

**APPENDIX "B" TO SECTION 518
RELATING TO THE DESIGN, CONSTRUCTION, PERFORMANCE,
MAINTENANCE AND ALTERATION OF GRADING, EXCAVATION AND FILLS**

**WASHINGTON TOWNSHIP
WESTMORELAND COUNTY, PENNSYLVANIA**

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101. Title, Purpose

1. This Manual shall be known as the "Washington Township Grading, Excavating and Fill Manual."
2. The purpose of this Manual is to provide minimum standards to safeguard persons, to protect property, streams and watercourses, to maintain and promote ecology, and to promote the public welfare by regulating and controlling the design, construction, quality of materials, use, location and maintenance of grading, excavation and fill.
3. If any section, subsection, sentence, clause or phrase of this Manual is for any reason held to be invalid or unconstitutional by the decision of any court of competent jurisdiction, such decision shall not affect the validity of the remaining portion of this Manual.

102. Definitions

Wherever used in this Manual, the words shall have the following meaning:

ADMINISTRATOR – The Township Secretary or such other qualified individual designated by way of resolution by the Board of Supervisors to act for the Township under this Manual.

BUILDING PERMIT – A valid, written permit issued by the Township pursuant to the provisions of applicable Township ordinances for the construction, erection of, or alterations of a structure or buildings.

EROSION – The detachment and movement of soil or rock fragments by water, wind, ice or gravity, including such processes as gravitational creep.

EXCAVATION – Any act by which earth, sand, gravel, rock, coal or any other similar material is cut into, dug, quarried, uncovered, removed, displaced or relocated or bulldozed and shall include the conditions resulting therefrom.

FENCE – A structural barrier to prevent intrusion within a given area.

FILL – Any act by which earth, sand, gravel, rock or any other material is deposited, placed, pushed, dumped, pulled, transported or moved to a new location, and shall include the conditions resulting therefrom.

GRADE –

Existing or Natural Grade

The elevation of the existing ground surface above sea level prior to any excavating or filling

Finished Grade

The elevation of the ground surface above sea level after grading has been completed and the elevation coincides with the elevation called for in a plan of grading.

Rough Grade

That state of grading which approximates the finished grade in a plan of grading.

GRADING – An excavation or fill, or any combination thereof, and shall include the conditions resulting from any excavation or fill.

GRADING PERMIT – Any permit required by this Manual.

PAVING – The application of such material as will produce a dust free, all weather, hard surface.

HAZARD – A danger or potential danger to life, limb or health, safety or well-being, or an adverse effect or potential adverse effect to the safety, use or stability of property, waterways, public ways, structures, utilities and storm sewers, including stream pollution.

PERSON – A natural person or persons, but shall also include a partnership or corporation, and their heirs, successors and assigns.

SLOPE – That ratio formed by the horizontal over the vertical difference of position.

TOWNSHIP – The Township of Washington, Westmoreland County, Pennsylvania

103. Scope

New grading, excavations or fills, or changes, additions, repairs or alterations made to existing grading, excavations or fills, shall conform to the provisions of this Manual.

104. Permits Required

No person shall commence or perform any grading, excavation, fill or permanent removal of vegetation, trees or ground cover without first having obtained a grading Permit from the Administrator. "Permanent removal of vegetation, trees or ground cover" includes any removal of vegetation, trees or ground cover which is not replaced within 60 days of removal. If the grading is requested in conjunction with a land development or subdivision, the grading requirements will be considered part of final plan approval and a separate grading permit shall not be required.

105. Exceptions

A grading permit will not be required in the following situations, but in all other respects, the provisions of this Manual shall apply:

1. An excavation which does not exceed eight feet (8') in vertical depth at its deepest point measured from the existing grade, if the grading:
 - (a) does not exceed 12,000 square feet;
 - (b) does not exceed 400 cubic yards, and;
 - (c) does not result in cut and/or fill slope steeper than three (3) horizontal to one (1) vertical.
2. A fill which does not exceed six feet (6') in vertical depth at its deepest point measured to the existing grade, if the grading:
 - (a) does not cover an area of more than 20 (20%) percent of the lot;
 - (b) does not exceed 12,000 square feet; and
 - (c) does not exceed 250 cubic yards provided that the surface of such fills does not have a slope at any point steeper than three (3) horizontal to one (1) vertical.
3. An excavation for basements and footings of a building, swimming pool or underground structure authorized by a building permit, and excavation of a driveway between a building site and the street where the plot plans attached to the building permit indicate existing and proposed contours. A grading permit shall not be required for the temporary stockpiling on the site of the material from such excavation within a one (1) year period beginning from issuance of the building permit
4. The development of a lot for a single family detached dwelling provided no slopes to be created will exceed one (1') foot vertical to each three (3') foot horizontal and storm water drainage will either not be changed or will be contained on the lot.
5. The permanent removal of vegetation including but not limited to trees and ground cover in a gross area of less than 12,000 square feet.
6. The preparation of land surface for the planting of crops, gardens or landscaping materials.
7. A retaining wall less than six (6') feet in height.

106. Application

Every applicant for a grading permit shall file a written application with the Administrator. Such application shall:

1. Describe the land on which the proposed work is to be done by lot, block, tract or street address, or similar description, which will readily identify and locate the proposed work.
2. Contain the name and address of the applicant and the owner of the land in question. If the owner is other than the applicant, then the application shall state the nature of the applicant's interest in the land, and shall include written permission from the owner for such application to be made.
3. State the estimated dates of the starting and completion of the proposed work.
4. State the use to which the land will be put after the work is done.
5. Contain such additional information as may be reasonably requested in any particular case by the Township Engineer or Administrator in order to facilitate the review required by this Manual.
6. Be accompanied by three (3) copies of plans and specifications prepared by a registered engineer, registered surveyor, registered architect or registered landscape architect, licensed by the Commonwealth of Pennsylvania, including:
 - (a) a plan of survey;
 - (b) a contour map, showing the present contours of the land and the proposed contours of the land after completion of the proposed grading at a scale not smaller than fifty feet (50') to one inch (1"), and at a contour interval of not greater than two feet (2');
 - (c) a plan showing cross sections of the proposed cut and/or fill on fifty foot (50') intervals, which show the method of benching both cut and/or fill, however, under no circumstances shall there be less than two (2) cross sections for each property involved under said permit;
 - (d) a plot plan showing the location of the grading, boundaries, lot lines, neighboring streets and ways, existing and proposed buildings, existing water lines and sewers or drains, existing utility lines, type of existing and proposed ground cover or vegetation, and sufficient dimensions and other data to show the location of all work;
 - (e) a description of the type and classification of the soils and geological conditions obtained from an on-site investigation;

- (f) details and location of existing watercourses, area and details of paving, and any proposed drainage structures and pipes, walls and cribbing, details of bridges and/or culverts required to cross over watercourses; and
- (g) nature of fill material.

All plans shall be dated and bear: (i) the name and seal of the registered professional who prepared same; (ii) the name of the applicant, and (iii) the name of the owner of the land.

- 7. Be accompanied by such fee as is established by resolution of the Township Board of Supervisors.
- 8. Be accompanied by an Erosion and Sedimentation Control Plan approved by the Westmoreland County Soil Conservation District or the Department of Environmental Resources.

107. Decision Procedure – Issuance of Permit – Work Completion Guarantees

- 1. Upon receiving a grading application permit, the Administrator shall submit copies of the application and plans to the Township Ordinance Officer and Township Engineer.
 - (a) The Administrator shall not render a decision on an application until the recommendation of the Township Engineer is received, provided however, that in no event shall the Administrator delay a decision beyond 60 days from the date of filing of the application.
- 2. The Administrator shall approve or disapprove the grading permit application. The decision shall be stated in writing and mailed to the address of the applicant shown on the application.
 - (a) The decision letter shall contain the notation “Date of Decision -- _____” with the date inserted. The decision letter shall also state,

“Any person aggrieved by this decision may file, in writing, an appeal to the Washington Township Board of Supervisors within ten (10) days from the date of this decision or of the date of issuance of a grading permit, whichever is later.”
 - (b) Where an application is approved, the decision letter shall also state,

“A grading permit will be issued and work may be commenced pursuant thereto once bond is posted as required by the Township Grading Ordinance.”

