ORDINANCE NO. 2016-29

AN ORDINANCE AMENDING CHAPTER 555 OF THE CODIFIED ORDINANCES OF THE VILLAGE OF PERRY, OHIO, PERTAINING TO COMPREHENSIVE STORMWATER MANAGEMENT AND DECLARING AN EMERGENCY

WHEREAS, "Chapter 555— *C*omprehensive Storm Water Management" of the Codified Ordinances of the Village of Perry, presently reads as is set forth in the _____ (___) page document that is attached hereto as "Exhibit A" and made a part hereof; and

WHEREAS, Council must be constantly vigilant in its protection of the health, safety and welfare of the Village's residents; and

WHEREAS, flooding is a significant threat to property and public health and safety and storm water management lessens flood damage by reducing and holding runoff and releasing it slowly; and,

WHEREAS, streambank erosion is a significant threat to property and public health and safety and storm water management slows runoff and reduces its erosive force; and,

WHEREAS, insufficient control of storm water can result in significant damage to receiving water resources, impairing the capacity of these areas to sustain aquatic systems and their associated aquatic life use designations; and,

WHEREAS, land development projects and associated increases in impervious cover alter the hydrologic response of local watersheds and increase storm water runoff rates and volumes, flooding, stream channel erosion, and sediment transport and deposition; and,

WHEREAS, storm water runoff contributes to increased quantities of pollutants to water resources; and,

WHEREAS, storm water runoff, stream channel erosion, and nonpoint source pollution can be controlled and minimized through the regulation of runoff from land development projects; and,

WHEREAS, there are watershed-wide efforts to reduce flooding, erosion, and water quality problems in the Grand River and Arcola Creek watersheds and to protect and enhance the water resources of the Grand River and Arcola Creek; and,

WHEREAS, the Village of Perry finds that the lands and waters within its borders are

shall be, and same, are hereby repealed.

WHEREFORE, this Ordinance shall be in full force and effect immediately upon its passage by Council.

_____
VICKY STEVENS, MAYOR

ADOPTED:_____

ATTEST:_____
JOANNE CLAPP, CHIEF FISCAL OFFICER

EXHIBIT B (DRAFT 12/09/16)

CHAPTER 555

COMPREHENSIVE STORM WATER MANAGEMENT

555.01 PURPOSE

A. The purpose of this regulation is to establish technically feasible and economically reasonable stormwater management standards to achieve a level of stormwater quality and quantity control that will minimize damage to property and degradation of water resources and will promote and maintain the health, safety, and welfare of the citizens of the Village of Perry.

B. This regulation requires owners who develop or re-develop their property within the Village of Perry, Lake County, Ohio to:

1. Control stormwater runoff from their property and ensure that all Stormwater Control Measures (SCMs) are properly designed, constructed, and maintained.

2. Reduce water quality impacts to receiving water resources that may be caused by new development or redevelopment activities.

3. Control the volume, rate, and quality of stormwater runoff originating from their property so that surface water and groundwater are protected and flooding and erosion potential are not increased.

4. Minimize the need to construct, repair, and replace subsurface storm drain systems.

5. Preserve natural infiltration and ground water recharge, and maintain subsurface flow that replenishes water resources, except in slippage prone soils.

6. Incorporate stormwater quality and quantity controls into site planning and design at the earliest possible stage in the development process.

7. Reduce the expense of remedial projects needed to address problems caused by inadequate stormwater management.

8. Maximize use of SCMs that serve multiple purposes including, but not limited to, flood control, erosion control, fire protection, water quality protection, recreation, and habitat preservation.

9. Design sites to minimize the number of stream crossings and the width of

D. 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.

E. COMMUNITY: The Village of Perry, Lake County, Ohio, its designated representatives, boards, or commissions.

F. COMPREHENSIVE STORMWATER MANAGEMENT PLAN: The written document and plans meeting the requirements of this regulation that sets forth the plans and practices to minimize stormwater runoff from a development area, to safely convey or temporarily store and release post-development runoff at an allowable rate to minimize flooding and stream bank erosion, and to protect or improve stormwater quality and stream channels.

G. CRITICAL STORM: A storm that is determined by calculating the percentage increase in volume of runoff by a proposed development area for the 1 year 24 hour event. The critical storm is used to calculate the maximum allowable stormwater discharge rate from a developed site.

H. DEVELOPMENT AREA: A parcel or contiguous parcels owned by one person or persons, or operated as one development unit, and used or being developed for commercial, industrial, residential, institutional, or other construction or alteration that changes runoff characteristics.

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

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

K. DRAINAGE: The removal of excess surface water or groundwater from land by surface or subsurface drains.

L. 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.

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

district, or other public body (created by or pursuant to state or federal law) including a 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 Clean Water Act that discharges into water resources; and
2. Designed or used for collecting or conveying solely stormwater,
3. Which is not a combined sewer, and
4. Which is not a part of a publicly owned treatment works.

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

Y. NONSTRUCTURAL STORMWATER CONTROL MEASURE (SCM): Any technique processes and features to prevent or reduce the discharge of pollutants to water resources and control stormwater volume and rate.

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

AA. 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 submitted and approved.

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

CC. 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.

DD. REDEVELOPMENT: A construction project on land that has been previously developed and where the new land use will not increase the runoff coefficient used to calculate the water quality volume. If the new land use will increase the runoff coefficient, then the project is considered to be a new development project rather than a redevelopment project.

EE. RIPARIAN AREA: Land adjacent to any brook, creek, river, or stream having a defined bed and bank 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 this regulation.

QQ. TOTAL MAXIMUM DAILY LOAD: The sum of the existing and/or projected point source, nonpoint source, and background loads for a pollutant to a specified watershed, water body, or water body segment. A TMDL sets and allocates the maximum amount of a pollutant that may be introduced into the water and still ensure attainment and maintenance of water quality standards.

RR. WATER QUALITY VOLUME: "Water Quality Volume (WQv)" means the volume of stormwater runoff which must be captured and treated prior to discharge from the developed site after construction is complete. WQv is based on the expected runoff generated by the mean storm precipitation volume from post-construction site conditions at which rapidly diminishing returns in the number of runoff events captured begins to occur.

