

CITY OF FRANKLIN, OHIO
ORDINANCE 2021-05

REPEALING AND REPLACING IN ITS ENTIRETY CHAPTER 1111.05 TITLED “STORMWATER AND DRAINAGE REQUIREMENTS AND STANDARDS” OF THE CODIFIED ORDINANCES OF THE CITY OF FRANKLIN, OHIO

WHEREAS, the City of Franklin must comply with the Clean Water Act and directives of the Ohio Environmental Protection Agency;

WHEREAS, as a result, the City’s regulations regarding Stormwater must be updated to remain in compliance with updates to the Clean Water Act;

WHEREAS, the City of Franklin has engaged since 2019 Warren County Soil and Water Conservation District to administer the requirements of the Clean Water Act and, more specifically, the requirements the City adheres to as a Municipal Separate Storm Sewer System;

NOW, THEREFORE, BE IT ORDAINED by the Council of the City of Franklin, Ohio, a majority of the members elected thereto concurring, that:

Section 1. Existing Chapter 1111.05, of the Codified Ordinances of the City of Franklin, Ohio, attached hereto as Exhibit A, is repealed in its entirety.

Section 2. The attached Exhibit B, Chapter 1111.05, titled “Stormwater and Drainage Requirements and Standards,” replaces the repealed Chapter 1111.05 and is enacted into law. Said Chapter shall be added to the Codified Ordinances of the City of Franklin under Part Eleven – Unified Development Ordinance, Chapter 1111 Development Requirements and Standards.

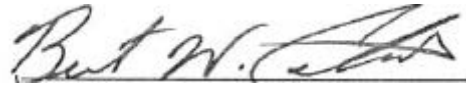
Section 3. It is found that all formal actions of this Council concerning and relating to the adoption of this Ordinance were adopted in an open meeting of this Council, and that all deliberations of this Council that resulted in this formal action were in meetings open to the public in compliance with all legal requirements, including Section 121.22 of the Ohio Revised Code, and the Rules of Council.

Section 4. This Ordinance shall become effective on June 2, 2021.

INTRODUCED: April 19, 2021

ADOPTED: May 3, 2021

ATTEST:  _____
Khristi Dunn, Clerk of Council

APPROVED:  _____
Brent Centers, Mayor

CERTIFICATE

I, the undersigned Clerk of Council for the Franklin City Council do hereby certify that the foregoing is a true and correct copy of Ordinance 2021-05 passed by that body on May 3, 2021.

Approved as to f



Lynnette Dinkler, Law Director



Kristi Dunn, Clerk of Council

EXHIBIT A

1111.05 Stormwater and Drainage Requirements and Standards

- (a) Intent: The intent of this Section is to protect the land and water resources of City of Franklin by establishing standards to achieve a level of soil erosion and stormwater control that will minimize and abate degradation of land and water resources and damage to public and private property resulting from earth disturbing activities. In addition, these regulations further intend to:
- (1) Assure that those involved in earth disturbing activities minimize both soil erosion and the volume and rate of stormwater runoff from their sites.
 - (2) Preserve to the extent practicable the natural drainage characteristics of the site and minimize the need to construct, repair, and replace enclosed, subsurface storm drain systems.
 - (3) Assure that stormwater controls are incorporated into site planning and design at the earliest possible stage and that all stormwater management practices are properly designed, constructed, and maintained.
 - (4) Prevent unnecessary stripping of vegetation and loss of soil and to promptly re-vegetate and stabilize the site following earth disturbing activities.
 - (5) Reduce the need for costly maintenance and repairs to roads, embankments, ditches, water resources, wetlands, and stormwater management practices.
 - (6) Encourage the construction of stormwater management practices that serve multiple purposes such as flood control, erosion control, fire protection, water quality protection, recreation, and habitat preservation.
 - (7) Preserve to the maximum extent practicable natural infiltration and groundwater recharge.
- (b) Scope: Any person or persons proposing to develop or redevelop land within the City of Franklin for any of the uses listed below shall design, develop, and submit a Site Development Plan as described in Section 1111.05(i). This plan will be evaluated to determine the potential for erosion, runoff, and sedimentation impacts that may result from such development activities and the need for submission of a Stormwater Management Plan (SMP) described in Section 1111.05(j), to minimize these impacts.
- (1) This section shall apply to both the development and redevelopment of land proposed for the following:
 - A. Residential, institutional, commercial, office, and industrial purposes, including subdivision and land development proposals for non-agricultural uses in rural areas.
 - B. Recreational facilities, non-agricultural water impoundments and waterway construction or improvement.
 - C. Public infrastructure uses, including transportation and utilities.
 - D. Any earth disturbing activity within critical and sensitive natural areas, including floodplains, highly erodible lands (HEL) and wetlands.
 - (2) This section does not apply to earth disturbing activities associated with agricultural activities. No earth disturbing activity subject to regulation under this section shall be undertaken for any land proposed for development or redevelopment for uses specified above without an approved Site Development Plan as required under Section 1111.05(i), and, if appropriate, a Stormwater Management Plan (SMP) as required under Section 1111.05(j). Final approval of a proposed development or redevelopment shall not be given unless:
 - A. A determination is made by the City Engineer or his authorized agent(s) based on submission of a Site Development Plan that the proposed earth disturbing activity will not cause accelerated runoff, erosion, and/or sediment impacts harmful to the quality of off site lands and waters, and
 - B. A SMP has been approved by the City Engineer after determining that the proposed earth disturbing activity will not cause accelerated runoff, erosion, and/or sediment impacts harmful to the quality of off site lands and waters.
 - (3) Any person or persons seeking approval for an earth disturbing activity listed below shall prepare a SMP as described in Section 1111.05(j):
 - A. Activities disturbing greater than or equal to one (1) acre, or less than one (1) acre, if part of a larger common plan of development or sale.
 - B. Activities that require the extension of public utilities (roadways, water mains, sanitary sewer mains, storm sewers, etc.).

~~C. Activities that will modify an existing and/or approved drainage way, drainage structure,~~

- ~~_____ and/or drainage easement.~~
- ~~D. _____ Activities that will channel, straighten, and/or modify a watercourse within the identified 100-year floodplain (studied and unstudied).~~
- (4) ~~Any person or persons seeking approval to construct a structure shall be exempted from having to prepare a Site Development Plan and a SMP provided they submit a written request for exemption to the City Engineer and said request meets all of the following:~~
 - ~~A. _____ Construction takes place on one parcel.~~
 - ~~B. _____ The earth disturbing activity does not affect more than ten thousand square feet (10,000 sq. ft.) of the development site at one time.~~
 - ~~C. _____ Is not located within one hundred feet (100') of a sensitive natural area.~~
 - ~~D. _____ Earth disturbing activities will not modify the general existing site drainage pattern(s), drainage structure, drainage tiles, drainage easements, etc.~~
 - ~~E. _____ One or both of the following:~~
 - ~~(i) _____ Specifications are obtained and followed for controlling potential off site stormwater and erosion impacts from small lot building sites set forth by the City and/or its authorized agent(s).~~
 - ~~(ii) _____ The parcel is part of an overall development plan which has received approval of a SMP and the builder certifies that they will comply with said Plan.~~
 - ~~F. _____ The request for an exemption shall be in writing and shall include sufficient detail to determine that granting an exemption will not be detrimental to abutting properties or to the drainage system.~~
 - ~~G. _____ Exemption under this Section does not exempt any person or persons from other provisions of this Section or liability from their activities.~~
- (e) ~~Performance Standards:~~
 - (1) ~~**All Erosion and Sediment Kept on Site:** Erosion and sedimentation caused by accelerated wind or stormwater runoff over the site due to earth disturbing activities shall be stabilized and confined to within the boundaries of the development site.~~
 - (2) ~~**Discharge of Untreated Stormwater:** To the maximum extent practicable the site shall not discharge untreated stormwater directly into a receiving body of water.~~
 - (3) ~~**Structural and Nonstructural Best Management Practices:**~~
 - ~~A. _____ Nonstructural stormwater management practices shall be used to the maximum extent practicable. Such practices may include, but not be limited to, preserving riparian areas, preserving existing vegetation and vegetative buffer strips, phasing of construction, and designation of tree preservation areas.~~
 - ~~B. _____ Nonstructural and structural stormwater management practices shall be designed in accordance with requirements and standards specified in this section and/or by the authorized agent(s).~~
 - ~~C. _____ Structural and nonstructural stormwater management practices shall be placed in easements, if necessary, and recorded on the property deeds on which they are located and shall remain unaltered unless first approved by the City Engineer.~~
 - ~~D. _____ Post construction BMPs, based on the Ohio EPA's *Construction Stormwater General Permit* and the Ohio DNR's *Rainwater and Land Development Manual* are to be provided when applicable.~~
 - (4) ~~**Stream and Wetland Riparian Buffers:** The site owner and/or applicant shall leave an undisturbed riparian buffer on both sides of and/or surrounding water resources, except for crossings and other riparian area and wetland impacts approved by the City Engineer or other authorized agent. Buffer width will be determined on a case by case basis using criteria such as floodplain, topography, vegetative cover, canopy cover, and soil types, etc.~~
 - (5) ~~**Channel Protection:** To protect stream channels from degradation a specific channel protection criteria shall be provided as prescribed in the latest edition of the Ohio DNR's *Rainwater and Land Development Manual*.~~

- (6) **Temporary Stabilization of Disturbed Areas and Soil Stockpiles:** A temporary vegetative cover shall be established on disturbed areas as specified in **Table 1**, below.
- A. Application practices include vegetative establishment, mulching, and the early application of gravel base on areas to be paved. Soil stabilization measures should be appropriate for the time of year, site conditions and estimated time of use.
 - B. Topsoil removed shall be stored on site and shall be stabilized with quick growing plants or other means, so that it is protected from wind and water erosion. Topsoil shall be maintained in a usable condition for sustaining vegetation and reused on the site.
- (7) **Permanent Stabilization:** A permanent vegetative cover shall be established on disturbed areas as specified in **Table 2**, below. Permanent vegetation shall not be considered established until a ground cover is achieved which is mature enough to control soil erosion and will survive severe weather conditions.
- (8) **Cut and Fill Slopes:** Cut and fill slopes shall be designed, constructed and stabilized in a manner which will minimize erosion. Consideration should be given to the length and steepness of the slope, the soil type, upslope drainage area, groundwater conditions and other applicable factors. If after final grading excessive erosion takes place, additional slope stabilizing measures by the owner, developer or builder will be required until the problem is corrected. The following guidelines are provided to aid in developing an adequate design.
- A. Roughened soil surfaces are generally preferred to smooth surfaces on slopes.
 - B. Diversions should be constructed at the top of long steep slopes which have significant drainage areas above the slope. Diversions or terraces may also be used to reduce slope length.
 - C. Concentrated stormwater should not be allowed to flow down cut or fill slopes unless contained within an adequate channel, flume or slope drain structure, with materials resistant to erosion.
 - D. Wherever a slope face crosses a water seepage plane which endangers the stability of the slope, adequate drainage or other protection should be provided.
- (9) **Protection of Adjacent Properties/Public Rights of Way:** Properties, public rights of way, and thoroughfares adjacent to the site of an earth disturbing activity shall be protected from sediment deposition. This may be accomplished by preserving a well vegetated buffer at the perimeter of the site, by installing perimeter controls such as sediment barriers, filters, dikes, sediment basins, or by a combination of such measures.
- (10) **Sediment Control Structures:** Sediment control structures shall be used to control erosion and trap sediment on a site. Such structures may include, but are not limited to, silt fences, storm drain inlet protection, sediment basins and diversions or channels which direct runoff to a sediment basin. All sediment control practices must be capable of ponding and/or filtering runoff in order to be considered functional. Sediment control structures shall be constructed as a first step in grading and be made functional before upslope earth disturbing activities take place. Earthen structures such as dams, dikes, and diversions shall be seeded and mulched as soon as the installation is complete. Sediment control structures shall be functional throughout the course of earth disturbing activity and until the site is stabilized with permanent vegetation. Sheet flow runoff from the site shall be intercepted by silt fence or diversions. Silt fence shall be placed on a level contour and shall be capable of temporarily ponding runoff. The relationship between the maximum drainage areas to silt fence for a particular slope range is shown in **Table 3**, below. Storm water diversion practices shall be used to keep runoff away from disturbed areas and steep slopes. Such devices, which include swales, dikes or berms, may receive storm water runoff from areas up to ten (10) acres. Whenever stormwater detention is required the stormwater runoff from the site shall pass through a sediment basin or other suitable sediment trapping facility before discharge to a receiving water body. The authorized agent(s) may require sediment basins or traps for smaller disturbed areas where deemed necessary.
- (11) **Stabilization of Waterways and Outlets:** All on-site stormwater conveyance channels shall be designed and constructed to withstand the expected velocity of flow without erosion. Methods adequate to prevent erosion shall also be provided at the outlets of all pipes and paved channels.
- (12) **Storm Sewer Inlet Protection:** All storm sewer inlets shall be protected so that sediment laden water will not enter the conveyance system without first being filtered or otherwise treated to remove sediment.

