



City of Mayfield Heights

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GUIDANCE FOR PROJECTS

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**CITY OF MAYFIELD HEIGHTS, OHIO
CITY ENGINEER'S OFFICE**

GUIDANCE FOR PROJECTS

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DEFINITIONS

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INTRODUCTION

This City of Mayfield Heights Guidance for Projects (referred to as "Guidance for Projects" or "Guidance") was prepared by the City Engineer and adopted by the City as a means to help planners and designers meet the procedural and technical requirements of development and/or construction in the City. It is both a reference for criteria regarding development and/or construction established elsewhere in the Codified Ordinances*, and the definitive source for technical requirements ** regarding development and/or construction in the City. The Guidance is periodically updated and the user should contact the City Engineer to obtain the current version.

Compliance with the criteria herein in no way relieves the Owners, Designers, and Contractors of their legal, moral, ethical, health and safety, professional, and total responsibilities, including all costs associated with meeting the requirements of the City, in the proper design and construction of a project. In the use of these criteria, the Owners, Designers, and Contractors shall save the City of Mayfield Heights, the City Engineer, and their representatives harmless. This Guidance is to be used in conjunction with other applicable legislation, to the extent that these requirements are not inconsistent with the U.S. Constitution or Ohio Constitution or any other state or federal statute or local Charter and/or Ordinances. Other than that, the criteria herein apply as minimum requirements (unless otherwise authorized in writing by the City Engineer).

The Owner, Designer, and Contractor(s) are to address the issue of safety and health for all Projects and all facilities, take full responsibility for public safety and health, and save the City of Mayfield Heights, the City Engineer, and their representatives harmless. Appropriate safety and health precautions and/or measures shall be identified and implemented by the Owner, Designer, and Contractor(s) to assure public safety. Noted areas of concern include, but are not limited to:

- a) Detention/Retention facilities
- b) Roadway drainage
- c) Pipe access
- d) Appurtenances in public rights-of-way
- e) Construction

The requirements herein are deemed to apply to all Projects, regardless of whether or not specific review comments are stated, and regardless of whether or not the Project is on public or private property. The City Engineer is open to discussing any of these criteria as they apply to a specific project, and the City Engineer reserves the right to alter criteria and/or request additional information and/or calculations. The users of this document are advised to review this document in its entirety to assure that all requirements are met.

Neither the City nor the City Engineer will design, or direct the design of a project. In all matters relating to the design, approval and construction process of a project, including health and safety issues, the Project Owner(s), the Designer(s), and the Contractor(s) shall assume all and full responsibility; shall hold the City, the City Engineer and their representatives harmless; and shall fulfill all requirements.

The Project Owner shall provide and retain professional engineering and professional surveying representation throughout the entire duration of the Project for the purposes of design, verification, observation (as necessary), and consultation with the City and the City Engineer per the requirements of the City of Mayfield Heights Guidance for Projects and as otherwise necessary as determined by the City Engineer. The duration of the project is hereby deemed to include the preliminary design phase, design phase, construction phase, and as-built documentation phases of the Project in their entirety.

Review is made by the City Engineer of the Civil Work of the Project only. The City Engineer's review excludes review of all other disciplines which are solely the responsibility of the Owner and Designer, including but not limited to: architectural, electrical, mechanical, structural (including also the structural integrity of all soils, pipes, bridges, walls, structures, berms, dams, etc.), floatation, plumbing, traffic maintenance and control, public safety, HVAC, painting, landscaping work, and including any and all requirements of the USEPA, OEPA, COE, and other entities having jurisdiction.

* The Guidance is periodically updated by the City Engineer to incorporate the latest criteria. However, updates may lag official adoption of pertinent criteria. Accordingly, the Guidance shall not be interpreted to supercede provisions otherwise established by City, county, state, or federal regulations.

** Specific project provisions may also be established by agreement between the City and a developer, or by project specific requirements established by the City for public improvement projects.

GENERAL

- G1) **General Information/Intent.** The intent of the criteria listed herein is to provide guidance to Owners, Designers and Contractors who are developing projects within the City of Mayfield Heights. This guidance is intended to help facilitate the design and review of projects.
- G2) **Applicable Laws.** The Owners, Designers, and Contractors shall comply with all applicable laws of the Federal Government and the State of Ohio, all state and local building codes, and with the ordinances and resolutions of the City of Mayfield Heights or other local government agencies having jurisdiction. Applicable fees shall be paid in accordance with regulations.
- G3) **Standards.** Unless otherwise specified elsewhere in this Guidance, or by project specific provisions established by agreement between the City and a developer, or by project specific requirements established by the City for public improvements, materials and construction practices for private and public development and/or construction projects within the City of Mayfield Heights shall conform to the latest editions of:
- a) Uniform Standards for Sewerage Improvements
 - b) Uniform Standard Sewer Details
 - c) Ohio Department of Transportation Location and Design Manuals
 - d) ODOT Construction and Material Specifications
 - e) ODOT Standard Details
 - f) Cuyahoga County Engineer Standard Details
 - g) City of Cleveland Division of Water Specifications and Details
 - h) The City of Mayfield Heights Standard Details and Specifications
 - i) Ohio's Standards for Stormwater Management Land Development and Urban Stream Protection entitled "Rainwater and Land Development"
 - j) Great Lakes Upper Mississippi River Board of State Public Health & Environmental Managers (GLUMRB – "Ten States Standards") Recommended Standards for Water Works
 - k) Great Lakes Upper Mississippi River Board of State Public Health & Environmental Managers (GLUMRB – "Ten States Standards") Recommended Standards for Wastewater Facilities
 - l) Other standards or requirements designated by the City Engineer
 - m) Special Permit Requirements

In the event of a conflict, the decision of the City Engineer shall be final.

- G4) **Submittals.**
- a) **All submittals and all re-submittals shall be submitted to the Director of Building at the City of Mayfield Heights. No Submittals shall be made to the City Engineer's Office. Submittals made directly to the City Engineer's Office may not be reviewed.**
 - b) Transmittal letters and the attached Submittal Checklist shall accompany all submittals.
 - c) An initial submittal of at least two (2) sets of required documents must be submitted for review. Only one (1) copy of the Storm Water Management Report may be submitted in the initial submittal. A minimum of four (4) sets of final documents shall be submitted, unless otherwise discussed.

- d) Submittals shall be made with sufficient lead-time to allow for review and re-submittals.
 - e) Preliminary Plats and/or Preliminary Plans. All Preliminary Plats and/or Preliminary Plans shall be submitted to, reviewed by, and recommended for approval by the City Engineer prior to submission to the City for action (e.g., The City Planning Commission, Board of Zoning, City Council etc.).
- G5) Design Calculations.
- a) Design calculations are required for both sanitary and storm sewers, and all storm water management.
 - b) Required documentation shall include design calculations prepared by the Designer and the Designer's contact information.
 - c) Each and every sheet of calculations submitted is to be clearly labeled with the Designer's company letterhead, project name, date, Designer's name, location on the project, and page number.
 - d) Each set of calculations is to be stamped and signed by an Ohio Registered Professional Engineer.
 - e) Computer Programs. Only recognized brand-name computer programs may be utilized for any and all calculations; i.e., in-house generated spreadsheet type calculations may not be acceptable. The City Engineer reserves the right to reject any program or method deemed unacceptable.
- G6) System Numbering. All proposed sanitary manholes, storm manholes, catch basins, inlet basins, yard drains, headwalls, detention basins, etc., are to be clearly numbered on all plans, profiles, and all calculations. Numbering shall be in accordance with that established by the utility owner, or the City Engineer.
- G7) Separate Connections. Unless otherwise approved by the City Engineer, separate sanitary sewer and separate storm sewer connections shall be provided for each unit on a site. For this requirement, a "connection" is defined as the piping run from the building to the main sewer. For example, if there are three condo units attached to each other, then they require three separate sanitary sewer connections and three separate storm sewer connections. If there are two office buildings on a site, they require at least two separate sanitary sewer connections and at least two separate storm sewer connections. It is not acceptable to bring two like connections from two buildings together in a "Y" and then run one pipe to the main sewer.
- G8) Re-Use of Existing Sewers. If existing storm and/or sanitary sewer systems are to be re-used for a project, before the City will consider approval of a Project, the Designer must check, verify, and submit to the City for review the following:
- a) hydraulic adequacy (including capacities, invert elevations, lengths, slopes, etc.) for the design storms and/or sewage flows,
 - b) structural adequacy, including trench and traffic loadings, etc.,
 - c) functional adequacy (clogged, silted-up, etc.),
 - d) all existing sewers, service laterals, manholes, catch basins, detention/retention basins, etc.,

are to be television inspected and videotaped (with audio) in their entirety (to the outlet at a public sewer) by a City approved company to standards specified herein under "Video Inspection of Sewers". The tapes, tape logs, and a written report are to be submitted for review by the City Engineer. The written report shall identify structures by the same numbering as on the design plans, and

- e) The Designer shall submit to the City proof of a watertight system (air tests, etc.). Testing shall be observed by the City. Site storm sewers and/or flows shall not be connected to, or directed to, existing City catch basins or inlet basins, or the basin outlet piping.

- G9) Adjacent Sewer Systems. The Designer shall investigate and certify the upstream and downstream sanitary and storm sewer systems and sewer conditions, including physical, structural, capacity, infiltration/inflow, etc., that apply, or affect the proposed project.

- G10) Work on Private Property/Easements. The Project Owner is required and is solely responsible to obtain any easements or right of entry agreements necessary to do work on, or in any way, enter adjacent or any other private property. Copies of easements or right-of-entry agreements shall be provided to the City.

- G11) Pumping Facilities. Sanitary and storm water pumping facilities, including sump pumps, shall be fully detailed on the plans. Design information (including on-off elevations, control schemes, pump curves, etc.) shall be submitted for review. Associated electrical service and pump connection features are to be submitted to, and approved by, the Director of Building.

- G12) Other Required Approvals/Permits.

