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PART 1

SEWER SYSTEM CONNECTIONS

§ 101. Rules and Regulations. [Ord. 683, 10/15/1987, § 1; as amended by Ord. 829, 11/15/2001]

These rules and regulations are a part of the contract with every person who takes sewer service and every such person by taking that service agrees to be bound hereby. These rules and regulations are not intended to conflict with any local, State or Federal legislation. Any provisions that are found to be in direct conflict with such legislation shall not be applicable.

§ 102. Enforcement. [Ord. 683, 10/15/1987, § 2; as amended by Ord. 829, 11/15/2001]

These rules and regulations shall become effective on the date of adoption of this Part for all properties then and after connected to the sewer system. All prior rules and regulations not consistent herewith are hereby repealed; provided, however, that all rights and fees due the Borough under such rules and regulations are preserved. The Borough reserves the right to amend these rules and regulations in such manner and at such time as, in its opinion, may be advisable.

§ 103. Definitions. [Ord. 683, 10/15/1987, § 3; as amended by Ord. 829, 11/15/2001]

APPLICANT — A person, building owner or lot owner who applies sewer services at a premises.

APPLICATION — Form supplied by the Borough indicating the desire to connect to the sewer system.

BOROUGH — Borough of Elizabethtown.

BOROUGH SERVICE LINE — The service pipe and appurtenances extending from the Borough's main including:

A. SEWER SERVICE LINE — The tee or tap in the main and the lateral pipe to the curb.

CUSTOMER — Any person who receives water service from the Borough.

CUSTOMER SERVICE LINE — That part of the sewer service pipe extending from the Borough's service line to the premises.

OWNER — The person in whose name the deed for a property is designated.

PERMIT — Borough of Elizabethtown sewer permit (including application form).

PREMISES — The property, building, or other site to which sewer service is furnished, including:

A. A building under one roof and occupied by one family or one business;

B. Each combination of buildings owned by one person, serviced by one service line, and occupied by one family or business;

C. Each side of a double house or each housing unit;

D. Each apartment, office, or suite of offices located in a building having several such apartments, offices, or suites of offices and using in common one or more means of entrance;

E. Any mobile home occupied by one family or business.

F. Any other type of dwelling unit or business requiring sewer usage as determined by the Borough.

SEWER SYSTEM — The Borough's sewer treatment and collection facilities, taken as a whole, or as any portion thereof.

TOWNSHIP — Mount Joy Township or West Donegal Township.

§ 104. Application Procedure. [Ord. 683, 10/15/1987, § 4; as amended by Ord. 829, 11/15/2001]

1. Any applicant desiring sewer service from the Borough's main into his or her premises must first make a written application on the form furnished by the Borough.

2. The applicant must also demonstrate that the premises has received final subdivision or land development plan approval and recorded at the County level. If the applicant's premises is located within the Township, the applicant must also produce a letter from the Township stating that the lot(s) have received final plan approval and recordation as above mentioned.

3. The application, which must be signed by the owner or duly authorized agent, shall not be approved until the Borough receives full payment of all applicable service connection charges, tapping fees or other charges adopted by the Borough.

4. Separate service applications shall be made for each premises as defined by this Part.

5. The fact that an application may not exist, or may not be signed by the owner, shall not relieve the owner of his or her responsibility for ultimate payment of all service charges related to the premises.

6. Applications for sewer service will be reviewed by the Borough and its consulting engineers. Completed applications shall be reviewed in order of date of submittal.

7. In the event that service connections are available on a limited basis only, applications will be reviewed and approved in order of date of submittal. A waiting list of approved applications will be on file at the Borough Office until new permits are issued.

8. In the event that a deposit is required, no interest will be paid by the Borough.

9. A permit shall be issued when the completed application has been approved by the Borough.

§ 105. General Conditions. [Ord. 683, 10/15/1987, § 5; as amended by Ord. 829, 11/15/2001]

1. No customer or any premises receiving sewer service shall be allowed to supply such service to other persons or other premises without written consent of the Borough.

