

# *article V*

## *Design Standards*

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### ***SECTION 500 PURPOSE***

- A. This Article establishes and defines the public improvements and design standards which the Borough will require in the review, approval, and construction of any subdivision or land development.
- B. All improvements shall be constructed in accordance with Borough design standards. Inspections to insure that Borough specifications are complied with shall be the responsibility of the Borough Engineer.

### ***SECTION 501 APPLICATION***

- A. The following principles, standards, and requirements shall be applied by the Council in evaluating plans for proposed subdivision and land development. Within a proposed land development, the standards set forth in the Zoning Ordinance for the particular district in which the land development is taking place shall govern the design of buildings, parking lots, and other facilities.
- B. The standards and requirements outlined herein shall be considered minimum standards and requirements for the promotion of public health, safety, and general welfare.
- C. Whenever Borough or other applicable regulations impose more restrictive standards and requirements than those outlined herein, such other regulations shall control.
- D. Where literal compliance with the standards herein specified is clearly impractical, the Borough Council may modify or adjust the standards based upon study and recommendation of the Borough Engineer, to permit reasonable utilization of the Borough property while securing substantial conformance with the objectives of this Ordinance.

### ***SECTION 502 GENERAL LAND REQUIREMENTS***

- A. Land shall be suited to the purposes for which it is to be subdivided or developed in conformance with the Borough Comprehensive Plan, Zoning Ordinance, and other regulations.
- B. Low lying wetlands which are swampy or are subject to periodic flooding shall not be platted for residential development or designated for such other uses as may involve danger to health, safety, or the general welfare of the citizens as defined by the Zoning Ordinance.
- C. The design of subdivision and land developments shall preserve, insofar as possible, the natural terrain, natural drainage, existing topsoil, and trees.

- D. All portions of the tract being developed shall be taken up in lots, streets, public lands or other proposed uses so that remnants and landlocked areas shall not be created.
- E. Proposed major subdivisions or land developments shall be coordinated with existing nearby neighborhoods both within and outside of the Borough of Spring City so that the community as a whole may develop harmoniously. Where necessary, joint reviews with neighboring municipalities shall be required.
- F. Streets, drainage rights-of-way, parking areas, water supply and sewage disposal, school sites, public parks, and playgrounds shall be considered in the approval of all plans.
- G. Subdivisions and land developments shall be laid out so as to avoid the necessity for excessive cut or fill.

### ***SECTION 503 BLOCKS***

- A. The length, width, and shape of blocks shall be determined with due regard to:
  - 1. Provision of adequate sites for buildings of the type proposed.
  - 2. Topography.
  - 3. Requirements for safe and convenient vehicular and pedestrian circulation, under both normal and emergency conditions.
  - 4. Zoning requirements as to lot size, dimension, and minimum lot area per dwelling.
  - 5. Continuing the existing pattern of a grid within the Borough.
- B. Blocks shall have a maximum length of eight-hundred (800) feet and, as far as practicable, a minimum length of four-hundred (400) feet.
- C. Residential blocks in which individual lots are to be created shall be of sufficient depth to accommodate two tiers of lots.

### ***SECTION 504 LOTS***

- A. General Lot Design Standards
  - 1. Lot dimensions, areas, and orientation shall be appropriate for the type of development and use contemplated, and sufficient to provide satisfactory space for off-street parking and other accessory uses.

2. Insofar as practical, side lot lines shall be at right angles to straight street lines, and radial to curved street lines.
3. Where feasible, lot lines shall follow municipal boundaries rather than cross them, in order to avoid jurisdictional problems.
4. No remnants of land shall exist after subdivision. All portions of a plan shall be incorporated into existing or proposed lots unless special usage is applied as part of a land development proposal. Where the subdivision application is for only a portion of a large tract, Borough Council shall review the proposed lot layout and design, access points, and street system in relation to the conceptual design of the entire tract.

B. Lot Frontage Standards

1. All lots shall have direct access to a public street or an alley and, where applicable, shall have a frontage in accordance with zoning standards.
2. Reverse frontage lots are prohibited, except where proposed lots abut an existing or proposed arterial or collector street in the Borough, and said lots may be designed as reverse frontage lots having access to the street with the lower functional classification. No lot shall have primary frontage on an alley.
3. Interior or flag lots shall not be permitted.

**SECTION 505 GENERAL STREET STANDARDS**

- A. Proposed streets shall be consistent with such street plans or parts thereof as have been officially prepared and adopted by the Borough, including recorded subdivision plans, requirements of the Comprehensive Plan, an Official Map, or parts thereof.
- B. Proposed streets shall further conform to such Borough and State road and highway plans that are prepared, adopted, and/or filed as prescribed by law.
- C. All street surfacing and construction specifications shall conform to the Pennsylvania Department of Transportation (PennDOT) regulations or standards where applicable.
- D. Dead end streets, such as cul-de-sacs, shall be prohibited, except as stubs to permit future street extension into adjoining tracts. Such stubs shall extend to the property line, and shall comply with the temporary stub streets requirements of Section 512.
- E. Continuations of existing streets shall be known by the same name, but names for other streets shall not duplicate or closely resemble names for existing streets in the Borough or the U.S. Postal District

serving Spring City. All street names shall be approved by the Borough Council, Postmaster serving Spring City, and Chester County Department of Emergency Services.