Copies of all approvals are required to be submitted to the City by the Owner prior to work commencing at the site. Approvals issued in accordance with this regulation do not relieve the applicant of responsibility for obtaining all other necessary permits and/or approvals from other federal, state, municipal or county agencies. The Applicant is responsible for obtaining required third party approvals/permits; i.e., county, state, and/or federal approvals/permits. If requirements vary, the most restrictive shall prevail. The City may inquire of the Applicant, and/or the appropriate jurisdictional agency, regarding the applicability of, and/or status of, any such third party approval/permit. The City does not enforce third party approvals/permits (enforcement is by the appropriate jurisdictional agency), but does require, as a condition of any City approval and/or permit, compliance by the Applicant with applicable county, state, and/or federal law. Accordingly, if a City approval and/or permit is issued and it is subsequently determined that the Applicant is in violation of either: 1) obtaining third party approvals/permits when required to do so; or, 2) meeting the conditions of issued third party approvals/permits, then the Applicant is also in violation of this regulation and is subject to penalties as established. These approvals/permits may include, but are not limited to, those listed below. Applicants shall provide proof of compliance with third party regulations, as described below. Such third party approvals/permits may include, but are not limited to:

- A. Ohio EPA NPDES Permits authorizing storm water discharges associated with construction

- activity or the most current version thereof: Proof of compliance with these requirements shall be a copy of the applicant's Notice of Intent (NOI) and the date it was sent to OhioEPA, a copy of the OhioEPA Director's authorization letter for the NPDES Permit, or a letter from a professional engineer certifying and explaining either the status of necessary applications or why the NPDES Permit is not applicable.
- B. Section 401 of the Clean Water Act: Proof of compliance shall be a copy of the Ohio EPA Water Quality Certification application, project approval, or a letter from a qualified professional that has surveyed the site and determined that Section 401 of the Clean Water Act is not applicable. Wetlands, and other waters of the United States, shall be delineated by protocols accepted by the U.S. Army Corps of Engineers.
- C. Ohio EPA Isolated Wetland Permit: Proof of compliance shall be a copy of Ohio EPA's Isolated Wetland Permit application, project approval, or a letter from a qualified professional that has surveyed the site and determined that Ohio EPA's Isolated Wetlands Permit is not applicable. Isolated wetlands shall be delineated by protocols accepted by the U.S. Army Corps of Engineers.
- D. Section 404 of the Clean Water Act: Proof of compliance shall be a copy of the U.S. Army Corps of Engineers Individual Permit application, or project approval, if an Individual Permit is required for the development project. If an Individual Permit is not required, the site owner shall submit proof of compliance with the U.S. Army Corps of Engineer's Nationwide Permit Program. This shall include one of the following:
1. A letter from the site owner certifying that a qualified professional has surveyed the site and determined that Section 404 of the Clean Water Act is not applicable.
 2. A site plan showing that any proposed fill of waters of the United States conforms to the general and special conditions specified in the applicable Nationwide Permit. Wetlands, and other waters of the United States, shall be delineated by protocols accepted by the U.S. Army Corps of Engineers.
- E. Ohio Dam Safety Law: Proof of compliance shall be a copy of the ODNR Division of Water permit, a copy of the project approval letter from the ODNR Division of Water, or a letter from a professional engineer certifying and explaining either the status of necessary applications or why the Ohio Dam Safety Law is not applicable.
- F. City of Cleveland Division of Water. A copy of the approval from the City of Cleveland Division of Water is required from the Designer for the City's files. Note that it is the responsibility of the Owner, Designer and Contractor to notify the Cleveland Division of Water in accordance with that agency's requirements so that the Division of Water may provide their own observer, in addition to the City's Observer.
- G. City of Mayfield Heights Fire Marshall Approval. A copy of the approval from the City of Mayfield Heights' Fire Marshall is required from the Designer for the City's files.
- H. Cuyahoga County Sanitary Engineer's Approval. A copy of the approval from the County

Sanitary Engineer's Office is required from the Designer for our files. This approval is required for all sanitary sewers within the City regardless of the outlet location. Note that it is the responsibility of the Owner, Designer and Contractor to notify the Cuyahoga County Sanitary Engineer in accordance with that agency's requirements so that the County may provide their own observer, in addition to the City's Observer.

- I. Northwest Ohio Regional Sewer District (NEORSD). A copy of the approval from the NEOSD is required from the Designer for our files.
- J. Ohio Environmental Protection Agency (OEPA). Copies of all approvals from the OEPA are required from the Designer for our files. The Project Owner/Designer shall comply with all OEPA requirements and shall obtain applicable OEPA approvals including, but not limited to:
 - Permit to Install
 - Water Work Review
 - NPDES Permit
- K. Cuyahoga County Soil and Water Conservation District. A copy of the approval of the Cuyahoga County Soil and Water Conservation District is required from the Designer for the City's files.
- L. U. S. Army Corps of Engineers (COE) and Ohio Department of Natural Resources (ODNR). As applicable, a copy of the approval of the COE and ODNR shall be provided to the City. Note: It is the responsibility of the Owner/Designer to ascertain and meet any and all requirements of the COE and ODNR regarding berms, dams, or any control structures, or storm water management designs, which fall under the jurisdiction of the COE and ODNR. Furthermore, the provisions of the Ohio Department of Natural Resources "Ohio Dam Safety Laws" (July 1, 1987) or the latest edition shall be complied with.
- M. If any City review comments overlap with the jurisdiction of the EPA and/or the U.S. Army Corps of Engineers (COE), or require EPA or COE approval, then the requirements of the EPA and COE take precedence.
- N. Any other agency having jurisdiction. A copy of the jurisdictional agency's approval is required from the Designer for the City's files.

G13) Designer and Construction.

- a) The Project Owner shall provide and retain professional engineering and professional surveying representation throughout the entire duration of the Project for the purposes of design, verification, observation (as necessary), and consultation with the City and the City Engineer as defined in this Guidance for Projects and as otherwise necessary, as determined by the City Engineer. The duration of the project is hereby deemed to include the preliminary design phase, design phase, construction phase, as-built documentation phases of the Project in their entirety, concluding upon final acceptance by the City after required maintenance assurances have been released.
- b) The Designer is responsible for shop drawing review and approval.
- c) The Designer is responsible for all questions related to the design and approved design changes,
- d) The Designer is responsible for As-Built Project Information and post-construction maintenance per the requirements of this Guidance for Projects.

G14) Drawings.

- a) Datum used shall be USGS only.
- b) All drawings shall include a North Arrow.
- c) All sets of drawings shall be prepared under the supervision of, and certified by, an Ohio Registered Professional Engineer.
- d) All Survey Drawings shall be prepared under the supervision of, and certified by, an Ohio Registered Professional Surveyor.
- e) All plan sets shall include a Title Sheet with all pertinent information shown.
- f) Ohio Utilities Protection Service. The Title Sheet shall include a note stating: "Two (2) working days before you dig, call toll free Ohio Utilities Protection Service at (add current OUPS phone number here)."
- j) The drawings shall contain a tabulation of parking spaces, showing the required number of regular and handicap spaces and the proposed number of regular and handicap spaces.
- k) The drawings shall contain a tabulation which shall clearly show all required and proposed setback distances.
- l) Standard Details are to be per requirements noted elsewhere herein.
- m) Privacy wall footings are not to encroach on private property unless appropriate easements are obtained by the project owner prior to construction. Privacy wall details are to be shown, including:
 - Finished grade elevations on both sides of the wall,
 - Top of wall elevations,
 - Weep hole sizes, locations, and elevations (if necessary),
 - Dimensions of wall from property line.

n) Water Details

- 1. Water meter vaults are to be located entirely on private property.
 - 2. The Owner/Designer is to provide the City with copies of water line and water meter vault easements, approved by the Cleveland Division of Water. The easements are to be written between the Owner and the Cleveland Division of Water. The City of Mayfield Heights shall not be a party to these easements.
- o) All information as required by this Guidance for Projects.

G15) Manholes, Junction Chambers, Basins and Yard Drains.

- a) All manholes and junction chambers shall be a minimum of 48 inches inside diameter and shall be of sufficient size to accommodate the piping and resilient connectors.
- b) Manholes shall have premium-type o-rings between manhole sections.
- c) All catch basins, inlet basins, and yard drains shall be of sufficient internal size to accommodate the piping and resilient connectors and cleaning and inspection purposes.

- d) All structures shall be of watertight construction and shall be designed for a minimum of H2O structural loadings, or greater as the situation demands.
- G16) Frames and Castings. All frames, grates and castings shall be heavy duty and bicycle-safe in all locations.
- G17) Manhole Openings. All manhole frames and cones shall have a clear opening of 24 inches in diameter.
- G18) Profiles. Profiles of all storm sewers, sanitary sewers, and other utilities are to be shown on the plans or as otherwise required by the Cuyahoga County Sanitary Engineer for sanitary sewer systems. Utility crossings, with the required vertical clearances (particularly at water lines), are to be shown.
- G19) Testing and Inspection.
- a) After the Project construction is completed, all new sanitary sewers, storm sewers, manholes, and underground detention basins shall be tested and video inspected (with audio) per the requirements specified herein under "Video Inspection of Sewers".
 - b) The videotapes with audio and a written report shall be submitted as part of the As-Built submittal.
 - c) The written report shall identify structures by the same numbering as on the design plans.
- G20) Erosion Control. The Designer is to add a note to the drawings as follows:
- The Contractor shall comply with the requirements of the latest edition of Ohio's Standards for Stormwater Management Land Development and Urban Stream Protection entitled "Rainwater and Land Development" (Latest Edition).
- G21) Contractor. The Contractor is responsible for methods of construction, dimension, elevations, fabrication processes and techniques of construction, coordination of his work with that of all other contractors, the satisfactory performance of his work, and all health and safety issues.
- G22) Construction Observation. The City, the City Engineer, and their representatives are not responsible for construction supervision and/or inspection. If the City or its representatives provide an Observer on the site and/or observe the construction in any manner, it is only for general conformance with the design concept of the Project Information and the Ordinances of the City of Mayfield Heights, and shall not, in any way, relieve the Owner, Designer, and Contractor of their total responsibilities for the Project. The City, City Engineer, their representatives and/or observers, shall not, in any manner, direct or provide direction, or supervise the construction. These parties may, at times, make suggestions that the Owner, Designer and/or Contractor may consider for use at entirely their own risk. The City and the City Engineer must be notified 48 hours in advance when any and all work will be done so that an Observer from the City can observe the work. Elevations are the responsibility of the Contractor and will not be checked or verified by the Observer. However,

the footer elevations for all residential construction shall be checked, verified, and approved by the City Engineer before construction proceeds.