2. Upon approval of the sewer service application, and payment of all applicable charges, the Borough will install its service lines. The location of the service line will be designated by the Borough.

3. All Borough property owners, customers or premises shall be connected to Borough sewer service lines as of the effective date of this Part. A waiver of this provision may be granted only by Borough Council.

4. The Borough will be responsible for the maintenance and repair of its service line.

5. The customer's service line, beyond the Borough's service line, shall be installed and maintained by the customer at his expense.

6. The customer's service line shall be installed as a continuous length of pipe and shall meet Borough specifications.

7. When a customer desires to change in location or size of an existing service line, he shall bear the entire cost of the change, including the Borough's service line.

8. Although service line pressure may be undesirably low, the Borough shall be under no obligation to increase pressure by pumping or other means.

9. Each customer will be supplied through a separate metered service connection unless the Borough waives this requirement in written form.

10. In private developments, the Borough shall own and maintain the Borough sewer service line in the same manner as a publicly owned development.

11. No cross-connections of any type shall be allowed by the Borough.

§ 106. Residential Conversions. [Ord. 683, 10/15/1987, § 8]

Conversions of existing industrial or commercial structures to a residential use, provided that the previous use has not lapsed by more than 30 months, may average the previous metered usage towards the proposed residential use for the purpose of computing the connection fees. Future residential use shall be calculated at 12,000 gallons per quarter for each premises.

Example: An existing industrial structure consumed 480,000 gallons in the four quarters prior to closing its operation. An applicant seeks to renovate this structure or include 20 apartment units. The connection fee for water and sewer services would by calculated as follows:

A. Four hundred eighty thousand gallons ÷ four quarters = 120,000 gallons per quarter.

B. Twelve thousand gallons per quarter ÷ 12,000 gallons = 10 units.

C. Twenty proposed units — 10 adjusted units = 10 units.

D. The applicant would pay $10,000 for water connections and $10,000 for sewer connections.

§ 107. Fee Adjustment. [Ord. 683, 10/15/1987, § 9]

Borough Council may, at its sole discretion, review and modify the sewer connection fees for a particular property when such an adjustment is in the overwhelming public good.

PART 2

SEWER RENTAL

§ 201. Classifications and Rates. [Ord. 399, 4/19/1960, § I; as amended by Ord. 453, 10/15/1963, § 1; by Ord. 507, 10/17/1967, § I; by Ord. 524, 1/7/1969, § I; by Ord. 563, 4/17/1973, § 1; by Ord. 587, 7/15/1975, § 1; by Ord. 606, 3/31/1978, § 1; by Ord. 636, 12/17/1981, § I; by Ord. 679, 12/18/1986, § I; by Ord. 739, 4/15/1993, § I; by Ord. 791, 12/17/1998, § I; by Ord. 849, 9/16/2004; by Ord. 924, 10/21/2010]

There is hereby imposed upon all owners of property located within the Borough of Elizabethtown which are connected to and have use of Borough sewers, sewerage system and sewage treatment plant, hereinafter collectively called "sewer system," an annual sewer rental, effective April 1, 1978, and thereafter, and which shall be due and payable quarterly in accordance with the schedule of rates and classifications hereinafter set forth:

A. Private Dwellings or Living Units. **[Amended by Ord. 965, 12/18/2014; and by Ord. 971, 12/17/2015]**

(1) Each single-family dwelling unit — $92.00 per quarter.

(2) Each apartment unit — $92.00 per quarter.

