Licking County Soil Erosion & Stormwater Regulations

Effective: January 1, 2016

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TABLE OF ADOPTION & AMENDMENTS

This table is not intended to be an all-inclusive history of the Soil Erosion & Stormwater Regulations, but rather, it highlights the dates when the entirety of the regulations has been adopted. Any amendments to the currently effective regulations (January 1, 2016) will be listed in the below table as well.

Description	Effective Date
Subsequent Adoption (Current Version)	1/1/2016

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TABLE OF CONTENTS

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ARTICLE 1 – TITLE, PURPOSE, SCOPE & JURISDICTION

Section 100 Title

These Regulations shall be known and may be cited and referred to as the "Soil Erosion & Stormwater Regulations for Licking County, Ohio," and shall be referred to as "these Regulations," herein.

Section 101 Purpose

These Regulations are adopted for the purpose of controlling the pollution of public waters by sediment from accelerated soil erosion and accelerated stormwater runoff caused by earth-disturbing activities and land use changes connected with development. Control of such pollution will promote and maintain the health, safety and general well-being of all life and inhabitants with Licking County.

Section 102 Authority

These Regulations are adopted by the Board of County Commissioners in accordance with and pursuant to the legal grant of authority of the *Ohio Revised Code,* Section 307.79, to adopt rules to abate soil erosion and water pollution sediment

Section 103 Administration

The Licking County Planning Commission (LCPC) and its staff, is herein delegated the authority on behalf of the County Commissioners to administer and enforce the provisions of these Regulations, with technical assistance from the Licking County Soil and Water Conservation District (LCSWCD) and the Licking County Engineer's Office (LCE).

Section 104 Jurisdiction

These Regulations shall apply to all land grading, excavating, filling, or other soil disturbing activities on land used or being developed for nonfarm commercial, industrial, residential, or other nonfarm purposes.

The rules adopted under these Regulations shall not apply inside the limits of municipal corporations or the limits of townships with a limited home rule government that have adopted rules under section 504.21 of the Ohio Revised Code, to lands being used in a strip mine operation as defined in section 1513.01 of the Ohio Revised Code, or to land being used in a surface mine operation as defined in section 1514.01 of the Ohio Revised Code.

Section 105 Disclaimer of Liability

Neither submission of a plan under provisions of these Regulations nor compliance with the provisions of these Regulations shall relieve any person from responsibility for damage to any

person or property otherwise imposed by law, nor impose any liability upon Licking County for damage to any person or property.

Section 106 Amendment

These Regulations may be amended, after public hearings and other requirements, as specified in Section 307.79 (B) of the *Ohio Revised Code.*

Section 107 Interpretation

The provisions of these Regulations shall be held to be minimum requirements for the promotion of health, safety, and general welfare of the people of Licking County. As such, in the development process the LCPC shall be entitled to apply a reasonable interpretation of these Regulations as is necessary to give force and effect to the purpose and intent of these Regulations to protect and promote the health, safety and general welfare of the people of Licking County.

Section 108 Separability, Validity

If, for any reason, any clause, sentence, paragraph, section, article, or other part of these Regulations should be decided by a court of competent jurisdiction to be invalid, such judgment shall not affect the validity of these Regulations as a whole, or any part other than the part held to be invalid.

Section 109 Appendix

The Appendixes attached to these regulations are not hereby adopted as part of the Licking County Soil Erosion & Stormwater Regulations, they are provided here for reference only. However, the items in the Appendixes shall serve to provide consistent guidance, incorporate the policies, formally and informally, utilized by the LCPC and its staff, and to provide uniform reference materials.

Section 110 Effective Date

These regulations shall become effective on the thirty-first day following the date of their adoption. Henceforth, any other regulations previously adopted by the Board of County Commissioners shall be deemed to be repealed.

ARTICLE 2 – DEFINITIONS

Section 200 Interpretation of Terms and Words

For the purpose of these Regulations, certain terms and/or words used herein shall be interpreted as follows:

- The word "person" includes a firm, association, organization, partnership, trust, company, or corporation as well as an individual. (See *Person*, Section 201)
- The present tense includes the future tense, the singular number includes the plural, and the plural number includes the singular.
- The word "shall" is a mandatory requirement, the word "may" is a permissive requirement, and the word "should" is a preferred requirement.
- The words "used" or "occupied" include the words "intended, designed, or arranged to be used or occupied."
- The word "lot" includes the words "plot" or "parcel."

If a general term or provision conflicts with a special term or provision, they shall be construed, if possible, so that effect is given to both. If the conflict between the terms or provisions is irreconcilable, the special term or provision prevails as an exception to the general term or provision, unless the general term or provision is the later adoption and the manifest intent is that the general term provision prevails.

Section 201 Definitions

For the purposes of these Regulations, certain terms and/or words used herein shall be defined using the adopted definitions within Article 2 of the Licking County Subdivision Regulations. Any future amendments to those definitions within the Licking County Subdivision Regulations shall also be considered an amendment to the definitions utilized by these Regulations, unless an amendment to this Section is adopted.

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ARTICLE 3 – PLANS & PROCEDURES

Section 300 Plan Submission

Section 300.1 Plans Required

The submission of plans outlined in this Article shall be required for any development involving the disturbance of one or more contiguous acres of land. Those developments which are disturbing less than one acre shall be exempt from the requirement to submit plans; however, they shall not be exempt from compliance with the standards and rules outlined within these Regulations.

No permit or plan shall be required for a public highway, transportation, or drainage improvement or maintenance project undertaken by a government agency or political subdivision in accordance with a statement of its standard sediment control policies that is approved by the board or the chief of the division of soil and water resources in the department of natural resources.