G23) Changes to Project. If problems develop during construction, or if the Project Owner or Contractor or Designer desires to make any changes to the approved drawings, storm water management report, other calculations, and/or other approved Project information, then the following procedure must be followed:

- a) The Project Owner and/or Contractor must have input from the Designer and the Designer must submit certified drawings and calculations to the City for review by the appropriate department and/or agency.
- b) The changes shall not be constructed before the review and approval process is completed in writing by the City. If this procedure is not followed, 1) the City may not accept the Project, and 2) the Project Owner, the Designer, and the Contractor shall make any changes, adjustments, additions, and/or corrections, etc., as required by the City, and save the City harmless.
- c) This procedure may be waived by the City in the event of a bona fide emergency situation.

G24) Video Inspection of Sewers

The Owner shall retain a video inspection service company approved by the City for such inspections. All new sewer systems and existing sewer systems to be reused shall be video-inspected and documented as noted herein. Video inspection of existing sewer systems to be re-used shall be done prior to, and submitted with, the first submittal of design plans to the City for review. All video inspection shall be observed by the City. The Owner shall give 48 hours notice to the City prior to video inspection.

The sewers shall be cleaned by means of high-pressure water, or other approved method, immediately prior to video inspection. After cleaning, the sewer system sections shall be visually inspected by means of closed circuit color television, regardless of size or shape of the sewers, culverts, and structures. The inspection will be done one sewer section at a time, including TV inspection of all structures, and flow in the section being inspected shall be suitably controlled. The television camera used for the inspection shall utilize 360° rotation capability (pan and tilt) and be specifically designed and constructed for such inspection. Lighting for the camera shall be suitable to allow a clear picture of the entire periphery of the pipe. An accompanying audio commentary shall also be recorded during the inspection. The camera, color television monitor, and other components of the video system shall be capable of producing video and picture quality to the satisfaction of the City, and if deemed unsatisfactory by the City Engineer, the City Engineer may require the Owner to have the inspection repeated.

The pan and tilt (360° rotation) camera shall be moved through the line in either direction at a moderate rate, stopping at and looking at each feature of significance, utilizing 360° rotation pan and tilt capability to permit proper documentation of the sewer's condition. In no case will the television camera be pulled at a speed greater than 30 feet per minute. Manual winches,

power winches, TV cable, and powered rewinds or other devices that do not obstruct the camera view or interfere with proper documentation of the sewer conditions shall be used to move the camera through the sewer line. If, during the inspection operation, the television camera will not pass through the entire sewer section, the Inspection Contractor shall set up his equipment so that the inspection can be performed on the same section from the opposite manhole.

The importance of accurate distance measurements is emphasized. Measurement for location of features of significance shall be accurately recorded on the videotape during the inspection. The start and end locations of each sewer section shall be clearly identified in alpha-numeric characters appearing on the video, in the audio, and on the accompanying written report. Manholes, catch basins, and other structures shall be numbered to correspond to the same numbers in the design plans. The street address nearest each structure shall be shown.

Documentation of the television inspection results shall be as follows:

- a) **Television Inspection Logs:** Type-written location records shall be kept by the Inspection Contractor and shall clearly show the location of all significant features observed during inspection; including, but not limited to locations of building sewers, unusual conditions, roots, sewer connections, broken pipe, presence of scale and corrosion, and other discernible features, etc.
- b) **Photographs:** Instant developing, 35mm or other standard size photographs of the television picture of problems shall be taken by the Contractor upon request of the City's Representative.
- c) **Videotape Recordings:** The purpose of tape recording shall be to supply a visual and audio record of problem areas of the lines that may be replayed. Videotape recording playback shall be at the same speed that it was recorded. Videotape shall be of standard VHS format to allow for playback on standard VHS equipment. The Inspection Contractor shall have all videotapes and necessary playback equipment readily accessible for review by the City during the project.
- d) The videotape and written logs shall be reviewed by the Designer who shall provide the City with a written report of his review and analysis of the inspection.
- e) The videotape, written logs and Designer's report shall be retained by the City for their records.

G25) As-Built Drawings and Information.

- a) The Owner, Designer, and Contractor are required to develop complete As-Built Drawings and other Project site information during construction in order to show that the Project, including building finished floor elevations (including basement finished floor elevations),

building and parking lot offsets, detention basin volumes, storm water management control structure elevations, all structure rim and invert elevations, locations of all underground facilities and utilities, grading, drainage, and topography, etc., have been constructed in accordance with the Project Information, the Codified Ordinances of the City of Mayfield Heights, all other laws and regulations which apply. Actual measurements and elevations shall be field-surveyed by a Registered Professional Surveyor.

- b) The as-built information shall be stamped and signed by the Project Owner's Registered Professional Engineer and Registered Professional Surveyor. The as-built information shall be reviewed first by the Owner's Registered Professional Engineer for conformance, then by the City for concurrence.
- c) If the required As-Built Drawings submitted to the City, after having been reviewed by the Owner's Registered Professional Engineer, show as-built conditions differing from the approved Design Plans and/or Storm Water Management Plan (i.e., differences in drainage areas, detention basin volume, storm water management control structure elevations, rim and invert elevations, locations of underground facilities and utilities, grading, drainage, topography, etc.), then the Owner's Professional Engineer shall completely address, in writing to the City, all such modifications and their impact upon the original approved design. If the modifications result in a non-compliant situation with the original approved design as judged by the City Engineer, the Owner's Professional Engineer shall address and design all necessary changes and/or repairs such that the intent of the original approved design is met. Revised calculations shall accompany the submittal as necessary. The information submitted shall be stamped and signed by the Owner's Registered Professional Engineer. The City shall review the proposed changes and/or repairs. The Owner shall construct approved changes and/or repairs. This information shall be submitted to the City for review along with the As-Built Project Information submittal.
- d) The City may require changes and/or repairs be made as it sees fit.
- e) After construction is completed, the Project Owner shall provide that all storm and sanitary sewers and all other underground facilities be field surveyed and video inspected by a City approved video inspection company according to the requirements specified herein under "Video Inspection of Sewers". The videotapes, the tape logs, and a written report shall be submitted as part of the As-Built submittal. The written report shall identify structures by the same numbering as on the design plans.
- f) The Designer/Owner's Professional Engineer is to review these As-Built Drawings/Project Information, modify the original mylar drawings as necessary, and furnish the City with a minimum of two (2) sets of prints.
- g) The City, at its sole discretion, has the right to exempt very small projects from these as-built information requirements. A possible example of a very small project might be a single residential house, not a part of a larger subdivision project. However, regarding very small projects, the City will decide on a case-by-case basis and may require as-built information for small projects, e.g., a single residential house, based on the specific circumstances involved.
- h) The above information, calculations, changes, and/or repairs are to be provided by the

Project Owner. The provision of the above information, calculations, changes, and/or repairs, and/or whether or not the City requires changes and/or repairs, shall in no way relieve the Owners, Designers, and Contractors of their legal, moral, ethical, health and safety, professional, and total responsibilities for the Project. In addition, the Owners, Designers, and Contractor shall save the City of Mayfield Heights, the City Engineer, and their representatives harmless regarding any and all of the above.

SANITARY SEWERS

ADVISORY NOTE: SEE ALSO OTHER PERTINENT SECTIONS ELSEWHERE IN THIS DOCUMENT.

- SS1) Uniform Standards. The Uniform Standards for Sewerage Improvements and the Uniform Standard Sewer Details, latest edition, shall be followed. The information provided herein is intended as guidelines to supplement the Uniform Standards. The requirements of the Uniform Standards and the criteria stated herein shall apply to all Projects, public or private, on public or private property.
- SS2) Responsibility. The City shall not, in anyway, be responsible for, nor shall the City provide, determine, and/or calculate any sanitary service areas, flows, water levels, volumes, etc., or make any other determinations necessary for the Designer to design any project.
- SS3) Size and Jointing.
- a) All sanitary sewers, including connections, laterals, etc., are to be a minimum of eight (8) inches in diameter (unless there are valid hydraulic or other reasons) and have premium joints meeting ASTM D3212.
 - b) All sanitary sewer connections to manholes, new or existing sewers, or other structures shall be designed with resilient connectors meeting the requirements of ASTM C923. The intent of the design shall be for a watertight system.
 - c) All pipe materials, strength designations, and testing requirements shall be clearly specified.
 - d) Minimum slopes shall be per the Uniform Standards.
 - e) Corrugated metal pipe shall not be used for sanitary sewers.

STORM SEWERS

ADVISORY NOTE: SEE ALSO OTHER PERTINENT SECTIONS ELSEWHERE IN THIS DOCUMENT.

ST1) Uniform Standards. The Uniform Standards for Sewerage Improvements and the Uniform Standard Sewer Details, latest edition, shall be followed. The information provided herein is intended as guidelines to supplement the Uniform Standards. The requirements of the Uniform Standards and the criteria stated herein are deemed to apply to all Projects, public or private, on public or private property.

ST2) Responsibility.

- a) All on-site storm water shall be controlled in accordance with the storm water management requirements herein.
- b) The City shall not, in any way, be responsible for, nor shall the City provide, determine, and/or calculate any drainage areas, flows, water levels, volumes, etc. or make any other determinations necessary for the Designer to design any project.

ST3) Size and Jointing.

- a) All storm sewers, including connections, yard drains, etc., are to be a minimum of twelve (12) inches in diameter and have premium joints.
- b) All storm sewer connections to manholes, new or existing sewers, catch basins, or other structures shall be designed with resilient connectors meeting the requirements of ASTM C923. The intent of the design shall be for a watertight system.
- c) All pipe materials, strength designations, and testing requirements shall be clearly specified.
- d) Minimum slopes shall be per the Uniform Standards.
- e) Corrugated metal pipe and manholes shall not be used except as allowed by the Uniform Standards.
- f) Corrugated metal pipe and manholes shall not be considered watertight unless bona fide testing information from an independent testing laboratory can show water-tightness equal to that of concrete pipe ASTM C76, with premium joints ASTM C443.
- g) It is the responsibility of the Designer to properly size structures to accommodate access, steps, piping, resilient connectors, hydraulic conditions, etc.
- h) The Designer shall check for the possibility of floatation. If requested, the floatation calculations shall be submitted to the City.

ST4) Drainage Map.

- a) A drainage map clearly showing individual drainage areas, including all off-site tributary drainage areas shall be submitted by the Designer. The individual areas shall be clearly labeled with Area Number (or Letter), the area (in acres), the runoff coefficient, and any other pertinent information.