- F. Where streets and other public improvements continue into adjoining municipalities, evidence of compatibility of design, particularly with regard to street widths, shall be submitted. The applicant shall coordinate such design with both municipalities to avoid abrupt changes in cartway width or in improvements provided.
- G. Streets shall be graded to the full width of the right-of-way, surfaced, and improved to the grades and dimensions shown on the plans, profiles, and cross-sections submitted by the developer and approved by the Borough Council of Spring City.
- H. Streets shall be logically related to the topography so as to produce useable lots, reasonable grades, and proper alignment and drainage.
- I. The arrangement of streets shall provide for continuation of existing or platted streets and for proper access to adjoining undeveloped tracts suitable for future development.
- J. Wherever a tract to be developed borders an existing stub street, the other part of the street shall be plotted within such tract. Where new stub (partial) streets are proposed, the acceptance of final plans shall be conditioned upon the provision of guarantees ensuring the construction or completion of such streets to Borough standards. Half streets shall not be permitted.
- K. Borough Council shall require the developer to make improvements to existing abutting streets or roads as may be needed to provide safe and convenient access to the proposed development, and to accommodate the increased traffic resulting from the development.
- L. In addition to the requirements set forth in Section 506, below, additional width of streets adjacent to areas proposed for non-residential use may be required as deemed necessary by the Planning Commission or the Borough Engineer to ensure the free flow of traffic from vehicles entering or leaving parking areas. For developments fronting on an existing or proposed arterial or collector street, the Planning Commission or Borough Engineer may require marginal access or reverse frontage to provide separation from through and local traffic.
- M. When two (2) adjacent lots proposed for non-residential uses front on a street designated as either an arterial or collector street, the applicant may be required to provide common ingress and egress as well as common off-street parking facilities.
- N. Streets carrying non-residential traffic need not extend to the boundaries of the adjacent parcels zoned for residential uses nor connect to streets intended for residential traffic.

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**SECTION 506 STREET WIDTH**

A. The minimum right-of-way and cartway width for all new streets in the Borough shall be as follows:

Type of Street	Right-of-Way (feet)	Cartway (feet)
Arterial street	70	40
Collector (major and minor) streets	60	36
Residential service street	50	33
Non-residential alley	25	20
Residential alley	20	16
Temporary Stub Street	see Section 512, Temporary Stub Streets	
Common Driveway	see Section 511, Street Access and Driveways	

B. Additional right-of-way and cartway widths may be required by the Council to be reserved for the following purposes:

1. To promote public safety and convenience.
2. To provide parking space in commercial districts and in areas of high density residential development.
3. To accommodate change in road function as defined by the Spring City Comprehensive Plan.

C. Rights-of-way of lesser width than prescribed in this Section shall not be permitted.

D. Subdivisions abutting existing streets shall provide the minimum right-of-way widths for those streets in accordance with the provisions of this Section.

**SECTION 507 INCREASE IN RIGHT-OF-WAY WIDTH**

A. In the case where lots created within a subdivision are large enough to accommodate either further subdivision, or a higher intensity of development, and thus may result in higher traffic levels, the Planning Commission or Borough Engineer may require that additional right-of-way be provided to permit the future development of a higher classification street.

- B. Special topographic circumstances may result in cut/fill slopes extending beyond the standard right-of-way widths established in Section 506.A. These should, in all circumstances, be included within the right-of-way to ensure accessibility for maintenance operations.

**SECTION 508 STREET ALIGNMENT**

- A. Whenever street lines are deflected in excess of five (5) degrees, connection shall be made by horizontal curves.
- B. To ensure adequate sight distance, minimum centerline radii for horizontal curves shall be as follows:
  - 1. Residential service streets: One-hundred (150) feet.
  - 2. Collector streets: Three-hundred (300) feet.
  - 3. Arterials: Five-hundred (500) feet.
- C. A tangent of at least one-hundred (100) feet measured at the centerline shall be required between reverse curves.

**SECTION 509 STREET GRADES**

- A. Centerline grades shall be not less than one (1) percent.
- B. Centerline grades of all proposed roads shall not exceed the following:
  - 1. Arterial streets: Per PennDOT.
  - 2. Collector streets: Seven (7) percent.
  - 3. Residential service streets: Ten (10) percent.
- C. Vertical curves shall be used at change of grade exceeding one (1) percent and shall be designed in relation to the extent of the grade change to provide the following minimum sight distances:
  - 1. Residential service streets: One-hundred (100) feet.
  - 2. Collector streets: Two-hundred (200) feet.
  - 3. Arterial streets: Three-hundred (300) feet.
- D. Maximum grades will not be permitted when coupled with minimum curve radii.