Section 300.2 Plan Contents

A) Any person seeking approval of a subdivision/development shall:

1) Provide mapped information about the location and vicinity of proposed development site.

2) Furnish three types of information and maps (as are more specifically defined in Section 300.2 (B) below, about the proposed development site:

   a. An existing characteristics inventory;

   b. A predevelopment conditions assessment; and,

   c. A development plan evaluation.

3) Request an optional pre-submission conference and development site inspection from LCPC, LCE and LCSWCD to gain assistance in submitting the required site planning information.

4) Provide four (4) copies of the above-required information.

B) Information Content Requirement:

1) Information Requirements- all mappable information requirements, with the exception of the location and vicinity map, shall be rendered on topographic base maps at a scale of no less than 100 feet to one inch, which depicts:

a. The proposed development site and the adjacent area within 100 feet of its border.

b. The relief of the site in a maximum of two-foot intervals unless one-foot intervals are required by LCSWCD or the LCE Office.

c. Any natural watercourses and existing man-made improvements such as transportation thoroughfares, public utilities, transmission lines, landmarks, as well as any existing structures.

d. Off-site areas susceptible to sediment deposits or to erosion caused by accelerated runoff.

e. Off-site areas affecting potential accelerated runoff and erosion control.

2) Location and Vicinity

a. This mapped information is required to show the proposed development site in relation to its general surroundings.

b. The location and vicinity map shall:

1. Display the proposed development site and the surrounding area within one mile from its borders.

2. U. S. Geological Survey (USGS) topographic base map (2,000 scale / one inch=2,000 feet) or other acceptable topographic data.

3. Indicate any areas adjacent to the development site which are obviously susceptible or which noticeably contribute to on-site potentials for flooding, erosion and sedimentation.

4. Indicate the general direction of surface drainage around the proposed development site and show delineation of the 100-year floodplain for any watercourses, which pass through or are adjacent to the proposed development site.

3) Existing Characteristics Inventory

a. Mapped information is required in the inventory, which is necessary for assessment of redevelopment site conditions; and later serves as the basis for site plan evaluation.

b. The inventory map shall:

1. Display information about the names, textures, percent slope, and erodability of surface soils on the proposed development site according to series symbols and descriptions provided within county soil surveys prepared by and available from the U. S. Department of Agriculture. Also, the hydrologic group to which each soil series belongs may be identified from the Natural Resources Conservation Service (NRCS) technical release *Urban Hydrology for Small Watersheds, Technical Release 55* and indicated in the map legend.

2. Depict all major and minor watercourses, inclusive of streams, creeks, rivers and tributaries, and indicate the general directions of flow and the 100-year floodplain where applicable with in the development site. Any bodies of water, inclusive of lakes, ponds, marshes and reservoirs shall also be shown. Streams shall include intermittent, perennial, ephemeral, and any drainage ways.

4) Predevelopment Conditions Assessment

a. The assessment requires quantifying the inventory map information by site subdrainage areas in order to determine and display the volume and rate of runoff and gross soil loss from the proposed development site, and shall be prepared according to methods prescribed in the NRCS text cited in this Article or others, which yield equivalent information about rates and volumes of site surface drainage runoff and soil loss potentials. Information from the assessment is used to evaluate impacts expected to result during and from development of a proposed plan.

b. The development site assessment shall:

1. Show delineation and sequence of subdrainage units, which comprise the area proposed for development.

2. Indicate the hydraulic length of slope per individual subdrainage unit and the length of the natural or man-made watercourse, which accommodates the surface runoff from each.

3. Indicate within the legend the average percent slope, and runoff curve number (CN) per individual subdrainage unit.

4. Be accompanied by a hydrograph and all calculations pertinent to assessing site surface water runoff.

5) Development Plan Evaluation

a. The evaluation of the proposed site development plan is to provide mapped and tabularized information about the changes in rates and volumes of runoff which are expected to result from its implementation and shall be prepared according to methods prescribed in the NRCS text cited in this Article.

b. The development plan evaluation map shall:

1. Depict all permanently proposed structural improvements and installations to be made on the development site, inclusive of buildings, retaining walls, sidewalks, streets, parking lots, driveways and storm drainage impoundments, channels and outlets.

2. Indicate all proposed earth disturbance including:

- Areas of excavation, grading, and filling.
- The finished grade, stated in feet horizontal to feet vertical, of cut and fill slopes.
- Kinds of utilities and proposed areas of installation.
- Proposed paved and covered areas in square feet or to scale on a plan map.
- Proposed kind of cover on areas not covered by buildings, structures, or pavement. Description shall be in such terms as: lawn, turf grass, shrubbery, trees, forest cover, riprap, mulch, etc.

c. Graphically differentiate the area to be developed from the area to be left undisturbed within the development site.

d. Be accompanied by a hydrograph for a 24-hour storm of the critical frequency to be controlled as determined according to these Regulations and all calculations made pertinent to evaluating the effects of the proposed development plan upon current runoff and erosion conditions of the development site.

e. Provide certification by the developer/owner that all earth disturbance, construction, and development will be done pursuant to the approved plan. This can be accomplished with a signature line for the owner/developer on the cover sheet of all plans.

C) Abatement Control Plan Contents & Requirements

1) A Runoff Control and Sediment Abatement Plan shall identify how accelerated surface water runoff, increased erosion, and sediment deposition induced by site development are to be controlled to a level within the abatement standards of Section 401 of these Regulations.

2) All proposed controls are to be designed in accordance with methods and techniques set forth in the texts cited above in this Article or others with the prior approval of the LCPC.