SS. WATER RESOURCE: Also SURFACE WATER WATER OF THE STATE. Any stream, lake, reservoir, pond, marsh, wetland, or waterway situated wholly or partly within the boundaries of the state, except those private waters which do not combine or affect a junction with surface water. Waters defined as sewerage systems, treatment works or disposal systems in Section 6111.01 of the Ohio Revised Code are not included.

TT. 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.

UU. WATERSHED: The total drainage area contributing stormwater runoff to a single point.

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

555.03 DISCLAIMER OF LIABILITY

A. Compliance with the provisions of this regulation shall not relieve any person from responsibility for damage to any person otherwise imposed by law. The provisions of this regulation are promulgated to promote the health, safety, and welfare of the public and are not designed for the benefit of any individual or any particular parcel of property.

B. By approving a Comprehensive Stormwater Management Plan under this regulation, the Village does not accept responsibility for the design, installation, and operation and maintenance of SCMs.

555.04 CONFLICTS, SEVERABILITY, NUISANCES & RESPONSIBILITY

A. Where this regulation is in conflict with other provisions of law or ordinance, the most restrictive provisions, as determined by the Village Engineer, shall prevail.

sufficient detail and engineering analysis to allow the Village Engineer to determine if the site is laid out in a manner that meets the intent of this regulation and if the proposed SCMs are capable of controlling runoff from the site in compliance with this regulation. The applicant shall submit two (2) sets of the Preliminary Plan and applicable fees as follows:

1. For subdivisions: In conjunction with the submission of the preliminary subdivision plan.

2. For other construction projects: In conjunction with the application for a zoning permit.

3. For general clearing projects: In conjunction with the application for a zoning permit.

C. Final Comprehensive Stormwater Management Plan: The applicant shall submit two (2) sets of a Final Comprehensive Stormwater Management Plan (Final Plan) and the applicable fees to the Village Engineer and/or the Mayor in conjunction with the submittal of the final plat, improvement plans, or application for a building or zoning permit for the site. The Final Plan shall meet the requirements of Section 555.08 and shall be approved by the Village Engineer prior to approval of the final plat and/or before issuance of a zoning permit by the Zoning Inspector or building permit by the Lake County, Ohio, Building Inspector.

D. Review and Comment: The Village Engineer and/or the Mayor shall review the Preliminary and Final Plans submitted, and shall approve or return for revisions with comments and recommendations for revisions. A Preliminary or Final Plan rejected because of deficiencies shall receive a narrative report stating specific problems and the procedures for filing a revised Preliminary or Final Plan.

E. Approval Necessary: Land clearing and soil-disturbing activities shall not begin and zoning and/or building permits shall not be issued without an approved Comprehensive Stormwater Management Plan.

F. Valid for Two Years: Approvals issued in accordance with this regulation shall remain valid for two (2) years from the date of approval.

555.07 COMPLIANCE WITH STATE AND FEDERAL REGULATIONS

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, and/or county agencies. If requirements vary, the most restrictive shall prevail. These permits may include, but are not limited to, those listed below. Applicants are required to show proof of compliance with these regulations before the ***Village*** will issue a building or zoning permit.

555.08 COMPREHENSIVE STORMWATER MANAGEMENT PLAN

A. Comprehensive Stormwater Management Plan Required: The applicant shall develop a Comprehensive Stormwater Management Plan describing how the quantity and quality of stormwater will be managed after construction is completed for every discharge from the site and/or into a water resource or small municipal separate storm sewer system (MS4). The Plan will illustrate the type, location, and dimensions of every structural and non-structural SCM incorporated into the site design, and the rationale for their selection. The rationale must address how these SCMs will address flooding within the site as well as flooding that may be caused by the development upstream and downstream of the site. The rationale will also describe how the SCMs minimize impacts to the physical, chemical, and biological characteristics of on-site and downstream water resources and, if necessary, correct current degradation of water resources that is occurring or take measures to prevent predictable degradation of water resources.

B. Preparation by Professional Engineer: The Comprehensive Stormwater Management Plan shall be prepared by a registered Professional Engineer and include supporting calculations, plan sheets, and design details. To the extent necessary, as determined by the ***Village Engineer,*** a site survey shall be performed by a registered Professional Surveyor to establish boundary lines, measurements, or land surfaces.

C. Community Procedures: The Village Engineer shall prepare and maintain procedures providing specific criteria and guidance to be followed when designing the stormwater management system for the site. These procedures may be updated from time to time, at the discretion of the Village Engineer based on improvements in engineering, science, monitoring, and local maintenance experience. The Village Engineer shall make the final determination of whether the practices proposed in the Comprehensive Stormwater Management Plan meet the requirements of this regulation. The Village Engineer may also maintain a list of acceptable SCMs that meet the criteria of this regulation to be used in the Village.

D. Contents of Comprehensive Stormwater Management Plan: The Comprehensive Stormwater Management Plan shall contain an application, narrative report, construction site plan sheets, a long-term Inspection and Maintenance Plan and Inspection and Maintenance Agreement, and a site description with the following information provided:

1. Site description:

    a. A description of the nature and type of the construction activity (e.g. residential, shopping mall, highway, etc.).

    b. Total area of the site and the area of the site that is expected to be disturbed (i.e. grubbing, clearing, excavation, filling or grading, including off-site borrow areas).

g. Describe the current condition of water resources including the vertical stability of stream channels and indications of channel incision that may be responsible for current or future sources of high sediment loading or loss of channel stability.

2. Site map showing:

   a. Limits of soil-disturbing activity on the site.

   b. Soils map units for the entire site, including locations of unstable or highly erodible soils.

   c. Existing and proposed one-foot (1') contours. This must include a delineation of drainage watersheds expected before, during, and after major grading activities as well as the size of each drainage watershed in acres.

   d. Water resource locations including springs, wetlands, streams, lakes, water wells, and associated setbacks on or within 200 feet of the site, including the boundaries of wetlands or streams and first subsequent named receiving water(s) the applicant intends to fill or relocate for which the applicant is seeking approval from the Army Corps of Engineers and/or Ohio EPA.

   e. Existing and planned locations of buildings, roads, parking facilities, and utilities.

   f. The location of any in-stream activities including stream crossings.

3. Contact information: Company name and contact information as well as contact name, addresses, and phone numbers for the following:

   a. The Professional Engineer who prepared the Comprehensive Stormwater Management Plan.

   b. The site owner.