B. Commercial and Industrial and Other Nonresidential Users.

(1) Sanitary Sewage. The quarterly sewer rents or charges for all commercial or industrial users, including without limitation, retail gas stations with or without car washing facilities, laundromats, bowling alleys, motel and hotel units, restaurants, bars, grocery stores, drug stores or pharmacies, nursing homes, private clubs, photofinishers, swimming pools, hospitals, retail stores, beauty salons, barber shops, funeral homes, financial institutions, office buildings, theaters, municipal buildings, dry cleaners, coin-operated car washes and bakeries, shall be based on the volume or quantity of water used as evidenced by meter readings of water meters installed by the water supplier for the purpose of measuring water purchased from such water supplier or such other meters or measuring devices as may be installed or otherwise determined pursuant to the provisions of this Part, and shall be subject to the minimum charges hereinafter provided, all as follows: **[Amended by Ord. 965, 12/18/2014; and by Ord. 971, 12/17/2015]**

(a) Quarterly Rate — $0.0081 per gallon.

(b) Minimum Charge per Quarter — $92.00.

(2) Sanitary Sewage Users Who Have Purchased Reserved Capacity. The quarterly sewer rate or charges for all industrial establishments and nonresidential users who have purchased reserved capacity in the

treatment works shall be the proportion of the total cost to the Borough of operating the wastewater treatment plant (including applicable administrative costs but excluding debt service cost) equal to the ratio of the user's total recorded flow of wastewater to the total recorded flow of all industrialized and sanitary wastewater from all sources discharged into the facility. The charge shall be calculated in accordance with the following formula:

The charge shall be determined by multiplying the total operation and maintenance cost of the treatment works (excluding the Borough's debt service) by the ratio of the user's total recorded flow of wastewater to the total recorded flow of all industrial and sanitary wastewater from all Borough customers through the treatment works.

$A = B \times C/D$

Where:

A	=	user's basic operation and maintenance charge
B	=	total operation and maintenance cost of the treatment works exclusive of all principal or interest payable by the Borough because, on account of, or by reason of any outstanding obligation of the Borough
C	=	user's total recorded quarterly wastewater flow through the treatment works
D	=	total recorded quarterly wastewater flow through the treatment works

(3) Surcharge. In addition, a surcharge shall be imposed for any industrial waste which the Borough consents to accept into the sewer system which has a total suspended solids concentration in excess of 250 milligrams per liter or a total biochemical oxygen demand concentration in excess of 250 milligrams per liter or an oil and grease concentration in excess of 80 milligrams per liter, and the charge for treatment of such industrial waste shall be computed in accordance with the following formula: **[Amended by Ord. 965, 12/18/2014]**

Total Charge = Q + [0:01 Q(TSS-250)] + [0.01 Q(BOD-250)] + [0.01 Q(OG-80)]

Where:

Q	=	Quarterly metered charge
TSS	=	Total suspended solids in milligrams per liter
BOD	=	Biochemical oxygen demand in milligrams per liter
OG	=	Oils/grease in milligrams per liter

(4) Nutrient Surcharge. Due to the addition of nutrient limits to the Borough's NPDES wastewater discharge permit, a nutrient surcharge shall be imposed for any industrial waste which the Borough consents to accept into the sewer system which has a total nitrogen concentration in excess of 40 milligrams per liter and a total phosphorus concentration in excess of 10 milligrams per liter, and the charge for treatment of such industrial waste shall be computed in accordance with the following formula: **[Added by Ord. 965, 12/18/2014]**

Total Nutrient Surcharge = Q + [0.01 Q(NITROGEN-40)] + [0.01 Q(PHOSPHORUS-10)]

Where:

Q	=	Quarterly metered charge
NITROGEN	=	Total nitrogen concentration in milligrams per liter
PHOSPHORUS	=	Total phosphorus concentration in milligrams per liter

C. Multipurpose Commercial or Industrial Use. In case of a combination of one or more private dwellings or living units with one or more commercial or industrial establishments in one building or structure, such unit and such establishment having the use of the sewer system through one sewer connection, then the sewer rentals and charges shall be determined as follows:

(1) A quarterly flat rate of $92.00 per quarter shall be imposed for each private dwelling or each living unit. **[Amended by Ord. 965, 12/18/2014; and by Ord. 971, 12/17/2015]**

(2) The nonresidential fraction of the total combined discharge shall be determined using the rate schedule in Subsection B of this Section allowing a credit of 15,000 gallons per quarter per residential unit included in the combined total.

