

**WASHINGTON TOWNSHIP
SEWER AUTHORITY
ERIE COUNTY, PA.
RULES AND REGULATIONS**

Adopted by the
Washington Township
Sewer Authority

LATEST REVISION MAY 2010

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RULES AND REGULATIONS

ARTICLE I

DEFINITIONS

Unless the context specifically indicates otherwise, the following words and terms used in these Rules and Regulations shall have the following meanings:

SECTION 101:

AUTHORITY shall mean Washington Township Sewer Authority, situated in Erie County, Pennsylvania.

SECTION 102:

BOARD shall mean the elected and appointed members of the Washington Township Sewer Authority, as now or hereafter constituted, and its duly authorized agents or representatives.

SECTION 103:

SEWAGE shall mean the combination of water-carried wastes from residences, business buildings, institutions, and industrial and commercial establishments, together with such ground, surface or storm water as may be present.

SECTION 104:

SANITARY SEWAGE shall mean the normal water-carried household and toilet wastes from residences, business buildings, institutions, industrial and commercial establishments, exclusive of storm water runoff, surface water or groundwater.

SECTION 105:

INDUSTRIAL WASTES shall mean any liquid, gaseous or water-borne wastes from industrial processes or commercial establishments, as distinct from sanitary sewage.

SECTION 106:

GARBAGE shall mean solid wastes from the preparation, cooking and dispensing of food and from the handling, storage and sale of produce.

SECTION 107:

PROPERLY SHREDDED GARBAGE shall mean the wastes from the preparation, cooking and dispensing of food and from the handling, storage and sale of produce that have been shredded to such degree that all particles will be carried freely under the flow conditions normally prevailing in public sewers, with no particle greater than one-half inch (1/2") in any dimension.

SECTION 108:

STORM WATER RUNOFF shall mean that portion of the rainfall which reaches a channel, trench, sewer or sink.

SECTION 109:

SEWER shall mean a pipe or conduit for carrying sewage.

SECTION 110:

SANITARY SEWER shall mean a sewer which carries sewage and to which storm, surface and ground waters are not intentionally admitted.

SECTION 111:

STORM SEWER shall mean a sewer which is intended to carry storm water runoff, surface waters, groundwater drainage, etc., but which is not intended to carry any sanitary sewage or polluted industrial waste.

SECTION 112:

PUBLIC SANITARY SEWAGE SYSTEM (sometimes called the "Sewer System") shall mean all sanitary sewers, all pumping stations, all force mains, all sewage treatment works, and all other sewage facilities owned or leased and operated by the Authority for the collection, transportation and treatment of sanitary sewage and industrial wastes, together with their appurtenances, and any additions, extensions or improvements thereto. It shall also include sewers within the Authority's service area which serve one or more persons and discharge into the public sanitary sewerage system even though those sewers may not have been constructed by the Authority and are now owned or maintained by the Authority. It does not include separate storm sewers or culverts which have been constructed for the sole purpose of carrying storm and surface runoff, the discharge from which is not and does not become tributary to the sewage treatment facilities.

SECTION 113:

OCCUPIED BUILDING shall mean any structure erected and intended for continuous or periodic habitation, occupancy, or use by human beings, and from which structure sanitary sewage and industrial wastes, or either thereof, is or may be discharged.

SECTION 114:

ACCESSIBLE TO THE PUBLIC SANITARY SEWAGE SYSTEM shall mean any occupied building abutting, adjoining or being within one hundred fifty feet (150') of any public street and having access to any street, alley or right-of-way in which a sewer is located which ultimately connects to the public sanitary sewage system, whether access is available by gravity or not.

SECTION 115:

PERSON shall include natural persons, partnerships, associations and corporations, public or private.

SECTION 116:

pH shall mean the logarithm to the base 10 of the reciprocal of the hydrogen ion concentration expressed in moles per liter. It shall be determined by an acceptable standard method.

SECTION 117:

SUSPENDED SOLIDS shall mean solids that either float on the surface or are in suspension in water, sewage, industrial waste or other liquids, and which are removable by laboratory filtration. The quantity of suspended solids shall be determined by acceptable methods.

SECTION 118:

B.O.D. OF SEWAGE OR INDUSTRIAL WASTE shall designate its "Biochemical Oxygen Demand" and shall mean the quantity of oxygen utilized in the biochemical oxidation of the organic matter in said sewage or industrial waste under standard laboratory procedure in five days at 20 degrees Centigrade (under aerobic conditions), expressed in milligrams per liter by weight. It shall be determined by acceptable methods.

SECTION 119:

ABNORMAL INDUSTRIAL WASTE shall mean any industrial waste having a suspended solid content or B.O.D. appreciably in excess of that normally found in municipal sewage. For the purposes of these regulations, any industrial waste containing more than 200 milligrams per liter, shall be considered an abnormal industrial waste regardless of whether or not it contains other substances in concentrations differing appreciably from those normally found in municipal sewage.

SECTION 120:

UNPOLLUTED WATER OR WASTE shall mean any water or waste containing none of the following: free or emulsified grease or oil; pH less than 6.0 or greater than 9.0; phenols or other substances imparting taste and odor to receiving waters; toxic or poisonous substances in suspension, colloidal state of solution; noxious or odorous gases. It shall contain not more than 750 milligrams per liter by weight of dissolved solids of which not more than 250 milligrams per liter shall be as chloride and not more than 10 milligrams per liter each of suspended solids and B.O.D. The color shall not exceed five color units. Analyses for any of the above mentioned substances shall be made in accordance with acceptable methods.

SECTION 121:

EQUIVALENT DWELLING UNIT (E.D.U.) shall mean 75,000 gallons of domestic wastewater per year or 6,250 gallons of wastewater per month. Any domestic wastewater generator producing more wastewater than 75,000 gallons per year may be rated higher than one E.D.U. Any wastewater generator, domestic, industrial or commercial whose maximum daily flow exceeds 2.5 times the average daily flow may be rated at an E.D.U. basis computed on the maximum daily flow.

SECTION 122:

"SHALL" is mandatory; "MAY" is permissive.

SECTION 123:

AUTHORITY'S AUTHORIZED REPRESENTATIVE - The Authority's authorized representative as used in these rules and regulations shall be a representative designated by Washington Township, Erie Co., PA.

SECTION 124:

ABBREVIATIONS AND DEFINITIONS OF TERMS - The following is a list of abbreviations of organizations publishing standard specifications and/or providing inspection services used in these Rules and Regulations. The list includes the full names along with the abbreviations.

AASHTO	American Association of State Highway and Transportation Officials
ANSI	American National Standards Institute
ASTM	American Society for Testing and Materials
AWWA	American Water Works Association
ECSCD	Erie County Soil Conservation District
MPC	Municipal Planning Code
PCA	Portland Cement Association
PennDEP	Pennsylvania Department of Environmental Protection
PennDOT	Pennsylvania Department of Transportation

ARTICLE II

DISCHARGE OF SANITARY SEWAGE TO PUBLIC

SANITARY SEWAGE SYSTEM REQUIRED

SECTION 201:

All persons owning any occupied building now erected within the Authority's service area upon premises, accessible to the public sanitary sewage system shall, at their own expense, make connection with the public sanitary system in accordance with the applicable Connection Ordinance in effect in the Authority's service area within the time specified in these Rules. Any presently unoccupied building shall be connected before occupancy will be permitted.

SECTION 202:

All persons owning any premises within the Authority's service area accessible to the public sanitary sewage system, as defined in Section 114, upon which an occupied building is subsequently erected shall, at the time of erection of such building, and at their own expense, make connection with the public sanitary sewage system in accordance with the applicable Connection Ordinance in effect in the Authority's service area.

SECTION 203:

All persons owning any occupied building within the Authority's service area upon premises which subsequently becomes accessible to the public sanitary sewage system shall connect to the public sanitary sewage system within the time period stipulated after proper notice to do so has been given in accordance with Appendix C and applicable law.

SECTION 204:

All connections to the public sanitary sewage system shall be constructed in accordance with Article X hereof.

SECTION 205:

No privy vault, cesspool, septic tank, mine hole or similar receptacle for human excrement shall presently or at any time hereafter be connected with the public sanitary sewage system.

ARTICLE III

EXCLUSION OF STORM WATER RUNOFF

SECTION 301:

The discharge of storm water runoff to sanitary sewers is prohibited.

SECTION 302:

All persons connecting to the public sanitary sewage system shall provide adequate means for excluding storm water runoff in the event the connection is made to a sanitary sewer.

SECTION 303:

No person connected to a sanitary sewer shall connect any roof drain, foundation drain, or stormwater sump pump thereto or permit any such drains to remain connected thereto, nor shall he permit, allow or cause to enter into any sanitary sewer any spring water or surface water from any other source.

SECTION 304:

The provisions of these Rules and Regulations do not prohibit the present or future discharge of storm water runoff into natural water courses within the Authority's service area with the Authority's consent

SECTION 305:

GARAGE FLOOR DRAINS: Garage floor drains are allowed to be connected to the sanitary sewer system provided **no storm water** is allowed to enter the garage and thus enter the garage floor drain and its associated piping. Driveway grades and the grades immediately adjacent to the garage should be sloped away from the garage.

SECTION 306:

BASEMENT FLOOR DRAINS: Basement floor drains may be connected to the sanitary sewer system provided that **no storm water, nor any sump pump discharges** are allowed to enter the floor drain and associated piping.

ARTICLE IV

**ADMISSION OF INDUSTRIAL WASTES TO
PUBLIC SANITARY SEWAGE SYSTEM**

SECTION 401:

The economy and desirability of the combined treatment of industrial wastes and sanitary sewage is recognized. In general, any and all industrial wastes may be discharged to the public sanitary sewage system except those which are deemed harmful to the system or are specifically prohibited by these Rules and Regulations. However, it is also recognized that the treatment of abnormal industrial wastes may add to the cost of operating and maintaining the public sanitary sewage system. Such additional cost must therefore be borne by the person or persons receiving the benefit of such treatment.

SECTION 402:

The Authority reserves the right to refuse connection to the public sanitary sewage system for deleterious industrial wastes, or to compel discontinuance of the use of the system for such wastes, or to require pretreatment and/or equalization of flow thereof in order to prevent harmful or adverse effects upon the system. The design, construction and operation of such pretreatment and or flow equalization facilities shall be made at the sole expense of the person discharging said wastes and shall be subject to the approval of the Board or its authorized representative.

SECTION 403:

In general, industrial waste shall be considered harmful to the public sanitary sewage system if it may cause any of the following damaging effects:

- A.) Chemical reaction either directly or indirectly with the materials of construction of the public sanitary sewage system in such a manner as to impair the strength or durability of any sewerage structures.
- B.) Mechanical action that will destroy any sewerage structures.
- C.) Restriction of the hydraulic capacity of any sewerage structures.
- D.) Restriction of the normal inspection or maintenance of any sewerage structures.
- E.) Danger to public health and safety.
- F.) Obnoxious conditions inimical to the public interest.
- G.) Interference with the sewage treatment process.

SECTION 404:

When required by the Board, any person discharging to the public sanitary sewage system any industrial wastes, or industrial wastes and sanitary sewage together, shall install a suitable manhole or manholes or metering chamber on his connecting sewer or sewers to facilitate observation, sampling and measurement of the combined flow or wastes for his premises. Such manhole or manholes or metering chamber shall be accessible and safely located and shall be constructed in accordance with plans approved by the Board or its designated representative. The manhole or manholes or metering chamber shall be installed by such person at his expense and shall be maintained by him so as to be safe and accessible to the Board or its designated representative at all times. The construction and maintenance of such manhole or metering chamber shall be continuously monitored, transmitted and recorded by means of an approved receiving device to be located at the treatment plant.

ARTICLE V

UNACCEPTABLE SANITARY SEWAGE AND INDUSTRIAL WASTES

SECTION 501:

The discharge of excessive amounts of unpolluted water or waste to a sanitary sewer is expressly prohibited. However, such discharges to storm sewers will be permitted wherever such sewers are of adequate capacity. The Board reserves the right to define the amount it deems excessive in each particular instance.

SECTION 502:

THE DISCHARGE OF GARBAGE TO THE PUBLIC SANITARY SEWAGE SYSTEM IS EXPRESSLY PROHIBITED UNLESS GARBAGE IS FIRST PROPERLY SHREDED.

