

# BUTLER COUNTY



## SUBDIVISION REGULATIONS

**As Adopted; November 24, 1997**  
**Revised; January 19, 2012**

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Butler County Transportation Improvement District (TID)  
West Chester Township Zoning Department  
Liberty Township Zoning Department  
Fairfield Township Zoning Department  
St. Clair Township Zoning Department  
Wayne Township Zoning Department

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**ARTICLE I**

**TITLE, PURPOSE AND JURISDICTION**

SECTION 1.01 TITLE

The following regulations for the control of plats and subdivisions are adopted by the Board of County Commissioners and the County Planning Commissioner of Butler County, Ohio, under authority granted by *Chapter 711 of the Ohio Revised Code*, and shall be known and may be cited and referred to as the "*Butler County Subdivision Rules and Regulations*" and shall hereinafter be referred to as "*these regulations*".

SECTION 1.02 PURPOSE

These regulations are adopted to secure and provide for:

- A. The proper arrangement of streets or highways in relation to existing or planned streets or highways, or to the *Official Land Use Plan* and *Butler County Thoroughfare Plan*.
- B. The orderly and efficient layout and the appropriate use of the land.
- C. A common ground of understanding and a sound working relationship between the county and the developer and to safeguard the interests of the homeowner, the subdivider and the county and its citizens.
- D. The accurate surveying of land, preparing and recording of plats and the equitable handling of all subdivision plats by approving authority and subdividers.
- E. Technically feasible and economically reasonable standards to achieve a level of subdivision design & construction to minimize damage to property, degradation of natural resources, and to promote and maintain the health, safety and general well-being of all life and inhabitants of Butler County.
- F. The preparation of subdivision plans and to inform interested persons of the procedures and standards for design and construction of subdivision improvements in the unincorporated areas of Butler County.

SECTION 1.03 AUTHORITY

The Ohio Revised Code, Chapter 711.01 enables the Butler County Board of Commissioners and the Butler County Planning Commission to adopt regulations governing plats and subdivisions of land within their jurisdiction. The Ohio Revised Code, Section 307.79 enables the Board of County Commissioners to adopt rules to abate soil erosion and water pollution by soil sediment. The Butler



County Planning Commission has adopted the Butler County Thoroughfare Plan, a statutory requirement for reviewing plats or subdivisions.

SECTION 1.04 ADMINISTRATION

These regulations shall be administered by the Butler County Planning Commission and other county staff, hereinafter referred to as the Planning Commission.

SECTION 1.05 JURISDICTION

The rules and regulations governing plats and subdivisions of land contained herein shall apply to the unincorporated area of Butler County.

SECTION 1.06 SEVERABILITY

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

SECTION 1.07 RELATIONS TO OTHER LAWS

The provisions of these regulations shall supplement any and all laws of the State of Ohio, resolutions of the Butler County Board of Commissioners or the Butler County Planning Commission, or any and all rules and regulations promulgated by authority of such law or resolution, relating to the purpose and scope of these regulations. Whenever the requirements of these regulations are at variance with the requirements of any other lawfully adopted rules, regulations, ordinances, or resolutions, the most restrictive or that imposing the higher standards shall govern. Whenever a township has adopted a county or township zoning plan, under the provisions of *Section 303 or 519, Ohio Revised Code*, all proposed subdivisions shall meet the requirements of said zoning plan, as well as the provisions of these regulations.

SECTION 1.08 AMENDMENTS

These regulations may be amended, after public hearing and other requirements as specified in the *Ohio Revised Code*.

SECTION 1.09 DISCLAIMER OF LIABILITY

The County shall not be responsible for maintaining any subdivision improvements until such time as such improvements have been accepted by the County. Prior to such date, the County shall not be responsible for any suits, actions or claims of any character brought on account of any injuries or damage sustained by any person or property in connection with such subdivision improvements.

## *ARTICLE II*

### *DEFINITIONS*

- 2.01** Interpretation of Terms or Words: For the purpose of these regulations, certain terms or words used herein shall be interpreted as follows:
- A. The word "**person**" includes a firm, association, organization, partnership, trust, company, or corporation as well as an individual.
  - B. The present tense includes the future tense, the singular number includes the plural, and the plural number includes the singular.
  - C. The word "**shall**" is a mandatory requirement, the word "**may**" is a permissive requirement, and the word "**should**" is a preferred requirement.
  - D. The words "**used**" or "**occupied**" include the words "**intended, designed, or arranged to be used or occupied**".
  - E. The word "**lot**" includes the words "**plot**" or "**parcel**".
- 2.01A** **Access Management Manual:** refers to the current Butler County Access Management Regulations
- 2.02** **Alley:** See definition of a Thoroughfare, street or road, number 2.106(8) of these regulations.
- 2.03** **As-built plans:** A drawing which represents a true location of what is being measured or has already been built in the field.
- 2.04** **Archaeological Significance:** A structure or area that shows that there is evidence of a past culture or life, especially ancient peoples or civilizations. Such evidence would include, but not be limited to relics, artifacts, skeletons, etc.
- 2.05** **Assurance of Completion:** A contract secured by a performance bond or other guarantee or security satisfactory to the Butler County Board of Commissioners guaranteeing completion of public improvements which are required by these regulations.
- 2.06** **Base Flood:** Referred to in floodway computations, the base flood is the elevation which is reached from a flood of 100 year frequency.
- 2.06A** **Best Management Practices (BMP):** Schedule of activities, prohibitions of practices, maintenance procedures and other management practices (both structural and non-structural) to prevent or reduce the pollution of surface waters of the state. BMP's also include treatment requirements, operating procedures and practices to control plant and/or construction site runoff, spillage or leaks, sludge or waste disposal or drainage from raw material storage.

- 2.07 Bikeway or Bicycle Path:** An area specifically for bicycling which is physically separated from motorized vehicular traffic by an open space or barrier and either within the highway right of way or within an independent right of way.
- 2.08 Building Limits:** An area designated on the plat which defines the limits within which a building may be placed.
- 2.09 Building Pad:** A building site prepared by artificial means, including, but not limited to, grading, excavation, or filling, or any combination thereof.
- 2.10 Building Set Back Line:** See Setback Line (2.90) in these regulations.
- 2.11 Channel:** A natural stream or drainage way that conveys water; a ditch excavated for the flow of water.
- 2.12 Concentrated stormwater runoff:** Surface runoff which converges and flows primarily through water conveyance features such as swales, gullies, waterways, channels, culverts or storm sewers.
- 2.13 Conservation:** The wise use and management of natural resources.
- 2.13A Construction General Permit (CGP):** The NPDES permit authorizing storm water discharges associated with construction activities. Sites 1 acre and larger must apply for coverage under this NPDES general permit.
- 2.14 Corner Lot:** See Lot Types (2.57) in these regulations.
- 2.15 County Commissioners:** Board of County Commissioners of Butler County, Ohio.
- 2.15A County Engineer:** An elected official under Chapter 315 of the Ohio Revised Code. For the purpose of these regulations it shall also mean any designee appointed by the County Engineer or under the authority of his office.
- 2.16 Covenant:** A written promise of pledge.
- 2.17 Cul-de-sac:** See definition of Thoroughfare, street or road, number 2.106(9) in these regulations.
- 2.18 Cut and fill slopes:** A portion of land surface or area from which soil material is excavated and/or filled forming a slope or embankment.
- 2.19 Crosswalk:** Any portion of a roadway at an intersection or elsewhere distinctly indicated for pedestrian crossing by lines or other markings on the surface.
- 2.20 Culvert:** A closed conduit for the passage of surface drainage under a street, driveway, or other embankment.
- 2.21 Dead End/ Stubbed Street:** See definition of a Thoroughfare, street or road, number 2.106(10)

in these regulations.

- 2.22 Denuded Area:** A portion of land surface on which the vegetation or other soil stabilization features have been removed, destroyed or covered and which may result in or contribute to erosion and sediment pollution.
- 2.23 Design Exception:** An alternative to previously set design criteria which provides a logical and cost effective engineering approach in extreme or unusual situations.
- 2.24 Detention Structure:** A permanent or temporary structure for the temporary storage of runoff which is designed so as not to create a permanent pool of water.
- 2.25 Developer:** Any individual, subdivider, firm, association, syndicate, partnership, corporation, trust, or any other legal entity commencing proceedings under these regulations to engage in the subdivision of land hereunder for themselves or for another.
- 2.26 Development Area:** Any tract, lot or parcel of land or combination of tracts, which are in one ownership, or are contiguous and in diverse ownership where earth-disturbing activity is to be performed.
- 2.27 Dimensions:** Geometric measurements in length and/or width which denotes a physical area. (ie: a lot or street right-of-way).
- 2.28 Ditch:** An open channel either excavated or natural for the purpose of drainage or irrigation.
- 2.29 Ditch Petition:** A method outlined in the Ohio Revised Code Chapter 6131 by which a perpetual maintenance agreement for the storm water Management System located outside of the public street right-of-way is established. This agreement process is started by a petition submitted to the Butler County Commissioners and is funded through tax assessments on the affected properties. A standard petition form and a list of other requirements can be obtained from the Butler County Engineer's Office.
- 2.30 Driveway:** A path for cars leading from the improved street or road to a garage or house (ingress/egress).
- 2.31 Dumping:** Grading, pushing, piling, throwing, unloading, or placing of material.
- 2.32 Earth Disturbing Activity:** Any dumping, excavating, filling, or other alteration of the earth's surface where natural or man-made ground cover is destroyed and which may result in or contribute to erosion and sediment pollution.
- 2.33 Earth Material:** Soil, sediment, rock, sand, gravel, and organic material or residue associated with or attached to the soil.
- 2.34 Easement:** Authorization by a property owner for the use by another, for a specified purpose, of any designated part of their property.
- 2.35 Engineer:** Any person registered to practice professional civil engineering by the state board of

registration as specified in Section 4733.14 of the Ohio Revised Code.

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

- (1) Accelerated Erosion: A process which is much more rapid than natural or geologic erosion, and is primarily a result of the activities of man.
- (2) Channel Erosion: The erosion process whereby the volume and velocity of a concentrated flow wears away the bed and banks of a well defined channel.
- (3) Floodplain Erosion: Abrading and wearing away of the nearly level land situated on either side of a channel due to overflow and flooding.
- (4) Gully Erosion: The erosion process whereby water accumulates in narrow channels during and immediately after rainfall or snow or ice melt and actively removes the soil from this narrow area to considerable depths, such that the channel would not be obliterated by normal smoothing or tillage operations.
- (5) Natural Erosion or Geologic Erosion: The wearing away of the earth's surface by water, wind or ice under natural environmental conditions that are undisturbed by man.
- (6) Rill Erosion: An erosion process in which numerous small channels only several inches deep are formed, which if not corrected can become gullies. Normal tillage operations can remove the rills.
- (7) Sheet Erosion: The removal of a fairly uniform layer of soil from the land surface as a result of raindrop splash and runoff.

**2.37 Erosion and Sediment Control:** A system of structural and vegetative measures that minimize soil erosion and offsite sedimentation.

**2.38 Erosion and Sediment Control Plan:** An erosion and sediment control strategy or plan, to minimize erosion and prevent off-site sedimentation by containing sediment on-site or by passing sediment laden runoff through a sediment control measure, prepared and approved in accordance with the specific requirements of these regulations, and designed in accordance with the handbook "Rainwater and Land Development" in Section 302. The erosion and sediment control plan may be referred to as a sediment control plan.

**2.39 Final Plat:** A plat of a subdivision containing all necessary information as required in Article VIII of these regulations, signed by the appropriate authorities and recorded in the office of the Butler County Recorder.

**2.40 Flood Plain (100 year):** The lands within Butler County subject to a one- percent or greater chance of flooding in any given year.

- 2.41 Floodway:** The channel of a river or other watercourse and the adjacent land areas that must be reserved, as defined by the Federal Emergency Management Agency (FEMA), in order to discharge the base flood.
- 2.42 Frequency Year Storm:** A rainfall event of a magnitude with a specified average occurrence interval and is calculated with soil conservation service type II twenty-four-hour curves or depth-duration frequency curves.
- 2.43 Grading:** Earth-Disturbing activity such as excavation, stripping, cutting, filling, stockpiling, or any combination thereof.
- 2.44 Grubbing:** Removing, clearing or scalping material such as roots, stumps or sod.
- 2.45 Highly erodible soil:** A portion of land surface which is very susceptible to erosive forces and is characterized by steep slopes or long slopes.
- 2.46 Historical Significance:** Any structure or area that provides evidence for a fact of history or the source of history.
- 2.47 Home Owner's Association:** An organization established for the care and maintenance of storm water and detention facilities and other common areas as determined by the Planning Commission.
- 2.47A Illicit Discharge:** is defined at 40 CFR 122.26(b)(2) and refers to any discharge to a municipal separate storm sewer that is not entirely composed of storm water, except discharges authorized under an NPDES permit (other than the NPDES permit for discharges from the MS4) and discharges resulting from fire fighting activities. Also refers to definition held within the County's Illicit Discharge Regulations.
- 2.48 Improvements:** Street pavement, curbs, gutters, sidewalks, waterlines, sewer lines, storm drains, street lights, flood control and drainage facilities, utility lines, landscaping, and other related matters, whether public or private, normally associated with the development of raw land into building sites.
- 2.49 Landslide:** The rapid mass movement of soil and rock material downhill under the influence of gravity in which the movement of the soil mass occurs along an interior surface of sliding.
- 2.50 Land Use Plan:** The long-range plan for the desirable use of land in Butler County as officially adopted, and amended from time to time, by the Planning Commission; the purpose of such plan being, among other purposes, to serve as a guide in the zoning and progressive changes of the land to meet changing community needs, in the appropriate subdividing and development of undeveloped land, and in the acquisition of rights-of-way or sites for such public facilities as streets, parks, schools and other public buildings.
- 2.51 Location Map:** See Vicinity Map

- 2.52 Lot:** For purposes of these regulations, a lot is a parcel of land of sufficient size to meet minimum zoning requirements for use, coverage, and area, and to provide such yards and other open spaces as are herein required and as required by zoning. Such lot shall have frontage on an improved public street, or on an approved private street, and may consist of:
- (1) A single lot of record;
  - (2) A portion of a lot of record;
  - (3) A combination of complete lots of record, or portions of lots of record.
- 2.53 Lot Area:** The total computed area contained within the lot lines exclusive of any portion of a public right-of-way or a private access easement.
- 2.54 Lot Frontage:** That portion of a lot running along the right-of-way line of any adjoining unlimited access public thoroughfare. Where the lot is located on a curve in the road, the lot frontage may be measured along the curved building line provided that the side property lines run radial to the curve. (Please see Appendix A, drawing A-1 for a sample drawing.)
- 2.55 Lot Measurements:** A lot shall be measured as follows (Please see Appendix A, drawing A-1 for sample drawing):
- a. Depth of a lot shall be considered to be the mean horizontal distance between the front and rear lot lines.
  - b. Width of a lot shall be considered to be the mean width of the lot measured at right angles to its depth.
- 2.56 Lot of Record:** A lot which is part of a subdivision recorded in the Office of the County Recorder, or a lot or parcel described by metes and bounds, the description of which has been so recorded.
- 2.57 Lot Types:** Terminology used in these regulations with reference to corner lots, interior lots and through lots is as follows (Please see Appendix A, Drawing A-5 for an example):
- (1) A corner lot is defined as a lot abutting upon two (2) or more streets at their intersection or upon two (2) parts of the same street, such streets or parts of the same street forming an interior angle of less than one hundred thirty-five (135) degrees.
  - (2) An interior lot is a lot other than a corner lot with frontage on only one street.
  - (3) A double frontage lot is a lot other than a corner lot with frontage on more than one street.
- 2.58 Maintenance Bond:** An agreement by a developer with Butler County, for ten percent (10%) of the established construction cost, used as a guarantee against any deficiencies which might develop over a predetermined period of time in the physical improvements which have been

constructed within a subdivision.

**2.58A Minimum Opening Elevation:** Also known as M.O.E. The lowest elevation of any opening in the foundation or first floor as to prevent entry of floodwater.

**2.59 Minor Subdivision or Lot Split:** A division of a parcel of land that does not require a record plat to be approved by the Planning Commission as specified in Section 711.131 of the Ohio Revised Code.

**2.60 Monuments:** Permanent concrete or iron markers used to establish boundary lines of the subdivision plat and points of change in street alignment.

**2.60A MS4:** Municipal separate storm sewer system which means a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels or storm drains) that are:

1. Owned or operated by the federal government, state, municipality, township, county, district(s) or other public body (created by or pursuant to state or federal law) including special district under state law such as sewer district, flood control district or drainage districts or similar entity or a designated and approved management agency under section 208 of the act that discharges into surface waters of the state; and
2. Designated or used for collecting or conveying solely storm water,
3. Which is not a combined sewer and
4. Which is not part of a publicly owned treatment works.

**2.60B National Pollutant Discharge Elimination System (NPDES):** means the national program for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing permits and enforcing pretreatment requirements, under sections 307, 402, 318 and 405 of the CWA. The term includes an "approved program."

**2.60C NOI:** Notice of intent

**2.60D NOT:** Notice of termination

**2.60E OEPA:** Ohio Environmental Protection Agency, oversees the NPDES program

**2.61 Open Space:** An open area which may be on the same lot with a building. The area may include, along with the natural environment features, swimming pools, tennis courts, any other recreational facilities that the planning commission deems permissive. Streets, structures for habitation, and the like shall not be included.

**2.62 Original Tract:** A parcel of land prior to any subdivision or split.

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

**2.64 Owner:** Someone who holds a right of possession and title to a parcel or tract of land.



- 2.65 Park:** An area of land containing pasture, woods, lakes, etc. which are used for public recreational purposes.
- 2.66 Parking Area, Public:** An open area, other than a street or other public way, used for the parking of automobiles and available to the public whether for a fee, free or as an accommodation for clients or customers.
- 2.67 Parking Space:** A permanently surfaced area of not less than one hundred sixty (160) square feet, either with a structure or in the open, exclusive of driveways or access drives, required for the parking of one (1) motor vehicle.
- 2.68 Performance Bond:** An agreement by a developer with Butler County for ten percent (10%) plus one-hundred and twenty percent (120%) of any incomplete work of the estimated construction cost guaranteeing the completion of physical improvements according to plans and specifications.
- 2.69 Person:** Any individual, corporation, partnership, joint venture, agency, unincorporated association, municipal corporation, township, county, state agency, the federal government, or any combination thereof.
- 2.70 Planned Unit Development:** A development that is planned to integrate a variety of uses with collateral uses, in which lot size, setback lines, yard areas, and building types may be varied and modified to achieve particular design objectives and make provision for open spaces, common areas, utilities, public improvements, and collateral uses.
- 2.71 Planning Commission:** (a) County Planning Commission of Butler County, Ohio. (b) A board, as defined by ORC Chapter 713.22, which makes decisions concerning subdivisions and zoning related issues.
- 2.72 Plat:** The drawing on which the developer's plan for a subdivision (preliminary or final) is presented to the Butler County Planning Commission for approval.
- 2.73 Plat of Survey:** A land survey performed by a professional surveyor which identifies a minor subdivision or lot split.
- 2.73A Post Construction Operation & Maintenance Plan:** A document that outlines the responsible party for the operation and maintenance of storm water facilities in a development. .Minimum requirements can be found in Section 5.07.
- 2.74 Preliminary Plat:** The drawing depicting a proposed subdivision which is intended to provide the Butler County Planning Commission with pertinent information regarding the development of a subdivision.
- 2.75 Private Street:** A roadway which has not been dedicated to the county and is completely maintained by the adjoining property owners. This roadway is not maintained by the county nor is it required to meet county standards. It is owned entirely by the property owners who use it.
- 2.76 Property Owners Association:** An organization established for the care and maintenance of

storm water and detention facilities and other common areas as determined by the Planning Commission.

- 2.77 Public Way:** An alley, avenue, boulevard, bridge, channel, ditch, easement, expressway, freeway, highway, land, parkway, right-of-way, road, sidewalk, street, subway, tunnel, viaduct, walk, or other way in which the general public or public entity have a right of travel, or which are dedicated for travel purposes, whether improved or not.
- 2.78 Replat:** A new recording of a previously recorded subdivision in which the purpose is to modify some portion of the originally recorded plat.
- 2.79 Retention Structure:** A permanent structure that provides for the storage of runoff by means of a permanent pool of water.
- 2.80 Right-of-Way:** A strip of land taken or dedicated for use as a public way. In addition to the roadway, it normally incorporates the curbs, lawn strips, sidewalks, lighting, utilities and drainage facilities, and may include special features (required by the topography or treatment) such as grade separation, landscaped areas, viaducts, and bridges.
- 2.81 Runoff:** The portion of rainfall, melted snow or irrigation water that flows across the ground surface and is eventually returned to streams.
- 2.82 Sanitary Sewers:** An approved sewage disposal system which provides a collection network and disposal system and central sewage treatment facility for a single development, community or region.
- 2.83 Sanitary Waste Treatment, On-Site:** A septic tank or similar installation on an individual lot which utilizes a bacteriological process or equally satisfactory process for the elimination of sewage and provides for the proper and safe disposal of the effluent, subject to the approval of health and sanitation officials having jurisdiction.
- 2.84 Sediment:** Solid material, both mineral and organic, that is in suspension, is being transported, or has been moved from its site of origin by wind, water, gravity, or ice, and has come to rest on the earth's surface.
- 2.85 Sediment Basin:** A settling pond meeting or exceeding the design specifications of a temporary sediment basin as defined in water management and sediment control for urbanizing areas.
- 2.86 Sediment Control:** The limiting of sediment transport by controlling erosion, filtering sediment from water, or detaining sediment-laden water allowing sediment to settle out.
- 2.87 Sediment Pollution:** The resulting failure to use management or conservation practices to control wind or water erosion of the soil and to minimize the degradation of water resources by soil sediment in conjunction with land grading, excavating, filling, or other soil-disturbing activities on land used or being developed for non-farm commercial, industrial, residential, or other non-farm purposes.

- 2.88 Sensitive Area:** An area or water resource as delineated by the Butler County Soil and Water Conservation District prior to 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, 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 with average annual flows of less than 3.5 feet per second containing sand or gravel bottoms.
- 2.89 Settling Pond:** A runoff detention structure such as a sediment basin or sediment trap, which detain sediment-laden runoff allowing sediment to settle out.
- 2.90 Setback Line:** See also the definition for “Yard” (2.116) in these regulations. Denotes the minimum distance from property boundaries to any structures.
- 2.91 Sheet Flow:** Overland water runoff in a thin uniform layer.
- 2.92 Sidewalk:** That portion of the road right-of-way outside the roadway, which is improved for the use of pedestrian traffic. See the definition for "Walkway" in these regulations.
- 2.93 Sloughing:** A downward movement of an extended layer of soil resulting from the undermining action of water or the earth-disturbing activity of humans.
- 2.94 Soil:** Unconsolidated erodible earth material consisting of minerals and/or organics.
- 2.95 Soil Conservation:** Using the soil within the limits of its physical characteristics and protecting it from unalterable limitations of climate and topography.
- 2.96 Soil and Water Conservation District:** As organized under Chapter 1515 of the Ohio Revised Code; referring either to the Soil and Water Conservation District Board, or its designated employee(s), hereinafter referred to as the Butler County Soil and Water Conservation District.
- 2.97 Soil Stabilization:** Vegetative or structural soil covers controlling erosion, and includes permanent and temporary seed, mulch, sod, pavement, etc.
- 2.98 Storm Water Management:** Runoff water safely conveyed or temporarily stored and released at an allowable rate to minimize erosion and flooding.
- 2.98A Storm Water Facilities:** Means any storm sewer pipe, catch basin, pipe, storm sewer, headwall, ponds, detention basin, BMP’s, or post-construction BMP that relates to the management of storm water runoff or the treatment of storm water.
- 2.99 Stormwater Runoff:** See the definition for Runoff in these regulations.
- 2.100 Stream:** A body of water running or flowing on the earth's surface or channel in which such flow occurs. Flow may be seasonally intermittent.

