet, or other as deemed necessary by MDE. Both pre-development and post-development phases shall be depicted, either together or on separate maps. Additional interim phases shall be shown, as applicable. All erosion/sediment controls applicable to the respective phase of construction shall be shown clearly on the drainage area map(s). The drainage area boundaries shall be delineated and the acreage to each erosion/sediment control stated;

j. Velocities (V_{10}) and flow rates (Q_{10}) at all points of concentrated discharge for initial, interim, and final conditions;

k. Temporary maintenance access to all sediment control practices;

l. Pertinent MDE standard details from the Standards and Specifications for all proposed standard sediment control measures;

m. Design details drawn to scale and specifications for sediment control measures not found in the Standards and Specification; and

n. Provisions to salvage and reuse topsoil.

20. A sequence of construction that addresses the implementation of both sediment control and stormwater management and at a minimum includes the following steps, in correct order, and considers phasing:

a. Notification of MDE's Compliance Program at 410-537-3510 a minimum of seven (7) days in advance of any earth disturbance activity to schedule a pre-construction meeting;

b. Clearing and grubbing as necessary for the installation of perimeter controls;

c. Construction and stabilization of perimeter controls;

d. Remaining clearing and grubbing within installed perimeter controls;

e. Installation of interior sediment control measures;

f. Road grading;

g. Grading for the remainder of the site;

h. Utility installation and connections to existing structures;

i. Construction of buildings, roads, and other features;

j. Final grading, landscaping, and stabilization;

k. Progression to a subsequent phase of construction;

l. Installation of stormwater management measures;

m. Approval of MDE prior to removal of sediment controls;

n. Removal of controls and stabilization of areas that are disturbed by removal of sediment controls; and

o. Final site survey and as-built submission to the MDE Sediment and Stormwater Plan Review Division.

21. Standard Erosion and Sediment Control Notes (see Procedures) including the following site information:

a. Total site area;

b. Total disturbed area;

c. Area to be roofed and/or paved (includes new construction and reconstruction);

d. Total volume of spoil material (cut);

e. Total volume of borrow material (fill); and

f. Off-site waste/borrow area location (if known).

22. Vegetative Stabilization Specifications from Section B-4 of the Standards and Specifications as well as temporary and permanent stabilization tables listing selected seed mixes for the correct hardiness zone (see Procedures);

23. A planting plan and schedule for the stormwater management facilities that meet the requirements of the Design Manual and are appropriate for the type of

proposed facilities;

24. A maintenance schedule for each type of BMP (see Procedures);

25. An As-Built Certification with signature block for execution after project completion (see Procedures);

26. Appropriate As-Built Schedule(s) for all BMPs (see Procedures);

27. Appropriate Construction Inspection Checklist(s) for all BMPs (see Procedures); and

28. Any additional protection measures or information in the Procedures or as required by MDE.

8.0 AFTER PLAN APPROVAL

8.1 Prior to and During Construction

A. The applicant or responsible party shall notify the MDE Compliance Program at least seven (7) days before commencing any work in conjunction with the approved erosion/sediment control and stormwater management plans.

B. The applicant or responsible party shall request that the MDE Compliance Program approve the work in accordance with the approved erosion/sediment control plan:

1. Upon completion of installation of perimeter erosion/sediment controls;

2. Upon establishment of permanent stabilization and prior to removal of erosion/sediment control measures.

C. A copy of the stamped approved plan with any approved modifications and approval letters shall be available at the construction site for reference during the construction period.

D. The Standards and Specifications shall be available on the project site at all times.

E. For each ESD practice or other BMP, regular inspections shall be performed at the stages of construction specified in the Procedures and documented by the applicant or authorized representative. Additionally, all ESD practices and other BMPs shall be inspected upon completion of final grading and upon the establishment of permanent stabilization.

F. Proposed modifications to an approved stormwater management and/or erosion/sediment control plan shall be submitted to and approved by MDE in writing. A request for modification shall be accompanied by a completed transmittal form and shall include the following at a minimum: the reason for and a description of the proposed change; plan sheet(s) showing the proposed changes using color and/or 'clouded areas'; and a copy of the previously approved, affected plan sheet(s), showing MDE approval stamp. Minor modifications may be reviewed and approved in the field by the MDE Compliance Inspector. Refer to the Procedures for a list of minor modifications.