- b) The calculations for each runoff coefficient or curve number shall be shown in the calculations.
- c) All off-site tributary drainage areas are to be addressed and included in the report and calculations.
- d) Existing storm water patterns are not to be disturbed, unless authorized in writing by the City Engineer.
- e) All on-site storm water is to be contained on-site and no excess storm water shall be discharged off-site.
- f) Designers are to address site grading, driveway aprons, tree lawns, etc., to preclude storm water runoff off the site.

ST5) Rational Method.

- a) The design calculations for storm sewer design are to be done by the Rational Method and calculations are to be shown.
- b) All storm culverts shall be designed for a minimum 50-year storm unless directed otherwise by the City Engineer.
- c) All other storm facilities shall be designed by criteria noted in the Storm Water Management portion of this Guidance, or as specified by the City Engineer.
- d) Storm Sewers – Minimum Requirements

Area	Design Storm Frequency	Concentration Time to Critical Inlet
Residential	5-year	15 minutes
Cluster Homes, Condos, Multifamily	10-year	12.5 minutes
Commercial, Industrial, Schools	10-year	10 minutes
Large or Special Projects	See City Engineer	See City Engineer

- e) In addition, all storm sewer designs shall be checked for the Critical Storm and/or a minimum 25-year storm (whichever is the worst-case condition) or as required by the City Engineer.
- f) Hydraulic Grade Line. The Hydraulic Grade Line (HGL) throughout the system for the design storms shall be submitted and shall be based on design condition "worst case" scenarios, including detention basin high water levels. As a minimum, the 10-year and 25-year events are to be submitted. The 10-year HGL shall not rise above any rim elevation, i.e., no site flooding shall occur. The 25-year HGL shall not cause any off-site flooding. The 25-year HGL shall not cause any building structures to be flooded. If site flooding occurs for any storm event, the owner shall be totally responsible and save the City and City Engineer harmless.

- g) Storm Sewer Summary Tabulation. The storm sewer calculations shall be submitted in tabular form and shall include the following information as a minimum:
1. upstream and downstream structure numbers (same as on plans) for each run of pipe
 2. pipe length, size, slope, Manning's n value, capacity, velocity
 3. upstream and downstream rim and invert elevations
 4. drainage area identification number (same as on Drainage Map) and drainage area in acres
 5. runoff coefficients
 6. times of concentration
 7. rainfall intensities (per the Uniform Standards)
 8. total flow rates
 9. flow velocities
 10. year storm
 11. initial hydraulic grade line elevation at detention basin or outlet
 12. upstream and downstream hydraulic grade line elevations
 13. any other pertinent information
- ST6) Previous Studies. All storm water management planning shall include applicable studies previously done and on file with the City Engineer. For example, all storm water management planning in the Landerbrook area shall conform to the Landerbrook study and all planning in the Lander Haven area shall conform to the Lander Haven study.
- ST7) Offsite Flows Onto, Through, or Affecting the Project.
- a) It is the responsibility of the Owner and Designer to determine the extent and magnitudes of all offsite flows onto or through the Project Site, or flows which in any way affect the Project.
 - b) Walls, buffer walls, berms, and/or landscaping shall not block the natural flow routes of off-site tributary storm drainage onto the site.
 - c) Openings or other acceptable means are to be provided at frequent intervals to allow flow to pass through the barrier.

COMPREHENSIVE STORM WATER MANAGEMENT PROGRAM

ADVISORY NOTE: SEE ALSO OTHER PERTINENT SECTIONS ELSEWHERE IN THIS DOCUMENT.

The Comprehensive Storm Water Management Program shall include, but not be limited to, the following parts:

- Construction Site Storm Water Runoff Control
- Post-Construction Storm Water Management
- Prohibition of Illicit Discharge into the City of Mayfield Heights' Municipal Separate Storm Sewer System
- City of Mayfield Heights Guidance for Projects

Construction Site Storm Water Runoff Control regulations, including applicability, are described in the City of Mayfield Heights regulation entitled "Construction Site Storm Water Runoff Control".

Post-Construction Storm Water Management regulations, including applicability, are described in the City of Mayfield Heights regulation entitled "Post-Construction Storm Water Management".

Prohibition of Illicit Discharge into the City of Mayfield Heights' Municipal Separate Storm Sewer System regulations, including applicability, are described in the City of Mayfield Heights regulation entitled "Prohibition of Illicit Discharge into the City of Mayfield Heights' Municipal Separate Storm Sewer System".

The City of Mayfield Heights Guidance for Projects regulations, including applicability, are described in the City of Mayfield Heights regulation entitled "City of Mayfield Heights Guidance for Projects" and herein.

SW1) Comprehensive Storm Water Management Plan. All project submittals must include a Storm Water Management Plan, regardless of the size or type of project, including new or re-development projects. Projects may include: highways and roads; subdivisions or larger common plans of development; industrial, commercial, institutional, or residential projects; building activities on farms; redevelopment activities; grading; linear construction projects; and all other site-disturbing activities that are not specifically exempted herein. The Storm Water Management Plan shall include a bound report, prepared and certified by a Registered Professional Engineer and is to include at a minimum:

- a) Construction Site Storm Water Runoff Control of the Comprehensive Storm Water Management Plan shall include a Narrative and Erosion and Sediment Control Plan describing Construction Site Storm Water Runoff Control meeting all requirements of this Guidance.
- b) Post-Construction Storm Water Management of the Comprehensive Storm Water Management Plan shall define Post-Construction Storm Water Management for the project, meeting all requirements of this Guidance and shall include:
 - i. Narrative - A description of the existing and proposed site characteristics, assumptions,

- ii. Drainage maps shall be provided; one map to show the pre-development drainage scenario, and one map to show the proposed post-development drainage scenario. The maps shall include all offsite tributary areas.
- iii. Pre- and Post-Development Storm Flows.
 - 1) Pre-and Post-Development storm flows are to be shown for the design storms.
 - 2) Pre-Development and Post-Development calculations for the 1, 2, 5, 10, 25, 50 and 100-year frequency storm events shall be presented in the Storm Water Management Report.
- iv. Summary of Calculations. The following Summary information (as a minimum) shall be provided in tabular form:

SUMMARY							
Design Year Storm	Pre-Develop. Flows, cfs	Post-Develop. Flows, cfs	Total Allowable Discharge Flows, cfs	Total Actual Discharge Flow, cfs	Storage Basin High Water Level Elevation	Required Storage Volume	Actual Storage Vol. Provided at HWL
1							
2							
5							
10							
25							
50							
100							

- v. Basin routing calculations shall be provided.
- vi. Dividers shall be inserted and labeled (e.g., Routing Calculations, Orifice Calculations, etc.) between report sections.
- vii. The report shall be bound (i.e., not just stapled) or punched and assembled in a 3-ring notebook and the pages shall be consecutively numbered for reference.
- viii. Operation and Maintenance. A narration specifically describing how the storm water management system (system) is designed to function. A narration describing the specific maintenance requirements to keep the system properly functioning.
- ix. Upstream and Downstream Considerations. The Designer shall include all information (calculations, hydraulic grade lines, etc.) to show conclusively that the proposed storm water management practices will not adversely affect upstream or downstream properties (flooding of properties, parking lots, flooding of basements, alteration of existing detention basin water levels, etc.).

SW2) Construction Site Storm Water Runoff Criteria.

a) MINIMUM STANDARDS:

BEST MANAGEMENT PRACTICES

The Applicant shall provide project specific documentation, including the construction site storm water runoff control BMP's, in compliance with this Guidance. Documentation shall include BMP's and specifications of the current edition of the Ohio Rain Water and Land Development Manual.

Best Management Practices shall control erosion and sediment, and construction site wastes such as discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste.

MATERIALS AND INSTALLATION:

When not described in the Ohio Rain Water and Land Development Manual, materials and installation practices shall be as noted in this Guidance or as accepted by the City Engineer.

b) MAINTENANCE:

Construction site storm water runoff control facilities and structures shall be maintained by the Applicant until removal is authorized by the City Engineer.

SW3) Post-Construction Storm Water Management Criteria

a) MINIMUM STANDARDS:

BEST MANAGEMENT PRACTICES

The Applicant shall provide project specific documentation in compliance with this Guidance and the storm water quantity requirements, including specifications, of the current edition of the Ohio Rain Water and Land Development Manual.

MATERIALS AND INSTALLATION:

When not described in the Ohio Rain Water and Land Development Manual, materials and installation practices shall be as noted in this Guidance or as accepted by the City Engineer.

b) MAINTENANCE:

Storm water quantity control facilities and structures shall be maintained by the Applicant.

c) POST-CONSTRUCTION STORM WATER MANAGEMENT CRITERIA:

Storm water release rate and quantity control shall be provided in accordance with this regulation for all projects regardless of acreage, unless specifically exempted below.

1. The peak discharge rate of runoff from the Critical Storm and all more frequent storms occurring under post-development conditions shall not exceed the peak discharge rate of runoff from a 1-year, 24-hour storm occurring on the development drainage area under pre-development conditions.
2. Storms of less frequent occurrence (longer return periods) than the Critical Storm, up to the 100-year, 24-hour storm shall have peak runoff discharge rates no greater than the peak runoff rates from equivalent size storms under pre-development conditions. The 1, 2, 5, 10, 25, 50, and 100-year storms shall be considered in designing a facility to meet this requirement.
3. Storage volumes determined necessary to meet the requirements of items 1 and 2 above, shall be increased by *at least* 10% to anticipate reduced storage capacity caused by siltation, debris, etc., accumulation between periods of basin maintenance.
4. The Critical Storm for each development drainage area shall be determined as follows:
 - a. Determine, using a curve number-based hydrologic method that generates hydrographs, or other hydrologic method approved by the City Engineer, the total volume (acre-feet) of runoff from a 1-year, 24-hour storm occurring on the development drainage area before and after development. These calculations shall meet the following standards:
 - (1) To minimize future disturbances in phased projects, initial storm water storage capacities should be provided in anticipation of all future development phases. Storm water control structures (i.e., outlet orifices, etc.) shall be appropriate for proposed phases of development.
 - b. From the volumes determined above, determine the percent increase in volume of runoff due to development. Using the percentage, select the 24-hour Critical Storm from Table 3:

Table 3: 24-Hour Critical Storm		
If the Percentage of Increase in Volume of Runoff is:		The Critical Storm will be:
Equal to or Greater Than:	and Less Than:	
0*	50	5 year
50	100	10 year
100	250	25 year
250	500	50 year
500	---	100 year

For example, if the percent increase between the pre- and post-development runoff volume for a 1-year storm is 35%, the Critical Storm is a 5-year storm. The peak discharge rate of runoff for all storms up to this frequency shall be controlled so as not to exceed the peak discharge rate from the 1-year frequency storm under pre-development conditions in the development drainage area. The post-development runoff from all less frequent storms need only be controlled to meet pre-development peak discharge rates for each of those same storms.