- (13) **Working in or Crossing Watercourses:** All activities shall be kept out of watercourses to the extent possible. Where in-channel work is necessary, precautions shall be taken to stabilize the work area during construction to minimize erosion. The channel (including bed and banks) shall be restored to its original cross-section and all disturbed area stabilized immediately after in-channel work is completed. Where a watercourse will be crossed regularly during construction, a temporary stream crossing shall be provided, used for the shortest period practical, removed following site construction, and restored as described in this section.
- (14) **Maintenance and Removal of Temporary Measures:** All temporary erosion and sediment control practices shall be maintained and repaired to assure continued performance. All temporary erosion and sediment control measures shall be removed within thirty (30) days after final site stabilization is achieved or after the temporary measures are no longer needed. Trapped sediment and other disturbed soil areas resulting from the removal of temporary measures shall have the final grade re-established and be permanently stabilized to prevent further erosion and sedimentation.
- (15) **Control of Construction Site Debris and Wastes:** All owners, applicants, contractors and developers shall control wastes such as discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste on construction sites and shall keep streets and gutters clear of all sediment and debris from the site.
- (16) **Use, Safety, and Maintenance of Stormwater Practices:** Stormwater management practices shall be designed for the ultimate use of the site and function safely and with minimal maintenance. If an inspection reveals that a control practice is in need of repair or maintenance, with the exception of a sediment settling pond, it must be repaired or maintained within three days of the inspection. Sediment settling ponds must be repaired or maintained within ten (10) days of the inspection.
- (17) **Inspection of Stormwater Controls:** All on-site control practices shall be periodically inspected to ensure proper function and to identify failures. On- and off-site discharge locations shall be inspected to ascertain whether erosion and sediment control measures are effective in preventing significant impacts to the receiving waters. Detailed records of inspections shall be maintained for three (3) years following the final stabilization of the site.
- (18) **Accessibility and Easements:** All permanent stormwater management measures shall have easements sufficient to cover the facility, if necessary, and to provide access for inspection and maintenance.
- (19) **Status of Standards:** The standards identified in this Section are general guidelines. Each application shall be reviewed on a case by case basis and some may require additional and more stringent requirements, while others may have individual requirements waived or not waived by the City Engineer or other authorized agent.

TABLE 1: Temporary Stabilization

| Area Requiring Temporary Stabilization | Time Frame to Apply Erosion Controls |
|---|---|
| Any disturbed area not at final grade. | Within 2 days of the most recent disturbance if that area will remain idle for more than 21 days. |
| For all construction activities, any disturbed area, including soil stockpiles that will be dormant for more than 21 days but less than one year. | Within 7 days of the most recent disturbance within the area. |
| Disturbed areas that will be idle over winter. | Prior to onset of winter weather. |

TABLE 2: Permanent Stabilization

| Area Requiring Permanent Stabilization | Time Frame to Apply Erosion Controls |
|--|--|
| Any area that will lie dormant for 6 months or more. | Within 7 days of the most recent disturbance. |
| Any area at final grade. | Immediately after reaching final grade within that area. |

TABLE 3: Maximum Drainage Area to Silt Fence

| Maximum Drainage Area (In Acres) To 100 Linear Feet of Silt Fence | Range of Slope for a Particular Drainage Area (Percent) |
|---|---|
| 0.5 | <2% |
| 0.25 | ≥ 2% but < 20% |
| 0.125 | ≥ 20% but < 50% |

(d) Construction Standards:(1) Storm Sewers:

- A. Size of Sewer. The size of the sewer shall be determined on the basis of the hydraulic gradient to provide adequate capacity for the computed run off, using $n = 0.015$ for vitrified, concrete pipe, bituminous paved corrugated metal, and brick sewers; and $n = 0.013$ for monolithic concrete sewers. In no case shall the size be less than twelve inches (12") in diameter.
- B. Depth. Minimum depth for storm sewers shall be planned to provide clearance for all utilities and to permit inlet leads to be laid on not less than two percent (2%) slope, with the invert of the inlet pipe at the manhole, no lower than the top of the bench wall.
- C. Minimum and Maximum Velocities. Velocities in storm sewer pipe, when flowing full at average peak flows, shall not be less than two and one half feet (2.5') per second nor more than twelve feet (12') per second. For velocities greater than twelve feet (12') per second, special provisions shall be made to protect the sewer pipe against erosion and against displacement by shock or for checking the flow velocity.
- D. Pipe Gradients. The sewer pipe shall be laid on such gradients so that the flow full velocities shall be kept within the foregoing stated minimum and maximum. The pipe sizes should be so selected as to avoid large differences in velocities between consecutive reaches.

(2) Manholes: Manholes shall be placed at:

- A. All sewer intersections and termini;
- B. All changes in sewer size, alignment and slope;
- C. All points where inlets are to be connected; and
- D. At intermediate intervals, as required for maintenance, but not to exceed four hundred feet (400').

(3) Catch Basins/Inlets:

- A. Capacity. The capacity of the inlet should not be less than the quantity of flow tributary to the inlet. Inlets at low points or grade pockets should have extra capacity as a safeguard for flooding from flows in excess of design flows. Special inlets may be required for streets with steep gradients to provide the extra capacity such situations require.
- B. Depth. The desirable minimum depth of a terminal inlet shall be three feet (3') from the inlet top to the invert of the outlet pipe. Any inlets having a depth in excess of five feet (5') shall be provided with manhole type steps. Wing wall and ditch type inlets shall be used where required to drain storm water from watercourses and drainage channels.

C. ~~Location.~~ The inlets shall be so located that they pick up no more than 5.0 cfs, and this only when street grades do not exceed six percent (6%) on either side of the inlet, and when the maximum concentration of water on each side of the inlet does not exceed 2.5 cfs. Inlets shall be located upstream of all sidewalks at street intersections, crosswalks, driveways and roadways, in all pockets in streets, where a street grade flattens, and at intervals not greater than two hundred fifty feet (250') in gutters.

(4) ~~House and Building Downspouts and Sump Lines:~~ When a collector line, catch basin, or inlet is available at the front or rear of the property, the downspouts and sump line shall connect directly to the collector line, catch basin or inlet. When a collector line, catch basin, or inlet is not available, the downspouts and sump line shall discharge to the front or rear of the lot in such a manner that the terminus of the downspout or sump line is setback a minimum of fifteen feet (15') from the property line.

(5) ~~Outfalls:~~

A. ~~When a storm sewer system outfalls into a floodplain of any major watercourse, the outfall must not be subject to frequent floods or backwaters. Standard wing walls with erosion control shall be constructed for all outfalls. Suitable baffles or other energy dissipaters shall be provided if determined to be necessary by the City Engineer.~~

B. ~~The invert of the first storm sewer appurtenance upstream of an outfall structure shall be above the twenty five (25) year flood elevation.~~

(6) ~~Specifications for Construction and Materials:~~ In all other respects, the materials and construction shall be as specified in Sections 603, 604, 706 and 707 of the State of Ohio Department of Transportation's *Construction and Material Specifications*.

(e) ~~Stormwater Drainage Channel and Watercourse Standards:~~

(1) ~~Stormwater Courses:~~

A. ~~The Stormwater drainage system shall be adequate to handle run-off from the completely developed site as shown on the submitted plans for storms of the return frequencies cited below:~~

(i) ~~For all residential, commercial and industrial areas with drainage areas less than one (1) square mile—ten (10) year frequency.~~

(ii) ~~For concentrated high value districts and for all areas providing drainage flows in excess of the capacity of an eighty four inch (84") diameter pipe—twenty (25) year frequency.~~

(iii) ~~For main flood control channels—fifty (50) year frequency.~~

~~The run-off computed from these storms shall be that from the development area and from all other tributary areas considered as fully developed in accordance with the Floodplain Overlay District and Zoning Map.~~

B. ~~To further protect buildings against flood damage, the lowest floor or opening elevation, whichever is lowest, shall be in accordance with the requirements of the flood damage prevention ordinance relative to the one hundred (100) year flood level.~~

(2) ~~Drainage Channel Capacities:~~

A. ~~Drainage channels shall be designed to carry the peak flows, as determined by the criteria in subsection (1), above, and using the "rational method," outlined in subsection (n). Channel cross section areas shall be determined by Mannings Formula, using the "n" valued listed in Table 4, below (taken from the latest edition of ODOT's *Location and Design Manual*).~~

B. ~~When open drainage channel will require pavement lining to attain their ultimate design capacity, the earth sections of the drainage channel and its structure shall be designed and constructed to the ultimate design required. Lining shall not be required in the initial construction. All lining improvements shall be completed before the development proceeds to two thirds (2/3) completion.~~

(3) ~~Swales:~~

A. ~~Turfed or paved swales shall be permitted on development areas of one half (1/2) acre or larger. They may be located at the rear of lots or along common property lines. The swale flow shall discharge into an open drainage channel or into an inlet manhole. Inlet manholes shall be provided with a paved apron and transition section to funnel the swale flow into the inlet. When the length of a swale in the rear of the lots exceeds the width of three (3) lots, an~~

inlet and storm sewer are to be provided to collect the flow, and for every third lot as necessary for the overall length of the swale.

- B. If an owner desires to eliminate a swale through his property, he shall first secure approval from the City Engineer along with a work permit for the installation of a yard drain of adequate capacity, with a sewer connection to a storm water sewer or drainage channel.
- (4) **Headwalls:** Standard headwalls and/or wing walls shall be constructed for all culvert inlets and outlets in swales and at the outfall of all storm sewers.

TABLE 4: Channel Cross Section Areas

| Type of Lining | Roughness Coefficient |
|-------------------------|-----------------------|
| BARE EARTH | 0.02 |
| SEEDED | 0.03 |
| SOD | 0.04 |
| JUTE MATERIAL | 0.04 |
| EXCELSIOR MATERIAL | 0.04 |
| CONCRETE | 0.15 |
| BITUMINOUS | 0.18 |
| GROUND RIP RAP | 0.02 |
| ROCK CHANNEL PROTECTION | 0.06 |

(f) **Retention Basins Standards and Specifications:**

- (1) **Definition and Scope:** These standards apply to permanent and temporary storm water run-off, sediment and debris basins formed by an embankment, an excavation or a combination of both. These standards are limited to the installation of basins on sites where:

- A. Failure of the structure will not result in the loss of life, damage to homes, or interruption of use and/or service of public utilities (Soil Conservation Service Hazard, Class A);
- B. Drainage area does not exceed two hundred (200) acres;
- C. The water surface at the crest of the emergency spillway does not exceed five (5) acres.

(2) **Classes of Basins Table 5:**

- A. Height shall be measured from the low point of the original ground along the centerline of dam to the top of dam for Class A, and to the crest of emergency spillway for Classes B and C.
- B. Class A basins are to be used only where site conditions are such that it is impractical to construct an emergency spillway in undisturbed ground, and shall only be used as temporary structures.

- (3) **Basin Depth:** Wet type basins shall have a normal depth of at least eight feet (8') to prevent stagnation.

(4) **Run-Off and Sediment Capacity:**

- A. The capacity of the run-off retention and sediment basin to the elevation of the pipe spillway crest shall be equal to the necessary volume to temporarily retain excessive storm water run-off and to permit a controlled rate of discharge as calculated by the methods in subsection (n), plus the volume of expected sediment yield from unprotected portions of the drainage

area for a period of two (2) years. **Table 6**, below, shows the average annual sediment volumes that can be expected from unprotected disturbed areas.

- B. — Where unanticipated storm events or other conditions produce a sediment yield which reduces the basin's capacity to sixty percent (60%) or less of the designed capacity, the basin shall be cleaned out to its original capacity.