SECTION 503:

No sanitary sewage or industrial waste from any property other than that for which a permit has been issued as provided in accordance with these Rules and Regulations hereof shall be discharged to the public sanitary sewage system.

SECTION 504:

No person shall discharge to the public sanitary sewage system any sanitary sewage or industrial wastes having any of the following characteristics:

- I.) Wastes containing liquids, solids, or gases which by reason of their nature or quality may cause fire, explosions, or be in any other way injurious to persons, the structures of the public sanitary sewage system or its operation.
- II.) Wastes having a temperature in excess of 150 degrees Fahrenheit or less than 32 degrees Fahrenheit.
- III.) Wastes having a pH lower than 6.0 or higher than 9.0 or having any corrosive properties capable of causing damage or hazards to structures, equipment, or personnel of the public sanitary sewage system. Where the Board deems it advisable, it may require any person discharging industrial wastes to install and maintain, at his own expense, in a manner approved by the Board or its designated representative, a suitable device to continuously measure and record the pH of the wastes so discharged.
- IV.) Wastes containing any noxious or malodorous gas or substance which either singly or by interaction with sewage or other wastes is, in the opinion of the Board, likely to create a public nuisance or hazard to life, or prevent entry to sewerage structures for their maintenance and repair.
- V.) Wastes containing ashes, cinders, sand, mud, straw, shavings, metal, glass, rags, feathers, tar, plastics, wood, hair, chemical or paint residues, greases, lime slurry or

viscous materials of such character or in such quality that, in the opinion of the Board, they may cause an obstruction to the flow in the sewers or otherwise interfere with the proper operations of the public sanitary sewage system, depending upon the size of the particular interceptor sewer receiving the same and the flows therein.

VI.) Wastes containing insoluble, non-flocculent substances having a specific gravity in excess of 2.65.

VII.) Wastes containing soluble substances in such concentration as to cause the specific gravity of the waste to be greater than 1.1.

VIII.) Wastes containing any of the following substances in solution or in suspension exceeding those shown on the following table:

<u>Substance</u>	<u>Maximum Permissible Concentration</u>
Phenolic compounds as C H OH	1.0 mg/L
Cyanides as CN	0.0 mg/L
Cyanates as CNO	0.0 mg/L
Trivalent Chromium as Cr plus Hexavalent Chromium as Cr	0.5 mg/L
Nickel as Ni	1.0 mg/L
Copper as Cu	0.03 mg/L
Lead as Pb	0.5 mg/L
Zinc as Zn	0.15 mg/L

- IX.) Wastes containing more than 100 mg/L by weight of fat, oil, or grease.
- X.) Wastes containing more than 10 mg/L of any of the following gases: Hydrogen sulfide, sulfur dioxide, nitrous oxide, or any of the halogens.
- XI.) Wastes containing gases or vapors, either free or occluded, in concentrations toxic or dangerous to humans or animals.
- XII.) Wastes containing toxic substances in quantities sufficient to interfere with the biochemical processes of the sewage treatment works or that will pass through the treatment process and still exceed the state and federal requirements for the receiving stream.
- XIII.) Wastes containing toxic radioactive isotopes without a special permit.
- XIV.) Wastes containing non-biodegradable detergents.

ARTICLE VI

SEWAGE COLLECTION, TRANSPORTATION AND TREATMENT CHARGES

SECTION 601:

There is imposed upon the owners of all properties served by the public sanitary sewage system, sewage collection, transportation and treatment charges for the use of said system payable in the amounts and as prescribed by the Township council and as it is hereinafter from time to time amended and modified. Owners shall be liable for the payment of any sewage collection, transportation and treatment charges and the penalties therein prescribed for delinquent payments thereof. Upon the written request of owners, bills will be sent to users or occupants of property, but the billing of users or occupants shall not relieve the owner of the responsibility for payment.

SECTION 602:

All bills for sewage collection, transportation and treatment charges shall be due when rendered and shall be subject to the penalty provisions set forth by the township council's rate resolution. Owners and, where adequate arrangements have been made with the Authority, users will be billed periodically for the sewage collection, transportation and treatment charges in accordance with the billing practices of the Operators.

ARTICLE VII

SURCHARGE FOR CERTAIN INDUSTRIAL WASTES

SECTION 701:

Although the sewage treatment works will be capable of treating certain abnormal industrial wastes as heretofore denied in Articles IV and V, the actual treatment of such wastes may increase the cost of operating and maintaining the public sanitary sewage system. Therefore, there will be imposed upon each person discharging such industrial waste into the public sanitary sewage system a surcharge, or surcharges, which are intended to cover each additional cost. Such surcharges shall be in addition to the regular sewage collection, transportation and treatment charges set forth in the Sewer Rate Resolution of the Township Council and shall be payable therein provided.

SECTION 702:

The strength of any industrial waste, the discharge of which is subject to surcharge, shall be determined monthly, or more frequently as the Board shall determine, from samples taken either at the manhole or metering chamber referred in Article IV thereof, or at any other sampling point mutually agreed upon by the Board and the producer of such waste. The frequency and duration of the sampling period shall be such as, in the opinion of the Board, will permit a reasonably reliable determination of the average composition of such waste, exclusive of storm water runoff. Samples shall be collected or their collection supervised by an authorized representative of the Board and shall be in proportion to the flow of waste, exclusive of storm water runoff, and composited for analysis in accordance with the latest edition of "Standard Methods for the Examination of Water and Wastewater". Except as hereinafter provided, the strength of the waste so found by analysis shall be used for establishing the surcharge or surcharges. However, the Board may, if it so elects, accept the results of routine sampling and analyses by the producer of such wastes in lieu of making its own samplings and analyses.

SECTION 703:

In the event any industrial waste is found, by the Board, to have a B.O.D. in excess of 220 milligrams per liter, the producer of said waste shall be surcharged an amount equal to the product of the actual volume of wastes in thousand gallons per billing period, exclusive of storm water runoff, discharged to the public sanitary sewage system and the "B.O.D. surcharge rate". The "B.O.D. surcharge rate" shall be determined by the following formula:

$$Rc = 0.00834 \times P \times (C-220)$$

Where Rc The B.O.D. surcharge rate in cents per 1,000 gallons of waste discharged

- P The average annual fixed, operating and maintenance cost of secondary treatment processes per pound of B.O.D. received at the treatment works.
- C The average B.O.D. of the industrial waste expressed in milligrams per liter as determined in accordance with Section 702 of this Article.

The figure 220 appearing in the above formula corresponds to the maximum B.O.D. permissible without surcharge. The figure 0.00834 is the factor to convert milligrams per liter to pounds per 1,000 gallons. No discount will be permitted for sewage or industrial wastes having a B.O.D. less than 220 milligrams per liter.

SECTION 704:

In the event any industrial waste is found by the Board to have an average suspended solids concentration in excess of 200 milligrams per liter, the producer of such waste shall be surcharged an amount equal to the product of the actual value of wastes in thousand gallons per billing period, exclusive of the storm runoff, discharged to the public sanitary sewage system and "suspended solids surcharge rate". The "suspended solids surcharge rate" shall be determined by the following formula:

- R $0.00834 \times B \times (S-200)$
- Where R The suspended solids surcharge rate in cents per 1,000 gallons of waste discharged.
- B The average annual fixed, operating and maintenance cost of the sludge digestion, sludge drying and sludge disposal operations per pound of suspended solids received at the treatment works.
- S The average suspended solids concentration of the abnormal industrial waste expressed in milligrams per liter as determined in accordance with Section 702 of this Article.

The figure 200 appearing in the above formula corresponds to the maximum suspended solids concentration permissible without surcharge. The figure 0.00834 is the factor to convert milligrams per liter to pounds per 1,000 gallons. No discount will be permitted for sewage or industrial waste having a suspended solids concentration less than 200 milligrams per liter.

SECTION 705:

The surcharges provided for in this Article shall be added to the sewage collection, transportation and treatment charges imposed by the Board under Sewer Rate Resolution of the Township Council.

ARTICLE VIII
CONNECTIONS TO THE EXISTING SYSTEM

SECTION 801:

Application for connection to the public sanitary sewage system, shall be made to the Board upon the permit form to be formulated and furnished by the Board or its authorized representative.

SECTION 802:

All information requested on said form shall be furnished by the applicant, including the character and use of each structure located upon the property.

SECTION 803:

Any required tap-in connection and inspection fee, unless already paid, shall be paid at the time of making application for permission to make a connection.

SECTION 804:

No work shall commence before the payment of any aforementioned tap-in connection and inspection fee and issuance of the aforementioned connection permit.

SECTION 805:

Unless written permission is obtained from the Board, separate connections and corresponding tap-in connection and inspection fees shall be required for each individual occupied building whether constructed as a detached unit or as one of a pair or row, but a single connection with payment of the tap-in fees for the appropriate number of actual units served will be permitted to serve a school, factory, apartment house, cluster of mobile homes or other permanent multiple unit structure. The number of actual units served shall be determined in accordance with the appropriate regulations of the Pennsylvania Department of Environmental Protection. Nothing herein contained shall be deemed to be applicable to the Commonwealth of Pennsylvania with whom the Authority has a separate contract relating to the furnishing of sewage facilities. Any owner of multiple housing facility who had, prior to the construction of the Authority's sewage system, constructed and maintained a properly licensed sewage plant shall, upon the connection of his sewage collection lines to the sewage system of the Authority, be required to pay only a single tap-in and inspection fee. Where a developer constructs sewer lines in accordance with the provisions of these Rules and Regulations to be turned over to the Authority, separate tap-in and inspection fees shall be charged for each individual occupied building as permits are issued therefore.

SECTION 806:

Connections to sanitary sewers shall be completed within sixty (60) calendar days after receipt of proper notice.

SECTION 807:

All connections to the sanitary sewers shall be subject to certain restrictions as to unacceptable sanitary sewage which are set forth herein in Articles III, IV and V.

SECTION 808:

The designated Inspector of the Board shall be given at least forty-eight (48) hours notice of the time when such connection shall be made in order that said Inspector can be present to inspect and approve the work of connection. The inspector shall signify his approval of the connection by endorsing his name and the date of approval on the aforementioned connection permit in the possession of the permittees.

SECTION 809:

At the time of inspection of the connection, the owner or owners of properties shall permit the Inspector full and complete access to all sanitary and drainage arrangements and facilities in each building and all parts of the property. No building sewer line shall be covered over, or in any manner concealed until after it is inspected and approved by said Inspector. Inspection may include hydrostatic, smoke or pneumatic testing at the option of the Board.

SECTION 810:

It is the intention of these Rules and Regulations that the entire connection be inspected at one time; however, if the property owner feels that special conditions warrant more than one inspection, he may request the same subject to such additional inspection fees as the Board shall determine.

SECTION 811:

All Sanitary Sewer mains installed, shall be new and shall be either PVC or ductile iron pipe of the kind and quality hereinafter specified and at least eight(8) inches inside diameter. All materials must conform with Article X of these Rules and Regulations, unless written permission by the Authority is granted in advance of installation.

SECTION 812:

All sewer pipe shall be installed in strict accord with the manufacturer's recommendations, and Article X of these Rules and Regulations.

SECTION 813:

Unless written permission is granted in advance of installation, main line sanitary sewer pipe shall have a minimum cover of four (4) feet from the top of the pipe and all sanitary sewer lateral pipe shall be installed with a minimum slope of 1/4" per foot and a minimum cover of three (3) feet from

the top of the pipe installed. All pipe shall be laid true to grade with full and even bearing and no block supports will be allowed. All work shall be done in a workmanlike manner and shall provide a durable water-tight installation and shall be in conformance with Article X of these Rules and Regulations.

SECTION 815:

Commercial installations must also comply with all local construction regulations and Article X of these Rules and Regulations.

SECTION 816:

Maintenance and repair of all building sewers from the house to the right-of-way line shall be the responsibility of the property owner.