* For proposed sites yielding a decrease in volume of runoff, a reduction in storm water discharge rate and volume for the 5-Yr. storm of at least twenty percent (20%) shall be required, and provide for treatment of at least twenty percent (20%) of the Water Quality Volume as applicable.

5. When a project requires that additional storm water runoff is to be added to an existing storm water storage facility, the original High Water Level Elevations (HWL) and normal water level elevation shall be maintained. The additional storage capacity is to be added by increasing the volume of the basin below the HWL.
6. Storm water storage facility outlet structures shall be fully detailed on the plans. The City prefers the use of an orifice plate to control outflow. The Designer shall provide orifice design calculations for review. An approved access shall be located directly above the orifice plate location to provide for ease of inspection, cleaning, and maintenance. Acceptable alternative methods of flow control include a Hydro vex (or equal) type device.
7. These regulations require that each developed parcel provide for all the physical facilities for storm water management for their individual site. Each site shall be designed to control storm water in accordance with requirements of this Section. Alternate methods may be considered, at the City's discretion, as long as the flow in the receiving stream (or facility) is not increased for any storm event.
8. Exemptions:
 1. A single family residential site having City approved drainage discharge patterns and whose contributing flow does not exceed the remaining capacity of receiving streams (or facilities).

2. A single family residential site whose drainage interception, conveyance, and control is part of a larger plan of development approved by the City.
- SW4) Hydraulic Grade line. The Hydraulic Grade Line (HGL) throughout the system for the design storms shall be submitted and shall be based on design condition "worst case" scenarios, including detention basin high water levels.
- SW5) High Water Level (HWL) and Storage Volume. For both open and underground storm water storage facilities, the Report shall clearly state the High Water Level (HWL) elevations for the design storms, the overflow elevation, the top of embankment elevation, and any other pertinent elevations. For each elevation shown, the corresponding storage volume or capacity shall be stated. The calculation for storage volume provided for a project shall include only the volume below the calculated High Water Level Elevation in a defined detention basin and shall not include any storage within the storm sewer system. Storm water storage facilities shall have an engineered emergency overflow system.
- SW6) Freeboard. Open basins are to be provided with freeboard acceptable to the City Engineer.
- SW7) Outlet. The Owner/Designer shall provide a proper and suitable outlet (or outlets) for the storm flows from the site. It is the sole responsibility of the Owner to address, in a timely manner, any and all problems resulting from this Project and save the City, the City Engineer, and their representatives harmless.
- SW8) Floataion. Designer shall prevent floataion of underground storm water storage facilities. If requested, the floataion calculations shall be submitted to the City.
- SW9) Parking Lot Storage. Any proposed above-grade parking lot storage is to be discussed with the City Engineer.
- SW10) Previous Studies. All storm water management planning shall include applicable studies previously done and on file with the City Engineer. For example, all storm water management planning in the Landerbrook area shall conform to the Landerbrook study and all planning in the Lander Haven area shall conform to the Lander Haven study.
- SW11) Offsite Flows.
- a) Walls, buffer walls, berms, and/or landscaping shall not block the natural flow routes of off-site tributary storm drainage onto the site.
 - b) Openings or other acceptable means are to be provided at frequent intervals to allow flow to pass through the barrier.
 - c) Storm flow shall not be allowed to pass off the Project site through the barrier.
 - d) No offsite flows onto the site shall be re-routed unless specifically agreed to in writing with all the adjacent property owners, the Developer, and the City. The Developer shall assume all costs involved and shall hold the City and the City Engineer harmless. All at no cost to the City.

SW12) Soil Conditions. It is the sole responsibility of the Owner, through the Designer, to ascertain that the existing and/or proposed soil conditions at the Project Site are proper and conducive to the proposed storm water management design.

SW13) Utilities Under Detention Basins. Utility lines or structures of any kind (i.e., storm sewers, sanitary sewers, water lines, water valve boxes, etc.) shall not be routed beneath or in the near proximity (e.g., the embankment area) of a storm water storage facility.

SW14) Easements. Unless part of the required access/easements for storm water management, no portion of a storm water storage facility, including berms and embankments, is to be located within an easement of any kind.

SW15) Access Openings.

- a) Underground storm water storage facilities shall have at least two access openings to allow for inspection and cleaning.
- b) Unless otherwise approved by the City Engineer, the access manholes shall be minimum 48-inch diameter standard manholes with 24-inch minimum diameter manhole openings and suitable bolted manhole covers. At least one access opening shall be provided on each end of the basin.
- c) Access manholes may be used as storm water inlets with bolted grates.
- d) As needed, suitably designed air vents shall be provided for in the design.
- e) The design of underground storm water storage facilities shall be such that physical access shall be provided to all areas of the basin for cleaning and inspection purposes.

SW16) Corrugated Metal Pipe.

- a) Corrugated metal pipe and manholes shall not be used except as allowed by the Uniform Standards.
- b) Corrugated metal pipe and manholes shall not be considered watertight unless bona fide testing information from an independent testing laboratory can show watertightness equal to that of concrete pipe ASTM C76, with premium joints ASTM C443.

SW17) Illicit Discharges.

Responsibility for administration

The City may delegate an authorized agent to enforce these requirements. Currently, the City has designated the Cuyahoga County Board of Health as the authorized agent.

ROADWAYS, PAVEMENTS AND APPURTENANCES

ADVISORY NOTE: SEE ALSO OTHER PERTINENT SECTIONS ELSEWHERE IN THIS DOCUMENT.

RP1) All Designers are to follow the requirements and specifications of the City of Mayfield Heights and the City Engineer.

OTHER UTILITIES

ADVISORY NOTE: SEE ALSO OTHER PERTINENT SECTIONS ELSEWHERE IN THIS DOCUMENT.

OU1) Water. All Designers are to follow the requirements and specifications of the City of Cleveland Division of Water, and the City of Mayfield Heights Fire Marshal.

OU2) Natural Gas. All Designers are to follow the requirements and specifications of Dominion East Ohio Gas.

OU3) Electricity. All Designers are to follow the requirements and specifications of First Energy.

OU4) Cable Television. All Designers are to follow the requirements and specifications of Time-Warner Cable.

OU5) Telephone. All Designers are to follow the requirements and specifications of SBC Communications and AT & T.

OU6) Fiber Optic Cable. All Designers are to follow the requirements and specifications of Adesta Communications.

PROJECT DEVELOPMENT AGREEMENT

PDA1) Within the Project Development Agreement, a Maintenance Agreement shall be provided by the Owner to the City, binding on the owner and all subsequent owners of lands served by the system of storm water management practices designed for the site. The Agreement shall be recorded with the deed of the property(s) within the site, and shall provide and stipulate the following:

- a. The location of each storm water management practice.
- b. Continual maintenance of all post-construction BMP's.
- c. The method of guaranteeing continued operation, maintenance and inspections and protection of public safety and health of all storm water management practices.
- d. Features of the design that facilitate maintenance of the practice.
- e. The on-going procedures needed to assure the continued performance of storm water management practices, and protection of public safety and health.

- f. Additional requirements of the City Engineer to ensure continual performance of storm water management practices.
- g. The party responsible for long-term maintenance, including repairs. This party shall also hold the easements required.
- h. A prohibition on alteration of the practice without prior written approval from the City Engineer.
- i. An easement that allows the City of Mayfield Heights access to the storm water management practices/facilities at reasonable times for observations to document the condition of the practice and to ensure it is functioning as originally designed and approved.
- j. Permission for City of Mayfield Heights to enter upon the property and take whatever action is deemed necessary to maintain facilities that do not perform as specified in the Maintenance Agreement, and to be reimbursed by the property owner(s) served by the facility for all expenses incurred within 10 days of receipt of invoice from the City of Mayfield Heights.
- k. A statement by the Owner for the release of, and hold harmless for, the City of Mayfield Heights and their representatives, including the City Engineer, from all damages, accidents, casualties, occurrences, or claims that might arise or be asserted against said parties from the construction, presence, existence, or maintenance of the storm water management practices.
- l. Performance Guarantee (Cash Deposit or Bond). Prior to commencement of construction activities (including site clearing, etc.), a performance guarantee in the amount of 120% of the Engineer of Record's construction cost estimate for the public interest improvements shall be provided to the City. Public interest improvements may include any or all improvements of the project's approved improvements. Public interest improvements shall be as determined by the City Engineer.
- m. The Development Agreement shall state Owner's responsibility for continuing operation and maintenance, and protection of public safety and health. The Owner shall also acknowledge the City's right to enter upon the Project site and effect necessary maintenance in the public interest, and assess the Owner.

PDA2) The applicant must provide a draft of this Maintenance Agreement as part of the Comprehensive Storm Water Management Plan submittal. Once a draft is approved, a recorded copy of the Agreement must be submitted to the City of Mayfield Heights.

PDA3) Financial Assurances, Development Agreements, etc.