3) A Runoff Control and Sediment Abatement Plan shall be compromised of, but not limited to, the following information:

   a. A map rendered on the base prescribed by Section 300.2 (B, 1) of this Article, which indicates the number, types, dimensions, and locations of all runoff, erosion, or sediment control devices to be utilized either temporarily or permanently on a development site.

   b. All pertinent computations made to arrive at the final dimensions of each control device. These shall be presented along with plan and section view drawings of the same rendered at an appropriate design scale to be agreed upon between the owner/developer and the LCPC.

   c. Schedules detailing the timing and maintenance of each control device.

4) Notwithstanding anything to the contrary in this Article, any owner/developer (1) shall submit its initial application required by these Regulations together with the Preliminary Plan submissions required by the Licking County Subdivision Regulations, when required, and (2) shall submit its Runoff Control and Sediment Abatement Plan together with the Final Plat submissions required by the Licking County Subdivision Regulations, when required.

5) Prior to the final approval of the subdivision/development, the County Commissioners will not sign the plat until this petition has been filed and approved. As-Built plans must be certified by a Professional Engineer or Professional Surveyor and must accompany the petition for maintenance. An outline of the procedure for this petition process is contained in Appendix IV of these Regulations as a supplement to these standards.

D) Mapping & Topo Methods:

All base mapping and topographic information shall be prepared from field survey methods or other approved sources of information. This information shall be used for design of infrastructure. Use of Licking County GIS Topographic information is prohibited.

Section 301 Plan Review Procedures

Section 301.1 Site Development Plan Review

A) Submission of required site development planning information required under Section 300.2 (A & B) of this Article to the LCPC by an owner/developer seeking approval of a proposed development and/or subdivision.

1) Completes the owner/developer's responsibilities within the initial planning phase of the development review process.

2) Initiates proceedings by the LCPC to determine whether changes are needed before it approves the proposed development, authorizing commencement of earth-disturbing activities.

B) The LCPC, LCE and LCSWCD shall review the site development planning information and inspect the proposed development site to:

1) Verify site plan assessment information furnished by the owner/developer and evaluate the proposed development in relation to existing site conditions.

2) Assess the adequacy of the proposed site grading and drainage development plan to control against on-site incidents of accelerated runoff, erosion, and sedimentation.

C) Review of the site plan and development impact assessment evaluation information shall be completed by the LCPC, LCE, and LCSWCD:

1) By the time that such information, along with the subdivision/development proposal, is officially accepted by the LCPC at its regularly scheduled meeting.

2) Provided the owner/developer has submitted all information required by Sections 300.2 (A &B) of this Article along with the subdivision/development proposal to the LCPC at least 30 days prior to a regularly scheduled meeting.

D) Upon completion of the site development plan and impact assessment evaluation, the LCPC shall review the site development plan within the time period specified by Section 301.1 (C) above and shall either:

1) Approve the site development plan as submitted by the owner/developer; or,

2) Disapprove the site development plan until required changes in the site development plan are made and a Runoff Control and Sediment Abatement Plan is prepared and submitted by the owner/developer to the LCPC according to the provisions under Sections 300.2 (C) and 301.2 of this Article and area reviewed and approved by LCPC.

E) Action by the LCPC approving or disapproving the site development plan is a final appealable order for purposes of judicial review.

Section 301.2 Runoff Control and Sediment Abatement Plan Review

A) Submission of a Runoff Control and Sediment Abatement Plan to the LCPC completes all site development planning information and impact control planning responsibilities required of an owner/developer under provisions of this Article and initiates final site Development Plan approval proceedings under the *Licking County Subdivision Regulations*.

B) Review of the Runoff Control and Sediment Abatement Plan required of the owner/developer shall:

1) Be made by the LCPC, LCE and LCSWCD, provided the owner/developer has prepared and submitted all necessary information according to Section 300.2 (C) of this Article.

2) Be completed within a period of 35 days before the Preliminary Plan is approved or disapproved by the LCPC at a regularly scheduled meeting.

C) The LCPC shall, upon completing its review of the Runoff Control and Sediment Abatement Plan, either:

1) Approve the Runoff Control and Sediment Abatement Plan as submitted by the owner/developer provided it is in compliance with provisions of this Article and initial site plan review recommendations; or,

2) Disapprove the Runoff Control Sediment Abatement Plan until the owner/developer makes revisions, which comply with provisions of this Article. Revisions to a disapproved Runoff Control and Sediment Abatement Plan shall be prepared and submitted by an owner/developer to the LCPC for review and approval according to the same procedures specified by provisions within the above paragraphs of this section.

D) Action by the LCPC approving or disapproving a Runoff Control and Sediment Abatement Plan is a final order for purposes of judicial review.

Section 302 Pre-Construction Meeting

A Pre-Construction Conference shall be required with the LCPC and other applicable parties prior to any site improvements taking place, including but not limited to clearing or any earth disturbing activity. The Pre-Construction Conference shall include at a minimum the LCPC, Owner/Developer, Site or General Contractor, Design Engineer, Licking County Engineer, and the Soil and Water Conservation District.

Section 303 Inspections

All inspections of the required improvements of these Regulations shall be done in accordance with the Subdivision Regulations and the Subdivision Improvement Regulations of Licking County.

Section 304 Enforcement

If it is determined that a violation of these Regulations exists, the owner/developer will be notified of the deficiencies or noncompliance. After a reasonable time for voluntary compliance, the inspector or inspecting agency shall report the deficiency or noncompliance to the LCPC. The LCPC upon determination that a development does not comply with these Regulations may pursue an enforcement action and impose penalties as outlined in Section 307.79 (D) through (F) of the Ohio Revised Code against the owner/developer.