4. Phase, if applicable, of the overall development plan.

5. List of sublot numbers if project is a subdivision.

6. Ohio EPA NPDES Permit Number and other applicable state and federal permit numbers, if available, or status of various permitting requirements if final approvals have not been received.

f. The Village is authorized to enter upon the property and perform the corrective actions identified in the inspection report if the landowner(s), organization, or municipality responsible for maintenance does not make the required corrections in the specified time period. The Village shall be reimbursed by the landowner(s), organization, or municipality responsible for maintenance for all expenses incurred within 10 days of receipt of invoice from the Village, or more with written approval from the Village Engineer.

g. The method of funding long-term maintenance and inspections of all SCMs.

h. A release of the Village from all damages, accidents, casualties, occurrences, or claims that might arise or be asserted against the Village from the construction, presence, existence, or maintenance of the SCMs.

11. Inspection and Maintenance Plan. This plan will be developed by the applicant and reviewed by the Village. Once the Inspection and Maintenance Plan is approved, a recorded copy of the Plan must be submitted to the Village as part of the final inspection approval as described in 555.12. The plan will include at a minimum:

a. The location of each SCM and identification of the drainage area served by each SCM.

b. Photographs of each SCM, including all inlets and outlets upon completion of construction.

c. Schedule of inspection.

d. A schedule for regular maintenance for each aspect of the stormwater management system and description of routine and non-routine maintenance tasks to ensure continued performance of the system as is detailed in the approved Comprehensive Stormwater Management Plan. A maintenance inspection checklist written so the average person can understand it shall be incorporated. The maintenance plan will include a detailed drawing of each SCM and outlet structures with the parts of the outlet structure labeled. This schedule may include additional standards, as required by the ***Village*** Engineer, to ensure continued performance of SCMs permitted to be located in, or within 50 feet of, water resources.

e. The location and documentation of all access and maintenance easements on the property.

Alteration or termination of these stipulations is prohibited.

shall:

a. Not disturb riparian areas, unless the disturbance is intended to support a watercourse restoration project and complies with **Chapter *555.XX [community's riparian setback requirements if applicable].***

b. Maintain predevelopment hydrology and groundwater recharge on as much of the site as practicable.

c. Only install new impervious surfaces and compact soils where necessary to support the future land use.

d. Compensate for increased runoff volumes caused by new impervious surfaces and soil compaction by reducing stormwater peak flows to less than predevelopment levels.

e. Be designed according to the methodology included in the most current edition of *Rainwater and Land Development* or another design manual acceptable for use by the Village and Ohio EPA.

SCMs that meet the criteria in this regulation, and additional criteria required by the ***Village Engineer,*** shall comply with this regulation.

2. Practices designed for final use: SCMs shall be designed to achieve the stormwater management objectives of this regulation, to be compatible with the proposed post-construction use of the site, to protect the public health, safety, and welfare, and to function safely with routine maintenance.

3. Stormwater management for all lots: Areas developed for a subdivision, as defined in Chapter ***555 [community subdivision code],*** shall provide stormwater management and water quality controls for the development of all subdivided lots. This shall include provisions for lot grading and drainage that prevent structure flooding during the 100-year, 24-hour storm; and maintain, to the extent practicable, the pre-development runoff patterns, volumes, and peaks from each lot.

4. Stormwater facilities in water resources: SCMs and related activities shall not be constructed in water resources unless the applicant shows proof of compliance with all appropriate permits from the Ohio EPA, the U.S. Army Corps, and other applicable federal, state, and local agencies as required in Section 555.07 of this regulation, and the activity is in compliance with Chapter ***555 [community's erosion and sediment control requirements]*** and Chapter ***555 [community's riparian setback requirements],*** all as determined by the

forest covers, and the preservation of intermittent streams, depressions, and drainage corridors may be used to maintain the wetland hydrology.

If the applicant proposes to discharge to natural wetlands, a hydrological analysis shall be performed to demonstrate that the proposed discharge matches the pre-development hydroperiods and hydrodynamics that support the wetland.

11. Soil Preservation and Post-Construction Soil Restoration: To the maximum extent practicable leave native soil undisturbed and protect from compaction during construction. Except for areas that will be covered by impervious surface or have been incorporated into an SCM, the soil moisture-holding capacity of areas that have been cleared and graded must be restored to that of the original, undisturbed soil to the maximum extent practicable. Areas that have been compacted or had the topsoil or duff layer removed should be amended using the following steps: 1. till subsoil to a depth of 15-18 inches, 2. incorporate compost through top 12 inches, 3. Replace with stockpiled site or imported suitable topsoil to a minimum depth of 4 inches.

B. Stormwater Conveyance Design Criteria: All SCMs shall be designed to convey stormwater to allow for the maximum removal of pollutants and reduction in flow velocities. This shall include but not be limited to:

1. Surface water protection: The ***Village Engineer*** may allow modification to streams, rivers, lakes, wetlands or other surface waters only if the applicant shows proof of compliance with all appropriate permits from the Ohio EPA, the U.S. Army Corps, and other applicable federal, state, and local agencies as required in Section *555*.07 of this regulation, and the activity is in compliance with Section ***555 [community's erosion and sediment control requirements]*** and Section ***555 [community's riparian setback requirements]***, all as determined by the ***Village Engineer.*** At a minimum, stream relocation designs must show how the project will minimize changes to the vertical stability, floodplain form, channel form, and habitat of upstream and downstream channels on and off the property.

2. Off-site stormwater discharges: Off-site stormwater runoff that discharges to or across the applicant's development site shall be conveyed through the stormwater conveyance system planned for the development site at its existing peak flow rates during each design storm. Off-site flows shall be diverted around stormwater quality control facilities or, if this is not possible, the stormwater quality control facility shall be sized to treat the off-site flow. Comprehensive Stormwater Management Plans will not be approved until it is demonstrated to the satisfaction of the ***Village Engineer*** that off-site runoff will be adequately conveyed through the development site in a manner that does not exacerbate upstream or

d. The inverts of all curb inlets, manholes, yard inlets, and other structures shall be formed and channelized to minimize the incidence of quiescent standing water where mosquitoes may breed.

e. Headwalls shall be required at all storm sewer inlets or outlets to and from open channels or lakes.