ARTICLE IX

PROPOSED EXTENSIONS OF THE SANITARY SEWAGE SYSTEM

SECTION 901: PREDEVELOPER'S AGREEMENT AND DEVELOPER'S AGREEMENT

Any person required by the Authority to extend a public sanitary sewer shall first enter into a Predeveloper's Agreement (Appendix A) with the Authority. Upon review of the plans by the Authority's Engineer and acceptance of the plans by the Authority, the Developer shall enter into a Developer's Agreement (Appendix B) with the Authority. No work shall be started until all parties have signed the Developer's Agreement, and the appropriate fees have been paid to the Authority and the Township and financial security in the amount of 110% of the estimated value of construction has been posted with the Authority.

The financial security shall be in the form of a Letter-of-Credit, construction bond, certificate of deposit or other approved method in accordance with the Municipal Planning Code Section 509 and subject to approval of the Authority's Solicitor.

The estimated value of construction shall be submitted by the Developer's Engineer and submitted to the Authority on the Engineer's company letterhead.

SECTION 902: ALL SANITARY SEWER EXTENSIONS SHALL BE CONSTRUCTED TO THE FAR PROPERTY LINE.

SECTION 903: PLAN REQUIREMENTS

- A. The Plan - drawing at a scale of not less than 1" = 10' nor more than 1" = 100' showing the following:
1. Name and address of developer or property owner.
 2. Proposed name of the subdivision or property owner.
 3. North arrow, scale and date.
 4. Name of engineer responsible for the plan.
 5. Location map showing the vicinity in which the proposed development is located. The scale of the location map shall be 1" = 2000' or less and shall identify major roads.
 6. Topography showing existing and proposed contours at intervals of two (2) or five (5) feet, for slopes greater than 10%.
 7. Tract or property boundaries and the name of all abutting subdivisions or property owners.
 8. Number of acres in the tract or property, number of lots, and the type of proposed development.
 9. Existing and proposed property lot and boundary lines, including building setback lines, and information concerning lot dimensions, lot areas, and the location of any easements.
 10. The location of all existing and proposed streets, with information concerning right-of-way, widths, and street names.

11. The location of any parcels of land either existing or proposed to be dedicated or reserved for schools, parks, playgrounds, or other public, semi-public, community purposes, or are proposed "No Build" lots.
12. The location of any existing bodies of water or watercourses, tree masses, buildings or structures, existing sanitary sewers and any other man-made or natural features within or abutting the proposed subdivision.
13. All proposed sanitary sewers shall be stationed on the plan.
14. Indicate on the plan which manhole lids are to be vented.

B. Profiles

1. Profiles of all proposed sanitary sewers shall be shown for all extensions.
2. The horizontal scale of the profile shall be the same scale as the plan.
3. The vertical scale will be not less than 1" = 1' and not more than 1" = 10' and shall generally be one tenth the horizontal scale.
4. All profiles shall be stationed to match the plan.
5. Pipe slopes shall be shown on the plan or profile.
6. Pipe sizes shall be shown on the plan or profile.
7. Manhole inverts and top of grate shall be shown on the plan and the profile.

C. Details

1. The submitted plan shall include the following details:
 1. Pipe bedding
 - b. Typical manholes
 - c. Flexible gaskets for inlet and outlet pipes in the manhole.
 - d. If road or stream basins are required the plan shall include details showing the casing pipe and appurtenances. The location of the basin pits shall also be shown on the plan.

D. Easements

1. Sanitary sewer easements shall be provided for sanitary sewers intended to serve abutting lots. No structures, fences, trees, shrubs, ornamental plantings, stormwater detention or retention areas or obstructions of any kind, shall be placed within such easements. The minimum width of the easement shall be 20 feet, centered on the pipe and located at the side or rear of the lots when ever possible.
2. All sanitary sewer easements shall be shown on the plans and all bearings and distances shall be shown.
3. All sanitary sewer easements shall be recorded in the Erie County Courthouse after review of the Authority's Engineer and Solicitor.
4. All sanitary sewer easements shall name the Authority as grantee therein.

E. Plans shall be signed and sealed by a Pennsylvania Registered Engineer.

SECTION 904:

Two (2) copies of the plans profiles, details and easements for proposed extensions shall be submitted to the Board on 24" x 36" sheets.

SECTION 905:

After review of the plans by the Authority's Engineer, one copy thereof shall be returned to the developer with such comments and notations thereon as may be deemed appropriate by the Authority's Engineer. After making the necessary modifications and corrections, five (5) final copies of the plans from the proposed extension shall be submitted to the Board, said plans to have the same characteristics as are set out in Section 903 thereof.

SECTION 906:

All sewers shall be designed in accordance with the Domestic Wastewater Facilities Manual of the Pennsylvania Department of Environmental Protection, Bureau of Water Quality Management, and these Rules and Regulations.

SECTION 907:

Construction of sewers shall not be permitted until all required State permits have been obtained, the Authority's permit fees have been paid, a reasonable deposit has been made by the developer with the Authority to cover inspection, Engineering, Solicitor and Administration fees based upon the anticipated costs thereof and a standard developer's agreement as promulgated by the Authority has been executed by the developer and delivered to the Authority.

SECTION 908:

Prior to final acceptance of any sewer extensions by the Board, the developer shall furnish to the Board "as built plans" showing the angles and distances between manholes, the top and invert elevation of each manhole and the exact location of all laterals and house sewer connections relative to the nearest manhole both downstream and upstream.

SECTION 909:

The developer or individual owner desiring to connect an occupied building to the sewer system constructed or being constructed by the Developer shall file all necessary applications for connection permits and pay the applicable tap connection and inspection fee for each occupied building to the Township which amount shall be due and payable prior to inspection and approval by the Inspector for each connection to an occupied building.

SECTION 910:

No sewer extensions constructed by a Developer will be approved for use and acceptance by the Board until said sewers are formally approved by the Board, all building tap connection and inspection fees have been paid for each building then connected to the system, and the Board has been reimbursed in full for all inspection, legal and administrative costs incurred.

ARTICLE X
GENERAL SPECIFICATIONS
GRAVITY SEWERS, DRAINS AND APPURTENANCES

SECTION 1001: GENERAL

I. Scope of Work

A. All labor, materials, equipment, tools and services required for the furnishing, installation and testing of all gravity sewers, drains and appurtenances required by these Rules and Regulations shall be furnished and installed in compliance with the following General Specification and the Washington Township Sewer Authority Standards.

3-2. This General Specification covers the description of material generally utilized in sewer and drain construction and the installation of such materials.

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II. Shop Drawings

Prior to the start of construction the Developer shall present to the Authority or its duly authorized representative material submittals for the following items for approval.

- PVC Pipe - Sanitary Sewer Main and Laterals
- Schedule 40 Pipe - Laterals
- Ductile Iron Pipe
- Ductile Iron Pipe Fittings
- Pipe Bedding Material
- Lateral Wye Connections and other Sewer Main and Lateral Fittings
- Concrete Mix Design
- Special Backfill
- Precast Manholes
- Pipe Sleeves
- Gaskets
- Mortar
- Manhole frames and covers
- Steps
- Grade Adjustment rings
- Grout Mix
- Grass Seed Mix

Other materials as may be required by the Authority or its duly authorized representative.

Only approved materials shall be used to construct any portion of the Sanitary Sewer System or its appurtenances.

III. Standards

1. Attention is directed to Article I Section 124 which states the full name of organizations publishing standard specifications. These organizations are named in these Rules and Regulations by abbreviations.
2. Where materials and methods are indicated in the following Specifications as being in conformance with a standard specification it shall refer in all cases to the latest edition of the specification and shall include all interim revisions. Listing of a standard specification without further reference indicates that the particular material or method shall conform with such listed specification.
3. The Standard Drawings of the Washington Township Sewer Authority are incorporated as part of this document.

SECTION 1002: CONSTRUCTION MATERIALS

I. General

1. All materials and equipment shall be furnished by an established and reputable manufacturer or supplier. All materials and equipment shall be new and shall be of first class ingredients and construction, designed and guaranteed to perform the service required and shall conform with the following Standard Specifications or shall be the product of the listed manufacturers or similar and equal thereto as approved by the Authority's Engineer.
- B. All work shall conform to the Rules and Regulations.

II. Sanitary Sewer Pipe - Mains

A. Polyvinyl Chloride Pipe (PVC)

Polyvinyl chloride pipe shall be unplasticized polyvinyl chloride plastic pipe with integral wall bell and spigot joints and shall be suitable for use as a gravity conduit for the conveyance of domestic sewage. Pipe and fittings shall conform to the requirements of ASTM D-3034 SDR-35 (thick wall).

Joints for pipes and fittings shall conform to the requirements of ASTM D-3212. Solvent Welding of PVC Pipe Joints is not permitted.

Main line pipe shall have a minimum inside diameter of 8 inches. Sanitary sewer laterals shall have a minimum inside diameter of 4 inches.

B. Ductile Iron Pipe

Ductile Iron Pipe shall comply with ASTM A746 and conform to ANSI/AWWA C150/A21.50 and ANSI/AWWA C151/A21.51, and shall be Thickness Class 52, Tyton Joint Pipe as manufactured by United States Pipe and Foundry Company, Fastite Joint Pipe as manufactured by American Cast Iron Pipe Company, or approved equal. Joints shall be single gasket, push-on type conforming to ANSI/AWWA C111/A21.11.

C. Bedding

Bedding shall be provided for all sanitary sewer pipe and shall consist of crushed stone conforming to AASHTO #67 and passing the following sieve sizes:

Sieve Size	Percent Passing
3/4	100
1/2	80 - 90
3/8	65 - 75
No. 4	40 - 50
No. 16	15 - 20
No. 50	7 - 12
No. 200	3 - 5

The bedding material shall be placed from a minimum of six (6) inches below the outside bottom of the pipe to a point six (6) inches above the outside top of the pipe for the full width of the trench excavation.

D. TRENCH PLUGS

Trench plugs shall be installed in the sanitary sewer trench at a minimum spacing of 500 ft. Trench plugs shall be constructed from silt or clay with a permeability of less than 1×10^{-6} cm/s. Trench plugs shall conform to the dimension shown in the Standard Drawing.

III. Sanitary Sewer Manholes

A. Manholes

Precast reinforced concrete manholes shall meet or exceed ASTM C-478 specifications and shall comply with standard dimensions as shown on the Standard Drawings' typical detail for precast concrete sanitary manholes. Eccentric cone top section shall be used unless a variance or waiver is furnished in writing by the Authority or its authorized representative.

B. Pipe Sleeves

Pipe sleeves shall be flexible watertight manhole pipe sleeves, installed in the precast base or riser section by the manhole manufacturer for a watertight installation and approved by the Authority or its authorized representative.

C. Gaskets

Butyl rubber O-ring gaskets shall conform to ASTM C-443 for sanitary manholes. Gaskets shall be approximately 1" in diameter.

D. Mortar

Non-shrink mortar shall conform to ASTM C-270, Type N.

E. Manhole Frames and Covers

Frames and covers shall conform to ASTM A-48, Class C or better.

Watertight frames and covers shall be Allegheny Foundry pattern 109W (frame) and 110 (cover) or approved equal. Where ventilated covers are required Allegheny Foundry pattern 109 (frame) shall be used with Allegheny Foundry pattern 110 (cover) supplied with twelve one inch cored holes or an approved equal frame and cover pair. The ring casting and cover casting shall be machined to fit in pairs, shall be marked as pairs and shall be delivered in pairs or approved equal.

F. Steps

Provide manhole steps made of polypropylene plastic coated deformed steel bars. Deformed bars shall be of new billet steel grade 40, meeting the requirements of ASTM A-615. The steel bars shall be 3/8 inch in diameter. Polypropylene plastic shall meet the requirements of ASTM D4101 for Type II, Grade 49108. All steps shall have been installed by the manufacturer of the precast units and shall be in place at the time of manhole delivery. Steps in cone section shall be opposite from the eccentric side. All steps shall line up vertically.

G. Grade Adjustment Rings

Provide precast concrete grade adjustment rings of necessary height conforming to ASTM-C478.

H. Brick

Provide brick conforming to ASTM-C32, grade MA. All brick shall be new and clean.

I. Bedding

Provide AASHTO #67 Coarse Aggregate material for bedding conforming to PennDOT Pub. 408, Section 703.2.

J. Grout

Provide non-shrink, non-staining grout for grouting of space between pipes and manhole walls where pipes pass through the precast concrete manhole wall, such as Embeco-Pre-Mixed Mortar by Mortar Builders Co., "Waterplug", or approved equal.

