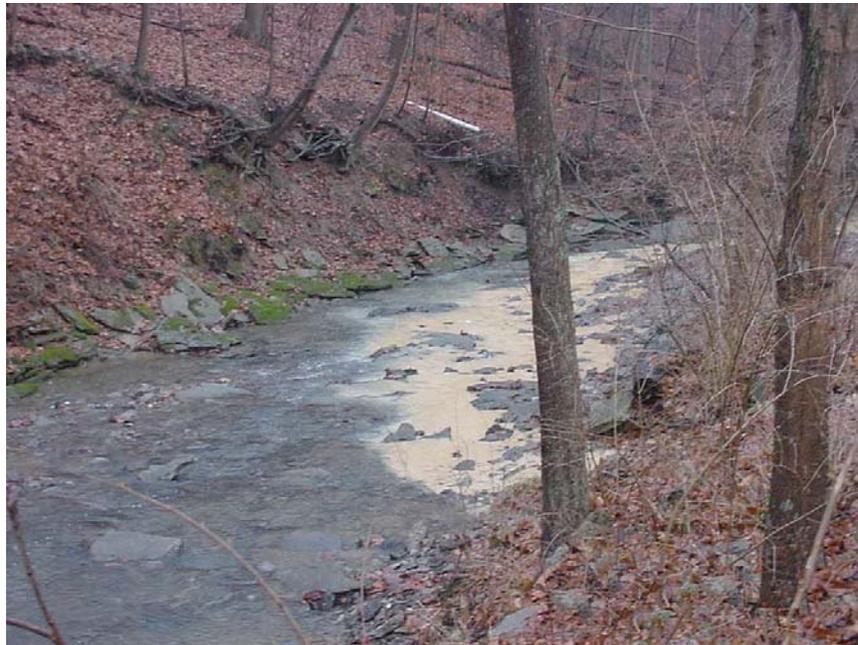




**RULES AND REGULATIONS
OF THE
HAMILTON COUNTY SOIL and WATER CONSERVATION DISTRICT
AND THE HAMILTON COUNTY STORM WATER DISTRICT
GOVERNING**

EARTHWORK



**FOR
UNINCORPORATED HAMILTON COUNTY AND
MEMBER JURISDICTIONS OF THE HAMILTON COUNTY
STORM WATER DISTRICT**

EFFECTIVE: JUNE 14, 2009

PROGRAM REPRESENTATIVES

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www.hcswcd.org

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www.hamilton-co.org/stormwater/



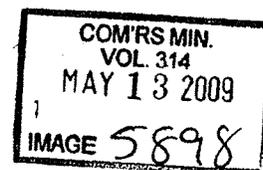
**RULES AND REGULATIONS
OF THE
HAMILTON COUNTY SOIL AND WATER CONSERVATION DISTRICT
AND THE HAMILTON COUNTY STORM WATER DISTRICT
ISSUED BY THE
BOARD OF COUNTY COMMISSIONERS
HAMILTON COUNTY, OHIO**

ARTICLE III

EARTHWORK REGULATIONS

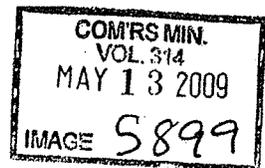
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301 PURPOSE, SCOPE AND APPLICABILITY

- A. The purpose of these Earthwork Regulations is to promote and maintain the health, safety, and welfare of the citizens of Hamilton County by establishing standards for storm water best management practices (BMPs) that minimize the degradation of the water resources of Hamilton County by
1. Reducing the discharge of pollutants from the municipal separate storm sewer systems (MS4s) owned or operated by Hamilton County and member Local Jurisdictions of the Hamilton County Storm Water District ("HCSWD") to the maximum extent practicable,
 2. Protecting water quality, and
 3. Satisfying the appropriate water quality requirements of the Clean Water Act, Ohio Law, and the Ohio Revised Code (ORC), including Section 6111.
- B. These Earthwork Regulations are adopted under authority of Ohio Law and the Ohio Revised Code, including Chapters 307 and 6117, and implement the requirements of the latest discharge permit issued by Ohio EPA to Hamilton County and the member Local Jurisdictions of the Hamilton County Storm Water District ("HCSWD") under the Phase II Program.
- C. The Board of County Commissioners of Hamilton County, Ohio ("Board") shall designate the **Enforcing Official** within the unincorporated areas and townships of Hamilton County for the enforcement of these Earthwork Regulations, except to the extent that a home rule township has the authority to designate another entity as its **Enforcing Official** and exercises such authority. The **Enforcing Official** for each of the participating member municipalities and authorized home rule townships of the HCSWD shall be the chief administrative officer of the Local Jurisdiction unless the legislative body of the Local Jurisdiction legally authorizes another qualified party to fulfill all required responsibilities of the **Enforcing Official** under these Earthwork Regulations.
- D. Where authorized by law, the responsibilities of a participating Local Jurisdiction under these Earthwork Regulations may be delegated by the Local Jurisdiction to persons or entities acting in the beneficial interest of, or in the employment of, the participating Local Jurisdiction, including but not limited to, the HCSWD or the HCSWD's designated representative, provided there is a lawfully enacted Resolution or Ordinance authorizing delegation of said responsibilities.
- E. These Earthwork Regulations apply as follows:
1. The Geotechnical Requirements of these Earthwork Regulations apply to all construction projects within the unincorporated townships of Hamilton County and within the jurisdiction of the municipal corporations which are participating members of the HCSWD and have adopted the Geotechnical Requirements of these Earthwork Regulations.
 2. In unincorporated portions of Hamilton County, the Erosion Prevention & Sediment Control (EP&SC) Requirements and Non-Sediment Pollution Control Requirements of these Earthwork Regulations apply to all Earthwork. Earthwork disturbing less than one (1) acre of land and not part of a larger common plan of



development that will disturb more than one (1) acre of land are not subject to the requirements of Section 308 EARTHWORK SUBMITTAL PROCEDURES and Section 309 EARTHWORK REQUIREMENTS FOR IMPROVEMENT PLANS, but are required to comply with all other requirements of these Earthwork Regulations, and are subject to enforcement actions. Individual lots that are part of a larger common plan of development shall comply with Section 309(G) Continuation of Controls for Individual Lot Development.

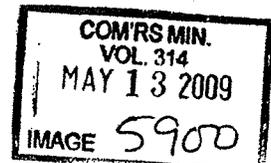
3. In incorporated member municipal corporations and authorized home rule townships within the HCSWD which have adopted these Earthwork Regulations, the EP&SC Requirements and Non-Sediment Pollution Control Requirements of these Earthwork Regulations apply to Earthwork disturbing one (1) acre of land or larger, or to Earthwork disturbing less than one (1) acre but part of a larger common plan of development that will disturb more than one (1) acre of land. The legislative body of incorporated member municipalities and authorized home rule townships may establish a smaller applicable area and specific requirements for these smaller areas.
- F. It is the standard sediment control policy of the Local Jurisdiction which has adopted these Earthwork Regulations that the Erosion Prevention, & Sediment Control BMP Performance Standards, and Non-Sediment Pollution BMP Performance Standards of these Earthwork Regulations shall apply to all Earthwork Activities performed by the Local Jurisdiction.

302 DEFINITIONS

The words and phrases defined in Article I – Definitions of the Rules and Regulations of the HCSWD shall have the same meaning herein unless otherwise provided.

303 COMPLIANCE WITH OTHER LAWS AND DISCLAIMER OF LIABILITY

- A. Compliance with these Earthwork Regulations does not relieve the Owner from the duty to comply with any other applicable federal, state or local laws, regulations or ordinances or from responsibility otherwise imposed by law for damage to any person or property.
- B. Neither the submission, approval, or disapproval of an Improvement Plan under these Earthwork Regulations; nor the Issuance or denial of a Permit; nor the compliance or lack of compliance with these Earthwork Regulations; nor any action or lack of action by the **Enforcing Official** shall relieve the Owner from responsibility for injury or damage to any person or property otherwise imposed by law, nor create or impose any liability upon Hamilton County, the HCSWCD or any participating Local Jurisdiction in the HCSWD or their respective officers, agents, or employees for injury or damage to any person or property.
- C. Storm water control practices authorized under these Earthwork Regulations and maintained according to a Construction-Phase Inspection and Maintenance Plan approved under these Earthwork Regulations shall not be considered to be a nuisance under these Earthwork Regulations. The **Enforcing Official** will address conditions that may contribute to the creation of a nuisance according to pertinent local regulations when reviewing Improvement Plans and conducting facility inspections.



- D. Failure of the **Enforcing Official** to observe or recognize hazardous or unsightly conditions or to recommend appropriate corrective measures shall not relieve the Owner from the responsibility for any resulting condition or damage or injury, or result in any liability on the part of the Local Jurisdiction, the **Enforcing Official**, Hamilton County, or their officers, employees, or agents for any resulting condition or damage or injury.
- E. These Earthwork Regulations do not create a duty upon the **Enforcing Official**, the Board, the HCSWD, the HCSWCD, or participating member Local Jurisdictions of the HCSWD to persons impacted by soil sediment pollution, erosion, or landslides.

304 CONFLICTS AND SEVERABILITY

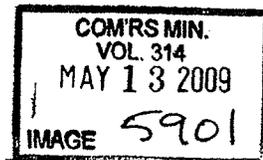
- A. In the event that any of these Earthwork Regulations may conflict with other applicable provisions of law or ordinance, the more restrictive applicable provisions, as determined by the **Enforcing Official**, shall prevail where permitted by law.
- B. Should any article, section, subsection, clause, or provision of these Earthwork Regulations be declared by a court of applicable jurisdiction to be unconstitutional or invalid, such decision shall not affect the validity of the remainder of these Earthwork Regulations, in whole or in part.

305 EARTHWORKS PERMIT AND IMPROVEMENT PLANS REQUIRED

- A. An Owner performing Earthwork subject to these Earthwork Regulations shall submit Improvement Plans, where applicable, and obtain an Earthwork Permit prior to commencing any Earthwork, unless exempted under these Earthwork Regulations.
- B. A Building Permit approved by the authorized Local Jurisdiction shall serve as authorization for Earthwork to proceed for projects that disturb less than one (1) acre in unincorporated areas and do not present geotechnical stability issues as set forth in these Earthwork Regulations, as determined by the **Enforcing Official**.

306 EXEMPTIONS

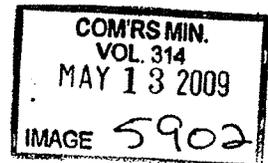
- A. The following Earthwork is exempt from these Earthwork Regulations:
 - 1. Subject to the provisions of Section 301(F) of these Earthwork Regulations, a public highway, transportation or drainage improvement or maintenance project undertaken by a government agency or political subdivision in accordance with a statement of standard sediment control policies that is approved by the Chief of the Ohio Department of Natural Resources Division of Soil and Water Conservation.
 - 2. Surface mining operations regulated by ORC, Section 1514.01.
 - 3. Strip mining operations regulated under ORC, Section 1513.01.
 - 4. Grading of land for purposes of farm activity as regulated under ORC.
 - 5. Temporary excavations for underground utility lines, wells, tunnels, tanks, and vaults or sign foundations, provided all such excavations shall be promptly and properly backfilled and restored to the existing terrain and stabilized immediately.



6. Exploratory excavations under the direction of a Professional Engineer, provided all such excavations shall be promptly and properly backfilled and restored to the existing terrain and stabilized immediately.
 7. Normal cemetery operations involving opening and closing graves as permitted in ORC, Sections 517 & 759
 8. Operations involving refuse disposal, mining, quarrying, processing and stockpiling of soils or rock materials where controlled by other regulations, provided such operations do not cause instability of any adjacent property or the discharge of sediment.
- B. Application and enforcement of the exemptions under Section 306 "Exemptions" of these Earthwork Regulations shall be conducted by the **Enforcing Official**.

307 COORDINATION WITH LOCAL, STATE, AND FEDERAL REGULATIONS AND PERMITS

- A. Approvals issued in accordance with these Earthwork Regulations do not relieve the Owner of responsibility for obtaining all other necessary permits and/or approvals from federal, state, and/or local governments and compliance with other legal requirements. If requirements vary, the most restrictive shall prevail. Other permits and requirements may include, but are not limited to, those listed below.
1. Ohio EPA NPDES Permit authorizing storm water discharges associated with construction activity;
 2. Section 401 and 404 of the Clean Water Act;
 3. Ohio EPA Section 401 Water Quality Certification General Isolated Wetland Permit;
 4. Ohio Dam Safety Law Section 1501.21 OAC.
 5. Applicable Flood Plain Regulations
 6. Applicable ground water protection laws.
 7. Hamilton County General Health District (HCGHD) Clean Hard Fill Regulations
- B. Earthworks Permits and Building Permits shall be processed in the following manner:
1. No Building Permit shall be issued within the work area until the Owner has complied with all provisions of these Earthwork Regulations. All EP&SC BMPs must be in compliance with the EP&SC BMP Performance Standards of these Earthwork Regulations and the approved plans, including but not limited to, proper installation and maintenance of sediment basins and traps, sediment fence and inlet protection, and that all idle areas have temporary and permanent stabilization as required under these Earthwork Regulations.
 2. In unincorporated areas, Building Permits will be issued only after the **Enforcing Official** sends notice to the Hamilton County Building Official of compliance with

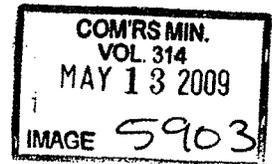


the Hamilton County Building Code. The **Enforcing Official** may request the Hamilton County Building Official to withhold the issuance of additional Building Permits, issue a Stop Work Order on active Building Permits, withhold inspections, or withhold the issuance of a Certificate of Occupancy on active Building Permits for non-compliance with the Earthwork Regulations, in addition to any other remedies that may be available to the **Enforcing Official** under these Earthwork Regulations and other law.