3. Where an application has been approved, the grading permit shall not be issued until the applicant shall post a bond with a corporate surety in an amount determined by the Township Engineer to adequately stabilize the site should the grading not be completed. the bond shall not be released until the Administrator reviews a letter from the Township Engineer indicating that the grading was completed as per the approved plans.
4. Once a grading permit is issued, it shall be continuously and conspicuously posted by the applicant at the work site from the date of issuance until the date of completion of the work.

108. Expiration of Permit

Every grading permit shall expire and become null and void if the work authorized by such permit has not been commenced within one (1) year, or is not completed within two (2) years from the date of issue provided that the Administrator may, if the permit holder presents satisfactory evidence in writing that unusual difficulties have prevented the work from being started or completed within the specified time limits, grant a reasonable extension of time and; provided further, that the application for the extension of time is made at least 90 days before the date of expiration of the permit.

109. Basis for Approval or Denial of Application – Appeal

1. Where, in the opinion of the Administrator and/or Township Engineer, the application meets all requirements of this Manual, and if the proposed use of the land has been approved, and a final subdivision or land development plan has been approved, the application shall be approved.
2. A variance from the substantive provisions of this Manual may be granted by the Administrator where all of the following conditions are met:
 - (a) There is a unique physical condition of the land which necessitates the variance; and
 - (b) The Township Engineer has recommended, in writing, that compliance with the provision in question will not significantly promote the purposes of this Manual; and
 - (c) The proposed project is not economically feasible without the requested variance; and
 - (d) The necessity for the variance is not self-created; and
 - (e) The applicant specifies the provisions from which a variance is requested and the grounds therefore in the application.

The Administrator may subject the grant of a variance to reasonable conditions intended to further the purposes of this Manual.

3. Where, in the opinion of the Administrator and/or Township Engineer, the application fails to conform to the requirements of this Manual or the work as proposed by the applicant is likely to endanger any person, property or any street or way, the application shall be denied. In determining whether the proposed work is likely to endanger property, or streets or alleys, or streams, or create hazardous conditions, or damage the ecology of the area, the Administration and/or Township Engineer shall give consideration to, but shall not be limited to, possible saturation by rains, earth movements, run-off of surface waters and subsurface conditions such as the stratification and faulting of rock, and the nature and type of the soil, rock or other minerals.
4. An approval may be made subject to reasonable conditions imposed by the Administrator to further the purposes of this Manual.
5. Where an application is denied, the decision letter shall specify the reasons for denial.
6. The Board of Supervisors shall, pursuant to the Local Agency Law, hear appeals by persons aggrieved from the determinations of the Administrator, and the Board may consider alternate methods, standards or materials proposed by the applicant. Any appeal must be filed within 10 days of the date of the decision of the Administrator or of the date of issuance of a grading permit, whichever is later.

110. Inspection

1.
 - (a) The Administrator or his designee shall make the inspections hereinafter required, and any random or unannounced inspections deemed desirable by the Administrator.
 - (b) The Administrator may either approve that portion of the work that has been completed or notify the permit holder wherein the same fails to comply with the provisions of this Manual or of a previously issued permit.
 - (c) Where it is found by inspection that the soil or other conditions are not as stated or shown on the application, the Administrator shall stop work on the site immediately until approval is obtained for a revised grading plan conforming to the existing conditions.
2. Plans for grading work, approved by the Administrator, shall be maintained at the site during the progress of the grading work until the work has been approved.

3. The permit holder shall notify the Administrator in order to obtain inspections in accordance with the following schedule, and such notifications shall be made by the permit holder at least 72 hours before the inspection is to be made:
 - (a) Initial Inspection. When work on the excavation or fill is about to be commenced.
 - (b) Rough Grading. When all rough grading has been completed.
 - (c) Drainage Facilities. When drainage facilities are to be installed and before such facilities are back-filled.
 - (d) Special Inspection. If at any time conditions or the work differ from the description thereof in the permit holder's application.
 - (e) Special Structures. When excavations are complete for retaining and crib walls, and when reinforcing steel is in place and before concrete is poured.
 - (f) Final Inspection. When all work including the installation of all drainage and other structures has been completed.
4. If, at any stage of the work, the Administrator shall determine by inspection that conditions exist, such that the work as authorized by an existing permit is likely to endanger any property, or streets, or ways, or create hazardous conditions, the Administrator may require, as a condition to allowing the work to be done, that such reasonable "safety precautions" be taken as the Administrator considers advisable to avoid the likelihood of danger. "Safety precautions" may include, but shall not be limited to specifying a lesser degree of slope, construction of additional drainage facilities, berms, terracing, compaction, cribbing or walls.
5. Permittees shall bear all costs of inspections conducted hereunder, including engineering fees incurred by the Township. Such engineering fees shall be assessed in accordance with the Township Engineer's established schedule of fees.

