

Article V – IMPROVEMENT AND CONSTRUCTION REQUIREMENTS

SECTION 501 – Monuments and Markers

Monuments and markers must be placed so that the scored or marked point coincides exactly with the point of intersection of the lines being monumented. They must be set so that the top of the monument or marker is level with the finished grade of the surrounding ground. Monuments must be marked on top with a copper or brass plate or dowel set in concrete.

1. Monuments shall be set:
 - a. At the intersections of all right-of-way lines.
 - b. At the intersection of lines forming angles in the boundaries of the subdivision.
 - c. At such intermediate points as may be required by the Engineer.

Monuments shall be six (6) inches square or six (6) inches in diameter, thirty-six (36) inches long and made of concrete, stone, or by setting a four (4) inch cast iron or steel pipe filled with concrete.

2. Markers

Markers shall be set:

- a. At all lot corners except those monumented.
- b. Prior to the time the lot is offered for sale.

Markers shall be three quarters (3/4) of an inch square or three-quarters (3/4) of an inch in diameter, fifteen (15) inches long. Markers shall be made of iron pipe or iron or steel bars.

SECTION 502– Streets

1. Street improvements shall be installed to the grades and dimensions drawn on the plans, profiles, and cross-sections submitted by the developer and approved by the Planning Commission. Before installing the street base the developer shall install all required utilities and provide, where necessary, adequate storm water drainage for the street acceptable to the Planning Commission and Borough Engineer.

2. All street construction shall be in accordance with Borough specifications.
3. The Planning Commission shall decide if a collector or arterial street is required as a direct result of the construction of the development.

SECTION 503 – Sewers and Water

1. All properties shall be connected to a public sanitary sewer system when possible.
2. Where a public sanitary sewer system is not accessible but is planned within five (5) years for extension to the development or within one thousand (1,000) feet of the development, the developer shall install sewer lines, including lateral connections, to provide adequate service to each lot when connection with the public system is made. The sewer lines shall be capped at the limits of the development and the laterals shall be capped at the street right-of-way. When capped sewers are provided, on-site disposal facilities shall also be provided.
3. Where connection to a public sanitary sewer system is not possible or feasible, an approved individual sewage disposal system consisting of a septic tank and tile absorption field or other approved sewage disposal system shall be permitted. All such individual sewage disposal systems shall be constructed in accordance with Pennsylvania Department of Environmental Resources regulations.
4. All sanitary sewer systems located in flood-prone areas, whether public or private, shall be flood-proofed up to a point one and a half (1 ½) feet above the Regulatory Flood elevation.
5. The Planning Commission may prohibit installation of sewage disposal facilities requiring soil absorption systems where such systems will not function due to high ground water, flooding, or unsuitable soil characteristics. The Planning Commission may require that the developer note on the face of the plat and in any deed of conveyance that soil absorption fields are prohibited in designated areas.
6. Where a water main supply system is within one thousand (1,000) feet of, or where plans approved by the municipality provide for the installation of such public water facilities within five (5) years, the developer shall provide the development with a complete water main supply system to be connected to the existing or proposed water main supply system in accordance with the Borough's specifications.

7. If connection to a public water supply system is not possible, the feasibility of constructing a separate water supply system shall be investigated and a report submitted setting forth the findings.
8. Where neither of the above alternatives are possible or feasible, an individual water supply system shall be permitted. All such individual systems shall meet all applicable regulations of the Pennsylvania Department of Environmental Resources.
9. All water systems located in flood-prone areas, whether public or private, shall be flood-proofed to a point one and a half (1 ½) feet above the Regulatory Flood elevation.

SECTION 504 – Storm Water Management

1. General

The purpose of storm water management is to control surface runoff in urbanizing areas to reduce the volume and/or rate of runoff in order to:

- a. Prevent damage to private property and possible loss of life due to flooding resulting from excessive rates and velocities of runoff.
- b. Maintain the adequacy of natural stream channels and prevent accelerated bank erosion by controlling the rate and velocity of runoff discharge to these watercourses, so as to avoid increasing occurrence of stream bank overflow.
- c. Prevent degradation of the stream biota caused by excessive flushing and sedimentation.
- d. Preserve present adequacy of culverts and bridges by suppressing artificially induced flood peaks.
- e. Reduce private and public expenditures for replacement or repair of private and public facilities resulting from artificially induced flood peaks.
- f. Enhance the quality of surface runoff by water retention measures.
- g. Enhance groundwater supplies by promoting infiltration and recharge through retention measures.
- h. Permit unimpeded flow of natural watercourses except as modified by storm water detention facilities required by Subsection 12.