(3) In no case shall the quarterly charge be less than the total number of residential and nonresidential units multiplied by a rate of $92.00 per quarter. **[Amended by Ord. 965, 12/18/2014; and by Ord. 971, 12/17/2015]**

(4) Where a single building or structure contains a multipurpose commercial or industrial use and each unit and establishment has its own separate connection to the sewer system, then the metered charges and rentals shall be based on each separate connection as if each unit and establishment were located in a separate structure.

D. Definitions. Unless the contest specifically and clearly indicated otherwise, the meanings of the terms used in this Part shall be as follows:

COMMERCIAL ESTABLISHMENT — Any structure or portion thereof intended to be used wholly or in part for the purpose of carrying on a trade, business or profession of for social, amusement, charitable or public uses. In a structure where the individual offices or similar units share sanitary facilities, those units sharing the same facilities shall be considered as one establishment.

INDUSTRIAL ESTABLISHMENT — Any structure or portion thereof intended to be used wholly or in part for the manufacturing, fabricating, processing, cleaning, laundering or assembling of any product, commodity or article. In a structure where the individual units share sanitary facilities, those units sharing the same facilities shall be considered as one such establishment.

INDUSTRIAL WASTE — Any solid, liquid or gaseous substance or water borne wastes or form of energy ejected or escaping from any industrial, manufacturing, trade or business process or from the development, recovery or processing of natural resources as distinct from sanitary sewage.

MULTIPURPOSE COMMERCIAL or INDUSTRIAL ESTABLISHMENT — Any structure of building which contains a combination of one or more dwelling or living units with a commercial or industrial establishment or a combination of a commercial establishment with an industrial establishment.

PRIVATE DWELLING or LIVING UNIT — Any structure intended to be occupied as a whole by one family, or an apartment intended to be occupied by one family, or a one family living unit containing plumbing for kitchen or toilet facilities.

SANITARY SEWAGE — The normal water-carried household and toilet wasted from residences, business building, institutions and commercial or industrial establishments.

WATER SUPPLIER — Any public agency or private company furnishing water service to the particular property connected to the sewer system.

E. Measuring Volume or Quantity.

(1) Methods of Measuring Volume or Quantity. Whenever a person purchasing all water used from the water supplier discharges sanitary sewage and/or industrial waste into the sewer system, the volume of water used, as determined from meter readings, made by, or made available to the Borough, shall be used in computing the sewer rentals.

(2) In cases where persons have sources of water supply in addition to, or other than from, the water supplier and discharge sanitary sewage and/or industrial waste into the sewer system the Borough may require owner to furnish and install at owner's cost and expense, a

meter on such additional or other source of supply. The total amount of water used as shown by these meter readings will be used in computing the sewer rentals.

(3) In cases where persons (a) use water from the water supplier and/or from any other source and (b) all or any part of the water so used in not discharged into the sewer system, the quantity of water used to determine the sewer rentals shall be computed by one of the following methods:

(a) Method No. 1. By placing a meter or measuring device on the sewer connection. The readings from this meter or measuring device shall be used in computing the sewer rentals.

(b) Method No. 2. By placing a meter or measuring device on the effluent or waste water not discharging into the sewer system. The reading from this meter or measuring device will then be deducted from the total water meter readings and the remainder will be used in computing the sewer rentals.

(c) Method No. 3. When in the opinion of the Borough Manager it is not desirable or practical to install devices to continuously determine the quantity of water discharged to the sewer system, the Borough Manager will determine, in such manner and by such method as he may prescribe, the percentage of metered water and waste discharged into the sewer system and the quantity of water used to compute the sewer rentals shall be the percentage so determined of the quantity measured by the water meter or meters, or may determine the appropriate sewer rental in any other manner which he may deem appropriate; provided however, that any sewer rental established by this Method No. 3 shall be reasonable in light of sewer rentals determined by other methods established hereunder. Any dispute as to the estimated amount shall be submitted to Borough Council after notice of the estimate, whose decision on the matter shall be final for the current calendar year.