111. Standard of Excavation

Lot Grading for Subdivisions and Land Developments

1. No final grading shall be permitted with a cut face steeper in slope than two (2) horizontal to one (1) vertical except under one or more of the following conditions:
 - (a) The material in which the excavation is made is sufficiently stable to sustain a slope of steeper than two (2) horizontal to one (1) vertical, and a written statement and geotechnical report from a civil engineer, licensed by the Commonwealth of Pennsylvania and experienced in geotechnical engineering, to that effect is

submitted to the Township engineer and approved by him. The statement shall state that the site has been inspected and that the deviation from the slope specified hereinbefore will not result in injury to persons or damage to property.

- (b) A retaining wall, constructed according to sound engineering standards for which plans are submitted to the Township Engineer for review and approval, is provided.
2. No final grading shall be permitted which creates any exposed surface steeper in slope than two (2) horizontal to one (1) vertical except under one or more of the following conditions:
- (a) The fill is located so that settlement, sliding or erosion will not result in property damage or be hazardous to adjoining property, streets, alleys or buildings.
 - (b) A written statement and geotechnical report from a civil engineer, licensed by the Commonwealth of Pennsylvania and experienced in geotechnical engineering, certifying that he has inspected the site and that the proposed deviation from the slope specified above will not endanger any property or result in property damage is submitted to and approved by the Township Engineer.
 - (c) A retaining wall, constructed according to sound engineering standards for which plans are submitted to the Township Engineer for review and approval, is provided.
3. When the fill is other than clean soil or earth, the Administrator may require clean soil or earth to be placed over the top and exposed surfaces of the fill to a depth sufficient to conceal all materials at the end of each day's operations.
- (a) No fill of any kind shall be placed over trees, stumps, or other material which would create a nuisance or be susceptible to attracting rodents, termites or other pests.
 - (b) No grading permit shall be issued for the filling with materials other than clean soil or earth until a performance bond in the amount of at least 110 percent of the estimated cost of adequately covering such fill with clean soil or earth and providing adequate erosion and sedimentation control and drainage has been furnished to the Township.

112. Standards for Fills

- 1.1 Embankments and fills shall be constructed to the lines and grades shown on the drawings provided to the Township.

- 1.2 Embankments and fills shall be made on cleared and stripped areas which shall be prepared by scrapping, plowing, spreading and compacting so that the surface material of the foundation will be as compact and well-bonded to the first layer of fill as hereinafter specified for subsequent layers of the embankment.
- 1.3 Materials for fills or embankments shall be of the proper classification. No stones larger in any dimension than the thickness of the compacted layers specified will be permitted in any embankment or fill and where impervious embankment is required: if sand, gravel or loose shale is used, it shall be thoroughly mixed with clay so that the entire mass will be one monolithic impervious embankment free from stratification or lenses.
- 1.4 Where newly-placed material abuts old material in the embankment, the old material shall be cut or broken by scarifying or bulldozing until it shows the characteristic colors or undried material. The bulldozer shall then work on both old and new material in such a manner as to thoroughly bond them together.
- 1.5 During the dumping and the dumping and spreading operations of the materials for the embankment or fill, the contractor shall maintain at all times a force of workers sufficient to remove roots, grass, trash and branches from the rolled fill section, and these materials shall be removed from the embankment and burned or otherwise disposed of in a manner satisfactory to the owner's representative or Township.
- 1.6 The surface of the fill or embankment shall have the proper water content required for compaction, as determined by the owner's representative, before additional material is placed.
- 1.7 The fill or embankment shall be built up in approximate horizontal layers of the maximum thickness, indicated in the compaction method or method hereafter specified, across its full length and width. The layers shall be spread uniformly and shall have a slope of approximately 1.5% positive drainage to the outside of the embankment to facilitate drainage.
- 1.8 The material in each layer while being compacted shall contain an optimum amount of water for compaction purposes within practicable limits, and this optimum water content shall be adequately distributed throughout the layer. The application of water to material for this purpose shall be done at the site of the excavation insofar as it is practicable, and shall be supplemented as required by sprinkling on the embankment.
- 1.9 The entire surface of the embankment or fill shall be maintained at all times in such a condition that construction equipment can travel over any part, and at no time shall separate pieces of equipment track each other.