6. Water Resource Crossings. The following criteria shall be used to design structures that cross a water resource in the ***Village***:

a. Water resource crossings other than bridges shall be designed to convey the stream's flow for the minimum 25-year, 24-hour storm.

b. Bridges, open bottom arch or spans are the preferred crossing technique and shall be considered in the planning phase of the development. Bridges and open spans should be considered for all State Scenic Rivers, coldwater habitat, exceptional warmwater habitat, seasonal salmonid habitat streams, and Class III headwater streams. The footers or piers for these bridges and open spans shall not be constructed below the ordinary high water mark.

c. If a culvert or other closed bottom crossing is used, twenty-five (25) percent of the cross-sectional area or a minimum of 1 foot of box culverts and pipe arches must be embedded below the channel bed. The conduit or conveyance must to be sized to carry the 25-year storm under these conditions.

d. The minimum inside diameter of pipes to be used for crossings shall be 12 inches.

e. The maximum slope allowable shall be a slope that produces a 10-fps velocity within the culvert barrel under design flow conditions. Erosion protection and/or energy dissipaters shall be required to properly control entrance and outlet velocities.

f. All culvert installations shall be designed with consideration for the tailwater of the receiving facility or water resource. The tailwater elevation used shall be based on the design storm frequency.

g. Headwalls shall be required at all culvert inlets or outlets to and from open channels or lakes.

h. Streams with a drainage area of 5 square miles or larger shall incorporate floodplain culverts at the bankfull elevation to restrict head loss

particulate pollutants; and release the controlled stormwater to a water resource.

b. Infiltration facilities that retain stormwater; promote settling, filtering, and biodegradation of pollutants; and infiltrate captured stormwater into the ground. The ***Village Engineer*** may require a soil engineering report to be prepared for the site to demonstrate that any proposed infiltration facilities meet these performance standards.

For sites less than five (5) acres, but required to create a comprehensive stormwater management plan, the ***Village Engineer*** may approve other SCMs if the applicant demonstrates to the ***[community engineer's]*** satisfaction that these SCMs meet the objectives of this regulation as stated in Section ***555***.09.C.6.

c. For sites greater than five (5) acres, or less than five (5) acres but part of a larger common plan of development or sale which will disturb five (5) or more acres, the ***Village Engineer*** may approve other SCMs if the applicant demonstrates to the ***[community engineer's]*** satisfaction that these SCMs meet the objectives of this regulation as stated in Section ***555***.09.C.6, and has prior written approval from the Ohio EPA.

d. For the construction of new roads and roadway improvement projects by public entities (i.e. the state, counties, townships, cities, or villages), the ***Village Engineer*** may approve SCMs not included in Table 2 of this regulation, but must show compliance with the current version of the Ohio Department of Transportation "*Location and Design Manual, Volume Two Drainage Design*".

2. Criteria applying to all SCMs. SCMs chosen must be sized to treat the water quality volume (WQv) and to ensure compliance with Ohio Water Quality Standards (OAC Chapter 3745-1).

a. The WQv shall be equal to the volume of runoff from a 0.75 inch rainfall event and shall be determined according to one of the following methods:

(1) Through a site hydrologic study approved by the ***Village Engineer*** that uses continuous hydrologic simulation; site-specific hydrologic parameters, including impervious area, soil infiltration characteristics, slope, and surface routing characteristics; proposed SCMs controlling the amount and/or timing of runoff from the site; and local long-term hourly records, or

(2) Using the following equation:

drain time is long enough to provide treatment and protect against downstream bank erosion, but short enough to provide storage available for successive rainfall events as defined in Table 2.

e. Sites within watersheds of coldwater habitat streams shall include SCMs to infiltrate the water quality volume or reduce the temperature of discharged runoff. SCMs that reduce the temperature of discharged runoff include bioretention, permeable pavement, underground detention, and incorporation of shading and infiltration in parking lot design.

f. Each practice shall be designed to facilitate sediment removal, vegetation management, debris control, and other maintenance activities defined in the Inspection Plan and Maintenance Agreement for the site.

Table 2: Draw Down Times for Stormwater Control Measures

Stormwater Control Measure	**Drain Time of WQv**
Infiltration Basin or Trench[1]	48 hours
Permeable Pavement – Infiltration[1]	48 hours
Permeable Pavement – Extended Detention	24 hours
Extended Detention Facilities	
▪ Dry Extended Detention Basin[2]	48 hours
▪ Wet Extended Detention Basin [3]	24 hours
Constructed Wetlands (above permanent pool) [4]	24 hours
▪ Bioretention Area/Cell[*5,6]	24 hours
▪ Sand and other Media Filtration[5]	24 hours
▪ Pocket Wetland[7]	24 hours
	24 hours

[1] Practices designed to fully infiltrate the WQ_v shall empty within 48 hours to provide storage for subsequent storm events.
[2] The use of a forebay and micropool is required on all dry extended detention basins. Each is to be sized at a minimum 10% of the WQ_v. [3]Provide both a permanent pool and an extended detention volume above the permanent pool, each sized with at least $0.75*WQ_v$.
[4]Extended detention shall be provided for the WQv above the permanent water pool.
[5] The surface ponding area shall completely empty within 24 hours so that there is no standing water. Shorter drawdown times are acceptable as long as design criteria in *Rainwater and Land Development* have been met.
[6] This includes grassed linear bioretention, which was previously titled enhanced water quality swale.
▪ [7]Pocket wetlands must have a wet pool equal to the WQ_v, with 25% of the WQ_v in a pool and 75% in marshes. The ED_v above the permanent pool must be equal to the WQ_v.

3. Additional criteria applying to infiltration facilities.

(4) Detention basins shall be provided with an emergency drain, where practicable, so that the basin may be emptied if the primary outlet becomes clogged and/or to drain the permanent pool to facilitate maintenance. The emergency drain should be designed to drain by gravity where possible.

5. Criteria for the Acceptance of Alternative post-construction SCMs: The applicant may request approval from the ***Village Engineer*** for the use of alternative structural post-construction SCMs if the applicant shows to the satisfaction of the ***Village Engineer*** that these SCMs are equivalent in pollutant removal and runoff flow/volume reduction effectiveness to those listed in Table 2. If the site is greater than five (5) acres, or less than five (5) acres but part of a larger common plan of development or sale which will disturb five (5) or more acres, prior approval from the Ohio EPA is necessary. To demonstrate the equivalency, the applicant must show:

a. The alternative SCM has a minimum total suspended solid (TSS) removal efficiency of 80 percent, using the Level II Technology Acceptance Reciprocity Partnership (TARP) testing protocol.

b. The water quality volume discharge rate from the selected SCM is reduced to prevent stream bed erosion, unless there will be negligible hydrologic impact to the receiving surface water of the State. The discharge rate from the SCM will have negligible impacts if the applicant can demonstrate one of the following conditions:

(1) The entire water quality volume is recharged to groundwater.