Section 305 Guarantees for Completion of Work

Any facilities and improvements that are approved in accordance with these Regulations which are proposed as part of a subdivision shall require improvement guarantees in accordance with the *Licking County Subdivision Improvement Regulations*.

ARTICLE 4 – STANDARDS FOR SOIL EROSION & STORMWATER CONTROL

Section 400 On-Site Erosion Control

Section 400.1 Intent of Erosion Control

The intent of the Erosion Control regulations are to:

A) Prevent erosion during construction and prior to final site completion.

B) Minimize the removal of vegetation during the development process.

C) Minimize the exposure of bare earth to precipitation by encouraging the scheduling of land development in increments of workable size which can be completed within a single construction season or within a time period compatible with the type and the size of the project;

D) Provide for the re-establishment of vegetation within a reasonable period following completion of land disturbance and utility installation (See Section 400.2);

E) Give priority to the paving of streets, parking lots, and other areas within a reasonable time following completion of final grading;

F) Encourage the use of erosion and sediment control techniques found in the latest revision of Rainwater and Land Development, published by ODNR, Division of Soil & Water Conservation.

Section 400.2 Erosion Control Standards

The developer must meet the more stringent of the current National Pollutant Discharge Elimination System (NPDES) Permit or the requirements of this section.

A) Sedimentation facilities (debris basins, sedimentation traps) and other control measures such as filter barriers, diversions**,** berms, interceptor ditches and terraces, shall be installed in conjunction with the initial grading operations and be maintained throughout the development and construction process to remove sediment from runoff waters draining land under development. These shall be maintained by the developer to assure functional operation during all phases of construction by periodic maintenance activities.

B) Land which has been cleared for development, and upon which construction has not commenced within twenty-one (21) days of this initial clearing shall be protected from erosion and consequent sedimentation by appropriate vegetation and land covering techniques such as seeding, sodding, mulching ground cover installation or other vegetation or earth covering techniques.

C) Construction activity on individual single-family lots or a group of lots being developed simultaneously by one developer shall be conducted only if sedimentation facilities are installed and maintained throughout the construction period to prevent soil from any lot or group of lots from being carried off site during all phases of project construction. Substantial completion of final grading and initial ground covering shall be completed prior to the seeding, sodding, ground covering installation or other vegetative or earth covering techniques.

D) No grading, cutting, or filing shall be accomplished on any site under development such that unprotected land surfaces will be in contact with surface water or will encroach upon natural waterways or their floodplains, unless erosion control and sedimentation control devices can be installed where determined by the LCPC staff, LCSWCD staff or County Engineer between the grading area and water surface during development and construction, and vegetation can be restored upon project completion.

E) Stripping of vegetation, regrading and other development activities shall be conducted in a manner so as to minimize erosion.

F) Cut-fill operations must be kept to a minimum.

G) Development plans must conform to topography and soil type so as to create the lowest practical erosion potential.

H) Whenever feasible, natural vegetation shall be retained, protected, and supplemented.

I) The disturbed area and the duration of exposure to erosive elements shall be kept to a practical minimum.

J) Disturbed soil shall be stabilized as quickly as practical (See Section 400.2 (B))

K) Temporary vegetation or mulching shall be employed to protect exposed critical areas during development. These measures shall be installed within 48 hours of initial disturbance. Critical areas, as they pertain to erosion control measures, are defined in Appendix II by the Licking County Engineer or Licking County Soil and Water Conservation Service.

L) Permanent vegetation and structural erosion control measures shall be installed as soon as practical but no later than 48 hours after final grading. This includes sod or other methods of retaining seeding material prior to maturation in the lower ½ of any drainage ditches.

M) To the extent necessary, sediment in runoff water must be trapped by the use of debris basins, sediment basins, silt traps, or similar measures until the disturbed area is stabilized.

N) Straw, mulch, or netting material provisions must be provided to minimize damage from surface water to the cut face of excavations or the sloping surface of fills within 48 hours of initial disturbance.

O) Cuts and fills may not endanger adjoining property.

P) Fills may not encroach upon natural watercourses or constructed channels in a manner so as to adversely affect other property owners.

Q) Grading equipment shall traverse flowing streams by means of bridges or culverts except when such methods are not feasible and provided, in any such case, that such crossings are kept to a minimum.

R) Land-disturbing activity plans for erosion and sedimentation control shall include provisions for control or treatment of any source of sediments and adequate sedimentation control facilities to retain sediments on-site or preclude sedimentation of adjacent streams beyond the levels specified in paragraph (21) of this section.

S) Land-disturbing activities shall not be conducted within any one hundred (100) year floodplain unless in accordance with the Licking County Flood Damage Prevention Regulations and a Permit to Develop in a Flood Hazard Area has been approved.

T) An undisturbed natural buffer area shall be maintained for a distance of twenty-five (25) feet adjacent to any body of water as measured from the lake, wetland or pond banks except when in the interest of public health, safety and welfare, or the contour of the land require a different buffer subject to the LCPC's approval.

U) All correspondence with the OEPA in regards to NPDES permits shall be forwarded to the LCPC, and SWP3 with associated inspection reports shall be kept on site for inspection in accordance with the NPDES Permit requirements.

Section 401 Stormwater & Sedimentation Control

Section 401.1 Standards and Criteria

In addition to compliance with any and all State and Federal regulations, strict compliance with the following standards and criteria shall be required of in all proposed subdivisions/developments:

A) Sheet and Rill Erosion- To control pollution of public waters by soil sediment from accelerated sheet and rill erosion on development areas, the owner/developer shall:

1) Apply and maintain a level of conservation practices that will minimize any on and off site erosion. Follow standards and guidelines found in the handbook,

Rainwater and Land Development, and amendments thereto and any standards and criteria recommended by the LCSWCD.