(4) Measuring Devices. All water supply, meters or water supply measuring devices not provided by the water supplier but otherwise used under the provisions of this Part shall be furnished and installed by owner, at owner's own cost and expense. All sewage meters and sewage measuring devices used under the provisions of this Part shall be used only upon the election of the owner and with the consent of the Borough. All sewage meters and sewage measuring devices shall be furnished and installed by the owner, at the owner's cost and expense. All meters and measuring devices shall be under the control of the Borough and may be tested, inspected or repaired by Borough employees whenever deemed necessary. The owner shall be

responsible for maintenance and safekeeping of all meters or measuring devices and all repairs thereto shall be made by the Borough at the property owner's expense, whether such repairs are made necessary by ordinary wear and tear or other causes. Bills for such repairs shall be due and payable at the same time and collected in the same manner as are Bills for sewer services.

(5) Meter Readings. The Borough shall be responsible for the reading of all meters or measuring devices, unless such readings are otherwise made available to the Borough by the water supplier, and such meters shall be made available to Borough employees for meter reading at any reasonable time.

§ 202. Collection and Lien. [Ord. 399, 4/19/1960, § II; as amended by Ord. 900, 11/20/2008]

1. All billings for sewer rentals, excepting those based on metered volumes, shall be rendered quarterly in advance on the first day of January, April, July and October of each year and shall be subject to a ten-percent penalty if not paid within 30 days from the first day of the quarter for which the bill is rendered. All billings based on metered volumes shall be rendered quarterly as invoiced and shall be subject to a ten-percent penalty if not paid within 30 days from the date of the invoice.

2. The annual rental or charge imposed under this Part if not paid shall be a lien against the property served and the lien thereof shall be preserved by the Borough against the property served by filing in the office of the Prothonotary, all as now is or may in the future be provided by law.

§ 203. Refusal And Discontinuance. [Ord. 399, 4/19/1960, § III]

The Borough reserves the right to refuse connection to the sewer system, to compel discontinuance of the use of any sewer, or to compel pretreatment of industrial wastes deemed harmful to the sewer system or sewage treatment plant.

§ 204. Industrial Use Regulated. [Ord. 399, 4/19/1960, § IV]

The Borough's representative shall have access at all times to industrial establishments and any meters used for establishing or determining volumes of sewage and/or waste water discharged into the sewer system.

PART 3

TAP-IN FEES

§ 301. Title. [Ord. 861, 7/21/2005, § 1]

This Part shall be known and may be cited as the Elizabethtown Borough Sewer Tapping Fee Ordinance.

§ 302. Definitions and Word Usage. [Ord. 861, 7/21/2005, § 2]

In the interpretation of this Part, the singular shall include the plural, and the masculine shall include the feminine and neuter. The following terms shall have the meanings indicated.

BOROUGH — The Borough of Elizabethtown, Lancaster County, Pennsylvania.

CONNECTION FEE — A fee based upon the actual cost of the connection of the improved property extending from the Borough's main to the property line of the improved property so connected, including reasonable costs for inspection and restoration.

DWELLING UNIT — Any room, group of rooms, mobile home, building or other enclosure connected, directly or indirectly, to the sewer system and occupied or intended for occupancy as a separate living quarters, apartment, office or suite of offices or any other residential, commercial, institutional or industrial use.

EDU — An equivalent dwelling unit; when computing the tapping fee, the amount of wastewater discharged by an average dwelling or commercial, industrial or institutional user in a day which is estimated to be 239 gallons per day (gpd). When computing the tapping fee, nonresidential users shall be assigned a number of EDUs based upon the estimated or actual discharge and each 239 gpd shall be considered one EDU.

IMPROVED PROPERTY — Any property upon which there is erected a structure intended for continuous or periodic habitation, occupancy or use by human beings or animals and from which structure wastewater shall or may be discharged.