(2) The development will create less than one acre of impervious surface.

(3) The development project is a redevelopment project with an ultra-urban setting, such as a downtown area, or on a site where 100 percent of the project area is already impervious surface and the stormwater discharge is directed into an existing storm sewer system.

(4) The stormwater drainage system of the development discharges directly into a large river of fourth order or greater or to a lake, and where the development area is less than 5 percent of the water area upstream of the development site, unless a (TMDL) has identified water quality problems in the receiving surface water of the State.

Include lot coverage assumptions used for full build out of the proposed condition.

(7) Curve numbers for the pre-development condition shall reflect the average type of land use over the past 10 years and not only the current land use.

i. Pre-development Curve Numbers – For wooded or brushy areas, use listed values from TR-55 NRCS USDA Urban Hydrology for Small Watersheds, 1986 in good hydrologic condition. For meadows, use listed values. For all other areas (including all types of agriculture), use pasture, grassland, or range in good hydrologic condition.

ii. Post-development Curve Numbers - Open space areas shall use post-construction HSGs from *Rainwater and Land Development* unless the soil is amended after development according to the following protocol: till the subsoil to 15-18 inches, then till using a chisel, spader, or rotary tillage and incorporate compost through top 12 inches, replace topsoil to a minimum depth of 4 inches. All undisturbed areas or open space with amended soils shall be treated as "open space in good condition."

(8) Time of Concentration - Use velocity based methods from (TR-55 NRCS USDA Urban Hydrology in Small Watersheds, 1986) to estimate travel time (Tt) for overland (sheet) flow, shallow concentrated flow and channel flow.

i. Maximum sheet flow length is 100 ft.

ii. Use the appropriate "unpaved" velocity equation for shallow concentrated flow from Soil Conservation Service National Engineer Handbook Section 4 – Hydrology (NEH-4).

(9) The volume reduction provided by permeable pavement, bioretention, or other LID SCMs may be subtracted from the post development stormwater volume. Volume reductions for these practices may be demonstrated using methods outlined in *Rainwater and Land Development* or a hydrologic model acceptable to the Village Engineer.

b. To account for future post-construction improvements to the site, calculations shall assume an impervious surface such as asphalt or concrete for all parking areas and driveways, regardless of the surface proposed in the site description except in instances of engineered permeable pavement systems. From the volume determined in Section ***555***.09(D)(3)(a), determine the percent increase in volume of runoff due to

When a combination of impervious area reduction and stormwater quality control facilities are used, ensure a 20 percent net reduction of the site impervious area, provide for treatment of at least 20 percent of the WQv, or a combination of the two. Where projects are a combination of new development and redevelopment, the total water quality volume required to be treated shall be calculated by a weighted average based on acreage, with the new development at 100 percent water quality volume and redevelopment at 20 percent.

2. Where conditions prevent impervious area reduction or on-site stormwater management for redevelopment projects, practical alternatives as detailed in Section ***555***.10 may be approved by the Village Engineer.

555.10 ALTERNATIVE ACTIONS

A. When the ***Village of Perry*** determines that site constraints compromise the intent of this regulation, off-site alternatives may be used that result in an improvement of water quality and a reduction of stormwater quantity. Such alternatives shall meet the following standards:

1. Shall achieve the same level of stormwater quantity and quality control that would be achieved by the on-site controls required under this regulation.

2. Implemented in the same Hydrologic Unit Code (HUC) 12 watershed unit as the proposed development project.

3. The mitigation ratio of the water quality volume is 1.5 to 1 or the water quality volume at the point of retrofit, whichever is greater.

4. An inspection and maintenance agreement as described in Chapter ***555***.08.D.10 is established to ensure operations and treatment in perpetuity.

5. Obtain prior written approval from Ohio EPA.

B. Alternative actions may include, but are not limited to the following. All alternative actions shall be approved by the ***[community engineer]***:

1. Fees, in an amount specified by the ***Village of Perry*** to be applied to community-wide SCMs.

2. Implementation of off-site SCMs and/or the retrofit of an existing practice to increase quality and quantity control.

3. Stream, floodplain, or wetland restoration.

submission of a new set of stormwater practice calculations if he/she determines that the design was altered significantly from the approved Comprehensive Stormwater Management Plan. The As-Built Survey must provide the location, dimensions, and bearing of such practices and include the entity responsible for long-term maintenance as detailed in the Inspection and Maintenance Agreement.

C. A copy of the complete and recorded Inspection and Maintenance Plan and Inspection and Maintenance Agreement as specified in Section *555*.08 must be provided to the Village Engineer.

555.13 ON-GOING INSPECTIONS

The owner shall inspect SCMs regularly as described in the Inspection and Maintenance Plan and Inspection and Maintenance Agreement. The Village of Perry has the authority to enter upon the property to conduct inspections as necessary, with prior notification of the property owner, to verify that the SCMs are being maintained and operated in accordance with this regulation. Upon finding a malfunction or other need for maintenance or repair, the Village of Perry shall provide written notification to the responsible party, as detailed in the Inspection and Maintenance Agreement, of the need for maintenance. Upon notification, the responsible party shall have five (5) working days, or other mutually agreed upon time, to makes repairs or submit a plan with detailed action items and established timelines. Should repairs not be made within this time, or a plan approved by the Village Engineer for these repairs not in place, the Village of Perry may undertake the necessary repairs and assess the responsible party.

555.14 FEES

The Comprehensive Stormwater Management Plan review, filing, and inspection fee is part of a complete submittal and is required to be submitted to the Village of Perry before the review process begins. The Village Engineer and the Council of the Village of Perry shall establish a fee schedule based upon the actual estimated cost for providing these services.