- 2.101 Structure:** Anything constructed, the use of which requires permanent location on the ground, or attachment to something having a permanent location on the ground.
- 2.102 Subdivider:** See the definition for Developer (2.25) in these regulations.
- 2.102 Surveyor:** Any person registered to practice as a professional surveyor in the State of Ohio as specified in Chapter 4733, Ohio Revised Code.
- 2.104 Terrain Classification:** Terrain within the entire area of the preliminary plat is classified as level, rolling, hilly, or hillside for street design purposes. The classifications are as follows:
- (1) "Level" is that land which has a cross slope range of four (4) percent or less.
  - (2) "Rolling" is that land which has a cross slope range of more than four (4) percent but not more than eight (8) percent;
  - (3) "Hilly" is that land which has a cross slope range of more than eight (8) percent but not more than fifteen (15) percent;
  - (4) "Hillside/Steep" is that land which has a cross slope range of more than fifteen (15) percent.
- 2.105 Thoroughfare Plan:** The official Thoroughfare Plan as adopted, and as amended from time to time, by the Planning Commission of Butler County, Ohio, establishing the general location and official right-of-way width of roads in Butler County, on file in the Butler County Engineer's Office and in the Butler County Planning Commission Office.
- 2.106 Thoroughfare, street, or road:** The full width between property lines bounding every public way or whatever nature, with a part thereof to be used for vehicular traffic and designated as follows (Please see Appendix A, drawing A-2 for a sample drawing):
- (1) Interstates and Freeways: A divided highway intended to serve the uninterrupted flow of traffic for both interstate and intrastate traffic through an area. Such highways are generally limited or controlled access in nature. These cross sections are distinguished by 200 foot right-of-way widths and multiple 12-foot lanes.
  - (2) Principal Arterials: Principal Arterials are generally State and U.S. highways and heavily traveled County and City roads which carry both local and cross-county traffic. They link various urban and rural communities, and are intended to move traffic to and from interstates and major traffic generators. Right-of-way widths of 120 feet are provided for multiple lane use in order to accommodate design speeds of over 45 mph.
  - (3) Minor Arterials: Similar in function to Principal Arterials, though usually carrying less traffic. These thoroughfares consist of State and U.S. Highways, County, and City roads which distribute traffic from Principal Arterials to a lower system. Right-of-way widths of 100-120 feet are provided with additional 15-foot

slopes and utility easements as required.

- (4) Major Collectors: Major Collectors consist of Township and County roads which are intended to carry local traffic and distribute traffic to Principal and Minor Arterials and/or to local streets. Right-of-way widths of 100-120 feet and 15-foot slope and utility easements are standard in this section.
- (5) Minor Collectors: Minor Collectors are lesser County and Township roads which are intended to serve commercial and industrial properties that abut them. Additionally, they provide links for short distance trips. Rural sections are distinguished by 80-foot right-of-way widths, 8-foot earth berms and open ditches. Turn lanes are provided at intersections, as required by traffic analysis.
- (6) Minor Collectors Second Class: Minor Collectors Second Class are township roads which are intended to serve the residential properties that abut them. These streets collect traffic from local streets and distribute to roads of a higher classification. Urban sections are distinguished by 60-foot right-of-way widths with 10-foot utility easements. Turn lanes are to be provided at intersections as required by traffic analysis.
- (6A) Neighborhood Collectors: Neighborhood Collector streets are intended to be utilized in residential neighborhoods and acts as a collector for local streets. They are to provide links to short destinations within and adjacent to the subdivision. This section is distinguished by a 60-foot right-of-way width. A turn lane may be required at intersections within the development and at intersections; driveway access is restricted around intersection points.
- (7) Local Streets: These streets provide access to individual properties which abut them. In addition, they provide access to the Collector and Arterial Systems on a local level. Local streets serve residential, commercial and industrial land uses. These urban facilities require 60-foot right-of-way widths and 10-foot utility easements.
- (8) Alley: A public or private way not more than thirty (30) feet wide affording only secondary means of access to abutting property.
- (9) Cul-de-sac: A local street of relatively short length (See Section 5.02) with one (1) end open to traffic and the other end terminating in a vehicular turnaround.
- (10) Dead-end/ Stubbed Street: A street temporarily having only one (1) outlet for vehicular traffic and intended to be extended or continued in the future.
- (11) Permanent Dead-end Street: A street (without a cul-de-sac turnaround) having only one outlet for vehicular traffic and not intended to be extended or continue in the future.
- (12) Private Street: A street which has not been duly accepted by the County or State for public use.

(13) **Public Street:** A street which has been dedicated and accepted by the County or State for public use.

**2.107 Time Limits:** Time limits designated within these regulations shall begin when application for review are officially accepted or as otherwise stipulated in these regulations.

**2.108 Unstable Soil:** A portion of land surface or area which is prone to slipping, sloughing or landslides.

**2.109 Utility Easement:** The easement used for the maintenance of vehicle sight distances, the placement of stormwater drainage, sewer, water, natural gas, electric, telephone, cable television or other facilities or utilities, and for street maintenance.

**2.110 Variance:** A variance is a modification of the strict terms of the relevant regulations where such modification will not be contrary to the public interest and where owing to conditions peculiar to the property and not the result of the action of the applicant, a literal enforcement of the regulations would result in unnecessary and undue hardship.

**2.111 Vicinity Map:** A drawing located on the plat which sets forth by dimension or other means, the relationship of the proposed subdivision to nearby developments or landmarks and community facilities and services within Butler County in order to better locate and orient the area in question.

**2.112 Walkway:** A public way for pedestrian use only, whether along the side of a road or not.

**2.113 Watercourse:** A definite channel with bed and banks within which concentrated water flows, either continuously or intermittently.

**2.114 Watershed:** The total drainage area contributing runoff to a single point.

**2.114A Water Quality Volume (WQv):** The volume of storm water runoff which must be captured and treated prior to discharge from a developed site after construction is complete. Also see requirements under the Construction General Permit.

**2.115 Wetlands:** Surface areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs and similar areas (1987 Corp of Engineers Wetland Delineation Manual).

**2.116 Yard:** An open space other than a court unoccupied and unobstructed from the ground upward except as specified in applicable zoning resolutions. (Please see Appendix A, drawing A-1 for a sample drawing).

(1) **Yard, Front:** An open space extending the full width of the lot between a building and the front lot line.

- (2) Yard, Rear: An open space extending the full width of the lot between a building and the rear lot line.
- (3) Yard, Side: An open space extending from the required front yard to the required rear yard between a building and nearest side lot line.

## *ARTICLE III*

### *PROCEDURES FOR SUBDIVISION APPROVAL*

#### SECTION 3.01 GENERAL STATEMENT

No person, firm or corporation, proposing to create a subdivision within the territorial limits of these Regulations shall enter into any contract for the sale of, or shall offer to sell said subdivision or any part thereof, or shall proceed with any construction work on the proposed subdivision until said person, firm or corporation has obtained from the Planning Commission approval of the preliminary plat of the proposed subdivision. Any work performed prior to final plat approval will be at the risk of the developer.

#### SECTION 3.02 SUBDIVISION DEFINITION AND CLASSIFICATION

The *Ohio Revised Code in Section 711.001* specifically defines a subdivision as:

- (1) “The division of any parcel of land shown as a unit or as contiguous units on the last preceding tax roll, into two or more parcels, sites, or lots, any one of which is less than five acres for the purpose, whether immediate or future, of transfer of ownership, provided, however, the division or partition of land into parcels of more than five acres not involving any new streets or easement of access, and the sale or exchange of parcels between adjoining lot owners, where such sale or exchange does not create additional building sites, shall be exempted; or
- (2) The improvement of one or more parcels of land for residential, commercial, or industrial structures or groups of structures involving the division or allocation of land for the opening, widening or extension of any street or streets, except private streets serving industrial structures; the division or allocation of land as open spaces for common use by owners, occupants or lease holders or as easements for the extension and maintenance of public sewer, water, storm drainage or other public facilities”.

Part (1) of the above definition refers to two types of land subdivision, in which no improvements are required: "*minor subdivisions*" (also known as lot splits or cut-ups) and "*platted subdivisions*" (also known as final plat subdivisions). It is noteworthy that all subdivisions of land in Ohio are deemed platted subdivisions except:

- (a) the division of land into parcels five (5) acres or more in size that does not involve the creation of new dedicated streets or public easements of access; or



- (b) the transfer of parcels of land between adjoining property owners where additional building sites are not created; or
- (c) division of parcels that meet current zoning and involves the creation of fewer than five (5) lots. Procedures for creating these divisions can be found in Section 3.02.

Part (2) of the above definition refers to "*platted subdivisions*" in which improvements are required. Note that actual division of land is not a pre-requisite for qualification as a subdivision. Any improvement of land for residential, commercial, or industrial purposes which involves the allocation of land for new public streets is legally a subdivision in the State of Ohio.

The Ohio General Assembly has recognized the need for simple conveyance of property divisions in a limited number of instances. *Section 711.131 of the Ohio Revised Code* permits the division of a parcel of land along an existing public street, not involving the opening, widening or extension of any street or road, and involving no more than five (5) lots after the original tract has been completely subdivided to be submitted to the Butler County Planning Department exercising subdivision approval authority for approval without a plat. If such planning authority acting through a properly designated representative thereof is satisfied that such proposed division is not contrary to applicable platting, subdividing, or zoning regulations, it shall approve such proposed division and on the presentation of a conveyance of said parcel, shall stamp the same "*approved by Butler County Planning Department; no plat required*" and have it signed by its clerk, secretary, or other official as may be designated by it. Such planning authority may require the submission of a "plat of survey" and such other information as its determination thereunder. This method of subdivision of land is known as lot splitting and is often called a "*minor subdivision*" or a "*lot split*."

### SECTION 3.03 PROCEDURES FOR MINOR SUBDIVISIONS

In order to create a minor subdivision (split a piece of property) from the original tract, the subdivider shall follow these procedures:

- (1) The subdivider shall have a registered surveyor to survey the land *that* is to be subdivided and prepare a "Plat of Survey." Subdivider is to comply with the Butler County Access Management Regulations, incorporate any access conditions on the Plat of Survey and deed(s). Once access has been reviewed and approved, by the County Engineer's Office, the surveyor shall file a "Plat of Survey" with the Butler County Plat Department. The plat must comply with section 3.04 of these regulations.
- (2) If the proposed property or the remaining piece contains less than five (5) acres, then the split shall require Health Department approval. This approval is required by the Planning Department and must be submitted at the time of split approval. If this proposed split is currently served by public water and sewer, then a statement must be obtained from the Butler County Sanitary Engineer stating such.
- (3) A deed shall be drawn which contains the legal description of the property

to be subdivided. This deed as well as the "Plat of Survey" shall be taken to the Plat Office for approval.

- (4) After the split has been given approval from the Health Department or the County Sanitary Engineer and the Butler County Plat Department, the deed, a copy of the health approval, or County Sanitary Engineer approval and a copy of the Plat of Survey is then checked by the Planning Department for its conformity to the County or Township Zoning Resolutions. The Planning Department shall stamp and sign the deed approved if the lot in question meets all codes as stipulated above.
- (5) If the proposed split is zoned Planned Unit Development (PUD), then a copy of the final site plan that was approved by the township or county shall be submitted with the proposed split.
- (6) The deed shall then be taken to the Butler County Auditor (Conveyance) for the transfer of property and then to the Butler County Recorder where it will become a legal lot of record.

SECTION 3.04 ITEMS TO BE CONTAINED ON THE PLAT OF SURVEY FOR MINOR SUBDIVISIONS

- A. The Plat of Survey for Minor Subdivisions shall be clearly and legibly drawn (Please refer to Appendix A, drawing A-3 for an example survey). The size of the plat shall be eighteen (18) by twenty-four (24) inches and drawn to an applicable scale. The material used shall be mylar with black permanent ink.
- B. The Plat of Survey shall contain the following information:
  - (1) A north arrow, graphical scale and date;
  - (2) Township, section, town and range;
  - (3) Tract surveyed shall be shown in solid heavy lines;
  - (4) All lines of survey with bearings and distances in hundredths of a foot and bearings to 1 second for 1:10,000 accuracy;
  - (5) Type of monument set or found at all points;
  - (6) Monuments on Right-Of-Way or offset lines showing a distance or dimension to the monument;
  - (7) Name and Right-Of-Way width of all roads;
  - (8) Denote all section lines and/or half-section lines;
  - (9) Ties shall be made to the corners of recorded subdivisions and the section

corners or established ½ section corners. Bearings must be shown on section lines. University Lands may be tied to University Land lot corners showing bearings and distances on lot lines;

- (10) List all reference surveys used;
- (11) Total acreage of tract and if more than one section show breakdown of acreage as to each section;
- (12) Names and locations of adjoining property owner, the deed book and page;
- (13) Deed book and page by which owner acquired said property;
- (14) The surveyors signature and seal or stamp and certification to a field survey;
- (15) Provide a closure sheet showing acreage and error of closure. The error of closure of a survey not to be greater than 1:10,000;
- (16) The location and size of all existing visible site structures and improvements including but not limited to: leach lines, septic systems, driveways, buildings, sheds, decks and patios;
- (17) Square footage as well as acreage of the parcel that is being created as well as the remaining portion of the parcel;
- (18) The location of all easements must be shown in such a manner to be re-established in the field. Deed Book and Page shall be referenced on any existing easements of record; and
- (19) Drawing standards shall be as outlined in 8.01 (b) of these regulations.
- (20) If property extends to the centerline of an improved road, a dimension is also to be shown at the right-of-way line. Frontage is measured at the right-of-way line, not the center of the improved road.
- (21) Access conditions and or easements as provided for in the Butler County Access Management Regulations or requirements made in 3.03(1).

**SECTION 3.05 PROCESSING AND REVIEW FEES FOR MINOR SUBDIVISIONS**

For the processing and review of minor subdivisions (lot splits) as provided herein, fees shall be set by the County Commissioners and other appropriate county agencies and shall be due at the time of split approval and shall be payable to the respective agencies where fees are owed.

SECTION 3.06 PRESUBMITTAL ASSISTANCE RECOMMENDED FOR A PLATTED SUBDIVISION

Prior to the submittal of a preliminary plat, the subdivider is encouraged to seek the assistance of the subdivision review staff, and other appropriate county agencies. The purpose of this meeting is to discuss early and informally the purpose and effect of these regulations and the criteria and standards contained therein; and to ascertain the location of proposed highways, public ways, parks, playgrounds, and other planned developments.

SECTION 3.07 PRELIMINARY PLAT REQUIREMENT FOR A PLATTED SUBDIVISION

In planning and developing a platted subdivision, the developer or their agent shall comply with the general principles of design and minimum requirements for the layout of subdivisions set forth in *Article IV* of these regulations, and with the rules and regulations concerning required improvements set forth in these regulations, and in every case shall pursue the following procedure:

After the presubmittal stage, the subdivider shall submit a preliminary plat of the proposed subdivision which shall conform with the requirements set forth in *Article IV*, and must be prepared by a registered surveyor and/or consultant. The purpose of the preliminary plat is to show, on a map, all the facts which may enable the Butler County Planning Commission to determine whether the proposed layout of the land meets the requirements of these regulations and is satisfactory from the standpoint of the public interest.

The proper zoning for the subdivision must be in place prior to the consideration of the preliminary plat by the Planning Commission.

SECTION 3.08 PRELIMINARY PLAT SUBMITTAL

The developer and their surveyor shall prepare a preliminary plat of the proposed subdivision which shall conform with the requirements set forth in *Article IV*, of these regulations and shall file with the Planning Department and subdivision review staff a written submittal for the review of said plat accompanied by thirteen (13) black line or blue prints, at least *three (3) weeks prior* to the meeting of the Planning Commission at which action is desired (Planning Commission meets once a month). This submittal requirement may vary depending on the number of subdivisions under review at the time of submittal or if there are significant problems with the subdivision at the time of design.

SECTION 3.09 PRELIMINARY PLAT REVIEW

The preliminary plat will be checked by the Planning Commission as to its conformity with Butler County's *Official Land Use Plan, Thoroughfare Plan, Access Management Regulations, Flood Damage Prevention Regulations* and other applicable zoning codes and the principles, standards and requirements hereinafter set forth. The Planning Commission shall also forward copies of the preliminary plat and supplemental information to such officials and agencies as may be necessary for the

purpose of study and recommendation. Such officials and agencies shall include:

- (a) Township Trustees and Zoning Department (if any), of the jurisdiction within which the proposal is located;
- (b) County Engineer;
- (c) Butler County Soil and Water Conservation District;
- (d) County Building Administrator;
- (e) County Board of Health;
- (f) County Sanitary Engineer;
- (g) Affected school districts if so requested, (for informational purposes only);
- (h) Ohio Department of Transportation;
- (I) and the Plat Department of the County Engineer's Office.

SECTION 3.10 APPROVAL/DISAPPROVAL OF PRELIMINARY PLAT

Upon receipt of the recommendations and advice from agencies listed in the preceding section, the Planning Commission will approve or disapprove the preliminary plat, or approve it with modifications, noting any changes that will be required. Upon giving said approval or approval with modifications, a notice shall be sent to the subdivider and/or consultant with the date of said approval and the list of any modifications. In the case of disapproval, the subdivider and/or consultant shall receive a copy of the Planning Commission resolution which denied approval. If the preliminary plat is not approved, the subdivider and/or consultant must start the preliminary plat submittal process over again. The approval of the preliminary plat by the Planning Commission is to be considered only as a tentative approval of the layout, with the understanding that the County Engineer, or other officials having jurisdiction may modify any engineering or construction details proposed by the subdivider, whenever required for the protection of the public interest. All sections of an approved preliminary plat shall be filed for final plat approval within five (5) years of the date of the approval of the preliminary plat. When this 5 year time period expires, the preliminary plat will be considered void.

SECTION 3.11 PROCESSING AND REVIEW FEES FOR PRELIMINARY PLATS

For the processing and review of plats as provided herein, fees shall be set by the County Commissioners and *shall be due at the time of preliminary plat submittal* and shall be payable to Butler County Planning Department.

SECTION 3.12 SUBMITTAL OF IMPROVEMENT PLANS

Upon preliminary plat approval, *which is effective for five (5) years*, the subdivider may submit improvement plans.

At this time, the subdivider and their engineer must submit six (6) sets of improvement plans for review to the Planning Department. At this same time, an application form and payment of Plan Review Fees shall be submitted to the County Sanitary Engineer.

These plans shall conform with the requirements set forth in Article V (Site Drainage & Roadway Construction), Article VI (Water and Sewer standards) and Article VII, Soil Erosion and Sediment Control Plan (SESC) of these regulations, and any stipulations set forth in the preliminary approval and must be prepared by a registered engineer.

Improvement plans shall also be accompanied by the SESC Plan, as submitted to the Ohio Environmental Protection Agency (OEPA) for the purposes of obtaining a National Pollution Discharge Elimination System (NPDES) permit. A copy of this permit shall be submitted to Butler County prior to the start of construction.

SECTION 3.13 IMPROVEMENT PLAN REVIEW

The improvement plans will be checked by the subdivision review staff as to its conformity to the preliminary plat approval. The Planning Department shall also forward, as appropriate, copies of improvement plans, drainage calculations and the Soil Erosion and Sediment Control (SESC) Plan to relevant agencies for the purpose of study and recommendation. Such agencies shall include:

- (a) County Engineer (See Article V of these regulations);
- (b) County Sanitary Engineer (See Article VI of these regulations);
- (c) County Soil and Water Conservation District (See Article VII of these regulations);
- (d) Southwest Regional Water District (where applicable);
- (e) County Zoning and Drainage Inspector.

SECTION 3.14 APPROVAL/DISAPPROVAL OF IMPROVEMENT PLANS

- A. All requirements of Article V of these regulations and any stipulations set forth in the preliminary approval must be met prior to any approval of improvement plans by the County Engineer and Storm Water District.

- B. All requirements of Article VI of these regulations and any stipulations set forth in the preliminary approval must be met prior to any approval of improvement plans by the County Sanitary Engineer.
- C. All requirements of Article VII of these regulations and any stipulations set forth in the preliminary approval must be met prior to any approval of improvement plans and the SESC Plan by the Butler County Soil and Water Conservation District.

No work shall commence on the site until the improvement plans submitted have been approved by each respective office above. Any work that has been started prior to approval of the final plat or prior to approval from the OEPA shall be done so at the risk of the developer.

In the case, improvement has not been constructed in its entirety, and the preliminary plat has expired, then the improvement plans will be considered void until such time a new preliminary plat approval has been granted. Depending upon approval conditions, by the Planning Commission, modifications and or changes to the improvement plan may be required. This includes but is not limited to traffic impact studies, storm water management and grading.

#### SECTION 3.15 OTHER PERMITS

It shall be the sole responsibility of the developer, not the Planning Commission or its representatives, to obtain any and all applicable permits from the appropriate agencies, including all local, state and federal agencies. All requirements of these permits must be met prior to recording of the final plat.

#### SECTION 3.16 INSPECTION OF IMPROVEMENTS

- A. Any work and any materials are subject to inspection by the Butler County Engineer's Office. Such inspection may extend to any part of the work. Any work, including backfill operations within the right of way, shall at a minimum meet the minimum requirements of the current State of Ohio Department of Transportation Construction and Materials Specifications. The contractor, upon request, shall furnish the County Engineer all information with samples relating to the work and the materials. The inspector shall have authority to reject defective material and to suspend any work that is being done improperly.
- B. Sanitary Sewer improvements shall be verified by "As Built" data and submitted to the County Sanitary Engineer by the Developer's engineer. If there are any discrepancies from approved plans, they must be resolved prior to acceptance of the testing.
- C. Any erosion control measures as indicated on the Soil Erosion and Sediment Control (SESC) Plan must be in place and functioning properly prior to recording of the final plat.

SECTION 3.17 INSPECTION FEES

- A. An inspection/review fee shall be charged for all roadway-related items. This fee shall be set by and paid to the Butler County Engineer's Office prior to the start of any construction or prior to the recording of the plat.
- B. Inspection fees, as designated in Article VI, Section 6.01 f(2), must also be submitted to the County Sanitary Engineer for construction costs for water and sewer related items.
- C. An inspection/review fee shall be charged for all drainage-related items. This fee shall be set by and paid to the Butler County Engineer's Office prior to the start of any construction or prior to the recording of the plat.

SECTION 3.18 FINAL PLAT SUBMITTAL

The developer and its surveyor shall prepare a record plat that shall conform with the requirements set forth in *Article VIII* of these regulations and shall file with Planning Department and subdivision review staff a written submittal for the approval of said plat accompanied by fourteen (14) black line or blue prints. The final plat shall incorporate all changes required by the Planning Commission and the subdivision review staff, the contents of the improvement plans and the preliminary plat if a preliminary plat has been reviewed and given approval by the Planning Commission. The final plat and/or record plat shall be prepared by a registered surveyor.

No work shall begin on the improvements until the developer submits proof of liability insurance which holds the county harmless from any claims by third parties.

If the developer wishes to construct a building on the acreage prior to the recording of a plat, but after preliminary approval, that building must meet all the requirements and conditions of the preliminary plat.

SECTION 3.19 FINAL PLAT REVIEW

The final plat will be checked by the subdivision review staff as to its conformity with Butler County's *Official Land Use* and *Thoroughfare Plan* and the principles, standards and requirements hereinafter set forth. The Planning Department shall also forward copies of the final plat and supplemental information that may be necessary to the subdivision review staff for the purpose of study and recommendation.

Such officials and agencies shall include:

- (a) Township Trustees or Zoning Department (if any) of the jurisdiction within which the proposal is located;
- (b) The County Engineer / Storm Water District;
- (c) Butler County Soil and Water Conservation District;
- (d) County Building Administrator;
- (e) County Board of Health;



- (f) County Sanitary Engineer;
- (g) Affected School Districts if so requested, (for informational purposes only);
- (h) Ohio Department of Transportation;
- (I) Transportation Improvement District (TID), if the proposal is located within the proposed Hamilton connector or any other proposed TID project;
- (j) and the Plat Department of the County Engineer's Office.

SECTION 3.20 APPROVAL/DISAPPROVAL OF FINAL PLAT

Upon receipt of the recommendation and advice from agencies in the preceding section, the Planning Commission will approve or disapprove the final plat. Should the Planning Commission approve the final plat, it shall enter such approval thereon in writing by its Chair and Secretary. (The approval of the final or record plat by the Planning Commission shall not constitute a dedication or acceptance of any proposed street Right-of-Way (ROW) shown on said plat.) If the final plat is approved by the Planning Commission, the record plat must be submitted to the County Commissioners, as provided in these regulations (Article III, Section 3.22), for the dedication of the land for street Right-of-Way (ROW) purposes. If the final plat is disapproved by the Planning Commission, then a revised final plat must be resubmitted to the Planning Commission for final approval.