3. Incorporated member municipalities within the HCSWD shall not issue Building Permits until the **Enforcing Official** provides notice to the incorporated member municipality of compliance with the Earthwork Permit. The **Enforcing Official** may request the appropriate building official to withhold the issuance of additional Building Permits, issue a Stop Work Order on active Building Permits, withhold inspections, or withhold the issuance of a Certificate of Occupancy on active Building Permits for non-compliance with these Earthwork Regulations, in addition to any other remedies that may be available to the **Enforcing Official** under these Earthwork Regulations and other law.
- C. Earthwork Permits will not be issued by the **Enforcing Official** having jurisdiction absent a showing by the Owner that compliance with all applicable regulations and permit requirements has been demonstrated.
 - D. The issuance of an Earthwork Permit and activities conducted by the Owner pursuant to the Earthwork Permit process shall be coordinated with local utility providers to allow any necessary adjustment, relocation, addition or other modification to an existing utility, including overburden loading.

308 EARTHWORK SUBMITTAL PROCEDURES

- A. An Owner wishing to undertake Earthwork covered by these Earthwork Regulations shall submit an Earthwork Permit Application and Improvement Plan to the **Enforcing Official** of the appropriate Local Jurisdiction prior to undertaking any such Earthwork. No Earthwork shall be undertaken until such Permit Application and Improvement Plan has been reviewed and approved through the established submittal and review process of the Local Jurisdiction.
- B. Pre-Submittal Meeting: a Pre-Submittal Meeting with the **Enforcing Official** may be requested to discuss the proposed project, review requirements, identify unique aspects of the project that must be addressed during the review process, and establish a preliminary review and approval schedule.
- C. Concept Plan: The Owner of a project requiring a preliminary Record Plat or equivalent submittal shall submit Improvement Plans that include the proposed Earthwork in concept (Concept Plan), and the applicable fees to the **Enforcing Official**. Concept Plans shall show approximate preliminary locations of the proposed parcel boundaries, setbacks, dedicated open space, public roads, water resources, existing topography, on-site and off-site areas vulnerable to erosion and sediment damage, drainage facilities, Post-Construction BMPs, and easements to allow the **Enforcing Official** to determine if the site is laid out in a manner that meets the intent of these Earthwork Regulations and if the proposed EP&SC BMPs and Post-Construction BMPs are capable of controlling runoff from the site in compliance with these Earthwork Regulations and the Post-Construction Regulations (Article V of the Rules and



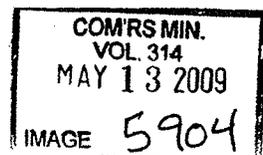
Regulations of the HCSWD). The **Enforcing Official** shall review the Concept Plans and provide comments and recommendations for revisions if any.

A Concept Plan is required:

1. For all subdivisions
2. For all non-residential development and Clean Hard Fill Sites that will involve disturbing five (5) acres of land or more

For other construction projects, Concept Plans are encouraged to be submitted for review by the **Enforcing Official** in advance of submitting an application for an Earthwork Permit in order to avoid subsequent delays caused by the submittal of Improvement Plans which do not comply with these Earthwork Regulations.

- D. Improvement Plans: The Improvement Plan submission shall consist of construction drawings and specifications together with the applicable permit forms and such fees as may be required. The Improvement Plans shall meet the requirements of these Earthwork Regulations and must be approved by the **Enforcing Official** prior to approval of the Earthwork Permit and/or before issuance of a building permit by the Building Department. Any revised Improvement Plans shall be submitted to the **Enforcing Official** for approval prior to implementing the proposed modification.
- E. Consent to Enter Private Property: Submittal of an Earthwork Permit application, Concept Plan, and/or Improvement Plans shall be deemed to provide consent to the **Enforcing Official** to enter property subject to these Earthwork Regulations for the purpose of gathering information necessary for review of and comment to such Permit application, Concept Plan and/or Improvement Plans.
- F. Review and Comment: The **Enforcing Official** shall review and comment on any Concept and/or Improvement Plans submitted within a reasonable period of time after proper submission. The final Improvement Plans submitted may be either approved or disapproved. If the Improvement Plans are disapproved, they shall be returned with comments stating the reasons for disapproval and requirements for revisions, if any.
- G. Approval Required: Earthwork shall not begin and building permits shall not be issued without approved Improvement Plans for Earthwork covered by these Earthwork Regulations
- H. Individual Lot Construction Will Not Proceed: Improvement Plans for individual lots in a subdivision will not be approved and building permits will not be issued unless the larger common plan of development or sale containing the lot is in compliance with these Earthwork Regulations.
- I. Approval Valid for Two (2) Years / Modification of Plans: If Earthwork has not commenced within two (2) years of approval, Improvement Plans must be re-submitted for review and approval in accordance with rules in effect at the time of re-submittal. Modifications to the project require submittal and approval of a revised Improvement Plan before work may proceed.
- J. Stopped or Abandoned Earthwork: Earthwork that is in compliance with these Regulations and is stopped or abandoned for a period of two (2) consecutive years from



the date of discontinuation of Earthwork shall cause the approval of the Improvement Plans to expire and become invalid. For site work to continue either the previously approved plans must be submitted if the scope of the Earthwork has not changed, **or** an updated set of plans must be submitted for approval by the **Enforcing Official**.

- K. Preconstruction Meeting Required. On all Earthwork activities one (1) acre or larger and all clean hard fill sites, an onsite EP&SC pre-construction meeting shall be held with the **Enforcing Official**, the Owner, and the contractors before any Earthwork begins.
- L. Earthwork Permit Issuance Procedure. An Earthwork Permit or Approval will not be issued until all Improvement Plans for the project are approved by the **Enforcing Official** and all pertinent Local, State and Federal permits for the project are obtained, including the following:
1. An Earthwork Permit or Approval will not be issued until approval has been obtained under local planning, zoning, subdivision, storm drainage, special flood hazard approval and/or building requirements. For subdivisions of more than six lots (major subdivisions) in unincorporated areas, an Earthwork Permit or Approval will not be issued until Improvement Plan approval has been obtained from the Hamilton County Regional Planning Commission. For all other types of developments in unincorporated areas, zoning approval must be obtained from the appropriate zoning jurisdiction.
 2. All Earthwork greater than one acre shall comply with all planning, zoning, and/or development requirements of the Local Jurisdiction before an Earthwork Permit or approval will be granted. A copy of these approvals shall be provided to the **Enforcing Official**.
 3. In unincorporated Hamilton County, only clean hard fill shall be accepted as defined in these Earthwork Regulations. All sites receiving clean hard fill other than soil shall submit a Notice of Intent with the HCGHD for unincorporated Hamilton County. A copy of this approval from the HCGHD shall be provided to the **Enforcing Official**.
 4. Earthwork Permits for building applications and residential subdivision and commercial developments are valid for the duration of the project unless Earthwork is stopped or abandoned as defined under Paragraph 308(J) of these Earthwork Regulations.
 5. Earthwork Permits for Clean Hard Fill Project Sites are valid for one (1) year. A renewal shall be obtained prior to expiration of the Earthwork Permit.
- M. If ownership of any portion of an approved project changes, the new Owner shall submit to the **Enforcing Official** in writing the new Owner's name, address, telephone number; and the name, address and telephone number of the new Owner's Professional Engineer if different from the original Professional Engineer. The new Owner shall contact the **Enforcing Official** to schedule an onsite meeting prior to continuing with the project.
- N. The Owner shall notify the **Enforcing Official**:
1. Of commencement of Earthwork covered by these Earthwork Regulations or the

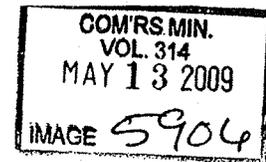


Earthwork Permit at least 48 hours in advance

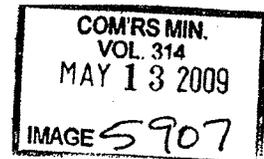
2. Of locations of any borrow or disposal sites that will be utilized prior to commencement of Earthwork,
 3. When Earthwork is completed or temporarily or permanently suspended;
 4. Of any proposed deviations from the originally approved plans.
- O. Clean Hard Fill Sites. An Earthwork in unincorporated Hamilton County accepting fill that is not covered under Improvement Plans or a Building Permit is a Clean Hard Fill Site. An Earthwork Permit for a Clean Hard Fill Site shall be valid for one (1) year from the date of approval. If Earthwork at the Clean Hard Fill Site is expected to continue beyond the expiration date, a renewal permit shall be obtained prior to expiration. A renewal permit requires a status report from the Owner, and a signed statement from the Owner that the project will precede in accordance with the previously approved plans and Earthwork Permit. A yearly renewal is mandatory for all Clean Hard Fill Sites. A modification of the Earthwork Permit for a Clean Hard Fill Site requires the submittal and approval of a revised grading plan defining recommended EP&SC BMPs before the work as modified may proceed. The project shall be in compliance with all provisions of these Earthwork Regulations before a renewal will be granted.

309 EARTHWORK REQUIREMENTS FOR IMPROVEMENT PLANS

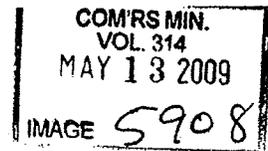
- A. Earthwork Requirements: The Improvement Plans submitted with the application for Earthwork Permit shall describe in detail how the EP&SC Requirements, Geotechnical Requirements, and Non-Sediment Pollution Control Requirements of these Earthwork Regulations shall be fulfilled. The Improvement Plans shall also describe in detail how the quantity and quality of storm water will be managed after construction is complete for discharge from the site and/or into a water resource. The Improvement Plans will illustrate the type, location, and dimensions of structural and non-structural EP&SC BMPs, Post-Construction BMPs, and Non-Sediment Pollution BMPs incorporated into the site design to address the requirements of these Earthwork Regulations, and provide the rationale for their selection. The rationale must identify how EP&SC BMPs and Post-Construction BMPs will address flooding within the site as well as flooding that may be caused by the development upstream and downstream of the site, as required under the storm water quantity control regulations of the Local Jurisdiction. The rationale must demonstrate that these EP&SC BMPs, Non-Sediment Pollution BMPs, and Post-Construction BMPs minimize degradation to the water resource and its floodplain.
- B. Preparation by Professional Engineer: The Improvement Plans shall be prepared and sealed by a Professional Engineer and include supporting calculations, plan sheets, and design details. To the extent necessary, as determined by the **Enforcing Official**, a site survey shall be performed by a Professional Surveyor to establish boundary lines, measurements, or land surfaces. The **Enforcing Official** may accept submittals for non-structural, clean hard fill sites from the Owner in instances where the **Enforcing Official** determines that the intent and purpose of these Earthwork Regulations can be met and the interests of the public reasonably protected. These submittals shall be handled on a case by case basis. Acceptance and approval shall be at the discretion of the **Enforcing Official**.



- C. EP&SC Manual: The most recent edition of the Ohio Department of Natural Resources Rainwater & Land Development Manual shall be the basis for standards and specifications for erosion prevention and sediment control. The HCSWD and/or the **Enforcing Official** may prepare and maintain design criteria manuals or procedures that provide guidance for designing the site Earthwork, including a description of acceptable EP&SC BMPs that meet the criteria of these Earthwork Regulations. The design manual or procedures may be updated from time to time based on improvements in engineering, science, monitoring, and local maintenance experience.
- D. Contents of Improvement Plans: The Improvement Plans shall include the following:
1. Site Location Map: USGS 1:24,000 or equivalent map showing the Project Name, the boundary of the project site, the name and location of major existing roadways, and the name and location of the immediate receiving water resource(s) within 500 feet of the boundary of the project site and the first subsequent named water resource(s).
 2. Site Description and Information: The following information shall be included in the general notes, project specifications and/or an attached narrative report:
 - a. The Project Name and the location of the project, including the complete site address or Parcel Identification Number, and individual lot addresses if known and applicable.
 - b. Contact information: Provide the Company name and contact information and the contact names, addresses, phone numbers, facsimile numbers, and e-mail address for the following:
 - i. The Professional Engineer responsible for the preparation of the Improvement Plans.
 - ii. The site Owner, and if applicable the agent or designee.
 - iii. The Earthwork Contractor and all applicable subcontractors, when identified.
 - c. A description of the nature and type of the construction activity (e.g. residential, shopping mall, clean hard fill site, etc.).
 - d. Total area of the site and the area of the site that is expected to be disturbed (i.e. grubbing, clearing, excavation, filling or grading, including off-site borrow areas, excavated material disposal areas, and off-site project construction support activities).
 - e. A calculation of the area-weighted runoff coefficients for each catchment tributary to an EP&SC BMP, Post-Construction BMP, storm water conveyance facility, and storm water detention facility under both pre-construction and post-construction site conditions.
 - f. An estimate of the impervious area and percent imperviousness of the site and areas draining to the site at the beginning and at the conclusion of the project.