K. Coarse Aggregate

Provide AASHTO No. 57 Coarse Aggregate material conforming to PennDOT Pub. 408, Section 703.2 for backfilling undercut areas.

L. Concrete

P.C.A. Specifications for Plain Reinforced Concrete. Concrete for manholes, manhole inverts and drop structures shall be Class "C" as set forth in the following table:

CLASS OF CONCRETE	GAL. OF WATER PER SACK OF CEMENT	MINIMUM BAGS OF CEMENT PER CUBIC YARD OF CONCRETE	MINIMUM 28 DAY STRENGTH 1 CYLINDER LBS. PER SQ. IN.	MINIMUM 28 DAY STRENGTH AVERAGE FOR 5 CYLINDERS		SLUMP IN INCHES
				LBS. PER SQ. IN.	LBS. PER SQ. IN.	
"C"	8.0	4.50	1800	2000		1-4
"D"	5.0	6.50	3800	4500		1-4

M. Special Backfill

As required by the Authority or its authorized representative, special backfill material shall be used for trench backfill and backfill around manholes and shall consist of bank run gravel or other material approved by the Authority or its authorized representative and shall conform the following:

GRADATION REQUIREMENT

<u>Sieve Size</u>	<u>Percent Passing by Weight</u>
3"	100
3/8"	50-100
#4	40-85
#10	30-75
#40	15-45
#200	5-15

Liquid Limit, 25% - maximum

Plasticity Index, 7 maximum

IV. Material Testing

1. Attention is directed to requiring the inspection and testing of materials to be incorporated in proposed work as shown on the approved drawings, by a Testing Laboratory employed and paid for by the Developer.
2. All materials to be incorporated in the Construction of Sewers, Drains and Appurtenances required by the Authority, shall be subject to inspection and testing as follows:

C. Material

Test Required

1. Cement Certified Mill Tests for conformance with ASTM C150.
2. Sand Standard Test shall be made in advance of concreting per ASTM C33 and ASTM C40 on each fine aggregate proposed to be used. Test shall also be made as the work progresses on each 500 cubic yards of fine aggregate for concrete to assure uniformity.
3. Gravel Standard Tests shall be made in advance of concreting on each grading of coarse aggregate proposed to be used per ASTM C33, Paragraphs 6, 7, 8, 9, 10 and 12. Tests shall also be made as the work progresses on each 500 cubic yards of coarse aggregate for concrete to assure uniformity.
4. Concrete During the progress of the work a set of four standard 6 inch concrete cylinders shall be made and tested where from 25 to 100 cubic yards of concrete are placed during each and every days operation. The cylinders of each set shall be molded from the same sample of concrete and tested at seven and at 28 days. Sampling of concrete for test purposes shall

be per ASTM C172. Making and curing of test cylinders shall be per ASTM C39.

5. Brick for Where 50M brick or under are required,
 visual inspection at site for
 Manholes conformance with ASTM C32. Where more than
 50M are required,
 and other tests by independent laboratory. Sampling
and testing per ASTM
 Structures C67 for conformance with ASTM C32.
6. Concrete Where 10M blocks or under are required,
 visual inspection at site
 Block for for conformance with ASTM C139. Where more
than 10M blocks
 Manholes are required, tests shall be by independent
 laboratory. Sampling and testing per ASTM C140
 for conformance with ASTM C139.

SECTION 1003: CONSTRUCTION METHODS

I. Sanitary Sewer Pipe Construction

A. Excavation

1. Excavation shall include the clearing of the site of the work, the loosening, loading, removing, transporting, and disposing of all materials, wet or dry, necessary to be removed to construct all sewers, drains, and appurtenances, to the lines, grades, and locations shown on the approved drawings. The Developer must assume the risk of removal of quicksand, hardpan, boulders, clay, rubbish, unforeseen obstacles, underground conduits, gas pipe, drain tile, trees, roots, timber or masonry structures, railroad tracks, pavements, and sidewalks. The delay or damage occasioned by the same, whether or not these obstacles are shown on the approved drawings shall be the responsibility of the Developer.
2. Existing concrete driveways, sidewalks and curbs shall be saw cut along existing joints or as directed by the Authority or its authorized representative.
3. The proposed locations of sewers, drains, and appurtenances, as shown on the approved drawings, should be selected to provide the least possible interference with or crossing of existing utilities. The Authority or its authorized representative reserves the right to make minor variations in the location of these items during construction. No payment will be allowed to the Developer from the Authority for such shifts in the alignment.

4. The location of existing piping and underground utilities, such as gas mains, water main, electric duct lines, telephone conduits, etc., shall be shown on the drawings, shall be determined from the best available information by actual surveys, or furnished and taken from the records of the parent Utility Companies and drawings taken of the existing facilities. However, the Authority does not assume responsibility for the possibility that during construction, utilities may be encountered at locations different from the locations designated on the approved drawings, and/or utilities other than those shown may be encountered.
5. At the locations wherein detailed positions of these facilities become necessary to the new construction, the Developer shall, at his own expense, furnish all labor and tools to either verify and substantiate the record drawing location, or definitely establish the position of the facilities.

| ~~11-6.~~ All concrete and asphalt surfaced pavements shall be sawed before removal.

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7. Necessary arrangements shall be made by the Developer with all persons, firms, corporations owning or using any poles, pipes, tracks, or conduits, etc. affected by the construction. The Developer shall maintain them in continuous operation, and restore them to the same condition as they were prior to the start of construction.

| ~~15-8.~~ Excavation, in all materials encountered, shall be carried 6 inches below the bottom of proposed pipe grade to allow for placement of bedding material as detailed on the Standard Drawings. Excavation in excess of the limits indicated shall be backfilled with special backfill material, #67 stone or concrete, as directed by the Authority or its authorized representative, and thoroughly tamped.

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9. If, in the opinion of the Authority or its authorized representative, the natural material exposed at the grade established for the bottom of excavation appears unstable and is of such a character as to invite unequal settlement along the length of the pipe, a trench shall be dug below the grade to a depth of 2 ft. and a width of the outside diameter of the pipe plus 2 ft. as ordered. This trench shall be backfilled with special backfill, in accordance with section 1002, III. M. and thoroughly tamped in-place to the established grade and elevation so as to insure a firm foundation.

| ~~19-10.~~ The Developer shall remove by pumping, or other means, approved by the Authority or its authorized representative, any water accumulated in the excavation. Sanitary sewers

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shall not be permitted to be used as drain lines for construction work.

~~20-11.~~ Whenever the word "Rock" appears in the rules and regulations, it shall be interpreted to mean material geologically in place and too hard to be removed from its original position with a modern three-quarter cubic yard backhoe power excavator in good condition without previously being broken up. Soft or weathered shale will not be considered rock. No boulders less than 1/2 cubic yard in volume will be considered as rock.

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~~21-12.~~ If rock is encountered, excavation shall be carried to 12" below the bottom of the pipe and No. 67 Coarse Aggregate material shall be used to establish the proper grade by tamping thoroughly.

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~~22-13.~~ Blasting shall not be permitted unless approved by the Authority or its authorized representative.

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~~23-14.~~ The Developer shall furnish and install all sheeting, shoring, timbering, and bracing required to maintain the excavation in a condition to furnish safe working conditions and to permit the safe and efficient installation of all required items, in strict accordance with all safety rules and regulations as prescribed by any governing organization. Sheeting and shoring shall be left in place only with prior approval of the Authority.

~~24-15.~~ Lumber used for sheeting may consist of any species which will satisfactorily stand driving. It shall be free from wormholes, loose knots, wind shakes, decayed portions and any other defect which might impair its strength or tightness. Lumber for bracing shall be sound and shall be equal to or better than No. 2 common yard lumber.

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~~25-16.~~ Sheeting, shoring, timbering, and bracing for open trenches and excavations may be ordered left in place by the Authority or its authorized representative when in its opinion such is necessary for the protection of the work, the public or to the adjacent property. Any sheeting so ordered left in place will be at no expense to the Authority. Any sheeting, shoring, timbering or bracing left in place in a road right-of-way or other paved area, shall be cut off 2 ft. below subgrade. Any sheeting, shoring, timbering or bracing left in place, outside the road right-of-way, shall be cut off 2 ft. below final grade.

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~~26-17.~~ The sides of the trench shall be vertical. Excavated material, determined by the Authority or its authorized representative, as not suitable or material not required for fill or backfill shall be removed from the site and disposed of properly at the Developer's expense.

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| ~~27-18.~~ The Developer shall be responsible for placing and maintaining safe barricades around all excavated openings during the progress of the work.

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| ~~28-19.~~ Sidewalks and pavements shall not be blocked or obstructed by excavated material, except on the approval of the Authority or its authorized representative, and then only when adequate provisions have been made for a satisfactory temporary passage of pedestrians and vehicles. Adequate bridging and planked crossings must be provided and maintained across all open trenches for pedestrians and vehicles. Barriers, lights, flares, and watchmen shall be provided and maintained by the Developer at all trenches, excavations and embankments.

| ~~29-20.~~ Any settlement of the backfill below the original ground surface shall be remedied by the Developer for a period of one year after final completion and acceptance upon receipt of written notice from the Authority or its authorized representative

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B. Line and Grade:

1. The Developer will provide line and grade stakes.

~~3-2.~~ It shall be the Developer's responsibility to transfer the line and grade to the bottom of the ditch.

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~~4-3.~~ The Developer must test the pitch or grade of the top line and sewer, and will be held responsible for the correct flow to the sewers. The Developer must test the batter line with an accurate line level to test the downward grade of the pipe in the direction of flow. Three batter boards will be erected at all times to check the batter line. Each pipe will be checked with a gauge rod and plumb bob for line and grade.

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~~5-4.~~ A laser beam system may be used for line and grade subject to approval by the Authority or its authorized representative.

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C. Laying of Pipe:

1. All pipe shall be installed in accordance with the manufacturer's recommendation unless otherwise specified.

2. All pipe shall be properly bedded in accordance with the Standard Drawings and these Rules and Regulations.

3. All pipe shall be laid true to line and grade with the bells upstream or upgrade. Each pipe shall be laid on an even, firm bed in such a manner that no uneven strain will develop on the pipe. The sections of the pipe shall be laid and fitted together such that, when completed, the sewer will have a smooth and uniform invert. The pipe shall be kept thoroughly clean so that joining will be smooth and all joints will be watertight. Each pipe shall be inspected for defects before being lowered into the trench, and if defects are found even after laying of the pipe, the pipe section shall be replaced at the Developer's expense.

4. No water shall be allowed in the trench while pipes are being laid, and the exposed pipe end shall be capped if left in the trench for more than one hour without installing the next section.

5. Not more than 100 feet of trench shall be opened in advance of pipe laying unless permitted by the Authority or its authorized representative. Trench openings are restricted to no more than 100 linear feet during the working day and to no more than 20 linear feet at the end of each working day. At the end of each working day, the trench shall be backfilled to subgrade or covered with steel plates. When steel plates are used, on existing roads, the plates shall be cut into the pavement to prevent movement. Plates used in unpaved areas shall be secured to

prevent movement. The use of steel plates does not relieve the Developer of his obligation to provide barricades, warning lights, warning signs and other required maintenance and protection of traffic equipment in the construction area.

6. The interior of the sewer shall be kept clean of all dirt and debris as the work progresses. Existing sewage flows will be diverted around construction areas with sewage pumps or by other means acceptable to the Authority or its authorized representative.
7. The proposed location of lateral wye connections are to be shown on the submitted drawings. The actual location of sewer laterals shall be determined in the field. The Developer shall keep accurate records of all laterals. All connections shall be reconstructed by laying a "Y" branch fitting with a 4 inch spur. Extra lengths of 4 inch pipe will be installed as needed to extend the service laterals to the right-of-way line. A smooth grade of at least 1/4 inch per foot shall be used to install the service laterals.
8. Sanitary sewer pipe shall be installed to minimize infiltration and to prevent the entrance of roots throughout the life of the system.