All sections of the preliminary plat must be submitted for final approval within 2 years from the date of preliminary approval. If not, a new preliminary plat must be resubmitted and approved before final approval can be given.

SECTION 3.21 PROCESSING AND REVIEW FEES FOR FINAL PLATS

For the processing and filing of final plats as provided herein, fees shall be set by the County Commissioners and *shall be due at the time of final plat submittal* and shall be made payable to Butler County Planning Department.

SECTION 3.22 DEDICATION PROCEDURES

When submitting a final or record plat for recording, the developer and/or consultant must complete the following steps, before the plat can be forwarded to the County Commissioner's for the dedication of the right-of-way:

- A. File paperwork with the Butler County Engineer's Office (BCEO) to set up Homeowners' Association (HOA), Property Owners Association (POA) or petition the county for the maintenance of storm drainage system outside of the right-of-way. If county ditch petition is chosen, all paperwork must be completed prior to the recording of the final

plat. (Please refer to Section 5.06);

B. To ensure Butler County that the construction and installation of such improvements as street surfacing, curbs, gutters, sidewalks, drainage, sanitary sewers, and water supply items will be built, the subdivider shall enter into the following agreements:

- (1) Prior to the County Commissioner's signature on the record plat, the developer must furnish a Performance Bond (Please see Appendix B, figure B-1 for an example) made payable to the County Commissioners in the amount of 10% of the total cost of all earthwork, roadway (Public & Private), sidewalks, storm water facilities, drainage structures, and erosion control related items plus 120% of any uncompleted work as mentioned above. Bond amount will be determined by the County Engineer's Office and based on an acceptable contractor's estimate. Letters of credit will not be accepted for the performance bond.

Construction of improvements identified in the Plan pertaining to Public Streets, Roads, Turn Lanes and Storm Water Detention and Drainage Facilities shall commence prior to or after the date of recording of the final plat in the Butler County Recorder's Office, Butler County, Ohio and shall be completed within five (5) years from the date of recording. If the number of Lots built upon is greater than fifty-percent (50%) and level course is one (1) year, Developer shall request a punch list inspection from the County Engineer's Office. Upon completion and acceptance of the punch list work, Developer shall submit a Maintenance Bond in the amount determined by the County Engineer. Should the number of lots built upon not exceed 50% within the first five (5) years, County Engineer will require a new Performance Bond using current construction costs. After submittal of a replacement Performance Bond the Developer shall construct the improvements within five (5) years after such time, no additional extensions will be given.

At the time the Performance Bond is submitted to the County Engineer's Office, at a minimum, Surety Company must have a Financial Strength rating of "A-" or "Excellent" by A.M. Best Company.

For the latest rating access <http://www.ambest.com/>

Surety Company shall be licensed in the State of Ohio

Punch list inspections: after an initial punch list inspection and one subsequent re-inspection, all other re-inspections will be charged at a rate of \$500. Fee shall be paid within 90 days of invoice, failure to pay re-inspection fee will result in the county filing a claim against the performance and/or maintenance bond.

- (2) Prior to the County Commissioner's signature on the record plat, the

developer must furnish a Performance Bond (Please see Appendix B, figure B-1 for an example) made payable to the Butler County Commissioner's in the amount of 100% of the total cost of the uncompleted water and sewer related improvements. Bond amount will be determined by the County Sanitary Engineer's Office and based on an acceptable contractor's estimate. Letters of credit will not be accepted for the performance bond. The developer must also submit a maintenance bond (Please see Appendix B, figure B-2 for an example) in the amount of 10% of the total cost of all water and sewer related items.

- (3) All erosion control related items must be completed prior to recording of the final plat.
  - (4) Developer may enter into an agreement with the Township for snow removal and deicing of streets. Developer is responsible for all snow removal, deicing of snow and ice, street cleaning and similar maintenance until such time the subdivision has been accepted by the County and released from its Maintenance Bond.
- C. Acceptance and recording of all easements not included in the subdivision plat must be submitted along with applicable platting fees.
- D. Submit a certificate of title to the Planning Department (See Appendix B, figure B-3, for a sample Certificate of Title), which shows the ownership of all lands to be dedicated to the public and that the title thereof is free and unencumbered. If the title is not free and unencumbered then two requirements shall be met:
- (1) If a mortgage exists on the property which is to be dedicated to the public, a release of mortgage must be filed with the County Recorder or the mortgagee (the bank or whoever holds title to the mortgage on the property) must sign the record plat;
  - (2) If an easement of record exists through any proposed right-of-way which is to be dedicated to the public, that easement must be subordinated to Butler County or vacated (See Appendix B, figure B-4, for a standard agreement form).
- E. Submit to the Planning Department the mylar drawing of the subdivision which shall be signed and stamped by a registered surveyor. All owners and mortgage holders signatures must be notarized and dated and have two witnesses per signature.
- F. Pay all Review Fees outstanding with the appropriate departments.

SECTION 3.23 COUNTY COMMISSIONERS' APPROVAL

When the developer and their engineer have completed all the steps in the record plat submittal stage, the plat may be submitted for consideration by the Board of County Commissioner's. A date and time will be scheduled for a hearing with the Commissioners at the next available regular meeting.

SECTION 3.24 RECORDING PROCEDURES

Upon approval of the final plat by the Planning Commission and the County Commissioners, the plat shall go through the following procedures:

- (1) The Planning Department forwards it to the Plat Department where it is assigned a permanent parcel number;
- (2) The Plat Department forwards it to the Auditor's Office for review and processing. The subdivider is then responsible for picking up the plat and paying an auditor's fee set by the Auditor's Office;
- (3) The subdivider must take the approved plat to the Recorder's Office and pay a Recording fee set by the Recorder's Office;
- (4) After steps 1-3 are completed, the approved plat shall be recorded, and microfilmed. Microfiche is distributed to the Planning and Plat Departments by the Recorder's Office. The Planning Department also receives the original mylar copy of the approved plat from the Recorder's Office to be filed for public record.
- (5) The Planning Department will furnish three (3) copies of the approved plat to:
  - (a) The County Engineer's Office / Storm Water District;
  - (b) The County Sanitary Engineer's Office;
  - (c) The Township Trustees and Zoning Department (if any) of the jurisdiction within which the proposal is located;

Upon approval and recording, the subdivider may then pick up the approved record plat, provided the developer leaves a duplicate mylar copy with the Planning Department. At this time, the subdivider or builder may apply for building permits.

SECTION 3.25 SUBMITTAL OF "AS BUILT PLANS"

At the completion of construction, the plans shall be revised as necessary to provide "As Built" plans. "As Built" plans are to show location (by station number & offset), lengths, inverts and percent grades

on all storm sewer pipes, catch basin grates, manhole lids, windows within catch basins, orifice plates, forebay, sanitary sewers plus locations of all water appurtenances, and the depth of the top of the water valve nuts plus the station number and offset of each water and sewer service lateral. As-built topography of the storm water detention/retention facility, volume calculation (WQv & storage), and an outlet routing is to be submitted to verify the required detention is met. The spillway, top of levee and concrete gutter in the facility is also to be as-built. Cross-section and centerline profile of the flood route is to be included on the as-built drawing. Flood route profile is to begin at centerline of street and continue to storm water facility or rear of Lot. They shall be drawn on mylar and submitted to the Butler County Engineer prior to the final course of pavement being placed, the Butler County Sanitary Engineer within 60 days of the initial acceptance of the water and/or sewer improvements.

SECTION 3.26 COUNTY ENGINEER'S ACCEPTANCE REQUIREMENTS

The subdivider shall submit a written request to the Butler County Engineer's Office for acceptance of the streets. The subdivider shall maintain, repair, or replace any BMP, structure, pavement, drainage, seeding, or any other part of the subdivision or existing facility as directed by the County Engineer. At the time of acceptance, after all construction work is complete, the subdivider shall furnish a one-year maintenance bond made payable to the Butler County Commissioners. This bond shall be for a minimum value of ten percent (10%) of the total construction costs with the exclusion of erosion control, water and sanitary sewer related items as determined by the Butler County Engineer's Office. If the sidewalk is not complete at this time, a performance bond guaranteeing its completion shall be required.

SECTION 3.27 FINAL SANITARY SEWER AND/OR WATER INSPECTIONS

The final inspection of water and sewer related items will be scheduled eleven (11) months from the start of the one (1) year maintenance period. When the inspection is satisfactory to the County Sanitary Engineer, the Board of County Commissioners may release the Maintenance Bond.

SECTION 3.28 FINAL COUNTY ENGINEER'S INSPECTION

Prior to the end of the one year maintenance period, the County Engineer's Office shall conduct a final inspection of the subdivision, excluding water and sewer related items. Once the inspection passes, the Butler County Engineer's Office may recommend that the Board of County Commissioners release the maintenance bond. If the sidewalk is not complete at this time, a performance bond guaranteeing its completion shall be required.

## **ARTICLE IV**

### **PRELIMINARY SUBDIVISION PLAT REQUIREMENTS**

#### **SECTION 4.01 GENERAL STATEMENT**

All regulations in this Article shall control the general manner in which streets, lots, storm water facilities, and other elements of a subdivision are arranged on the land. These regulations shall help insure convenient and safe streets, creation of usable lots, provision of space for public utilities, and reservation of land for recreational uses. The planning of attractive and functional neighborhoods shall be promoted, minimizing the undesirable features of unplanned, haphazard growth.

Subdivisions are encouraged to be planned to take advantage of the topography of the land, to minimize destruction of trees and the disturbance of topsoil and to preserve such natural features as watercourses, sites of historical and archaeological significance and other assets which, if preserved, will add attractiveness and value to the subdivision and community.

The Subdivision Review Committee has the responsibility for reviewing the design of each future subdivision early in its design development. The committee is also responsible for making sure that existing roads have the capacity to handle all new development. If the Butler County Planning Commission or their agent feels that it is in the public interest they may require that a traffic impact analysis be completed at the developers expense. Any road improvements called for by this analysis which are the result of the proposed development shall be made at the developer's expense.

#### **SECTION 4.02 FORM**

The preliminary plat shall be clearly and legibly drawn. The size of the plat shall not be less than *eighteen (18) by twenty-four (24) inches*. If possible maximum plat size should not exceed *twenty-four (24) by thirty-six (36) inches*. The plan of a subdivision containing six (6) acres or less may be drawn at a scale of one (1) inch equals fifty (50) feet. All other subdivisions shall be drawn at a scale of one (1) inch equals one hundred (100) feet. The vertical scale of street and sewer profiles should be twenty (20) feet or less to the inch if required by the subdivision review staff.

#### **SECTION 4.03 NUMBER OF COPIES TO BE FILED**

The subdivider shall file with the Planning Department fourteen (14) copies of the preliminary plat for review as well as a reduced copy of the proposed subdivision measuring 11" by 17". This plat must be prepared by a registered professional surveyor and/or consultant, authorized to practice under the laws of the State of Ohio.

SECTION 4.04 CONFORMITY TO LONG RANGE DEVELOPMENT PLANS

A. The subdivision layout shall conform to *Butler County's Official Land Use and Thoroughfare Plan* and any other officially adopted long-range plans of Butler County.

- (1) Whenever a tract to be subdivided abuts any part of a highway, thoroughfare or parkway, so designated on said plan, such part of such public way shall be platted by the subdivider in the approximate location and at the appropriate width on the Plan.
- (2) Where a proposed park or other recreational area school site or other public ground shown in any adopted long-range plan for Butler County is located in whole or part within the proposed subdivision, such proposed public ground or part, if not dedicated to the County, or Board of Education, or Park Board, shall be reserved to be acquired by the County within a period of *five (5) years* by purchase or other means.

B. Where held appropriate by the Planning Commission, open spaces, constituting a reasonable proportion of the gross acreage of the subdivision based on a developed set of standards - suitably located and of adequate size for parks, playgrounds, or other recreational purposes for local or neighborhood use - shall be provided for in the proposed subdivision and if not dedicated to the County, shall be reserved for the common use of all property owners in the proposed subdivision by covenant in the deeds which shall be maintained and operated by the Property Owners Association.

SECTION 4.05 LOTS

The following requirements shall be taken into consideration when submitting the preliminary plat:

- (1) The size, shape and orientation of lots shall be appropriate for the location of the proposed subdivision and for the type of development planned. All lots shall be buildable based on a review by county staff, agents, or designees. Additional survey data may be required prior to Planning Commission Approval.
- (2) Excessive depth in relation to width shall be avoided. (A proportion of 2 to 1 shall normally be considered as appropriate).
- (3) Every lot shall abut on a publicly dedicated street. (This may not be a requirement of a PUD Development).
- (4) Lots for residential purposes shall comply with all applicable zoning codes concerning the area and width of each lot.
- (5) Dual access on double-frontage lots shall be avoided (Please see Appendix A, drawing A-4 for a sample drawing).

- (6) Side lot lines shall be approximately at right angles to the right-of-way line of the street on which the lot faces or radial to the curve (Please see Appendix A, drawing A-1 for a sample drawing).
- (7) Corner lots for residential use shall be platted wider than interior lots in order to permit conformance with the front yard set-back on the side street required by the appropriate Zoning Resolution.
- (8) Residential lots fronting or abutting on major or minor arterials or major or minor collectors should have extra depth to permit deep set-backs for the building from such traffic ways (50 feet depth).

SECTION 4.06 INFORMATION TO BE CONTAINED ON THE PRELIMINARY PLAT

The following information shall be contained on the preliminary plat:

*[For a summary of information to be contained on a preliminary PUD plan, please refer to the Butler County Zoning Resolution or applicable Township Zoning Resolutions].* (Please see Appendix A, drawing A-6 for a sample drawing).

- (1) A vicinity sketch showing the subdivision as it relates to the surrounding area at any scale.
- (2) A superimposed plan of the subdivision at a scale of three-hundred (300) feet or more to the inch shall be drawn on the preliminary plat in that particular township section that the development is located in. This shall show the relationship of the proposed subdivision or use to other nearby developments or landmarks and community facilities and services within Butler County in order to better locate and orient the area in question. This sketch shall also show all street right-of-ways.
- (2) The proposed name of the subdivision which shall not duplicate or closely approximate the name of any other subdivision in Butler County.
- (3) The names, addresses, and phone numbers of the owner of record, the subdivider and the engineer, surveyor or consultant for the project.
- (4) The boundary lines, accurate in scale, of the tract to be subdivided.
- (5) The location, widths, and names of all existing or platted streets or other public ways within or adjacent to the tract, and other important features such as existing permanent buildings, tree mass, water courses, railroad lines, corporation lines, township lines, pipe lines, pole lines, high tension lines, bridges, section lines, wetland, etc.



- (6) Existing sewers, water mains, culverts and other underground structures within the tract and immediately adjacent thereto with pipe sizes.
- (7) Contours, normally with intervals of two (2) feet referenced to United States Geological Survey (U.S.G.S.) Datum, as required by the Planning Commission.
- (8) The layout, numbers and approximate dimensions of proposed lots (For additions to existing subdivisions, the new lot number should continue from the last recorded number). The layout, proposed names and widths of proposed streets (with Typical Section), alleys and easements. Proposed street names shall not duplicate or closely approximate any existing street names in Butler County, except extensions of existing streets. A street may be named avenue, street, lane, drive, court, or boulevard, but not road.
- (9) The location and approximate sizes of proposed water and sewer lines, catch basins, culverts, adequate drainage outlets, and other drainage structures.
- (10) Zoning boundary lines if any; proposed uses of property and proposed front yard set-back lines. In some cases rear and side yard set-back lines or building footprints may be required.
- (11) All parcels of land intended to be dedicated or temporarily reserved for public use, or to be reserved in the deeds for the common use of property owners in the subdivision, with the purpose, condition, or limitations of such reservation indicated.
- (12) The total acreage of the subdivision.
- (13) The total number of lots.
- (14) North-point, graphical scale and date.
- (15) Private streets shall conform to the Local Street pavement thickness as defined in this document unless the township has determined design criteria.

SECTION 4.07 PRELIMINARY DRAINAGE

All proposed subdivisions shall have a storm drainage system designed to serve the area being developed. It shall be compatible to any adjacent storm drainage systems and shall have in all cases a clear and unobstructed outlet. The storm drainage system shall be designed in such a manner to minimize the effects on the downstream properties within reasonable limits. The preliminary drainage plan shall show the general suitability of the proposed development to support a storm water

management system. (Please see Appendix A, drawing A-7 for a sample drawing).

- (1) The preliminary drainage plan shall be due at the time of preliminary plat submittal on a two (2) foot topographical contour map and should consist of two (2) parts:
  - a. The major system is comprised of the 100 year flood route, storm water retention / detention facilities, open channels, culverts, and bridge structures. This system should be laid out in a manner as to direct all excess storm water into the storm water retention / detention facility.
  - b. The minor system is comprised of storm sewers, inlets, etc.
- (2) This plan should also include the following information:
  - a. Storm water detention or retention facilities which are required for each subdivision.
  - b. The approximate location of any 100 year flood boundary areas shall be shown.
  - c. Location and type of water quality BMP's.
  - d. Estimate of OEPA's water quality volume calculations.
- (3) The developer, owner or their engineer may apply to the Planning Commission for an exception to the detention or retention requirement. Each request will be reviewed as it affects the entire drainage area in which it lies. The developer's engineer will be required to show adequate reasons for requesting the exemptions and provide the Butler County Planning Commission with any information deemed necessary.
- (4) The Butler County Planning Commission may require additional information if the site warrants.
- (5) In-Line storm water detention/retention facilities may require Federal, State and or Local permits and approvals. Proof that these agencies have either approved or denied a request to install an in-line storm water facility must be provided to the Planning Commission prior to construction drawing approval.

## *ARTICLE V*

### *SITE DRAINAGE AND ROADWAY DESIGN STANDARDS*

#### SECTION 5.01 GENERAL STATEMENT

It is not the intent of this Article to take away from the designing engineer any responsibility for the technical adequacy of their design or ability to use their engineering judgment and discretion in the practice of their profession. It is recognized that matters of engineering design cannot be set out in writing to cover all situations; however, the design standards as set out herein represent good engineering practice. All variances and the reasons for their use are to be submitted to the Butler County Planning Commission for review.

Subdivision streets are to be designed to discourage thru-traffic movements and encourage operating speeds of approximately twenty-five (25) miles per hour. All street and drainage design shall be done in accordance with the current Ohio Department of Transportation Location and Design Manual and the American Association of State Highway Transportation Officials "Green Book" unless otherwise specified in this document. If a street has been stubbed to the property to be developed, those streets must be continued into the proposed development from that point. The Butler County Planning Commission has the right to accept, deny or require that a road be connected to any existing road if it is in the public interest.

The County Engineer or County Drainage Consultant, at any time during design or construction or even after the recording of the final plat, shall have the authority to modify any engineering or construction detail, whenever required for the protection of the public interest.

All sites greater than one acre must comply with the Ohio Environmental Protection Agency NPDES (National Pollution Discharge Elimination System) Permit for Storm Water Discharges Associated with Construction Activity, and any other requirements of the MS4.

#### SECTION 5.02 STREET DESIGN STANDARDS

- A. The street layout of the subdivision shall be in general conformity with a plan for the most advantageous development of adjoining areas and the entire neighborhood.
- (1) Neighborhood Collectors are to provide connections between a higher road classification in the thoroughfare system, have restricted access near intersections (internal and at both termini), and are used for collection of neighborhood traffic. Where appropriate to design, proposed streets shall be continuous and in alignment with existing, planned or platted streets with which they are to connect.
  - (2) Proposed streets shall be extended to the boundary lines of the tract to be subdivided, unless, in the opinion of Planning Commission, such

extension is not necessary or desirable for the coordination of the layout of the subdivision with the existing layout or the most advantageous future development of adjacent tracts. Cul-de-sac streets shall serve a maximum of twenty-five (25) lots.

- (3) Proposed streets shall intersect one another as nearly at right angles as topography and other factors of good design permit.
- (4) Wherever there exists adjacent to the tract to be subdivided a dedicated or platted and recorded half-width street or alley, the other half width of such street or alley shall be platted.
- (5) Access Management of the major thoroughfares shall be taken into consideration in the design of the subdivision plat. The designer shall use the Butler County Access Management Regulations as guidance when determining access point(s) along all thoroughfares identified in the latest version of the Butler County Thoroughfare Plan.
- (6) Residential developments abutting Major or Minor Arterials or Major Collectors shall be platted in such a manner to cushion the impact of the heavily traveled highway. This may be accomplished in several ways (Please see Appendix A, drawing A-4 for a sample drawing).
  - (a) The most desirable method consists of not fronting the lots on the highway but on a minor street paralleling the highway or on a cul-de-sac extending toward the highway. All lots abutting the highway shall be platted at the setback line with a generous lot depth of fifty (50) feet or whatever the zoning code specifies for that particular zoning district (whichever is greater). Driveway access from the lots will not be permitted onto the main thoroughfare.
  - (b) Fronting lots on Arterials or Collector streets is discouraged and will generally only be approved if there is some special feature of the land to be subdivided which prohibits the method described above from being used. In all cases where there will be lots fronting on the main thoroughfare, the lots shall be platted at a very generous depth (50 feet) and vehicular access to the lots shall be provided by means of service drives or common driveways. Access to the main thoroughfare should be held to a minimum.
- (7) Public improvements will not be approved if located under any private street.
- (8) Sidewalks shall be provided on both sides of all newly dedicated streets. This applies to all residential, commercial and industrial developments. Curb ramps are to be provided at the intersection of all sidewalks and all streets. All

sidewalks and curb ramps are to be constructed as per the typical construction detail (Please refer to Appendix C, drawing C-2 - C-5 for detailed drawings).

- (9) In order to provide better access to schools and business districts, subdivisions that abut existing Arterials shall provide sidewalks along the Arterial for the full distance of the development.
- (10.) Public streets are required to comply with State water quality requirements identified in the latest NPDES Permit for storm water discharges associated with construction activity. Water quality treatment shall comply with the current Ohio Department of Transportation Location and Design Manual. Post-construction BMP's and water quality treatment shall be contained within the limits of the public right-of-way or easement.
  1. Dedicate additional right-of-way or easement to encompass the post-construction BMP
  2. Provide water quality treatment in a regional post-construction BMP
  3. Mitigate the water quality treatment with an off-site BMP, with the approval of OEPA.
- (11.) A reduced street width of 25' B/B may be used if the conditions in Appendix D, table D-1 are met.
- (12.) Plan shall include location, size and type of both streets name regulatory signs. All regulatory signage shall meet the requirements of the Ohio Manual of Uniform Traffic Control Devices (OMUTCD).

B. The arrangement, character, extent, width, grade, construction and location of all streets shall conform to the standards herein set forth (Please refer to Appendix D, table D-1). All street design shall be done in accordance with the current Ohio Department of Transportation Location and Design Manual and the American Association of State Highway Transportation Officials "Green Book".

- (1) Temporary dead-end streets shall be permitted where necessitated by the design of the subdivision; provided that temporary turn-around shall be constructed where a sum of 6 lots are fronting (including corner lots) on such temporary dead-end streets (Please see Appendix C, drawing C-21 for temporary turnaround details). Turnarounds must be installed prior to platting of the subdivision.
- (2) The grades of streets shall not be less than one-half of one (.5) percent and shall not exceed ten (10) percent.
- (3) All changes in street grades above one (1) per cent shall be connected by vertical curves of a minimum length of fifty (50) feet.

- (4) All subdivision streets must be designed for curb and gutter unless the lots contain a minimum of 65,000 square feet and a minimum of 150 feet of public road frontage.

SECTION 5.03 INTERSECTIONS

- A. At Local Street intersections the right-of-way line shall be rounded by an arc, the minimum radius of which shall be twenty (20) feet.
- B. Local Streets that intersect a higher roadway classification, **the right-of-way line shall be the chord of a rounded arc**, the minimum radius of which shall be thirty (30) feet. (Please refer to Appendix C, drawing C-19 for standard intersection drawings for minimum radius requirements for the different types of roadway).
- C. All intersections of proposed subdivision streets must meet ODOT intersection sight distance requirements. In addition, the existing county or township road must meet ODOT stopping sight distance, and sight triangle requirements. This is particularly important where a proposed street comes out on the top of an existing crest vertical curve.