(5) — Pipe Spillways:

- A. — *Spillway.* The pipe spillway will consist of a vertical pipe or box type riser joined to a conduit which will extend through the embankment and outlet beyond the downstream toe of the embankment. The minimum diameter of the conduit shall be eight (8) inches.
- B. — *Wet Basins.* The discharge conduit of wet type basins shall be equipped with a means of obtaining complete drawdown of the basin.
- C. — *Dry Type Basins.* In dry type basins with a maximum water depth of four feet (4') or less, the discharge conduit may be connected to an outlet structure other than a riser pipe, such as a modified catch basin, upon approval by the City Engineer.
- D. — *Crest Elevation.* When used in combination with emergency spillways, the crest elevation of the riser shall be the head required to prime the pipe conduit, or one foot (1') below the control section of the emergency spillway, whichever is the least elevation. If no emergency spillway is provided, the crest elevation shall be at least three feet (3') below the settled elevation of the top of the embankment.
- E. — *Perforated Riser.* Metal pipe risers shall be perforated with one and one half inch (1.5") diameter holes spaced vertically and horizontally around the pipe. The perforated portion of the riser shall extend down to the planned drawdown elevation and least one half (1/2) the height of the riser. Box type risers shall be ported or have some means for complete drainage down to the planned drawdown elevation within five (5) days.
- F. — *Anti Vortex Device.* An anti vortex device shall be installed at, and firmly attached to, the top of the riser. The anti vortex device should be a vertical steel plate installed parallel with the pipe barrel. The minimum horizontal dimension shall be the diameter of the riser plus twelve inches (12"), and the minimum vertical dimension shall be equal to the diameter of the pipe barrel.
- G. — *Base.* As a means of absorbing the energy of the falling water and of providing sufficient weight to prevent flotation of the riser, the riser shall be attached to a concrete base using a watertight connection.
- H. — *Trash Rack.* An approved trash rack shall be firmly attached to the top of the riser if the pipe spillway conveys twenty five percent (25%) or more of the peak rate of run off from the design storm.
- I. — *Anti Seep Collars.* Anti seep collars shall be installed around the pipe barrel for all installation where the height of the earth fill over the top of the pipe exceeds five feet (5'). The anti seep collars and their connections to the pipe barrel shall be watertight. The maximum space between collars shall be fourteen (14) times the minimum projection of the collar measured perpendicular to the pipe. Collars shall normally extend two feet (2') outside the pipe, except for eight inch (8") pipe collars, which may be only four feet (4') square. The first collar should be located ten to twelve feet (10' - 12') downstream from the riser.
- J. — *Outlet Protection.* The pipe barrel shall outlet approximately at natural ground elevation beyond the downstream toe of the embankment, and protection against scour shall be provided. Protective measures may include rock rip rap, paving, plunge pool, or the use of any other approved methods. Where a plunge pool is used, the pipe barrel must extend eight feet (8') downstream from the toe of the embankment.

(6) — Emergency Spillways:

- A. — Emergency spillways shall be constructed for all Class B and Class C sediment basins (see Table 5). The emergency spillway cross section will be trapezoidal with a minimum bottom width of four feet (4'). The steepest side slopes shall be 3:1.
- B. — For Class A sediment basins (see Table 5), the embankment will be used as an emergency spillway. The downstream slope of the embankment shall be at a ratio of five to one (5:1) or flatter, and the embankment must be immediately protected against erosion by sodding, rock rip rap, asphalt coating, or other approved methods.

- C. ~~Capacity~~. The maximum capacity of the emergency spillway shall be that required to accommodate the peak rate of flow into the retention basin, as calculated in subsection (n), "Storage Requirements," minus the allowable capacity of the pipe spillway, as computed in subsection (n), "Discharge from Retention Basin."
- D. ~~Velocities~~. The maximum allowable velocity of the flow in the discharge channel shall comply with the maximum velocities outlined in subsection (e)(2) (See Table 4).
- E. ~~Freeboard~~. Freeboard is the difference between the design flow elevation of the emergency spillway and the top of the settled embankment. The minimum freeboard for all Class B and Class C basins (see Table 5) with less than one hundred (100) acre drainage areas shall be one foot (1') above the water surface in the reservoir with the emergency spillway flowing at design depth, or three feet (3') above the emergency spillway crest elevation, whichever is greater. In addition, a minimum fifteen foot (15') allowance for settlement will be added to the settled embankment elevation.
- (7) **Slope Requirements:**
- A. Embankments (Earth fill):
- (i) For Class A basins (see Table 5), the minimum top width shall be four feet (4'); the upstream slope shall be no steeper than a ratio of three to one (3:1); and the downstream slope shall be no steeper than five to one (5:1).
- (ii) For Class B and Class C basins (see Table 5), the minimum top width shall be six feet (6'), and the side slopes shall be no steeper than a ratio of four to one (4:1).
- B. Excavations: The inside slope of all excavation basins shall be no greater than a ration of (4:1), with a minimum top width of four feet (4').
- (8) **Basin Bottoms:** The bottom of all retention basins shall be provided with a four foot (4') wide, paved channel from the basin inlet to the basin outlet.
- (9) **Erosion and Pollution Control:** Construction shall take place in such a manner to minimize soil erosion and water pollution, and appropriate measures shall be taken to protect the embankment, emergency spillway and other disturbed areas.
- (10) **Safety:** Fencing necessary to restrict accessibility for reasons of safety shall be installed. Warning signs of danger shall be installed as necessary.
- (11) **Use of Parking Lots for Retention.** The use of automobile parking lots for the retention of storm water is prohibited. Truck parking lots in industrial areas may be used for storm water retention, provided the maximum water depth is nine inches (9") or less.

TABLE 5: Basin Classes

| Class | Max. Drainage Area (Acres) | Max Height of Embankment | Emergency Spillway Required | Type |
|-------|----------------------------|--------------------------|-----------------------------|-----------|
| A | 20 | 5 | No | Temporary |
| B | 20 | 10 | Yes | Permanent |
| C | 200 | 20 | Yes | Permanent |

TABLE 6: Average Annual Sediment Volumes

| Disturbed Area (Acres) | Annual Sediment Volume (Ac. Ft.) | Disturbed Area (Acres) | Annual Sediment Volume (Ac. Ft.) |
|-------------------------------|---|-------------------------------|---|
| 1 | 1.0 | 40 | 2.5 |
| 2 | 1.1 | 60 | 2.8 |
| 4 | 1.3 | 80 | 3.1 |
| 6 | 1.5 | 100 | 3.3 |
| 8 | 1.6 | 125 | 3.5 |
| 10 | 1.7 | 150 | 3.7 |
| 20 | 2.1 | 175 | 3.9 |
| 30 | 2.3 | 200 | 4.0 |

(g) ~~Cuts, Fills and Hillside Development:~~

- (1) ~~Hazardous Conditions:~~** Whenever the City Engineer or other approving agent determines that any excavation, embankment, slope or other condition on a development site has become a hazard to life, endangers property or adversely affects the safety, use or stability of a public way or drainage channel, the owner or person in control of the property upon which such a condition exists, upon receipt of written notice shall, within the period specified, correct the condition so as to eliminate the hazard and be in conformance with the requirements of this Section.
- (2) ~~Hillside:~~** A hillside, as referred to herein, is defined as an area with an average slope equal to or greater than fifteen percent (15%). Only those areas meeting this definition shall be subject to the standards and criteria set forth herein as pertaining specifically to hillside or hillside areas.
- (3) ~~Determination of Average Slope:~~** The average slope of an area shall be measured over a horizontal distance of not less than one hundred feet (100') nor more than two hundred feet (200'); disregarding minor variations. All significant changes in grade shall be considered in determining such measurements.
- (4) ~~Cuts:~~** Unless otherwise recommended in the approved soil engineering and/or geology report, the slope of cut surfaces shall be no steeper than two (2) horizontal to one (1) vertical (2:1).
- (5) ~~Fills:~~**
 - A. ~~Unless otherwise recommended in the approved soil engineering report, fills shall conform to the provisions of this section. In the absence of an approved soil engineering report, these provisions may be waived by the City Engineer for minor fills not intended to support structures.~~**
 - B. ~~Slope.~~** The slope of fill surfaces shall be not steeper than three (3) horizontal to one (1) vertical (3:1).
 - C. ~~Fill Location.~~** Fill slopes shall not be constructed on natural slopes steeper than two (2) horizontal to one (1) vertical (2:1).
 - D. ~~Preparation of Ground.~~**
 - (i) ~~The ground surface shall be prepared to receive fill by removing vegetation, non-complying fill, topsoil and other unsuitable material, and by scarifying to provide a bond with new fill. Fill shall not be placed upon frozen material. Where receiving slopes are steeper than five feet to one foot (5':1') and the fill height is greater than five feet (5'), the fill shall be benched into sound bedrock or other competent material, as determined by the soils engineer. The bench under the toe of a fill on a slope steeper than five feet to one foot (5':1') shall be at least ten feet (10') wide.~~**

- (ii) — Where fill is to be placed over a cut, the bench under the toe of the fill shall be at least ten feet (10') wide, but the cut must be made before placing fill and must be approved by the soils engineer and engineering geologist as a suitable foundation for fill.

(ii) Unsuitable soil is soil which, in the opinion of the City Engineer, other approving agent, soil engineer or geologist is not competent to support other soil or fill, or is not competent to support structures, or is not competent to satisfactorily perform the other functions for which the soil is intended.

E. — *Fill Material.* Detrimental amounts of organic material shall not be permitted in fills. No frozen material shall be placed in fills. No rock or small irreducible material with a maximum dimension greater than twelve inches (12") shall be buried or placed in fills except as permitted by the City Engineer or other approving agent, and subject to the following conditions:

- (i) — The soils engineer properly devises a method of rock placement, continually inspects its placement, and approves the fill stability;
- (ii) — Potential rock disposal areas are delineated on the grading plan;
- (iii) — Rock sizes greater than twelve inches (12") in maximum dimension shall be ten or more feet (10') below grade, measured vertically; and
- (iv) — Rocks shall be placed so as to assure filling of all voids with fines.

F. — *Compaction.* All fills shall be compacted to a minimum of ninety percent (90%) of maximum density.

(6) — Setbacks:

A. — The setbacks and other restrictions specified in this section are minimum and may be increased by the City Engineer or other approving agent, or by the recommendation of a civil engineer, soils engineer or engineering geologist, if necessary for safety and stability or to prevent damage of adjacent properties from deposition or erosion, or to provide access for slope maintenance and drainage.

B. — *Setbacks from Property Lines.* The tops of cuts and toes of fill slopes shall be set back from the outer boundaries of the permit area, including slope right areas and easements, in accordance with **Figure No. 1** and **Table 7**.

(7) — Drainage and Terracing: Unless otherwise indicated on the approved grading plan, drainage facilities and terracing shall conform to the provisions of this section.

A. — *Terraces.*

- (i) — Terraces at least six feet (6') in width shall be established at not more than thirty foot (30') vertical intervals on all cut and fill slopes to control surface drainage and debris, except that where only one terrace is required, it shall be at mid height. For cut or fill slopes greater than sixty feet (60') and up to one hundred twenty feet (120') in vertical height, one terrace at approximately mid height shall be twelve feet (12') in width. Terrace widths and spacing for cut and fill slopes greater than one hundred twenty feet (120') in height shall be designed by a civil engineer and approved by the City Engineer or other approving agent. Suitable access shall be provided to permit proper cleaning and maintenance.
- (ii) — Swales or ditches on terraces shall have a minimum gradient of five percent (5%) and must be paved with reinforced concrete not less than three inches (3") in thickness or an approved equal paving. They shall have a minimum depth at the deepest point of one foot (1') and a minimum paved width of five feet (5').
- (iii) — A single run of swale or ditch shall not collect run off from a tributary area exceeding thirteen thousand five hundred square feet (13,500 sq. ft.), projected, without discharging into a down drain.

B. — *Subsurface Drainage.* Cut and fill slopes shall be provided with subsurface drainage as necessary to alleviate wetness problems and ensure slope stability.

C. — *Interceptor Drains.* Paved interceptor drains shall be installed along the top of all cut slopes where the tributary drainage area slopes towards the top of the cut and has a drainage path greater than forty feet (40') measured horizontally. Interceptor drains shall be paved with a minimum of three inches (3") of concrete or gunite and reinforced. They shall have a minimum depth of twelve inches (12") and a minimum paved width of thirty inches (30")

measured horizontally across the drain. The slope of the drain shall be approved by the City Engineer or other approving agent.