- i. Ensure adequate drainage of all low points along the line of streets.
- j. Intercept storm water runoff along streets at intervals related to the extent and grade of the area drained.
- k. Provide positive drainage away from on-site sewage disposal systems.
- l. Take surface water from the bottom of vertical grades, lead water from springs, and avoid excessive use of cross-gutters at street intersections and elsewhere.

2. Runoff Rate

- a. The developer shall ensure that the rate of runoff leaving his property shall not exceed the rate prior to development unless planned and coordinated retention facilities located elsewhere in the watershed will accommodate the excess runoff.
 - 1) Where farm field or disturbed earth is the proper condition, good pasture or lawn shall be used as the natural condition or starting base for calculation instead of the actual condition.
 - 2) In cases where the developer chooses to rely on retention facilities constructed elsewhere in the watershed by the Borough with the concurrence of the Borough, the developer shall pay a fee to the Borough.
- b. An exception to the “zero increase in runoff rate” policy may be made for any portion of the site located in the S.C.S. delineated high groundwater table area, or if the capacity of retention facilities needed to comply is calculated to be less than one thousand (1,000) cubic feet per acre in residential developments involving less than five dwelling units.

3. Storm Water Management Plan

A storm water management plan for the proposed subdivision or development tract shall be prepared which illustrates the following information:

- a. A location map showing the site in relation to the watershed.
- b. Calculations of runoff for all points of runoff concentration.

- c. Complete drainage systems for the subdivision or development. All existing storm water management features which are to be incorporated in the design shall be so identified. If the subdivision is to be developed in stages, a general storm water management plan for the entire subdivision shall be presented with the first stage and appropriate development stages for the storm water management system shall be indicated.
4. The existing points of natural drainage discharge onto adjacent property shall not be altered without the written approval of the affected landowners.
5. No storm water runoff or natural drainage shall be so diverted as to overload existing drainage systems, or create flooding or the need for additional drainage structures on other private properties or public lands without approved provisions being made by the developer for the properly handling such conditions.
6. Storm water management facilities shall be designed to convey through the land development the peak design runoff that will occur when all tributary areas upstream are fully developed. The calculation of this runoff rate shall take into account the land use and development regulations including runoff controls in effect in the tributary areas.
7. Where a subdivision or development is traversed by a watercourse, there shall be provided a drainage easement conforming substantially with the line of such watercourse, and of such width as will be adequate to provide for unimpeded flow of storm runoff based on calculations made in conformance with Subsection 12. The terms of the easement shall prohibit excavation, the placing of till or structures, and any alterations which may adversely affect the flow of storm water within any portion of affect the flow of storm water within any portion of the easement. Also, periodic cutting of vegetation in all portions of the easement shall be required.
8. Drainage facilities that are located on State highway rights-of-way shall be approved by the Pennsylvania Department of Transportation and a letter indicating such approval shall be directed to the Borough Planning Commission.
9. All streets shall be so designed as to provide for the discharge of surface water away from their cartways and, as far as practical, away from their rights-of-way. The slope of the crown on proposed streets shall not be less than one-eighth (1/8) of an inch per foot and not more than one-third (1/3) of an inch per foot unless the Borough Engineer determines that conditions warrant use of a different slope.

10. Storm water management facilities and appurtenances shall be so designed and provided as to minimize erosion in watercourse channels and at all points of discharge.

11. Storm Water Detention Areas

Where detention ponds are included as part of the storm water management system, the following provisions will apply:

- a. Detention ponds shall be designed so that they return to normal conditions within approximately twenty-four (24) hours after the termination of the design storm, unless the Borough Engineer finds that downstream conditions may warrant other design criteria for storm water release.
- b. The developer shall demonstrate that such ponds are designed, protected, and/or located to assure that public safety is maximized and health problems are prevented.
- c. If the lands of the proposed land development will remain in common ownership, the developer shall provide written assurances to the Borough that the detention ponds will be properly maintained.
- d. If the lands of the proposed land development will be conveyed to two or more separate owners, the developer shall provide written assurances (such as deed restrictions) to the Borough that the detention ponds will be properly maintained, or offer to dedicate the land on which the detention ponds are located to the Borough which shall then be responsible for maintaining the detention ponds.