OWNER — Any person vested with ownership, legal or equitable, sole or partial, of any improved property.

PERSON — Any individual, entity, partnership, estate, trust, firm, association, corporation, municipality, municipal authority, school district, or any other group or legally recognized entity, and the members of such partnership or association and the officers of such corporation.

SEWER SYSTEM — The public wastewater collection and treatment system owned and operated by the Borough.

TAPPING FEE — A fee imposed to enable the recovery in the equity in the sewer system composed of a capacity part and a distribution part and may, in the future, if warranted, include for some customers a special purpose part and/or a reimbursement part.

§ 303. Permits Required Prior to Connection To The Sewer System. [Ord. 861, 7/21/2005, § 3]

No person shall connect any improved property with any part of the sewer system without first making application for and securing a permit, in writing, from the Borough. The application shall be made on a form provided by the Borough, and no application shall be considered complete until all fees imposed in this Part have been paid in full. A permit shall be valid for a period of one year and is for a specific property. Permits are not transferable without the express written consent of the Borough.

§ 304. Connection Fee. [Ord. 861, 7/21/2005, § 4]

1. The owner of each improved property who or which shall be physically connect such improved property to the sewer system shall pay a connection fee to reimburse the Borough for the costs of making such connection to the sewer system. The amount of the connection fee for each connection to the sewer system shall be the actual cost incurred by the Borough, including the cost of inspection and restoration. The connection fee is the total of the:

   A. Permit processing fee, including administration and bookkeeping: $172.58.

   B. Connection fee, including inspection and review: $66.76.

   C. Customer facilities fee, including inspection and review: $91.66.

2. The owner of the improved property shall deposit with the Borough the connection fee sum in order to ensure reimbursement of the Borough's actual costs in connecting the improved property to the sewer system. In the event the actual expenses incurred by the Borough in the owner's improved property connected to the sewer system exceed the paid amount, the owner shall pay such excess amount within 30 days of receipt of the Borough's invoice for such expenses.

§ 305. Imposition of Tapping Fee. [Ord. 861, 7/21/2005, § 5]

A tapping fee as set forth in § 306 of this Part is imposed upon and shall be collected by the Borough from the owner of each improved property who or which shall physically connect such improved property to the sewer system or who or which shall expand, change or intensify the use of an improved property previously connected to the sewer system, for the use of the sewer system, whether such use or

the expansion, change or intensification of such uses shall be direct or indirect. A tapping fee is charged for each dwelling unit as set forth in § 306.

§ 306. Calculation of Tapping Fee. [Ord. 861, 7/21/2005, § 6]

Each owner of improved property shall pay a tapping fee for the use, ability or expansion of use of the sewer system calculated as follows:

A. Capacity Part. A fee shall be imposed to recover the cost of capacity per dwelling unit or nonresidential unit (for each EDU or portion thereof) — $1,227.

B. Collection Part. A fee shall be imposed to recover the cost of collection per dwelling unit or nonresidential unit (for each EDU or portion thereof) — $459.

C. In the case of a combination of two or more dwelling units, each having use of the sewer system through one sewer connection, each such dwelling unit shall be charged the tapping fee herein provided as though each dwelling unit had a direct and separate connection to the sewer system. Each dwelling unit in a duplex, row or connecting houses, mobile home or commercial, industrial or institutional use shall be considered as a separate entity for the purpose of calculating the tapping fee. In the case of apartment buildings, each dwelling unit shall be imposed a separate fee as provided herein.

D. If an applicant for capacity in the sewer system or an owner of improved property which will expand its use of the sewer system has submitted or shall submit a planning module for land development to the Pennsylvania Department of Environmental Protection or a local agency which has been delegated to approve such planning documents in accordance with Act 149 of 1994 which sets forth the capacity in the sewer system serving such improved property required by the applicant or the owner for the improved property, the amount of the tapping fee shall be based upon the number of EDUs attributable to the use or expansion of the use calculated using the capacity requirements set forth in the planning module for land development. The tapping fee shall not be reduced, regardless of actual flow, unless and until a revision to the planning module for land development is filed with, and approved by, the Pennsylvania Department of Environmental Protection or the delegated local agency reducing the projected capacity required.