1.10 Compaction shall be accomplished by one of the following methods, the first of which shall be used where practical and possible.

A. Compaction Method No. 1:

- (1) Fill material shall be spread in uniform layers not to exceed six inches (6") after compaction.
- (2) If in the opinion of the owner's representative additional rolling is required to obtain optimum compaction, the contractor shall perform the same at no additional cost to the owner. The design and operation of tamping rollers shall be subject to the approval of the owner's representative and he shall have the right at any time during the prosecution of the work to direct such alterations or repairs as may be found necessary to secure the optimum compaction of the earth fill materials.

B. Compaction Method No. 2:

- (1) Fill material shall be spread in uniform layers not to exceed four inches (4") after compaction.
- (2) The contractor will be permitted to employ a heavy bulldozer for spreading such material. The bulldozer shall weigh not less than ten (10) tons and be equipped with cleated tracks. In compacting the embankment the bulldozer tracks or treads shall cover the entire surface of each layer at least once. Compaction of the embankment with the bulldozer shall continue until the maximum compaction has been secured. Sheepsfoot and or vibratory roller type compaction equipment shall be used when deemed appropriate.

C. Compaction Method No. 3:

- (1) This method is intended for use only in confined areas too small for the use of tamping rollers or bulldozers. Materials shall be spread in layers not to exceed four inches (4") depth before compaction and then be thoroughly compacted by means of mechanical tamping. Hand tamping will not be approved as a substitute for mechanical tamping unless written permission for such substitution is first obtained from the owner's representative.
- (2) It is contemplated that this method shall be used in pipe trenches, under and around pipe passing through embankments and to heights of two feet (2') above such pipe, and adjacent to manholes and structures. Particular care shall be taken in these areas to obtain compaction at least equal to that obtained by Method No. 1 of the previously specified methods.

1.11 At any time when the embankment materials are frozen or are too wet to permit optimum compaction, and at any other time when in the opinion of the owner's representative satisfactory work cannot be done, work on embankments and fills shall be suspended until satisfactory conditions are again obtained.

1.12 All work shall comply with approved Erosion & Sedimentation Control Plan requirements. The control of water runoff from the site shall be carefully contained per all Federal, State, County Conservation District and Township requirements.

113. Standards for Minimizing Erosion and Sedimentation shall be maintained as set forth elsewhere in this Appendix or in the Washington Township Subdivision and Land Development Ordinance

114. Standards for Compaction of Fills and Benching

1. All fills shall be compacted to provide stability of material and to prevent undesirable settlement. The fill shall be spread in a series of layers and shall be compacted by a sheepfoot roller or other approved method after each layer is spread. Fill slopes shall be keyed into pre-existing undisturbed earth and well compacted in layers not to exceed eight (8") inches in thickness.
2. The Administrator may require tests or other information if, in his opinion or that of the Township engineer, the conditions or materials are such that additional tests or information are necessary.
3. Where fills are placed on slopes of fifteen (15%) percent or more, benching of the surface shall be required and indicated on the cross sections.
4. Fills that exceed a height of eight feet (8') shall be provided at the toe of the slope with a key bench of at least two feet (2') and not more than four feet (4') side across the entire length of the toe.

115. Drainage

1. The toe of a slope shall be either graded to a natural existing drainage way or to a stormwater drainage system, or provided with a stormwater pipe draining to such a system.
2. No stormwater originating above a graded slope shall be allowed to flow down over the face of the graded surface.
3. Slope areas shall be planted with fast-catching erosion-resisting materials such as hardy rye grasses, shrubs, etc., immediately upon completion of grading work. Hardy perennial

grasses shall be sown after the initial planting. Graded areas shall be protected from construction activity, covered with straw and contained along their lower elevations by hay bales until the planting has secured the slope.