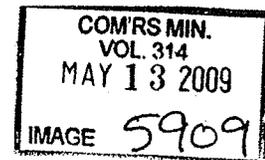


- g. Existing data describing the soils throughout the site, including the soil series, soil association, and hydrologic soil group. Additional geotechnical data to support the design of each proposed EP&SC BMPs and Post-Construction BMP (e.g., infiltration, extended conveyance, media filtration, or other BMP) whose effectiveness depends upon site-specific data about the porosity, infiltration characteristics, depth to groundwater, depth to bedrock, and any impermeable layers.
 - h. Existing data, if available, describing the quality of any discharge from the site.
 - i. A description of prior land uses at the site.
 - j. An implementation schedule which describes the sequence of major construction operations (i.e., grubbing, excavating, grading, utilities and infrastructure installation) and the implementation of erosion, sediment and storm water management practices or facilities to be employed during each operation of the sequence.
 - k. The name and/or location of the immediate receiving water resource(s) and the first subsequent named water resource(s) and the aerial extent and description of wetlands or other special aquatic sites at or near the site which will be disturbed or which will receive discharges from disturbed areas of the project.
 - l. Location and description of any storm water discharges associated with asphalt and concrete plants on or contiguous with the project site and dedicated to the project, and the best management practices to address pollutants in these storm water discharges.
3. Project Site Map(s): One or more site maps of the Project shall be created. The map or series of maps shall be drawn at a scale of at least 1-inch equals 50-feet. The site is to be referenced using the State Plane coordinates and shall indicate the datum used. It is preferred that the entire site be shown on a single 24"x36" (architectural D-size drawing) plan sheet to allow a complete view of the site during plan review. Each map shall identify the phase of the project, if applicable, in relation to the overall development plan and include a north arrow, elevation datum and date of preparation. The map or series of maps shall extend 200 feet beyond the project boundary and shall indicate for that area, at a minimum the following:
- a. Limits of Earthwork on the site for each phase of the project.
 - b. Soils types for the entire site, including the location and extent of visibly evident existing excavations or fills, slope instability, erosion and water seepage or wet conditions, unstable or highly erodible soils, or other areas with potentially serious existing or future erosion problems.
 - c. Existing and proposed two-foot (2') contours, unless site conditions require more detailed topography to depict site drainage conditions.
 - d. Drainage patterns, EP&SC BMPs, and Post-Construction BMPs within,



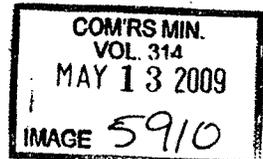
entering, and exiting the site during each phase of the project, including any existing and/or constructed combined and separate storm water drainage conveyance and drainage inlet facilities within the site, beyond the site, and/or within the larger common plan of development if utilized by the project. These maps shall include a delineation of drainage watersheds at the site expected before, during, and after major grading activities as well as the total off-site and on-site size of each drainage watershed in acres, and the pre-construction and post-construction runoff coefficient for each area.

- e. Location of existing and proposed utilities including appurtenances, structures and outfalls. The approximate depths of all utilities shall be indicated.
 - f. Water resource locations including known springs, wetlands, streams, lakes, water wells, and associated Stream Corridor Protection Zone as defined under the Stream Corridor Regulations (Article IV of the Rules and Regulations of the HCSWD) and/or other setbacks on or within 200 feet of the site, including the boundaries of wetlands or streams and any first subsequent named receiving water resource(s) intending to be filled or relocated under an approval from the Army Corps of Engineers and/or Ohio EPA.
 - g. Existing and proposed locations of buildings, roads, and parking facilities.
 - h. The location of any in-stream activities including stream crossings.
 - i. Existing and proposed property boundaries and individual lot numbers.
 - j. The location of any existing or proposed easements or other restrictions placed on the use of the property and the responsible party(ies) under such easement or restriction.
 - k. On-site and off-site areas vulnerable to erosion and sediment damage.
4. Information Regarding EP&SC BMPs: A complete description of the measures proposed to satisfy the performance standards of these Earthwork Regulations shall be provided in the Improvement Plan for each phase of the Project in a professionally prepared document which, at a minimum, includes the following appropriate Earthwork principles, techniques, methods, operations and work sequences :
- a. One or more site maps for each phase of construction showing the location and extent of each EP&SC BMP that will be installed.
 - b. A drawing of each structural EP&SC BMPs providing sufficient dimensions, construction details, and design calculations.
 - c. Standards and specifications for the installation and maintenance of all EP&SC BMPs.
 - d. Temporary and permanent stabilization requirements and timelines for

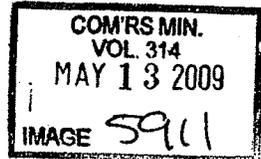


specific areas of the site. Standards and specifications shall be provided for all vegetative practices including seeding, mulching, and fertilizing rates. Standards and specifications shall be included for any turf reinforcement matting or other stabilization practices as required under these Earthwork Regulations or by the **Enforcing Official**.

- e. Areas of the site that do not drain to primary EP&SC BMPs such as sediment basins and traps shall be indicated. Notes shall be included on the plans indicating the appropriate EP&SC BMPs, standards and specifications for all EP&SC BMPs, including those EP&SC BMPs that will be provided for use by successor owners of individual lots, and those that shall be implemented by successor owners within their individual lots.
 - f. An indication of areas where soil stockpiles are to be located and a narrative procedure for the stabilization of these areas immediately after the soil stockpile is completed. If the specific locations cannot be addressed in the design stage, direction shall be provided regarding the location of the soil stockpiles by indicating areas of concern and outlining the stabilization requirements.
 - g. Estimated schedule indicating the anticipated sequence of Earthwork and other construction activities, along with the EP&SC BMPs and non-sediment pollution control BMPs to be employed during each sequence, including the time of exposure of each area prior to the completion of approved EP&SC BMPs.
 - h. A written narrative that describes the overall EP&SC plan and highlights specific areas of concern. The narrative shall indicate stabilization requirements, inspection and maintenance guidelines, and direct the developer to contact the **Enforcing Official** for a pre-construction meeting prior to commencing with any Earthwork.
 - i. For subdivided developments where a centralized EP&SC BMP capable of controlling multiple individual lots is not provided, a detail drawing of a typical individual lot showing standard individual lot EP&SC BMPs.
5. Information Regarding Post-Construction BMPs: For each non-structural and structural Post-Construction BMP to be employed on the site, the Improvement Plan shall include the following:
- a. Location and size, including maps showing the location of Post-Construction BMPs and other storm water facilities, detailed drawings with dimensions and elevations, and design calculations. Details of Post-Construction BMPs shall be drawn to scale and shall show volumes and sizes of contributing drainage areas.
 - b. Soil and subsurface conditions, including tests of infiltration rates for native and amended soils underlying Post-Construction BMP, and borings or equivalent data indicating seasonal high groundwater levels, top of bedrock elevations, and perched groundwater elevations.
 - c. Specifications for materials used to construct each Post-Construction

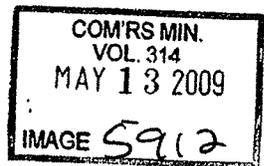


- BMP, including vegetation, amended soil composition, and structural materials.
- d. Post-Construction BMP operations and maintenance requirements during and after construction.
 - e. Any supplemental information requested by the **Enforcing Official**.
6. Other Approvals and Permits included in Improvement Plan:
- a. Ohio EPA NPDES Permit Number and other applicable state and federal permit numbers or approvals shall be provided if available; or the status of permit applications shall be provided if final approvals have not been received.
 - b. The parcel number, address, contact information, and Earthwork Approval shall be provided for any off-site borrow areas and excavated material disposal areas.
7. Construction-Phase Inspection and Maintenance Plan: The Improvement Plans shall include a Construction-Phase Inspection and Maintenance Plan for the EP&SC BMPs and Non-Sediment Pollution BMPs employed on the property. This Plan shall address the inspection and maintenance frequency and requirements listed in Section 314 INSPECTION AND MAINTENANCE OF EROSION PREVENTION AND SEDIMENT CONTROL (EP&SC) Bmps and Section 316 INSPECTION AND MAINTENANCE OF NON-SEDIMENT POLLUTION BMPs of these Earthwork Regulations.
8. Calculations: Calculations shall be provided as part of the Improvement Plans for proposed storm water runoff flows, volumes, and timing into and through all Earthwork and Post-Construction BMPs. Calculations shall include the underlying assumptions and hydrologic and hydraulic methods and parameters, under pre- and post-construction land use conditions, for flood control, water resource protection, and water quality, as required in Section 310 EROSION PREVENTION AND SEDIMENT CONTROL (EP&SC) BMP PERFORMANCE STANDARDS, Section 311 Geotechnical Performance Standards, and Section 312 Non-Sediment Pollution Bmp Performance Standards of these Earthwork Regulations. Calculations shall demonstrate compliance with local storm water quantity management requirements and demonstrate that the runoff from upper watershed areas have been considered in the calculations and indicate that no adverse impacts are conveyed downstream of the proposed project. An investigation of immediate downstream conditions as defined by the **Enforcing Official** is required to support development of a rationale for EP&SC BMP and Post-Construction BMP selection addressing anticipated impacts on the water resource and floodplain morphology, hydrology, and water quality. If the downstream property owner(s) refuse to allow access a letter must be submitted by the downstream property owner(s) stating the refusal.
9. The Improvement Plans may be required to contain additional information when requested by the **Enforcing Official**, including but not limited to:
- a. A report from a Professional Engineer qualified in geotechnical



engineering showing the results of surface and subsurface exploration, conditions of the land, procedures for performing the grading operations, maximum slope to satisfy stability, and other geotechnical design requirements;

- b. Drainage systems are required to be of such design as to adequately accommodate the surface runoff. Calculations shall be submitted where requested together with a map showing the drainage areas of all land tributary to the site, and estimated runoff (cubic feet per second) of the area draining into any water resource computed according to current acceptable standards as required under the storm sewer system design regulations of the Local Jurisdiction;
 - c. A description of the borrow material, its source, the construction methods to be used and the specified minimum degree of compaction;
 - d. The preparation of existing ground surface to receive fill; and
 - e. Subsurface drainage where necessary for stability.
- E. Substantial change in site conditions: The **Enforcing Official** shall be notified whenever unforeseen site conditions emerge (e.g., unforeseen water resources such as unknown springs) during the course of construction that affects the Earthwork.
- F. A notation shall be placed on the plans that the Owner is responsible for notifying the Ohio Utilities Protection Service (OUPS) of the location of the excavation or fill site, per Section 3781.25 to 3781.32 of the ORC.
- G. Continuation of Controls for Individual Lot Development: Improvement Plans for single family homes and/or individual structures that will disturb less than one (1) acre but are part of a larger common plan of development shall describe planned EP&SC BMPs for the individual lot, including the location of any EP&SC BMPs, and the appropriate standards and specifications for their installation, maintenance, and final stabilization, as well as a timeline for completion. Where seasonal conditions prevent permanent stabilization, alternative temporary stabilization practices shall be specified in the Improvement Plans. Detailed specifications for EP&SC BMPs shall be included for lots that do not drain to a sediment basin or trap, or for areas needing special attention, such as steep slopes and areas within 50' of water resources. The Owner of the individual lot shall inform the future owner of the lot of any EP&SC Requirements that will carry over to the new lot (home) owner, and notify the **Enforcing Official** within seven (7) days of the date of transfer of the lot(s).
- H. Improvement Plan Updates Required. The approved Improvement Plan shall be modified whenever there is a change in design, construction, operation or maintenance which has or is likely to have a significant effect on the potential for the discharge of pollutants, or if the recommended BMPs prove to be ineffective in achieving the general objectives of controlling pollutants in storm water discharges associated with construction activity. Revised Improvement Plans shall be provided to the **Enforcing Official** for review and approval prior to implementing any proposed changes.



310 EROSION PREVENTION AND SEDIMENT CONTROL (EP&SC) BMP PERFORMANCE STANDARDS

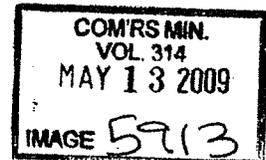
- A. The Improvement Plan shall be a professionally prepared document which includes appropriate Earthwork principles, techniques, methods, operations and work sequences. The Earthwork BMP Performance Standards contained in this Section shall be followed unless a variance is approved by the **Enforcing Official** consistent with these Earthwork Regulations according to criteria in paragraph 310(O). EP&SC BMPs must be maintained in good operational condition until permanent Post-Construction BMPs compliant with the Post-Construction Regulations (Article V of the Rules and Regulations of the HCSWD) are installed and operational.

- B. Duty to Inform Contractors and Subcontractors: The Owner shall inform all contractors and subcontractors who will be involved in the implementation of the Earthwork BMPs about the terms and conditions of the Earthwork Permit. The Owner shall maintain a written document containing the signatures of all contractors and subcontractors involved in the implementation of the Earthwork BMPs, acknowledging that they have reviewed, understand and will follow the conditions and responsibilities of the Earthwork Permit and the Improvement Plans. Improvement Plans shall be created and signatures shall be obtained prior to commencement of any Earthwork. A copy shall be provided to the **Enforcing Official** prior to commencing with the project.

- C. Post-Construction BMPs and EP&SC BMPs: Preliminary engineering documents shall show temporary and permanent methods, features and facilities to control runoff as required under these Earthwork Regulations and under the Post-Construction Regulations (Article V of the Rules and Regulations of the HCSWD).

- D. Non-Structural Preservation Methods: The Improvement Plans must clearly delineate on the document and indicate methods of preventing disturbance of any water resources, riparian areas, unstable or highly erodible soils, steep slopes, or other areas that are protected under local, State, or Federal law. Improvement Plans shall also identify any riparian setbacks, green space preservation, conservation buffers, and other stream protection measures required under the Stream Corridor Regulations (Article IV of the Rules and Regulations of the HCSWD) and/or required by conditions of development set by the County and/or Local Jurisdiction related to stream protection. The Project shall also incorporate practices that preserve the natural condition in all other areas that are not integral to the proposed development activity. Such practices may include: preserving riparian areas adjacent to surface water resources, preserving existing vegetation and vegetative buffer strips, phasing of construction operations in order to minimize the amount of disturbed land at any one time and designation of tree preservation areas or other protective clearing or grubbing practices.