If unique and unusual circumstances warrant, the developer and their engineer may apply to the Planning Commission for design exceptions.

SECTION 5.04 IMPROVEMENT PLANS

- A. *Standard Drawings:* Butler County Standard Drawings (See contents of Appendix C), shall be used to show the details of improvements which are frequently used. ODOT Standard drawings, State Office, Columbus, Ohio, shall be used for all improvements not covered by County Standards. Those Standard Drawings which will be used for the construction, shall be listed on the title page of the Improvement Plan. Special details are to be included in the plans for all structures not covered by standard drawings.
- B. *General Notes:* General notes shall include any pertinent information that is not covered in the Standard Drawings. A note shall be included as follows: "*All work shall be performed in accordance with the Butler County Subdivision Regulations and the authority having responsibility for utilities in the area*". (Please see Appendix A, Drawing A-11, for a sample drawing).
- C. *Plan Contents:*
  - (1) A detailed typical cross-section of the proposed street(s) is to be included on the plan. (Please refer to Appendix C, appropriate drawings C-1 thru C-5)
  - (2) All proposed lots and streets are to be shown on the plan. All bearings, angles, distances and curve information must also be provided.

- (3) All streets, curbs, sidewalks, water lines, sewer lines, drainage structures and all other improvements must be shown in plan view and in profile with all sizes, elevations, distances and percent grades clearly indicated.
- (4) A grading plan showing existing and proposed contour lines and lot grading arrows shall be provided. Cross-sections may also be required.
- (5) The locations shall be shown on existing utilities, structures, drives, etc. which may be affected by the improvement.
- (6) Where a street ends and may be extended in the future, the profile shall be shown for at least 200 feet beyond the end of the street.
- (7) Street names, lot numbers, lot dimensions and easements shall be shown. Easements shall be provided for all existing or proposed channels. All easements for a water course or ditch shall be wide enough to contain said ditch, including side slopes, plus ample clearance for maintenance operation. All easements shall be shown and labeled on the record plat and on the construction drawings.
- (8) All plans are to be done on a scale of 1" = 50' or greater.
- (9) A minimum opening and back of curb elevation where pertinent shall be labeled.
- (10) A detailed typical cross-section of proposed hiker/biker trails or pathways are to be included on the plan. (Please refer to Appendix C, appropriate drawings C-30)
- (11) Streets - Location of all post-construction BMP's with a standard detail referenced on the title sheet. Water quality and post-construction BMP's shall be in conformance with the current Ohio Department of Transportation Location and Design Manual.

SECTION 5.05

**FINAL DRAINAGE PLAN**

A final drainage plan shall be prepared consistent with ODOT's current Location and Design Manual and/or ODNR's Rainwater and Land Development Manual, and the following criteria unless otherwise approved. If in conflict, the Subdivision Rules and Regulations shall prevail. All developments are to comply with the current Ohio Environmental Protection Agency Permit for Storm Water Discharges Associated with Construction Activity under the National Pollutant Discharge Elimination System (NPDES).

**A. *Minor System Design:***

- (1) General - The minor system design shall be based on a post development 10 year storm. This system includes all closed storm sewer, open channels, inlets, manholes and all features designed to collect storm water from streets and lots including the necessary piping for the collection of sump pump drains. The Rational Method (Please see Appendix D, table D-2) will normally be used when calculating peak rate of runoff in determining conduit size and grade.
- (2) Hydrologic Analysis - Storm runoff can be calculated using the Rational Method (Please refer to Appendix D, table D-2 thru D-4) or the SCS (Urban Hydrology for Small Watersheds) Technical Release 55 (TR55). In cases of large channels, regression equations may be used. The Rational Method shall not be used for drainage areas of greater than 20 acres, TR55 should be used for drainage areas greater than 20 acres.
- (3) Storm Sewer Design:
  - a. General - All conduits are to be designed on a 10 year flowing full design using the Manning Formula. (Please refer to Appendix D, Table D-5) The minimum diameter shall be 12 inches.
  - b. Material - Pipe material for culverts and storm sewers shall comply with current Ohio Department of Transportation (ODOT) specifications. (Please refer to Appendix D, Table D-6 and D-7 for the applicable ODOT specification numbers).
  - c. Roughness Coefficient (n) - Manufacturers "n" value plus .004 to account for bends and junction losses is to be used.
  - d. Velocity - The allowable velocity in the storm sewer shall not be less than 3.5 feet per second or greater than 14 feet per second for corrugated metal pipe and twenty (20) feet per second for concrete and plastic pipe based on a ten (10) year frequency storm.
  - f. Cover - All pipes shall meet the manufacturer's minimum requirements for depth of cover as to not crush or deform the pipe in any way.
  - g. All changes in storm sewer, grade, alignment and the intersection of two or more sewers must take place in a manhole or catch basin.
  - h. A drop manhole or catch basin shall be utilized on steep slopes or on hillsides with long runs of storm sewer pipe.
- (4) Storm Sewer Inlets - The curb inlet shall be spaced a maximum distance of 300' from another catch basin or high point. Closer spacing may be necessary if the capacity of the inlet is less than the flow tributary to the inlet. Curb inlets shall be placed in such a manner that no storm water shall flow through any intersection.



(5) Storm Sewer Outlets:

- a. Energy dissipation must be used at the outlet of all storm sewer structures and storm water facilities.
- b. **Rock Channel Protection** should be installed at all storm sewer pipe outlets to swales, ditches, creeks or streams. The rock should be installed at a minimum width of 4' or the width of the headwall, whichever is greater and at a depth of 1.5'. Geotextile fabric or a 6" (#3 or #4) granular bed should be laid under the rock to prevent undermining of the rocks. If fabric is used, overlaps should be at a 12" minimum and should be to ASTM standards (ASTM D-1777 and ASTM D-1682). Rock size shall be determined using ODOT's current Location and Design Manual.
- c. **Level Spreader** should be used to convert concentrated flow into sheet flow. This should only be used when the storm sewer outlets within 200 feet of a floodplain, a wetland area or densely vegetated areas with no defined conveyance. Level spreaders shall not be used where the natural topography will re-concentrate flow below the point of discharge or in areas with highly erosive soils. (Please refer to Appendix C, appropriate drawings C-31)
- d. **Energy Dissipation** headwall shall be installed on all storm sewer pipe outlets unless the outlet is within the storm water detention / retention facility or is a culvert. The use of prefabricated headwalls with energy dissipation blocks is required. Rock channel protection immediately downstream of the device is still required; however the length of protection can be reduced by half. See Appendix C, appropriate drawing C-13. Culverts with erosive velocities may incorporate energy dissipation headwalls in their design

(6) Sump Pump Lines - No sump pump lines may be connected to the sanitary sewer or outlet to the curb. A separate pipe of 4 or 6 inch diameter is to be run behind the back of the curb and tie into the nearest possible catch basin or storm manhole. The size of the sump line is to be determined as per Appendix D, Table D-7.

- a. Standard "Y"s or "T"s should be installed 10 feet from the property line on the downhill side of the lot and marked in the field. Cleanouts should be spaced approximately every 400 feet.
- b. No downspouts may be tied to the sump line. All downspouts must be run separately to catch basins or released on splash blocks.
- c. All sump pumps must be connected to the sump lines provided at the street or at an adjacent catch basin, storm sewer manhole or acceptable watercourse.

**B. *Major System Design:***

- (1) General - The intent of planning a flood routing system is to ensure that storm water runoff which exceeds the capacity of the storm sewer system shall have a route to follow which will not cause a major loss of property or life. Flood routes are to be directed towards storm water retention / detention facilities or acceptable watercourse.
  - a. Minimum opening elevations are to be set by the engineer on lots adjacent to one-hundred (100) year flood routes and storm water retention / detention facilities. These elevations are to be a minimum of one (1) foot above the one-hundred (100) year water elevation. These elevations are to be clearly labeled on the plan and the record plat. A benchmark location and elevation should be noted on the final record plat.
  - b. Since streets may be used as a routing path, the major system must be taken into account in the initial design of the development. It shall be designed in such a manner as to direct the storm water into the detention or retention area.
  - c. Provide profile of major flood routes from centerline of street to rear of lot.
- (2) Capacity - The combination of the major and minor system shall have the capacity to carry runoff from a 100 year frequency storm.
  - a. Where the street is designated as the major drainage way, the depth of flow shall not exceed 8 inches at the face of the curb.
  - b. When the major drainage way is located outside a street right-of-way, easements shall be provided and a grading plan is to be submitted with detailed elevations showing the flood being contained in this area.

**C. *Culvert Design:***

- (1) Methodology - Technical Release 55 and the Hydraulic Circular No. 5, which can be obtained from the Superintendent of Documents, U.S. Government Printing Office, are the required procedures for design.
- (2) Design:
  - a. A single span culvert should always be used.
  - b. All culverts shall be designed for the fifty (50) year storm with head water and a flood route provided to accept a one hundred (100) year storm.
  - c. Maximum allowable fifty (50 year) head water elevation:
    - \* 18" below top of the curb
    - \* 12" below the edge of the pavement (non curb & gutter section)

- d. The design of the drainage system should not cause backwater onto any adjacent property or affect lowest openings on adjacent structures. If additional backwater is caused, an easement from the affected property owner must be obtained or redesigned for a lesser backwater condition. The backwater condition should be checked on the fifty (50) and one-hundred (100) year frequency storms. All easements shall be obtained for the one-hundred (100) year condition.
- e. A structure having a clear opening of 10 feet or more shall be classified as a bridge. See the Bridge Design section within this document.
- f. Entrance Loss Coefficient see Appendix D, Table D-8 represents standard entrance coefficients to be used in culvert design.

(4) Design Considerations:

- a. Adjust the locations of inlets and outlets of a culvert as it relates to sidewalks, bicycle facilities, pathways or trails, houses and open space areas utilized as common playgrounds or areas, meeting places, walking paths or trails – such that it does not interfere or cause potential erosion.
- b. Structures crossing a public road not conveying storm water runoff or having a purpose other than storm water conveyance must submit Tunnel Maintenance Agreement.

**D. *Open Channel Design***

(1) General - Any newly designed open channel shall only accommodate a small drainage area (i.e. lot swale). All other design drainage features shall be enclosed with storm sewer, with the exception of large, major channels. Relocated channels should have similar sinuosity, meander, and frequency. Large, major channels may fall within the requirements of the Butler County Flood Damage and Prevention Regulations, OEPA and or Army Corps of Engineers.

(2) Design:

- a. Open channels are to be designed using a full flow 10 year frequency storm unless the channel is part of the major storm system then it must be designed using a 100 year storm frequency. Please refer to Appendix D, Table D-9 for a list of acceptable manning coefficients for use in the manning equation for open channel design.
- b. Special provisions such as a check or drop structure will be addressed on an individual basis.
- c. The longitudinal slope of a channel should be 1% or greater. Any channel with a slope below 1% or with a small continuous flow must have a paved bottom, or underdrained with a low flow pipe. All side slopes shall be 4:1 or flatter in residential areas and 3:1 or flatter in commercial and industrial areas unless

otherwise approved by the County Engineer's Office.

- (3) Permissible Velocities - In designing an open channel, the low flow and grade shall be addressed as to prevent stagnation. The velocity is to be calculated using a bank full condition or a minimum 10-year frequency storm, whichever is greater. Channel linings or protection shall conform to Ohio Department of Transportation Location and Design Manual (Ditch Design Criteria 1102.3). Permanent protection shall conform to ODOT Specifications 659, 660, 670, or Supplemental Specification 836)

#### **E. Storm Water Facilities - Detention / Retention**

- (1) General - The objective of a detention/retention facility is to regulate the rate of runoff, control the peak discharges, and improve water quality by reducing the impact on the downstream drainage system. Design of the facility must account for vehicular access to and around the storm water facility for the purpose of maintenance, repair, and or replacement. In areas with geologic and hydrologic conditions that promote rapid infiltration of recharge waters to an aquifer; see **Section 5.06 Ground Water Pollution Potential**.
- (2) Design Criteria – Storm water management facilities are to be designed with flow rates meeting the Butler County Modified Critical Storm Method in Appendix D, Table D-11. For all storm events greater than the Critical Storm, reduce the flow rate by one storm event (i.e. Post-100 to Pre-50, Post-50 to Pre-25 etc). Facilities may incorporate the current Ohio Environmental Protection Agency Permit for Storm Water Discharges Associated with Construction Activity under the National Pollutant Discharge Elimination System (NPDES), provided the design meets the criteria specified in this document.

**Traditional** – Utilization of this facility occurs near a creek, stream or other receiving conveyance. This facility should be design with a staged discharge that meets the above design criteria.

- a. In detention facilities, a post-construction sediment trap shall be constructed immediately upstream of the facilities outlet structure. Sediment trap design shall comply with ODNR's Rainwater and Land Development Manual.
- b. Facility may be utilized as the site's temporary sedimentation and erosion control basin.

**Side Saddle** – The facility is to be utilized immediately adjacent to creeks and streams or when floodplain volume compensation is required. This facility should be design with a staged discharge.

- a. Maximum water surface elevation for storm water detention/retention shall be at or below the main channels 10 (ten) year storm elevation. Compensated floodplain volume may not be accounted for as required storm water storage however; it can be added to the storm water storage volume.

- b. A spillway is required at both the upstream and downstream end of the storm water facility. Spillways are to have protection from toe of channel to the toe of detention/retention.
- c. Upstream and downstream spillway is to be set at the channels 10 (ten) year flow elevation and designed for the channels 100 (one-hundred) year flowrate.
- d. May be utilized as the site's temporary sedimentation and erosion control basin.
- e. In detention facilities, a post-construction sediment trap shall be constructed immediately upstream of the facilities outlet structure. Sediment trap design shall comply with ODNR's Rainwater and Land Development Manual.

**In-Line** – A facility that is constructed in and across the existing creek or stream. This facility should be design with a staged discharge. Due to the nature of this facility, the design should be evaluated on a watershed scale. Assume the off-site watershed as fully developed without upstream storm water detention/retention facilities. These facilities may require Federal, State and or Local permits and approvals. Proof that these agencies have either approved or denied a request to install an in-line storm water facility must be provided to the Planning Commission prior to construction drawing approval. These facilities are not eligible under the Ditch Maintenance Program.

- a. Prior to design of such facility, the developer/engineer shall scope the design parameters with the County Engineer's Office. In general, these facilities should evaluate watershed based water quality and quantity.
- b. Facilities may be subject to Army Corps of Engineer's and/or Ohio Environmental Protection Agency reviews and permits.

(3) Design Requirements for all Storm Water Facilities– When designing a storm water facility, the following criteria must be followed as to provide for proper appearance, and maintenance.

- a. The bottom of the detention area should be constructed with sufficient slopes to drain properly (.5% min).
- b. All storm sewer pipe outlets are to be set above or at the normal water surface elevation of any pond; submerged or partially submerged pipes are not permitted. A submerged pipe at the outlet control structure to accomplish water quality volume is acceptable. Culverts connecting two or more ponds may be submerged upon the approval of the County Engineer.
- c. Paved gutter or a low flow underdrain shall be constructed from all inlet pipes, and or swales, to the outlet structure. Concrete cut off walls shall be constructed at the beginning and end of the gutter except where the gutter intersects with a catch

basin or headwall. Where two gutters intersect, large radii shall be used so that the change in direction of flow is gradual.

- d. Side slopes for detention facilities shall be no steeper than 4:1 unless existing natural conditions do not make this possible and are not being disturbed as shown on the grading plan.
- e. Anti-seep collars shall be used on all pipe outlets of retention basins, ponds, and or storm water facilities that have incorporated water quality volume. For specifics on Anti-seep collars, see Appendix D, Table D-10.
- f. There shall be a minimum of twelve (12) inches of freeboard between the top of the dike and the post-developed 100 (one-hundred) year water surface in the facility, with the emergency spillway flowing at the pre-developed 100 (one-hundred) year design flow.
- g. The emergency spillway shall safely pass the peak flow for a pre-developed 100 (one-hundred) year frequency storm with a safe velocity (8.0 fps max). The spillway is to be cut on existing ground or other protection on the fill slope be provided. Spillways constructed on fill dirt shall be constructed of concrete with a minimum thickness of six (6) inches. Rock channel protection or concrete matting shall be installed from the spillway down to the toe of the downstream slope of the facility or to the top of bank.
- h. The drainage easement for this facility shall encompass the Post-100 (one-hundred) year water surface elevation plus a horizontal offset of ten feet (10') for maintenance and access.
- i. A twenty (20) foot access easement shall be provided for easy ingress and egress to and from the basin. Location of the access is preferred to be from an existing County or Township Thoroughfare directly to the storm water facility. This access shall have a maximum slope of 12%.
- j. Trash guards should be installed when clogging of the outlet structure is probable.
- k. Temporary riser pipes should be installed at all outlet pipes to the detention basins.
- l. Construct a sediment forebay at inlets to the storm water facility. Bottom of forebay is to be concrete hard surfaced.

***F. Bridge Design/Construction***

- (1) Methodology – Use Technical Release 55 (TR-55) to estimate peak runoff flow rates in conjunction with a HEC-RAS model in determining the limits of the existing and proposed one-hundred (100) year water surface elevation, and floodplain.

- (2) General – A certified ODOT contractor is required for the installation of cast-in-place or pour-in-place structures. All designs shall conform to the latest edition of the Ohio Department of Transportation Bridge Design Manual unless specified in this document. To minimize bank erosion and failure, structures are to align with the existing channel. Design shall also comply with the Butler County Flood Damage Prevention Regulations
- (3) Design – The following items must be addressed and included with the subdivision plan submittal:
- a. Hydraulic and hydrologic analysis using TR-55 and HEC-RAS. Structure hydraulic evaluation shall be determined using the HEC-RAS program in lieu of manufacturer's design software. All designs shall pass the 100 (one-hundred) year event.
  - b. Scour protection based upon an analysis, shown and noted on the plan.
  - c. Shop drawings and design detailed drawings (of both sub-structure and super-structure) stamped by a registered engineer
  - d. Structures shall be designed using HS-25 loading
  - e. Soil borings will be required for all structures. Borings are to be at the location of the proposed bridge substructure. Submit a soils report with the plan submittal, and include recommendation for the substructure and soil bearing capacity by a geotechnical engineer.
- (4) Design Requirements - Preferred designs for larger spans are concrete pre-cast single span units or concrete box beam. A single span opening is required for all structures having a clear span of 100 (one-hundred) feet or less. A multi-span structure is permissible for spans greater than 100 (one-hundred) feet. Pre-cast concrete box units are permissible for structures having a clear span less than 16 (six-teen) feet. The engineer shall also consider maintenance of the structure when determining the structures height. At a minimum, the height of the structure shall be 8 (eight) feet.
- (5) Right-of-way Requirements – In all cases, the engineer shall consider how to access the structure for maintenance. A right-of-way shall be provided around the entire structure at a minimum distance of 30 (thirty) feet. Additional right-of-way or access easement maybe required due to site conditions. Show right-of-way as proposed dedication on the record plat, not by easement.
- (6) Structures crossing a public road not conveying storm water runoff or have a purpose other than storm water conveyance must enter into a Tunnel Maintenance Agreement.

**G. Water Quality Policies (Per Ohio EPA Permit for Storm Water Discharges Associated with Construction Activity); *Non-point Source Pollution***

- (1) Refer to Ohio EPA Post-Construction Q&A Document for guidance. References made to MS4 or Engineer of local jurisdiction must be discussed and approved by the County Engineer, and or Planning Commission.
- (2) When designing storm water facilities for both water quality volume and flood/peak discharge control, the flood/peak control volume shall be stacked on top of the required water quality volume (in other words, use the top of the water quality volume as the base elevation for the flood control volume).
- (3) Water quality openings smaller than four (4) inches, or having an equivalent area, are not permitted in dry (detention) facilities. In designed retention ponds, the water quality opening shall be submerged or protected to prevent clogging.
- (4) In the case where the water quality volume outlet is smaller than four (4) inches for a dry facility, an alternate BMP is required.
- (5) The use of alternative BMP not listed in Ohio EPA Permit for Storm Water Discharges Associated with Construction Activity must have written approval from Ohio EPA prior to plan approval by the MS4 or County Engineer.
- (6) When an existing storm water facility, utilized for new development has not incorporated OEPA's water quality volume, the facility shall be retrofitted and brought into conformance with the current Ohio Environmental Protection Agency Permit for Storm Water Discharges Associated with Construction Activity under the National Pollutant Discharge Elimination System (NPDES).
- (7) Water Quality BMP's for public roadways, and or streets, must be within the public right-of-way. The design of BMP's within the public right-of-way must comply with the current ODOT Location and Design Manual Volume Two, Drainage Design
  - a. Exception: Water Quality BMP's are not required to be constructed within the public right-of-way if a regional water quality BMP is to be constructed, and owned and operated by the MS4. This requires the developer to meet the requirements of acceptance of the BMP by the MS4. IE Ditch Petition or Storm Water Maintenance Agreement, see Section 5.07 POST-CONSTRUCTION STORM WATER OPERATION & MAINTENANCE PLAN
- (8) All developments are required to regulate the contribution of pollutants to the Municipal Separate Storm Sewer System (MS4) owned or operated by Butler County. Allowable storm water discharges are defined in the Illicit Discharge Detection and Elimination Regulations, as adopted by the County Commissioners in resolution No. 09-11-1954.



## **SECTION 5.06 Ground Water Pollution Potential; Non-point Source Pollution**

- (1) General - The intent of this section is to determine how vulnerable ground water is to contamination. Designers shall refer to the latest edition of the Ground Water Pollution Potential of Butler County, Ohio prepared by the Ohio Department of Natural Resources, Division of Water – Ground Water Resources Section and Groundwater Research Center, University of Cincinnati or approved DRASTIC Map.
- (2) Purpose – To assist developers, engineers, planners, local officials and general public in evaluating the potential for contamination from sources of pollution. Pollution potential maps may also be applied successfully where non-point source pollution is a concern. Non-point source pollution can occur when land use activities are changed or by the addition of impervious area. Reference ODNR Fact Sheet 97-43 & 44. Also reference the Trenton Area Storm Water Management Project, prepared by FMSM 2007 for the Butler County Storm Water District. Susceptible aquifer recharge areas are those with geologic and hydrologic conditions that promote rapid infiltration of recharge waters to groundwater aquifers. This includes any portion of Butler County with a DRASTIC index of greater than or equal to 180 points as determined using the U.S. Environmental Protection Agency DRASTIC methodology: Drastic: A Standardized System for Evaluating Ground Water Pollution Using Hydrogeologic Settings (EPA 600287035).
- (3) Design - Maps providing information on relative vulnerability (DRASTIC) can be used to guide the selection and implementation of appropriate best management practices in different areas. Best Management Practices should be chosen based upon consideration of chemical and physical processes that occur from the site, and the effect these processes may have in areas susceptible or highly susceptible to contamination. In these areas, infiltration of the water quality volume is required. A Site Sensitivity Analysis should be performed that evaluates the effectiveness of infiltration. The analysis may eliminate an infiltration practice or determine an appropriate way to avoid groundwater pollution.
  - a. Components of a Site Sensitivity Analysis:
    - **Runoff water quality.** If runoff water will contain any significant concentration of soluble pollutants that could degrade ground water quality, such as runoff from industrial sites or even from heavily salted parking lots and roadways, a careful review of the pretreatment systems is necessary to assure that the pollutants of concern do not simply pass through.
    - **Uses of the ground water** -- Is the ground water a sole-source aquifer, in a wellhead-protection area or a significant natural resource? If not, are there current or likely future drinking water supply wells tapping the receiving aquifer in the vicinity?
    - **Geologic (ground water) sensitivity.** A site with a highly sensitive geology, such as those with carbonate or karst features, may eliminate these areas from consideration.
    - **Depth to water table.** The water table must be far enough below the bottom of the structure to allow the structure to function hydraulically.

- **Soil permeability.** Soil permeability must be great enough to drain the system in a reasonable amount of time, generally 72 hours or less.
- **Soil characteristics.** Evaluate the soil's ability to trap or treat pollutants expected at the given site and provide the required infiltration rate.

| <b><u>Pollution Potential Index Range</u></b> |         |   |
|---|---------|---|
| Susceptible                                   | 180-199 | Pretreatment BMP required prior to storm water facility               |
| Highly Susceptible                            | 200+    | Pretreatment train (or series) of BMP's prior to storm water facility |

- (4) Pretreatment BMP's – Used to remove dissolved materials, silt, solids, floating materials, grease and oils from runoff to the maximum extent feasible before runoff enters an infiltration device. These devices can be ponds with skimmers, vegetative filters, sand filters, grassed swales, biofilters, bioretention, filter strips or oil/grit separators prior to infiltrating storm water.