- D. *Surface Drainage.* All lots, tracts or parcels shall be graded to provide proper drainage away from building and shall dispose of it without ponding. All land within a development area shall also be graded to drain and dispose of surface water without ponding.
- E. *Disposal.* All water from swales and/or ditches on terraces, from surface and subsurface drainage, and from interceptor drains shall be disposed of in a manner consistent with the requirements of this Section, specifically subsection (c), "Performance Standards."
- (8) **Erosion Control:** The faces of cut and fill slopes and all traded areas shall be prepared and maintained to control erosion in compliance with the requirements of this Section, specifically subsection (c), "Performance Standards."
- (9) **Retaining Walls:** Subject to the approval of the City Engineer or other approving agent, retaining walls may be used whenever topographic conditions warrant; or where necessary to retain fill or cut slopes within the right of way and/or property lines; or to reduce the required setbacks.
- (10) **Relocation and Protection Sewers:**
 - A. If, in the opinion of the City Engineer or other approving agent, it is necessary to relocate or modify the existing sewer system serving the area affected by an excavation or fill operation for the purpose of providing drainage of the affected area, or protecting the existing sewer system from damage, the developer or property owner shall obtain a permit to relocate or modify the existing sewer system for the affected area pursuant to the current rules and regulation of the City. Such relocation or modification shall be made at the expense of the developer or property owner. The developer or property owner shall grant such easements as may be necessary prior to receiving final plan approval.
 - B. In places where existing sewerage is adequate, but in the opinion of the City Engineer or other approving agent the excavation or fill operation may potentially damage the sewer system, before receiving final plan approval, the developer or property owner shall provide a bond, of a corporate surety authorized to do business in the State of Ohio, and naming the City as obligee thereof, covering the City Engineer's estimate of replacement costs of the sewer and guaranteeing that the proposed fill will not damage the sewer for a period of one (1) year after the fill is complete.

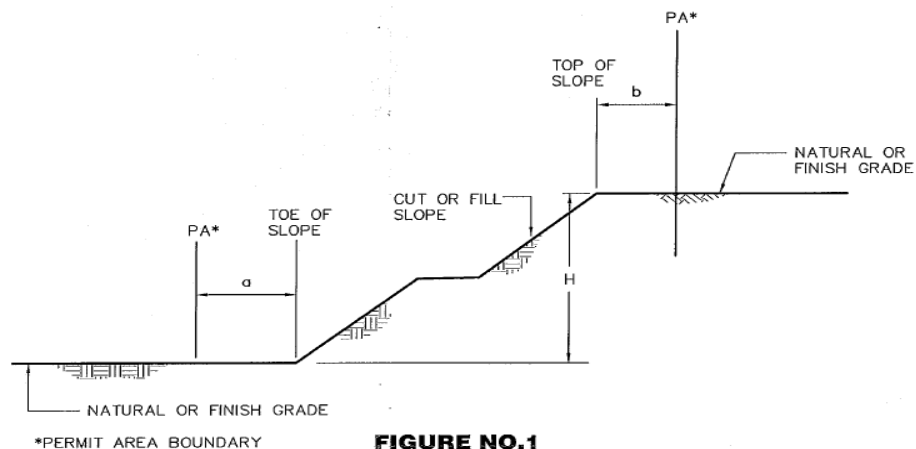


TABLE 7: Required Setbacks from Permit Area Boundary

| Height (in feet) | A (in feet) | B (in feet) |
|------------------|-------------|-------------|
| Under 5 | 0 | ± |
| 5-30 | H/2 | H/5 |
| Over 30 | 15 | 6 |

* Additional width may be required for inceptor drain.

~~(h) Hillside Development Areas:~~

~~(1) Lot and Building Requirements:~~

- ~~A. The maximum number of lots into which a parcel of land may be subdivided and/or the maximum number of dwelling units permitted on any lot or parcel of land shall be the sum of the number of lots or dwelling units allowed in each category of land, as shown on Table 8, below.~~
- ~~B. For residential lots, there shall be a front yard having a depth of not less than twenty five feet (25'), and a rear yard having a depth of not less than forty feet (40'), measured from the exterior boundaries of the site. For buildings exceeding fifteen feet (15') in height, there shall be a distance from front and rear boundaries equal to the required yard plus one additional foot (1') for each foot of building height it excess of fifteen feet (15').~~
- ~~C. For residential lots, there shall be two (2) side yards, with a minimum depth of ten feet (10') on one side, with a total depth of twenty five feet (25') for both yards, measured from the exterior boundaries of the site. For buildings exceeding fifteen feet (15') in height, there shall be a distance from the side boundaries equal to the required yards plus one additional foot (1') for each foot of building height in excess of fifteen feet (15').~~
- ~~D. For all lots, the total ground floor area of all buildings in the development shall not occupy more than twenty five percent (25%) of the site.~~
- ~~E. No building shall exceed a height of thirty feet (30') above the natural grade of the land on the downhill side of the structure.~~
- ~~F. All excavated material shall be removed from the site or contained behind retaining walls or otherwise placed in order that the slopes of any fill material will not be visible from any public street.~~

~~(2) Special Design Standards:~~

- ~~A. Street grades shall not exceed fifteen percent (15%).~~
- ~~B. Street grades exceeding twelve percent (12%) shall have a maximum length of six hundred feet (600').~~
- ~~C. Minimum dedicated street right of way shall be sixty feet (60').~~
- ~~D. 'T' or 'Y' type turning and backing cul de sacs may be substituted for circular turnarounds.~~
- ~~E. Panhandle: double frontage and other unorthodox lots shall be permitted.~~
- ~~F. The maximum grade on driveways shall not exceed ten percent (10%). Each drive shall provide sufficient space and distance to turn around prior to entering the street.~~

TABLE 8: Lot and Building Requirements

| Cross-Slope of Land | Maximum Number of Units or Lots Per Gross Acre |
|----------------------------|---|
| 10% to 14.9% | 1.80 |
| 15% to 19.0% | 1.10 |
| 20% to 24.9% | 0.70 |
| 25% to 29.9% | 0.50 |
| 30% to 34.9% | 0.30 |
| 35% and over | 0.20 |

- (i) ~~Site Development Plan:~~ Any person seeking approval of land development proposals for use types listed in Section 1111.05(b) shall develop and submit a Site Development Plan as detailed in this section. The applicant is encouraged to have a pre-submission meeting with the City Engineer or his authorized agent(s). Each applicant shall provide information that details the location of the area proposed for development, the site in relation to its general surroundings, predevelopment site conditions, existing characteristics of the site, and the extent of proposed earth disturbing activities.

(1) Submittal Requirements:

- A. ~~At a minimum, the Site Development Plan shall include the following elements:~~
- (i) ~~General location map prepared from a two thousandth scale (1-inch = 2,000 feet) USGS topographic base map that shows the area proposed for development and pertinent adjacent areas and features;~~
 - (ii) ~~A description of the nature and type of the earth disturbing/construction activity (e.g. residential, commercial, highway, etc.); and~~
 - (iii) ~~A photocopy of the appropriate soil survey sheet found in the USDA Soil Survey of Warren County, Ohio with location of site identified.~~
- B. ~~A Site Plan Map that shows the location of existing features and proposed improvements on the site including:~~
- (i) ~~Total area of the site and the area of the site that is expected to be disturbed (i.e. grubbing, cleaning, excavation, filling or grading, including off site borrow areas);~~
 - (ii) ~~Surface water locations, including springs, wetlands, streams, lakes, water wells and ponds on or within two hundred feet (200') of the site, including the boundaries of wetlands or stream channels and first subsequent named receiving water(s) the permittee intends to fill or relocate for which the permittee is seeking approval from the Army Corps of Engineers and/or Ohio EPA;~~
 - (iii) ~~The general directions of surface water flow and one hundred (100)-year floodplain when applicable; and~~
 - (iv) ~~All improvements, including buildings, retaining walls, sidewalks, streets, parking lots, driveways, utilities and stormwater basins, drainage impoundments, channels and outlets, etc.~~
- C. ~~An estimate of the impervious area and percent imperviousness created by the earth disturbing activity.~~
- D. ~~A nonrefundable fee, as outlined in Section 1105.09, to cover the costs of the City reviewing the submittal. If the SMP must be sent out for review by the City, the Subdivider or Developer shall pay the cost thereof, and no final approval of the Site Development Plan shall be issued until said costs are paid in full.~~

- (2) ~~**Submittal Process:** The process for a Site Development Plan submission, review and action is described below. This process should be followed at the onset of the request for a review process.~~
- A. ~~Submission of a Site Development Plan by an applicant seeking approval initiates the review process.~~
 - B. ~~The City Engineer or his authorized agent(s) shall review the Site Development Plan and conduct a site inspection of the proposed site.~~
 - C. ~~Review of the Site Development Plan shall be completed within a reasonable amount of time from the date of submittal, not to exceed sixty (60) days.~~
 - D. ~~Following the Plan's review, the authorized agent(s) shall:~~
 - (i) ~~Approve the Site Development Plan; or~~
 - (ii) ~~Conditionally approve the Site Development Plan pending additional information and/or the incorporation of required changes; or~~
 - (iii) ~~Require the submission of a Stormwater Management Plan (SMP) based on written findings of the City Engineer or his authorized agent(s).~~
- (j) ~~**Stormwater Management Plan:** Stormwater Management Plans (SMPs) are intended to provide information on all soil erosion and runoff control activities and Best Management Practices (BMPs) to be used and incorporated on the site both *during* and *after* site development, per the Ohio EPA's *Construction Stormwater General Permit*. This information includes, but is not limited to, site grading, stormwater management facilities and practices, erosion and runoff control information, maintenance plans, and other measures that focus on managing the effects of earth disturbing activities that occur as a result of site development. Reference to be used for all designs shall be the Ohio DNR's *Rainwater and Land Development Manual*. Each SMP shall provide site designs that meet the Performance Standards presented in section C and provide practical treatment for both water quality and quantity of stormwater from the site as appropriate.~~

Submittal Requirements:

- (1) ~~In general, SMPs need to address:~~
 - A. ~~*Erosion and Sediment Control.* Providing measures to ensure that earth disturbing activities at the site *during* and *after* development will be managed in a manner that will not result in increased erosion and sedimentation from the site resulting in impacts to water quality and that meet the Performance Standards specified in Section 1111.05(e).~~
 - B. ~~*Runoff Control.* Providing measures to ensure that the quantity of surface water runoff from the development site during and after construction will mimic the pre-development conditions and that meet the Performance Standards specified in Section 1111.05(e).~~
- (2) ~~If a SMP is required under Section 1111.05(b) or (i), such Plan shall specifically include all the following:~~
 - A. ~~The minimum elements required in the Site Development Plan described in Section 1111.05(i).~~
 - B. ~~The contents of the *Storm Water Pollution Prevention Plan (SWP3)* required by the Ohio EPA's NPDES Construction Activity Permit, latest edition, and incorporated here by reference. This Plan may be submitted as developed for the Ohio EPA, in conjunction with the other requirements of this section.~~
- (3) ~~A nonrefundable fee, as outlined in Section 1105.09, to cover the costs of the City reviewing the submittal. If the SMP must be sent out for review by the City, the subdivider or developer shall pay the cost thereof, and no final approval of the SMP shall be issued until said costs are paid in full.~~

Stormwater Management Plan Submission, Review and Action:

- (4) ~~The applicant is encouraged to have a pre-submission meeting with the City Engineer or his authorized agent(s). Submission of two (2) sets of the SMP and other supporting data required by this regulation to the City Engineer completes the applicant's responsibilities and initiates the review process.~~
- (5) ~~The SMP shall be reviewed by the City Engineer to:~~
 - A. ~~Verify background information furnished by the applicant and evaluate the proposed development in relation to existing site conditions.~~
 - B. ~~Assess the SMP in relation to the Performance Standards and requirements of this section.~~