- E. Phased Installation: The installation of the EP&SC BMPs shall be done progressively as the project is constructed. Sediment basins, storm water basins, and/or sediment traps shall be constructed and the slow release riser pipe and emergency overflow shall be functioning before clearing activity begins in the contributing watershed draining to said BMPs. All other measures to trap sediment shall be constructed and completed before upslope clearing and grading activities are permitted to take place. Earthen structures such as dams, dikes and diversions shall be stabilized within seven (7) days after installation is complete. Where slow growing or dormant seasons occur, alternate or temporary solutions as required under these Earthwork Regulations shall be utilized. The EP&SC BMP sequencing, installation, and seasonal alternatives shall be a part of

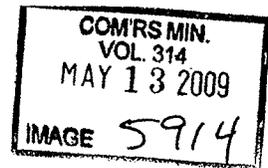


the Site Description portion of the Improvement Plans. As construction progresses and the topography is altered, appropriate EP&SC BMPs must be constructed or existing controls altered to address the changing drainage patterns.

F. Sediment Control BMPs: The Improvement Plans shall include a description of Sediment Control BMPs that store runoff, allow sediments to settle and/or divert flow away from exposed soils or otherwise limits runoff from exposed areas. Structural EP&SC BMPs shall be used to control erosion and trap sediment from a site remaining disturbed for more than 14 days. Such practices shall include: sediment basins and traps, stabilized construction entrance, dust control, sediment fences, earth diversion dikes or ditches which direct runoff to a sediment settling pond and storm drain inlet protection, all of which are further specified below:

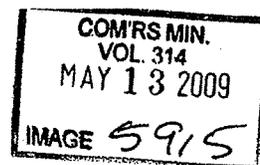
1. Sediment Basins and Traps: Concentrated storm water runoff and runoff from drainage areas that exceed the design capacity of sediment fence or inlet protection shall pass through a sediment basin or trap designed according to the following criteria:

- a. For common drainage locations that serve an area with 10 or more acres disturbed at one time, a temporary (or permanent) sediment basin or trap shall be provided until final permanent stabilization of the site. Alternative controls may be approved if it can be demonstrated that the alternative controls are equivalent in effectiveness to a sediment basin or trap. For drainage locations serving less than ten (10) acres, smaller sediment basins and/or traps should be used.
- b. The sediment basins/traps shall be sized to provide at least 67 cubic yards of storage per acre of total contributing drainage area. Sediment basins/traps with a total contributing drainage area greater than five (5) acres shall be designed with a minimum 48 hour draw down time. When determining the total contributing drainage area, off-site areas and areas which remain undisturbed by construction activity must be included unless runoff from these areas is diverted away from the sediment basin or trap and is not co-mingled with sediment-laden runoff. These calculations shall be provided in the Improvement Plans. The depth of the sediment basin must be less than or equal to five (5) feet. The configuration between the inlet and the outlet of the basin shall provide at least two (2) units of length for each unit of width (>2:1 length: width ration). Sediment shall be removed from the sediment basin or trap when the design capacity has been reduced by 40% (this is typically reached when sediment occupies one-half of the basin or trap depth). The elevation corresponding to a reduction of 40% of the basin's or trap's required design capacity shall be provided on the plans. These elevations shall be staked around the perimeter of the basin(s) or trap(s) on-site (a minimum of 6 stakes shall be used). When the sediment reaches this elevation, the sediment shall be removed. This requirement shall be provided in Improvement Plans when detailing maintenance standards and specifications and shall be consistent with Section 314 INSPECTION AND MAINTENANCE OF EROSION PREVENTION AND SEDIMENT CONTROL (EP&SC) Bmps.
- c. When designing sediment basins/traps, public safety shall be considered



as a design factor, especially as it relates to children, and alternative sediment control BMPs must be used where site limitations preclude a safe design. The use of a combination of EP&SC BMPs in order to achieve maximum pollutant removal is required. No temporary sediment basins or traps shall be placed within a permanent storm water quantity or quality control basin or Post-Construction BMP unless it is large enough to contain the entire sediment settling volume, water quality volume, and storm water quantity control volume, subject to the approval of the **Enforcing Official** and the Local Jurisdiction. In addition, no temporary sediment basins or traps shall be placed directly adjacent to a water resource unless prior written approval has been provided by the **Enforcing Official**.

- d. In unincorporated townships, alternatives such as separate sediment basins or traps must be considered as opposed to retrofitting storm water basins. Prior approval must be obtained from the Hamilton County Department of Public Works (HCDPW) Storm Water Division before the HCSWCD will approve retrofitting a storm water basin. Retrofitted storm water basins shall comply with the design criteria specified in this Section of these Earthwork Regulations.
 - e. Specific information shall be provided for the sediment basins/traps, including the size and type of slow release outlet. Calculations shall demonstrate that the slow release outlet has been designed to achieve the 48-hour drawdown time. If a slow-release riser pipe is specified, the size of the pipe, the size and spacing of the orifices on the upper two-thirds ($2/3^{\text{rds}}$) of the riser, and the bottom and top elevations for the riser pipe shall be calculated. Specifications shall be provided for the geotextile fabric and riprap for the emergency overflows for each sediment basin/trap. The riser shall be wrapped first with a welded wire fencing and then with filter fabric. For approved retrofits of storm water quantity basins, the upper orifice shall be temporarily protected to minimize sediment from entering the Post-Construction BMP.
2. **Off-Site Traffic:** Off-site vehicle tracking of sediments and dust generation shall be minimized. All roads, storm drainage systems and sidewalks shall be kept free of sediment so as not to create a hazard. All access points shall have a stabilized construction entrance. Periodic street sweeping and topdressing of the construction entrance shall be performed to ensure compliance with these Earthwork Regulations. Washing sediment into storm drainage systems is not an acceptable practice unless the system drains to a sediment basin or trap. Washing of sediment directly into water resources or storm drainage systems that drain directly to water resources without passing through a properly sized and located EP&SC BMPs is prohibited.
 3. **Dust Control:** Dust from Earthwork shall be controlled using effective dust control practices for site and climatic conditions during each phase of construction.
 4. **Sediment Fence:** Sheet flow runoff from Earthwork shall be intercepted by sediment fences or diversions as necessary to meet EP&SC objectives of these Earthwork Regulations. Where intended to provide sediment control, sediment fence shall be placed on a level contour. These Earthwork Regulations do not



preclude the use of other sediment barriers designed to control sheet flow runoff. The relationship between the maximum drainage area to sediment fence for a particular slope range is shown in **Table 310-A**. Sediment fences shall not be used for sediment control associated with concentrated flows.

Table 310-A Sediment Fence Drainage Area Limits

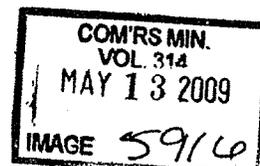
Maximum Drainage Area to 100 Linear Feet of Sediment Fence	Range of Slope for a Particular Drainage Area
0.5 acres	< 2%
0.25 acres	≥ 2% but < 20%
0.125 acres	≥ 20% but < 50%

5. Diversions. Storm water diversion practices shall be used to keep runoff away from Earthwork, control storm water run-on quantities and protect steep slopes where practicable. Such devices, which include ditches, dikes or berms, may receive storm water runoff from areas up to ten (10) acres. Earth diversion dikes or ditches alone are not considered a sediment control BMP unless those are used to direct storm water to a properly-designed sediment-basin or trap.

6. Inlet Protection: EP&SC BMPs shall also be used to minimize sediment-laden water from entering active storm drain systems, even if the storm drain system drains to sediment basins/traps. Inlet protection or other EP&SC BMPs are required to improve the overall effectiveness of the sediment basins/traps and minimize their maintenance. Hazards resulting from storm drain inlet protection as it relates to diverting storm water runoff and causing erosion or creating flooding problems to adjacent roads or structures shall be taken into consideration, and inlet protection shall only be implemented where ponding can occur without creating hazardous situations; alternative practices shall be specified if ponding cannot occur around the inlet and the inlet does not drain to a sediment basin or trap.

- G. Dewatering Activities: Dewatering activities involve the disposal of waters accumulating in trenches, sediment basins, sediment traps, or other locations where ground or surface waters may collect on the site. There shall be no turbid discharges to surface water resources resulting from dewatering activities. If trench, ground water, or any other dewatering activities containing sediment shall pass through a sediment settling pond or other equally effective sediment control BMP prior to being discharged from the site. Alternatively, sediment may be removed by settling in place or by dewatering into a sump pit, filter bag or comparable practice. Dewatering which does not contain sediment or other pollutants is not required to be treated prior to discharge. Care shall be taken when discharging groundwater or during any dewatering work to ensure that runoff does not become pollutant-laden by traversing over disturbed soils or other pollutant source and/or cause erosion in stabilized areas. The Professional Engineer shall provide specifications for de-watering activities for the project. The Professional Engineer shall provide specifications for cleaning and disposal of spoils for in-line retention systems to prevent the discharge of sediment or other pollutants, if applicable.

- H. Stream Protection: If Earthwork disturbs areas adjacent to streams, EP&SC BMPs shall be designed and implemented on-site to protect all adjacent streams from the impacts of sediment laden runoff. No EP&SC BMPs (e.g., the installation of silt fence or a sediment



basin or trap in a stream) shall be used in a stream. Earthwork shall be performed in compliance with all applicable stream corridor protection zone or setback requirements. Specific stream corridor protection zone requirements are found in the Stream Corridor Regulations (Article IV of the Rules and Regulations of the HCSWD.) The placement of fill within FEMA regulated flood plains shall not be permitted to cause downstream erosion or other negative impacts.

I. Groundwater Protection:

1. No Earthwork Project shall be permitted to cause the pollution or degradation of groundwater. The Professional Engineer shall design the project to control the discharge of pollution into groundwater resources.
2. Unless otherwise authorized by Ohio EPA, only uncontaminated soil may be used as a fill material for any Earthwork in unincorporated Hamilton County constructed in an area of groundwater pollution potential with a Pollution Potential Index of 140 and greater, as defined using the methodology described in USEPA Publication EPA/600-2-87/035. Maps of this designation prepared by Ohio Department of Natural Resources Division of Water and titled "Ground-Water Pollution Potential of Hamilton County" are available from the HCSWCD or can be downloaded from the Ohio Department of Natural Resources website.
3. Clean Hard Fill Sites in unincorporated Hamilton County must monitor the fill material to ensure compliance with these Earthwork Regulations.
4. All Earthwork Projects in Ground Water Protection Zones in unincorporated Hamilton County must ensure proper storage and disposal of chemicals and fuels. All spills shall be cleaned up immediately and reported as required under State, Federal and local laws and regulations, including the State Emergency Response Commission (SERC) set of eight (8) release reporting rules (3750-25-01, 3750-25-05; 3750-25-10; 3750-25-12, 3750-25-13; 3750-25-15; 3750-25-20; 3750-25-25) effective June 30, 1993. For more information contact Ohio EPA.

J. Erosion Prevention Practices: The Project shall make use of erosion prevention practices that are capable of providing cover over disturbed soils unless a waiver is approved in accordance with Section 310(O) of these Earthwork Regulations. A description of erosion prevention practices designed to re-stabilize the site after Earthwork is complete shall be included in the Improvement Plans. The Improvement Plans must provide specifications for stabilization of all disturbed areas of the site and provide guidance as to which method of stabilization will be employed for the various times of the year. Such practices may include: seeding, mulching, matting, sod stabilization, vegetative buffer strips, phasing of construction operations, and use of construction entrances and the use of alternative ground cover. Erosion prevention practices shall also comply with Section 510 (C) (4) of the Post-Construction Regulations (Article V of the Rules and Regulations of the HCSWD).

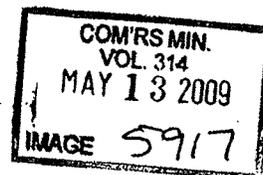


Table 310-B: Permanent Stabilization

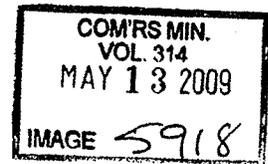
Areas Requiring Permanent Stabilization	Time Frame to Apply Erosion Prevention Practices
Any areas that will lie dormant for one (1) year or more	Within seven (7) days of the most recent disturbance
Any areas within 50 feet of a stream and at final grade	Within two (2) days of reaching final grade
Any other areas at final grade	Within seven (7) days of reaching final grade within that area

Table 310-C: Temporary Stabilization

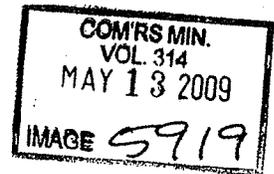
Areas Requiring Temporary Stabilization	Time Frame To Apply Erosion Prevention Practices
Any disturbed areas within fifty (50) feet of a stream and not at final grade	Within two (2) days of the most recent disturbance if the areas will remain idle for more than twenty-one (21) days
For all construction activities, any disturbed areas that will be dormant for more than twenty-one (21) days but less than one (1) year, and not within fifty (50) feet of a stream	Within seven (7) days of the most recent disturbance within the area For residential subdivisions, disturbed areas must be stabilized at least seven (7) days prior to transfer of permit coverage for the individual lot(s)
Disturbed areas that will be idle over winter	Prior to the onset of winter weather – follow the guidelines outlined in the Rainwater & Land Development Manual for dormant seeding specifications

K. **Stabilization:** At a minimum, disturbed areas must be stabilized as specified in **Tables 310-B and 310-C**. Where vegetative stabilization techniques may cause structural instability or are otherwise unobtainable, alternative stabilization techniques shall be employed. Approval shall be obtained from the **Enforcing Official** before implementing alternative stabilization techniques per Section 310(N) of these Earthwork Regulations.