4. All drainage provisions shall be of such design as to carry surface waters to the nearest practical location or natural watercourse, which is a safe place to deposit or receive such waters. Culverts and bridges of proper size shall be installed where a watercourse is to be crossed in accord with state rules, regulations and law.
5. All substantive requirements of the Township's stormwater management ordinance must be met.

116. Maintenance

The owner of any property on which an excavation or fill has been made shall maintain in good condition and repair all retaining walls, cribbing, drainage structures, fences, ground cover, and other protective devices as established by permit and, further, the continued use of said area shall be contingent upon the maintenance and upkeep, satisfactory to the Township. The Certificate of Completion therefor may, at any time, be revoked by the Administrator, in accordance with the procedures set forth in §118(2,3) if the conditions of the permit are not being observed, or if conditions exist that prejudice the health, safety and welfare of any person, persons or property.

117. General Requirements

1.
 - (a) No grading shall occur within five (5) feet of any property or street right-of-way line except to allow connection of driveways or walks on the property to adjacent public streets or walks, to grade off land immediately adjacent to a street, or upon approval of the Township Engineer because of the presence of unusual grading or drainage circumstances.
 - (b) The top or bottom edge of excavation and fills shall be at least 25 feet from the nearest bank of any stream or body of water.
 - (c) A temporary fence, not less than four feet (4') in height and approved by the Administrator, shall be placed at the top of all cuts or fills and slopes in excess of one and one-half (1-1/2) horizontal to one (1) vertical, prior to excavation. Upon completion of grading, a permanent fence not less than four feet (4') in height and meeting Township fence requirements shall be placed at the top of all such cuts or fills and slopes.
2. The owner of a property shall be responsible to protect and clean up affected properties of silt or debris washing from his property as a result of the grading of his property. The duties imposed under this paragraph shall be in addition to those duties owed to other property owners by law.

3. In order to prevent the denuding of the landscape, wherever practicable, large trees and other natural features constituting important physical, esthetics and economic assets to existing or impending suburban development shall be preserved.
4. All grading, excavation or fill shall be performed so that no unnecessary dust shall be raised. The Administrator may impose and enforce reasonable dust control regulations and may revoke any permit issued under this Manual until dust control regulations are met.
5. Where construction is proposed, individual lots shall not be graded until after a building permit has been issued for construction thereon, except as may be needed for placement of public improvements. Developers are encouraged to clear only those trees that will interfere with the actual development of each lot.
6. In the event the developer proposes to utilize retaining walls, he shall keep them **five (3')??** feet from any property or street right-of-way line, and shall provide drainage above the wall and at its toe. A wall or fence shall be provided along the top of a retaining wall if a dangerous condition will exist. The design drawings for any retaining wall greater than six (6') feet in height shall be approved by the Township Engineer prior to construction.

118. Grading Certification of Completion

1. If, upon final inspection, it is found that the work authorized by the grading permit has been satisfactorily completed in accordance with the requirements of this Manual, a Grading Certificate Of Completion covering such work and stating that the work is approved, shall be issued to the permit holder by the Administrator.
2. The Administrator shall have the power to revoke the Grading Certificate of Completion upon the recommendation of the Township Engineer that the work covered by the permit, or that any retaining walls, cribbing, drainage structures, fence or other protective devices shown on the approved plans and specifications submitted for a permit have not been maintained in good order and repair.
3. Before such revocation, the Administrator shall first give written notice to the permit holder and to the owner of the property involved, specifying the defective condition, and stating that unless such defective condition is remedied within a specified time that the Certificate shall be revoked.
4. Any person aggrieved by the issuance or revocation of a Grading Certificate of Completion may appeal, in writing, pursuant to the Local Agency Law, to the Township Board of Supervisors. Any appeal must be filed within ten (10) days of the decision appealed from.

119. Design Specifications

Unless otherwise approved by the Township Engineer, the details for the installation of the following structures shall be in compliance with the detail drawings attached hereto:

- (a) Conduit street crossings;
- (b) Manhole frames and covers;
- (c) Pre-cast inlets – Type M;
- (d) Sanitary manholes;
- (e) Storm manholes;
- (f) Manhole channels;
- (g) Type 2S Guide Rails;
- (h) Concrete anchors; and
- (i) Bedding and backfilling.