- (6) ~~Upon submission of the SMP the City Engineer or his authorized representatives shall review the submission within a reasonable amount of time, not to exceed sixty (60) days, and shall either:~~
 - A. ~~Approve the SMP as submitted by the applicant; or~~
 - B. ~~Conditionally approve the SMP and require the submission of additional and/or revised information by the applicant, in order to fully meet the intent and standards of this section;~~
 - ~~or~~
 - C. ~~Disapprove the SMP.~~
- (7) ~~Revisions to conditionally approved SMPs shall be prepared and submitted by the applicant to the City Engineer for review. Action by the City Engineer either approving or disapproving the SMP may be appealed to the Appeals Board.~~
- (k) ~~Grading Plan:~~ Based on information submitted with the application, site plan, or based on information from field investigation, the City Engineer or other approving agent may require a Grading Plan. The grading plan shall be supported with the following supplemental information:
 - (1) ~~Soil Engineering Report:~~ The Soil Engineering Report shall include data regarding the nature, distribution and strength of existing soils, conclusions and recommendations for grading procedures and design criteria for corrective measures, when necessary, and opinions and recommendations covering adequacy of sites to be developed by the proposed grading.
 - (2) ~~Engineering Geology Report:~~ The engineering geology report shall include an adequate description of the geology of the site, conclusions and recommendations regarding the effect of geologic conditions on the proposed development and opinions and recommendations covering the adequacy of sites to be developed by the proposed grading.
- (l) ~~Cost for Initial Construction Inspections:~~ Before approving a final site plan and the accompanying construction plans for public improvements, the Developer shall enter into an agreement with the City to provide for the inspection of the various public improvements as they are constructed. Inspection fees shall be charged at the rate of two and one half percent (2.5%) of the estimated cost of the improvements. The fees shall be used to defray the cost of plan review, field inspection during the one-year warranty period and any other incidental expenses directly related to the contracted improvement. Any costs incurred in excess of the two and one half percent (2.5%) shall be billed to the Developer. The two and one half percent (2.5%) shall be paid along with the bonds before acceptance by the City for operation and maintenance.
- (m) ~~Supplemental Requirements:~~ Stormwater discharge to critical areas with sensitive resources (i.e. wetlands, steep slopes, scenic river designation, recharge areas, etc.) may be subject to additional criteria, or may need to utilize or restrict certain stormwater practices.
- (n) ~~Determination of Post Development Runoff:~~ Each SMP shall include an evaluation of pre-development conditions together with during, and post-development impacts that quantifies the volume and rate of runoff from the site by subdrainage areas:
 - (1) This evaluation shall be prepared according to methods prescribed in the latest edition of the Ohio DNR's *Rainwater and Land Development* or other appropriate sources. The evaluation shall:
 - A. Show delineation and sequence of subdrainage units which comprise the area proposed for development.
 - B. Indicate the hydraulic length of slope per individual subdrainage unit and the length of the natural or manmade watercourse which accommodates the surface runoff from each subdrainage unit.
 - C. Indicate within the legend the average percent slope, erosion factor (K) and runoff curve number (CN) per individual subdrainage unit for a twenty four (24) hour storm of a one (1) year frequency.
 - D. Include a hydrograph for a twenty four (24) hour storm of the critical frequency to be controlled as determined according to Section 1111.05(e) and all calculations made pertinent to evaluating the effects of the proposed development on the pre-development runoff conditions of the site.

- (2) Calculations for the design of stormwater management facilities shall demonstrate the following for each subdrainage unit:
- Surface Run Off.* To determine the amount of storm water for which drainage capacity must be provided, use the "Rational ($Q=CIA$) Method."
 - Run Off Coefficient.* Compute a weighted value of the run off coefficient for the drainage area, using a value of 0.95 for impervious areas such as roofs and pavements and 0.40 for grass area.
 - Time Concentration (Inlet Time).* Using the "Overland Flow Nomograph" **Table 9**, determine the time in minutes it will take the storm run off from the most remote part of the development area to reach the point of the storm drainage system under consideration. For flow time in sewers, the conduit flow time may be determined assuming average full flow velocity at the existing or proposed sewer slopes.
 - Intensity of Precipitation.* The "Point" values of average precipitation intensity, inches per hour, at Cincinnati is shown in **Table 10**, taken from page 35 of the U.S. Department of Commerce, Weather Bureau, Technical Paper No. 25, *Rainfall Intensity Duration Frequency Curves*. For any given storm duration (concentration time of run off), the curves show the average precipitation intensity of storms having 2, 5, 10, 20, 25 and 100 year frequencies. These values may be used for drainage tributary areas of three hundred (300) acres or less. For acreage above three hundred (300) acres, see **Table 11**.

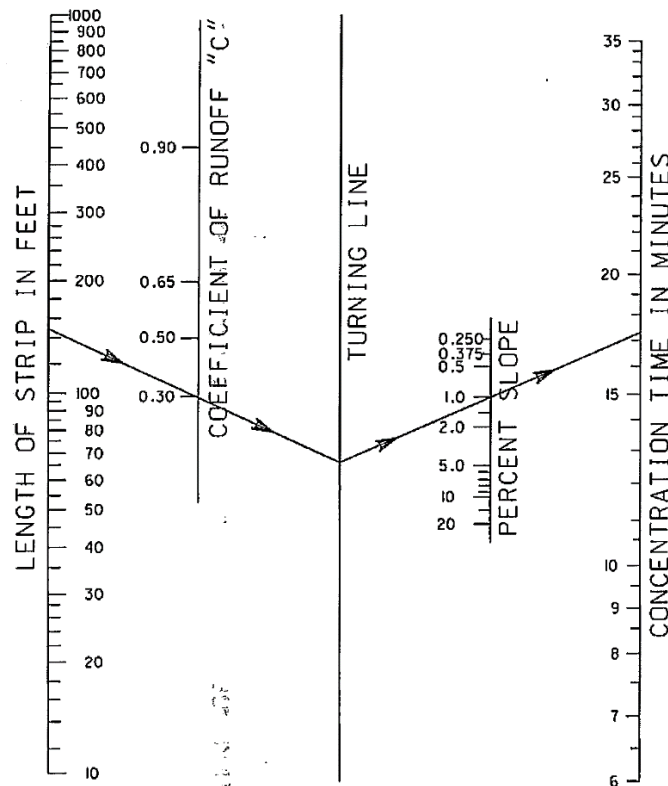
TABLE 9: Overland Flow Chart

TABLE 10: Rainfall Intensity Duration—Frequency Curves

| Duration (Minutes) | Storm Frequency | | | | | |
|-----------------------|-----------------|--------|---------|---------|---------|----------|
| | 2-Year | 5-Year | 10-Year | 25-Year | 50-Year | 100-Year |
| 5 | 4.00 | 5.00 | 5.70 | 6.70 | 7.30 | 8.20 |
| 10 | 3.45 | 4.40 | 5.10 | 6.10 | 6.60 | 7.40 |
| 15 | 2.90 | 3.70 | 4.30 | 5.20 | 5.60 | 6.40 |
| 20 | 2.40 | 3.30 | 3.70 | 4.50 | 4.90 | 5.50 |
| 25 | 2.20 | 2.90 | 3.30 | 4.00 | 4.40 | 4.90 |
| 30 | 1.90 | 2.60 | 3.00 | 3.60 | 3.80 | 4.30 |
| 40 | 1.58 | 2.20 | 2.45 | 3.00 | 3.30 | 3.70 |
| 50 | 1.37 | 1.90 | 2.20 | 2.50 | 2.70 | 3.20 |
| 60 | 1.16 | 1.60 | 1.80 | 2.20 | 2.30 | 2.70 |
| 90 | 0.95 | 1.25 | 1.45 | 1.70 | 1.85 | 2.10 |
| 120 | 0.73 | 0.98 | 1.10 | 1.30 | 1.40 | 1.60 |
| 150 | 0.63 | 0.85 | 0.97 | 1.10 | 1.20 | 1.40 |
| 180 | 0.53 | 0.72 | 0.84 | 0.95 | 1.05 | 1.15 |
| 210 | 0.48 | 0.65 | 0.75 | 0.86 | 0.94 | 1.08 |
| 240 | 0.43 | 0.58 | 0.67 | 0.77 | 0.84 | 0.95 |

TABLE 11: Storm Durations

| Duration of Storm in Minutes (te) | | | | | | |
|--|-----------|-----------|-----------|-----------|-----------|------------|
| Area in Acres | 10 | 20 | 30 | 60 | 90 | 120 |
| 300 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| 400 | 0.993 | 0.993 | 0.993 | 0.995 | 0.996 | 0.99 |
| 500 | 0.986 | 0.986 | 0.987 | 0.990 | 0.993 | 0.99 |
| 1,000 | 0.997 | 0.997 | 0.978 | 0.981 | 0.985 | 0.98 |
| 1,500 | 0.986 | 0.970 | 0.972 | 0.974 | 0.978 | 0.98 |
| 2,000 | 0.958 | 0.963 | 0.966 | 0.968 | 0.975 | 0.98 |
| 2,500 | 0.948 | 0.953 | 0.957 | 0.962 | 0.970 | 0.97 |
| 3,000 | 0.938 | 0.944 | 0.949 | 0.957 | 0.965 | 0.97 |
| 3,500 | 0.928 | 0.935 | 0.941 | 0.951 | 0.960 | 0.96 |
| 4,000 | 0.918 | 0.927 | 0.933 | 0.945 | 0.956 | 0.96 |
| 4,500 | 0.908 | 0.918 | 0.925 | 0.939 | 0.952 | 0.96 |
| 5,000 | 0.898 | 0.910 | 0.918 | 0.935 | 0.948 | 0.95 |
| 5,500 | 0.888 | 0.901 | 0.911 | 0.930 | 0.945 | 0.95 |
| 6,000 | 0.880 | 0.894 | 0.905 | 0.927 | 0.942 | 0.95 |

(e) Storm Water Retention:

- (1) **General.** In order to minimize run-off damage to downstream properties, sediment pollution of public and private waters and hydraulic overloading of existing drainage facilities, the storm water run-off from a site after development shall not exceed the discharge from that site prior to development. The amount of water to be retained shall be determined by the method described in the following subsections.
- (2) **Pre-Development Run-Off.** Calculate the exiting site (undeveloped) run-off based on a ten (10) year storm frequency curve and a coefficient of run-off equal to 0.25. The coefficient run-off is based on the assumption of an existing ground condition of an average soli with an average grass cover. The existing ground condition assumption may be waived only if the development site is currently being used for the purpose set forth in a site plan previously approved by the Planning Commission. If the assumption is waived, the run-off coefficient may be based on actual existing ground conditions.
- (3) **Post-Development Run-Off.** Calculate the proposed ultimate development run-off based on a fifty (50) year frequency curve. Use a weighted coefficient of run-off based on the proposed development with $C = 0.95$ for impervious areas and $C = 0.40$ for unpaved and grass areas.
- (4) **Storage Requirement.** Provide on site retention of storm water equal to the post development run-off rate minus the pre development run-off rate for a period of thirty (30) minutes, using an earth embankment or excavation retention basin meeting the standards and specifications outlined in subsection (f) hereof, or any other method of retention acceptable to the City Engineer or other

approving agent.

- (5) ~~**Discharge from Retention Basins.**~~ The discharge from the retention basins shall be equal to the computed pre-development run-off minus any flow discharging directly from the development site.
- (6) ~~**Large Lot Development.**~~ For detention purposes only, residential subdivisions, including existing developments, with a minimum lot size of one (1) acre and a total drainage area of ten (10) acres or more, the most current ISDA Soil Conservation Service's *Urban Hydrology for Small Watersheds*, Technical Release 55 (TR-55) method and formulas may be used. The pre-development run-off shall still be based on the ten (10) year frequency storm and the post-development run-off shall still be based on the fifty (50) year frequency storm. Run-off coefficients shall be determined by using the TR-55 suggest values that apply, subject to the City Engineer's approval. The required detention volume shall be determined through hydrograph development.
- (p) ~~**Off Site Stormwater Control Facilities:**~~ Exceptions to requiring permanent on-site runoff control on the site may be considered by the City Engineer, provided the applicant can prove that:
 - (1) ~~The intent and standards of this section for runoff control can be best achieved by the utilization of off-site stormwater control facilities.~~
 - (2) ~~Runoff from the site can be conveyed to off site stormwater facilities in a manner and by means which satisfies or surpasses the standards of this section.~~
 - (3) ~~The applicant has ownership of or the right to use the off site facility in question.~~
- (q) ~~**Compliance Responsibility:**~~ No provision of this section shall limit, increase or otherwise affect the liabilities of the applicant nor impose any liability upon City not otherwise imposed by law. No condition of this permit shall release the applicant from any responsibility or requirements under other federal, state, or local environmental regulations. If requirements vary, the most restrictive requirement shall prevail.
 - (1) ~~**Proceeding with Activity:**~~ Soil-disturbing activities regulated under this regulation shall not begin until all necessary state and federal permits and appropriate approvals of Site Development Plans or Stormwater Management Plans have been granted to the site owner/applicant.
 - (2) ~~**Performance Responsibility:**~~ The applicant is responsible for carrying out all provisions of the approved Site Development Plan or SMP and for meeting all the standards and requirements of this regulation.
 - (3) ~~**Enforcement:**~~
 - A. ~~All development sites are subject to inspections by the City Engineer or his authorized agent(s) to ensure compliance with the approved Site Development Plan or SMP.~~
 - B. ~~After each inspection a status report shall be prepared and distributed to the appropriate person(s).~~
 - C. ~~If it is found that the operations are being conducted in violation of the approved Site Development Plan and SMP, a stop work order may be issued until the identified violations cease.~~
 - D. ~~Following the issuance of a stop work order, the City Engineer or his authorized agent(s) shall determine if and when the development may proceed. Any determination by the City Engineer or his authorized agent(s) may be appealed to the Appeals Board.~~
 - E. ~~After the issuance of a stop work order, but before the imposition of any fines, the applicant shall have the opportunity to request a hearing before Appeals Board to show cause why work should not be stopped. A hearing shall be scheduled at the next meeting of the Appeals Board.~~
 - (4) ~~**Stop Work Orders:**~~ Subsequent to the issuance of a stop work order, one or more of the following penalties may be imposed.
 - A. ~~If the earth disturbing activity involves a subdivision, the applicable penalties (including fines) outlined in Section 1111.05(q)(10) shall apply.~~
 - B. ~~The City may seek an injunction or other appropriate relief to abate excessive erosion or sedimentation and secure compliance with this section. In granting such relief, the Court may order the construction of sediment control improvements and/or the implementation of other control measures and/or fines as identified in Section 1105.12, or any other relief the court determines.~~