1. **Permanent Stabilization of Ditches:** Special measures shall be undertaken to stabilize ditches and prevent erosive flows. Measures may include seeding, dormant seeding (as defined in the latest edition of the Rainwater and Land Development Manual), mulching, erosion control matting, sodding, riprap, natural design with bioengineering techniques or rock check dams. The standards and specification shall be included in the permanent stabilization requirements.
2. **Runoff Control Practices:** The Project shall incorporate measures which control the flow of runoff from disturbed areas so as to prevent erosion from occurring. Such practices may include rock check dams, pipe slope drains, diversions to direct flow away from exposed soils and protective grading practices. These practices shall divert runoff away from disturbed areas and steep slopes where practicable.



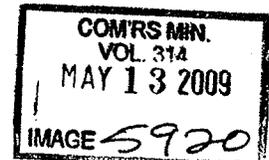
- L. Control of Sediment-Laden Runoff from Post-Construction BMPs: No storm water shall be directed through any Post-Construction BMP required under the Post-Construction Regulations (Article V of the Rules and Regulations of the HCSWD), or portions thereof, until the entire area tributary to the Post-Construction BMP has reached final stabilization. Final stabilization occurs after the completion of the final grade at the site, after all of the utilities are installed, and the site is stabilized with vegetation or other appropriate methods. Documentation acceptable to the **Enforcing Official** shall be submitted to demonstrate that the site has reached final stabilization. Upon a satisfactory demonstration, the Post-Construction BMPs may be completed and placed into service. Upon completion of the installation of the Post-Construction BMPs, all disturbed areas and/or exposed soils caused by such installation must be stabilized within two (2) days of the completion of the installation unless actually precluded by weather conditions, and in such event, as soon thereafter as weather conditions permit stabilization.
- M. Removal of EP&SC BMPs: The Owner is responsible for the removal of EP&SC BMPs upon stabilization of all disturbed areas or upon completion of the project, whichever occurs first. No required EP&SC BMPs shall be removed during the permit period until the upslope areas draining to said BMP are permanently stabilized unless the removal is approved in writing by the **Enforcing Official**.
- N. Alternative Methods: Methods of erosion prevention, sediment and storm water runoff control, other than those specified by these Earthwork Regulations may be considered by the **Enforcing Official** on a case by case basis as provided below, and must be submitted for approval prior to use, installation or implementation.
1. The proposed alternative method shall otherwise comply with these Earthwork Regulations. Any required recalculation or redesign of any portion of the project is the sole responsibility of the Owner and shall not be provided by the reviewer.
 2. The decision of the **Enforcing Official** as to whether to permit the proposed alternative method will be based largely on the sufficiency and completeness of the information submitted with the application.
 3. The proposed alternative method will accomplish the purpose, intent and results of these Earthwork Regulations and will not otherwise cause a hazard.
 4. The alternative method must be enforceable by the **Enforcing Official**.
- O. Variations: The **Enforcing Official** may vary a requirement set forth in Section 310 EROSION PREVENTION AND SEDIMENT CONTROL (EP&SC) BMP PERFORMANCE STANDARDS of these Earthwork Regulations if site specific conditions prevent the implementation of required EP&SC BMPs as written, the implementation of the controls will result in no environmental benefit, or the project is in an isolated, self-contained area where there will be no adverse affect on adjacent public or private properties or watercourses. Under no circumstances may a variance be granted if a Hazard will be created. A request for a variance shall be submitted to the **Enforcing Official** with complete detailed supporting materials and information justifying such variance and demonstrating that no Hazard will be created if the variance should be granted.
- P. Access to EP&SC BMPs: Access shall be provided to the **Enforcing Official** and other authorized personnel to maintain proper operation and function of EP&SC BMPs during



the project. The access must include temporary or construction easements and heavy equipment access ways. These access ways must be clear of obstructions in order to facilitate maintenance of the BMPs.

311 GEOTECHNICAL PERFORMANCE STANDARDS

- A. Geotechnical performance standards apply to unincorporated portions of Hamilton County and member municipalities which have adopted the requirements of this section.
- B. Tops and toes of all slopes related to any Earthwork shall be designed and placed so as to maintain a condition of stability and not cause any adverse impact on adjacent property and/or to applicable stream corridor protection zones under the Stream Protection Regulations (Article IV of the Rules and Regulations of the HCSWD).
- C. The tops and toes of all Earthwork shall be designed to be completely contained within the property being developed unless included in an easement or binding written agreement with an adjacent property owner. A Professional Engineer shall certify that the tops and toes of all slopes are set back from property boundaries or structures as necessary for:
 - 1. Stability of adjacent property;
 - 2. Adequacy of foundation support;
 - 3. Protection of adjacent property against damage from storm water runoff.
- D. The tops and toes of any Earthwork shall be designed and constructed in a manner that will not adversely impact existing or proposed buildings or adjacent property.
- E. A complete system for proper storm water runoff management and drainage of the site involving tops and toes of Earthwork shall be provided. Such a drainage system shall be completely contained within the property being developed unless containment is not feasible, in which case runoff flows may be diverted off-site in accordance with applicable runoff standards and requirements approvable by the **Enforcing Official**.
- F. The **Enforcing Official** may require additional geotechnical or other engineering data and site specific designs where the tops or toes of slopes and/or the drainage system creates or may create a Hazard.
- G. The **Enforcing Official** may waive or modify requirements under this section of these Earthwork Regulations relating to cut and fill operations if the application for the Earthwork permit includes a written opinion from a Professional Engineer employed by the Owner stating that the proposed cut and fill operations will not cause a Hazard or is in an isolated, self-contained area where there will be no adverse affect on adjacent public or private property.
- H. A request for a waiver shall be submitted to the **Enforcing Official** with detailed evidence justifying such waiver and demonstrating that no hazard will be created if the waiver should be granted.



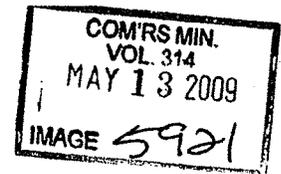
- I. Denial of a waiver may be appealed to the Hamilton County Earthwork Board of Appeals for projects in unincorporated Hamilton County, or to the body designated by the municipal jurisdiction to address appeals.

312 NON-SEDIMENT POLLUTION BMP PERFORMANCE STANDARDS

- A. Non-Sediment Pollution BMPs: No hazardous substances, solid or liquid waste, including building materials and concrete wash water, shall be discharged from the site. All necessary and appropriate Non-Sediment Pollution BMPs shall be implemented to prevent the discharge of these pollutants to the drainage system of the site or other surface water resources. Under no circumstances shall concrete truck wash out be directly or indirectly discharged into a ditch, storm sewer or water resource. Waste materials shall not be exposed to storm water.
- B. Access To Non-Sediment Pollution BMPs: Access is required to maintain proper operation and function of Non-Sediment Pollution BMPs during the project. The access should include temporary or construction easements and heavy equipment access ways where necessary. These access ways should be clear of obstructions and can be easily maintained.

313 FINAL INSPECTION APPROVAL AND RELEASE OF RECORD PLAT

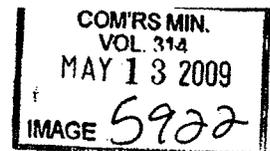
- A. To receive final inspection and acceptance of any project, the following must be completed and provided to the **Enforcing Official**:
 1. Final stabilization must be achieved and all Post-Construction BMPs must be installed and made functional per the approved Improvement Plan, as determined by the **Enforcing Official**.
 2. To initiate termination of an Earthwork Permit for a project or a portion thereof and final inspection, the Owner shall submit a letter to the **Enforcing Official** certifying compliance with the permit requirements, stating the reason for termination, and indicating the portions of the site where termination is being requested.
- B. Final inspection approvals and releases of Record Plats. in unincorporated Hamilton County are subject to the following requirements:
 1. Residential & Industrial Subdivisions: All requests for Release of Record Plat and Final Inspection Approval shall be initialized through the Hamilton County Engineers Office. The **Enforcing Official** shall send written notice of the approval or denial of the request within seven (7) working days of receiving the request from the County Engineers Office. For release of the Record Plat the site shall be in compliance with all provisions of these Earthwork Regulations.
 - a. All areas for which the Record Plat release is being requested shall be temporarily or permanently stabilized according to Section 310 (K) of these Earthwork Regulations.
 - b. All sediment control BMPs shall be installed and maintained according to Section 310 (F) of these Earthwork Regulations.



- c. The Hamilton County Engineer shall not release the Record Plat for recording until receipt of a Notice of Compliance from the Enforcing Official that the site is in compliance with all provisions of these Earthwork Regulations, and has received a geotechnical certification.
2. Commercial and Industrial Developments: The Owner shall submit a letter to the **Enforcing Official** requesting a Final Inspection a minimum of 14 days before requesting a Temporary Certificate of Occupancy (TCO) or Certificate of Occupancy (CO) from the Building Department. The Building Department shall not issue a TCO or CO until the **Enforcing Official** determines that the site is in compliance with all provisions of these Earthwork Regulations. Final stabilization must be achieved; temporary EP&SC BMPs removed and all Post-Construction BMPs must be installed and made functional per the approved Improvement Plan, as determined by the **Enforcing Official**.
3. Clean Hard Fill Sites: To obtain release from an Earthwork Permit on Clean Hard Fill Sites the Owner shall send a written request to the **Enforcing Official** requesting final inspection. The entire site shall be permanently stabilized and all temporary EP&SC BMPs removed. The Performance Bond will not be released until the site is in compliance with all provisions of these Earthwork Regulations.
- C. Municipal member jurisdictions shall not release the Record Plat, issue a certificate of occupancy, or otherwise allow a transfer of ownership to any property that is not in full compliance with these Earthwork Regulations.
- D. The Hamilton County Engineer in unincorporated townships or the local municipality in incorporated areas shall not approve and release the Record Plat for recording until receipt of a Notice of Compliance from the **Enforcing Official** that the site is in compliance with all provisions of these Earthwork Regulations, has received a geotechnical certification, if applicable, and has properly transferred or removed all approved EP&SC and Non-Sediment Pollution Control BMPs, including but not limited to proper installation, closure, and/or maintenance of sediment basins and traps, sediment fence and inlet protection. All idle areas must have temporary and permanent stabilization as appropriate.

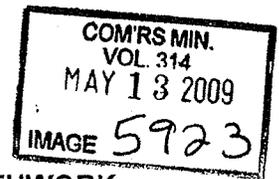
314 INSPECTION AND MAINTENANCE OF EROSION PREVENTION AND SEDIMENT CONTROL (EP&SC) BMPs

- A. The Construction-Phase Inspection and Maintenance Plan included in the Improvement Plans shall address all requirements of this Section.
- B. All EP&SC BMPs shall be inspected and maintained to ensure continued performance of their intended function. All EP&SC BMPs designed for sediment control shall be maintained in a functional condition until all up slope areas they control are permanently stabilized and Post-Construction BMPs are operational. The EP&SC BMPs shall be designed to minimize maintenance requirements. The Improvement Plans shall provide a description of maintenance procedures needed for each measure and practice to ensure their continued performance.
- C. If the inspection reveals that an EP&SC BMP is in need of repair or maintenance, with the exception of a sediment settling pond, it must be repaired or maintained within three (3) days of the inspection that indicates the maintenance or repair is needed. Sediment



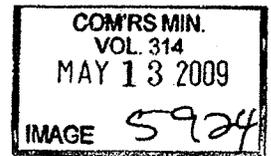
settling ponds must be repaired or maintained within ten (10) days of the inspection that indicates the maintenance or repair is needed.

- D. At a minimum, all EP&SC BMPs on the site shall be inspected by the Owner's Qualified Inspection Personnel at least once every seven (7) calendar days and within 24 hours after any storm event greater than one-half (1/2) inch of rain per 24 hour period and a record be made of the inspection. The Owner shall assign Qualified Inspection Personnel to conduct these inspections to ensure that the EP&SC BMPs are functional, to evaluate whether the EP&SC BMPs are adequate and properly implemented or constructed in accordance with the approved Improvement Plan, and to determine whether other EP&SC BMPs are required. The Qualified Inspection Personnel shall record and report issues and deficiencies associated with the EP&SC BMPs. A Professional Engineer must determine necessary changes to the location and position each EP&SC BMPs.
- E. Disturbed areas and areas used for storage of materials that are exposed to precipitation shall be inspected for evidence of or the potential for pollutants entering the drainage system.
- F. EP&SC BMPs identified in the plan shall be observed to ensure that they are operating correctly.
- G. Discharge locations shall be inspected to ascertain whether EP&SC BMPs are effective in minimizing degradation of the receiving water resources.
- H. Documentation of proper installation as per design or manufacturer's specification needs to be recorded as these EP&SC BMPs are constructed or installed.
- I. To record the results of inspections, the **Qualified Inspection Personnel** may use the **Enforcing Official's** Self Inspection Form and Log, Ohio EPA's form and log, or develop their own. A copy of the inspection form and log that will be implemented shall be provided to the **Enforcing Official** with the Improvement Plans. The inspection reports shall be made available to the **Enforcing Official** and shall be kept on site. Each inspection report shall be signed and certified by the Owner.
- J. If the inspection reveals that an EP&SC BMP fails to perform its intended function and that another, more appropriate EP&SC BMP is needed to be effective, the Professional Engineer shall amend the Improvement Plans. The new EP&SC BMPs shall be installed or implemented within ten (10) days of the inspection.
- K. If the inspection reveals that an EP&SC BMP has not been installed or implemented in accordance with the schedule contained in the approved plan, the EP&SC BMP must be implemented within ten (10) days from the date of the inspection. If the inspection reveals that the planned EP&SC BMP is not needed, the inspection record must contain a statement of explanation as to why the EP&SC BMP is not needed.
- L. The Owner shall maintain the inspection records and logs for three years following the completion of the project. The inspection records shall include the names(s) and qualifications of personnel making the inspection, date(s) of the inspection, statement whether the facility is in compliance with the Improvement Plans at the time of the inspection, any incidents of non-compliance and any observations that significantly impact the implementation of the Improvement Plans.