**SECTION 5.07 POST-CONSTRUCTION OPERATION & MAINTENANCE PLAN**

The developer of any subdivision with a storm water system must provide the Planning Department with written evidence of a perpetual post-construction storm water operation & maintenance plan and the manner in which it is to be funded. The plan shall be structured so that all property owners within the subdivision shall participate in the maintenance funding of the storm water facilities. The Ohio Revised Code (Chapter 6131, Ditch Petition) outlines one acceptable method by which a perpetual maintenance agreement is established with the county and funded through tax assessments on the subdivided property. [No retention ponds or in-line facilities will be accepted under this method]. Another acceptable method of maintenance is through an incorporated Home Owners Association with the abilities to maintain all storm sewer facilities outside the right-of-way. A copy of the Association documents is to be submitted to the Butler County Engineer's Office for review. At a minimum the following is required in the post-construction storm water operation & maintenance plan;

- (1) Identify the responsible party or person for the operation and maintenance of the storm water facilities
- (2) Provide contact information for the responsibly party/person. Include name, address, telephone number and email address if available
- (3) A full set of approved construction drawings showing the location and type of storm water facilities
- (4) Standard inspection and maintenance schedule for the storm water facilities
- (5) Routine and non-routine maintenance tasks for storm water facilities
- (6) A copy of the subdivision record plat showing all easements for storm water facilities
- (7) Identification and implementation of a funding mechanism for operation and maintenance of the storm water facilities

Once the plan has been approved by the County Engineer, the owner/developer shall record the document at the County Recorders Office. Proof of recording will be required prior to final plat approval.

SECTION 5.08 CONSTRUCTION REQUIREMENTS

- A. Street name signs of a type meeting the standard specification of the County Engineer shall be erected at each highway, road or street intersection. (Please refer to Appendix C, drawing C-23).
- B. Permanent Monumentation:
  - (1) All permanent corners of the subdivision (any point of change in bearing) shall be either six inch diameter concrete monuments, thirty-six inches in length, with a suitable centerpoint (one-half inch iron pin, cross notch, or brass plate) or one inch diameter solid iron pins with minimum thirty inch length.
  - (2) All street centerlines at intersections, center and offsets of cul-de-sacs, points of tangency and points of curvatures shall be marked with three quarter inch iron pins, minimum thirty inches in length and one quarter inch counter sunk or six inch railroad spikes one quarter inch counter sunk.
  - (3) All monumentation must be in place prior to the release of the performance bond.
  - (4) All subdivision monumentation shall be tied to state plane coordinates if a state plane coordinate reference monument exists within one half mile of the subdivision. It is important that coordinate pairs for the subdivision be referenced to a monument for the section within which your subdivision lies.
- C. The subdivider shall be responsible for the movement of traffic over the work in accordance with the Ohio Manual of Uniform Traffic Control Devices (OMUTCD) until the street is accepted in accordance with Chapter 711 of the Ohio Revised Code. This includes installation of stop signs in accordance with the guidance with the OMUTCD. The subdivider shall also provide ingress and egress for residents and the general public.
- D. Top course of pavement is not to be placed for a minimum of twelve (12) months after the leveling course and fifty (50) percent of the homes are completed. If after two (2) years, fifty (50) percent of the homes have not been completed, then the top course may be applied. As built drawings must be submitted prior to the placement of the top course of pavement (See Section 3.25 for details).
- E. All fills are to be constructed per ODOT Standards, per Section 203 ODOT Construction and Material Specs unless otherwise specified by the appropriate approving authority.
- F. All construction is to be done in accordance with the latest edition of the Ohio Department of Transportation Construction and Material Specifications Book.
- G. It shall be the responsibility of the developer of the subdivision to maintain a clean street surface during all phases of construction. All future plat approvals concerning the subdivision will be

suspended unless the streets are clean. In cases where streets are not kept clean after the plat has been recorded then work will be suspended on building under construction and no new permits will be issued in that subdivision until the streets are cleaned. It will be the responsibility of the developer to establish a method to achieve this and if necessary require it of the builders.

- H. All ponds remaining as a part of the proposed subdivision development shall be in an acceptable condition based on standards outlined by the NRCS Engineering Standards for ponds prior to recording of the final plat.
- I. Developer and Contractor are responsible to identify an area or areas where concrete trucks, during the construction of the roadway and homes, may washout and clean their vehicles. Purpose of the washout area(s) is to reduce the potential for and illicit discharge into a stream, creek, drainage swale or channel, river, and storm sewer catch basin or storm water detention/retention facility. The washout area(s) are to be shown on the construction drawings.

#### SECTION 5.09 FAILURE TO COMPLY

- A. Whenever public improvements have not been constructed and/or maintained in accordance with these regulations, the Board of County Commissioners may exercise its rights of;
  - 1. Foreclosure of the bonds
  - 2. Non-acceptance of future record plats
  - 3. Suspension of Earth Moving, Driveway, Building, and/or Lot Erosion Sediment Control permits
- B. Whenever public improvements have not been constructed and/or maintained in accordance with these regulations, the Butler County Planning Commission may exercise its rights to;
  - 1. Deny future Preliminary Plat approval in developer associated subdivisions
  - 2. Deny future Final Plat approval in developer associated subdivisions
  - 3. Suspend Preliminary Plat approval in all developer associated subdivisions

## *ARTICLE VI*

### *WATER AND SEWER IMPROVEMENTS*

#### SECTION 6.01 WATER MAIN SPECIFICATIONS

##### A. WATER MAIN

- (1) *Size:* Residential Area - 8" Minimum except for short Cul-de-sacs and some secondary loop connections which may be 6" if approved by County Sanitary Engineer.

Commercial/Industrial Area - 10" Minimum unless specifically authorized by County Sanitary Engineer.

- (2) *Material:* Class 53 Ductile Iron Pipe AWWA C-151
- (3) *Depth:* 4' Minimum Depth to top of pipe from proposed finished grade. Minimum of 18" vertical separation between main and other pipes, conduits or structures when crossing perpendicular, and 10' when parallel.

##### B. FITTINGS - Gray, cast iron - class 250 AWWA C-110 or Ductile iron -Class 350 AWWA C-110 with mechanical joints per AWWA C-111.

##### C. VALVES

- (1) *Type:* AWWA C-500 or C-509, counter-clockwise opening gate valves. Butterfly valves, AWWA C-504.
- (2) *Accessories:* Valve box (roadway style) extended to finished grade with 18" x 18" x 6" concrete pad collar.
- (3) *Location:* Every 800' main line extension and at each branch main connection. Valves located at street intersections shall be placed at the radius tangent point. Between intersections valves shall be placed at or near property line.

##### D. FIRE HYDRANTS

- (1) *Type:* AWWA approved, "Break-Off" or "Traffic Type" with 5" main valve opening; two (2) 2 ½" discharge nozzles and one (1) 4 ½" pumper nozzle with National Standard Threads.
- (2) *Accessories:* Each hydrant shall be accompanied by an auxiliary valve and valve box. (See Valve Spec.)

- (3) *Operation:* Counter-clockwise opening.
- (4) *Location:* At street corners - near radius tangent point, between intersections at property lines, generally with a 250' radius coverage.

E. SERVICE CONNECTION

- (1) *Installation:* The service connection shall consist of a corporation stop; 3/4" (min) service line; and a meter pit or curb stop.
- (2) *Location:* A service connection shall be installed for each serviceable lot ending with a curb stop 6 feet behind the right-of-way line. Minimum depth shall be 48".
- (3) *Material:* Polybutylene tubing, SDR 9, 250 P.S.I., type "K" Copper, or ductile iron pipe to the meter.
- (4) *Service Marker:* A 2 x 4 shall be placed in a vertical position at the end of each service connection, extending approximately 3' above the existing grade. Marker shall be painted blue.
- (5) *Finished Grade:* It is the responsibility of the developer, builder and lot owner to see that the meter pit or curb stop-box is adjusted to finished grade.

F. INSPECTION

- (1) *Requirements:* All work and materials must be inspected by an authorized agent of the Butler County Department of Environmental Services. Contractors must notify the Department at least 24 hours in advance of initiating construction or amending a construction schedule.
- (2) *Fees:* Fees are to be paid according to schedules kept by the Sanitary Engineer.
- (3) *Test:* A hydrostatic and purity test shall be conducted prior to acceptance. Tests shall be conducted by the contractor under the supervision of the County.
  - a. *Hydrostatic pressure test* - AWWA C-600 Section 4.1 & 4.2
  - b. *Purity Test* - AWWA C-601
- (4) *Acceptance:* Initial acceptance may occur only after the water mains and all appurtenances have been installed, tested and approved and a one (1) year Maintenance Bond is submitted. Final acceptance and the release of the Maintenance Bond may occur only after final grade is established;

appurtenances are adjusted to final grade; concrete collars are set around each valve box; and at least one full year of satisfactory operation is achieved.

#### G. WATER EASEMENTS

Water mains installed outside the public right-of-way shall be located in an easement having a minimum width of 15 feet (7.5 feet each side of the centerline). Private water services installed within said easement shall extend to the edge of the easement with meter pits located at the edge of the easement.

#### H. EXTENSION TO DEVELOPMENT BOUNDARIES

Water mains must be extended to the development boundary along each public roadway within or adjacent to the development.

### SECTION 6.02 DESIGN STANDARDS FOR SANITARY SEWERS

#### A. DESIGN CAPACITY

|                                     |  |
|-------------------------------------|--|
| <i>Average Flow</i>                 | 400 GPD/Single Family Dwelling         |
| <i>Peak Flow Factor</i>             | Trunk Sewer - 2.7<br>Local Sewer - 4.0 |
| <i>Infiltration Allowance</i>       | 600 GPD/Acre                           |
| <i>Pipe Coefficient of Friction</i> | n = .013                               |

#### B. MINIMUM DESIGN VELOCITY

Two (2) fps when sewer is flowing at average daily flow rate or 1/4 full.

#### C. MAXIMUM INFILTRATION ALLOWANCE

Fifty (50) Gallons/Inch/Mile/Day.

#### D. ACCEPTABLE PIPE MATERIALS

**Reinforced Concrete Pipe:** ASTM C-76 wall B or C; Joints C-443

**Composite ABS or PVC:** ASTM D-2680; Joints D-2235 PVC (Depth Limit 25')

**PVC Plastic Sewer Pipe:** ASTM D-3034; Joints D-3212

Depth Limitations:

1 - 16 feet deep - SDR 35

16 - 25 feet deep - SDR 26

E. MINIMUM SEWER SIZE

No sewer shall be less than **eight inches (8") in diameter**. Trunk sewers shall be sized in accordance with master plans in the Sanitary Engineer's Office.

F. MINIMUM GRADE

All sewers shall have a minimum grade of 0.5% unless it can be shown by the above design criteria that the sewers shall have sufficient cleaning velocity (2fps) at lesser grades. Sections of sewer which shall have the equivalent of ten (10) or less single family dwellings connected upstream from same shall have a minimum grade of 0.80%. If cleaning velocities (2fps) can be documented, the minimum grades for sewers 8" to 15" are as follows:

8" . . . . . 0.40%      10" . . . . . 0.28%      12" . . . . . 0.22%      15" . . . . . 0.15%  
Sewers larger than 15" shall be reviewed on an individual basis.

G. MANHOLES

- (1) *Sections:* Precast Reinforced Concrete ASTM C-478; C76 wall B with ASTM C-443 joints.
- (2) *Connections:*
  - a. Rubber sleeve w/Stainless steel banding: "Kor-n-seal" by National Pollution Control Systems, Inc., or "Lock Joint" by Interpaca Corporation or equivalent.
  - b. Rubber Gasket Compression: Press Wedge II by Press-Seal Gasket Corporation or Dura-Seal by Dura-Tech Incorporated or equivalent.
- (3) *Connections to Existing Manholes:* Must be core drilled and rubber gasket installed. No "hammer taps" will be permitted.
- (4) *Frames and Covers:* Iron Castings of the heavy duty pattern (with the word "Sewer" cast-in):
  - a. *Vented & Solid Covers* - Neenah R-1767, or Equal, where flush with finished grade.
  - b. *Vented Covers* - Neenah R-1926-B, or equal bolted down to the cone section with four (4) 7/8" X 9" anchor bolts, where frames are above the finished grade, off highway.
  - c. *Watertight* - Neenah R-1916-F or Equal,



where required by the Engineer.

- (5) *Steps:* Extruded Aluminum conforming to ASTM B221, 6061.

#### H. BEDDING MATERIAL

Clean Granular Material - Aggregates not to be larger than 3/4" and not smaller than No. 8 sieve, free of silt and fines, AASHTO M43 size #67, 7 or 8 for pipe sizes 8" - 15". Bedding to be a minimum of 6" below & 12" above the pipe.

#### I. MANHOLE SPACING

Manholes shall be located at all changes in sewer size, material, grade and alignment. Manholes shall also be located at all junctions of public sewer. Maximum Spacing for all pipe sizes is 400 feet.

#### J. INSPECTION

- (1) *Requirements:* All work and materials must be inspected by an authorized agent of the Butler County Sanitary Engineer. Contractors must notify the County Sanitary Engineer at least 24 hours in advance of initiating construction or amending a construction schedule.
- (2) *Fees:* Fees are to be paid according to schedule kept by the Sanitary Engineer.
- (3) *Tests:* Air test per Butler County Standards for low pressure air testing. Specifications can be found in the Butler County Sanitary Engineer's Office.
- (4) *Acceptance:* Initial acceptance will be made when the sewer mains and all appurtenances have been installed, tested and approved and a one (1) year 10% Maintenance Bond is submitted. Final acceptance will be made and the Maintenance Bond released when final grade is established; appurtenances are adjusted to final grade; and at least one full year of satisfactory operation is achieved.

#### K. PRIVATE SEWER LATERALS

A private sewer lateral shall be installed for each lot or building site during the construction of local sewers. Said private sewer laterals shall terminate at a point ten (10) feet inside of the property line or right-of-way line. Said laterals to be six inches (6") in diameter.

#### L. SEWER EASEMENTS

Sewers installed outside the public right-of-way shall reside in an easement having a minimum width of 20 feet (10 feet each side of the centerline). Private sewer laterals installed within said easement shall extend to the edge of the easement.

M. EXTENSION TO DEVELOPMENT BOUNDARIES

All sewers shall be extended to the upstream boundary of the property or development being served except for those areas where the natural or planned topography makes it unreasonable to plan for later extensions of the sewer.

N. COUNTY SANITARY ENGINEER'S SPECIFICATIONS

The Butler County Sanitary Engineer's Specifications can be obtained from the Department of Environmental Services, located on the fifth floor of the Administrative Center, 130 High Street, Hamilton, Ohio.

## *ARTICLE VII*

### *SOIL AND WATER MANAGEMENT STANDARDS*

#### **SECTION 7.01      GENERAL STATEMENT**

These regulations establish technically feasible and economically reasonable standards to achieve a level of subdivision design and construction to minimize damage to property, degradation of natural resources, and to promote and maintain the health, safety and general well-being of all life and inhabitants of Butler County. Further, these regulations:

- A. Promote development while keeping downstream flooding, erosion and sedimentation at existing levels;
- B. Reduce damage to receiving streams and drainage systems which may be caused by impairment of their capacity which may be caused by sedimentation.

#### **SECTION 7.02      PERFORMANCE STANDARDS**

##### A. Permit Required

- (1) Owner/operator must obtain a Butler County Earth Moving Permit with construction drawing approval from the Butler County Storm Water District before any Earth Disturbing Activity may begin, including clearing, grubbing, and cut/fill activity unless the proposed project is regulated by Section 5.01, Lot Erosion and Sediment Control permit. All projects that have one acre or more of disturbance must have either an Earth Moving Permit or a Lot Erosion and Sediment Control Permit.

##### B. Erosion and Sediment Control

- (1) To the maximum extent practicable, having all ESC's from the approved construction drawings installed and functioning, Erosion and Sediment is to be kept on Development Area. Erosion and sedimentation caused by storm water runoff over the Development Area due to Earth Disturbing Activities shall be stabilized and confined to within the boundaries of the Development Area.

##### C. Storm Water Discharges.

- (1) The Butler County Storm Water District has defined allowable storm water discharges per its NPDES Phase II Permit as described in *its Illicit Discharge Detection and Elimination Regulations*.

##### D. Structural and Nonstructural Soil and Water Management

- (1) Non-structural and Structural Controls shall be designed in accordance with

requirements and standards specified in these regulations and/or the current Ohio Environmental Protection Agency Permit for Storm Water Discharges Associated with Construction Activity under the National Pollutant Discharge Elimination System (NPDES).

- (2) Permanent Structural and Non-structural Controls shall be placed in easements and recorded on the subdivision record plat and/or property deeds on which they are located and shall remain unaltered unless first approved by the Butler County Engineers Office. *See Article VIII Subdivision Plat Requirements.*
- (3) In designing Structural Controls, access, storage volume, flood prevention and water quality benefits shall be considered to the maximum extent practicable to protect life and property. Refer to Article V for additional design criteria.

#### E. Channel Protection

- (1) The Owner/Operator will protect channels from degradation due to water run-off. Structural or Non-structural Controls shall be constructed by the Owner/Operator as prescribed in the latest edition of *Rainwater and Land Development* and/or *ODOT Location & Design Manual*.
- (2) The design and installation of any storm water Channel shall comply with *Article V* of these regulations.

#### F. Unsuitable Soils

- (1) When a soil with a high water table, as defined in the Butler County Soil Survey, is present, a note must be placed by the designing engineer on the final plat stating: "High water table soils are apparent in this area. If basements are constructed, it is the responsibility of the builder to take special precautions to ensure the basement stays dry." If this note is not on the plans as the Butler Soil and Water Conservation District is reviewing the plans, revisions will be required with the note before the plans will be approved.
- (2) Upon review of the construction drawings by Butler Soil and Water Conservation District, if soil type and/or severity of slopes require additional testing as determined by the Butler Soil and Water Conservation District, a report from a State Registered geotechnical engineer will be required. The report results of surface and subsurface exploration, conditions of the land, procedures for performing the grading operations, maximum slope to satisfy stability, and other geotechnical design requirements for the requested lots will determine if there are problematic conditions to overcome, what those problematic conditions may be, and possible solutions to overcome them to protect the home buyer. This report must be received and checked by the Butler Soil and Water Conservation District so that the conclusions appear reasonable and credible prior to construction drawing approval. The results of this report may warrant additional studies prior to the building permit being issued due to building code

requirements.

- (3) If a hydric soil or soils with hydric components, wetland vegetation and/or possible hydrologic conditions are present, Butler Soil and Water Conservation District may require a wetland delineation study be done. A note shall be placed on the preliminary plat stating, "A wetland delineation study shall be complete for the necessary lots prior to construction drawing approval." The delineated wetland boundaries shall be shown on the construction drawings, final plat and included within an easement on the property.

G. Temporary Soil Stabilization of Development Area due to Earth Disturbing Activity and Soil Stockpiles

- (1) Temporary Vegetation shall be established within Development Areas subject to Earth Disturbing Activities as specified in Table 1.

**Table 1: Temporary Soil Stabilization**

| <b>Area requiring Temporary Vegetation</b>   | <b>Time frame to apply Temporary Vegetation</b>   |
|--|---|
| Any disturbed areas within 50 feet of a Stream and not at final grade.   | Within 2 days of the most recent disturbance if that area will remain idle for more than 21 days. |
| For all construction activities within Disturbed Area, including soil stockpiles, that will be dormant for more than 21 days but less than one year. | Within 7 days of the most recent disturbance within the area.                                     |
| Disturbed areas that will be idle over winter.   | Prior to onset of winter weather.   |

- (2) Soil stabilization measures should be appropriate for the time of year, Development Area conditions, and estimated time of use. Stabilization methods include vegetation, mulching, and the early application of gravel base on areas to be paved.
- (3) Topsoil to be stored on Development Area shall be stabilized with quick growing plants or other means, so that it is protected from wind and water erosion. Topsoil to be redistributed on project site shall be maintained in a usable condition for sustaining vegetation and reused on the Development Area.

H. Permanent Soil Stabilization of Development Area due to Earth Disturbing Activity

- (1) Permanent Vegetation shall be established on Development Areas as specified in Table 2.

**Table 2: Permanent Soil Stabilization**

| Area requiring Permanent Vegetation                  | Time frame to apply Permanent Vegetation                |
|--|---|
| Any area that will lie dormant for 6 months or more. | Within 7 days of the most recent disturbance.           |
| Any area at final grade.                             | Within 7 days of reaching final grade within that area. |

(2) Permanent vegetation shall not be considered established until a ground cover is achieved which is mature enough to control soil erosion.

I. Cut And Fill Slopes

(1) Cut and fill slopes shall be designed, constructed, and stabilized in a manner which will minimize erosion. Consideration should be given to the length and steepness of the slope, the soil type, upslope drainage area, groundwater conditions, and other applicable factors. If, after final grading, there is excessive erosion, where rill erosion becomes gully erosion, additional slope stabilizing measures by the owner, developer, or builder will be required until the problem is corrected. The following guidelines are provided to aid in developing an adequate design.

- C. Roughened soil surfaces are generally preferred to smooth surfaces on slopes.
- D. Diversions should be constructed at the top of long steep slopes which have significant drainage areas above the slope. Diversions or terraces may also be used to reduce slope length.
- E. Concentrated storm water should not be allowed to flow down cut or fill slopes unless contained within an adequate channel, flume or slope drain structure.
- F. Wherever a slope face crosses a water seepage plane which endangers the stability of the slope, adequate drainage or other protection should be provided.
- G. Fills of five (5) or more feet located at the proposed primary structure location and 10 feet around the perimeter of the proposed primary structure should be compacted to densities not less than 98 percent of the Standard Proctor maximum Dry Density, ASTM D698. All other fill should be compacted to at least 95 percent Standard Proctor Dry Density ASTM D698. Compaction test results shall be submitted and approved by the Butler Soil and Water Conservation District prior to final plat approval.

## J. Protection Of Adjacent Properties/Public Right-of-Ways

- (1) Properties, public right-of-ways, and thoroughfares adjacent to the Development Area of an earth disturbing activity shall be protected from sediment deposition. This may be accomplished by preserving a well-vegetated Buffer at the perimeter of the Development Area; by installing perimeter controls such as sediment barriers, filters, dikes, sediment basins; or by a combination of such measures.

## K. Erosion & Sediment Control's (ESC's)

- (1) ESC's shall be used to control erosion and trap sediment on a Development Area remaining disturbed for more than 14 days. Such structures may include, but are not limited to, silt fences, mulch berms, storm drain inlet protection, sediment traps, sediment basins, and diversions or channels which direct runoff to a sediment basin. All ESC's must be installed to function as their designed intent.
- (2) ESC's shall be constructed as a first step in grading and be made functional before upslope Earth Disturbing Activities take place. Earthen ESC's such as dams, dikes, and diversions shall be seeded and mulched as soon as the installation is complete. ESC's shall be functional throughout the course of Earth Disturbing Activity and until the Development Area is stabilized with Permanent Vegetation.
- (3) Sheet flow runoff from the Development Area shall be intercepted by silt fence, mulch berms or diversions. Silt fence or mulch berms shall be placed on a level contour and shall be capable of temporarily ponding runoff. As a guideline, the relationship between the maximum slope lengths above silt fence for a particular slope range is shown in Table 3 below or a plan of design from a professional engineer may be submitted, whichever is more appropriate.

**Table 3: Maximum Slope Length Above Silt Fence**

### Drainage Area:

| Maximum Slope Length Above Silt Fence |                   |                    |
|---------------------------------------|-------------------|--------------------|
| Slope                                 |                   | Slope Length (ft.) |
| 0% - 2%                               | Flatter than 50:1 | 250                |
| 2% - 10%                              | 50:1 - 10:1       | 125                |
| 10% - 20%                             | 10:1 - 5:1        | 100                |
| 20% - 33%                             | 5:1 - 3:1         | 75                 |
| 33% - 50%                             | 3:1 - 2:1         | 50                 |
| > 50%                                 | > 2:1             | 25                 |

Note: For larger drainage areas, see standards for temporary diversions, sediment traps and sediment basins.