12. Dual System/Engineering Methods

- a. Storm water management facilities shall be designed to provide protection from both minor or frequent storms and major storms. The initial drainage system shall be designed to accommodate runoff generated by frequent storms up to a minimum frequency of ten (10) years. The major drainage system shall handle a storm of a minimum twenty-five (25) year frequency. *

Storm drainage facilities shall be designed to meet the following criteria:

* Rainfall intensity-duration curves for Somerset, Pennsylvania as published in the U.S. Weather Service Technical Paper No. 40 indicate 4.80 inches of rainfall for a twenty-four (24) hour storm of a twenty-five (25) year frequency.

Design Standards: (Higher standards may be implemented by developer for maximum legal protection.)

Criteria:

Minor or Primary System	Ten (10) year storm frequency
Grass Waterways, Swales, Diversions	Variable (two (2) – ten (10) year minimum)
Major or Secondary System	Minimum twenty-five (25) year storm
Outlet Discharge (pipe spillway)	Twenty-five (25) year storm or less (i.e., two (2), or ten (10) recommended) Note: The outlet system may be routed for a two (2) – twenty-five (25) year storm.
Emergency Spillway	Twenty-five (25) year storm
Maximum Velocity at Pipe Outlets	Use Soil Erosion/Sedimentation control manual, January, 1974 as a guideline (section: permissible velocities for channels.)

b. Engineering Methodology

The soil cover complex method is the preferred design criteria; however, other acceptable engineering methods may be used with the approval of the Planning Commission. Complete calculations shall be certified by a registered engineer and submitted to substantiate all design features.

c. The Manning equation shall be used in calculating capacities of culverts, storm sewers, and open channels.

d. Materials and construction requirements shall meet specifications and procedures acceptable to the Borough.

SECTION 505 – Curbs and Gutters

1. Curbs shall be installed on each side of the street and the type of curbing shall be determined by the Planning Commission and Borough Engineer.
2. When making new installations of curbs and sidewalks, ramps may be installed at all crosswalks, where feasible, for the convenience of handicapped persons, in accordance with Chapter 8 “Pedestrian Facilities,” Pennsylvania Department of Transportation Design Manual Part 2.
3. Curbing shall be constructed in accordance with Borough specifications.
4. Curbs constructed within a state right-of-way must obtain an occupancy permit from the District Office of PennDot; all construction must be in accordance with PennDot Standards and specifications.

SECTION 506 – Sidewalks

Portland cement concrete sidewalks shall be installed on each side of the street in accordance with Borough specifications (See Sidewalk Ordinance No. 1056).

1. Sidewalks shall be within the right-of-way of the street and shall extend in width from the right-of-way line toward the curb line except that a permeable buffer between the sidewalk and street shall be installed. The buffer may be planted with grass, shrubs, or a bed of gravel.
2. Sidewalks shall be four (4) feet wide in single-family residential areas and at least five (5) feet wide when serving multi-family residential areas or other uses.
3. Sidewalks constructed within a state right-of-way must obtain an occupancy permit from the District Office of the Pennsylvania Department of Transportation; all construction must be in accordance with PennDot standards and specifications.

SECTION 507 – Street Lights

A street light meeting Borough specifications, shall be installed at one (1) corner of every intersection.

SECTION 508 – Street Signs

Street name signs shall be placed at one (1) corner of every intersection. The design must be according to Borough specifications.

SECTION 509 – Public Utilities and Facilities

Public and/or private utilities and facilities shall be elevated or flood-proofed to a point one and one-half (1 ½) feet above the regulatory flood elevation.

SECTION 510 – Street Trees

Shade trees shall be planted by the developer at intervals of between fifty (50) feet and seventy (70) feet along both sides of all streets of the development. The trees shall be centered in the buffer strip between the sidewalk and curb or edge of pavement. Each tree shall be at least eight (8) feet in height and have a diameter of at least one and one-half (1 ½) inches.

The following is a list of preferred trees which may be used:

Acer Plantanoides (and vars.)	Norway Maple
Acer Pseudoplatanus	Sycamore Maple
Acer Saccharum	Sugar Maple
Faxinus Pennsylvania Lanceolata	Green Ash
Gleditsia Triacanthos Inermis “Moraine”	Moraine Locust
Platanus Acerifolia	London Planetree
Quercus Borealis	Red Oak
Quercus Coccinea	Scarlet Oak
Quercus Palustris	Pine Oak
Quercus Phellos	Willow Oak
Tilia Cordata	Littleleaf Linden
Tilia Euchlora	Crimean Linden
Tilia Europarea	European Linden
Tilia Tomentosa	Silver Linden
Zelkova Serrata	Japanese Zelkova

The use of any tree other than those listed above will require the approval of the Planning Commission.