D. Testing

1. General

1. All sewers shall be tested for leakage in accordance with the following specifications and tests are to be performed in the presence of Authority's Engineer.
2. The Developer shall at his expense, and without separate or additional compensation whatsoever, furnish acceptable testing apparatus and testing water and conduct testing of sewers as prescribed in this section. Testing must be conducted before acceptance is requested for any section of sewer constructed.
- c. Tests with water shall be made for each 1,200 ft. of sewer installed unless longer sections are authorized by the Authority's Engineer. Shorter lengths may be tested if more convenient. Backfill trenches before making tests.
- d. Air tests shall be made between consecutive manholes or between the last manhole on a line and the discharge end.
- e. The Authority's Engineer has the right to select the length and location of test sections when construction operations or materials change or where construction difficulties indicate leakage or deflection may be present.

2. Deflection Test

- a. Deflection tests shall be performed on all flexible pipe. Deflection tests for Ductile Iron Pipe, shall be performed if the Authority's engineer deems it necessary. The test shall be run not less than 30 days after final backfill has been placed. Deflection test shall be done prior to any roadway paving.
- b. No pipe shall exceed a deflection of five percent.
- c. The rigid ball or mandrel used for the deflection test shall have a diameter not less than 95 percent of the base inside diameter or average inside diameter of the pipe, depending on which is specified in the ASTM Specification to which the pipe is manufactured. The pipe shall be measured in compliance with ASTM D 2122 Standard Test Method of Determining dimensions of Thermoplastic Pipe and Fittings. The test shall be performed without mechanical pulling devices.

3. Infiltration Test

- a. Test sewer sections by measuring infiltration by means of a 90-degree, V-notch weir with a free fall discharge, provided and maintained at the low end of the test section. Other methods for measuring flow may be used if approved by the Authority's Engineer. The Developer shall provide the weir and it shall be approved by the Authority's Engineer prior to use.
- b. Each manhole shall be included in a test section.
- c. Remove the weir after it has been demonstrated that the leakage in the test section is within allowable limits.
- d. Infiltration leakage shall not exceed 200 gal per mile per inch of diameter of sewer pipe per 24-hour day, including manholes in the test section.

4. Exfiltration Test

- a. The Developer shall seal the section of sewer to be tested by inserting inflatable rubber bags in the pipes or by other approved means. Introduce water into a manhole until the test section is filled. The pipe shall be filled before beginning the test to allow normal absorption into the pipe walls.
- b. Throughout a test period of a least ½ hour, maintain the water level in the upper manhole at least 4 ft. above the crown of the upper end of the pipe or at least 4 ft. above the ground water table whichever is higher. The

volume of water added during the 30-minute period shall not exceed the allowable exfiltration.

- c. The length of pipe tested shall be limited so that the pressure on the centerline of the lower end of the section does not exceed 8 ft. of water column.
- d. Each manhole shall be included in a test section.
- e. Exfiltration leakage shall not exceed 200 gal per mile per inch of diameter of sewer pipe per 24-hour day, including manholes in the test section.

5. Air Test

- a. Air testing shall be an acceptable method of leakage testing. If polyvinyl (PVC) material has been chosen as main pipeline material, the following shall apply:

The duration permitted for a prescribed low pressure air exfiltration pressure drop between two consecutive manholes shall be not less than that shown in the table below. The prescribed drop shall not exceed 0.5 psi in excess of the ground water pressure above the top of the sewer.

Minimum Duration for Air Test
Pressure Drop - PVC Pipe

<u>Pipe Size (inches)</u>	<u>Time (Minutes)</u>
4	2 ½
6	4
8	5
10	6 ½
12	7 ½
15	9 ½

6. Test Failure

- a. Where any section of sewer shall fail to pass the hydrostatic leakage test, it will not be accepted until the Developer has located and corrected the deficiency and the section has passed a subsequent leakage test. Where, in the opinion of the Authority's Engineer, excessive numbers of sections are failing to pass the hydrostatic leakage test, pipe laying operations will be suspended by the Authority's Engineer until such time as cause for failure, whether materials or installation methods or both has been established and the Developer has committed to a course for correction of the problem.
- b. Where a section has failed to pass the hydrostatic leakage test, the Developer shall employ approved air isolation testing to locate the deficient portion(s) of

the failing section. If the air test confirms a leaking joint or joints, the Developer shall excavate, remove, and reconstruct the faulty section. In any instance where the leak cannot be defined and located and where the section fails to meet the hydrostatic test procedure, the Developer shall completely remove and reconstruct the failing section manhole to manhole using new pipe materials throughout. Costs associated with air testing, retesting by hydrostatic methods, or removal and reconstruction of failing section will be borne solely by the Developer.

E. Backfilling:

1. No sewers shall be backfilled above the top of the pipe until the sewer elevations, gradient, alignment, and the pipe joints have been checked, inspected and approved by the Authority or its authorized representative.
2. Pipe shall be backfilled with special bedding material consisting of #67 crushed aggregate to a height of 6 inches above the pipe as shown on the Standard Drawings. This material shall be thoroughly compacted with mechanical compaction equipment until no movement is observed.
3. After the pipe and bedding are satisfactorily placed, backfill the trench with suitable material. Place material in 6 inch lifts, however, 8 inch lifts will be permitted when using vibratory compaction, provided backfill material is suitable for compaction testing. Lifts are to be mechanically compacted to 95% of the material's maximum dry weight density as determined by ASTM-D698 (Standard Proctor). The final 6 inches shall be mechanically compacted to 100% of the Standard Proctor. Each lift of pipe trench backfill shall be tested, inspected and approved by the Authority or its authorized representative, before a subsequent lift is placed. No heavy rock or boulders more than 6 inches in diameter will be allowed within 3 feet of the pipe, and no stones over 1 ½ inches in diameter will be allowed in the first 18 inches of the backfill.
4. The compaction requirements found herein for the pipe backfill shall also apply to all sewer laterals and other appurtenances.
5. All surplus material, unsatisfactory material, rubbish, or other debris shall be hauled away from the site and disposed of by the Developer without extra compensation over and above the unit prices bid for each of the construction items allowed in the proposal.

F. Restoration of Roadways, Curbs, Driveways, Sidewalks and Landscaping:

All existing roadways, curbs, driveways, sidewalks and landscaped areas within the limits shown on the approved drawings that are disturbed or altered during the course of sanitary sewer construction shall be restored and/or replaced in accordance with applicable sections of these Rules and Regulations or to Washington Township Standards.

II. Structure - Manhole Construction

A. General

1. Location - Manholes shall be installed at all changes in grade and size, changes in alignment for sewers less than 24 inches in diameter, at all intersections and at distances not greater than 400 feet. Cleanouts may be used only when approved by the Authority for special conditions. Cleanouts substituted for manholes shall not be installed at the end of laterals greater than 150 feet in length.
2. Manholes shall not be located in streams. All manholes subject to flooding by street runoff or high water, shall be protected with watertight covers.
3. Drop Type - A drop pipe shall be provided for the sewer entering a manhole at an elevation of 24 inches or more above the manhole invert. Where the difference in elevation between the incoming sewer and the manhole invert is less than 24 inches, the invert shall be filleted to prevent solids deposition.

Drop manholes shall be constructed as an outside drop connection.

The entire outside drop connection shall be encased in concrete.

4. Flow Channel - The flow channel through manholes should be made to conform in shape and slope to that of the sewers.

Manholes shall be of pre-cast concrete, unless approved by the Authority. Manholes shall be waterproofed on the exterior.

B. Construction

1. Excavation:
 - a. Excavation shall be in accordance with Article X Section 1003 I.A. of these rules and regulations. In addition, excavation shall be carried 12 inches below the bottom of the proposed manhole grade to allow for placement of bedding material. All excavated material that is deemed unacceptable by the Authority or its authorized representative to re-use as backfill shall be hauled off-site and disposed of in accordance with local, state and federal regulations.
 - b. Excavation shall be kept dewatered in the same manner as sanitary sewer pipe.

2. Manhole Construction:

a. Coarse aggregate bedding shall be placed in 6 inch lifts and thoroughly compacted using mechanical compaction equipment to 95% of the material's maximum dry weight density as determined by ASTM-D698 (Standard Proctor).

~~3-2.~~ Precast bases, barrels and other sections shall be set to ensure that the floor is level and to ensure that all pipe inlets and outlets are at the correct elevations. All joints between precast units including joints at grade rings, shall have two(2) approved flexible butyl rubber continuous ring gaskets.

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~~4-3.~~ When constructing sanitary drop manholes, ductile iron pipe shall be placed as shown on the Standard Drawings to the elevation indicated on the approved plans. A tee connection of ductile iron and of a type which will accept PVC or Ductile Iron horizontal pipe of the proper sizes shall be provided as shown on the Standard Drawings. Pipe joints shall be sealed with rubber gaskets meeting the requirements of ASTM-C443. The vertical drop pipe shall be encased with Class C cement concrete to the limits indicated in the Standard Drawings.

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d. All pipes entering manholes shall be cut off flush with the inside face of the manhole, sealed and finished with mortar. All lifting holes shall also be filled with non-shrink mortar.

e. A poured invert of Class C cement concrete shall be placed as indicated in the Standard Drawings to direct flows through the manhole. Slopes in the manhole floor outside the invert area shall drain toward the pipe at approximately 2%.

f. The backfill material for manholes shall consist of acceptable excavated material or, if determined by the Authority or its authorized representative, the special backfill material as specified in Article X, Section 1002, III.M.

g. Backfill manholes by placing 6" maximum layers symmetrically on all sides and in accordance with Article X, Section 1003, E. of these rules and regulations. Backfill to subgrade.

h. Inlet and outlet pipes shall be joined to the manhole with a gasketed, flexible, watertight connection that allows differential settlement of the pipe and manhole wall to take place.

i. At the Authority's direction, the Developer shall construct sanitary sewer manholes with two (2) foot

stubs of SDR 35 PVC Pipe in the direction of anticipated future extensions. Each two (2) foot stub shall be capped with a watertight cap. Each two (2) foot stub shall be placed at an elevation approved by the Authority.

j. Castings shall be set on at least one course of concrete bricks on a full mortar bed at the finished elevation so that no subsequent adjustment is necessary.

k. Shallow manholes 5' or less may use slab tops. Slab tops in cartway areas shall be held 2 feet below finished grade with precast rings or two (2) courses of concrete bricks to the bottom of the casting.

D. Repairs to roadways, curbs, driveways, sidewalks, and landscaping:

All existing roadways, curbs, driveways, sidewalks and landscaping within the excavation limits for manholes that are disturbed or altered during the course of construction shall be restored or replaced in accordance with related sections of these rules and regulations and Washington Township Standards.

E. Interferences:

Any interferences or obstacles encountered during construction not covered by the approved proposed sewer extension plans or elsewhere in these rules and regulations shall be referred to the Authority or its authorized representative before proceeding with construction.

SECTION 1004: RESTORATION OF DISTURBED FACILITIES

I. General

1. When the work is completed on construction of Sewers, Drains and Appurtenances, all surplus material, earth, rubbish, etc., shall be removed from the site of the work. That portion of the surface of each street disturbed by construction shall be left in as good condition as it was before the commencement of the work, and it shall be promptly and regularly maintained in such condition during a period of one year after the acceptance of the work. This work of maintenance shall apply only to items of materials and workmanship improperly installed under the Developer's Agreement, and maintenance measures made necessary by the ordinary wear and tear occasioned by traffic shall not be at the expense of the Developer. However, any repairs required because of unsatisfactory trench backfilling shall be at the expense of the Developer.

II. Pavements, Curbs and Gutters

1. In all streets or parts of streets or other areas that are paved, all backfilling shall be well compacted in accordance with Section 1003. After the trench or excavation has been backfilled to the required height and subgrade for the new paving, curb and/or curb and gutter, it shall be further compacted by rolling the backfill at subgrade elevation. After examination by the Authority's authorized representative of the backfill and subgrade compaction, the pavement, curb and/or curb and gutter shall be replaced in accordance with Washington Township Specifications.

III. Driveways and Sidewalks

1. The backfill and subgrade for all driveway and sidewalk replacement shall be placed and compacted in the same manner as that specified for pavements. All edges broken from driveways and sidewalks shall be removed in accordance with Article X, Section 1003.A.2.
2. All driveways and sidewalks shall be replaced to the section and of the same materials as that removed in accordance with Washington Township's established standards for similar work.