- (4) Storm water diversion practices shall be used to keep runoff away from disturbed areas and steep slopes. Such devices, which include swales, dikes, or berms, may receive storm water runoff from areas up to 10 acres.
- (5) Whenever storm water detention is required per Article V, the storm water runoff from the Development Area shall pass through a sediment basin or other suitable sediment trapping facility before discharge to Waters of the State. The Butler County Storm Water District may require sediment basins or traps for smaller disturbed areas where deemed necessary due to Development Area challenges or issues that are not controllable with standards set forth within these regulations.

#### L. Stabilization Of Waterways And Outlets

- (1) All on-site, man-made storm water conveyance channels shall be designed and constructed to withstand the expected velocity of flow without erosion as described in Article V. Conveyance channels are to be seeded and mulched within 14 days of completion. Methods adequate to prevent erosion shall also be provided at the outlets of all pipes and paved channels. Outlet will be stabilized with rock rip rap and/or other energy dissipation devices as approved by the Butler County Storm Water District.
- (2) Channel design and preventative scour measures to prevent erosion are to be designed per Article V.

#### M. Storm Sewer Inlet Protection

- (1) All storm sewer inlets shall be protected so that sediment-laden water will not enter the conveyance system without first being filtered or otherwise treated to remove sediment. A rolled tile wrapped inlet sediment filter shall be used for all curb inlet protection or equivalent BMP.
  - a. Working In Or Crossing Watercourses
- (2) All activities shall be kept out of watercourses to the maximum extent possible. Where in-channel work is necessary, precautions shall be taken to stabilize the work area during construction to minimize erosion. The channel (including bed and banks) shall be restored to its original cross-section and all disturbed area stabilized immediately after in-channel work is completed.
- (3) Where a watercourse will be crossed regularly during construction, a temporary Stream crossing shall be constructed per specifications of the U.S. Army Corps of Engineers and the latest edition of the *Rainwater and Land Development Manual*. The Stream crossing will be used for the shortest period possible to complete the work, removed following Development Area construction, and restored as described in Section 2.12 (a) above.



#### N. Maintenance and Removal Of Temporary Measures

- (1) All temporary erosion and sediment control practices shall be maintained and repaired by the Owner/Operator to assure continued performance.
- (2) All temporary erosion and sediment control measures shall be removed within thirty (30) days after final Development Area stabilization is achieved or after the temporary measures are no longer needed. Trapped sediment and other disturbed soil areas resulting from the removal of temporary measures shall have the final grade re-established and be permanently stabilized to prevent further erosion and sedimentation.

#### O. Control Of Construction Development Area Debris and Wastes

- (1) All owners, applicants, contractors, and developers shall properly dispose of discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste on the Development Area in order to keep streets and gutters clear of all sediment and debris from the Development Area. Any burial pits on site must be shown on the final plat.
- (2) A defined washout area shall be located within the Development Area and protected such that washout does not leave the area. Proper removal and disposal of the material shall take place upon hardening or drying.

#### P. Use, Safety, and Maintenance of Storm water / Erosion Control Practices

- (1) Storm water management practices shall be designed for the permitted use of the Development Area and function safely and with minimal maintenance.
- (2) If an inspection reveals that a control practice is in need of repair or maintenance because it is failing, with the exception of a sediment settling pond, it must be repaired or maintained within three days of the inspection by Owner/Operator. Sediment settling ponds must be repaired or maintained to the approved construction drawings within 10 days of the inspection Owner/Operator.

#### Q. Inspection of Storm Water Controls/ Internal Inspections

- (1) Development Area discharge locations shall be inspected to ascertain whether erosion and sediment control measures are effective in preventing significant impacts to the maximum extent practicable to the receiving Waters of the State.
- (2) All controls on the Development Area shall be inspected at least once every seven calendar days and within 24 hours after any storm event greater than one-half inch of rain per 24 hour period and repaired or maintained as described in Section 2.17 above. The Development Area Owner/Operator shall assign a qualified inspection personnel, experienced in the installation and maintenance of erosion and runoff controls, to conduct these inspections to ensure that all storm water control

practices are functional, that all provisions of the SWP3 and this regulation are being met, and whether additional control measures are required.

- (3) All ESC's shall be periodically inspected by the developer to ensure proper function and to identify failures. If the inspection reveals that a control practice is in need of repair or maintenance, with the exception of a sediment settling pond, it must be repaired or maintained within three (3) days of the initial inspection. Sediment settling ponds must be repaired or maintained within 10 days of the inspection.
- (4) The Development Area Owner/Operator shall maintain for three (3) years following the final stabilization of the Development Area a record summarizing inspections, names(s) and qualifications of personnel making the inspections, the date(s) of inspections, major observations relating to the implementation of the SWP3, a certification as to whether the Development Area is in compliance with the SWP3, and identification of any incidents of non-compliance.

#### R. Accessibility and Easements

- i. All permanent storm water management measures shall have easements sufficient to cover the facility and to provide access for inspection and maintenance. See Articles V and VIII for additional information.

#### S. General Standards

- (1) The standards identified in this Section are general guidelines. Each application shall be reviewed on a case by case basis and some may require additional and more stringent requirements, while others may have individual requirements waived by the authorized agent.

### **SECTION 7.03      STORM WATER POLLUTION PREVENTION PLAN (SWP3) REQUIREMENTS**

- A. Storm Water Pollution Prevention Plans (SWP3s) are intended to provide information on all soil erosion and runoff control activities and Best Management Practices (BMPs) to be used and incorporated on the Development Area both during and after Development Area development. This information includes, but is not limited to, Development Area grading, storm water management facilities and practices, erosion and runoff control information, maintenance plans, and other measures that focus on managing the effects of Earth Disturbing Activities on the Development Area.
- B. Each SWP3 shall provide Development Area designs that meet the Performance Standards presented in Section III and provide practical treatment for both water quality and quantity of storm water from the Development Area as appropriate.

C. In general, SWP3s need to address:

- (1) Erosion and Sediment Control. Providing measures that endeavor to ensure that Earth Disturbing Activities at the Development Area during and after development will be managed in a manner that will not increase erosion and sedimentation, to the maximum extent practicable, from the Development Area, resulting in impacts to water quality and that the Performance Standards specified in Section II are met.
- (2) Runoff Control. Providing measures to ensure that the rate of surface water runoff from the Development Area during and after construction will not exceed pre-development conditions and that meet the Performance Standards specified in Section II.

D. The SWP3 shall specifically include all the following:

1. A Development Area Plan Map that shows the location of existing features and proposed improvements on the Development Area including:
  - a. Total area of the Development Area and the area of the Development Area that is expected to be disturbed (i.e. grubbing, clearing, excavation, filling or grading, including off-site borrow areas).
  - b. Known surface water locations, including springs, wetlands, Streams, lakes, water wells, etc., on or within 50 feet of the Development Area, including the boundaries of known wetlands or Stream channels and first subsequent named receiving water(s) the Owner/Operator intends to fill or relocate for which the Owner/Operator is seeking approval from the Army Corps of Engineers and/or Ohio EPA.
  - c. The general directions of surface water flow and 100-year floodplain when applicable.
  - d. All proposed improvements, including buildings, retaining walls, sidewalks, streets, parking lots, driveways, utilities and storm water basins, drainage impoundments, channels and outlets, etc.
  - e. Appropriate soil information for the Development Area describing locations of bedrock, unstable or highly erodible soils as determined by the Butler County Soil Survey, and/or soil tests. Show location of any soil test borings on plan. Other soils information such as permeability, high water table, etc. may be mentioned.
  - f. If required by preliminary plat approval the geotechnical study must be completed and approved at the SWP3 review step.
  - g. An estimate of the impervious area and percent imperviousness created by the Earth Disturbing Activity.
- ii. The contents of the SWP3 required by the current Ohio Environmental Protection Agency Permit for Storm Water Discharges Associated with Construction Activity under the National Pollutant Discharge Elimination System (NPDES) and incorporated here by reference. This Plan may be submitted as developed for the Ohio EPA, in conjunction with the other requirements of Subsection 5.04. The contents of the Ohio EPA's SWP3 include, but are not limited to:

- a. A description of current land uses at the Development Area.
- b. Existing data describing if available, the quality of any discharge from the Development Area.
- c. Appropriate soil information for the Development Area describing locations of bedrock, unstable, or highly erodible soils as determined by the Butler County Soil Survey and/or soil tests. Show location of any soil test borings on plan. Other soils information such as permeability, perched water table, etc. may be mentioned.
- d. A determination of runoff coefficients or curve numbers for both the pre-construction and post construction Development Area conditions.
- e. For all Earth Disturbing Activities (involving the disturbance of five or more acres of land or will disturb less than five acres, but part of a larger common plan of development or sale which will disturb five or more acres of land), a description of post construction BMP(s) chosen and designed to detain and treat a water quality volume (WQv) equivalent to the volume of runoff from a 0.75-inch rainfall (See Ohio EPA Construction Activity Permit for methodology). Design of water quality volume within detention / retention facilities must comply with Article V.
- f. For all small Earth Disturbing Activities (which disturb one or more, but less than five acres of land and is not a part of a larger common plan of development or sale which will disturb five or more acres of land), a description of measures that will be installed during the development process to control pollutants in storm water discharges that will occur after construction operations have been completed.
- g. An implementation schedule which describes the sequence of major construction operations (i.e., grubbing, excavating, grading, utilities and infrastructure installation) and the implementation of erosion, sediment, and storm water management practices or facilities to be employed during each operation of the sequence.
- h. For subdivided developments where the SWP3 does not call for a centralized sediment control capable of controlling multiple individual lots, a detail drawing of a typical individual lot showing standard individual lot erosion and sediment control practices according to Section V.
- i. A detailed description of the storm water controls to be incorporated and how these meet or exceed the appropriate Performance Standards presented in Section II. This shall include the identification of which entity (developer, contractor, owner, etc.) is responsible for implementation of each individual control (e.g., contractor A will clear land and install perimeter controls and

contractor B will maintain perimeter controls until final stabilization).

- j. A detailed maintenance plan that describes procedures (e.g. inspections- see section 2.18 Inspection of Storm Water Controls/ Internal Inspections) needed to ensure the continued performance of control practices shall be located at the entrance of the Development Area or at the job trailer in a well marked container accessible at all times. Such plans must ensure that pollutants collected within structural post-construction practices, be disposed of in accordance with local, state, and federal regulations.

E. Development Area Map that includes:

- (1) Limits of Earth Disturbing Activity of the Development Area including associated off-site borrow or spoil areas.
- (2) Soil types on the Development Area, including locations of unstable or highly erodible soils.
- (3) Existing and proposed 2 foot contours. A delineation of drainage watersheds expected during and after major grading activities as well as the size of each drainage watershed, in acres.
- (4) Existing and planned locations of buildings, roads, parking facilities and utilities.
- (5) The location of all erosion and sediment control practices, including areas likely to require temporary stabilization during development of the Development Area.
- (6) Sediment and storm water management basins noting their sediment settling volume and contributing drainage area.
- (7) Permanent storm water management practices to be used to control pollutants in storm water after construction operations have been completed.
- (8) Areas designated for the storage or disposal of solid, sanitary, and toxic wastes, including dumpster areas, cement truck washout areas, and vehicle fueling and maintenance.
- (9) The location of designated construction entrances where vehicles will access the Development Area.
- (10) The location of any in-Stream activities, including Stream crossings.

- F. Copies of pertinent Notices of Intent (NOI), permits, public notices and letters of authorization must be included with SWP3 submissions. These may include, but are not limited to, Ohio EPA NPDES Permit authorizing storm water discharges associated with construction activity, Ohio EPA Phase II Storm Water Permits, Section 401 and 404 Clean Water Act Permits, Ohio EPA Isolated Wetland Permit, and Ohio Dam Safety Law Permits.

G. Supplemental requirements as provided in Subsection 3.06.

- H. Storm water discharge to critical areas with sensitive resources (i.e. wetlands, steep slopes, scenic river designation, recharge areas, etc.) may be subject to additional criteria or may need to utilize or restrict certain storm water practices to protect these critical areas with sensitive resources and functions.

## I. Supplemental Requirements

### 1. Determination of Construction Development Runoff

- a. Each Development Area Management Plan shall include an evaluation of pre-development conditions together with construction conditions that quantifies the volume and rate of runoff from the Development Area by subdrainage areas. This evaluation shall be prepared according to methods prescribed in the latest edition of *Rainwater and Land Development Manual* or other appropriate sources. The evaluation 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 manmade watercourse which accommodates the surface runoff from each subdrainage unit.
  3. Indicate within the legend the average percent slope, erosion factor (K), and runoff curve number (CN) per individual subdrainage unit for a 24-hour storm of a one-year frequency.

## J. Storm Water Pollution Prevention Plan Submission, Review and Action

- (1) Submission of the Storm Water Pollution Prevention Plan may be included in the improvement plan review process as stated in Section 3.13 of the Butler County Subdivision Regulations which initiates the review process. An Erosion and Sediment Control Butler County Earth Moving Permit application must be completed with all of the applicable fields filled in and attached to the improvement plan along with the appropriate fee.
- (2) The SWP3 shall be reviewed by the Butler County Storm Water District to:
  - a. Verify background information furnished by the applicant and evaluate the proposed development in relation to existing Development Area conditions.
  - b. Assess the SWP3 in relation to the Performance Standards and requirements of this resolution.
- (3) Upon submission of the complete SWP3 and the ESC Earth Moving Permit application to the Butler County Storm Water District, it shall be reviewed within 14 calendar days. If the review is not completed within 14 calendar days, the applicant may contact the Butler County Storm Water District to set the preconstruction meeting. The review will be finished at the time of the preconstruction meeting and, if any revisions are needed, they will be discussed at the preconstruction meeting. If no other approvals for the improvement plans are needed from other county agencies, then the developer/applicant may set up a preconstruction meeting with Butler County Storm Water District.

- (4) With Butler County Storm Water District approval, the developer may opt to submit a preliminary ESC plan directly to Butler County Storm Water District with completed application. This option assumes the applicant shall have a completed (final) ESC plan by the time construction drawings are submitted to the Department of Development and Planning.
- (5) The Butler County Storm Water District shall either:
  - a. Approve the SWP3 as submitted by the applicant; or
  - b. Conditionally approve the SWP3 and require the submission of additional and/or revised information by the applicant, in order to fully meet the intent and standards of this resolution; or
  - c. Disapprove the SWP3.
- (6) Revisions to conditionally approved SWP3s shall be prepared and submitted by the applicant to the Butler County Storm Water District for review.
- (7) Once the SWP3 plans are approved and a preconstruction meeting is held between the Butler County Storm Water District and the earth moving contractor or other appropriate party involved with the project, approval of the Earth Moving Permit will be granted.

#### **SECTION 7.04 COMPLIANCE RESPONSIBILITY**

- A. Butler County Board of Commissioners hereby designate Butler County Storm Water District as its duly authorized representative for the purposes of enforcement activity permitted by O.R.C. 307.79
- B. Performance Liability and Responsibility
  - (1) No provision of this resolution shall limit, increase, or otherwise affect the liabilities of the applicant nor impose any liability upon Butler County not otherwise imposed by law.
  - (2) The applicant is responsible for carrying out all provisions of the approved Storm Water Pollution Prevention Plan and for meeting all the standards and requirements of this regulation.
- C. No Release From Other Requirements
  - (1) No condition of this permit shall release the applicant from any responsibility or requirements under other federal, state, or local environmental regulations. If requirements vary, the most restrictive requirement shall prevail.

#### D. Violations

- (1) Earth moving activities regulated under this regulation shall not begin until the Butler County Earth Moving permit is granted as spelled out in Article VII Section 3.07 and all necessary state and federal permits and appropriate approvals of Storm water Pollution Prevention Plans have been granted to the Development Area owner/applicant.
- (2) No person shall violate or cause or knowingly permit to be violated any of the provisions of this resolution, or fail to comply with any of its provisions or with any lawful requirements of any public authority made pursuant to it, or knowingly use or cause or permit the use of any lands in violation of this resolution or in violation of any approval permit granted under this resolution.

#### E. Enforcement & Penalties

- (1) All Development Areas are subject to inspections by the Butler County Storm Water District to ensure compliance with the approved SWP3.
- (2) After each inspection, a status report shall be prepared and distributed to the appropriate person(s).
- (3) If it is found that the operations are being conducted in violation of the approved SWP3, then enforcement action as authorized in R.C. 307.79 shall be initiated.
- (4) Subsequent to the issuance of a stop-work order penalties may be imposed consistent with O.R.C. 307.79

#### F. Schedule of Fees.

- (1) The schedule of fees set forth by the Board of County Commissioners for plan review, Development Area inspection and permit approval as established, and shall be due and payable upon the submission of the SWP3 and completed Butler County Earth Moving permit application to the Department of Development at the time of construction drawing submittal.

\*If earth moving begins without Earth Moving Permit and approval of SWPPP/construction drawings the Development Area will not be recorded until fee paid in full, application turned in and SWPPP/construction drawing approval letter/permit issued.

\* Make Fee Payable to Butler County, turn into the Department of Development and Planning. The SWPPP/ construction drawings and the Earth Moving permit application can be turned in at the Department of Development and Planning or the Butler County Storm Water District.



## G. Complaints

The Butler County Storm Water District shall investigate any complaint related to Earth Disturbing Activities covered by this resolution in a timely manner. After inspection is completed, if found to be in violation, the Butler County Storm Water District will take necessary action to achieve compliance on the particular Development Area as described in Article VII section 4.05

## H. Appeals Process

Any person denied a permit pursuant to section 3.07 (e) of the Butler County Subdivision regulations has the right to appeal to the **Board of Supervisors of the Butler Soil and Water Conservation District** in writing within 60 days of the grievance.

## I. Effective Date and Validity

This resolution shall become effective within Butler County 30 days after adoption. If any section, subsection, paragraph, clause, phrase, or provision of this resolution is adjudged invalid or held unconstitutional, such a decision shall not affect or void any of the remaining portions.

## **SECTION 7.05 LOT POLLUTION PREVENTION CONTROL PLAN, LOT EROSION AND SEDIMENT CONTROL PERMIT (*Residential & Commercial Builders*)**

### A. Lot Erosion and Sediment Control Permit

- (1) Upon submittal for a Building Permit from the Butler County Department of Building and Zoning, a Lot ESC plan is required to be submitted if the parcel is greater than one acre or within a platted subdivision. A Butler County Lot Erosion and Sediment Control Permit is also required for each lot within a platted subdivision upon approval of the Lot ESC plan. The Builder/Owner is required to meet all requirements in section 5.02 in order to maintain an approved Lot Erosion and Sediment Control Permit.

### B. Lot Pollution Prevention Control Plan and per lot building performance standards

- (1) In general, the Lot Pollution Prevention Control Plan shall consist of the Development Area erosion & sediment control plan and describe/ show how waste construction material will be disposed of. See Appendix B for an example. A Pollution Prevention Plan is required for all other platted Lots and can be created with the Building and Zoning lot plan. This plan should include the following:
  - a. Provide the Parcel Number, Address, Lot Number, and Subdivision Name with appropriate Section or Block.

- b. Show the existing contours and final proposed spot elevations with directional flow arrows of the Lot. Proposed contours may be required by Butler County Storm Water District as needed. Existing grading may be represented off of the development's grading plan. Show all existing and proposed locations of buildings, roads, parking facilities and utilities.
- c. Proposed grading of Lot shall not remove or change any existing surface drainage that have been recorded such as Watercourses, Swales, Streams, Flood Routes and or Channels without prior approval.
- d. Water runoff should be diverted away from Steep Slopes and areas with exposed soils.
- e. All concrete trucks should washout at designated areas as defined by the Developer or his Contractor. See Article VII Section 2.16 Control of Construction Development Area Debris and Wastes.
- f. Note and show the location of each proposed soil erosion & sediment control Best Management Practice (BMP) as specified in the ODNR Rainwater and Land Development Manual, including:
  - i. Perimeter sediment & erosion control BMP around the Lot and/or adjacent to surface drainage swale as topography and need determines. Appropriate BMP's may include, but are not limited to, a mulch berm, silt fence, compost logs, temporary sediment traps/basins, temporarily modified detention/retention facilities, check dams, curb and yard inlet protectors, temporary diversions, and proper Stream crossings.
  - ii. A construction entrance is required on all Lots within the subdivision. It is the Builder's responsibility to ensure the construction drive is maintained and properly dressed with stone. See appendix A. Construction vehicle access should be limited to one route, to the greatest extent practical.
  - iii. Mud tracked onto the street or sediment settled around curb inlet protection shall be inspected daily and cleaned as needed to prevent it from accumulating. It shall be removed by shoveling and scraping and shall NOT be washed off paved surfaces or into storm drains.
  - iv. Temporary seeding should be placed on any Lot that is to remain idle for period more than 21 days. Each Lot should be properly seeded and mulched within 7 days of completion of the rough grading. This includes stockpiles excavated from basements. All stockpiles shall be situated away from streets, swales, or other waterways.

- C. Show the boundaries of Wetlands and Stream Channels on the Lot ESC plan. If they are to be modified or removed a permit may be required through the Army Corps of Engineers, Ohio Environmental Protection Agency, or Department of Natural Resources. It is the Builder's responsibility to acquire the appropriate permits.
- D. All ESC's shall be periodically inspected by the Builder/Owner to ensure proper function and to identify failures. If the inspection reveals that a control practice is in need of repair or maintenance, with the exception of a sediment settling pond, it must be repaired or maintained within three (3) days of the initial inspection. Sediment settling ponds must be repaired or maintained within 10 days of the inspection.
- E. The Builder/Owner shall maintain ESC's until Permanent Vegetation is established.

**SECTION 7.06 COMPLIANCE RESPONSIBILITY & FAILURE TO COMPLY**

- A. Butler County Board of Commissioners hereby designates Butler County Storm Water District as its duly authorized representative for the purposes of enforcement activity permitted by O.R.C. 307.79
  - 1. Whenever public improvements have not been constructed and/or maintained in accordance with these regulations, the Board of County Commissioners may exercise its rights of **foreclosure on the bond** to bring the improvements into compliance.
  - 2. Failure to comply with Section V Lot Pollution Prevention Control Plan may result in one or all of the following:
    - a. Loss of Butler County Lot Erosion and Sediment Control Permit
    - b. Stop work order – No inspections
    - c. Failure to obtain additional permits/approvals
    - d. Fines or penalties as determined by the Board of Commissioners
- B. Performance Liability and Responsibility

No provision of this resolution shall limit, increase, or otherwise affect the liabilities of the applicant nor impose any liability upon Butler County not otherwise imposed by law.

The applicant is responsible for carrying out all provisions of the approved Storm Water Pollution Prevention Plan and for meeting all the standards and requirements of this regulation.

- C. No Release from Other Requirements

No condition of this permit shall release the applicant from any responsibility or requirements under other federal, state, or local environmental regulations. If requirements vary, the most restrictive requirement shall prevail or where context suggests it, requirements and/or restrictions may be cumulative. Failure to enforce a

requirement is not a waiver of other applicable requirements.

#### D. Violations

3. Earth moving activities regulated under this regulation shall not begin until the Butler County Earth Moving permit is granted as spelled out in Article VII Section 3.07 and all necessary state and federal permits and appropriate approvals of Storm Water Pollution Prevention Plans have been granted to the Development Area Owner/Applicant.
4. No person shall violate or cause or knowingly permit to be violated any of the provisions of this resolution, or fail to comply with any of its provisions or with any lawful requirements of any public authority made pursuant to it, or knowingly use or cause or permit the use of any lands in violation of this resolution or in violation of any approval permit granted under this resolution.

#### E. Enforcement & Penalties

- (1) All Development Areas are subject to inspections by the Butler County Storm Water District to ensure compliance with the approved SWP3.
- (2) After each inspection a status report of the ESC findings shall be prepared and distributed by Butler County Storm Water District to the Owner/Operator.
- (3) If it is found that the operations are being conducted in violation of the approved SWP3, then enforcement action as authorized in R.C. 307.79 shall be initiated.
- (4) Subsequent to the issuance of a stop-work order, penalties may be imposed consistent with O.R.C. 307.79

#### F. Schedule Of Fees.

The schedule of fees shall set forth by the Board of County Commissioners for plan review, Development Area inspection and permit approval as established, and shall be due and payable upon the submission of the Butler County Lot Erosion and Sediment Control Permit application to the Department of Building and Zoning at the time of lot building construction.