2) Other methods to control sediment pollution may be used provided these methods are acceptable to the LCPC, LCE, LCSWCD, and the Ohio Environmental Protection Agency (OEPA).

3) Assume full build-out of all upstream areas at the highest housing density allowed by the township.

B) Concentrated Water Erosion- To control pollution of public waters by soil sediment from accelerated erosion in drainage ways and grassed waterways and in streams and ditches disturbed or modified in conjunction with the development process, the owner/developer shall:

1) Design, construct, and maintain concentrated water flow channels such that the velocity of flow does not exceed the permissible velocities listed in the Table of Permissible Velocities for Flowing Water; or, (See Table 12 below and Appendix V of these Regulations)

2) Design, construct, and maintain sediment basins sized in accordance with the handbook, *Rainwater and Land Development* and any amendments thereto and any recommendations, standards, and criteria of the LCSWCD, or

3) Other methods to control concentrated water erosion may be used if acceptable to the LCPC, LCE, and the LCSWCD.

C) Sloughing, Land sliding, and Dumping- To control sediment pollution of public waters caused by sloughing, land sliding, and dumping of earth material, or placing of earth material into such proximity that it may readily slough, slide, or erode into public waters by natural forces. Any existing areas susceptible to sloughing or land sliding shall be stabilized and/or repaired, and no owner/developer shall:

1) Dump or place earth material into public waters or into such proximity that it may readily slough, slide, or erode into public waters unless such dumping or placing is authorized by the LCPC for such purposes as, but not limited to, constructing bridges, culverts, erosion control structures and other in-stream or channel bank improvement works; or,

2) Grade, excavate, fill, or impose a load upon any soil or slope known to be prone to slipping or land sliding, thereby causing it to become unstable, unless qualified engineering assistance has been employed to explore the stability problems and make recommendations to correct, eliminate, or adequately address the problems. Grading, excavating, filling, or construction shall commence only after the LCPC, LCE, and LCSWCD has reviewed and approved such activities in accordance with the approved recommendations.

D) Stream Channel Erosion, Flood Plain Erosion**,** and Storm Water Management- To control pollution of public waters by soil sediment from accelerated stream channel erosion and to control flood plain erosion caused by accelerated storm water runoff and to minimize flooding from development areas, the developer/owner shall control the increased peak rates and volumes of runoff such that:

1) The peak rate of runoff from the critical storm and all more frequent storms occurring on the development area does not exceed the peak rate of runoff from a one-year frequency, 24-hour storm occurring on the same area under pre-development conditions.

2) Storms of less frequent occurrence (longer return periods) than the critical storm up to the 100-year storm have peak runoff rates no longer than the peak runoff rates from equivalent size storms under pre-development conditions. Consideration of the 1, 2, 5, 10, 25, 50, and 100 year storm will be considered adequate to designing and developing to meet this standard. (See Table 11 & Appendix III of these Regulations).

3) The values set forth in Table 11: 24-Hour Critical Storm shall be utilized:

Table 11: 24-Hour Critical Storm

If the percentage of increase in runoff is:		**The critical storm for discharge limitation will be:**
Equal to or	And Less Than:	
-	10	1 year
10	20	2 years
20	50	5 years
50	100	10 years
100	250	25 years
250	500	50 years
500	-	100 years

4) The critical storm for a specific development area is determined as follows: Determine by appropriate hydrologic methods the total volume of runoff from a one-year frequency, 24-hour storm occurring on the development area before and after development (see Table 11). Using this total volume of runoff), determine the percent increase in volume of runoff due to development and using this percentage, select the 24-hour critical storm from this table (see Table 11).

5) The "Peak Discharge Method" of calculating peak rate and total volume of runoff as described in the Natural Resources Conservation Service's *Urban Hydrology for Small Watersheds*, Technical Release #55, is well suited to provide the information necessary to comply with this standard. Technical Release #55 is

available from the Natural Resources Conservation Service. Methods for controlling increases in storm water runoff peaks and volumes may include, but are not limited to:

a. Retarding flow velocities by increasing friction, for example, grassed road ditches rather than paved street gutters where practical (low density development areas, access roads, etc.); discharging roof water to vegetated areas; or grass and rock lined drainage channels.

b. Grading and construction of terraces and diversions to slow runoff and use of grade control structures to provide a level of control in flow paths and stream gradients.

c. Inducted infiltration of increased storm water runoff into the soil where practical, for example, constructing special infiltration areas where soils are suitable; retaining topsoil for all areas to be re-vegetated; or providing good infiltration areas with proper emergency overflow facilities.

d. Provisions for detention and retention, for example, permanent ponds and lakes with storm water basins provided with proper drainage; multiple use areas for storm water detention and recreation, wildlife, transportation, fire protection, or aesthetics; or subsurface storage areas.

E) Off-Site Abatement Control Facilities: Any and all exceptions to requiring permanent control of accelerated runoff and/or soil loss on the development site in all cases shall be considered and approved by the LCPC provided the owner/developer can definitively establish that:

1) Performance objectives and standards of this Article for runoff control and sediment abatement can be best achieved by installations of off-site abatement control facilities.

2) Accelerated and/or sediment runoff from the development site can be conveyed to off-site abatement control facilities in a manner, which satisfies or surpasses performance objectives of this Article.