IV. Seeding

1. General

1 On all areas shown on the approved drawings or disturbed during construction, the backfills, fills, and embankments shall be brought to a subgrade level six (6) inches below finished grade. When subgrades have settled, topsoil shall be deposited and spread to a finished depth of at least six (6) inches and fine raked, ready for seeding.

~~3-2.~~ If the backfill, fill or embankment material is sand, a four (4) inch layer of clay or fine silt furnished by the Developer shall be spread over the subgrade in two layers, and each layer thoroughly mixed into sand subgrade by disk harrows. After the clay or fine silt has been mixed with the sand subgrade, leveled and smoothed, topsoil shall be furnished by the Developer, deposited and spread to a finished depth of at least two (2) inches, and fine raked, ready for seeding.

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~~4-3.~~ Topsoil, clay and fine silt may be taken from excavations made by the Developer for structures and pipe lines, if suitable soils are encountered. Otherwise, all clay and topsoil shall be secured by the Developer from other sources.

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4. Topsoil shall conform to PennDOT Publication 408, Section 802.

B. Seeding Operations

1. On areas to be seeded, at least forty-eight (48) hours before the sowing of any seed, commercial fertilizer at the rate of 800 pounds per acre shall be uniformly spread over the topsoil by a mechanical spreader and mixed into the soil for a depth of two (2) inches. The areas shall then be lightly raked or harrowed until the surface of the finished grade is smooth, loose and pulverized.
2. Grass seed shall then be sown by a mechanical seeder, operating in two directions, and lightly raked into the surface and rolled once with a light hand roller. The seeded areas shall be thoroughly watered with a fine spray in such a manner as not to wash out the seed. The Developer shall use care in raking, not to destroy the finished grade, nor to disturb distribution of seed. Sowing of seed shall be done only within the seasons extending from August 15 to October 15, and from April 1 to June 1, unless otherwise permitted by the Authority.
3. Grass seed shall consist of and be sown at the rate of forty (40) pounds of Kentucky blue grass, ten (10) pounds of red top, ten (10) pounds of white clover, and ten (10) pounds of farm rye per acre. Oats shall be substituted for rye, if seed is sown in the Spring. On all disturbed areas the seed shall be covered by a slight covering of straw, approximately one-fourth (1/4) inch in depth.
4. The seeded area shall be watered, maintained and patched as necessary until the Developer's work is completed and accepted.

SECTION 1005: EROSION AND SEDIMENTATION CONTROL

1. It shall be a requirement of all sanitary sewer extensions, proposed lift stations and proposed sewage treatment plants that the developer shall have a Soil Erosion and Sedimentation Control Plan and/or permit, prepared in accordance with current state law (Erosion and Sedimentation Control, Chapter 102, Pennsylvania Rules and Regulations), reviewed and approved by the Erie County Soil Conservation District prior to final approval of his/her plans.
2. The Developer shall take all precautions necessary to prevent construction vehicles from tracking mud and debris onto Township and State owned roads.

ARTICLE XI

DELINQUENCIES, VIOLATIONS AND REMEDIES

Washington Township Ordinance No. 7-96 is hereby incorporated into these Rules and Regulations in its entirety. (See appendix D)

ARTICLE XII

VALIDITY

SECTION 1201:

If any one or more of the provisions of this set of Rules and Regulations shall for any reason be held to be illegal or invalid or otherwise contrary to law, then such provisions shall be null and void and shall be deemed separable from the remaining provisions hereof, but shall in no way otherwise affect the validity of these Rules and Regulations.

SECTION 1202:

These Rules and Regulations shall take effect immediately.

SECTION 1203:

All other rules and regulations affecting the Sewer System not in accordance with these Rules and Regulations are hereby repealed insofar as they affect these Rules and Regulations.

SECTION 1204:

These rules and regulations were adopted pursuant to and in accordance with a Resolution of the Board adopted

ARTICLE XIII

PUMP STATIONS AND PRESSURE SEWER SYSTEMS

SECTION 1301: NEW PUMP STATIONS

Installation of new pump stations to convey flow from gravity sewer mains shall be avoided to the extent practical. When the installation of a new pump station cannot be avoided, the pump stations and force main shall be designed to meet the requirements of the Pa. DEP Domestic Wastewater Facilities Manual, latest edition. Submersible pump stations are generally preferred. The pumps and controls shall be from a reputable manufacturer offering a minimum 5-year prorated warranty (minimum 1-year full warranty) and having a local manufacturer's service representative. Complete plans and specifications for the pump station and force main shall be submitted to the Authority for review and approval. The developer shall secure all permits necessary for the construction of the pump station and force main, including but not limited to, highway occupancy permits and a Water Quality Management Permit from Pa. DEP, as may be necessary. All pump stations, except for individual grinder pump stations as discussed in Section 1303, shall be owned, operated, and maintained by the Authority.

SECTION 1302: EXTENSIONS TRIBUTARY TO EXISTING PUMP STATIONS

Plans for sewer system extensions that are tributary to one or more existing pump stations shall be submitted to the Authority for review and approval. Plans shall include such data as necessary for the Authority to assess the impact of the proposed extension on the capacity of existing pump stations, including estimates for average flow and peak instantaneous flow. When the Authority, in consultation with the Authority Engineer, determines that the capacity of an existing pump station will be exceeded as a result of a proposed extension, the developer of the proposed extension shall provide for the necessary additional capacity at the existing pump station. Upgrades of existing pump stations shall abide by the standards for new pump stations in Section 1301 as applicable.

SECTION 1303: PRESSURE SEWER SYSTEMS

- A. The use of small diameter pressure sewer systems with individual grinder pump service connections may be considered as an alternative to a conventional gravity sewer systems for situations where the use of gravity sewers is not feasible and/or cost-effective, such as where site topography makes it difficult for the potential users to be served by a gravity collection system. Such systems shall be designed to meet the requirements of the Pa. DEP Domestic Wastewater Facilities Manual, latest edition, and these Rules and Regulations.
- B. Complete plans and specifications for pressure sewer systems and individual grinder pump service connections shall be submitted to the Authority for review and approval. The developer shall secure all permits necessary for the construction of the system, including but not limited to, a

Water Quality Management Permit from Pa. DEP, as may be necessary.

C. Design Criteria for Pressure Sewer Collection Piping

1. Construction requirements of Article X of these Rules and Regulations shall apply to the construction of pressure sewer systems except as modified by this Section.
2. Pressure sewer service lines and main lines shall be type PE3408 High Density Polyethylene (HDPE) in accordance with ASTM F 714, Standard Dimension Ratio (SDR) 11.
3. Molded or fabricated HDPE fittings shall be constructed of the same material as the pipe, pressure rated to meet or exceed the SDR pressure rating for the size pipe to which they attach. Mechanical or compression type fittings or adapters may be used only when approved by the pipe and fitting manufacturers for the intended purpose. When using mechanical or compression type fittings or adapters, the resistance to tensile loading shall be considered and appropriate anchors shall be used as recommended by the manufacturer.
4. HDPE pipe shall be joined to other HDPE pipe or to HDPE fittings by butt fusion, socket fusion, or electrofusion. Extrusion welding shall not be permitted. Threading or gluing HDPE pipe joints shall not be permitted. Joints to mechanical or compression type fittings shall be made in accordance with the manufacturer's recommendations.
5. The minimum nominal size of all pressure sewers shall be 1-1/4 inches. Pressure sewers shall be sized to provide a minimum scouring velocity of two feet per second at all points in the system, and to minimize friction head such that all grinder pumps on the system operate within the manufacturer's recommended performance range for flow and head.
6. The determination of flow in the pressure sewer system shall be made on the basis of the maximum probable number of pump units expected to run simultaneously or some other method of computing peak flow acceptable to the Authority.
7. Special care shall be exercised in the hydraulic design of a pressure sewer system which is proposed to serve ultimately more connections than those expected to be served initially.
8. Pipe shall be installed in accordance with ASTM D 2774, "Standard Practice for Underground Installation of Thermoplastic Pressure Piping." Stable soils having a maximum particle size of 1/2 inch shall be used to surround the pipe, and shall be compacted to provide uniform and continuous support on all sides of the pipe.

In general, coarse grained soils (50 percent or less passing U.S. Standard No. 200 sieve) are considered stable. Where soils are unstable or otherwise unsuitable, stable pipe bedding material shall be provided to surround the pipe.

9. Minimum cover over pressure sewers shall be 4 feet below finished grade.
10. Cleanouts shall be installed at intervals sufficient to reach all portions of the piping with cleaning equipment capable of reaching distances of 500 feet from the cleanout. Cleanouts shall be installed at the upstream end of every major branch.
11. Pressure and vacuum air release valves shall be provided at all high points in the lines, or the locations as recommended by the manufacturer of the pumping systems. High points shall be minimized by construction of piping on gradually ascending slopes.
12. All mains shall be installed with buried metallic tracer tape above the pipe, or tracer wire. Tracer wire shall be UL listed, manufactured of 12 gauge, or heavier, copper clad steel wire and a high molecular weight polyethylene (HMWPE) insulation specifically for direct burial application locator wire.
13. A curb box and curb stop type valve shall be installed as near as possible to the property line at a location acceptable to the Authority. Curb stop valves shall be full-port quarter turn ball valve type, with brass or nylon bodies, manufactured specifically for water or wastewater service lines, pressure rated to 150 psi. Curb boxes shall be asphalt coated cast iron, extension type with arch pattern base, with cast iron two-hole pattern lid labeled "SEWER".
14. Connections of pressure sewers to the Authority's gravity mains or manholes shall be water tight. Where connection is made to a manhole, the discharge shall be extended to the bottom of the manhole and directed toward the outlet pipe in a manner to keep sewage confined to the manhole invert channel. Connections to gravity mains shall use appropriately sized fittings or saddle type adapters.
15. Pressure sewer systems shall be pressure tested using clean water before being put into service. All air shall be flushed from the system before the test. The test pressure shall be at 1.5 times the expected normal operating pressure, but shall not exceed the pressure rating of any system component. The pipe shall be pressurized with clean water and the pressure shall be allowed to stabilize. After equilibrium is established at the test pressure, the test pump shall be turned off

and the test pressure shall be held for 1 hour. The pressure test shall be deemed to pass if the pressure remains within 5 percent of the equalized test pressure, or if makeup water is added within the manufacturer's limits for pressure testing.

D. Design Criteria for Pressure Sewer Individual Grinder Pump Stations

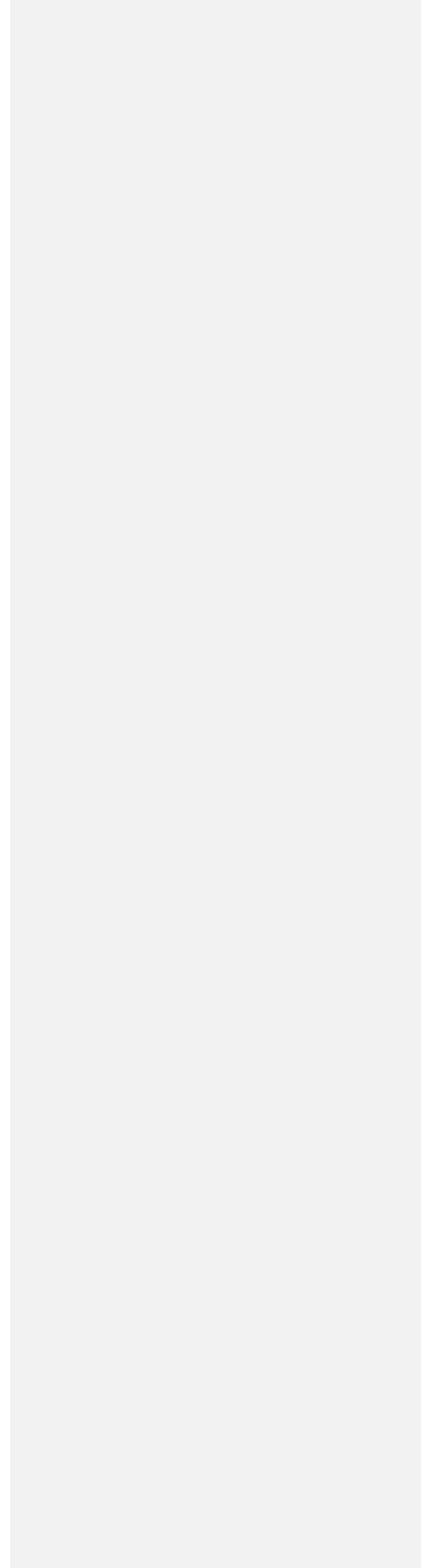
1. The gravity sewer lateral between the building and the individual grinder pump station shall be constructed in accordance with the standards of these Rules and Regulations for laterals connecting to a gravity main. All connections shall be watertight.
2. Individual grinder pump stations shall consist of sewage grinder pump(s), a watertight basin, level control devices, control panel, discharge piping, check valve, shutoff valve, alarms, and appurtenances. Basin location, size, depth, and structure shall comply with site conditions and the property owner's requirements. The pump station must be accessible for maintenance, protected from weather and flooding, and secured from unauthorized access and vandalism.
3. The control panel shall be installed within the building being served, or within a NEMA 4X weatherproof enclosure accessible to the property owner.
4. The pump shall be selected based on the head and flow conditions applicable to the site. Positive displacement type pumps shall be utilized for locations discharging to a low pressure system. Either positive displacement or centrifugal type pumps shall be utilized for locations discharging to a manhole or gravity sewer open to the atmosphere.
5. The pump shall produce a flow of at least 8 gallons per minute under all conditions. Pumps serving more than one equivalent dwelling unit shall be sized per the manufacturer's recommendations based on the expected peak flow.
6. The pump unit shall be capable of reducing any material in the wastewater that enters the unit to such size that the material will pass through the pump and pressure sewer system without plugging or clogging.
7. Provisions shall be made to ensure that the pump operates under power load fluctuations and contains integral protection against back siphonage and overpressure.
8. The pump unit must be capable of being removed without entering or dewatering the collection basin. Pumps must be serviceable and replaceable under wet conditions without electrical hazard to the repair personnel.