Make Fee Payable to Butler County, turn in fee and application to the Department of Development: Building and Zoning.

#### G. Complaints

The Butler County Storm Water District shall investigate any complaint related to lot erosion and sediment control activities covered by this resolution in a timely manner. If investigation finds violations, the Butler County Storm Water District will take

appropriate actions to achieve compliance on the particular Lot.

#### H. Appeal Process

Any person denied a permit pursuant to section 5.01 (1) of the Butler County Subdivision regulations has the right to appeal to the **Board of Supervisors of the Butler Soil and Water Conservation District** in writing within 60 days of the grievance.

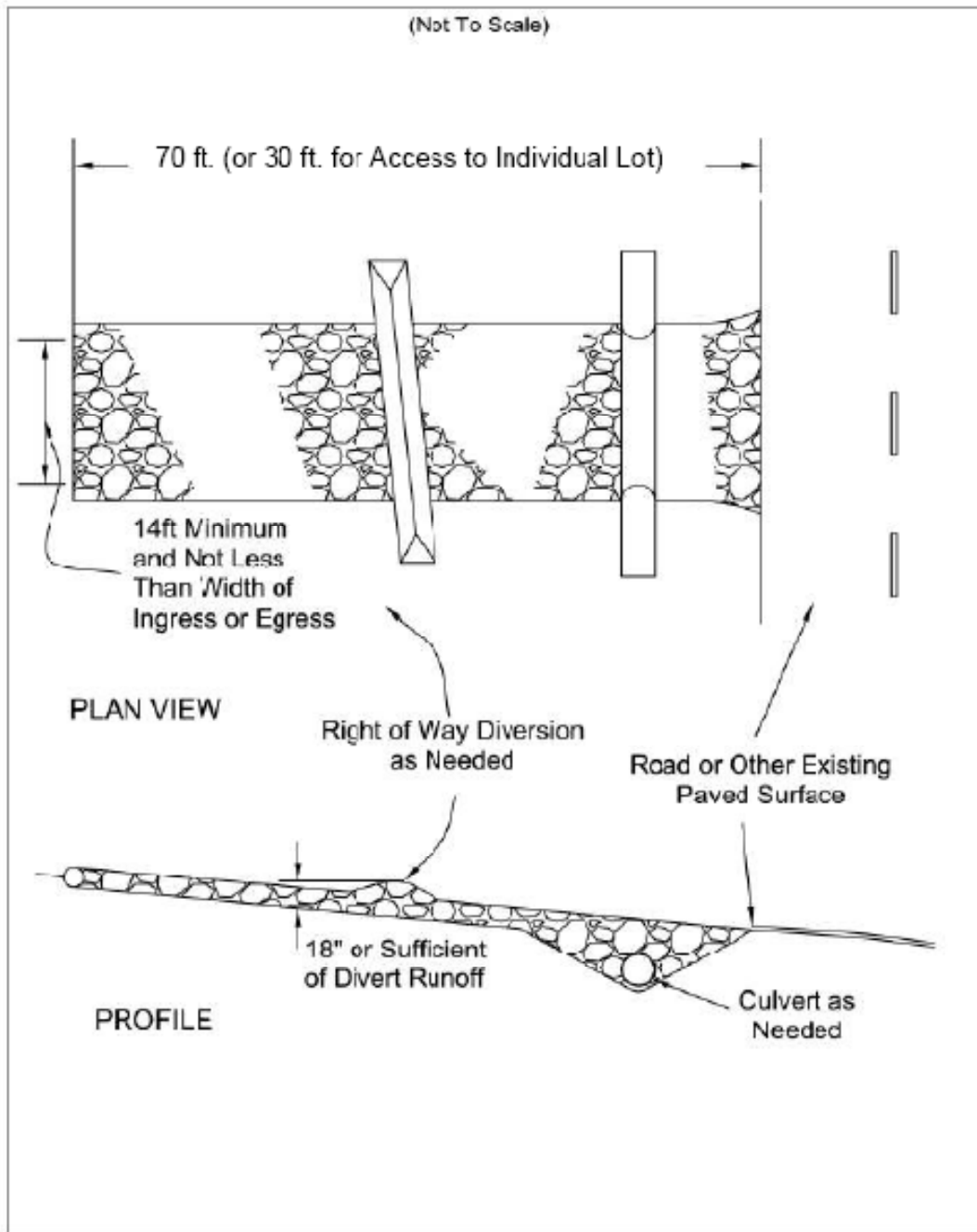
#### I. Effective Date And Validity

This resolution shall become effective within Butler County 30 days after adoption. If any section, subsection, paragraph, clause, phrase, or provision of this resolution is adjudged invalid or held unconstitutional, such a decision shall not affect or void any of the remaining portions.

# Appendix A

Specifications  
for

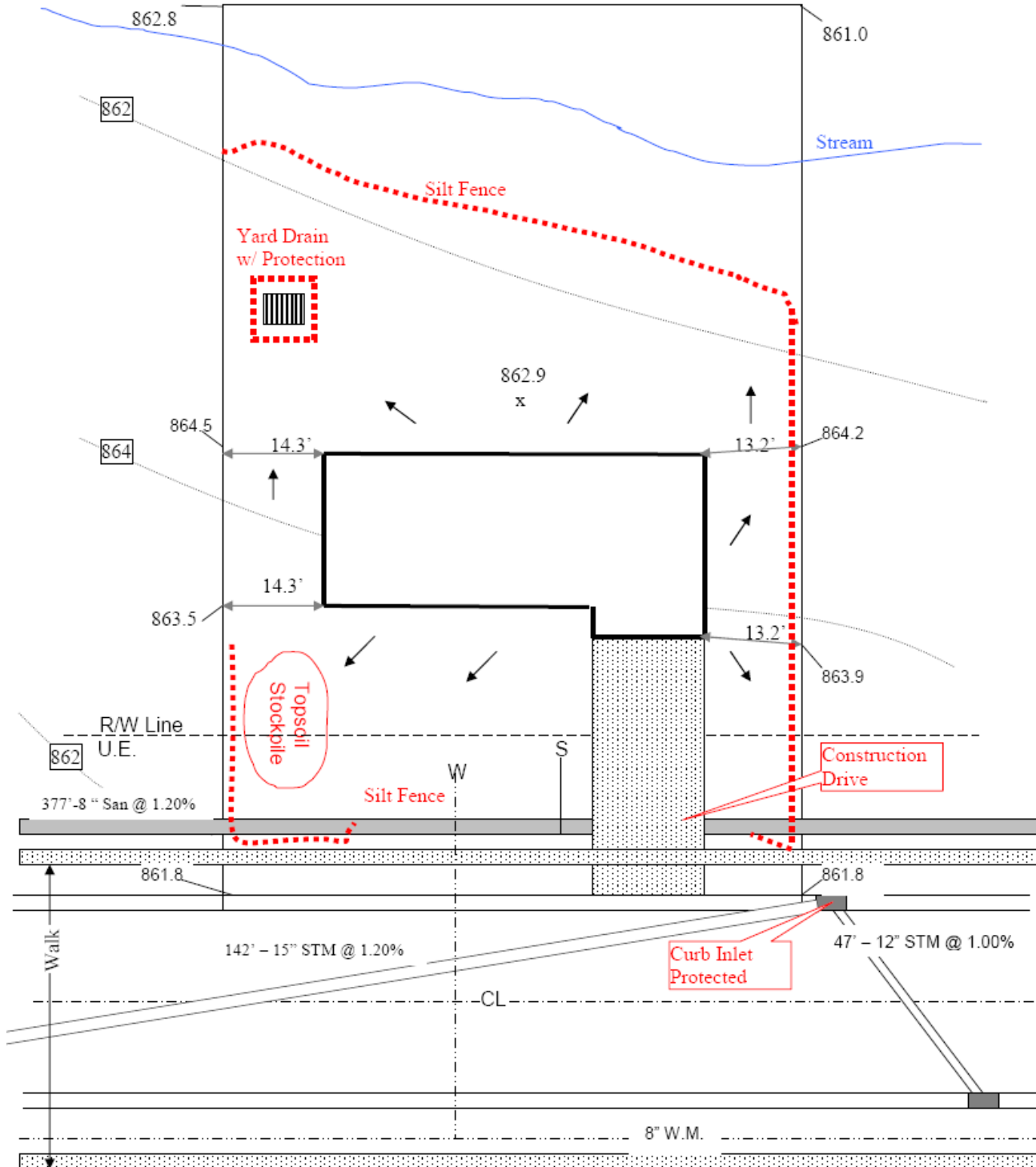
## Construction Entrance



# Appendix B

Specifications  
for

## Small Construction Site Controls



**ARTICLE VIII**

**FINAL SUBDIVISION PLAT REQUIREMENTS**

SECTION 8.01 FINAL PLAT FORM

The following information shall be contained on the preliminary plat:  
(Please refer to Appendix A, drawings A-8 thru A-10 for sample drawings).

A. **PLAT SIZES:** The final plat shall be clearly and legibly drawn. The size of the plat shall not be less than *eighteen (18) by twenty-four (24) inches*. If possible the maximum plat size should not exceed *twenty-four (24) by thirty-six (36) inches*. The plat of a subdivision containing six (6) acres or less shall be drawn at a scale of one (1) inch equals fifty (50) feet. All other subdivisions shall be drawn at a scale of one (1) inch equals one hundred (100) feet or larger.

B. **DRAWING STANDARDS:** When submitting the final plat, the following standards are to be met per the Plat Room:

(1) **PLAT SIZE:**

Plat size: 18" x 24"  
Letter size: Minimum 1/8"  
Letter spacing: Minimum 1/16" or half of the  
letter size used

Plat size: 24" x 36"  
Letter size: Minimum 3/16"  
Letter spacing: Minimum 3/32" or half of the  
letter size used

(2) **LINE SPACING:** For both size plats, the minimum space between lines of text shall be the same as the letter size.

(3) **BORDER:** All plats shall have a one - half inch border.

(4) **MATERIAL:** Permanent black ink on mylar.

(5) **PLAT CONDITION:**

a. Pencil guidelines and smudge marks shall be removable with a gum eraser.

b. No number or letters shall be drawn in shaded areas or over



any other lines on the plat.

- c. Appliques shall be on the front side of plat and meet all other size standards.
- d. Signatures shall be in a permanent black ink from a felt tip pen.
- e. Seals shall be shaded or in permanent ink.
- f. Folded, wrinkled or torn plats are not acceptable.

(6) LETTER QUALITY

- a. Technical pens shall be used.
- b. Smaller letters and numbers shall be made with a fine tip pen. (Usually a pen numbered between zero and two)
- c. Letters and numbers shall be well defined and will not run or bleed.
- d. If the plat drawing is difficult to read due to the labeling and dimensioning of easements and property lines, then all property lines and associated labeling is to be shown on one drawing and all easements and associated labeling is to be shown on another separate drawing on the plat.

- (7) Electronic Data Transfer- Although not required, additional electronic submittal may expedite the review and recording process.

SECTION 8.02 NUMBER OF COPIES TO BE FILED

The subdivider shall file with the Planning Department fourteen (14) copies of the final plat, accompanied by a reduced version of the proposed subdivision section measuring 11" by 17" and a written letter of submittal for the final approval of said plat.

SECTION 8.03 INFORMATION TO BE CONTAINED ON THE FINAL PLAT

- A. The Name of the Subdivision.
- B. If a subdivision is to be submitted in sections and/or blocks, these divisions shall be indicated on the plat and shall be recorded consecutively from the last recorded section.
- C. The information shown on the final plat shall be consistent with improvements as indicated on the improvement drawings. Any revisions to the original design plan shall

be shown on the final plat.

- D. All lots in a subdivision must meet the applicable zoning requirements and be buildable lots. Detention and retention areas must be contained on a building lot.
- E. The final plat shall contain the minimum information required by *Sections 711.01 through 711.04 inclusive of the Ohio Revised Code* and shall also contain the following information:
- (1) All plat boundary lines with lengths of courses to hundredths of a foot and bearings to half minutes. These boundaries shall be determined by an accurate survey in the field, which shall be balanced and closed with an error of closure of not to exceed 1 to 10,000. Provide a closure sheet showing acreage and error of closure.
  - (2) The exact location and the width along the property line of all existing recorded streets intersecting or paralleling the boundaries of the tract.
  - (3) Bearings and distances to nearest established street bounds, patents or other established survey lines, or other official monuments, which monuments shall be located or accurately described on the plat. Any patent or other established survey or corporation lines shall be accurately monumented and named.
  - (4) The accurate location and material of all permanent reference monuments. (Please refer to section 5.07 B.)
  - (5) The exact layout of the subdivision including:
    - a. street and alley lines - their names, bearings, length (along center line), angles of intersection and widths (including widths along the line of any obliquely-intersecting street);
    - b. the lengths of all arcs- radii, points of curvature and tangent bearings, cord bearings and cord lengths.
    - c. The location of all easements and rights-of-way must be shown in such a manner to be re-established in the field.
    - d. The location of all lot lines with dimensions in feet and hundredths, and bearings in degrees, minutes and seconds.
  - (6) Lots numbered in numerical order, in tracts containing more than one block, the blocks shall be lettered in alphabetical order. Lots shall be numbered in consecutive order from the last previously recorded lot. In case there is a re-subdivision of lots in any block, such re-subdivided lots shall be designated as such by their original lot numbers. The newly

created lots shall be recorded in consecutive order from the previously recorded plat.

- (7) The accurate outline of all property which is offered for dedication for public use, and of all property that may be reserved by covenant in the deeds for the common use of the property owners in the subdivisions, with the purpose indicated thereon.
- (8) All water courses within a subdivision are to be covered by either Private Drainage or Home Owner's Association Drainage easement on the plat. If the subdivision is to be maintained by a Home Owner's Association, a copy of the by-laws, covenants, restricts, and post-construction storm water operation & maintenance plan are to be submitted to the county for review. The documents shall contain a schedule of maintenance items and frequency or inspection and or maintenance of all storm sewer facilities maintained by the Association. In addition, the document shall identify the responsible party or person for maintenance. Include contact name, contact number(s) and mailing address of the responsibly party or person for the Association.
- (9) Front setback lines as established by the appropriate Zoning Resolution and any other set-back lines or street lines established by public authority, and those stipulated in the deed restrictions.
- (10) Boundaries of all areas affected by varying private restrictions and a description of those restrictions.
- (11) Names and locations of adjoining subdivisions and location and ownership of adjoining unsubdivided property.
- (12) Names and addresses of the owner of record, the names, addresses, phone number and fax number for the subdivider, the engineer, surveyor and/or consultant.
- (13) North arrow, graphical scale and date.
- (14) A vicinity sketch showing the subdivision as it relates to the surrounding area at any scale.
- (15) A superimposed plan of the subdivision at a scale of three- hundred (300) feet to the inch shall be drawn on the final plat and shall also show the section of the subdivision in which the developer wishes to be recorded. This sketch shall also show all street right-of-ways.
- (16) The total acreage of the subdivision, total acreage from each township section, total acreage from each original parcel of each lot created, the total linear feet of newly dedicated right-of-way (ROW) as well as area of

that ROW.

- (17) Stubbed streets shall be located on the plat to give adjoining unsubdivided property access. These streets shall also be labeled as "Street to be extended in the future" at the discretion of the Planning Commission.
- (18) Any information which Planning Commission considers to be appropriate to provide full disclosure to potential lot purchasers. These include, but are not limited to, the location of 100 year floodplains, wetlands, and right-of-ways for proposed highways which are journalized, etc. within the subdivision or abutting its borders.
- (19) The minimum opening and/or minimum basement elevations and curb elevations (low side, top of curb) for new structures should also be stated on the final plat in order to keep them above the 100 year flood plain as determined by a flood study prior to platting.
- (20) One hundred (100) year drainage routes are to be labeled on the final plat.
- (21) The minimum sanitary building drain elevations in order to insure sanitary sewer service where applicable.
- (22) A benchmark and elevation is to be noted on the final plat.
- (23) All bury pits need to be shown as an easement. This is the responsibility of the developer to make sure the easement is on the plat. It is the responsibility of the builder to make sure the buried material, as permitted by the Ohio Environmental Protection Agency, is in the bury easement or a replat will be necessary.
- (24) Those lots identified by the Butler County Soils and Water Conservation District, during a preliminary investigation as needing soil testing, geotechnical reports or engineered fill prior to issuance of a building permit, are to be noted on the final plat unless testing is completed before final plat approval to satisfy this provision. Any recommendations these studies show must be carried forth on the construction drawings or noted on the final plat. If these studies have been completed after the final plat is recorded, then any recommendations must be carried out when constructed the house and will become part of the final inspection for the house.
- (25) For general purposes and future utilities, a ten (10) foot utility easement shall be provided at the rear of each lot.
- (26) Acknowledgment of the owners and witnesses before an officer authorized to take the acknowledgment of deeds, which officer shall certify his official act on the plat (Notary).

- (27) Certification from a licensed practicing attorney, that all taxes and assessments have been paid on the land within the subdivision (Certificate of Title).
- (28) Ohio Environmental Protection Agency (OEPA) approval must be submitted with the final plat or the developer must have a Permit To Install (PTI) water and sewer related items before the final plat will be approved by the Planning Commission.
- (29) All one-hundred year water surface elevations within storm water detention/retention facilities shall be shown and noted on the plat. A drainage easement shall encompass the limits of the one-hundred year water surface elevation.
- (30) The Subdivider or Developer is responsible to ensure adequate drainage between and along the common Lot property line(s) has been achieved. A blanket easement shall be encumbered on all Lots for the purpose of addressing drainage between and along the common Lot property line(s), and within HOA easements. If the County determines or finds the drainage practice to be unacceptable, per the approved plans, it will be the Subdivider or Developers responsibility to make the necessary modifications to alleviate the surface drainage problem to the satisfaction of the County. Upon a successful completion of the one-year maintenance period, the County will then relieve the Subdivider or Developer of such responsibility, and the blanket easement shall revert to the private property owner of the Lot.

SECTION 8.04 NOTES TO BE CONTAINED ON THE FINAL PLAT

- A. *Dedication Statement:* "The undersigned, being the owners of (# of acres) Acres of land in Section (#), Town (#), Range (#), in (Name of Township) Township, Butler County, Ohio, do hereby assent to and adopt the accompanying plat of subdivision to be known as (Name of Subdivision) and do hereby dedicate to the public forever, in accordance with the laws in such cases made and provided, the streets and roadways as shown on said plat, and declare the same to be free and unencumbered. The title acquired by Deed Book (#) Page (#)".
- B. *Utility Easement:* "Easements on said plat, designated as utility easements are provided for the construction, maintenance, and operation of poles, wires and conduits, and the necessary attachments in connection therewith, for the transmission of electric, telephone, cable television and other purposes for the construction and maintenance of service and underground storm water drains, pipelines for supplying gas, water, heat and other public or quasi public utility functions together with the necessary lateral connections, and also the right to ingress to and egress from said easements, and to cut, trim or remove trees and undergrowth or overhanging branches within said easement or immediately adjacent thereto. No buildings or other structures may be built within said easements, nor may the easement area be physically altered so as to (1) reduce the clearance of either overhead or underground facilities; (2) impair the land support of said facilities; (3) impair the ability to maintain the facility or (4) create a hazard".

"The above easements are also provided for other public uses as designated and shall be used for the construction of storm water drains, open channels, public and private sewers, pipelines for the supplying of water, cable television and for any other public or quasi public utility or function, conducted, maintained or performed by ordinary methods beneath or above the surface of the ground together with the right of ingress and egress over and across lots to and from said easements".

- C. *Drainage Notes:* If the storm water facilities outside the Right-of-Way (ROW) are planned to be maintained by the Home Owner Association (HOA), note #1 following, must be on the record plat. If the storm water facilities outside the ROW are to be maintained through the County Ditch Petition process, then notes 2a and 2b following, must be on the record plat. The Minimum width of drainage easements for culverts and storm sewers shall be as follows:

| <u>Pipe Size (Width)</u> | <u>Minimum Easement Width*</u> |
|--------------------------|--------------------------------|
| 33" and smaller          | 20 Feet                        |
| 36" – 42"                | 25 Feet                        |
| 48" – 60"                | 30 Feet                        |
| 66" – 78"                | 35 Feet                        |

\* Minimum width given above is for installations with depths of cover at 10 feet or less (measures from the top of pipe). For each additional 5 feet of cover over 10 feet (rounded up), the minimum easement width shall be increased by 10 feet.

- (1) Homeowners Association Drainage Easements - "The Board of County Commissioners of Butler County does not accept any private drainage easements shown on this plat. The county of Butler is not obligated to maintain or repair any channels of installations in said easements. The easement area of each lot and all improvements in it shall be maintained continuously by the owner of the lot. Maintenance of all improvements within HOA drainage easements shall be the responsibility of the (name of subdivision HOA) as provided for in the declaration and in accordance with the standards and specifications of the Butler County Engineer. Within the easement area, no structure, planting or other material shall be placed or permitted to remain which may obstruct, retard, or change the direction of the water flow". This easement shall be labeled on the plat as "HOA Drainage Easement or HOA DR ESMT."

(2) County Ditch Petition

- a. Public Drainage Easements - "Easements shown on this plat are for the exclusive use of Butler County for the construction, operation, maintenance, repair or replacement of storm sewer, manholes, catch basins, concrete channels, headwalls, detention basins, ditches or other storm water facilities, unless specific permission is granted to an outside agency or utility.

Easements are also to provide ingress and egress for said purposes and are to be maintained as such". This easement shall be labeled on the plat as "Public Drainage Easement" or "PUB DR ESMT".

- b. No encroachments, buildings, sheds, decks, playground or swing sets, or other structures, shall be permitted within the Public Drainage Easement.
- c. Private Drainage Easements - "Butler County does not accept any private drainage easements or storm sewer easements shown on the accompanying plat, and Butler County is not obligated to maintain or repair any channels or installations in said easements. The easement area of each lot shall be maintained continuously by the owner of the lot. Within the easement area, no structure, planting or other material shall be placed or permitted to remain in which may obstruct retard or change the direction of flow of the water". This easement shall be labeled on the plat as "Private Drainage Easement" or "PVT DR ESMT".

D. *Transfer of Lots:*

- (1) "Any lot transferred shall have a minimum width and area substantially the same as shown on the accompanying plat and only one principal building will be permitted on any such lot.
- (2) "Any future splitting of any lot that results in an additional building site being created shall be by Replat only".

E. *Street Construction:* "The streets as shown in said subdivision shall be constructed in accordance with the approved plans on file in the office of the Butler County Engineer. The streets shall be constructed, with the exception of top course, within one year and shall be maintained and kept in repair for a period of one year from the date the constructed streets are approved by the Butler County Engineer".

F. *Water and Sewer:*

- (1) "It is understood that Butler County will not be able to issue any connection permits or building permits until the Ohio Environmental Protection Agency (EPA) has approved the plans for the proposed extensions of the public water and sewer systems within this subdivision, unless on-site systems are proposed and approved."
- (2) "All buildings to be served by the public sewer system shall be constructed so as to provide a minimum of four (4) feet of vertical separation between the public sanitary sewer, at the point of connection,

and the lowest building level served by a gravity sewer connection. In addition, said building level shall be at least one (1) foot above the lowest point of any treatment facility or wastewater pumping facility that receives the discharge from said building. Said minimum service levels shall be recorded on the "As-Built" plans for the development which will be kept on file in the office of the Butler County Sanitary Engineer".

- (3) "Private driveways, parking lots and other paved areas or structures should not be constructed over private water or sewer service lines within the public road right-of-way or within easement areas for the public utilities. Should this occur, the property owner will be held responsible for the protection and repair of and for providing access to any curb stops, meter pits, manholes, cleanouts, etc. installed in conjunction with these private service lines and for any damage or restoration of the paved surfaces or structures that may result from the future operation, maintenance, repair or replacement of said service lines and appurtenances".
- (4) "Easements on said plat, designated as 'Sanitary Sewer Easements' or 'Water Main Easements' are provided for the right to construct, use, maintain and keep in repair thereon a sanitary sewer pipeline and/or water mains and appurtenances thereto necessary to the operation therefor".
- (5) "Butler County Department of Environmental Services does not accept any responsibility for the relocation, repair or replacement of any other utility installed within five (5) feet of the centerline of any sanitary main sewer or water main".
- (6) "All lots shown hereon shall be served by public sanitary sewers and water".