F) Drainage Field Ditches: Owner/developer may utilize drainage field ditches, provided they are shallow graded ditches with flat side slopes, which do not interfere with tillage operations, having side slopes that shall not exceed a range from 8:1 to 15:1, and maximum velocities that shall be limited to 2.5 feet/second unless on-site studies show that higher velocities will not result in erosive conditions. The purpose of developer/owner's use of drainage field ditches shall be limited to collecting water from depressional or nearly flat areas within a field and remove it to a stable outlet.

G) Maximum Velocities for Stream Channels

1) Drainage Areas Less Than One Square Mile. The maximum permissible design velocity shall be based on site conditions and shall be such as to result in stability of the ditch bottoms and side slopes. Maximum permissible velocities will be computed using bank-full stage or ten-year frequency stage whichever is lower. Table 12 below sets forth the maximum velocity for all drainage main or lateral design in sub critical flow. Vegetation will be established immediately after construction.

2) Drainage Areas Greater Than One Square Mile Channel velocities for newly constructed channels with drainage areas in excess of one square mile shall meet special stability requirements contained in Natural Resources Conservation Service, Technical Release 25, Planning and Design of Open Channels.

3) Any design exceeding the permissible velocities set forth in Table 12 or having a critical flow shall be designed using rock or other suitable erosion resistant material.

Table 12: Maximum Velocities

SUBSOIL TEXTURE	PERMISSIBLE VELOCITY[4] (Ft. Per Second)
Sand and Sandy Loam (non-colloidal)	2.5
Silt Loam (also high lime clay)	3.0
Sandy Clay Loam	3.5
Clay Loam	4.0
Stiff Clay, Fine Gravel, and Graded Loam to Gravel	4.0
Graded Silt to Cobbles (colloidal)	4.0
Shale, Hardpan, Coarse Gravel	4.0

H) Any detention/retention ponds shall be designed to Natural Resource Conservation Service (NRCS) and State of Ohio specifications for dams and ponds.

Section 402 Buffering, Easements, and Maintenance

Section 402.1 Stream Buffers

A) Stream bank buffer areas for perennial and intermittent natural streams whose drainage basin is 75 acres or greater shall be designated within identified flood hazard areas on each side of the watercourse that is 50 feet upland from the defined top of stream bank, which shall be maintained in its natural or scenic condition to provide water quality

protection and flood buffering. Identified flood hazard areas with a total width of 100 feet or less shall designate the entire area as a stream bank buffer. This buffer area shall not be contained on any lot. This shall not prelude the installation of any necessary street or driveway as required by the LCPC.

B) Around all perennial streams the following requirements shall be established:
    1) An undisturbed natural stream bank buffer area of fifty (50) feet measured from the stream banks shall be maintained. Utilities shall not be located within this buffer. All disturbances of this buffer require prior approval by the LCPC.
    2) Impervious surfaces are prohibited within seventy-five (75) feet of the stream bank. This prohibition includes septic tanks, and septic tank drain fields, but will provide for stream crossings by roadways.
    3) Stream buffer or no disturb buffer areas shall be protected from disturbance by temporary fencing throughout construction of the site. The fencing is required to be in place prior to the pre-construction meeting being held.

Section 402.2 Drainage Easements

A) Stream, Drainage, and Flood Easements – If a stream flows through, or is adjacent to, the proposed subdivision, the subdivider shall provide on the Preliminary Plan and Final Plat for a stormwater easement along the stream(s).
    1) These easements shall be provided along every watercourse, drainage channel, stream, or other environmentally sensitive area. See Appendix I for a sample watercourse easement. Extra easements for back slopes may also be required by the LCPC where necessary.
    2) Access to streams or storm drainage ditches and channels shall be by means of easements. Such easements shall not be less than 30 feet in width, exclusive of the width of the ditch, or channel, or similar type facility.
    3) Underground facilities, such as tiles and storm sewers shall have easements with a minimum of 20 feet.
    4) Whenever a stream, storm drainage ditch, or channel has a depth of three feet or more, a bank slope of two horizontal to one foot vertical shall be provided. For identified flood hazard areas, the subdivider shall provide that the flood hazard area (fringe and floodway) be established on the preliminary plan and the final plat. The subdivider will also incorporate into the deed restrictions and covenants that no permanent or temporary structures (i.e. yard barns, accessory buildings, bridges, etc.) will be constructed within the flood hazard area, nor shall any fill be placed therein.

B) Public Access – Flood plain and storm water easements established under these Regulations shall provide for public access for inspection and maintenance of stream flow, and enforcement of these Regulations and the regulations adopted by Licking County and the township. The establishment of these easements does not in itself provide for public maintenance of these facilities. See Appendix I for a sample watercourse easement.

Section 402.3 Drainage Maintenance

A) Drainage Maintenance Petition Required:
All subdivisions and developments may be required to enter into the Licking County Drainage Maintenance Program, see Appendix IV.

1) A drainage maintenance petition will be required for all drainage facilities/structures that serve multiple parcels and/or allow for pass through drainage from adjoining parcels.
2) If the proposed onsite stormwater management system will be incorporated into a regional system, then it must also be incorporated into the drainage maintenance petition.
3) If the proposed stormwater management system will be contained on the parcel in which the development is occurring, then no drainage maintenance petition will be required. Please see Appendix IV.

B) Ownership and Maintenance of Drainage Facilities:

1) The owner and/or developer of the proposed subdivision/development shall follow the maintenance procedure outlined in Chapter 6137 of the Ohio Revised Code.

2) The location, construction, ownership and maintenance of the detention or retention facility, whether public or private, shall be approved prior to applying for the final subdivision plat and the acceptance of the application by the LCPC. Chapter 6131 of the Ohio Revised Code outlines the permitted method of providing maintenance.