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**SECTION 510 STREET INTERSECTIONS**

- A. Intersections shall meet at right angles, or ninety (90) degrees. Deviations shall not be less than seventy-five (75) degrees, or more than one-hundred-five (105) degrees measured at the centerline.
- B. A minimum paving radius of thirty (30) feet shall be provided at all intersections. The Borough Council may increase the required radii where they consider such design advisable at intersections involving arterials or collectors, or for intersections that service industrial and commercial vehicle traffic.
- C. Streets entering the opposite sides of another street shall either be directly across from each other or offset by at least two-hundred (200) feet from centerline to centerline.
- D. No more than two (2) streets shall intersect at the same point.
- E. All necessary street signs and traffic control signs shall be the responsibility of the applicant to provide and erect. The Borough Council shall approve all street names and traffic control signs. The street name signs shall be of the type existing in the general area of the Borough. Street signs shall be erected before the Borough accepts dedication of the street, and before the issuance of any certificate of occupancy on that street.
- F. Intersections shall be controlled by "stop" signs, except that one through street may be designated for each intersection, or by traffic signals. At intersections with through streets, the street of higher functional class (i.e. collectors over residential service) shall be designated the through street. Where the streets are the same functional classification at the intersection, the designated through street shall be at the discretion of the applicant. However, the Planning Commission or Borough Engineer may, at their discretion, require intersections to have no through streets (a four-way stop), or to be signalized.
- G. Corner Sight Distance

An unobstructed sight distance measured from a point fifteen (15) feet from the edge of the roadway being intersected at an eye height of four (4) feet above the pavement shall be provided at all intersections in the following manner:

- 1. All corner sight distances of all intersections involving an arterial or collector road shall be provided with a unobstructed sight distance of at least three-hundred (300) feet.
- 2. All other intersections shall be provided with an unobstructed sight distance of at least two-hundred (200) feet.

**SECTION 511 STREET ACCESS AND DRIVEWAYS**

A. General

1. All accessways and drives shall conform to the standards and regulations of the Zoning Ordinance according to their respective locations and type of uses.
2. Common Driveways
  - a. No more than two (2) residential lots shall be served by a private driveway.
  - b. A common residential driveway, as defined by this Ordinance, shall be of sufficient width, in the opinion of the Borough Engineer, to provide safe passage of two (2) vehicles or shall have a sufficient number of pullover areas to provide safe passage of two (2) vehicles.
3. The edge of any driveway opening onto a street shall be at least forty (40) feet from any intersection, and in no case within the curb radius.
4. All driveways shall intersect streets at right angles, unless clearly impractical, and in no case shall the angle of intersection be less than seventy-five (75) degrees or more than one-hundred-five (105) degrees.

B. Construction

1. Grade

The driveway within the legal right-of-way of the public road, or for a distance of at least twenty (20) feet from the edge of the cartway, whichever is greater, shall not have a grade in excess of five (5) percent. The remaining portion of the driveway shall not exceed a slope of twelve (12) percent.

2. Material

- a. All driveways shall be paved with concrete or bituminous materials from the edge of the cartway to the right-of-way line of any Borough, state, or private road.
- b. The remainder of the driveway may be constructed of any paved surface such as asphalt, bituminous concrete, macadam, brick paving, or any other similar unit paver.



3. Width

- a. No residential driveway shall exceed a width of twelve (12) feet within the limits of the legal right-of-way.
- b. Driveway entrances into all non-residential, single-use properties shall not be less than twenty-four (24) feet in width, shall not exceed thirty-six (36) feet in width at the street line unless:
  - (1) The driveway is provided with a median divider, the minimum width for each one-way driveway shall be fourteen (14) feet, but no more than twenty-four (24) feet, and shall be clearly defined by use of curbing. The curbs of these driveway entrances shall be rounded with a minimum radius of ten (10) feet where they intersect. The island shall be no more than ten (10) feet wide.
  - (2) The ingress or egress are separated by at least one-hundred (100) feet, measured centerline to centerline. Each driveway shall be at least fourteen (14) feet wide but not more than twenty-four (24) feet wide.

4. Unobstructed Sight Distance

A sight distance of one-hundred (100) feet is required from a point twelve (12) feet from the edge of the cartway of the public road upon which the driveway opens.

C. Drainage

- 1. The gutter-line, whenever possible, shall be maintained as a paved swale. It shall have a maximum depth of four (4) inches and a minimum width of twenty-four (24) inches.
- 2. Driveways shall be graded so that, wherever possible, surface drainage will be discharged to the owner's property; otherwise adequately sized pipes, inlets, and/or headwalls shall be installed and gutter improvements shall be made to direct surface drainage into the road drainage system and not the paving of the intersecting road.

**SECTION 512 TEMPORARY STUB STREETS**

- A. Stub streets shall be permitted only on a temporary basis to allow for future street extensions into adjoining tracts. Permanent cul-de-sacs are not permitted.
- B. Any single access street for access to an adjoining property or because of authorized phased development shall be provided with a temporary, all weather turn-around within the subdivision, and the use of such turn-around shall be guaranteed to the public until such time as the street is extended.

It shall be the developer's responsibility to remove the temporary paving upon completion of the street and to install sidewalks, curbing, and street trees.