315 GEOTECHNICAL MONITORING AND MAINTENANCE OF CERTAIN EARTHWORK

- A. Earthwork covered under Section 311 Geotechnical Performance Standards of these Earthwork Regulations may be required by the **Enforcing Official** to obtain a permit and or be monitored by or under the direction of a Professional Engineer qualified in geotechnical engineering. In such case, the Professional Engineer shall certify to the **Enforcing Official** that the requirements under the approved plans and permit have been completed. The **Enforcing Official** may also require that Geotechnical and EP&SC Declaration Contracts be signed and submitted before commencing with the any Earthwork.
- B. A geotechnical Earthwork permit may be required where a succession of small excavations or fills constitutes a continuing operation and the accumulation of such excavations or fills will exceed one or both of the following conditions within the area of Earthwork:
 - 1. Five (5) feet in vertical depth; or
 - 2. 350 cubic yards per each 5,000 square feet.
- C. A geotechnical Earthwork permit shall be required in all cases where grading is proposed on existing terrain with a known history of, or showing visible evidence of, active or dormant landslides.
- D. A geotechnical Earthwork permit may be required where the site is situated partially or wholly over terrain with a "high" landslide potential.
- E. Any excavating or filling performed pursuant to the exemptions in Section 306 Exemptions of these Earthwork Regulations which creates a hazard and / or contributes to water quality degradation shall be subject to the provisions of these Earthwork Regulations as they relate to the specific hazard.
- F. Work that meets the following provisions may be exempted from the requirement for Geotechnical Monitoring or geotechnical Earthwork permit.
 - 1. Any excavation for a basement of a building, or other structure, either privately or publicly owned, authorized by a valid Building Permit, provided:
 - a. The excavation does not exceed the following:
 - i. Twelve (12) feet in vertical depth at its deepest point; or
 - ii. One (1) cubic yard per each eleven (11) square feet of work area;
 - b. The excavation is made within an area described as the upper 25% of the vertical distance between the top of slope and toe of slope with a slope not greater than four (4) feet horizontal to one (1) foot vertical (4:1), or in the lower 75% of the vertical distance between the top of slope and toe of slope with a slope not greater than five (5) feet horizontal to one (1) foot vertical (5:1).
 - 2. The subsequent use of excavated material as fill on the same site, provided the

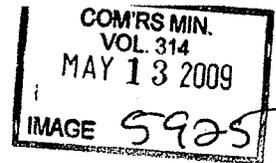


fill, excluding building backfill material, does not exceed:

- a. Five (5) feet in vertical depth at its deepest point; or one (1) cubic yard per each eleven (11) square feet of work area;
 - b. The fill is placed on site area with a slope not greater than five (5) feet horizontal to one (1) foot vertical (5:1) and
 - c. The fill does not result in a finished slope steeper than three (3) feet horizontal to one (1) foot vertical (3:1).
3. Any other excavation or fill:
- a. That does not exceed: five (5) feet in maximum vertical depth; or one (1) cubic yard per each fourteen (14) square feet of work area; and
 - b. Is made within an area with a slope not steeper than five (5) feet horizontal to one (1) foot vertical (5:1); and
 - c. Does not result in a finished slope steeper than four (4) feet horizontal to one (1) foot vertical (4:1); and
 - d. Does not necessitate any adjustment, relocation, addition or other modification to any existing storm sewer system.
- G. Excavating and filling operations subject to geotechnical monitoring shall be conducted under the direction of and monitored by the Owner and a Professional Engineer qualified in geotechnical engineering employed by the Owner. The Professional Engineer shall certify to the **Enforcing Official**, the completion of the requirements of the geotechnical report/plan and Permit. The Professional Engineer shall certify the existing, proposed, and long term stability of all cuts and fills subject to geotechnical monitoring to the **Enforcing Official**. Waivers or modifications shall be made pursuant to Section 311 (H) of these Earthwork Regulations

316 INSPECTION AND MAINTENANCE OF NON-SEDIMENT POLLUTION BMPs

- A. The Construction-Phase Inspection and Maintenance Plan included in the Improvement Plans shall address all requirements of this Section.
- B. All Non-Sediment Pollution BMPs shall be inspected and maintained to ensure continued performance of their intended function. All Non-Sediment Pollution BMPs shall be maintained in a functional condition until all construction activities served by these BMPs are complete and Post-Construction BMPs are operational. The Non-Sediment Pollution BMPs shall be designed to minimize maintenance requirements. The Improvement Plans shall provide a description of maintenance procedures needed for each measure and practice to ensure their continued performance.
- C. If the inspection reveals that a BMP is in need of repair or maintenance, it must be repaired or maintained within three (3) days of the inspection that indicates the maintenance or repair is needed.



- D. At a minimum, all Non-Sediment Pollution BMPs on the site shall be inspected by the Owner's **Qualified Inspection Personnel** at least once every seven calendar days and within 24 hours after any storm event greater than one-half inch of rain per 24 hour period and a record be made of the inspection. The Owner shall assign **Qualified Inspection Personnel** to conduct these inspections to ensure that the Non-Sediment Pollution BMPs are functional, to evaluate whether the Non-Sediment Pollution BMPs are adequate and properly implemented or constructed in accordance with the approved Improvement Plan, and to determine whether other measures or practices are required. The **Qualified Inspection Personnel** shall record and report issues and deficiencies associated with the BMPs. A Professional Engineer must determine necessary changes to the location and position each Non-Sediment Pollution BMP.
- E. Disturbed areas and areas used for storage of materials that are exposed to precipitation shall be included in the inspections required under this Section for evidence of or the potential for pollutants entering the drainage system.
- F. Discharge locations shall be inspected to ascertain whether Non-Sediment Pollution BMPs are effective in minimizing degradation of the receiving water resources.
- G. Documentation of proper installation as per design or manufacture's specification needs to be recorded as Non-Sediment Pollution BMPs are constructed or installed.
- H. To record the results of inspections, the **Qualified Inspection Personnel** may use the **Enforcing Official's** Self Inspection Form and Log, Ohio EPA's form and log or develop their own. A copy of the inspection form and log that will be implemented shall be provided to the **Enforcing Official** with the Improvement Plans. The inspection reports shall be made available to the **Enforcing Official** and shall be kept on site. Each inspection report shall be signed and certified by the Owner.
- I. If the inspection reveals that a Non-Sediment Pollution BMP fails to perform its intended function and that another, more appropriate Non-Sediment Pollution BMPs is needed to be effective; the Professional Engineer shall amend the Improvement Plans to include the appropriate new Non-Sediment Pollution BMP. The new Non-Sediment Pollution BMPs shall be installed or implemented within ten (10) days of the inspection.
- J. If the inspection reveals that a Non-Sediment Pollution BMP has not been installed or implemented in accordance with the schedule contained in the approved plan, the Non-Sediment Pollution BMPs must be implemented within ten (10) days from the date of the inspection. If the inspection reveals that the planned Non-Sediment Pollution BMP is not needed, the inspection record must contain a statement of explanation as to why the Non-Sediment Pollution BMP is not needed.
- K. The Owner shall maintain the inspection records and logs for three (3) years following the completion of the project. The inspection records shall include the names(s) and qualifications of personnel making the inspection, date(s) of the inspection, statement whether the facility is in compliance with the Improvement Plans at the time of the inspection, any incidents of non-compliance and any observations that significantly impact the implementation of the Improvement Plans.



317 FEES

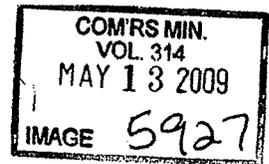
- A. All fees required to enforce these Earthwork Regulations shall be established by legislative action of the Board of County Commissioners for unincorporated portions of Hamilton County, or by the legislative body of the appropriate municipal jurisdiction. Fees may be charged for processing Earthwork permit applications; reviewing Concept Plans and Improvement Plans; inspecting sites before, during, or after construction; taking enforcement action; or responding to other requests pertinent to the project.

318 PERFORMANCE BOND

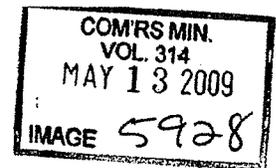
- A. An EP&SC Performance Bond ("Performance Bond") shall be posted to an agency of the controlling jurisdiction designated by the **Enforcing Official** for Earthwork that disturbs one (1) acre or more. The Performance Bond shall be obtained by the Owner prior to the recording of the Record Plat.
- B. The Performance Bond shall be posted for the benefit of the County and/or Local Jurisdiction, for the purpose of assuring that the work shall be undertaken and completed in accordance with the approved plans and specifications of the Earthwork Permit.
- C. The Performance Bond amount, as calculated by the **Enforcing Official**, shall be based on the cost associated with the performance of maintenance of sediment basins and traps. The Bond amount for maintenance of sediment basins and traps shall be calculated at a rate of thirty-five dollars (\$35) per cubic yard based on the designed volume of each sediment basin or trap. The Enforcing Official may increase the Bond amount for sediment basin and trap maintenance when access to said practices will require additional work to perform the maintenance due to the location of said control.
- D. The **Enforcing Official** shall release the Performance Bond for sediment basin and trap maintenance upon acceptance of the Record Plat.
- E. In the event the Owner is also subject to a Building Permit, all requirements of the site plans and Earthworks permit shall be certified as complete by the Owner's Professional Engineer prior to the issuance of a permanent Certificate of Occupancy. The bonding of uncompleted work in this situation will not be permitted.
- F. Where Earthwork is left abandoned and/or a hazard is created, and no bond is in effect, the **Enforcing Official** may seek to mitigate the situation as provided in Section 319 ENFORCEMENT.

319 ENFORCEMENT

- A. It shall be unlawful for any Owner to fail to comply with any of the requirements of these Earthwork Regulations or any lawful order issued by the **Enforcing Official** pursuant thereto, including the failure to pay any authorized civil penalty lawfully issued hereunder.
- B. The **Enforcing Official** shall have all such rights and powers in interpreting and enforcing these Earthwork Regulations as may be accorded to such officials by law, rule, or regulation.



- C. The **Enforcing Official** bearing proper credentials and identification shall be permitted at all reasonable times to enter upon all properties to inspect, survey, test, photograph or videotape an Earthwork to determine compliance with these Earthwork Regulations. The **Enforcing Official** shall be granted access without unreasonable delay. Any obstruction preventing safe and easy access to the Earthwork shall be promptly removed or cleared upon request of the **Enforcing Official**. The cost of removing or clearing obstructions shall be the responsibility of the Owner. The **Enforcing Official** shall be entitled to examine and copy any records required to be prepared and maintained under these Earthwork Regulations or applicable permit.
- D. Whenever the **Enforcing Official** determines that any Earthwork has become a hazard and/or causes or contributes to a violation of any provision of these Earthwork Regulations, the **Enforcing Official** may issue a Notice Of Violation (NOV) directing the Owner to correct or alleviate the hazard and/or water quality degradation within thirty (30) days and/or issue a Notice of Intent to Revoke Performance Bond.
- E. If after a period of thirty (30) days after the original NOV, the violation continues the **Enforcing Official** shall issue a second Notice of Violation (NOV) directing the owner to correct or alleviate the hazard and/or water quality degradation within fifteen (15) days.
- F. If after a period of fifteen (15) days after the second NOV, the violation continues the **Enforcing Official** shall proceed with enforcement as provided under these Earthwork Regulations, including (1) issuing a stop work order under Paragraph E below and (2) proceeding to revoke the Performance Bond according to Section 319(H) of these Earthwork Regulations. Earthwork stopped, abandoned by the Owner, or otherwise left un-stabilized for a period of fifteen (15) consecutive days after issuance of the second NOV for a particular infraction shall cause the Earthwork Permit to expire and become invalid. The Owner shall complete all necessary precautions, as determined by the **Enforcing Official**, which in his sole judgment are required to ensure that the stopped, abandoned or unstable Earthwork does not become a hazard or nuisance to human health or the environment.
- G. In addition to any other enforcement authorized herein, the **Enforcing Official** may issue a Stop Work Order whenever:
1. Earthwork requiring an Earthwork Permit, local permit, state permits, or federal Permit necessary for EP&SC, earth movement, clearing, or cut and fill activity is being done without the required permit;
 2. Any Earthwork is being performed or has been performed that is not in compliance with applicable Flood Plain Regulations. The **Enforcing Official** may order that all fill placed within the regulated flood plain without approval be removed from the flood plain until all applicable Approvals for the fill have been obtained.
 3. Permitted Earthwork is being done contrary to the terms and conditions of the permit and the **Enforcing Official** has issued two NOVs (30 and 15 days respectively) and the **Enforcing Official** has obtained written approval from the Hamilton County Prosecuting Attorney or prosecuting attorney for the local member Local Jurisdiction whichever is applicable if, in the opinion of the prosecuting attorney, the violation is egregious;



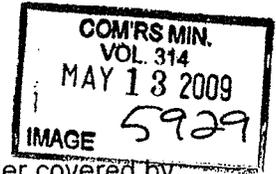
4. Earthwork is causing or threatens to cause a hazardous condition or imminent and substantial degradation of a water resource and the **Enforcing Official** has issued two Notice of Violations (30 and 15 days respectively) and has obtained written approval from the Hamilton County Prosecuting Attorney or prosecuting attorney for the member Local Jurisdiction whichever is applicable if, in the opinion of the prosecuting attorney, the violation is egregious;
- H. A Stop Work Order shall remain in effect until (1) all required local, state, and or federal permits are issued; (2) the hazardous condition and/or water quality degradation is remedied to the satisfaction of the **Enforcing Official**; or (3) the violative work is remedied and performed in full accordance with the Permit and these Earthwork Regulations.
- I. Notwithstanding these Earthwork Regulations, if the **Enforcing Official** finds that any Earthwork poses an imminent and substantial endangerment to any property, or an imminent and substantial degradation of a water resource, the **Enforcing Official** may seek to secure such relief as may be necessary and appropriate to abate such danger or threat, to ensure compliance with these Earthwork Regulations and that public health and the environment is protected.
- J. If a proceeding to revoke a Performance Bond is initiated under Section 319(F) of these Earthwork Regulations, the **Enforcing Official** shall give the Owner five (5) business days following issuance of a stop work order to resolve the violation and the **Enforcing Official** shall inform the Owner that the Performance Bond shall thereafter be revoked in the event of continuing noncompliance.. The **Enforcing Official** shall meet with the Owner at the conclusion of the five (5) day period, and if the violations still exist at that time, the **Enforcing Official** shall proceed with the liquidation of the Performance Bond and undertake with the proceeds to complete the work to resolve the violation.