3) The owner/developer shall petition the County Commissioners for maintenance of the storm water management system and facilities of the proposed development.

4) Prior to the final approval of the subdivision/development, the County Commissioners will not sign the plat until the petition for maintenance has been filed and approved. As-Built plans must be certified by a Professional Engineer or Professional Surveyor and must accompany the petition for maintenance. An outline of the procedure for this petition process is contained in the Appendix IV of these Regulations as a supplement to these standards.

Section 403 Site Protection

Section 403.1 Removal of Debris

All debris shall be disposed of in accordance with legal requirements. No debris, regardless of compliance with other local, state, or federal requirements, shall be buried in the development except in debris pits specifically designed and approved as part of an improvement plan in

locations outside the buildable area, drainage ways or drainage easements. Debris pits shall be prohibited in all other locations. If trees and limbs are reduced to chips, they may be used as mulch in landscaped areas. Debris sites shall be shown on construction drawings and must gain approval of the Licking County Engineer's Office, and the Licking County Soil and Water Conservation Service or other appropriate authority.

Section 403.2 Protection of Existing Plantings

Maximum effort should be made to save fine specimens. No material or temporary deposits shall be placed within four feet (4') of shrubs or within the drip line and at least ten feet (10') of trees designated by the developer or the LCPC to be retained. Protective barriers or tree wells must be installed around each plant and/or group of plants that are to remain on the site where determined during construction plan review. Barriers shall not be supported by the plants they are protecting, but shall be self-supporting. They shall be a minimum of four feet (4') high and constructed of a durable material that will last until construction is completed. Snow fences and silt fences are examples of acceptable barriers.

Section 403.3 Vegetative Enhancement

Landscaping of all cuts and fills and/or terraces shall meet the approval of the LCPC, and/or the LCSWCD.

ARTICLE 5 – REVISIONS AND ENFORCEMENT

Section 500 Schedule of Fees, Charges, and Expenses

The Board of County Commissioners shall establish a schedule of fees, charges, and expenses. The schedule of fees shall be available in the office of the County Commissioners, and may be altered, or amended by the Board of County Commissioners. Until all applicable fees, charges, and expenses have been paid in full, no action shall be taken on any application or appeal. All such payments shall be made payable to the Licking County Planning Commission. (See LCPC Fee Schedule)

Section 501 Variances

The Licking County Planning Commission may grant variances to these Regulations as specified herein where unusual or exceptional factors or conditions require such modification. Where the Planning Commission finds extraordinary hardships or practical difficulties may result from strict compliance with these Regulations and/or the purposes of these Regulations may be served to a greater extent by an alternative proposal, it may approve variances to these Regulations so that substantial justice may be done and the public interest secured, provided such variance shall not have the effect of nullifying the intent and purpose of these Regulations; provided that the Licking County Planning Commission shall:

A) Determine that the size, shape, location or surroundings of the property are unusual; find that unusual topographical or physical conditions, or other conditions inherent in the land exist.

B) Determine that a strict compliance with these Regulations would create an extraordinary and unnecessary hardship in the face of the exceptional conditions.

C) Permit any modification to depart from these Regulations only to the extent necessary to equitably remove the hardship so that substantial justice is done.

D) Determine that any modification granted will not be detrimental to the public interest nor in conflict with the spirit, intent and purpose of these regulations.

E) Require such other conditions to be met by the proposed plat as the Licking County Planning Commission may find necessary to accomplish the purposes of these Regulations when modified.

F) Determine that a strict compliance with these Regulations would deprive the property of privileges enjoyed by similar property in the vicinity.

G) In making its determinations, the Licking County Planning Commission may also consider:

1) Whether the property will yield a reasonable return or whether there can be any beneficial use of the property without the variance.
2) Whether the essential character of the neighborhood will be altered or whether adjoining properties would be adversely affected as a result of the variance.
3) Whether the variance would adversely affect the delivery of governmental services.

H) In granting variances or modifications, the LCPC may require special conditions, which, in its judgment, secure the objective of the standards or requirements so varied or modified. All variances shall be requested in writing on forms provided by the Commission at the time of preliminary and/or final plat submission. A petition for any such variance shall state fully the grounds for the application and all the facts relied upon by the petitioner.

Note: In the event that the applicant requires a variance from the Township Regulations, the applicant must receive written confirmation of the township's variance being granted before the LCPC will review the requested variance.

No appeal or variance will be taken back for reconsideration by the Licking County Planning Commission unless substantial changes have been made from the original variance request.

Section 502 Appeal of Decision of LCPC

Any person who believes they have been aggrieved by these regulations or the action of the LCPC has all the rights of appeal as set forth in Section 307.79 of the *Ohio Revised Code* or any other applicable section of the *Ohio Revised Code*.

Section 503 Appeal of Decision of LCPC Director

Any person who believes that they have been aggrieved by an opinion of the Director of the LCPC regarding the Director's Interpretation of these regulations may appeal in writing the director's interpretation to the LCPC. Notice of such appeal shall be given to the LCPC within thirty (30) working days of such interpretation and at least fifteen (15) working days before such appeal is presented to the LCPC for consideration.

Such appeal shall be in writing and shall state the Article, Section, and title of the regulations being appealed. As well as their interpretation of such regulation and why they believe the Director's interpretation is erroneous.

APPENDIX I – SAMPLE WATERCOURSE EASEMENT

The following restrictions shall apply specifically to lots number _____ and _____. Watercourse means storm flow above and below ground level.

1. No structure or improvements or any kind, including sheds, fences, flower beds, rock gardens and trees (but excluding grass and approved bank protection), shall be erected or planted within the easement provided for the watercourse.