- a. During the first two (2) years after the date of the completion of construction, as determined by the City, the Developer shall provide a Maintenance Bond to the City and shall be fully and solely responsible for providing the following, including, but not limited to, all maintenance, repairs, replacement as necessary, cleaning, such as silt and debris removal, etc. (these items are henceforth referred to herein in this section as "maintenance and repairs"), for all facilities and infrastructure provided by the Developer. This bond shall be in the amount of 10% of the cost of construction as certified by the Developer through a tabulation of actual labor unit prices, material unit prices, total unit prices, quantities, and totals. Applicable facilities and infrastructure include, but are not limited to:

- i) pavement, including all roads, roadway subbases and subgrade components; compaction; earthwork (such as cut/fill slopes, etc.)
 - ii) curbs;
 - iii) drives;
 - iv) sewers, including all storm sewers, sanitary sewers, all storm and sanitary laterals, and all structures;
 - v) all other underground utilities and structures;
 - vi) all poles and overhead facilities and utilities;
 - vii) all signalization;
 - viii) all storm water management facilities and structures;
 - ix) landscaping, including all seeding/sodding, and mowing;
 - x) and shall also include all facilities deemed by the City to be a part of the Project.
- b. During the following three (3) years after the expiration of the two (2) year Maintenance Bond above, the Developer shall provide an additional Maintenance Bond to the City and shall be fully and solely responsible for providing the following, including, but not limited to, all maintenance and repairs for the following facilities and infrastructure provided by the Developer. This bond shall be in the amount of 10% of the cost of construction as certified by the Developer through a tabulation of actual labor unit prices, material unit prices, total unit prices, quantities, and totals. Applicable facilities and infrastructure include, but are not limited to:
- i) all storm water management facilities and structures;
 - ii) landscaping, including all seeding/sodding, and mowing;
 - iii) and shall also include all storm water management facilities deemed by the City necessary to be included.
- c. The Developer shall cause all maintenance and repairs to be done in a timely manner, as determined and required by the City. The City may provide notice to the Developer of such required maintenance and repairs. However, neither the notification of, nor the lack of such notification by the City to the Developer, shall relieve the Developer of full responsibility for the maintenance and repairs of all facilities and infrastructure.
- d. The Developer shall provide access to the City in the event that the Developer does not provide timely maintenance and repairs as deemed necessary by the City, or for emergency purposes. The City shall invoice the Developer for all associated charges and costs. Compensation to the City shall become due and payable within ten days of the date of the bill. However, neither the notification of, nor the lack of such notification by the City to the Developer, and neither the provision of, nor the lack of such provision of maintenance and repairs by the City, shall relieve the Developer of continued full responsibility for the maintenances and repairs of all facilities and infrastructure.
- e. If the bonds required herein shall prove to be insufficient in monetary amount to cover the necessary maintenance and repairs, the Developer shall provide additional and timely funding as necessary.
- f. After the time periods set forth above, the responsibility for meeting the maintenance and

repairs requirements of this Section in perpetuity shall be transferred to a legal entity acceptable to the City. For example, a Homeowner's Association may become the responsible party. Written acceptance of this responsibility, including appropriate financial assurances as determined by the City, shall be recorded with the City. However, the Developer is to make these requirements known to the long-term owner(s), individual owner(s), and Homeowners Association, etc., by providing specific written disclosure to each and every individual owner prior to any monetary transaction, or promissory commitments, or transfer of any property or properties.

ACCESS/EASEMENTS

Access to storm water management practices as required by the City Engineer for observations and maintenance shall be secured by easements. The following conditions shall apply to all easements:

- A. Legal descriptions (or provision on a recorded plat) and restrictions for easements shall be included in the Maintenance Agreement submitted with the Comprehensive Storm Water Management Plan.
- B. Easements shall be approved by the City Engineer prior to approval of a final plat and shall be recorded with Cuyahoga County and on all property deeds.
- C. Unless otherwise approved by the City Engineer access easements between a public right-of-way and all storm water management practices shall be no less than 25-foot wide.
- D. The easement shall be graded and stabilized as approved by the City Engineer to allow maintenance equipment to access and manipulate around and within each facility.
- E. Unless otherwise approved by the City Engineer, easements shall be restricted against the construction therein of buildings, fences, walls, and other structures that may obstruct the free flow of storm water and the passage of observers and maintenance equipment; and against the changing of final grade from that described by the final grading plan approved by the City of Mayfield Heights. Any re-grading and/or obstruction placed within an easement may be removed by the City of Mayfield Heights at the property owners' expense.

ENGINEERING REVIEW AND VERIFICATION OF RESIDENTIAL SITE PLANS AND SITES

ADVISORY NOTE: SEE ALSO OTHER PERTINENT SECTIONS ELSEWHERE IN THIS DOCUMENT.

Review and verification of Residential Site Plans and Sites by the City Engineer may include, but is not necessarily limited to:

- Review of submitted project documents to verify compliance with regulations;
- The City Engineer may conduct site visits to observe existing site conditions and to confirm the appropriateness of the proposed improvements, building floor elevations, and grading plan;
- Review the project documents and discuss with the Designer as necessary;
- Upon notification by OUPS, the City will field locate public sanitary and storm sewers;

City of Mayfield Heights, Ohio
City's Engineer's Office
Guidance For Projects
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- Verification of as-built top of footer elevations prior to construction of foundation walls;
- Verification of finished surface elevations, improvements, and site grading as requested by the City Building Department.
- Communication with the City, particularly the Building Department.

APPLICATION FOR CITY APPROVAL

ADVISORY NOTE: SEE ALSO OTHER PERTINENT SECTIONS ELSEWHERE IN THIS DOCUMENT.

PROJECT ACCEPTANCE BY THE CITY

ADVISORY NOTE: SEE ALSO OTHER PERTINENT SECTIONS ELSEWHERE IN THIS DOCUMENT.

DEFINITIONS

DEFINITIONS

A

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

APPLICANT: See "OWNER".

APPROVAL/PERMIT: Appropriate authorization by the City or other jurisdictional authority to proceed with the requested activity.

APPROVAL OR APPROVED: "Approval" or "Approved" is defined to mean that the review and approval process of the Project Information by the City, the City Engineer, and their representatives is for general conformance with the Ordinances of the City of Mayfield Heights. An Approval and/or the provision of review comments or lack of comments shall not, in any way, relieve the Project Owner(s), Designer(s), and Contractor(s) of their total responsibilities for the Project. The review and approval process shall in no way relieve the Owners, Designers, and Contractors of their legal, moral, ethical, health and safety, and professional responsibilities in the proper design and construction of a project. In reference to an Approval, the Owners, Designers, and Contractors shall save the City of Mayfield Heights, the City Engineer, and their representatives harmless.

AS-BUILT SURVEY INFORMATION: A survey shown on a plan or drawing prepared as described elsewhere herein indicating the actual dimensions, elevations, and locations of any and all structures, underground utilities, swales, detention facilities, and sewage treatment facilities after construction has been completed.

AUTHORIZED AGENT: employees or designees of the City of Mayfield Heights responsible to enforce this ordinance.

B

BEST MANAGEMENT PRACTICES: (BMPs): Schedules of activities, prohibitions of practices, maintenance procedure, and other management practices to prevent or reduce the pollution of surface waters of the State. BMPs also include treatment requirements, operating procedures and practices to control runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage, or wash down areas.

BOARD OF HEATH: The designated County Board of Health for Cuyahoga County, State of Ohio.

C

CERTIFIED PROFESSIONAL IN EROSION AND SEDIMENT CONTROL (CPESC): A person that has subscribed to the Code of Ethics and have met the requirements established by the CPESC Council of Certified Professional In Erosion and Sediment Control, Inc. to be a Certified Professional in Erosion and Sediment Control.

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CHANNEL: A natural or man-made stream that conveys water, or a ditch or channel excavated for the natural flow of water.

CITY/COMMUNITY: The City of Mayfield Heights, State of Ohio, its designated agents, representatives, boards, or commissions, including the City Engineer.

CITY ENGINEER: City of Mayfield Heights official City Engineer and their representatives.

CLEAN WATER ACT: Pub. L. 92-500, as amended Pub. L. 95-217, Pub. L. 95-576, Pub. L. 96-483, Pub. L. 97-117, and Pub. L. 100-4, 33 U.S.C. 1251 et. seq. Referred to as the Federal Water Pollution Control Act or the Federal Water Pollution Control Act Amendments of 1972.

COMPREHENSIVE PROJECT STORM WATER MANAGEMENT PROGRAM: Written documentation meeting the requirements of the regulations of the City that addresses storm water management.

CONCENTRATED STORM WATER RUNOFF: Surface water runoff which converges and flows primarily through water conveyance features such as swales, gullies, waterways, channels or storm sewers, and which exceeds the maximum specified flow rates of filters or perimeter controls intended to control sheet flow.

CONSERVATION: The wise use and management of natural resources.

CONSTRUCTION ENTRANCE: The permitted points of ingress and egress to development areas regulated under the regulations of the City.

CONTRACTOR: Any and all of the contractors and subcontractors who will construct the Project.

CONTROL MEASURE: Refers to any Best Management Practice or other method used to prevent or reduce the discharge of pollutants to surface waters of the State.

CORPS OF ENGINEERS: The United States Army Corps of Engineers.

CRITICAL STORM: A storm that is calculated by means of the percentage increase in volume of runoff by a proposed development area. The critical storm is used to calculate the maximum allowable storm water discharge rate from a developed site.

CUT AND FILL SLOPES: A portion of land surface or area from which soil material is excavated and/or filled.

COUNTY: Cuyahoga County, State of Ohio

COUNTY ENGINEER: The designated County Engineer for Cuyahoga County, State of Ohio.

COUNTY SANITARY ENGINEER: The designated County Sanitary Engineer for Cuyahoga County, State of Ohio.

CWA or THE ACT: The Clean Water Act (formerly referred to as the Federal Water Pollution Control Act or Federal Water Pollution Control Act Amendments of 1972) Pub. L. 92-500, as amended Pub. L. 95-217, Pub. L. 95-676, Pub. L. 96-483 and Pub. L. 97-117, 33 U.S.C. 1251 et.seq.

D

DENUDED AREA: A portion of land surface on which the vegetation or other soil stabilization features have been removed, destroyed or covered, and which may result in or contribute to erosion and sedimentation.

DESIGNER: The Owner's Registered Professional Engineer (the Engineer of Record on the Project).

DETENTION BASIN: (1) A basin, pond, oversized pipe, or other structure that reduces the peak flow rate of storm water leaving the facility by temporarily storing a portion of the storm water entering the facility. (2) A storm water management pond that remains dry between storm events.

DEVELOPER: See "OWNER".

DEVELOPMENT AREA: Any land being proposed or used for authorized development activities.

DEVELOPMENT DRAINAGE AREA: A combination of each hydraulically unique watershed with individual outlet points on the development area.

DIRECTOR: The director of the Ohio Environmental Protection Agency.

DISCHARGE: When used without a qualifier, refers to "discharge of a pollutant" as defined at 40 CFR 122.2.

DISCHARGER: means any person who causes, allows, permits, or is otherwise responsible for, a discharge, including without limitation, any operator of a construction site or industrial facility.

DISTURBED AREA: An area of land subject to erosion due to the removal of vegetative cover and/or soil disturbing activities.

DITCH: An excavation, either dug or natural, for the purpose of drainage or irrigation, and having intermittent flow.