9. The net storage capacity of the basin shall be a minimum of 50 gallons. The basin shall be capable of accommodating normal peak flows and emergency storage during a short power failure.
10. The system shall include check and shutoff valves to isolate the pump unit from the pressure system.
11. Appropriate high water and overflow detection devices such as visual and/or audio alarms shall be provided. The pump control panel shall contain a separate electrical circuit and breaker for the alarms.

E. Ownership and Maintenance

1. The property owner shall own and maintain the gravity sewer lateral between the building and the individual grinder pump station, the individual grinder pump station and all appurtenances thereto, and the discharge piping up to but not including the curb stop shut off valve.
2. The Authority shall own and maintain the pressure sewer system mains and service lines up to and including the curb stop shut off valve and valve box.
3. Ownership and maintenance responsibilities contrary to paragraphs 1 and 2 above must be clearly established by written agreement between the property owner and the Authority prior to approval for the connection. If no such agreement exists, the ownership and maintenance responsibilities shall be in accordance with paragraphs 1 and 2 above.
4. All portions of the system, whether to be owned and maintained by the Authority or privately owned and maintained, shall be subject to inspection by a representative of the Authority both during and after construction and at any reasonable time the system is in operation. No facilities shall be buried or covered without first being inspected by a representative of the Authority. The Authority shall be provided 48 hours notice prior to the need for an inspection.
5. Recorded easements shall be provided for all portions of the system owned by the Authority that are not otherwise located within a public right-of-way.
6. For all individual grinder pump stations, the property owner shall be responsible for providing and paying for electric service.

STANDARD
DRAWINGS



APPENDIX A
PREDEVELOPER'S
AGREEMENT

PREDEVELOPER’S AGREEMENT

THIS AGREEMENT made and entered into this _____ day of _____, 20____, by and between _____, of the Township of Washington, County of Erie and State of Pennsylvania, hereinafter called **“DEVELOPER”**,

AND

WASHINGTON TOWNSHIP SEWER AUTHORITY, an Authority created under and by virtue of the Municipality Authorities Act of 1945, as amended, with its principal office located in the Township of Washington, County of Erie and State of Pennsylvania, hereinafter called **“AUTHORITY”**,

AND

WASHINGTON TOWNSHIP, a Second Class Township of Erie county, Pennsylvania hereinafter called **“TOWNSHIP”**.

WITNESSETH:

WHEREAS, the Developer is the owner of real estate in the Township of Washington, County of Erie and State of Pennsylvania; and

WHEREAS, the Developer is desirous of investigating with the Township and Authority the implementation of servicing the Developer’s real estate with sanitary sewer; and

WHEREAS, Developer acknowledges that the Authority and Township will incur costs for engineering, administrative and legal work performed with regard to such preliminary investigation.

NOW, THEREFORE, in consideration of their intent to be legally bound hereby and other good and valuable consideration, the parties hereto agree as follows:

1. Developer agrees to deposit a \$300.00 application fee, which shall be non-refundable for expenses incurred by the Township and Authority for preliminary engineering, administrative and legal work. Should the Developer enter into a formal developer’s agreement with the Authority and Township, the application fee will be applied to the deposit required under No. 2 of that agreement, a copy of which is attached as Exhibit “A”.

2. It is understood between the parties that the amount of the bond will be set at the time of the signing of a formal developer’s agreement, attached as Exhibit “A” and that no work will be commenced prior to the signing of that agreement.

Washington Township
Sewer Authority

Fee Schedule Summary
(Adopted 10/12/95)

1. Plan review charges shall be based on charging the following:

1. Fifty Dollars (\$50.00) per lot, plus
2. Two Dollars (\$2.00) per foot of sewer main and/or force main,
plus
3. Five Hundred Dollars (\$500.00) per pump station
4. Minimum review charge of Three hundred dollars (\$300.00)

II. The amount of bonding required for the Developers Agreement shall be based on the following:

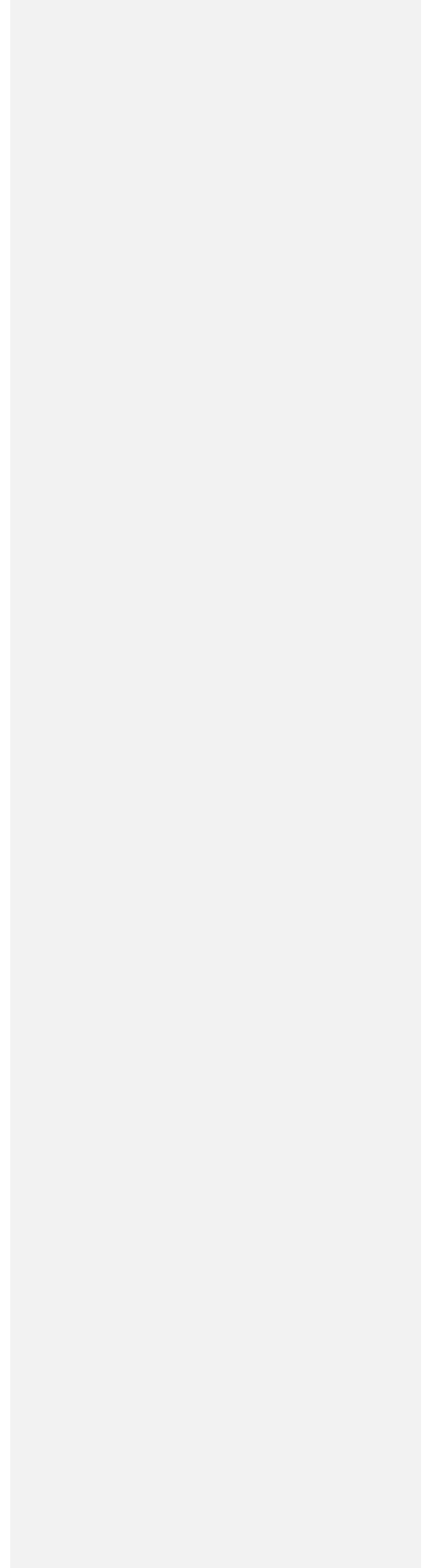
1. Fifty Dollars (\$50.00) per foot of sanitary sewer main, plus
- ~~3-2.~~ One Thousand Five Hundred Dollars (\$1,500.00) per manhole,
plus
- ~~4-3.~~ Twenty Five Dollars (\$25.00) per foot of force main, plus

4. Total bond for the pump station to be determined upon review of the plans, to be determined by the Engineer.

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APPENDIX B

DEVELOPER'S
AGREEMENT



DEVELOPER'S AGREEMENT

THIS AGREEMENT made and entered into this _____ day of _____ 20____, by and between _____, of the Township of Washington, County of Erie and State of Pennsylvania, hereinafter called "**DEVELOPER**",

AND

WASHINGTON TOWNSHIP SEWER AUTHORITY, an Authority created under and by virtue of the Municipality Authorities Act of 1945, as amended, with its principal office located in the Township of Washington, County of Erie and State of Pennsylvania, hereinafter called "**AUTHORITY**",

AND

WASHINGTON TOWNSHIP, a Second Class Township of Erie County, Pennsylvania hereinafter called "**TOWNSHIP**".

WITNESSETH:

WHEREAS, the Developer is the owner of real estate in the Township of Washington, County of Erie and State of Pennsylvania as set forth on Exhibit "A" attached herein; and

WHEREAS, the Developer is desirous of serving said property with a sanitary sewer in accordance with plans approved by the Authority's Consulting Engineer; and

WHEREAS, all parties hereto have agreed upon certain terms and conditions under which said sanitary sewer system shall be constructed.

NOW, THEREFORE, in consideration of their intent to be legally bound hereby and other good and valuable consideration, the parties hereto agree as follows:

1. Developer agrees to construct this sanitary sewer system in compliance with the plan of construction as approved by the Consulting Engineer for the Authority, and further agrees that said construction shall be in accordance with General Specifications for Gravity Sewers, Drains and Appurtenances, prepared by the Authority's Consulting Engineer as well as the Township's specifications covering backfill, which specifications are likewise incorporated therein by reference, and that such construction shall be subject to inspection and approval by the Authority or any of its accredited agents or representatives.

No. 2. Developer further understands and agrees that it/they will assume all costs and expenses in connection with the review of submitted plans and construction of the system and it/they will deposit \$ _____, with the Authority, as calculated in the "Fee Schedule Summary", to be applied to expenses which the Authority will incur for engineering, full time inspection, administrative and legal work performed with relationship to such construction.

During the review process, the Authority's Engineer shall notify the Authority and the Developer if in his opinion the amount of the deposit will be insufficient to complete the review. The Authority's Engineer will estimate the amount needed to complete the review and request an estimated additional sum from the Developer. Upon receipt, by the Authority, of the additional moneys, the Authority's Engineer shall continue to review until those funds are expended or the review is completed.

During the construction process, the Authority Engineer shall forward to the Developer a monthly accounting of the monies expended for full time inspection and construction oversight, legal expenses and administrative expenses. If during the construction process the Authority's Engineer determines that the insufficient monies remain to provide full time inspection and engineering administration of the inspection, for the remainder of the project, he shall notify the Developer. The Authority's Engineer shall estimate the amount required to provide full time inspection and engineering administration of the inspection for the remainder of the project. Construction of the system shall continue until those funds are expended or the construction is completed.

The rates charged by the Engineer shall be those rates provided to the Authority by the Engineer for each calendar year.

Should the money deposited with the Authority be fully expended prior to the completion and acceptance of the System, the Authority's Engineer shall cease review or inspection until further monies are deposited with the Authority. No work performed without the Authority's Engineer or his agent present will be accepted by the Authority.

It is specifically understood and agreed, that the Developer hereto shall restore the surface of any public or private property or way through, which the sewer system shall be constructed, to the condition that existed prior thereto.

It is specifically understood and agreed that the Developer hereto shall restore the surface of any public or private property or way through which the sewer system shall be constructed to the condition that existed prior thereto.

3. The Developer also agrees that they will post with the Authority a Performance and Maintenance Bond in the Amount of which bond shall be in favor of the Authority hereto and the Township of Washington, and shall be effective for a period extending one year beyond the date of acceptance by the second party. This bond is for the purpose of protecting and holding harmless the Authority or the Township of Washington from any and all costs and expenses occasioned by the repair, replacement or maintenance of the project due to defective materials or workmanship. This Bond shall be in the amount of \$ _____.