- C. Temporary stub streets shall be designed with a "T-turn-around". The "T" shall be paved from the right-of-way line to the opposite right-of-way line for a width of sixteen (16) feet. The two corners shall be rounded-off from the right-of-way line to the street line. (see Figure 2)
- D. When required for future extension, the turn-around right-of-way shall be placed adjacent to the tract boundary with sufficient width along the boundary line to permit extension of the street at full width.

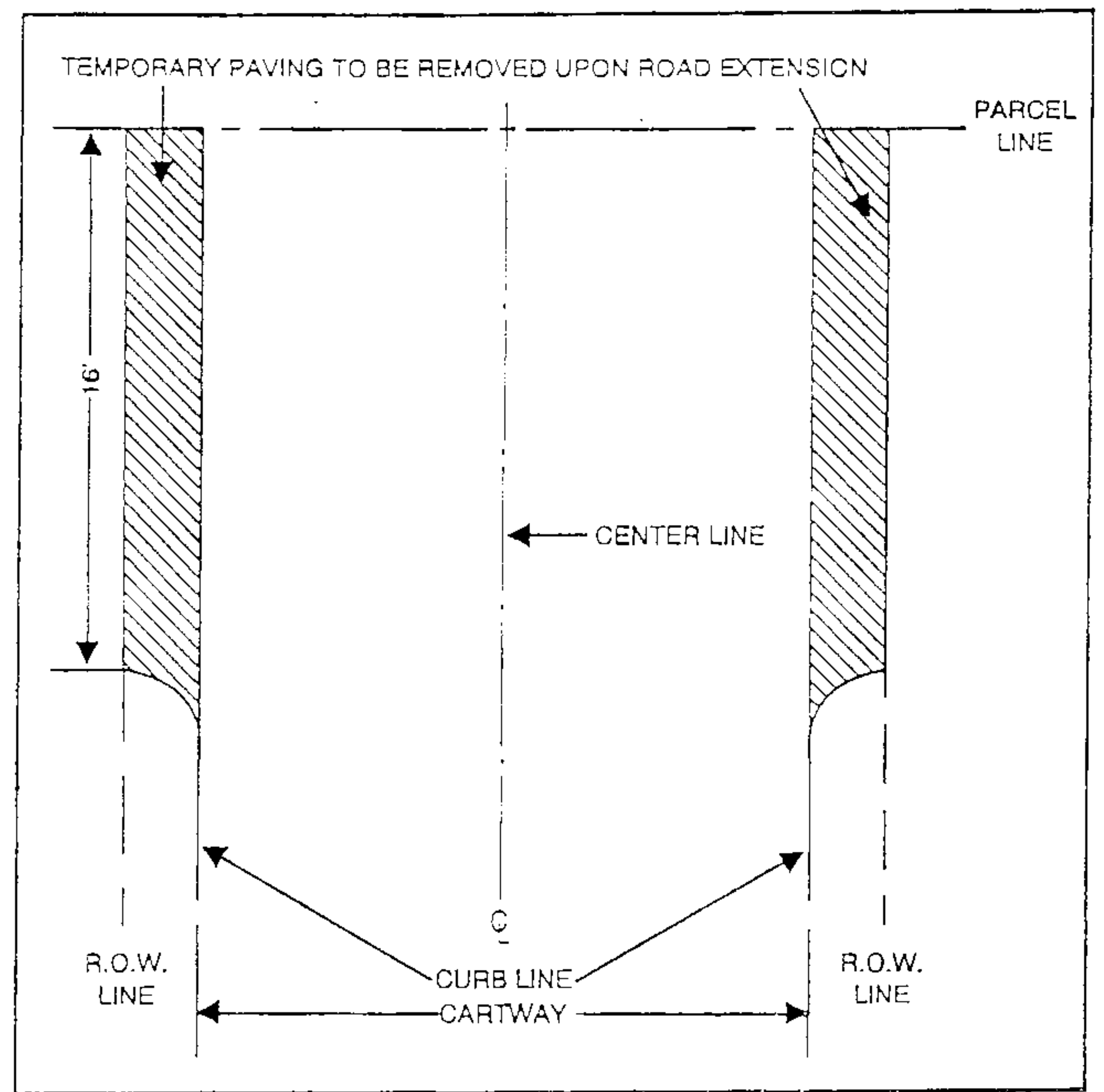


Figure 2 -- "T-turn-around"

### SECTION 513 ALLEYS

- A. Alleys shall not be permitted in non-residential developments except by special permission of the Borough Council in situations where delivery and trash collection vehicles are unable to access the site without the use of an alley.
  - 1. All residential alleys shall have a right-of-way of twenty (20) feet and a paved width of sixteen (16) feet. Any curve in a service street (alley) shall have adequate width to permit safe use by large vehicles.
  - 2. All non-residential alleys, when permitted, shall have a minimum right-of-way of twenty-five (25) feet and shall be paved for width of at least twenty (20) feet.
- B. Dead-end alleys shall be prohibited.
- C. Alleys shall not be the primary frontage of any lot.
- D. Alleys shall be constructed according to PennDOT standards.