DOCUMENTS: Project-related information provided to the City in hard copy and/or electronic format, including but not limited to: construction/design documents, reports, calculations, as-built information, proof of regulatory compliance, proof of facility inspection compliance, and other information as required by the City.

DRAINAGE: (1) The area of land contributing surface water to a specific point. (2) The authorized removal of excess surface water or groundwater from land by surface or subsurface drains.

DUMPING: The grading, pushing, piling, throwing, unloading or placing of soil or other material.

E

EARTH DISTURBING ACTIVITY: Any grading, excavating, filling, disturbance, tree removal, clearing, grubbing or other alteration of the earth's surface where natural or man-made ground cover is destroyed.

EARTH MATERIAL: Soil, sediment, rock, sand, gravel, and organic material or residue associated with or attached to the soil.

ENVIRONMENTAL PROTECTION AGENCY OR USEPA: The United States Environmental Protection Agency, or any duly authorized official of said agency.

EROSION: The process by which the land surface is worn away by the action of wind, water, ice, gravity, or any combination of those forces.

EROSION AND SEDIMENT CONTROL PLAN: A written and/or drawn soil erosion and sediment pollution control plan to minimize erosion and prevent off-site sedimentation throughout all earth disturbing activities on a development area.

EROSION AND SEDIMENT CONTROL: The control of soil, both mineral and organic, to minimize the removal of soil from the land surface and to prevent its transport from a disturbed area by means of wind, water, ice, gravity, or any combination of those forces.

EROSION AND SEDIMENT CONTROL PRACTICES: Conservation measures used to control sediment pollution and including structural practices, vegetative practices and management techniques.

EXISTING: In existence at the time of the passage of this ordinance and the regulations of the City.

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

EXTENDED DETENTION: A storm water management practice that replaces and/or enhances traditional detention facilities by releasing the runoff collected during the storm water quality event over at least 24 to 48 hours, retarding flow and allowing pollutants to settle within the facility.

F

FEDERAL: The United States Federal Government.

FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA): The agency with overall responsibility for administering the National Flood Insurance Program.

FINAL STABILIZATION: All soil disturbing activities at the site have been completed and a uniform perennial vegetative cover with a density of at least 80% coverage for the area has been established or equivalent stabilization practices, such as the use of mulches or geotextiles, have been employed.

FLOATABLE MATERIAL: in general this term means any foreign matter that may float or remain suspended in the water column, and includes but is not limited to, plastic, aluminum cans, wood products, bottles, and paper products.

FREQUENCY STORM: A rainfall event of a magnitude having a specified average recurrence interval and is calculated with Natural Resources Conservation Service, USDA Type II twenty-four hour curves or depth-duration frequency curves.

G

GRADING: (1) The process in which the topography of the land is altered. (2) Earth-disturbing activity such as excavation, stripping, cutting, filling, stockpiling, or any combination thereof.

GRUBBING: Removing, clearing or scalping material such as roots, stumps or sod.

H

HAZARDOUS MATERIALS: Any material, including any substance, waste, or combination thereof, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may cause, or significantly contribute to, a substantial present or potential hazard to human health, safety, property, or the environment when improperly treated, stored, transported, disposed of, or otherwise managed.

I

ILLEGAL CONNECTION: Any drain or conveyance, whether on the surface or subsurface, that allows an illicit discharge to enter the MS4.

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

IMPERVIOUS COVER: Any surface that cannot effectively absorb or infiltrate water. This may include roads, streets, parking lots, rooftops, sidewalks, and other areas not covered by vegetation.

INFILTRATION: As defined in 40 CFR §35.2005 (20), infiltration means water other than wastewater that enters a sewer system, including sewer service connections and foundation drains, from the ground through such means as defective pipes, pipe joints, connections, or manholes.

INSPECTION/OBSERVATION: The City, the City Engineer and their representatives are not responsible for construction supervision and/or inspection. If the City or its representatives observe in any manner, it is only for general conformance with the design concept of the Project Information, the Ordinances of the City of Mayfield Heights, and as discussed elsewhere herein, and shall not, in any way, relieve the Owner, Designer, and Contractor of their total responsibilities for the Project.

INTERMITTENT STREAM: A natural channel that may have some water in pools but where surface flows are non-existent or interstitial (flowing through sand and gravel in stream beds) for periods of one week or more during typical summer months.

J and K (not used)

L

LANDSCAPE ARCHITECT: A Professional Landscape Architect registered in the State of Ohio.

LANDSLIDE: The rapid mass movement of soil and rock material downhill under the influence of gravity in which the movement of the soil mass occurs along an interior surface of sliding.

LARGER COMMON PLAN OF DEVELOPMENT OR SALE: A contiguous area where multiple separate and distinct construction activities may be taking place at different times on different schedules under one plan.

LOCAL COUNTY SWCD: The local Cuyahoga County Soil and Water Conservation District.

M

MAXIMUM EXTENT PRACTICABLE (MEP): MEP is an acronym for "Maximum Extent Practicable", the technology-based discharge standard for Municipal Separate Storm Sewer Systems to reduce pollutants in storm water discharges, that was established by CWA §402(p). A discussion of MEP as it applies to small MS4s is found at 40 CFR 122.34.

MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4): in accordance with 40 CFR 122.26 (b)(8), municipal separate storm sewer means a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains) that are:

Owned or operated by the federal government, state, municipality, township, county, district or other public body (created by or pursuant to state or federal law), including special district under state law such as a sewer district, flood control district or drainage districts, or similar entity, or a designated and approved management agency under section 208 of the act that discharges into surface waters of the State, and

Designated or used for collecting or conveying solely storm water,

Which is not a combined sewer, and

Which is not a part of a publicly-owned treatment works.

Small MS4: All municipal separate storm sewer systems that are neither a large MS4 nor a medium MS4.

Medium MS4: All municipal separate storm sewer systems that are located in an incorporated place with a population of one hundred thousand or more, but less than two hundred fifty thousand, as determined by the 1990 census by the United States Bureau of Census.

Large MS4: All municipal separate storm sewer systems that are located in an incorporated place with a population of two hundred fifty thousand or more as determined by the 1990 census by the United States Bureau of Census.

Non-Traditional MS4: Systems similar to separate storm sewer systems in municipalities, such as systems at military bases, hospitals, public universities or prison complexes, and highways and other thoroughfares. The term does not include separate storm sewer systems in very discrete areas, such as individual buildings.

N

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) STORM WATER DISCHARGE PERMIT: A permit issued by EPA (or by a State under authority delegated pursuant to 33 USC § 1342(b)) that authorizes the discharge of pollutants to waters of the United States, whether the permit is applicable on an individual, group, or general area-wide basis.

NATURAL RESOURCES CONSERVATION SERVICE (NRCS): An agency of the United States Department of Agriculture, formerly known as the Soil Conservation Service (SCS).

NOI: An acronym for "Notice of Intent" which means the mechanism used to "register" for coverage under a general permit.

NON-STORM WATER DISCHARGE: Any discharge to the storm drain system that is not composed entirely of storm water.

NONSTRUCTURAL STORM WATER MANAGEMENT PRACTICE: Storm water runoff control and treatment techniques that use natural practices to control runoff and/or reduce pollution levels.

O

OBSERVATION: See "INSPECTION/OBSERVATION".

ODOT: The State of Ohio Department of Transportation

OFF-LOT DISCHARGING HOME SEWAGE TREATMENT SYSTEM (HSTS): A system designed to treat home sewage on-site and discharges treated wastewater off-lot.

OHIO EPA: The State of Ohio Environmental Protection Agency.

ON-LOT HOME SEWAGE TREATMENT SYSTEM (HSTS): A system designed to treat home sewage on-lot with no discharges leaving the lot.

OPERATE: Drive, conduct, work, run, manage, or control.

OPERATOR See "OWNER"

ORDINARY HIGH WATER MARK: The point of the bank or shore to which the presence and action of surface water is so continuous as to leave a district marked by erosion, destruction or prevention of woody terrestrial vegetation, predominance of aquatic vegetation, or other easily recognized characteristic.

OUTFALL: An area where water flows from a structure such as a conduit, storm sewer, improved channel or drain, and the area immediately beyond the structure which is impacted by the velocity of flow in the structure.

OWNER — SITE OWNER — OPERATOR — APPLICANT — DEVELOPER: 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 a duly authorized agent thereof acting on the owner's behalf, who owns, leases, drives, conducts, works, runs, manages, or controls.

P

PARCEL: A tract of land occupied or intended to be occupied by a use, building or group of buildings and their accessory uses and buildings as a unit, together with such open spaces and driveways as are provided and required. A parcel may contain more than one contiguous lot individually identified by a 'Permanent Parcel Number' assigned by the Cuyahoga County Auditor's Office.

PERMIT: Ohio EPA Facility Permit Number 3GQ00029*AG.

PERSON: Any individual, owner, corporation, firm, trust, commission, board, public or private partnership, joint venture, agency, unincorporated association, municipal corporation, township, county or state agency, the federal government, other legal entity, or an agent thereof, or any combination thereof.

PHASING: Clearing a parcel of land in distinct sections, with the stabilization of each section before the clearing of the next.

POLLUTANT: Materials which contaminate. Pollutants may include, but are not limited to: paints, varnishes, and solvents; oil and other automotive fluids; non-hazardous liquid and solid wastes and yard wastes; refuse, rubbish, garbage, litter, or other discarded or abandoned objects, ordinances, and accumulations, so that same may cause or contribute to pollution; floatables; pesticides, herbicides, and fertilizers; hazardous substances, wastes; sewage, fecal coliform and pathogens; dissolved and particulate metals; animal wastes; wastes and residues that result from constructing a building or structure; and noxious or offensive matter of any kind.

POST-DEVELOPMENT: The conditions that exist following the completion of authorized site activity.

PRE-CONSTRUCTION MEETING: Meeting prior to construction between all parties associated with the construction of the project, including government agencies, contractors and owners to review agency requirements and plans as approved and submitted.

PRE-DEVELOPMENT CONDITIONS: The site characteristics and conditions that exist prior to the initiation of any site activity related to proposed improvements.

PREMISES: Any building, lot, parcel of land, or portion of land whether improved or unimproved including adjacent sidewalks and parking strips.

PROFESSIONAL ENGINEER: A Professional Engineer registered in the State of Ohio with specific education and experience in water resources engineering, acting in conformance with the Code of Ethics of the Ohio State Board of Registration for Engineers and Surveyors.