E. The tapping fee shall not be charged for the re-occupancy of vacant buildings where flows have temporarily been reduced or eliminated.

§ 307. Expansion of Use. [Ord. 861, 7/21/2005, § 7]

Should any owner of any improved property connected to the sewer system expand, change or intensify the use of said improved property, the owner shall pay a tapping

fee calculated in the manner set forth in this Part upon the expanded, changed or intensified portion of such use of the sewer system by the improved property. Examples of an expansion, change or intensification of the use of an improved property shall include, but shall not be limited to, the installation of an additional dwelling unit or units in an existing dwelling or the commencement of a home occupation which requires use of the sewer system such as a beauty salon or barber shop; the conversion of a warehouse to a restaurant or manufacturing facility; or the adding of a third work shift to an industrial processing operation. A change in flow for an improved property of more than 239 gallons per day on the basis of average daily flow over the prior 12 months shall be considered an expansion of the use of the sewer system regardless of whether the improved property has been enlarged or any new use has been instituted. The Borough may compare current flow with flow previously approved by means of the payment of tapping fees or the approval of a planning module for land development or with the last calendar year average daily flow to determine whether there has been a change in sewer flow exceeding 239 gallons per day regardless of whether the improved property has been expanded or any new use has been instituted.

§ 308. Time of Payment of Fees. [Ord. 861, 7/21/2005, § 8]

The connection fee and tapping fee shall be due and payable at the time application is made to the Borough to make any such connection to the sewer system as provided in § 303, or at the time application is made to the Borough for a zoning permit; or when the use of an improved property connected to the sewer system is expanded, as the same may hereafter be amended or supplemented, whichever shall occur earlier.

§ 309. Fees Paid to the Borough. [Ord. 861, 7/21/2005, § 9]

All connection fees and tapping fees shall be payable to the Treasurer of the Borough or to such other officer or representative of the Borough as shall be authorized, from time to time, to accept payment thereof. Connection fees and tapping fees which are not paid in full when due shall bear interest at a rate of 12% per annum or at the rate of any outstanding debt incurred by the Borough, whichever is greater.

§ 310. Fees in Addition to Other Charges. [Ord. 861, 7/21/2005, § 10]

The connection fees and tapping fees imposed hereunder shall be in addition to any fees or charges imposed by the rate ordinance or any other fees or charges fixed or imposed by the Borough by reason of the reservation of capacity in the sewer system or the use, or availability for use of the sewer system.

§ 311. Expiration of Permit. [Ord. 861, 7/21/2005, § 11]

Upon the expiration of a connection permit and upon request of an applicant, the Borough will refund the tapping fee, less an administrative fee of 5%. Such refunds must be requested by the applicant promptly, but in any event not later than six months after the expiration of a permit.

§ 312. Remedies. [Ord. 861, 7/21/2005, § 12]

In addition to or in lieu of any penalties which the Borough may impose, the Borough may commence actions to collect fees which are due and payable under this Part and/or may file a municipal claim for the unpaid fees, plus costs of collection including the reasonable attorney fees incurred by the Borough, against the improved property. Any violations of this Part may be abated by proceeding against the violator in a court of equity for relief.

§ 313. Reservation of Rights. [Ord. 861, 7/21/2005, § 13]

The Borough reserves the right, from time to time, to adopt modifications of, supplements to, or amendments of this Part.

PART 4

INDUSTRIAL WASTES

§ 401. General Provisions. [Ord. 700, 11/16/1989, § 1]

1. Purpose and Policy.

A. This Part sets forth uniform requirements for direct and indirect contributors to the sewerage facilities of the Borough of Elizabethtown and enables the Borough to comply with all applicable State and Federal laws required by the Clean Water Act of 1977 and the General Pretreatment Regulations (40 CFR, Part 403).