4. Upon completion of the work of construction and final inspection including testing, and acceptance by the Authority, ownership of said sanitary sewer system shall vest in the Authority, and all rights, title and interest of the Developer therein shall cease and terminate; it being the intention of the Developer to dedicate said sewer system to public use, and the approval and acceptance by the Authority shall be deemed to be acceptance of said dedication. No connection to said sanitary sewer shall be made at any time by the Developer or any other party or person without first obtaining a permit from Washington Township and paying the tap-in fee in effect at the time of connection.

Upon the completion of the construction, the developer shall furnish the Authority with "As Built" plans showing actual locations of all facilities constructed hereunder, including lateral connections. The "As Built" plans must be similar or equal to a double matted mylar film drawing to allow subsequent drawings by the Authority.

5. It is specifically understood and agreed between the parties hereto that the Developer herein shall fully complete the proposed sanitary sewer system in question within ___ days after the actual commencement of the work in connection with this system. In any event, the work shall be completed by Developer no later than _____ time being of the essence.

6. It is understood and agreed between the parties hereto that the Township and/or Authority will operate the sewer system constructed in Washington Township, the subject of this Agreement, under a separate agreement between the Township and the Authority.

7. In the event that the Developer undertakes to construct the sewer line as contractor, the Developer agrees to indemnify and save harmless the Authority and the Township of Washington from any and all claims for personal injury of any person whether or not an employee of the Developer, Authority or the Township of Washington, arising out of related to the construction of the sewer line which is the subject of this Agreement, whether or not the injured party alleges and proves that the loss is attributable in whole or part, to any act or omission or commission, breach of duty or negligence on the part of the Authority and/or the Township of Washington, said indemnity shall hold the Authority harmless from any and all suites, costs, expenses of defense, including attorneys' fees, judgments and decrees. In the event that the Developer enters into a contract with a third party as contractor for the construction of part or all of the construction which is the subject of this Agreement, then the Developer agrees that it will require a specific term or condition of said Agreement that such contractor shall indemnify and hold harmless the Authority and the Township of Washington to the same extent and with the same effect as the Developer owes indemnity to the Township when constructing without a contractor.

8. In the event that the Developer is undertaking the construction referred to herein as "contractor", the Developer agrees to procure comprehensive public liability insurance in the amount of _____ for injury and/or death and _____ for property damage containing coverage for contractual liabilities undertaken by the Developer under the indemnity provisions of the Agreement. Prior to the Commencement of the work the Developer shall provide to the Authority proof of compliance with the insurance provisions of this Agreement satisfactory to the Authority and proof of Workman's Compensation. In the event that the Developer enters into a contract for the construction of the sewer which is the subject of this Agreement with a third party contractor, then the Developer agrees

that it will require a term or clause in said contract obligating said contractor to obtain insurance of the kind and amount referred to herein for the benefit of the Authority and the Township of Washington and said clause shall obligate the contractor to provide proof of such insurance satisfactory to the Authority prior to construction.

9. The Developer hereby agrees to acquire a _____ ~~foot~~ right-of-way over all private property upon which the said sewer is constructed; said right-of-way to be in the name of the Authority and to be binding upon the owners and their successors in title; and which will permit the Authority and/or Township to maintain said sewer

10. This Agreement is binding on all the heirs, successors and assigns of all parties of this Agreement.

IN WITNESS WHEREOF, the parties hereto have hereunto set their hands and seals the day and year first above written.

WITNESS:

ATTEST:

WASHINGTON TOWNSHIP SEWER AUTHORITY

Secretary

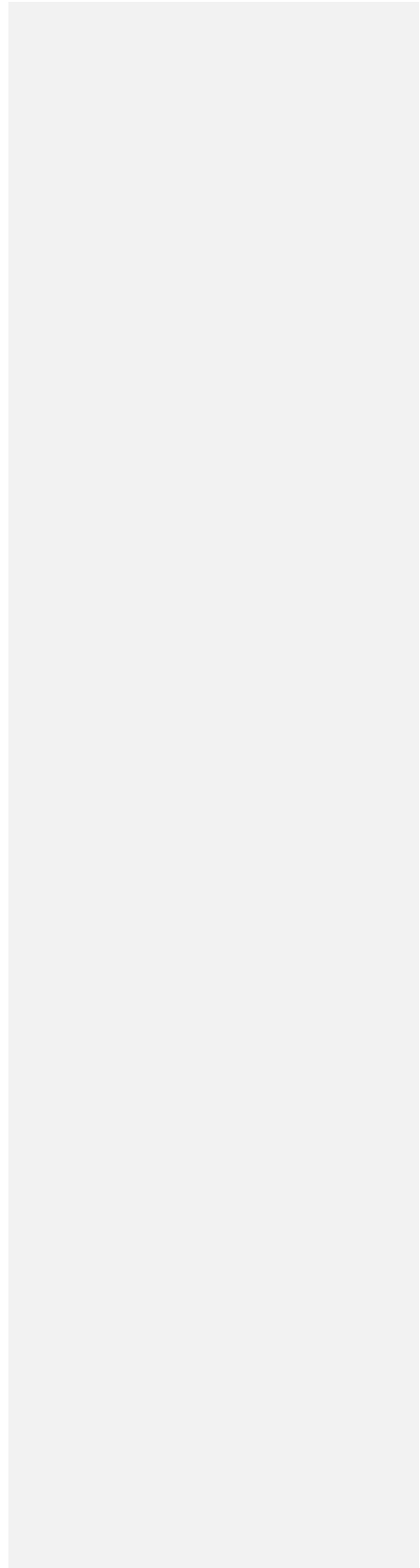
Chairman

ATTEST:

WASHINGTON TOWNSHIP COUNCIL

Secretary/Manager

Mayor



APPENDIX C

Washington Township
Sewer Connection Summary
and
Washington Township Rules and Regulations
for Laying Branch Sewers

WASHINGTON TOWNSHIP SEWER CONNECTION SUMMARY

1. Each Tap-in requires that a five hundred (\$500.00) dollar bond on behalf of the installer be posted with the township. The bond is held for thirty (30) days after occupancy of the structure.
2. Connection pipes shall be either PVC SDR-35, Schedule 40 or Ductile Iron and must be a minimum of four inches (4") in diameter for any residential use and a minimum of six inches (6") for any commercial use.
3. A minimum of (1/4) inch per foot slope is required.
4. Manhole connections must be water tight and completely concreted and some connections as determined by the Township inspector must also be encased in concrete.
5. A clean out and a fresh air vent are required for every tap-in and clean outs are required every seventy five (75) feet. See vent/Trap Detail
6. Down spouts, footer drains french drains and stormwater sump pumps are not permitted in the sanitary sewer.
7. Connection of new residential buildings with in the existing sewer area.
 - a. Applicant is to obtain all necessary permits from the Township.
 - b. Applicant is to provide a sketch plan showing that the proposed lateral can tie in to the existing sewer system at a 2% minimum grade.
 - c. Connections to pump station shall not be permitted.
 - d. Permission for granting connections to the existing sewer system shall be at the discretion of the Township.
 - e. The Township shall notify the Authority of any new connections.
8. Connection of new Commercial and Industrial buildings, that require a Land Development Plan, and that will connect to the existing system.
 1. The Owner is to enter into a Predevelopers agreement and Developers agreement with the Sewer Authority.
 2. Plans are to be submitted in accordance with the Sewer Authority's Rules and Regulations.
9. Connections to the sewer system that require a sewer main extension.
 - a. All sewer extensions shall be brought before the Authority and shall follow the rules and regulations of the Authority.
 - b. All sewer extensions shall be constructed to the far property line.

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**WASHINGTON TOWNSHIP
RULES & REGULATIONS FOR LAYING BRANCH SEWERS (LATERALS)**

1. Applications for permits to construct house sewers to connect with the Washington Township Sanitary Sewer System shall be made by the owner of the property to be served, or his properly authorized agent, to the Township Administrator.
2. The fee for inspection, in the amount of Ten (\$10.00) Dollars, shall be paid at the time the permit is granted.
3. At least twenty-four hours notice must be given to the Township Administrator before any actual of construction is begun.
4. The owner, or his authorized agent, must execute a cash bond to the Township in the amount of Five Hundred (\$500.00) Dollars, conditioned that he will observe all resolutions, ordinances, rules and regulations adopted by the Township to govern the making of branch sewer connections, that he will pay his assessment for said construction.
5. All work must be done by a competent plumber or sewer contractor whose qualifications have been approved by the Township.
6. The work shall be done by a plumber or sewer contractor , hired by the owner, and approved by the Township.
7. All work is subject to inspection and approval by the Township, and no branch sewer connection shall be covered after construction unless and until it has been inspected and approved by the Township. The use of six (6) inch Schedule 40 or PVC pipe (SDR 35) is permissible by the Township.
8. All construction of branch sewers to connect with the Township sewer system shall be Schedule 40 or PVC pipe (SDR 35) and shall be given an even grade from the horizontal trap to the main sewer of not less than one quarter inch per foot. All joints shall be made watertight.
9. All construction of private sewers to connect with the Township sewer system, to buildings other than private homes shall be of such materials and size, (six (6) inch min.) and shall be given such grade as the Board of Supervisors shall specify at the time application is made and the permit issued.
10. Each branch sewer shall be provided with a horizontal trap, placed immediately outside the cellar wall. The trap shall be provided with a handhole for convenience in cleaning, the cover of which shall be properly fitted and made gas and air tight, with heavy brass screw cap ferrule, caulked in. All traps of this class shall be approved by the Township.

11. Each branch shall be provided with a fresh air inlet, not less than four (4) inches in diameter, on the outside of the trap, extending to the outer air.
12. The ends of all pipes not to be immediately connected for branch use shall be securely closed with a cap set in cement, mortar, or other suitable, approved material.
13. The inside of every branch sewer connection, after it is laid, shall be left smooth and perfectly clean throughout its entire length.
14. Notice of completion of construction of any branch sewer shall be given to the Township Sewer Administrator immediately upon completion of said construction.
15. No person shall be allowed to discharge ground water, surface water, roof water, yard or areaway water, storm water, or water of any kind except the necessary water from bath, toilet, kitchen and laundry drains, into the sewer, as further outlined in Section 6, Ordinance No. 5-76.
16. No person shall be allowed to connect a cellar drain into the sewer unless and until he proves to the satisfaction of the Board of Supervisors that such drain receives nothing more than laundry water and such water as is necessarily used to keep his cellar clean.
17. No branch sewer to serve more than one house or building shall be constructed to connect with the Township sewer system. A "Y" trap shall be installed for clean-out purposes ahead of the horizontal trap.
18. The Township shall have the right at any time to make an inspection to satisfy itself that any branch sewer system receives nothing except sewage which is proper, under Township resolutions, rules and regulations, to be disposed of through the Township Sewer System.
19. All permits must be returned to the Township Sewer Administrator, signed by the Contractor laying the drain.
20. In consideration hereof, the person to whom this permit is granted agrees to pay his or her legal assessment for said public sewer.
21. A Highway Occupancy Permit shall be obtained from the Pennsylvania Department of Transportation whenever any excavating is to be performed within the limits of any public right-of-way, a township permit when crossing any township right-of-way.
22. A Tap-in fee in the amount of Five Hundred (\$500.00) Dollars shall be charged for any new sewer branch where a sewer branch has not been previously extended from the main sewer to the property line.

23. Any person who shall violate any of the above rules and regulations shall be subject to fines and penalties, as provided in Section 7, Ordinance No. 8-74.
24. Provisions of these Rules and Regulations are not intended to prevent the use of any material, device, method of assemblage or installation, fixture or appurtenance not specifically authorized, provided such alternate has been approved by the administrative authority.
25. In the construction of building or house sewer lines of more than 75 feet in length, clean-outs shall be installed at 75 foot intervals.
26. In paved areas, clean-outs shall be brought to the surface.
27. Clean-outs, covered with soil, shall not be more than 4" to 6" deep and measurements of such given to inspector for Township records.
28. Where the basement of a building has an excessive amount of ground water, a sump pump may be a requirement in the approval of the building or house drain. The discharge from this sump pump must not be connected to sanitary sewer lines. Decision as to necessity for a sump pump rests with the Inspector.

APPENDIX D
ORDINANCE 7-96