G. *Certification Statement:* Certification by a registered surveyor to the effect that: (1) the plat represents a survey made by the surveyor and that all monuments indicated thereon actually exist and their location, size and material are correctly shown; and (2) that all requirements of these Subdivision Regulations have been fully complied with.

H. *General Notes:*

- (1) "This plat is subject to present and future regulations of the County Board of Health".
- (2) "This street to be extended in the future," shall be added to streets where future expansion is planned.
- (3) "We, the County Commissioners of Butler County, Ohio do hereby approve and accept the dedication of land for the streets as shown on this plat of (Name of Subdivision) Subdivision, Section (#), Block (#). This (#) day of (month) year (#).



**ARTICLE IX**

**ADMINISTRATION AND ENFORCEMENT**

**SECTION 9.01 RECORDING OF PLAT**

No plat of any subdivision located within the unincorporated area of Butler County shall be entitled to record in the office of the Recorder of Butler County or shall have any validity until it has been approved by the manner prescribed in these subdivision regulations. In the event any such unapproved plat is recorded, it shall be considered invalid and the Butler County Planning Commission shall institute proceedings to have the plat stricken from the records of Butler County, Ohio.

**SECTION 9.02 REVISION OF PLAT AFTER APPROVAL**

No changes, erasures, modifications, or revisions shall be made in any plat of a subdivision after approval has been given by the Planning Commission, and endorsed in writing on the plat, unless said plat is first resubmitted to the Planning Commission.

**SECTION 9.03 RESUBDIVISION**

Whenever a plat for an existing recorded subdivision is proposed to be changed or altered, such change or alteration shall be considered a Resubdivision and shall be submitted to the Planning Commission for approval in compliance with these regulations.

**SECTION 9.04 SALE OF LAND WITHIN SUBDIVISIONS**

No owner or agent of the owner of any land located within a subdivision shall transfer or sell any land by reference to, exhibition of, or by the use of a plat of the subdivision before such plat has been approved and recorded in the manner prescribed in these regulations. The description of such lot or parcel by metes and bounds in the instrument of transfer or other documents used in the process of selling or transferring shall not exempt the transaction from the provisions of these regulations.

**SECTION 9.05 SCHEDULE OF FEES, CHARGES, AND EXPENSES**

The Board of County Commissioners shall establish a schedule of fees, charges and expenses, and a collection procedure for same, and other matters pertaining to these regulations. The schedule of fees shall be posted in the office of the Butler County Planning Department. Until all applicable fees, charges, and expenses, have been paid in full, no action shall be taken on any application or appeal.

SECTION 9.06 VARIANCES

The following regulations shall govern the granting of variances and exceptions:

- A. Where the Planning Commission finds that extraordinary and unnecessary hardship may result from strict compliance with these regulations, due to exceptional topographic or other physical conditions, it may vary the regulations so as to relieve such hardship, provided such relief may be granted without detriment to the public interest and without impairing the intent and purpose of these regulations or the desirable development of the neighborhood and community. Such variations shall not have the effect of nullifying the intent and purpose of these regulations, the comprehensive plan, or the zoning resolution if such exists.
- B. In granting variances or modifications, the Planning Commission may require such conditions as will, in its judgment, secure substantially the objective of the standards or requirements so varied or modified.
- C. The general principles of design and the minimum requirements for the laying out of subdivisions, stipulated in *Article V, VI, & VII* of these regulations, may be varied by the Planning Commission in the case of a subdivision large enough to constitute a more or less self-contained neighborhood to be developed in accordance with a more comprehensive plan safeguarded by appropriate restrictions, which in the judgment of the Planning Commission made adequate provision for all essential community requirements; provided however, that no modifications shall be granted by the Planning Commission which would conflict with the proposals of the *Official Land Use and Thoroughfare Plan*, or with other features of any adopted long range plan of Butler County or with the intent and purposes of said general principles of design and minimum requirements.

SECTION 9.07 APPEALS

Any person who believes he/she has been aggrieved by the regulations or the action of the Planning Commission, has all the rights of appeal as provided by Ohio law.

SECTION 9.08 VACATION OF EASEMENTS

If the Butler County Planning Commission deems it in the best interest of the future occupants of the proposed subdivision and the community to vacate an existing easement, that easement shall be vacated in the appropriate manner.

SECTION 9.09 PENALTIES

- A. Whoever violates any rule or regulation adopted by the Board of County Commissioners for the purpose of setting standards and requiring and securing the construction of improvements with a subdivision or fails to comply with any order pursuant thereto is creating a public nuisance and the creation thereof may be enjoined and maintenance thereof may be abated by action at suit by the County or any citizen thereof. Whoever violates these regulations shall forfeit and pay not less than one-hundred (100) dollars nor more than one-thousand (1000) dollars. Such sum may be recovered with costs in a civil action brought in the court of Common Pleas of Butler County (ORC 711.102).
  
- B. Every plat or subdivision of land within the unincorporated area of Butler County and every act of platting or subdividing thereof shall be subject to all rules and requirements of these regulations and of Chapter 711 of the Ohio Revised Code and any violation of such rules or requirements shall be subject to the penalties and forfeitures as set forth in this section and as set forth in the Ohio Revised Code.

**ARTICLE X**

**ENACTMENT**

SECTION 10.01 EFFECTIVE DATE

These regulations as amended shall become effective from and after the date of its approval and adoption by the Butler County Planning Commission and Board of County Commissioners after public hearing and certification to the Butler County Recorder. Henceforth, any other rules and regulations regarding the subdivision, improvements, or conveyance of land adopted by Butler County under *Chapter 711 of the Ohio Revised Code* shall be deemed to be repealed. These regulations shall in no way affect any subdivision having received formal subdivision plan approval prior to the effective date provided, however, that no preliminary subdivision plan so approved shall be valid for more than five (5) years after its original approval date, and that no changes to the formal subdivision plan, as approved, are to be introduced by the subdivider.

PUBLIC HEARING:

January 19, 2012

RESOLVED BY THE BOARD OF BUTLER COUNTY COMMISSIONERS

RESOLUTION NO. 12-01-00256

RESOLUTION NO. 97-11-1650

Resolved By the Board of County Commissioners of Butler County, Ohio, That

WHEREAS the Board of Butler County Commissioners did on July 2, 1957, by Resolution No. 14759, adopt the Butler County Subdivision Regulations; and

WHEREAS, due to increased development, revisions to the current Subdivision Regulations are needed; and

WHEREAS, in accordance with O.R.C. Section 711.101, the Board of Butler County Commissioners did on November 24, 1997 hold a public hearing on proposed revisions to the Butler County Subdivision Regulations.

NOW, THEREFORE BE IT RESOLVED that the Board does hereby approve the aforesaid revisions, and such Butler County Subdivision Regulations, as revised, shall be attached hereto and made a part hereof; and

BE IT FURTHER RESOLVED that the aforesaid Butler County Subdivision Regulations, as revised, shall supersede Butler County Subdivision Regulations previously approved, including former revisions adopted per Resolution No. 92-10-1773.

Commissioner Furmon moved for the adoption of the foregoing resolution. Commissioner Combs seconded the motion and upon call of the roll, the vote resulted as follows:

|                     |        |
|---------------------|--------|
| Commissioner Fox    | Absent |
| Commissioner Furmon | Yea    |
| Commissioner Combs  | Yea    |

Adopted: November 24, 1997

Attest: Diana Bradford, Clerk

CERTIFICATE

IT IS HEREBY CERTIFIED that the foregoing is a true and correct copy of Resolution No. 97-11-1650 adopted by the Board of Butler County Commissioners in session on the 24<sup>th</sup> day of November, 1997.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the official seal of the Board of County Commissioners of Butler County, Ohio, this 24<sup>th</sup> day of November, 1997.

Diana Bradford  
Diana Bradford, Clerk  
Board of County Commissioners  
Butler County, Ohio

**Resolution No. 12-01-00256**

**Resolved By the Board of County Commissioners of Butler County, Ohio, That**

WHEREAS, revisions to the Butler County Subdivision Regulations, as prepared by the Butler County Engineer's Office, was submitted for approval; and

WHEREAS, said revisions have been submitted to departments involved in review of subdivisions in the unincorporated areas of Butler County ; and

WHEREAS, said revisions were reviewed and approved by the Butler County Planning Commission on November 8, 2011 at a public meeting held in conjunction herewith.

NOW, THEREFORE, BE IT RESOLVED the revisions to the Butler County Subdivision Regulations be approved as submitted.

Requestor : David Fehr  
Request Date: January 12, 2012

Commissioner Furmon moved for the adoption of the foregoing resolution.  
Commissioner Carpenter seconded the motion and upon call of the roll  
the vote resulted as follows:

|                        |     |
|------------------------|-----|
| Commissioner Dixon     | Yea |
| Commissioner Carpenter | Yea |
| Commissioner Furmon    | Yea |

Adopted: January 19, 2012

Attest: Flora K. Butler .clerk

**APPENDIX D, TABLE D-1**

**Street Design Standards**

| TYPE ROADWAY              | ROW         | STREET WIDTH      | DESIGN SPEED |
|---------------------------|-------------|-------------------|--------------|
| Local*                    | 60'         | 25' B/B - 28' B/B | 25 mph       |
| Local Industrial          | 60'         | 32' B/B           | 25 mph       |
| Neighborhood Collector    | 60'         | 28' B/B           | 25 mph       |
| Minor Collector 2nd class | 60' – 80'   | 28' B/B – 38' B/B | 25 - 35 mph  |
| Minor Collector           | 80'         | 24' – 49'         | 35 - 45 mph  |
| Major Collector           | 100' – 120' | 48' - 60'         | 45 - 50 mph  |
| Minor Arterial            | 100' – 120' | 48' - 60'         | 45 - 55 mph  |
| Principal Arterial        | 120'        | 60'               | 45 - 55 mph  |

- Cul-de-sac or side streets, serving 60 lots or less, may reduce the Street Width to 25' B/B provided the following:
  - Street does not stub to an adjacent undeveloped parcel
  - Lots have a front yard setback of thirty feet (30') or more
  - Street must be marked with “No Parking” signs on one side of the street, fire hydrant side is preferred
  - Neighborhood traffic only, not for non-residential traffic developments
  - Does not serve multi-family or multi-use developments

**APPENDIX D, TABLE D-2**

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The Rational Method - The basic formula is  $Q=ACI$  where:

$Q =$  Peak rate of runoff in cubic feet per second (CFS)

$A =$  The drainage area in acres

$C =$  Runoff coefficient representing the characteristics of drainage areas

$I =$  Average intensity of rainfall in inches per hour for a selected storm frequency and given time of concentration

- (1) Runoff Coefficient (c) - Please refer to Appendix D, Table D-3 for average acceptable runoff coefficients for use with the Rational Method.
- (2) Rainfall Intensity (I) - The value for rainfall intensity can be calculated using the following precipitation formulas:

| Frequency | Formula             |
|-----------|---------------------|
| 2         | $I = 106/(Tc + 17)$ |
| 5         | $I = 131/(Tc + 19)$ |
| 10        | $I = 170/(Tc + 23)$ |
| 25        | $I = 230/(Tc + 30)$ |
| 50        | $I = 250/(Tc + 27)$ |
| 100       | $I = 300/(Tc + 31)$ |

- (3) Time of Concentration (Tc) - Appendix D, Table D-4 provides a graphical method for estimating overland flow time. The minimum time of concentration to a street inlet is 10 minutes. Channel flow time (length divided by average velocity) may be used to calculate the remaining Tc to the inlet or to the point of reference downstream.

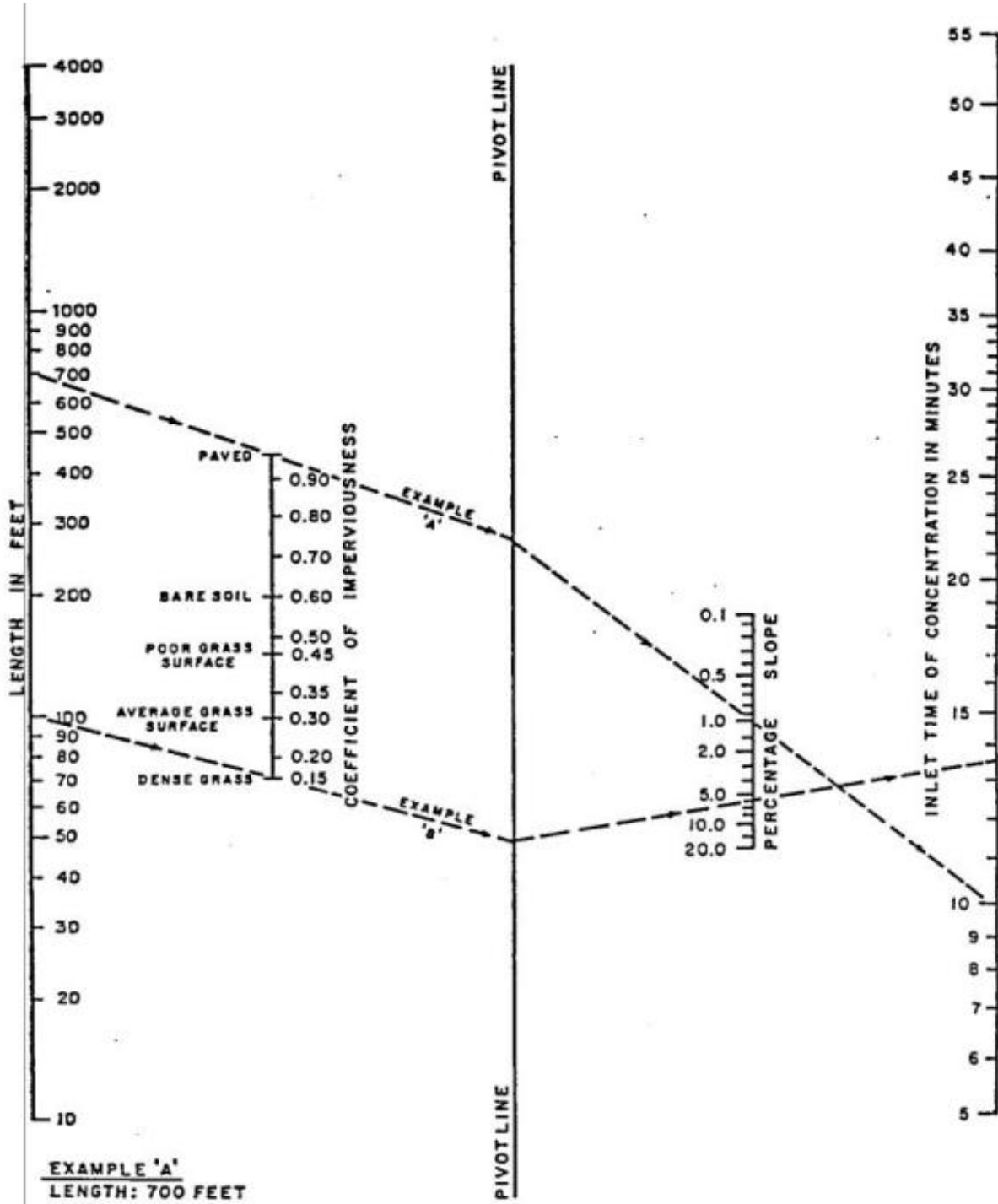


**APPENDIX D, TABLE D-3**

**Runoff Coefficient**

| <i><b>RUNOFF COEFFICIENT</b></i>      |            |     |     |     |     |
|---------------------------------------|------------|-----|-----|-----|-----|
| General Slope                         |            |     |     |     |     |
| Description of Area                   | < 2%       | 3%  | 4%  | 5%  | 7%> |
| Commercial                            | .75        | .78 | .81 | .84 | .90 |
| Residential                           |            |     |     |     |     |
| Single Family                         | .40        | .42 | .44 | .46 | .50 |
| Multi Units                           | .60        | .63 | .66 | .69 | .75 |
| Apartments                            | .60        | .64 | .68 | .72 | .80 |
| Industrial                            |            |     |     |     |     |
| Light                                 | .60        | .64 | .68 | .72 | .80 |
| Heavy                                 | .75        | .78 | .81 | .84 | .90 |
| Cropland (rowcrop)                    | .40        | .42 | .44 | .46 | .50 |
| Grassland                             | .25        | .28 | .31 | .34 | .40 |
| Woodland                              | .20        | .24 | .28 | .32 | .40 |
| Parks, Cemeteries                     | .25        | .28 | .31 | .34 | .40 |
| <i>Composite Runoff Coefficient</i>   |            |     |     |     |     |
| Pavement                              |            |     |     |     |     |
| Asphalt and Concrete                  | .95        |     |     |     |     |
| Roofs                                 | .95        |     |     |     |     |
| Slopes 1 to 2%                        |            |     |     |     |     |
| Impervious soils (heavy)              | .40 to .65 |     |     |     |     |
| Impervious soils (with turf)          | .30 to .55 |     |     |     |     |
| Slightly pervious soils               | .15 to .40 |     |     |     |     |
| Slightly pervious soils (with turf)   | .10 to .30 |     |     |     |     |
| Moderately pervious soils             | .05 to .20 |     |     |     |     |
| Moderately pervious soils (with turf) | .00 to .10 |     |     |     |     |

APPENDIX D, TABLE D-4



**EXAMPLE 'A'**  
 LENGTH: 700 FEET  
 PAVED  
 SLOPE: 1.0 %  
 TIME: 10 MINUTES

**EXAMPLE 'B'**  
 LENGTH: 100 FEET  
 DENSE GRASS  
 SLOPE: 6.0 %  
 TIME: 13 1/2 MINUTES

SEELYE CHART  
 TIME OF CONCENTRATION

## **APPENDIX D, TABLE D-5**

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Manning Equation:  $Q = \frac{1.486}{n} (A) (R) (S)^{1/2}$

Where:

R = Hydraulic Radius = A/P, in feet

S = Slope of pipe, in ft/ft

n = Roughness Coefficient

A = Cross Sectional Area in Sq. Ft.

P = Wetted Perimeter, in feet

Q = Flow (C.F.S.)

**APPENDIX D, TABLE D-6**

**Material Specification Numbers**

| <i>Material</i>  | <i>Specification Numbers</i>   | <i>Bedding<br/>ASTM<br/>Designation<br/>(D-2321)</i> |
|--|--------------------------------|--|
| <i>Concrete Pipe:</i><br>Non-Reinforced Concr Pipe<br>Reinforce Concr Circ Pipe<br>Reinforce Concr Elliptic Culvert<br>Storm Drainage & Swr Pipe | 706.01<br>706.02<br>706.04     | IA, IB, II   |
| <i>Corrugated Steel Pipe:</i><br>Aluminized Type 2<br>Bituminous Corrug Steel Pipe<br>Pipe Arches w/ Paved Invert                                | 707.01/707.02<br>707.05/707.07 | IA, IB, II   |
| <i>Plastic Pipe:</i><br>PVC Profile Pipe<br>HG Density Polyethylene  | 707.42<br>707.33               | IA, IB, II   |

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**Storm Sewer and Culvert Specifications**

**I. Material Specifications**

All culvert shall meet the material and installation requirements of ODOT item #603 type A conduits.

All storm sewers shall meet the material and installation requirements of ODOT item #603 type B conduits, with post construction testing as defined in Section II.

All 707.01 or 707.02 conduits shall be aluminized type II.

**II. Deflection Testing for Storm Sewers and Culverts**

15% of all storm sewers shall be tested for deflection within thirty days after they are complete. Butler County Engineer or his designated representative will determine what 15% shall be tested. If any storm sewer in the original 15% is found out of compliance, deflection tests will be required on 100% of the remaining storm sewer. A vertical ring deflection greater than 5% will not be allowed. This deflection is defined as 5% reduction in the vertical base or average inside diameter. The method of testing shall be subject to the approval of the engineer. If rigid balls or mandrels are used to test pipe deflection, no mechanical pulling devices shall be used. The deflection test may be conducted with a nine prong mandrel, a ball or a cylinder or another manner acceptable to the Butler County Engineer or his designated representative. The testing will be accomplished from manhole to manhole or catchbasin to catchbasin, following the complete flushing of the line. The contractor shall furnish all equipment required to complete the deflection testing. The deflection test shall be witnessed by the County Engineer or his designated representative. Any section of pipe that fails to meet the aforementioned requirements shall be rerounded by a procedure acceptable to the County or be excavated and either be relayed or replaced, and retested until the requirements are met.

**APPENDIX D, TABLE D-7****Sump Line Specifications**

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| <b>4" LINE</b> |                       | <b>6" LINE</b> |                       |
|----------------|-----------------------|----------------|-----------------------|
| <i>GRADE</i>   | <i># SUMP HOOKUPS</i> | <i>GRADE</i>   | <i># SUMP HOOKUPS</i> |
| 1%             | 2                     | 1%             | 7                     |
| 2%             | 3                     | 2%             | 10                    |
| 3%             | 4                     | 3%             | 12                    |
| 4%             | 5                     | 4%             | 14                    |
| 5%             | 5                     | 5%             | 16                    |
| 6%             | 6                     | 6%             | 18                    |

**APPENDIX D, TABLE D-8****Entrance Loss Coefficient**

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| <i>END TREATMENT</i>            | <i>CONCRETE PIPE</i> | <i>PLASTIC AND<br/>CORRUGATED<br/>STEEL PIPE</i> |
|---------------------------------|----------------------|--|
| Project from fill               | .2 (groove end)      | .9   |
| Head Wall                       | .2 to .5             | .5   |
| Mitered to slope                | --                   | .7   |
| End Section Conform to<br>Slope | .5                   | .5   |
| Box Culvert                     | .2 to .5             | --   |

**APPENDIX D, TABLE D-9****Manning Coefficient Open Channel Design**

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| <i>MANNING "n" VALUE:</i>  |             |
|--|-------------|
| Sod or Jute Lining   | .05         |
| Pave Lining  | .015        |
| Rock Protection  | .08         |
| <i>Natural Stream Channels</i><br>Fairly regular section                             |             |
| Some grass and weeds, little or no brush   | .030 - .035 |
| Dense growth of weeds, depth of flow is substantially greater than weed height       | .035 - .05  |
| Some weeds, light brush on banks   | .035 - .05  |
| Some weeds, heavy brush on banks   | .05 - .07   |
| Trees within channel, branches submerged at high stage, increase all above values by | .01 - .02   |



## **APPENDIX D, TABLE D-10**

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### **Anti-Seep Collar Specifications**

- All pipe connections and anti-seep collar connections shall be water tight.
- The combination of the number of collars must increase the length of the line of seepage by 15%.

The number of collars required is calculated by:

$$N = 0.075 L/V$$

**Where:**

***V = Collar projection (ft)*** - Collar projection is the distance above and below the pipe not including the pipe diameter. Example: if the collar is 5 ft. by 5 ft. and the pipe is a 24 inch diameter, then the projection is 3 ft. (1.5 ft above and 1.5 ft below the pipe).

***N = Minimum number of collars***

***L = Length of buried pipe (ft)***

**APPENDIX D, TABLE D-11**

**Butler County Modified Critical Storm Method**

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Using TR-55 determine the total volume of runoff from a 1 (one) year frequency, 24 (twenty-four) hour storm event for the development area before and after development. Then determine the percentage increase in the volume of runoff due to development, and using the chart below, select the 24 (twenty-four) hour critical storm.

| <b>Runoff Volume Increase (%)</b> |                      | <b>Critical Storm<br/>Peak Rate Control</b> |
|-----------------------------------|----------------------|---|
| <b>Equal to or greater than</b>   | <b>And less than</b> |   |
| --                                | 10                   | 1-year                                      |
| 10                                | 20                   | 2-year                                      |
| 20                                | 50                   | 5-year                                      |
| 50                                | 100                  | 10-year                                     |
| 100                               | 250                  | 25-year                                     |
| 250                               | 500                  | 50-year                                     |
| 500                               | --                   | 100-year                                    |

- Stage 1 OEPA Water Quality Volume Orifice
- Stage 2 Critical Storm Event Orifice
- Stage 3 Subsequent Frequency Storms
- Stage N Emergency Spillway