320 APPEALS

- A. Any Owner aggrieved by a decision of the **Enforcing Official** in the denial of an Earthwork Permit, a condition of an issued Earthwork Permit, a NOV, or other action of the **Enforcing Official** shall have fifteen (15) calendar days from the date of receipt of such written decision to file a written appeal. Appeals for projects within the unincorporated townships are required to be filed with the Hamilton County Board of Earthwork Appeals in accordance with Section 307.56 of the ORC and the rules of the Board of Earthwork Appeals. Appeals for projects in local member municipal jurisdictions shall be filed in accordance with the local municipality's appeal procedures and rules adopted by the municipality. The municipality appeals procedures shall afford the same basic protections as provided in the standards and rules of the Hamilton County Board of Earthwork Appeals.
- B. Any aggrieved Owner shall set forth in a written notice of appeal the interpretation, ruling or order appealed from, and the provisions of these Earthwork Regulations and related laws and ordinances involved and shall state wherein the interpretation, ruling or order is unlawful or erroneous.

321 PENALTY

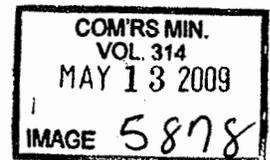
- A. Any person, whether Owner, agent of the Owner, or person having control of any property, who violates any of the Earthwork provisions of these Earthwork Regulations,



or fails to conform to any of the provisions thereof, or fails to obey any order covered by this Permit and issued by the **Enforcing Official**, shall be subject to a such civil or criminal penalties as may be provided under applicable law, including a civil fine of not less than one hundred dollars (\$100) nor more than five hundred dollars (\$500) in accordance Section 307.79 of the ORC. Each day of violation of these Earthwork Regulations or an order issued under the Earthwork Regulations shall be considered a separate violation subject to a civil fine.

322 REPORTING TO THE HCSWD

- A. The **Enforcing Official** shall provide the HCSWD with periodic reports of their activities to enforce these Earthwork Regulations in a format provided by the HCSWD and of sufficient content to support the Local Jurisdiction's compliance with the pertinent terms of the HCSWD's permit with Ohio EPA.
- B. Compliance with the permit enforcement and reporting requirements under this Section are the responsibility of the member Local Jurisdiction.



**RULES AND REGULATIONS
OF THE
THE HAMILTON COUNTY STORM WATER DISTRICT
ISSUED BY THE
BOARD OF COUNTY COMMISSIONERS
HAMILTON COUNTY, OHIO**

ARTICLE I

DEFINITIONS

For the purposes of the Rules and Regulations of the Hamilton County Storm Water District ("HCSWD"), the following acronyms are used:

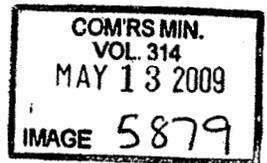
BMP: Best Management Practice
CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act
CFR: Code of Federal Regulations
CO: Certificate of Occupancy
EP&SC: Erosion Prevention and Sediment Control
EPA: Environmental Protection Agency
FEMA: Federal Emergency Management Agency
HCDPW: Hamilton County Department of Public Works
HCGHD: Hamilton County General Health District
HCSWCD: Hamilton County Soil and Water Conservation District
HCSWD: Hamilton County Storm Water District
HSTS: Home Sewage Treatment System
I&M: Inspection and Maintenance
MS4: Municipal Separate Storm Sewer System
MSD: Metropolitan Sewer District of Greater Cincinnati
NOV: Notice of Violation
NPDES: National Pollutant Discharge Elimination System
OAC: Ohio Administrative Code
ORC: Ohio Revised Code
OUPS: Ohio Utilities Protection Service
SERC: State Emergency Response Commission
SWMP: Storm Water Management Plan
TCO: Temporary Certification of Occupancy
USDA: United States Department of Agriculture
USGS: United States Geological Survey
WQV: Water Quality Volume

For the purposes of these Rules and Regulations, the following shall mean:

Acre: A measurement of area equaling 43,560 square feet.

Adjacent: Lying near, close to, or contiguous; neighboring. Adjacent implies that the two objects are not widely separated.

As-Built: A record of the physical features of the improvements as they were actually constructed in the field.



Best Management Practices (BMPs): Schedules of activities, prohibitions of practices, maintenance procedures and other management practices (both structural and non-structural) to prevent or reduce the pollution of surface waters of the State. BMPs also include treatment requirements, operating procedures and practices to control runoff, spillage or leaks, sludge or waste disposal or drainage from raw material storage.

Channel: The area between definite banks of a natural or artificial watercourse which confine and conduct continuously or periodically flowing water (ORC 6105.01).

Check Dam: A small, temporary or permanent dam constructed across a drainage ditch or swale to lower the speed of concentrated flows for a certain design range of storm events.

Clean Hard Fill: Construction and demolition debris which consists only of reinforced or non-reinforced concrete, asphalt concrete, brick, block, tile, and/or stone which can be reutilized as construction material. Brick in clean hard fill includes but is not limited to refractory brick and mortar. Clean hard fill does not include materials contaminated with hazardous wastes, solid wastes, or infectious wastes (OAC 3745-400-01-E).

Clean Water Act: Federally enacted legislation formally referred to as the Federal Water Pollution Control Act or the Federal Water Pollution Control Act Amendments of 1972. Pub. L. 92-500, as amended Pub. L. 95-217, Pub. L. 95-576, Pub. L. 96-483, Pub. L. 97-117, and Pub. L. 100-4, 33 U.S.C. 1251 et. seq.

Clearing: The process of removing vegetation, thereby exposing the soil in such a manner that erosion and off-site sedimentation will be accelerated.

Common Plan of Development: A contiguous area where multiple separate and distinct construction activities may be taking place at different times on different schedules under one plan.

Compaction: The densification of earthen materials by mechanical or other approved means.

Concept Plan: A drawing of the major features of a proposed Earthwork for the purpose of study and which, if approved, permits proceeding with the preparation of detailed Improvement Plans

Contour Line: A line on a map connecting the points on a land surface that have the same elevation.

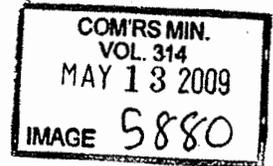
Construction Entrance: A point of entrance or exit to a construction site that is stabilized to reduce the tracking of mud and dirt onto public roads by construction vehicles.

Continuing Operation:

1. A construction/development project executed progressively from start to finish without interruption; or
2. A series of small isolated Earthwork done concurrently or intermittently involving the movement of earthen material within the same site or contiguous parcels of land.

Culvert: A structure that conveys water or forms a passageway through an embankment.

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Cut: An excavation that lowers an existing elevation.

Damaged Or Diseased Trees: Trees that have a split trunk, broken tops, heart rot, insect or fungus problems that will lead to imminent death, undercut root systems that put the tree in imminent danger of falling, leaning as a result of root failure that puts the tree in imminent danger of falling, or any other condition that puts the tree in imminent danger of being uprooted or falling into or along a stream or onto a structure.

Degradation of a Water Resource: A condition that negatively affects the physical, biological, and/or chemical integrity of the water resource.

Detention Facility: A permanent, man-made structure used for the temporary storage of storm water runoff.

Discharge: Any storm water or non-storm water flow entering the MS4 or a water resource.

Discharger: Any person that allows or causes to allow a storm water or non-storm water discharge to enter the MS4 or a water resource.

Disturbed Area: An area of land subject to any Earthwork.

Ditch: A manmade excavation utilized for the purpose of surface water conveyance or irrigation.

Drainage: Flows from rainfall or otherwise produced by, or resulting from, the elements, storm water discharges and releases or migrations of waters from properties, accumulations, flows, and overflows of water, including accelerated flows and runoffs, flooding and threats of flooding of properties and structures, and other surface and subsurface drainage (ORC 6117.01.A.2).

Earthwork: Operations involving the clearing, grubbing, excavating, filling, or grading of land.

Earthen Material: Soil sediment, rock, sand, gravel and organic material or residue or combination thereof associated with or attached to the soil.

Enforcing Official: An agency, individual, and/or their designated representative(s) authorized by the Board of County Commissioners of Hamilton County or the legislative body of a member Local Jurisdiction of the Hamilton County Storm Water District to lead enforcement of a specific article of these rules and regulations within the appointing jurisdiction.

Erosion: The deterioration of earthen materials, either surface or subsurface, by the actions of water, wind, snow, ice, and gravity or a combination thereof.

Excavation: Any mechanical act, by which earthen materials are removed, displaced or relocated, including the conditions resulting thereof.

Existing Terrain: The condition of the landscape, topography, or environment prior to any proposed Earthwork.

Exploratory Excavation: Temporary excavation for gathering of technical data, which is not made in connection with any permanent construction.



Extended Conveyance: A storm water management practice that replaces and/or enhances traditional open or closed storm drainage conduits by retarding flow, promoting percolation of runoff into the soil, and filtering pollutants during the storm water quality event.

Extended Detention: A storm water management practice that replaces and/or enhances traditional detention facilities by releasing the water quality volume over a duration of at least 24 to 48 hours, retarding flow and allowing pollutants to settle within the facility.

Farm Activity: The science, art and business of cultivating soils, producing crops and raising livestock.

Federal Emergency Management Agency (FEMA): The agency with overall responsibility for administering the National Flood Insurance Program.

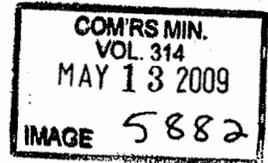
Fill: The deposit of naturally occurring earthen materials or other inert man made materials by mechanical means, including the conditions resulting from engineered or uncontrolled deposits exclusive of building backfill.

Filter Bag: A geotextile manufactured from woven, non-biodegradable polypropylene or polymer material sized to fit a dewatering pump discharge line, or a catch basin or drainage inlet for capture of sediment.

Filtration: A storm water management practice typically composed of a pretreatment unit and a filter bed that detains storm water, filters particulate pollutants, and releases the controlled storm water to a water resource.

Final Stabilization: The condition of an Earthwork where either:

1. All soil disturbing activities at the site are complete and a uniform perennial vegetative cover (e.g., evenly distributed, without large bare areas) with a density of at least 70 percent cover for the area has been established on all unpaved areas and areas not covered by permanent structures or equivalent stabilization measures (such as the use of landscape mulches, rip-rap, gabions or geotextiles) have been employed. In addition, all temporary erosion and sediment control practices are removed and disposed of and all trapped sediment is permanently stabilized to prevent further erosion; or
2. For individual lots in residential construction by either:
 - a. The homebuilder completing final stabilization as specified above, or
 - b. The homebuilder establishing temporary stabilization including perimeter controls for an individual lot prior to occupation of the home by the homeowner and informing the homeowner of the need for and benefits of, final stabilization. (Homeowners typically have an incentive to put in the landscaping functionally equivalent to final stabilization as quick as possible to keep mud out of their homes and off sidewalks and driveways.); or
3. For construction projects on land used for agricultural purposes (e.g., pipelines across crop or range land), final stabilization may be accomplished by returning the disturbed land to its pre-construction agricultural use. Areas disturbed that were previously used for agricultural activities, such as buffer strips immediately adjacent to surface waters



and which are not being returned to their pre-construction agricultural use, must meet the final stabilization criteria in (1) or (2) above.

Forebay: The portion of a storm water control facility, typically consisting of excavated pits or cast structures, designed to pre-treat incoming storm water runoff by slowing it and settling suspended solids, extending the useful life of the storm water control facility.

Freeboard: Distance between the peak design water elevation of a storm water control and the top of the sides of the control.

Grading: Modifying the topography of the surface of the land.

Grubbing: Removing vegetation from the soil by digging up roots and stumps.

Hamilton County Soil and Water Conservation District (HCSWCD): An entity organized under Chapter 1515 of the Ohio Revised Code referring to either the Hamilton County Soil and Water Conservation District Board or its designated employees.

Hardship: A condition in which application of the Rules and Regulations of the HCSWD deprives the Owner of a permitted use of the Owner's property.

Hazard (Earthwork Regulations): Any earth condition of considerable consequence to any property, or to public health and safety, which has been established through experience to be of certain or probable consequence, or which can be determined to be, or which is obviously a threat to property or public health and safety, including but not limited to conditions which cause inadequate drainage, erosion, sedimentation, sedimentation of ponds, excess sediment on public roads, disruption of the storm or sanitary sewer system, slope stability problems or imposition of unsafe loads on structures or slopes.

Hazardous Substance: Any substance defined by Section 101(14) of the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA), as amended.