(5) Internal Inspections:

- A. All controls on the site shall be inspected at least once every seven calendar days and within twenty-four (24) hours after any storm event greater than one-half inch of rain per twenty-four (24) hour period. The site owner and/or applicant shall assign qualified inspection personnel experienced in the installation and maintenance of erosion and runoff controls to conduct these inspections to ensure that all stormwater control practices are functional, that all provisions of the SMP and this regulation are being met, and whether additional control measures are required.
- B. The site owner shall maintain for three (3) years following the final stabilization of the site a record summarizing inspections, names(s) and qualifications of personnel making the inspections, the date(s) of inspections, major observations relating to the implementation of the SMP and a certification as to whether the site is in compliance with the SMP and identify any incidents of non-compliance.

(6) Ownership and Maintenance of Stormwater Facilities: In cases where stormwater control facilities are proposed on single private properties, the City Engineer shall approve an inspection and maintenance agreement. This agreement shall bind all current and subsequent owners of land served by the stormwater facilities. In the case of proposed subdivisions, inspection and maintenance agreements shall be approved before the City of Franklin accepts the final plat of the proposed subdivision. This agreement shall bind all current and subsequent owners of land served by the stormwater facilities. All inspection and maintenance agreements shall do the following:

- A. Designate the party or parties responsible for the maintenance of all stormwater management facilities and practices including mowing, landscaping, debris pick-up, and to ensure all inlet and outlet structures are free of obstructions and in good repair.
- B. For subdivisions, unless otherwise approved by the City of Franklin, responsible party(ies) this shall be an entity of common ownership (e.g. Land/Homeowner's Association) within the proposed subdivision. Each parcel sold in the proposed subdivision shall require continued membership in the Land/Homeowners Association.
- C. Prohibit unauthorized alterations of all stormwater management facilities.
- D. Provide adequate access to all stormwater management facilities for inspection by the City and corrective actions by the owner.
- E. All stormwater management facility easements shall be on the final plat, prior to approval by the City, and a reference shall be made to the entity or individual(s) responsible for their maintenance.
- F. The owner/developer shall submit four (4) sets of as-built drawings of all stormwater facilities and improvements, along with a disc of the drawings (CAD or PDF) to the City Engineer.

(7) Drainage Easements: The following conditions shall apply to all drainage easements:

- A. Easements shall be approved by the City prior to approval of the final plat and shall be recorded with said plat.
- B. Unless otherwise required by the City, drainage easements shall be no less than twenty feet (20') wide, plus the width of the stormwater facility(ies).
- C. Unless otherwise required by the City, stormwater management facilities, including basin, ponds or other retention/detention practices, shall be on separate lots held and maintained by an entity of common ownership (e.g., Land/Homeowners Association).
- D. Those lots that contain and/or are crossed by a drainage easement shall have the following restriction—"Any lot area reserved for drainage purposes shall at all times be kept free of any obstructions to the flow of water. No improvements or modifications within the identified drainage easement area will be allowed without the approval of the City of Franklin Engineer. Maintenance of the drainage easement area, stormwater control facility(ies), and ditches shall be the responsibility of the owner(s) of the lot on which these facilities and/or ditches are located."

(8) Complaints: The City of Franklin authorized agent(s) shall investigate any complaint related to earth-disturbing activities covered by this section.

(9) ~~**Violations:** No person shall violate or cause or knowingly permit to be violated any of the provisions of this section, or fail to comply with any of its provisions or with any lawful requirements of any public authority made pursuant to it, or knowingly use or cause or permit the use of any lands in violation of this Section or in violation of any approval permit granted under this Section.~~

(10) Penalties:

- A. ~~Violation of any provision of this section, or any amendment or supplement thereto, or failure to comply with any of the requirements herein shall constitute a minor misdemeanor. Any person or persons violating any of the provisions herein shall be fined one hundred fifty dollars (\$150.00) per offense, and shall pay all costs and expenses involved in the case. Each day such violation continues shall be considered a separate offense.~~
- B. ~~Upon notice from the City or its authorized agent(s), that work is being done contrary to this section, such work shall immediately stop. Such notice shall be in writing and shall be given to the owner or the owner's authorized agent, and shall state the conditions under which such work may resume; provided, however, in instances where immediate action is deemed necessary for the public safety or the public interest, the City may require that work be stopped upon verbal order pending issuance of the written order.~~
- C. ~~The imposition of any other penalties provided herein shall not preclude the City from instituting an appropriate action or proceeding in a Court of proper jurisdiction to prevent an unlawful development, or to restrain, correct, or abate a violation, or to require compliance with the provisions of this section or other applicable laws, ordinances, rules, regulations, or orders.~~

EXHIBIT B**1111.05 STORMWATER AND DRAINAGE REQUIREMENTS AND STANDARDS**

- (a) **Stormwater Design Requirements and Standards:** The Design Requirements and Standards shall follow the Warren County Storm Water Design Manual.
- (b) **Erosion Prevention and Sediment Control:** These regulations and amendments thereto, shall be cited as the City of Franklin (City) Erosion Prevention and Sediment Control regulations and may hereinafter be referred to as “these regulations”.

- (1) **Statutory Authority:** These regulations are promulgated in accordance with Section 715 of the Ohio Revised Code, and chapter 3745-39 of the Ohio Administrative Code to implement Phase II of the storm water program of the National Pollutant Discharge Elimination System established in 40 C.F.R. Part 122.

These regulations shall require persons to file plans governing erosion control, sediment control, and water management before clearing, grading, excavating, filling, or otherwise wholly or partially disturbing one or more contiguous acres of land owned by one person or operated as one development unit for the construction of nonfarm buildings, structures, utilities, recreational areas, or other similar nonfarm uses.

- (2) **Purpose:** The purpose of these regulations is to establish technically feasible and economically reasonable standards to achieve a level of management and conservation practices that will abate wind or water erosion of the soil or abate the degradation of the waters within the state by soil sediment in conjunction with land grading, excavating, filling, or other soil disturbing activities on land used or being developed for non-agriculture, commercial, industrial, residential, or other non-agriculture purposes, and establish criteria for determination of the acceptability of those management and conservation practices.

The purposes of these regulations include, without limitation, the following:

- A. Permitting development while minimizing erosion and sedimentation.
- B. Reducing impairment of receiving streams which may be caused by erosion and sedimentation from construction and other earth disturbing activities.
- C. Encouraging innovative design which will enhance the control of erosion and sedimentation in a manner consistent with the intent of these regulations.

- (3) **Applicability:** These regulations are intended to conform to the requirements found in the Ohio Environmental Protection Agency (Ohio EPA) Phase II General Permit for Municipal Separate Storm Sewer Systems (MS4) and the associated OEPA Construction General Permit. As the OEPA permits are routinely updated, any inconsistencies in the requirements, definitions or verbiage between these regulations as compared to the OEPA permits shall assume the current permit language prevails.

These regulations shall apply to all earth disturbing activities covered in the Construction General Permit except for the following activities:

- A. Strip mining operations regulated under Section 1513.01 of the Ohio Revised Code;
- B. Surface mining operations regulated by Section 1514.01 of the Ohio Revised Code;
- C. Public highways, transportation, and drainage improvement or maintenance project undertaken by a government agency or political subdivision in accordance with a statement of its standard sediment control policies that is approved by the board or the chief of the division of soil and water conservation in the Ohio department of agriculture.
- D. Any emergency activity that is immediately necessary for the protection of life, property, or natural resources.
- E. Agricultural operations as defined in Section 106 of this regulation.

- (4) **Disclaimer of Liability:** Compliance with the provisions of these regulations shall not relieve any person from

responsibility for damage to any person otherwise imposed by law. The provisions of these regulations are promulgated to promote the health, safety and welfare of the public and are not designed for the benefit of any individual or any particular parcel of property. By approving a Storm Water Pollution Prevention Plan (SWP3) under these regulations, the City does not accept responsibility for the design, installation, and operation and maintenance of erosion control practices or facilities.

- (5) Conflicts, Severability, Nuisances and Responsibility: These regulations are not intended to interfere with, abrogate, or annul any other ordinance, rule or regulation, statute, or other provision of law. The requirements of these regulations should be considered minimum requirements, and where any provision of these regulations imposes restrictions different from those imposed by any other ordinance, rule or regulation, or other provision of law, whichever provisions are more restrictive or impose higher protective standards for human health or the environment shall be considered to take precedence.

If any clause, section, or provision of these regulations is declared invalid or unconstitutional by a court of competent jurisdiction, the validity of the remainder shall not be affected thereby.

These regulations shall not be construed as authorizing any person to maintain a nuisance on their property, and compliance with the provisions of these regulations shall not be a defense in any action to abate such a nuisance.

Failure of the City or its designated agent to observe or recognize hazardous or unsightly conditions or to recommend corrective measures shall not relieve the site owner from the responsibility for the condition or damage resulting therefrom, and shall not result in the City, its officers, employees, or agents being responsible for any condition or damage resulting therefrom.

- (6) Definitions: For the purposes of these regulations, the following terms shall have the meaning herein indicated; otherwise, words or terms not defined, or interpreted by these regulations or statutory or administrative law, shall have their customary meaning as interpreted by Ohio common law, or in the event no common law exists then as found in the most recent editions of published dictionaries.

Applicant - A property owner or agent of a property owner who has filed an application for an Earth Disturbing Permit.

Agriculture - Agriculture includes agricultureing; ranching; aquaculture; algaculture meaning the agricultureing of algae; apiculture and related apicultural activities, production of honey, beeswax, honeycomb, and other related products; horticulture; viticulture, winemaking, and related activities; animal husbandry, including, but not limited to, the care and raising of livestock, equine, and fur-bearing animals; poultry husbandry and the production of poultry and poultry products; dairy production; the production of field crops, tobacco, fruits, vegetables, nursery stock, ornamental shrubs, ornamental trees, flowers, sod, or mushrooms; timber; pasturage; any combination of the foregoing; the processing, drying, storage, and marketing of agricultural products when those activities are conducted in conjunction with, but are secondary to, such husbandry or production; and any additions or modifications to the foregoing made by the director of agriculture by rule adopted in accordance with Chapter 119. of the Revised Code.

Clean Water Act - The federal Water Pollution Control Act (33 U.S.C. § 1251 et seq.), and any subsequent amendments thereto.

Construction General Permit - Ohio Environmental Protection Agency's General Permit Authorization for Storm Water Discharges Associated with Construction Activity Under the National Pollution Discharge Elimination System.

Construction Site - Any parcel of land on which land has been disturbed for non-farming activity in the efforts to construct a new land or building feature.

Developer - Any individual, sub-divider, firm, association, syndicate, partnership, corporation, trust, or any other legal entity commencing land disturbance activities subject to these regulations.

Development/Construction Area - Any tract, lot, parcel of land or combination of such which are part of a larger common plan of development, upon which more than one acre of earth disturbing activity is to be performed.

Drainage - The removal of surface water or groundwater from land by surface or subsurface drains.