8.2 Inspection Requirements for As-Built Certification

A. Regular inspections shall be made and documented during and after completion of construction for the following BMPs using the checklists provided in the Procedures:

1. Alternative surfaces:

   a. Permeable pavers;

   b. Green roofs;

2. Nonstructural ESD practices:

a. Disconnection of rooftop runoff;

b. Disconnection of non-rooftop runoff; and

c. Sheetflow to conservation areas;

3. Micro-scale ESD practices:

a. Rainwater harvesting;

b. Submerged gravel wetlands;

c. Landscape infiltration;

d. Infiltration berms;

e. Dry wells;

f. Micro-bioretention;

g. Rain gardens;

h. Bio-swales;

3. Stormwater ponds;

4. Stormwater wetlands;

5. Stormwater infiltration;

6. Stormwater filtering systems including bioretention;

7. Open channel systems; and

8. Innovative technologies as approved by MDE.

8.3 Post Construction

A. The applicant or responsible party shall notify MDE Compliance Program upon completion of the project.

B. Once construction is complete, as-built plans certified by a professional engineer, professional land surveyor, or landscape architect licensed in the State of Maryland shall be submitted to MDE for review and acceptance to ensure that constructed stormwater management practices and conveyance systems comply with the approved plans. For a project to be closed out by MDE Compliance, as-built acceptance is required from MDE Sediment and Stormwater Plan Review Division. The As-Built Certification, As-Built

Schedules and submission requirements can be found in the Procedures.

C. The intended function of any BMP constructed in accordance with an approved plan shall not be altered after construction without approval from MDE Sediment and Stormwater Plan Review Division.

9.0 MAINTENANCE

A. The owner of the property, or any other person or agent in control of such property, on which work has been done pursuant to the Guidelines, shall maintain in good condition and promptly repair and restore all graded surfaces, walls, drains, dams and structures, stormwater management BMPs, vegetation, erosion/sediment control measures, and other protective devices. Such repairs or restoration and maintenance shall be in accordance with the MDE approved plans.

B. A maintenance schedule shall be developed for all BMPs and shall state the maintenance to be completed, the time period for completion, and who shall perform the maintenance. This maintenance schedule shall be printed on the MDE approved stormwater management plan. Refer to the Procedures for minimum maintenance schedule requirements for standard facilities.

10.0 ADDITIONAL APPROVALS

It is the responsibility of the applicant to ensure all required approvals and permits for a project, beyond stormwater management and erosion/sediment control, are obtained prior to earth disturbance. Additional approvals that may be required include, but are not limited to, the following:

A. National Pollutant Discharge Elimination System (NPDES) General Permit for Construction Activity;

B. U.S. Army Corps of Engineers (COE) Wetlands and Waterways permits;

C. Maryland Department of the Environment Non-Tidal Wetlands and Waterways permit;

D. Chesapeake Bay Critical Area Commission Approval;

E. Maryland Department of the Environment Dam Safety Permit;

F. NPDES Industrial Discharge of Stormwater;

G. Department of Natural Resources Forestation Conservation Plan Approval; and

H. Anne Arundel Soil Conservation District for projects located in the Severn River Watershed.

11.0 TABLES

TABLE 1

For the purposes of Section 3.3.B.2 of the Guidelines, the following are considered major waterways:

WATERWAY	LIMITS
Susquehanna River	main stem from tidal breakpoint to Pennsylvania line*
Pocomoke River	main stem from tidal breakpoint to MD 12*
Potomac River	main stem from tidal breakpoint to I-81*
Youghiogheny River	main stem from Pennsylvania line to I-68

*Tidal reaches qualify for direct discharge waiver.

TABLE 2

For the purposes of Sections 3.3.B.3 and 4.1.A of the Guidelines, the following are minimum county flood control requirements:

COUNTY	$Q_{2\text{-}YR}$	$Q_{10\text{-}YR}$	$Q_{100\text{-}YR}$
Allegany	NO	YES	
Anne Arundel	NO	YES	
Baltimore City	NO	YES	Jones Falls, Gwynns Falls, Herring Run
Baltimore	NO	YES	Jones Falls, Gwynns Falls, Herring Run
Calvert	NO	YES	
Caroline	YES	NO	
Carroll	NO	YES	
Cecil	YES[1]	YES[1]	
Charles	NO	YES	
Dorchester	YES	YES	
Frederick	NO	YES	Carroll Creek
Garrett	NO	YES	
Harford	NO	YES	
Howard	NO	YES	
Kent	NO	YES	
Montgomery	NO	YES	
Prince George's	NO	YES	YES[2]
Queen Anne's	YES	YES	
St. Mary's	NO	YES	
Somerset	YES	YES	
Talbot	YES	NO	
Washington	NO	YES	
Wicomico	YES	NO	
Worcester	YES	NO	

[1] Q_{P2} is required for the Coastal Plain (south of Chesapeake & Delaware Canal), and Q_{P10} is required for the Piedmont (north of Chesapeake & Delaware Canal).

[2] Quantity control of the 100-year storm may be required in Prince George's County if the downstream analysis indicates that:

A. Previous flooding has occurred; or
B. Houses would be within 25 feet of the 100-year floodplain; or
C. Buildings other than houses would be within the 100-year floodplain.