555.15 BOND

A. If a Comprehensive Stormwater Management Plan is required by this regulation, soil-disturbing activities shall not be permitted until a cash bond of 5% of the total project cost has been deposited with the Village of Perry Finance Department. This bond shall be posted for the Village of Perry to perform the obligations otherwise to be performed by the owner of the development area as stated in this regulation and to allow all work to be performed as needed in the event that the applicant fails to comply with the provisions of this regulation. The stormwater bond will be returned, less Village of Perry administrative fees as detailed in Chapter 555 of the Village of Perry Codified Ordinances, when the following three criteria are met:

555.18 **APPEALS**

Any person aggrieved by any order, requirement, determination, or any other action or inaction by the Village of Perry in relation to this regulation may appeal to the court of common pleas. Such an appeal shall be made in conformity with ***[insert appropriate Ohio Revised Code sections]***. Written notice of appeal shall be served on the Village of Perry.

555.99 **PENALTY**

A. Any person, firm, entity or corporation; including but not limited to, the owner of the property, his agents and assigns, occupant, property manager, and any contractor or subcontractor who violates or fails to comply with any provision of this regulation is guilty of a misdemeanor of the third degree and shall be fined no more than five hundred dollars ($500.00) or imprisoned for no more than sixty (60) days, or both, for each offense. A separate offense shall be deemed committed each day during or on which a violation or noncompliance occurs or continues.

B. The imposition of any other penalties provided herein shall not preclude the ***Village of Perry*** instituting an appropriate action or proceeding in a Court of proper jurisdiction to prevent an unlawful development, or to restrain, correct, or abate a violation, or to require compliance with the provisions of this regulation or other applicable laws, ordinances, rules, or regulations, or the orders of the Village of Perry.

Section 2. That all formal actions of this Council concerning the passage of this Ordinance were adopted in an open meeting, and all deliberations of this Council, or any of its Committees, which resulted in such formal actions, were in meetings open to the public, in compliance with all legal requirements, including Section 121.22 of the Ohio Revised Code.

Section 3. That any and all Ordinances of parts thereof in conflict with this Ordinance shall be, and same, are hereby repealed.

Wherefore, this Ordinance shall be in full force and effect at the earliest date permitted by law.

_____

VICKY STEVENS, MAYOR

ADOPTED:_____

ATTEST:_____

JOANNE CLAPP, CHIEF FISCAL OFFICER

ORDINANCE NO. 2011-01

AN ORDINANCE ENACTING CHAPTER 555 OF THE CODIFIED ORDINANCES OF THE VILLAGE OF PERRY, OHIO, PROVIDING FOR COMPREHENSIVE STORM WATER MANAGEMENT AND DECLARING AN EMERGENCY

WHEREAS, flooding is a significant threat to property and public health and safety and storm water management lessens flood damage by reducing and holding runoff and releasing it slowly; and,

WHEREAS, streambank erosion is a significant threat to property and public health and safety and storm water management slows runoff and reduces its erosive force; and,

WHEREAS, insufficient control of storm water can result in significant damage to receiving water resources, impairing the capacity of these areas to sustain aquatic systems and their associated aquatic life use designations; and,

WHEREAS, land development projects and associated increases in impervious cover alter the hydrologic response of local watersheds and increase storm water runoff rates and volumes, flooding, stream channel erosion, and sediment transport and deposition; and,

WHEREAS, storm water runoff contributes to increased quantities of pollutants to water resources; and,

WHEREAS, storm water runoff, stream channel erosion, and nonpoint source pollution can be controlled and minimized through the regulation of runoff from land development projects; and,

WHEREAS, there are watershed-wide efforts to reduce flooding, erosion, and water quality problems in the Grand River and Arcola Creek watersheds and to protect and enhance the water resources of the Grand River and Arcola Creek; and,

WHEREAS, the Village of Perry finds that the lands and waters within its borders are finite natural resources and that their quality is of primary importance in promoting and maintaining public health and safety within its borders; and,

WHEREAS, the Village of Perry desires to establish standards, principles, and procedures for the regulation of soil disturbing activities that may increase flooding and erosion and may cause adverse impacts to water resources, resulting from storm water runoff; and,

WHEREAS, the Village of Perry is a member of the Lake County Stormwater Management Department and recognizes its obligation as a part of this utility to manage storm water within its borders; and

WHEREAS, 40 C.F.R. Parts 9, 122, 123, and 124, and Ohio Administrative Code 3745-39 require designated communities, including the Village of Perry to develop a Storm Water Management Program that, among other components, requires the Village of Perry to implement standards, principles, and procedures to regulate the quality of storm water runoff during and after soil disturbing activities; and,

WHEREAS, Article XVIII, Section 3 of the Ohio Constitution grants municipalities the legal

States. BMPs include but are not limited to: treatment facilities to remove pollutants from storm water; operating and maintenance procedures; facility management practices to control runoff; erosion and sediment control practices; and the prohibition of specific activities, practices, and procedures and such other provisions as the Village determines appropriate for the control of pollutants.

(3) "Village" means the Village of Perry.

(4) "Channel" means a natural stream that conveys water or man-made structure or ditch excavated for the flow of water.

(5) "Concentrated Storm Water Runoff" means surface 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.

(6) "Conservation" means the wise use and management of natural resources.

(7) "Cut and Fill Slopes" means a portion of land surface or area from which soil material is excavated and/or filled, forming a slope or embankment.

(8) "Lake Soil and Water Conservation District" means the local section of Ohio Department of Natural Resources, organized under Ohio R.C. Chapter 1515.

(9) "Denuded Area" means 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.

(10) "Development Area" means any tract, lot or parcel of land where an earth-disturbing activity is to be performed in accordance with a single plan of development.

(11) "Drainage Pattern" means the path of flow of storm water runoff and the methods of collecting the water including sheet flows, ditches, swales, storm sewers, culverts, manholes, catch basins, trench drains, detention and retention basins and ponds.

(12) "Earth-Disturbing Activity" means any clearing, grubbing, grading, excavating, filling or other alteration of the earth's surface where natural or man-made ground cover is destroyed.

(13) "Engineer"

A. "Village Engineer" means the person or firm selected by Village Council to perform Professional Engineering Services and hired by the Village in accordance with the Ordinance or Resolution passed approving such hiring.

B. "Staff Engineer" means the person employed by the Village to perform engineering services and coordinate work with the Village Engineer.

(14) "Erosion" means the process by which the land surface is worn away and relocated by the action of water, wind, ice or gravity.

(15) "Erosion and Sediment Control Practices" means conservation measures

Resources, Division of Soil and Water Conservation).