SECTION 511 – Installation and Completion of Improvements

1. Before starting any construction or installation of improvement, the developer shall notify the Borough of his intention to initiate such work. The Borough shall authorize the Borough Engineer to monitor and inspect the installation of improvements during their construction. When the developer has completed all the necessary and appropriate improvements, he shall notify Borough Council, in writing, by certified or registered mail, of the completion of the aforesaid improvements and shall send a copy thereof to the Borough Engineer. Borough Council shall within ten (10) days after receipt of such notice, direct and authorize the Borough Engineer to inspect all of the aforesaid improvements. The Borough Engineer shall, thereupon, file a report, in writing, with Borough Council, and shall promptly mail a copy of the same to the developer by certified or registered mail. The report shall be made and mailed within thirty (30) days after receipt by the Borough Engineer of the aforesaid authorization from Borough Council; said report shall be detailed and shall indicate approval or rejection of said improvements, either in whole or in part, and if said improvements or any portions thereof shall not be approved or shall be rejected by the Borough Engineer, said report shall contain a statement of reasons for such nonapproval or rejection.
2. Borough Council shall notify the developer, in writing, by certified or registered mail, of the action of said Borough Council with relation thereto.
3. If Borough Council or the Borough Engineer fails to comply with the time limitation provisions contained herein, all improvements will be deemed to have been approved and the developer shall be released from all liability pursuant to its performance guaranty bond or other security agreements.
4. If any portion of the said improvement shall not be approved or shall be rejected by Borough Council, the developer shall proceed to complete the same and, upon completion, the same procedure of notification, as outlined herein, shall be followed.

SECTION 512 – Remedies to Effect Completion of Improvements

In the event that any improvements which may be required have not been installed in accord with the approved final plan, Somerset Borough Council is hereby granted the power to enforce any corporate bond or other security by appropriate legal and equitable remedies. If proceeds of such bond or other security are insufficient to pay the cost of installing or making repairs or corrections to all the improvements covered by said

security, Borough Council may, at its option, install part of such improvements in all or part of the developer and may institute appropriate legal or equitable action to recover the monies necessary to complete the remainder of the improvements. All of the proceeds, whether resulting either from the security or from any legal or equitable action brought against the developer or both, shall be used solely for the installation of the improvements covered by such security, and not for any other purpose.

SECTION 513 – Dedication of Improvements

Upon installation by the developer and subsequent final inspection by the Borough Engineer, the developer shall take final steps to dedicate the improvements and have them accepted by the Borough of Somerset. The recording of the final plan, following approval by Somerset Borough Council has the effect of an irrevocable offer to dedicate all streets and other public ways and areas to public use. The offer, however, does not impose any duty on the Borough concerning maintenance or improvement until the proper authorities of the Borough have made actual acceptance, either by ordinance or by resolution.

The developer, prior to the dedication of any improvements, shall file a maintenance bond with the Borough in accordance with Section 310.

SECTION 514 – Private Streets

Wherever a developer proposed to establish a street, which is not offered for dedication, he shall submit a copy of a statement signed by the Borough Solicitor that he has made an agreement on behalf of his heirs and assigns with the Borough. Said agreement shall be subject to the Borough Solicitor's approval and shall be filed with the development plan. Said agreement shall establish the conditions under which the street or streets may later be offered for dedication and shall stipulate among other things:

- a. That the street shall be in a good state of repair as certified by the Borough Engineer, or that the owners of the lots along it agree to include with the offer of dedication sufficient money, as estimated by the Borough Engineer, to restore the street to a good repair.
- b. That an offer to dedicate the street shall be made only for the street as a whole.
- c. The method of assessing repair costs.

SECTION 515 – Dedication of Lands for Local Recreation and Other Public Use

Where a proposed park, [playground, open space, school, or other public site is shown on the Somerset Borough Comprehensive Plan, the developer may be requested to dedicate all or part of such a site in accordance with the following:

- a. The land to be dedicated must be suitable in size, shape, topography, and general character for the proposed use.
- b. The amount of land requested for the dedication may not exceed 0.02 acres of land for each lot or number of dwelling units shown on the final plan.

SECTION 516 – Reservations

Where sites are identified for eventual public acquisition in an official map ordinance or an adopted comprehensive land use plan, no building or development shall be permitted for a period of twelve (12) months after the owner of such property submits an application to build or develop and applies for necessary permits. The reservation for public grounds shall then lapse within twelve (12) months unless the landowner consents in writing to an extension of time or the Borough Council begins condemnation proceedings.