### **SECTION 514 STREET LIGHTING**

Street lights shall be provided as part of any subdivision or land development in order to achieve the following objectives:

- A. All wiring and power transmission lines associated with street lighting shall be placed underground, except in cases where the subdivision or land development is surrounded by developed land, and either adequate street lighting exists or power transmission lines are located above ground. In such cases the Borough Council may waive either the requirement of providing street lighting or placing power transmission lines underground.
- B. The style, type, and manufacture of street lights shall be subject to the approval of Borough Council. Further, the design and construction of street lights shall be in strict compliance with all relevant standards of PECO Energy.
- C. The requirements set forth in Section 1305, Lighting, of the Borough Zoning Ordinance shall also apply.

### **SECTION 515 CURBS**

Curbs shall be required along all new streets and all new parking areas, excluding residential driveways. All new curbs shall be constructed according to Pennsylvania Department of Transportation standards and the standards set forth in Ordinance #353, The Sidewalk and Curb Ordinance of the Borough of Spring City.

### **SECTION 516 SIDEWALKS**

In addition to the requirements set forth below, sidewalks shall conform to the standards required within Ordinance #353, The Sidewalk and Curb Ordinance of the Borough of Spring City.

- A. General
  - 1. Paved sidewalks shall be required on both sides of any new or existing Borough street in conjunction with new development.
  - 2. Sidewalks shall be provided along all new streets and parking lots located in developments unless it can be demonstrated to the satisfaction of the Borough Council that pedestrian traffic does not follow or mix with vehicular traffic.

B. Design

1. Width

a. Sidewalks shall be a minimum of four (4) feet wide, except as follows:

- (1) Sidewalks along collector and arterial streets, schools, recreation areas, and other community facilities shall be a minimum of six (6) feet wide.
- (2) Sidewalks along commercial properties within the General Commercial Zoning District as set forth in the Borough Zoning Ordinance shall be a minimum of eight (8) feet wide.
- (3) Sidewalks within the Downtown Commercial Zoning District as set forth in the Borough Zoning Ordinance shall be a minimum of ten (10) feet wide.

b. Sidewalks adjacent to angle parking areas shall be one (1) foot wider than the required width listed above to prevent car overhang from restricting pedestrian movement along the sidewalk, unless separation by a planting strip is provided.

2. Sidewalks shall be laterally pitched at a slope not less than one-quarter (0.25) inch per foot to provide for adequate surface drainage.

3. In residential areas, the edge of the sidewalk furthest from the street shall be six (6) feet one (1) inch from the curb, as the Borough Council may by resolution otherwise provide. Between each curb and sidewalk of all residential properties, a grass plot, a minimum of eighteen (18) inches wide, extending from the side property line to the other side property line, exclusive of driveway area, shall be installed, provided for, and maintained by the property owner.

C. Construction

1. All sidewalks shall be constructed in accordance with specifications for Class A concrete as specified by the Pennsylvania Department of Transportation.

2. The Sidewalk and Curb Ordinance of the Borough of Spring City sets forth the construction requirements for sidewalks, and the requirements of said ordinance shall be applicable for all sidewalk construction.

**SECTION 517 OFF-STREET PARKING**

The off-street parking requirements for any subdivision or land development shall be in compliance with the standards set forth in Section 1302, Off-Street Parking Standards, of the Borough Zoning Ordinance.

**SECTION 518 LOADING FACILITIES**

The requirements for loading facilities for any subdivision or land development shall be in compliance with the standards set forth in Section 1303, Off-Street Loading Requirements, of the Borough Zoning Ordinance.

**SECTION 519 EASEMENTS**

- A. Where easements are required for utilities such as water and/or sewer facilities intended for dedication, the requirements for easement shall be determined by the Borough Council. Easements shall similarly be established for other utilities. Local utility companies shall be consulted by the developer when locating easements. To the fullest extent possible, easements shall be centered on or adjacent to lot lines.
- B. Storm drainage easements shall be provided as required by Section 520, Stormwater Management, of this Article.

**SECTION 520 STORMWATER MANAGEMENT**

- A. Purpose.

The requirements of this Section are intended to meet the following purposes:

- 1. Site disturbance does not result in damaging stormwater run-off problems thereby protecting the health, safety, and welfare of the residents of Spring City.
- 2. Site design and preparation incorporates necessary steps to ensure the successful installation and long-term operation of stormwater management facilities.
- 3. Potential flooding hazards and damage as a result of the increased stormwater run-off are identified and addressed both during and after the construction phase of the land development.
- 4. The project as proposed will neither increase the present size of the floodplain nor the frequency of floods which occur within the floodplain.
- 5. Stream banks and beds will not be adversely affected by increased flow rates or volumes, leading to the erosion or realignment of stream channels.

6. Prevent the pollution of surface water resources from non-point sources resulting from increased development and run-off. Such pollution results from the introduction of increased impervious cover, loss of natural vegetation cover which acts to purify stormwater run-off, and collection of pollutants linked to development.
7. Prevent increased stormwater flows and velocities which will result in increasing erosion and sedimentation problems, both on and off the site; loss of valuable topsoil; and damage of property, natural and man-made drainage facilities, and natural resources.