(31) "Sediment Settling Facility" means a settling pond, meeting or exceeding the design specifications of a temporary sediment basin as defined in "Rainwater and Land Development", (latest edition) Ohio's Standards for Stormwater Management Land Development and Urban Stream Protection (available from Ohio Department of Natural Resources, Division of Soil and Water Conservation).

(32) "Sediment Control" means the limiting of sediment transport by controlling erosion or detaining sediment-laden water, allowing sediment to settle out and the implementing of Best Management Practices (BMPs).

(33) "Sensitive Area" means an area or water resource (as delineated prior to Storm Water Pollution Prevention Plan approval) that requires special management because of its susceptibility to sediment pollution or because of its importance to the well-being of the surrounding communities, the region or the State and includes:

A. Ponds, wetlands or small lakes with less than five acres of surface area;

B. Small streams with gradients less than ten feet per mile and with average annual flows of less than three and one-half feet per second containing sand or gravel bottoms;

C. Drainage areas of a locally or State designated scenic river; and

D. Slopes in excess of twenty-five percent. (4H:1V)

(34) "Settling Pond" means a storm water runoff detention structure, such as a sediment basin or sediment trap, which detains sediment-laden runoff, allowing sediment to settle out.

(35) "Sheet Flow" means water runoff in a thin, uniform layer, or in rills, which is of small enough quantity to be treated by sediment barriers.

(36) "Sloughing" means 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.

(37) "Soil" means erodible earth material.

(38) "Storm Water Pollution Prevention Plan (SWPPP)" means a plan of the Development Area showing the proposed implementation of Best Management Practices, as defined in paragraph (b)(2) hereof.

(39) "Stream" means a body of water running or flowing on the earth's surface or the channel in which such flow occurs. Flow may be seasonally intermittent.

(41) "Unstable Soil" means a portion of the land surface which is prone to slipping, sloughing or landslides or is identified by Soil Conservation Service, USDA methodology as having a low soil strength.

(42) "Water Resources" means all streams, lakes, ponds, wetlands, water courses, waterways, drainage systems and all other bodies or accumulations of surface water, which are situated wholly or partly within

(d) The Federal Clean Waters Act (33 U.S.C. Sec 1251 et seq.).

555.06 COMPRESHENSIVE STORM WATER MANAGEMENT PLANS REQUIRED

Each application for a Zoning Permit for projects as defined in Section 555.03 shall include a Comprehensive Storm Water Management Plan which plan shall consist of:

(a) A Storm Water Runoff Control Plan;
(b) A Water Quality Plan; and
(c) A Storm Water Pollution Prevention Plan.

Comprehensive Storm Water Management Plans shall comply with the requirements as set forth herein.

555.07 CONTENTS OF COMPREHENSIVE STORM WATER MANAGEMENT PLANS

(a)Contents of Plans:The following information shall be included in each of the Storm Water Pollution Prevention, Storm Water Runoff Control, and Water Quality Plans:

1) A general project description including the nature, type, and purpose of earth-disturbing activity and the larger common plan of development.
2) A vicinity sketch locating the development area, and all pertinent surrounding features, including water resources, wetlands, riparian buffers, conservation easements and other sensitive natural resources.
3) A development plan indicating the area of the site that is expected to undergo excavations, filling and grading or clearing.
4) The location of sensitive areas receiving runoff from the development.
5) The name and/or location of the immediate receiving stream or surface water(s) and the first subsequent named receiving water and the major river watersheds in which it is located.
6) The existing and proposed topography with one-foot contour intervals.
7) The location and description of existing and proposed drainage patterns and facilities, including any allied drainage facilities beyond the development area.
8) Existing and proposed watershed boundary lines, direction of flow and watershed acreage.
9) The limits of clearing and earth-disturbing activity.
10) The types of soils within, or affected by, the development as determined by the most current edition of the Lake County Soil Survey.
11) The scheduling, phasing, and coordination of construction operations and erosion and sediment control BMPs, including vegetative plantings and mulch.
12) Surface water locations including springs, wetlands, streams, lakes, ponds, riparian areas, etc., on or within 200 feet of the site.
13) Existing and planned locations of buildings and utilities that may affect soil erosion and sediment control.

2) The location and design calculations for all permanent storm water conveyance, detention and retention structures, and other storm water control structures.
3) Any other storm water control items required by the Village Engineer.

(d) Water Quality Plans: The Water Quality Plan shall also include:

1) A description of the post construction BMPs that will be installed to control construction pollutants in storm water discharges.
2) A description of the water quality standards and projected treatment levels that will be addressed by the water quality BMPs being installed.

555.08 MINIMUM REQUIREMENTS FOR STORM WATER POLLUTION PREVENTION PLANS

The minimum standards set forth herein shall not limit the right of the Village to impose additional, more stringent requirements or to waive individual requirements. Storm Water Pollution Prevention Plans shall satisfy the minimum standards set forth below and shall meet the specifications in the latest edition of "Rainwater and Land Development". Storm Water Pollution Prevention Plans shall meet following minimum standards:

(a) All soil erosion and sediment' control practices shall be functional throughout all phases of earth disturbing activity. Settling facilities, perimeter controls, and other practices intended to trap sediment shall be implemented as the first step of grading and within seven (7) days from the start of grubbing. They shall continue to function until the development area is permanently restabilized.

(b) Clearing and grubbing will be done in two (2) or more phases. The first phase will include only those locations necessary to install the perimeter soil erosion and sediment and storm water control practices. After the perimeter controls are in place and functioning the remaining phase(s) of clearing and grubbing may continue.

(c) Denuded areas shall have soil stabilization applied within no more than seven (7) days if they are to remain dormant for more than forty-five (45) days. Permanent or temporary soil stabilization shall be applied to denuded areas within no more than seven (7) days after final grade is reached on any portion of the site.

(d) Concentrated storm water runoff from denuded areas flowing at rates which exceed the design capacity of sediment barriers shall pass through a sediment settling facility. The facility's storage capacity shall be no less than sixty-seven (67) cubic yards per acre of total drainage area. Trapping efficiency should be at least 75%. Permanent storm water control ponds that are designed to trap sediment during construction shall be designed to provide for a slow release of sediment laden water. Velocity dissipation devices shall be placed at the outfall channel as necessary to provide a non-erosive flow velocity from the structure to a watercourse.