The downstream analysis should extend to a point at which the flow from the development at a point of investigation is less than 10 percent of the total flow in the stream. If the downstream analysis indicates that existing infrastructure is impacted, the applicant should contact Prince George's Department of Permitting, Inspections, and Enforcement or the Sustainable Infrastructure Services Division for their input prior to obtaining concept approval.

TRANSMITTAL FORM
SEDIMENT CONTROL/STORMWATER MANAGEMENT
PLAN APPROVAL

A transmittal form must be provided with EACH submittal.
Submittals with incomplete transmittal forms will not be processed.

DATE_____

__ **INITIAL SUBMITTAL**
Name of firm if an expedited reviewer has been retained_____

__ **RESUBMITTAL** **MDE NO. __ __-SF-__ __ __ __**

__ **CONCEPT DESIGN**	__ **MS-4/TMDL**	__ **EXEMPTION REQUEST**
__ **SITE DEV'L/FINAL DESIGN**	__**CERCLA/LMA**	__ **EXTENSION REQUEST**
__ **MODIFICATION REQUEST**	__**SHOP DRAWINGS**	__**STANDARD PLAN**
__ **AS-BUILTS**	__**GENERAL APPROVAL**	__ **OTHER**

__ **DESIGN BUILD OR CONDITIONAL APPROVAL FOLLOW-UP**

PROJECT CONTRACT NO.: _____
PROJECT TITLE/DESCRIPTION: _____
_____
PROJECT DISTURBANCE (ACRES): _____
PROJECT LOCATION - TOWN, CAMPUS, ETC.: _____
PROJECT LOCATION - COUNTY: _____
ITEM(S) ENCLOSED FOR REVIEW: _____

APPLICANT (OWNER/DEVELOPER) NAME: _____
APPLICANT ADDRESS: _____
_____
_____
APPLICANT CONTACT NAME: _____
APPLICANT PHONE NUMBER: _____
APPLICANT e-mail: _____

DESIGN CONSULTANT NAME: _____
DESIGN ENGINEER: _____
CONSULTANT ADDRESS: _____
_____
_____
CONSULTANT PHONE NUMBER: _____
CONSULTANT e-mail: _____

MARYLAND DEPARTMENT OF THE ENVIRONMENT
Water Management Administration
Sediment & Stormwater Plan Review Division
1800 Washington Boulevard, 4th Floor
Baltimore, MD 21230-1708
Telephone: 410-537-3563
Fax: 410-537-3553
www.mde.maryland.gov

Rev. 2/24/15

MARYLAND DEPARTMENT OF THE ENVIRONMENT
Water Management Administration ● Sediment and Stormwater Plan Review Division
1800 Washington Boulevard ● Baltimore, MD 21230
(410) 537-3563 ● 1-800-633-6101 ● http://www.mde.maryland.gov

STORMWATER MANAGEMENT WAIVER APPLICATION

OWNER: _____ MDE NO.: _____

ADDRESS: _____ CONTRACT NO.:_____

LOCATION/POI:_____

DESIGN CONSULTANT:_____

PROJECT TITLE/DESCRIPTION_____

I/We, the Owner/Owners hereby request a stormwater management waiver be granted for the above referenced project in accordance with the following Section of the Stormwater Management and Erosion & Sediment Control Guidelines for State and Federal Projects:

____3.3.A. Contract plans and provisions, stormwater management report.

____ 3.3.B.1.a. Contract plans and provisions, stormwater management report.*

____ 3.3.B.1.b. Contract plans and provisions, stormwater management report.*

____ 3.3.B.1.c.i. Contract plans and provisions, stormwater management report.

____ 3.3.B.1.c.ii. Contract plans and provisions, stormwater management report.

____ 3.3.B.2.a. Contract plans and provisions, stormwater management report.*

____ 3.3.B.2.b. Contract plans and provisions, stormwater management report.*

____ 3.3.B.2.c.i. Contract plans and provisions, stormwater management report.

____ 3.3.B.2.c.ii. Contract plans and provisions, stormwater management report.

____ 3.3.B.3. Contract plans and provisions, stormwater management report.**

*Submit evidence of stable outfall (e.g., video, photos, statement): _____
** Submit evidence of stable outfall and concurrence from local jurisdiction:_____
Other evidence submitted:_____

_____ _____ _____
Name of Owner Signature Date
or Authorized Representative

____ Approved ____ Denied/Reason_____

By _____ _____
Sediment and Stormwater Plan Review Engineer Date

Submit to:
Maryland Department of the Environment
Water Management Administration
Sediment and Stormwater Plan Review Division
1800 Washington Boulevard
Baltimore, MD 21230

If a project involves a waiver request for more than one drainage area, a Stormwater Management Waiver Application is generally required for each point of investigation (POI).

Rev. 2/24/15