B. General Regulations.

The developer shall construct and install such drainage structures as necessary to achieve the following objectives:

1. Prevent soil erosion damage and to satisfactorily control the rate of release of surface waters.
2. Encourage all run-off control measures to percolate the stormwater on-site to aid in the recharge of ground water.
3. Adequately manage the anticipated peak discharge from the property being subdivided or developed, and the existing run-off being contributed from all land at a higher elevation in the same watershed.
4. Maintain the adequacy of any natural stream channel on the site. Accelerated bank erosion shall be prevented by controlling the rate and velocity of run-off discharge to these water courses, so as to avoid increasing occurrence of stream bank overflow.
5. Preserve the adequacy of existing culverts and bridges by suppressing the new flood peaks created by new land development.

C. Retention of existing watercourses and natural drainage features:

1. Whenever a watercourse, stream, or intermittent stream is located within a development site, it shall remain open in its natural state and location, and it shall not be piped.
2. The existing points of natural drainage discharge onto adjacent property shall not be altered without the written approval of the affected landowners.
3. No stormwater run-off 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.

D. Stormwater management systems design and application

1. Run-off control

The rate of stormwater run-off from any proposed subdivision or land development shall not exceed the rate of run-off prior to development. This standard shall be maintained for all storms (i.e., both high frequency and low frequency).

2. Distribution and quantity of run-off

The distribution of run-off from the developed property onto adjacent properties shall, to the maximum extent possible, be the same in direction and quantity as that which existed before development. No new concentrations of stormwater discharge shall be permitted.

3. Run-off control measures

The increased run-off which may result from the subdivision or land development shall be controlled by permanent run-off control measures that will provide the required runoff control specified above. All run-off control devices and measures will be evaluated for the effectiveness to maintain the above mentioned standard for all storms within a return period of up to one-hundred (100) years.

4. Stormwater run-off control practices

The following practices shall be utilized in managing all increased run-off caused by a subdivision or land development. The below measures are a hierarchy with a former practice being a more preferable option than a latter practice listed below. Justification shall be provided why a latter practice is chosen or if any combination of practices is utilized.

a. Infiltration of run-off on site

Any one of the following methods, or any combination thereof, shall be permitted to be utilized to infiltrate stormwater run-off on site:

- (1) Minimum disturbance/minimum maintenance.
- (2) Decreased impervious surface area coverage.
- (3) Utilization of porous pavement with underground recharge beds.
- (4) Infiltration facilities such as seepage pits, seepage trenches, or infiltration beds.

- b. Retention of stormwater run-off
  - (1) Cisterns and underground reservoirs.
  - (2) Retention basins
- c. Flow attenuation
  - (1) Routed flow over open vegetated swales and natural depressions
  - (2) Filter strips
- d. Stormwater detention basins
- e. Other practices and control methods which meet the criteria and purpose of this ordinance upon review by the Borough Engineer and approval of the Borough Council.

E. Design Requirements

Stormwater control devices and measures shall be designed, constructed, and maintained in a manner acceptable to the Borough Engineer. No stormwater management practices shall be implemented without review and approval of the Borough Engineer.

F. Design Criteria

- 1. Sufficient stormwater control measures shall be required to be effective to the aforementioned standards for all storms within a return period of up to one-hundred (100) years.
- 2. All plans and designs for stormwater management facilities shall determine stormwater peak discharge and run-off by use of the Soil Cover Complex Method as set forth in the latest edition of Urban Hydrology for Small Watersheds, Technical Release 55 and National Engineering Handbook, Section 4, Hydrology, as published by the U.S. Department of Agriculture, Soil Conservation Service. The following rainfall intensities shall be used for the twenty-four (24) hour, Type II distribution storm with average antecedent moisture conditions for the frequencies shown:
  - a. 1 year -- 2.60 inches.
  - b. 2 year -- 3.20 inches.



- c. 5 year -- 4.20 inches.
- d. 10 year -- 5.00 inches.
- e. 25 year -- 5.60 inches.
- f. 50 year -- 6.30 inches.
- g. 100 year -- 7.10 inches.

G. Stormwater Management Plan Requirements

The applicable requirements for submitting a Stormwater Management Plan are set forth in Section 401.F.4 of this Ordinance.

**SECTION 521 EROSION AND SEDIMENTATION CONTROL**

All activities involving land disturbances, whether or not a plan is prepared or a permit is obtained in accordance with this Ordinance, shall be consistent with the following standards.

A. General Provisions

1. No changes shall be made to the contour of the land, and no grading, excavating, removal, or destruction of the topsoil, trees, or other vegetative cover of the land shall be commenced, until such time as a plan for the minimizing erosion and sedimentation has been processed; reviewed by the Planning Commission, Chester County Conservation District (when required), any other agency the Borough Council deems appropriate; and the Borough, and all applicable permits have been issued.
2. All land disturbance activities shall be conducted in such a way as to prevent accelerated erosion and resulting sedimentation. To accomplish this, all persons engaged in land disturbance activities shall design, implement, and maintain erosion and sedimentation control measures which effectively prevent accelerated erosion and sedimentation.
3. An erosion and sedimentation control plan shall be submitted with the preliminary and final subdivision plans. Such plans shall be prepared in accordance with the DEP Erosion and Sediment Pollution Control Program Manual (April, 1990), and in compliance with the Chester County Conservation District Practices (Conservation District Offices).
  - a. Where plans are to be forwarded to the Chester County Conservation District, the Chester County Conservation District shall issue either an adequacy letter or an

Earth Disturbance permit, depending on the size of the disturbance, allowing such approved land disturbances to commence.