Earth Disturbing Activity - Any clearing, grading, excavating, grubbing, and/ or filling or other alteration of the earth's surface where natural or man-made ground cover is destroyed and which may result in or contribute to erosion and sediment pollution.

Earth Disturbing Permit - A permit to perform earth disturbing activities provided by the City or its designated agent once a developer/owner meets specific criteria as outlined in these regulations.

Environmental Protection Agency - The United States Environmental Protection Agency, including but not limited to the Ohio Environmental Protection Agency (Ohio EPA), or any duly authorized official of said agency.

Erosion – The process by which the land surface is worn away by the action of water, wind ice or gravity.

Erosion and Sediment Control Plan - A strategy or plan to minimize erosion and prevent off-site sedimentation by passing sediment laden runoff through a sediment control measure, which has been prepared and approved in accordance these regulations and those requirements of the Construction General Permit. The erosion and sediment control plan is most often part of a larger set of construction drawings.

Grading – Earth disturbing activity such as excavation, stripping cutting, filling stockpiling, or any combination thereof.

NPDES – National Pollutant Discharge Elimination System. A regulatory program in the Federal Clean Water Act that prohibits the discharge of pollutants into surface waters of the United States without a permit.

Owner - Someone who holds the right of possession and title to a parcel or tract of land.

Phasing - Clearing a parcel of land in distinct phases, with the stabilization of each phase completed before the clearing of the next.

Redevelopment – A construction project on land where impervious surface has previously been installed and where the new land use will not increase the runoff coefficient. If the new land use will increase the runoff coefficient, then the project is considered to be a new development project rather than a redevelopment project.

Runoff – The portion of precipitation in excess of the infiltration capacity of underlying soils to absorb and contain which drains away from and runs of the surface of land.

Sediment – Solid material, both mineral and organic, that is in suspension, is being transported, or has been moved from its site of origin by wind, water, gravity, or ice, and has come to rest on the earth's surface.

Site owner or property owner – Any individual, corporation, firm, trust, commission, board, public or private partnership, joint venture, agency, unincorporated association, municipal corporation, county or state agency, the federal government, other legal entity, or an agent thereof that is responsible for the overall construction site.

Soil disturbing activity or earth disturbing activity – Clearing, grading, excavating, filling, or other alteration of the earth's surface where natural or human made ground cover is destroyed and that may result in, or contribute to, increased storm water quantity and/or decreased storm water quality.

Stop Work Order - An order issued which requires that all construction activity on a site be stopped.

Storm Water Pollution Prevention Plan (SWP3) - The SWP3 is a stand-alone document required by these regulations and the Construction General Permit for all construction sites disturbing one acre or more of land. The SWP3 describes all the construction site operator's activities to prevent storm water contamination, control sedimentation and erosion, manage post construction storm water runoff and comply with the requirements of the Clean Water Act.

- (7) Administration: The City may designate specific duties and responsibilities to a designated agent through the execution of a memorandum of understanding or contractual agreement. The City or it's designated agent may furnish additional policy, criteria and information including specifications and standards, for the proper implementation of the requirements of these regulations and may provide such information in the form of a Storm Water Design Manual. The manual may be updated and expanded from time to time, at the discretion of the City or its designated agent, based on improvements in engineering, science, monitoring and local maintenance experience.
- (8) Compliance with State and Federal Regulations: Approvals issued in accordance with these regulations do not relieve the applicant of responsibility for obtaining all other necessary permits and/or approvals from other federal, state, and/or county agencies and other public entities having regulatory jurisdiction. Applicants may be required to show compliance with all applicable regulatory requirements.
- (9) Permit Requirements: No person shall begin land clearing and/or soil disturbing activities greater than 1 acre

until first obtaining an earth disturbing permit from the City or its designated agent.

Unless specifically excluded by these regulations, any landowner or operator desiring a permit for an earth disturbance activity shall submit a permit application. Unless otherwise excepted by these regulations, a permit application must be accompanied by the following in order that the permit application be considered: a SWP3, Operation and Maintenance documents, and a non-refundable permit review fee, if applicable.

Approvals issued in accordance with these regulations shall be void two years from the date of permit issuance unless soil disturbing activities have commenced. Appropriate and timely progress toward completion of work must occur, or the permit will be void.

An expired permit may be renewed by resubmitting all of the necessary requirements found in these regulations and the Storm Water Design Manual.

- (10) Inspection: The City or its designated agent may complete routine site inspections of land disturbance activities to evaluate compliance with the approved SWP3 and shall notify the permittee wherein the work fails to comply with the SWP3 as approved. The inspections may be performed monthly or more frequently. The inspector may enter the property of the applicant as deemed necessary to make regular inspections.

Plans for grading, stripping, excavating, and filling work which have been approved by the City or its designated agent shall be maintained at the site.

- (11) Maintenance Needs, Violations, Enforcement and Penalties: No person shall violate or cause or knowingly permit to be violated any of the provisions of these regulations, or fail to comply with any of such provisions or with any lawful requirements of any public authority made pursuant to these regulations, or knowingly use or cause or permit the use of any lands in violation of these regulations or in violation of any permit granted under these regulations. All temporary erosion and sediment control practices shall be installed according to the timeline set forth in the approved SWP3 and in accordance with the Construction General Permit. These practices shall be maintained and repaired as needed to assure continued performance of their intended function. The developer/owner shall be responsible for such maintenance and repairs until the receipt of a notice of termination.

- A. If a deficiency or lack of installation of an erosion and sediment control practice is found, the inspector will communicate the need to the developer/owner, develop a timeline for compliance, and will afford the developer/owner an opportunity to bring the project back into compliance before moving the deficiency to a violation. Over the course of construction and through deterioration by use and weather, erosion and sediment control practices often need maintenance, repair or re-installation.

The developer/owner shall assign qualified inspection personnel to inspect all sediment and erosion control practices at a frequency set forth in the latest Construction General Permit. If any erosion and sediment control practice needs maintenance, repair or reinstall, the developer/owner shall comply with the timeline set forth in the Construction General Permit.

If the developer/owner is unresponsive or if the owner/developer does not comply with the inspector's requests or timeline to remediate the maintenance needs, deficiencies or lack of installed practices, the City or its designated agent can upgrade the maintenance need, deficiency or lack of installation to a violation.

- B. If the City or its designated agent determines that a violation of these regulations exists, the following actions may be taken.

- (i) An immediate stop work order may be issued if the violator failed to obtain any federal, state, or local permit necessary for sediment and erosion control, earth movement, clearing, or cut and fill activity. Persons receiving a stop work order will be required to halt all construction activities. This stop work order will be in effect until the City or its designated agent confirms that the development activity is in compliance and the violation has been satisfactorily addressed.
- (ii) If the violator has obtained proper permits, but an activity is not being carried out in accordance with the requirements of these regulations, the City or its designated agent may issue a written notice of violation.
- (iii) If after a period of not less than thirty days following the issuance of the notice of violation, the violation continues, the City or its designated agent may issue a second notice of violation.
- (iv) If after a period of not less than fifteen days following the issuance of the notice of violation, the violation continues, the City may issue a stop work order.

- (v) Once a stop work order is issued, the City may petition the court for the issuance of a preliminary or permanent injunction or both (as may be appropriate) to abate the violation and secure compliance with these regulations. If the prosecuting attorney seeks an injunction or other appropriate relief, then, in granting relief, the court of common pleas may order strict compliance with these regulations and may assess a civil fine of not less than one hundred or more than five hundred dollars for civil contempt by failing to comply with the court's order. Each day of violation shall be considered a separate violation subject to a civil fine. Once an injunction or other appropriate relief is issued, an expedited motion may be filed by the prosecuting attorney for future violations by the developer/owner requesting the Court to order the developer/owner to appear and show cause why the developer/owner should not be held in further contempt of the injunction or other appropriate relief ordered by the court.
 - (vi) The person to whom a stop work order is issued under this section may appeal the order to the court, seeking any equitable or other appropriate relief from that order.
 - C. No stop work order shall be issued under this section against any public highway, transportation, or drainage improvement or maintenance project undertaken by a government agency or political subdivision in accordance with a statement of its standard sediment control policies that is approved by the City.
 - D. No person shall violate these regulations. Notwithstanding division (B) of this section, if the City or its designated agent determines that a violation of these regulations or administrative order issued relating thereto, the City or its' designated agent may request, in writing, the prosecuting attorney to seek an injunction or other appropriate relief in the court of common pleas to abate the violations of these regulations and secure compliance with these regulations or an administrative order. In granting relief, the court of common pleas may order strict compliance with these regulations or implementation of other control measures and may assess a civil fine of not less than one hundred or more than five hundred dollars for civil contempt by failing to comply with the court's order. Each day of violation shall be considered a separate violation subject to a civil fine. Once an injunction or other appropriate relief is issued, an expedited motion may be filed by the prosecuting attorney for future violations by the developer/owner requesting the Court to order the developer/owner to appear and show cause why the developer/owner should not be held in further contempt of the injunction or other appropriate relief ordered by the court.
- (12) Appeals: Any person aggrieved by requirement, determination, or any other action or inaction by the City or its' designated agent in relation to these regulations may appeal to the court of common pleas. Such an appeal shall be made in conformity with Chapters 2505 and 2506 the Ohio Revised Code.
- (c) **Post-Construction Storm Water Runoff Control**: These regulations and amendments thereto, shall be cited as the City of Franklin (City) Post-Construction Storm Water Runoff Control regulations and may hereinafter be referred to as "these regulations".
 - (1) Statutory Authority: These regulations are promulgated in accordance with Section 4 Article XVII of the Ohio Constitution, and chapter 3745-39 of the Ohio Administrative code to implement phase II of the storm water program of the National Pollutant Discharge Elimination System established in 40 C.F.R. Part 122.

These regulations shall require persons to file plans governing erosion control, sediment control, and water management before clearing, grading, excavating, filling, or otherwise wholly or partially disturbing one or more contiguous acres of land owned by one person or operated as one development unit for the construction of nonfarm buildings, structures, utilities, recreational areas, or other similar nonfarm uses.
 - (2) Purpose: The purpose of these regulations is to establish technically feasible and economically reasonable storm water management standards to achieve a level of storm water quality and quantity control that will minimize damage to property and degradation of water resources and will promote and maintain the health, safety, and welfare of the citizens within this jurisdiction. These regulations seek to meet that purpose through the following objectives:
 - A. Control increases in storm water runoff from any new or redevelopment project in order to reduce flooding, siltation, increases in stream temperature and maintain the integrity of stream channels.
 - B. Control increases in nonpoint source pollution caused by storm water runoff from development which would otherwise degrade local water quality.

- C. Reduce storm water runoff rates and volumes, soil erosion and nonpoint source pollution, where possible, through storm water management controls and to ensure that these management controls are properly maintained and pose no threat to public safety.

- (3) Applicability: These regulations are intended to conform to the requirements found in the Ohio Environmental Protection Agency (Ohio EPA) Phase II General Permit for Municipal Separate Storm Sewer Systems (MS4) and the associated OEPA Construction General Permit. As the OEPA permits are routinely updated, any inconsistencies in the requirements, definitions or verbiage between these regulations as compared to the OEPA permits shall assume the current permit language prevails.

These regulations shall apply to all earth disturbing activities covered in the current version of the Ohio EPA Construction General Permit. The ordinance also applies to land development activities that are smaller than the minimum applicability criteria if such activities are part of a larger common plan of development that meets the following applicability criteria, even though multiple separate and distinct land development activities may take place at different times on different schedules. The following activities may be exempt from these requirements:

- A. Any logging and agricultural activity which is consistent with an approved soil conservation plan.
- B. Additions or modifications to existing single family structures.
- C. Linear construction projects such as pipeline or utility line installation that does not result in the installation of additional impervious surfaces.

- (4) Disclaimer of Liability: Compliance with the provisions of these regulations shall not relieve any person from responsibility for damage to any person otherwise imposed by law. The provisions of these regulations are promulgated to promote the health, safety and welfare of the public and are not designed for the benefit of any individual or any particular parcel of property. By approving a Storm Water Pollution Prevention Plan (SWP3) under these regulations, the City does not accept responsibility for the design, installation, and operation and maintenance of storm water management practices, facilities and improvements.

- (5) Conflicts, Severability, Nuisances and Responsibility: These regulations are not intended to interfere with, abrogate, or annul any other ordinance, rule or regulation, statute, or other provision of law. The requirements of these regulations should be considered minimum requirements, and where any provision of these regulations imposes restrictions different from those imposed by any other ordinance, rule or regulation, or other provision of law, whichever provisions are more restrictive or impose higher protective standards for human health or the environment shall be considered to take precedence.