PROFESSIONAL/QUALIFIED PROFESSIONAL: A knowledgeable, recognized, competent, professional in a certain specific area of expertise, registered and/or accredited in the State of Ohio (for which registration/accreditation exists), and acceptable to, and approved by, the City.

PROFESSIONAL SURVEYOR: A Professional Surveyor registered in the State of Ohio, acting in conformance with the Code of Ethics of the Ohio State Board of Registration for Engineers and Surveyors.

PROJECT INFORMATION: All relevant drawings, storm water management reports, other calculations, and/or other Project information approved by the City for a specific Project.

Q (not used)

R

RAINWATER AND LAND DEVELOPMENT: Ohio's standards for storm water management, land development, and urban stream protection. The most current edition of these standards shall be used with the regulations of the City.

REDEVELOPMENT: Redevelopment means construction projects on land where impervious surfaces had previously been developed and where the new land use will not increase the runoff coefficient.

RETENTION BASIN: (1) A basin, pond, oversized pipe, or other structure that reduces the peak flow rate of storm water leaving the facility by temporarily storing a portion of the storm water entering the facility. (2) A storm water management pond that maintains a permanent pool of water.

RIPARIAN AREA: Naturally vegetated land adjacent to any brook, creek, river, or stream that, if appropriately sized, helps to stabilize streambanks, limit erosion, reduce flood size flows, and/or filter and settle out runoff pollutants, or performs other functions consistent with the purposes of the regulations of the City.

RIPARIAN SETBACK: Those lands within the City which are alongside streams, and which fall within the areas that may be regulated regarding changes in landuse and the building of structures.

RIPARIAN AND WETLAND SETBACK: A transition area around water resources left in a natural, usually vegetated, state so as to protect the water resources from runoff pollution.

RUNOFF: The portion of rainfall, melted snow, or irrigation water that flows across the ground surface and

is eventually returned to water resources.

S

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, or any combination of those forces, as a product of erosion, and has come to rest on the earth's surface either on dry land or in a body of water.

SEDIMENTATION: The deposition of sediment in water resources.

SEDIMENT BARRIER: A sediment control device such as a geotextile Silt Fence or a grass Filter Strip, usually capable of controlling only small flow rates. (Straw bale barriers are not acceptable.)

SEDIMENT BASIN/SEDIMENT SETTLING POND: A temporary Sediment Pond that releases runoff at a controlled rate. It is designed to slowly release runoff, detaining it long enough to allow most of the sediment to settle out of the water. The outlet structure is usually a designed pipe riser and barrel. The entire structure is removed after construction. Permanent storm water detention structures can be modified to function as temporary Sediment Basins.

SEDIMENT CONTROL: The limiting of sediment being transported by controlling erosion or detaining sediment-laden water, allowing the sediment to settle out.

SEDIMENT POLLUTION: A failure to use management or conservation practices to control wind or water erosion of the soil and to minimize the degradation of water resources by soil sediment in conjunction with land grading, excavating, filling, or other soil-disturbing activities on land used or being developed for commercial, industrial, residential, or other purposes.

SEDIMENT SETTLING POND: See "Sediment Basin".

SEDIMENT TRAP: A temporary sediment-settling pond having a simple spillway outlet structure stabilized with geotextile and riprap.

SENSITIVE AREA: An area or water resource that requires special management because of its susceptibility to sediment pollution, or because of its importance to the well-being of the surrounding communities, region, or the state and includes, but is not limited to, the following:

1. Ponds, wetlands or small lakes with less than five acres of surface area;
2. Small streams with gradients less than ten feet per mile with average annual flows of less than 3.5 feet per second containing sand or gravel bottoms.
3. Drainage areas of a locally designated or an Ohio designated Scenic River.
4. Riparian and wetland areas.

SETBACK: A designated transition area around water resources or wetlands that is left in a natural, usually vegetated, state so as to protect the water resources or wetlands from runoff pollution. Soil disturbing activities in this area are restricted by the regulations of the City.

SETTLING POND: A runoff detention structure, such as a Sediment Basin or Sediment Trap, which detains sediment-laden runoff, allowing sediment to settle out.

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SHEET FLOW: Water runoff in a thin uniform layer or rills and which is of small enough quantity to be treated by sediment barriers.

SITE OWNER See "OWNER"

SLIP: A landslide as defined under "Landslides."

SLOUGHING: A slip or downward movement of an extended layer of soil resulting from the undermining action of water or the earth disturbing activity of man.

SOIL: Unconsolidated erodible earth material consisting of minerals and/or organics.

SOIL CONSERVATION SERVICE, USDA: The federal agency now titled the "Natural Resources Conservation Service," which is an agency of the United States Department of Agriculture.

SOIL-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, erosion and sediment pollution, and/or increased storm water quantity and/or decreased storm water quality.

SOIL EROSION AND SEDIMENT CONTROL PLAN: A written and/or drawn soil erosion and sediment pollution control plan to minimize erosion and prevent off-site sedimentation throughout all earth disturbing activities on a development area.

SOIL EROSION AND SEDIMENT CONTROL PRACTICES: Conservation measures used to control sediment pollution and including structural practices, vegetative practices and management techniques.

SOIL STABILIZATION: Vegetative or structural soil cover that controls erosion, and includes permanent and temporary seed, mulch, sod, pavement, etc.

SOIL SURVEY: The official soil survey produced by the Natural Resources Conservation Service, USDA in cooperation with the Division of Soil and Water Conservation, ODNR and the local Board of County Commissioners.

SOIL AND WATER CONSERVATION DISTRICT: (1) An entity organized under Chapter 1515 of the Ohio Revised Code referring to either the Soil and Water Conservation District Board or its designated employee(s). (2) The designated Cuyahoga County Soil and Water Conservation District, Cuyahoga County, State of Ohio.

STABILIZATION: The use of Best Management Practices that reduce or prevent soil erosion by storm water runoff, trench dewatering, wind, ice, gravity, or a combination of those forces.

STATE: State of Ohio.

STORM WATER: Storm water is defined as 40 CFR 122.26(b)(13) and means storm water runoff, snow melt runoff, and surface runoff and drainage.

STORM WATER CONTROL STRUCTURE: Practice used to control accelerated storm water runoff from development areas.

STORM WATER CONVEYANCE: All storm sewers, channels, streams, ponds, lakes, etc., used for conveying concentrated storm water runoff, or for storing storm water runoff.

STORM WATER MANAGEMENT PROGRAM (SWMP): A comprehensive program to manage storm water within the City.

STORM WATER POLLUTION PREVENTION PLAN (SWP3): Storm water management documentation necessary to: (1) meet the OhioEPA requirements of the National Pollutant Discharge Elimination System (NPDES) Permit program; (2) meet the requirements of the storm water management regulations of the City.

STORM WATER RUNOFF: Surface water runoff which converges and flows primarily through water conveyance features such as swales, gullies, waterways, channels or storm sewers, and which exceeds the maximum specified flow rates of filters or perimeter controls intended to control sheet flow.

STREAM: A body of water running or flowing on the earth's surface, or a channel with defined bed and banks in which such flow occurs. Flow may be seasonally intermittent.

STRUCTURAL STORM WATER MANAGEMENT PRACTICE: Any constructed facility, structure, or device that provides storage, conveyance, and/or treatment of storm water runoff.

SURFACE WATERS OF THE STATE: All streams, lakes, reservoirs, ponds, marshes, wetlands, or other waterways, which are situated wholly or partly within the boundaries of the State, except those private waters which do not combine or affect a junction with a surface water. Waters defined as sewerage systems, treatment works, or disposal systems in Section 6111.01 of the ORC are not included.

SWMP: SWMP is an acronym for "Storm Water Management Program".

T

THIRD PARTY APPROVAL: Cuyahoga County, and/or State of Ohio, and/or United States federal approvals/permits.

U

UNIT: A single space occupied by a tenant or Owner.

UNSTABLE SOILS: A portion of land surface or area which is prone to slipping, sloughing, or landslides, or is identified by the U.S. Department of Agriculture Natural Resource Conservation Service methodology as having a low soil strength.

USEPA: The United States Environmental Protection Agency.

V (not used)

W

WASTEWATER: Any water or other liquid containing one or more pollutants.

WATERCOURSE: Any natural, perennial, or intermittent channel with a defined bed and banks, stream, river or brook.

WATER QUALITY VOLUME: The volume of runoff from a contributing watershed that must be captured and treated, equivalent to the maximized capture volume as defined in the American Society of Civil Engineers (ASCE) Manual and Report on Engineering Practice No. 87 and Water Environment Federation Manual of Practice No. 23 titled *Urban Runoff Quality Management*.

WATER RESOURCE: (1) Any public or private body of water; including wetlands; the area within the ordinary high water level of lakes and ponds; as well as the area within the ordinary high water level of any brook, creek, river, or stream having a defined bed and bank (either natural or artificial) which confines and conducts continuous or intermittent flow. (2) All streams, lakes, ponds, wetlands, water courses, waterways, drainage systems, and all other bodies or accumulations of surface water, either natural or artificial, which are situated wholly or partly within, or border upon this state, or are within its jurisdiction, except those private waters which do not combine or affect a junction with natural surface waters.

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

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

WETLAND: Wetlands shall be delineated by a site survey approved by the City using delineation protocols accepted by the U.S. Army Corps of Engineers and the Ohio EPA.

WETLAND SETBACK: See Riparian and Wetland Setback.

WINTER: October 1st to April 1st of each year.

X, Y and Z (not used)

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ATTACHMENTS

PROJECT SUBMITTAL FORM

This form is to be copied as necessary, filled out by the designer, and submitted with all submittals (and each re-submittal).

Project Name: _____

Project Address: _____

Date: _____

Name of Person completing this Form: _____

Project Owner (name of company): _____

Mailing Address: _____

Contact Person: _____

Phone Number: _____

Fax Number: _____

Email address: _____

Project Designer (name of company): _____

Mailing Address: _____

Contact Person: _____

Phone Number: _____

Fax Number: _____

Email address: _____

NOTE: ALL SUBMITTALS AND ALL RE-SUBMITTALS SHALL BE SUBMITTED TO THE CITY OF MAYFIELD HEIGHTS DIRECTOR OF BUILDING.

NO SUBMITTALS OF ANY KIND SHALL BE MADE TO THE CITY ENGINEER'S OFFICE.