2. No owner shall take any action or permit any action to be taken that might change or divert the flow of the watercourse, nor shall he/she, within the easement provided, alter the ground level or the course of the stream as shown on this plat. An owner may provide riprap, walls or other bank protection upon securing written approval from the Licking County Engineer's Office and a recommendation of the Licking County Soil and Water Conservation District or the Licking County Flood Plain Administrator.

3. Every owner of property along the watercourse shall maintain the portion of said watercourse in his/her property and keep the same free of debris and obstruction of all kinds. The County shall be free of any responsibility toward maintaining the watercourse, unless that watercourse is an established county ditch under an existing maintenance agreement.

4. These restrictions and agreements shall run with the land and shall bind the owner, his/her successors and assigns unless and until a modification or change thereto is agreed to and approved by Licking County.

5. Said restrictions and agreements may be enforced by Licking County and its successors and assigns, and are for the benefit of said County and owners of neighboring property in such proximity to the above described premises that the violation of said restriction and agreements would adversely affect the value of such property or the enjoyment of the use thereof.

6. The failure of said County to take prompt action by injunction or otherwise with regard to a violation of any of these restrictions and agreements shall not be deemed to be a waiver of its (county) rights to take action for said violation or any further violation of any said restrictions and agreements, and existing Flood Damage Prevention Regulations.

APPENDIX II – NPDES / EROSION CONTROL MEASURES

The following additions to the design and construction specifications will be required:

1. All ponds will be designed and constructed to USDA/NRCS-State of Ohio Engineering Standard and Construction Specifications as the minimum criteria.
2. All rock channel protection including channel lining, stilling basins, culvert outlet protection and similar will be designed and constructed to include:
    a. A filter under the rock of geotextile or gravel.
    b. Chocking of the rock to fill the voids and help lock rock in place.
        i. Type D rock to be chocked with #2's or similar.
        ii. Type B & C rock to be chocked with Type D rock and #2's.
    c. Hand placing may be necessary to obtain the desired surface shape.
3. All inlets will be protected from sediment entry even though they may discharge to a sediment-settling pond.
4. The NPDES permit holder shall maintain the log of weekly or more frequent site inspections and provide copies to the Soil & Water Conservation District or Licking County Planning Commission upon request.
5. Stability evaluations of all ditches shall be determined using 10-year peak flow in the as-built state unless other specifications require evaluation under higher flow conditions. Manning's n-value of 0.025 shall be used for computations unless otherwise agreed.
    a. Stability of newly seeded drainage channels shall be determined using the same peak flow; however, the Manning's n-value of 0.025 shall be used for computations unless otherwise agreed.
6. The Ohio EPA requirements for the current General Construction Permit will be followed. Effective April 21, 2003, through April 21, 2008, the current GCP number is OHC000002.

APPENDIX III – RAINFALL TABLE

Licking County 24 Hour Storm Events	
1 year	2.3”
2 year	2.6”
5 year	3.2”
10 year	3.8”
25 year	4.6”
50 year	5.2”
100 year	6.0”

- Source: NOAA Atlas 14 Volume 2 or any updates.

Criteria:

- Highest permissible curve number (CN) for cropland shall be 82.
- Unless thoroughly documented, all “woods” shall be characterized as “good”.
- Where development cuts and fills are anticipated to be in excess of six (6) inches, the hydrologic soils group shall be increased one category for post development calculations. For example: C to D.

APPENDIX IV – DITCH MAINTENANCE PROCEDURE

In accordance with the Licking County Soil Erosion & Stormwater Regulations and the Licking County Subdivision Regulations, all drainage improvements constructed within subdivisions shall be placed on County Maintenance through the ditch petition laws of the State of Ohio (ORC 6137).

When the final plat of a subdivision has been approved by the Licking County Planning Commission and is brought before the Licking County Commissioners for approval, a petition requesting that the drainage improvements be placed on County Maintenance shall accompany it. A sample copy of the petition is included in this section. The petition shall include the following attachments:

Exhibit A	A copy of the plat in the size that will be recorded.
Exhibit B	A copy of the Signed Subdivider's Agreement with a certified check, if applicable.
Exhibit C	A copy of the drainage plans for the subdivision delineating the improvements to be placed on public maintenance. This plan should be developed in consultation with the County Engineer. The County Engineer shall make the final decision regarding the scope of maintenance.
Exhibit D	A cost estimate for the construction cost of the improvements delineated in Exhibit "C" based on prevailing wage rates.

The petition and attachments shall be submitted two (2) weeks prior to placing the final plat on the County Commissioners Agenda. No plat will be placed on the Commissioners agenda unless accompanied by a complete petition package approved by the County Engineer and the County Planning Commission.

APPENDIX V – PERMISSIBLE VELOCITIES

TABLE OF PERMISSIBLE VELOCITIES FOR FLOWING WATER		
Cover	Range[2] (Percent)	Permissible Velocity[1] (Ft. Per Second)
Kentucky Bluegrass or Tall Fescue or Smooth Brome	0-5 5-10 Over 10	4 4 3
Grass Mixtures or Reed Canary	0-5[2] 5-10	4 3
Red Top or Red Fescue	[3] 0-5	 2.5

[1] Any design exceeding the above velocities or having a critical flow shall be designed using rock or other suitable erosion resistant material.

[2] Do not use slopes steeper than 10 percent except for vegetated side slopes in combination with a stone, concrete, or highly resistant vegetative center section.

[3] Do not use on slopes steeper than 5 percent except for vegetated side slopes in combination with a stone, concrete, or highly resistant vegetative center section.