- b. A copy of the erosion and sedimentation control plan and all applicable letters or permits issued by the Chester County Conservation District, Pennsylvania Department of Environmental Protection, or the U.S. Soil Conservation Service, as the case may be, shall be available at the earthmoving site at all times during construction.
4. Approval by the Borough Council of all preliminary and final plans of subdivisions and land development shall not relieve the developer of his obligation to execute the erosion and sediment control measures as contained in this Section.
  5. Each person, corporation, or other entity which makes any surface changes shall be required to:
    - a. Collect on-site surface run-off and control it to a point of discharge into the natural watercourses of the drainage area.
    - b. Handle existing off-site run-off through his development by designing it to adequately handle all upstream run-off.
    - c. Provide and install at his expense all drainage and erosion control improvements as required by the approved Erosion and Sedimentation Control Plan.
  5. Final plans for minimizing erosion and sedimentation as approved may be incorporated in the agreement and bond requirements as required by the Borough.

B. General Performance Standards

1. Measures used to control erosion and reduce sedimentation shall, as a minimum, meet the standards and specifications of the Pennsylvania Department of Environmental Protection: Erosion and Pollution Control Program Manual and the Pennsylvania Clean Streams Law, Chapter 102, Erosion and Sedimentation Control Rules and Regulations.
2. The following measures to minimize erosion and sedimentation shall be included where applicable in the control plan:
  - a. There shall be no disturbance of sediment or other solid materials from the site as a result of stormwater run-off. The provisions set forth in Section 520, above, shall be followed in order to manage stormwater run-off.

- b. Earthmoving or stripping of vegetation in areas with a slope of fifteen (15) percent or more or other protected resources shall conform to the additional standards set forth in Article XIV, Natural Resource Protection Standards, of the Borough Zoning Ordinance.
- c. Development plans shall preserve salient natural features, keep fill operations to a minimum, and ensure conformity with topography so as to create the least erosion potential and adequately handle the volume and velocity of surface water run-off.
- d. The disturbed area and the duration of exposure shall be kept to a practical minimum, but shall not exceed twenty (20) days.
- e. Disturbed soils shall be stabilized as quickly as practical, but within a time not to exceed twenty (20) days.
- h. Provisions shall be made to accommodate effectively the increased run-off caused by changed soils and surface conditions during and after development within the site. Where necessary, the rate of surface water run-off shall be mechanically retarded.
- i. Sediment in the run-off water shall be trapped until the disturbed area is stabilized by the use of sediment control facilities or similar measures.
- j. Erosion and sedimentation devices such as temporary vegetation/mulch, temporary seeding, temporary detention basins, diversion terraces, rock filter berms, stacked hay bales, or silt fences (in areas of minimum flows) appropriate to the scale of operations shall be installed concurrent with earthmoving activities and whenever a situation is created which would contribute to increased erosion. Such temporary erosion and sedimentation control facilities shall be shown on preliminary and final plans for Borough review and approval. Additional facilities shall be installed during construction to control unanticipated erosion and sedimentation conditions as they develop.

C. Vegetative Cover

- 1. Stripping of vegetation, regrading, or other development shall be done in a way that will minimize erosion.
- 2. Whenever feasible, natural vegetation shall be retained, protected, and supplemented.
- 3. Temporary vegetation and mulching shall be used to protect exposed critical areas during development.

4. The permanent (final) vegetation and mechanical erosion control and drainage shall be installed as soon as practical in the development.

D. Site Grading for Erosion Control

In order to provide more suitable sites for building and other uses, improve surface drainage, and control erosion, the following requirements shall be met:

1. All lots, tracts, or parcels shall be graded to provide proper drainage away from buildings and dispose of it without ponding, and all land within a development shall be graded to drain and dispose of surface water without ponding, except where ponding (detention basins, etc.) is part of the stormwater management plan for the site.
2. Grading shall in no case be done in such a way as to divert water onto the property of another landowner.
3. During grading operations, necessary measures for dust control shall be exercised.
4. Grading equipment will not be allowed to cross permanent or intermittent streams. Provisions shall be made for the installation of temporary culverts or bridges.
5. Tire cleaning areas shall be provided at each point of egress from the development site.