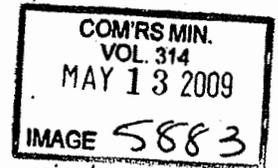
Household Sewage Treatment System (HSTS): Any sewage treatment system, or part of such a system, for a single-family, two-family, or three-family dwelling that receives sewage (OAC 3745-11-01).

Illicit Connection: Any man-made conveyance connecting an illicit discharge directly to a municipal separate storm sewer.

Illicit Discharge: Any discharge to a municipal separate storm sewer that is not entirely composed of storm water, as defined at 40 CFR 122.26(b)(2), except discharges authorized under an NPDES permit (other than the NPDES permit for discharges from the MS4) and discharges resulting from fire fighting activities.

Impervious Cover: Any physical surface that does not allow precipitation to directly, effectively absorb or infiltrate into the soil. This may include, but is not limited to, pavement or compacted gravel for roads, streets, parking lots, and driveways, rooftops, sidewalks and other areas not covered by vegetation.

Improvement Plans: Final construction drawings and specifications describing existing site conditions, proposed changes to the site, temporary storm water controls for the construction



phase of the project, and permanent storm water control facilities for the phase of a project. Improvement plans shall address all submittal requirements of the Rules and Regulations of the HCSWD, and as well as fully address the requirements of a storm water pollution prevention plan required under the Ohio EPA Construction General Permit.

Industrial Activity: Activities subject to NPDES Industrial Permits as defined in Chapter 40 of the Code of Federal Regulations, Section 122.26 (b) (14).

Infiltrator: A storm water management practice that does not discharge to a water resource when receiving runoff equivalent to the water quality volume, requiring collected runoff to either infiltrate into the groundwater and/or be consumed by evapotranspiration, thereby retaining storm water pollutants in the facility.

Inlet Protection: A sediment filter or an impounding area around or upstream of a storm drain, drop inlet, or curb inlet that temporarily ponds runoff before it enters the storm drain, allowing sediment to settle.

Instability: A state of disturbed slope equilibrium, identified through observation, measurement, analysis, or experience, which is of probable immediate or long term consequence.

Landslide: The rapid downward and outward movement and loss of stability of earthen material under the influence of gravity in which the movement of the earthen material occurs along an interior surface of sliding.

Local Jurisdiction: The City, County, Township, or Village that owns and operates an MS4 and has ultimate responsibility for compliance with an NPDES permit for storm water discharges from MS4s.

Lot: Any parcel of land occupied or intended for transfer of ownership or for building development, including the open spaces required by the Rules and Regulations of the Hamilton County Regional Planning Commission for Plats and Subdivisions of Land, and other rules and laws.

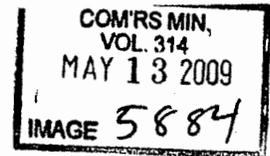
Matting: A natural or manmade material used to cover the soil surface to reduce erosion from rainfall impact, hold soil in place, absorb and hold moisture near the soil surface, and stabilize soils until vegetation is established.

Maximum Extent Practicable: The technology-based discharge standard for MS4s to reduce pollutants in storm water discharges that was established by CWA 402(p) and described at 40 CFR 122.34, as may be amended.

Monitoring: The performance of site inspections of Earthwork, construction activities, drainage systems, and/or storm water controls used to determine compliance with the Rules and Regulations of the HCSWD and any other applicable standards.

Mulching: Application of a mixture of straw, shredded wood fiber, or a hydraulic matrix with a stabilizing emulsion or tackifier to temporarily protect exposed soil from erosion by raindrop impact or wind.

Municipal Separate Storm Sewer System (MS4): A conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches,



man-made channels, or storm drains): (1) Owned and operated by the federal government, state, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to state or federal law) having jurisdiction over disposal of sewage, industrial wastes, storm water, or other wastes, including special districts under state law such as a sewer district, flood control district or drainage district, or similar entity or a designated and approved management agency under section 208 of the Clean Water Act (CWA) that discharges to waters of the State of Ohio; (2) Designed or used for collecting or conveying solely storm water; (3) Which is not a combined sewer; and (4) Which is not part of a publicly owned treatment works (POTW). [40 CFR 122.26(b)(8)].

National Pollutant Discharge Elimination System (NPDES) Permit: A permit issued by the Environmental Protection Agency (or by a State under authority delegated pursuant to 33 USC ' 1342(b)) that authorizes the discharge of pollutants to waters of the United States, whether the permit is applicable on an individual, group, or general area-wide basis.

Non-Storm Water Discharge: Any conveyance that is not composed entirely of storm water.

Off-Lot HSTS: A HSTS designed to treat home sewage on-site and discharge treated effluent off-lot.

Ohio Rapid Assessment Method: A multi-parameter qualitative index established by the Ohio Environmental Protection Agency to evaluate wetland quality and function.

On-Lot HSTS: A HSTS designed to treat home sewage on-lot with no discharge leaving the lot.

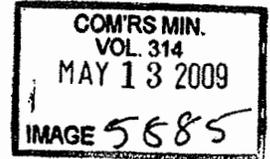
100-Year Floodplain: Any land susceptible to being inundated by water from a base flood, having a one percent chance of being equaled or exceeded in any given year. For the purposes of these regulations, the 100-year floodplain shall be defined by FEMA or in a hydrologic / hydraulic study accepted by the **Enforcing Official** and approved and regulated by the Local Jurisdiction.

Ordinary High Water Mark: That line on the shore or bank of a water resource established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas (33 CFR 328.3 (e)).

Outfall: Any outlet from an MS4 to a water resource, not including open conveyances connecting two MS4s, or pipes, tunnels or other conveyances that connect segments of the same stream or other surface waters of the State and are used to convey waters of the State.

Owner: The person or persons shown in the County Recorder's Office records as the title, deed, or certificate holder of the property, or any agent, or assigned of the title, deed, or certificate holder of record or any person in current control of the property.

Permanent Stabilization: The establishment of permanent vegetation, decorative landscape mulching, matting, sod, rip rap and landscaping techniques to provide permanent erosion control on areas where Earthwork is complete or where no further disturbance is expected for at least one year.



Person: Any individual, corporation, partnership, joint venture, agency, unincorporated association, Municipal Corporation, county agency, state agency, federal government agency, or any combination thereof.

Phase II Program: The Federal Water Pollution Control Act, as amended (33 U.S.C. 1251 et seq., 40 C.F.R. Parts 122.30 through 122.37, referred to as NPDES (National Pollutant Discharge Elimination System) Storm Water Phase II Permit Program and the Ohio Water Pollution Control Act (Ohio Revised Code Chapter 6111), and Ohio Administrative Code Chapter 3745-39, referred to as Phase II Storm Water Rules – Small Municipal Separate Storm Sewer Systems (MS4).

Pollution: An alteration of the quality of the waters of the state to a degree that affects such waters for beneficial use or facilities that serve such beneficial uses.

Pollutant: Sewage, industrial waste or other waste as defined by 40 CFR 122.22 and divisions (B) to (D) of section 6111.01 of the Ohio Revised Code (OAC 3745-1-02-B-68). For purposes of these HCSWD Rules and Regulations, a pollutant also includes eroded sediment and non-sediment materials generated by Earthwork or other construction activities.

Post-Construction: The conditions that exist following the completion of Earthwork in terms of topography, vegetation, land use, and the rate, volume, quality, or direction of storm water runoff.

Pre-Construction: The conditions that exist prior to the initiation of Earthwork in terms of topography, vegetation, land use, and the rate, volume, quality, or direction of storm water runoff.

Pre-Construction Meeting: Consultation conducted prior to the beginning of construction activity between all parties associated with the construction of the project including, but not limited to government agencies, contractors, and Owners to review agency requirements and plans as approved and submitted.

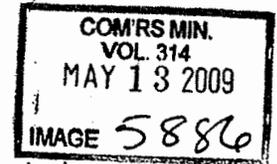
Pretreatment: A structure, feature, appurtenance, or pollution prevention practice, or combination thereof, either aboveground or belowground, that is used as a component of a storm water management system to remove a sufficient fraction and/or type of the incoming pollutants to facilitate maintenance and/or prevent failure of a downstream storm water control.

Professional Engineer: An individual licensed in the State of Ohio to practice in the field of engineering, pursuant to Ohio Revised Code Sections 4733.01 to 4733.23.

Professional Surveyor: An individual licensed in the State of Ohio to practice in the field of surveying, pursuant to Ohio Revised Code Sections 4733.01 to 4733.23.

Qualified Inspection Personnel: A person knowledgeable in the principles and practice of storm water facility construction and maintenance, erosion prevention, and sediment control, who possesses the skills to assess all conditions that could impact storm water quality and to assess the effectiveness of any best management practice, storm water control facility, sediment control measure, and erosion prevention measure selected to control the quality of storm water discharges.

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Record Plat: A drawing prepared by a Professional Surveyor that documents the physical features of the improvements to a site, including but not limited to parcel boundaries, easements, setbacks, and certifications.

Redevelopment: A change or improvement made to a portion of an existing property where impervious surfaces had previously existed.

Retrofit: Place a storm water control facility within an existing developed area that does not already drain into a facility providing an equivalent level of storm water control.

Revocation of Performance Bond: A process where an appropriate governmental entity seizes the principal of a Performance Bond or portions thereof.

Riprap: A permanent cover of rock used to stabilize streams, provide in-stream stability, and provide a stabilized outlet below concentrated flows.

Riparian Area: Transition area adjacent to a stream and composed of trees, shrubs, and surrounding vegetation which serve to stabilize erodible soil, reduce flood size flows, filter and settle out runoff pollutants, increase stream shading, and enhance wildlife habitat.

Runoff: Precipitation that moves over the land surface, as sheet flow, in open channels, or in a storm water conveyance system through the drainage area.

Sediment: Solid material both mineral and organic, which is in suspension, and is being transported or has been moved from its site of origin by water, wind, ice, snow, or gravity, and has come to rest on the earth's surface, at, above, or below sea level.

Sediment Basin: A temporary settling pond constructed to release surface water runoff at a controlled rate. It is designed to slowly release surface water runoff, detaining it long enough to allow the suspended solids and most of the sediment to settle out of the water.

Sediment Trap: A temporary settling pond having a simple outlet structure stabilized with geotextile and riprap.

Sedimentation: The process of accumulation of earth materials/sediment resulting from erosion.

Site: Any lot, parcel of land, or common plan of development.

Slope: The measurement of the inclination of the ground surface. Slope may be expressed as a ratio of horizontal distance to vertical distance (e.g., 4(H):1(V)) or as the quotient of vertical distance divided by horizontal distance expressed as a decimal or as a percentage.

Stability: A state of slope equilibrium, identified through observation, measurement, analysis or experience, which affords an adequate margin of safety against immediate or long term development of instability and/or movement.

Stabilization: The use of best management practices that reduce or prevent soil erosion by means of storm water runoff, trench dewatering, wind, ice, gravity, or a combination thereof.

Storm Water: Any surface flow, runoff, and drainage resulting from a precipitation event consisting entirely of water from any form of natural precipitation, including snow melt.



Stream: A surface water having a channel with a well-defined bed and bank, either natural or artificial, that confines and conducts continuously or periodically flowing water in such a way that creates an ordinary high-water mark.

Stream Bank: The side of a stream channel bounded by the stream bed and the ordinary high water mark of the stream.

Stream Bed: Bottom of a stream.

Stream Crossing: Any bridge, box, arch, culvert, truss, or other type of structure intended to convey people, animals, vehicles, or materials from one side of a stream to another. This does not include private, non-commercial footbridges or pole mounted aerial electric or telecommunication lines, nor does it include below grade utility lines.

Swale: An artificial conveyance that may contain contiguous areas of standing or flowing water only following a precipitation event, or is planted with or has stabilized vegetation suitable for soil stabilization, storm water treatment, and nutrient uptake, or is designed to take into account the soil erodibility, soil percolation, slope, slope length, and contributing area so as to prevent erosion and reduce the pollutant concentration of a given volume.

Temporary Stabilization: The establishment of temporary vegetation, mulching, geotextiles, sod, preservation of existing vegetation and other techniques capable of quickly establishing cover over Earthwork to provide erosion prevention between construction operations.

Top of Stream Bank: The ordinary high water mark of a stream, also known as the bankfull depth of the stream channel.

Topsoil: Surface and upper surface soils which are presumably darker colored; fertile soil materials ordinarily rich in organic matter or humus debris.

Total Suspended Solids: solids in water that are trapped by a filter (usually with a pore size of 0.45 micrometers).

Variance: A modification of the Rules and Regulations of the HCSWD that will not be contrary to the public interest and where, due to conditions peculiar to a specific property and not the result of the action of the applicant, a literal enforcement of the Rules and Regulations would result in unnecessary hardship to the applicant.

Water Quality Volume (WQ_v): The volume of storm water runoff from a contributing watershed that must be captured and treated prior to discharge from the developed site after construction is complete. WQ_v is based on the expected runoff generated by the mean storm precipitation volume from post-construction site conditions at which rapidly diminishing returns in the number of runoff events captured begins to occur.

Water Resource: Any public or private surface water body; including wetlands; the area within the ordinary high water level of lakes and ponds; as well as the area within the ordinary high water level of any stream (either natural or artificial) which confines and conducts continuous or intermittent flow.

Watershed: The total drainage area contributing storm water runoff to a single point.

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Wet Extended Detention Basin: A small artificial lake overlain with a storage volume equal to the lake volume and designed to remove pollutants from storm water.

Wetlands: Those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions, including swamps, marshes, bogs, and similar areas (40 CFR 232, as amended).

Work Area: A specifically indicated area of land on which Earthwork operations are under permit; may be a portion of a site or the entire site.