(e) Sheet and rill flow runoff from denuded areas shall be diverted to a settling pond

Staff Engineer, covers 80 % or more of the soil surface and provides adequate cover and is mature enough to control soil erosion satisfactorily and to survive adverse weather conditions.

(o) All temporary erosion and sediment control practices shall be disposed of within thirty days after final site stabilization is achieved or after the temporary practices are no longer needed, unless otherwise authorized by the Village Planning Commissioner upon a written recommendation of the Village Engineer or Staff Engineer. Trapped sediment shall be permanently stabilized to prevent further erosion, or removed from the site.

(p) All erosion and sediment control practices shall be designed and constructed to minimize maintenance requirements. They shall be maintained and repaired as needed to assure continued performance of their intended function. Sediment and erosion controls shall be inspected by the applicant or his designee once every 7 days and within 24 hours of 0.5 inch or greater rainfall amount. A written log of these inspections must be kept by the applicant or his designee. This log should indicate the date of inspection, name of inspector, weather conditions, observations, actions taken to correct any problems and the date action was taken. Upon a request of the Village Engineer the owner shall submit these documents.

(q) During construction of underground utility lines, pipes etc., trench dewatering devices shall discharge in an approved manner which will not adversely affect water resource or off-site property.

(r) If the construction site is subject to Ohio EPA's National Pollutant Discharge Elimination System (NPDES) Permits, a copy of all the required inspection sheets shall be submitted to the Village Engineer within 2 working days of the date that the inspection was conducted.

555.09 MINIMUM REQUIREMENTS FOR STORM WATER CONTROL PLANS

(a) Storm water control systems shall be designed for the ultimate use of the land. Phased construction projects shall provide a storm water management for the ultimate development of the total project area.

(b) Storm detention or retention basins and facilities shall be designed so that they will continue to function with minimal maintenance and maximum water quality benefit. Developers and designers shall make all reasonable attempts to avoid wetlands and shall not cut-off the water supply to an identified wetland. Wetland impacts must be coordinated with the USACE and/or OEPA.

(c) A paved channel for low water flow is required across all detention basins for each point source into the basin.

(d) Velocity dissipation shall be placed at the outfall structures of all detention or retention basins and along the length of any outfall channel as necessary to provide a non-erosive flow velocity from the structure to a water course. The design criteria shall be applied to each watershed within the development area.

(e) Detention basins and facilities may be designed to serve the dual purpose of a

Duration Curves or other curves appropriate for this region.

(i) For sites which are currently developed and are scheduled to be redeveloped, the pre-developed condition shall be defined to be 100% of the site as grassland for critical storm and volume storage calculations.

555.10 MINIMUM REQUIREMENTS FOR STORM WATER QUALITY PLANS

Storm water released from any part of a development site shall meet the most restrictive of the following criteria as well as the current requirements of the Ohio EPA:

(a)The rationale for BMP selection must address the anticipated impacts on the hydrology, water quality and riparian habitat.

(b)Water Quality Plans shall contain a description of the post-construction BMPs for the site and the rationale for choosing them. The rationale must address the anticipated impacts on the hydrology, water quality and riparian habitat.

(c)Detail drawings and long-term maintenance plans must be provided for all post-construction BMPs. Maintenance plans must assure that pollutants, which collect within structural post-construction practices, be disposed of in accordance with local, state and federal regulations.

(d)Post construction BMPs shall achieve the following goals:

(1)Water Quality Volume: For all development on previously undeveloped property, structural (designed) post-construction storm water treatment practices shall be incorporated into the permanent drainage system for the site. These practices must be sized to treat the water quality volume (WQ_v).

(2)The WQ_v shall be determined through a site hydrologic study approved by the Village Engineer that uses continuous hydrologic simulation and local long-term hourly precipitation records, or by using the following equation:

$$WQ_v = \infty (0.858i^3 - 0.78i^2 + 0.774i + 0.04) * PA/12$$

where:

WQ_v = water quality volume in acre-feet
i = watershed impervious ratio (percent total imperviousness divided by 100)
P = mean storm presentation volume in inches (0.47 inches in Lake County)
∞ = regression constant from least-squares analysis (see Table 1)
A = area draining into the facility in acres

Table 1

555.11 CONSTRUCTION REQUIREMENTS.

(a) In conjunction with Chapter 1105 "Enforcement and Penalty", after the Village Engineer issues a permit to construct, the permit holder shall notify the Village Engineer, who provides site inspection, at least two working days prior to any earth disturbing activities in the development area.

(b) All permitted earth-disturbing activities shall be subject to site inspection by the Village Engineer, to determine compliance with this Chapter. Occupancy Permits may be withheld by the Village Engineer until all requirements of this chapter are met.

(c) The Village Planning Commission may grant a variance from the provisions of this chapter where the applicant can show that compliance with all or part-of such provisions are not appropriate. A variance may be granted if the probability of off site damage is slight because of exceptional topographic or other physical conditions of the development area. The issuance of a variance does not eliminate obligations to meet Ohio Environmental Protection Agency requirements. Requests for variances shall be submitted in writing to the Village Planning Commission and shall include justification for the granting of the variance.

555.12 MAINTENANCE REQUIREMENTS

(a) Storm drainage improvements and facilities which are located within public rights-of-way or on public property shall be dedicated to the Village of Perry for ownership and maintenance unless such requirement is specifically waived by the Village.

(b) Where facilities intended to be owned and/or maintained by the Village, cross or are located on private property, an easement for the maintenance, repair, and replacement of such facilities shall be provided to the Village.

(c) Storm water management facilities located on private property and intended to be held in private ownership shall provide and agreement and/or plan for the perpetual maintenance of such facilities including provisions for funding maintenance provisions.

(d) The Village of Perry shall be a beneficial party to all storm water management facilities and provisions and their perpetual maintenance. The Village, through its Engineer, shall have the right, but no obligation, to inspect such facilities and provisions and to require implementation of maintenance and/or repair measures as determined to be necessary and appropriate for the continued proper functioning of such storm water management facilities. Failure to comply with directives to maintain or repair facilities shall constitute a violation of this Chapter.

Section 3. That any and all Ordinances of parts thereof in conflict with this Ordinance shall be, and same, are hereby repealed.

Wherefore, this Ordinance shall be in full force and effect at the earliest date permitted by law.

_____
MAYOR

ADOPTED: _____

ATTEST: _____
CHIEF FISCAL OFFICER