E. Excavation and Fill

1. No excavation or fill shall be made with a face steeper than (4) horizontal to one (1) vertical, except where a concrete timber, masonry, or other approved retaining wall constructed in accordance with approved standards is proved to support the face of the excavation.
2. Edges of slopes shall be a minimum of five (5) feet from property lines or right-of-way lines of streets in order to permit the normal rounding of the edge without encroaching on the abutting property.
3. Adequate provisions shall be made to prevent surface water from damaging the cut faces of excavations and the sloping surfaces of fill.
4. Cut and fill shall not endanger adjoining property.
5. No person shall engage in earth-moving activities that endanger any adjoining public street, sidewalk, alley, or other public property from settling, cracking, or other damage which might result from such earth-moving. If, in the opinion of the Borough Engineer or the Chester County Conservation District, the nature of the earth-moving is such as to create a hazard

to life or property unless adequately safeguarded, the applicant shall construct walls, fences, guard rails, or other structures to safeguard the public street, sidewalk, alley, or other public property and persons.

6. Fill shall be placed and compacted so as to minimize sliding or erosion of the soil.
7. Fill shall not encroach on natural watercourses or constructed channels.
8. Fill placed adjacent to natural watercourses or constructed channels shall have suitable protection against erosion during periods of flooding.

F. Responsibility

1. Whenever sedimentation is caused by stripping of vegetation, regrading or other development, it shall be the responsibility of the person, corporation, or other entity causing such sedimentation to remove it from all affected surfaces, drainage systems, and watercourses on and off-site, and to repair any damage at his expense within a time period acceptable to the Chester County Conservation District or the Borough Engineer.
2. Maintenance of all drainage facilities and watercourses, both existing and proposed, within any proposed subdivision or land development shall be the responsibility of the developer until such a time as one of the following is accomplished:
  - a. An easement for these facilities is offered for dedication by the developer and is accepted by the Borough; it shall then be the responsibility of the Borough.
  - b. If a lot owners' easement acceptable to the Borough is established, the maintenance shall then be the responsibility of the individual lot owner over whose property the easement passes. For land development, the maintenance shall then be the responsibility of the owner.
  - c. A homeowners association or other approved legal entity, approved by the Borough, assumes the responsibility for the maintenance of the watercourses and drainage facilities.
3. It is the responsibility of any person, corporation, or other entity doing any work on or across a stream, watercourse, or swale, or upon the floodplain during the period of the work, to return it to its original or equal condition after such activity is completed.
4. No person, corporation, or other entity shall block, impede the flow, alter, construct any structure, or deposit any material or object or perform any work which will affect normal or flood flow in any communal stream or watercourse without having obtained prior approval

from the Borough, Chester County Conservation District, or Department of Environmental Protection, whichever is applicable.

G. Additional Requirements or Exceptions

Such other requirements or exceptions as are consistent with these terms in the foregoing principles may be imposed or allowed by the Borough Engineer.

***SECTION 522 WATER SUPPLY***

All subdivisions and land developments shall be served by public water.

A. General

1. Adequate and potable water supply system(s) shall be installed consistent with design principles and requirements contained in this Ordinance and the U.S. Public Health criteria for drinking water as administered by the Environmental Protection Agency Safe-Drinking Water Act.
2. Wherever necessary, the subdivision shall be provided with a complete public water distribution system. The design and installation of such public system shall be subject to the approval of the Borough.

B. Design and Construction

1. The developer shall construct water mains in such a manner to make adequate water service available to each principle building or dwelling unit within the subdivision or land development. The entire system shall be designed in accordance with the requirements and standards of the water company servicing the Borough of Spring City and shall be subject to its approval. The water supply system must comply with the regulations and standards of the Pennsylvania Department of Environmental Protection.
2. Mains must be sized to provide for adequate pressure and supply for the anticipated demands of the subdivision or land development and to meet the minimum requirements for fire protection. Minimum main size shall be eight (8) inches.

C. Fire Hydrants

1. Wherever a public water system is provided, fire hydrants suitable for the coupling of equipment serving the Borough shall be installed and connected to the public water system as specified by the Insurance Services Offices of Pennsylvania. Location of hydrants shall be approved by the Borough, in addition to the following:
  - a. Generally all fire hydrants will be located on an eight (8) inch line or a looped six (6) inch line. Where a dead end line is required to contain a fire hydrant, the portion of the line between the main loop and the hydrant shall be an eight (8) inch minimum diameter.
  - b. Fire hydrants shall be spaced in a development so that all proposed building(s) will be no more than six-hundred (600) feet from the hydrant measured along traveled ways.
  - c. Hydrants shall be located in a manner to provide complete accessibility and so that the possibility of damage from vehicles or injury to pedestrians will be minimized.

**SECTION 523 SANITARY SEWERS**

All subdivision or land development shall be served by a public sewer system, in accordance with the following:

A. General

1. Each property shall be connected to a public sewer. The subdivider shall install sewer lines, including lateral connections as may be necessary to provide adequate service to each lot when connection with the sewer system is made.
2. All collection sewers, all service laterals, and all necessary building sewers as shown on the approved final plan shall be installed and connected to the existing Borough sanitary sewer system by the developer, at his expense, subject to inspection and approval by the Borough.
3. Sanitary sewers shall not be used to carry stormwater.

B. Design and Construction

The specifications and details of design and construction of all items of the sanitary sewer system to be constructed for every subdivision and land development shall be designed and in strict accordance with Pennsylvania Department of Environmental Protection standards and the Borough specifications. A copy of the approval of such system shall be submitted with the final plan.