If any clause, section, or provision of these regulations is declared invalid or unconstitutional by a court of competent jurisdiction, the validity of the remainder shall not be affected thereby.

These regulations shall not be construed as authorizing any person to maintain a nuisance on their property, and compliance with the provisions of these regulations shall not be a defense in any action to abate such a nuisance.

Failure of the City or its designated agent to observe or recognize hazardous or unsightly conditions or to recommend corrective measures shall not relieve the site owner from the responsibility for the condition or damage resulting therefrom, and shall not result in the City, its officers, employees, or agents being responsible for any condition or damage resulting therefrom.

- (6) Definitions: For the purposes of these regulations, the following terms shall have the meaning herein indicated; otherwise, words or terms not defined, or interpreted by these regulations or statutory or administrative law, shall have their customary meaning as interpreted by Ohio common law, or in the event no common law exists then as found in the most recent editions of published dictionaries.

Applicant - A property owner or agent of a property owner who has filed an application for an Earth Disturbing Permit.

Channel – A natural or artificial watercourse with a definite bed and banks that conducts continuously or periodically flowing water.

Clean Water Act - The federal Water Pollution Control Act (33 U.S.C. § 1251 et seq.), and any subsequent amendments thereto.

Developer - Any individual, sub-divider, firm, association, syndicate, partnership, corporation, trust, or any other legal entity commencing earth disturbance activities subject to these regulations.

Drainage – The removal of surface water or groundwater from land by surface or subsurface drains.

Environmental Protection Agency - The United States Environmental Protection Agency, including but not limited to the Ohio Environmental Protection Agency (Ohio EPA), or any duly authorized official of said agency.

Erosion – The process by which the land surface is worn away by the action of water, wind ice or gravity.

Grading – Earth disturbing activity such as excavation, stripping cutting, filling stockpiling, or any combination thereof.

Impervious surface – Any material that prevents, impedes or slows the infiltration or absorption of stormwater into the ground, including building roofs and concrete or asphalt pavement.

Infiltration – A stormwater management practice that reduces discharge during the precipitation event, requiring collected runoff to either infiltrate into the groundwater and/or be consumed by evapotranspiration, thereby retaining stormwater pollutants in the facility.

Larger common plan of development – A contiguous area where multiple separate and distinct construction activities may be taking place at different times.

Nonpoint Source Pollution - Pollution from any source other than from any discernible, confined, and discrete conveyances, and shall include, but not be limited to, pollutants from agricultural, silvicultural, mining, construction, subsurface disposal and urban runoff sources.

NPDES – National Pollutant Discharge Elimination System. A regulatory program in the Federal Clean Water Act that prohibits the discharge of pollutants into surface waters of the United States without a permit.

Post-development – The conditions that exist following the completion of soil disturbing activity in terms of topography, vegetation, land use, and the rate, volume, quality, or direction of stormwater runoff.

Pre-development – The conditions that exist prior to the initiation of soil disturbing activity in terms of topography, vegetation, land use, and the rate, volume, quality, or direction of stormwater runoff.

Professional Engineer – A professional engineer registered in the State of Ohio.

Redevelopment – A construction project on land where impervious surface has previously been developed and where the new land use will not increase the runoff coefficient. If the new land use will increase the runoff coefficient, then the project is considered to be a new development project rather than a redevelopment project.

Runoff – The portion of precipitation in excess of the infiltration capacity of underlying soils to absorb and contain which drains away from and runs off the surface of land.

Sediment – Solid material, both mineral and organic, that is in suspension, is being transported, or has been moved from its site of origin by wind, water, gravity, or ice, and has come to rest on the earth's surface.

Site owner, property owner or owner – Any individual, corporation, firm, trust, commission, board, public or private partnership, joint venture, agency, unincorporated association, municipal corporation, county or state agency, the federal government, other legal entity, or an agent thereof that is responsible for the overall construction site.

Soil disturbing activity or Earth disturbing activity – Clearing, grading, excavating, filling, or other alteration of the earth's surface where natural or human made ground cover is destroyed and that may result in, or contribute to, increased stormwater quantity and/or decreased stormwater quality.

Stop Work Order - An order issued which requires that all construction activity on a site be stopped.

Storm Water management facility – A structural or non-structural device, basin, infiltration cell, or other system approved by The City to collect, convey, and/or manage surface runoff.

Storm Water Pollution Prevention Plan (SWP3) - The SWP3 is a stand-alone document required by these regulations and the Construction General Permit for all construction sites disturbing one acre or more of land. The SWP3 describes all the construction site operator's activities to prevent storm water contamination, control sedimentation and erosion, manage post construction storm water runoff and comply with the requirements of the Clean Water Act.

Storm Water system – The system or network of storm and surface water management facilities.

Watershed – The drainage area in which a subdivision is located.

Wetland – Surface areas that are inundated or saturated by surface or groundwater 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. Wetlands generally include swamps, marshes, bogs, and similar areas (1987 Corp of Engineers Wetland Delineation Manual.)

- (7) Administration: The City may designate specific duties and responsibilities to a designated agent through the execution of a memorandum of understanding or contractual agreement. The City or its designated agent may furnish additional policy, criteria and information including specifications and standards, for the proper implementation of the requirements of these regulations and may provide such information in the form of a Storm Water Design Manual. The manual may be updated and expanded from time to time, at the discretion of the City, based on improvements in engineering, science, monitoring and local maintenance experience.
- (8) Compliance with State and Federal Regulations: Approvals issued in accordance with these regulations do not relieve the applicant of responsibility for obtaining all other necessary permits and/or approvals from other federal, state, and/or county agencies and other public entities having regulatory jurisdiction. Applicants may be required to show compliance with all applicable regulatory requirements.
- (9) Permit Requirements: No landowner or land operator shall receive an Earth Disturbing Permit required for earth disturbance activities without first meeting the requirements of these regulations prior to commencing the proposed activity.

Unless specifically excluded by these regulations, any landowner or operator desiring a permit for a earth disturbance activity shall submit a permit application. Unless otherwise excepted by these regulations, a permit application must be accompanied by the following in order that the permit application be considered: a SWP3; Operation and Maintenance documents; and a non-refundable permit review fee, if applicable.

- (10) Stormwater Quantity Control: The Stormwater Pollution Prevention Plan shall describe how stormwater quantity control is achieved for each watershed in the development. Calculations shall follow the Critical Storm Methodology.
- (11) Final Inspection and Approval: To receive final inspection and a determination by the City or its designated agent that the approved SWP3 and the requirements of these regulations have been complied with in performing a construction project, the following must be completed.
- A. All permanent storm water management facilities must be installed, free of debris, and made functional per the approved SWP3.
 - B. An as-built survey, sealed, signed and dated by a Professional Surveyor and a written certification by a Professional Engineer certifying that permanent storm water management facilities, as designed and installed, meet the requirements of the approved SWP3 shall be delivered to and accepted by the City or its designated agent. The as-built survey must provide the location, dimensions, details, volume, and bearing of such facilities. In evaluating this certification, the City or its designated agent may require the submission of a new set of storm water calculations if he/she determines that the design was altered materially from the approved SWP3.
 - C. A Post-Construction Storm Water Management Requirements form must be completed and submitted to the City or its designated agent for each postconstruction storm water control feature contained in the approved SWP3.

- (12) Maintenance: All storm water treatment practices shall have an enforceable operation and maintenance agreement to ensure the system functions as designed. This agreement will include any and all maintenance easements required to access and inspect the storm water treatment practices, and to perform routine maintenance as necessary to ensure proper functioning of the storm water treatment practice. In addition, a legally binding covenant specifying the parties responsible for the proper maintenance of all storm water treatment practices shall be secured. The maintenance easement agreement that shall be binding on all subsequent owners of land served by the storm water management facility. The agreement shall provide for access to the facility at reasonable times for periodic inspection by City or its designated agent to ensure that the facility is maintained in proper working condition to meet design standards and any other provisions established by these regulations.

All storm water management facilities shall be maintained in accordance with the approved Maintenance Plans. The owners of all storm water management facilities required by this ordinance shall be maintained in accordance with standard best practices or may be declared a public nuisance.

If a responsible party fails or refuses to meet the requirements of maintenance, the City or its designated agent shall notify the party responsible for maintenance of the storm water management facility in writing. If after

proper notice, remedial activities are not performed, the City may seek an injunction or other appropriate relief in the court of common pleas to abate the violations of these regulations and secure compliance with these regulations or an administrative order. In granting relief, the court of common pleas may order strict compliance with these regulations or implementation of other control measures and may assess a civil fine of not less than one hundred or more than five hundred dollars for civil contempt by failing to comply with the court's order. Each day of violation shall be considered a separate violation subject to a civil fine. Once an injunction or other appropriate relief is issued, an expedited motion may be filed by the prosecuting attorney for future violations by the developer/owner requesting the Court to order the developer/owner to appear and show cause why the developer/owner should not be held in further contempt of the injunction or other appropriate relief ordered by the court.

- (13) Maintenance Needs, Violations, Enforcement and Penalties: No person shall violate or cause or knowingly permit to be violated any of the provisions of these regulations, or fail to comply with any of such provisions or with any lawful requirements of any public authority made pursuant to these regulations, or knowingly use or cause or permit the use of any lands in violation of these regulations or in violation of any permit granted under these regulations.
- A. If the City or its designated agent determines that a violation of these regulations exists, the following actions may be taken.
 - (i) An immediate stop work order may be issued if the violator failed to obtain any federal, state, or local permit necessary for sediment and erosion control, earth movement, clearing, or cut and fill activity. Persons receiving a stop work order will be required to halt all construction activities. This stop work order will be in effect until the City or its designated agent confirms that the development activity is in compliance and the violation has been satisfactorily addressed.
 - (ii) If the violator has obtained proper permits, but an activity is not being carried out in accordance with the requirements of these regulations, the City or its designated agent may issue a written notice of violation.
 - (iii) If after a period of not less than thirty days following the issuance of the notice of violation, the violation continues, the City or its designated agent may issue a second notice of violation.
 - (iv) If after a period of not less than fifteen days following the issuance of the notice of violation, the violation continues, the City may issue a stop work order.
 - (v) Once a stop work order is issued, the City may petition the court for the issuance of a preliminary or permanent injunction or both (as may be appropriate) to abate the violation and secure compliance with these regulations. If the prosecuting attorney seeks an injunction or other appropriate relief, then, in granting relief, the court of common pleas may order strict compliance with these regulations and may assess a civil fine of not less than one hundred or more than five hundred dollars for civil contempt by failing to comply with the court's order. Each day of violation shall be considered a separate violation subject to a civil fine. Once an injunction or other appropriate relief is issued, an expedited motion may be filed by the prosecuting attorney for future violations by the developer/owner requesting the Court to order the developer/owner to appear and show cause why the developer/owner should not be held in further contempt of the injunction or other appropriate relief ordered by the court.
 - (vi) The person to whom a stop work order is issued under this section may appeal the order to the court, seeking any equitable or other appropriate relief from that order.
 - B. No stop work order shall be issued under this section against any public highway, transportation, or drainage improvement or maintenance project undertaken by a government agency or political subdivision in accordance with a statement of its standard sediment control policies that is approved by the City.
 - C. No person shall violate these regulations. Notwithstanding division (B) of this section, if the City or its designated agent determines that a violation of these regulations or administrative order issued relating thereto, the City or its designated agent may request, in writing, the prosecuting attorney to seek an injunction or other appropriate relief in the court of common pleas to abate the violations of these regulations and secure compliance with these regulations or an administrative order. In granting relief, the court of common pleas may order strict compliance with these regulations or implementation of other control measures and may assess a civil fine of not less than one hundred or more than five hundred dollars for civil contempt by failing to comply with the court's order. Each day of violation shall be considered a separate violation subject to a civil fine. Once an injunction or other appropriate relief is

issued, an expedited motion may be filed by the prosecuting attorney for future violations by the developer/owner requesting the Court to order the developer/owner to appear and show cause why the developer/owner should not be held in further contempt of the injunction or other appropriate relief ordered by the court.

- (14) Appeals: Any person aggrieved by requirement, determination, or any other action or inaction by the City or its designated agent in relation to these regulations may appeal to the court of common pleas. Such an appeal shall be made in conformity with Chapters 2505 and 2506 the Ohio Revised Code.