B. The objectives of this Part are:

(1) To prevent the introduction of pollutants into the sewerage system which will interfere with the operation of the system or contaminate the resulting sludge.

(2) To prevent the introduction of pollutants which will pass through the sewerage system, inadequately treated, to receiving waters or the atmosphere or which will otherwise be incompatible with the system.

(3) To improve the opportunity to recycle and reclaim wastewaters and sludges from the system.

(4) To provide for equitable distribution of the cost for operation of the sewerage system.

(5) To serve as the basis for the Borough pretreatment program.

C. This Part defines certain terms and provides for the regulation of direct and indirect contributors to the sewerage system through the issuance of permits to certain nondomestic users and through enforcement of general requirements for the other users, authorizes monitoring, testing, inspection and enforcement activities, requires user reporting, assumes that the existing customer's capacity will not be preempted, provides for the setting of fees for the equitable distribution of costs resulting from the program established herein and imposes penalties for user noncompliance.

D. This Part shall apply to the Borough of Elizabethtown and to all persons who are, by contract or agreement with the Borough, users of the sewerage system. Except as otherwise provided herein, the Borough Manager shall administer, implement, and enforce the provisions of this Part.

2. Short Title. The short title of this Part shall be the "Borough of Elizabethtown Industrial Waste Ordinance."

§ 402. Definitions. [Ord. 700, 11/16/1989, § 2]

1. Scope. The following words, terms and phrases when used in this Part shall have the meaning described in this Section, except where the context clearly indicates a different meaning. Words, terms and phrases are as follows:

ACT or THE ACT — The Federal Water Pollution Control Act, also known as the Clean Water Act, as amended, 33 U.S.C. § 1251 et seq.

ALLOWABLE INDUSTRIAL WASTE — Any solid, liquid or gaseous substance, water-borne waste or form of energy ejected or escaping from any industrial, manufacturing, trade or business process or from the development, recovery or processing of natural resources, as distinct from sanitary sewage, which complies with all provisions of this Part and which is allowed to be discharged into the sewer system by the Borough of Elizabethtown, Lancaster County, Pennsylvania.

AUTHORIZED REPRESENTATIVE OF INDUSTRIAL USER — An authorized representative of an industrial user may be:

(1) A principal executive officer of at least the level of vice-president, if the industrial user is a corporation.

(2) A general partner or proprietorship, respectively.

(3) A duly authorized representative of the individual designated above if such representative is responsible for the overall operation of the facilities from which the indirect discharge originates.

BIOCHEMICAL OXYGEN DEMAND (BOD_5) — The quantity of oxygen, expressed in mg/l, utilized in the biochemical oxidation of organic matter under standard laboratory procedure in five days at 20° C. The standard laboratory procedure shall be found in the latest edition of "Standard Methods for the Examination of Water and Wastewater" published by the American Public Health Association.

BOROUGH — The Borough of Elizabethtown, Lancaster County, Pennsylvania, or its authorized deputy, agent or representative.

BOROUGH MANAGER — The person designated by the Borough to supervise the operation of the sewerage system and who is charged with certain duties and responsibilities by this Section or his duly authorized representative.

CATEGORICAL STANDARDS — EPA Categorical Pretreatment Standard or Borough pretreatment standard.

COLOR — Color of an industrial waste is the color of the light transmitted by the waste solution after removing the suspended material, including the pseudocolloidal particles.

COOLING WATER — The water discharged from any use such as air conditioning, cooling or refrigeration, or water to which the only pollutant added is heat.

DIRECT DISCHARGE — The discharge of treated or untreated wastewater directly to the waters of the Commonwealth of Pennsylvania.

DISSOLVED SOLIDS — The anhydrous residues of the dissolved constituents in water or wastewater.

ENVIRONMENTAL PROTECTION AGENCY or EPA — The U.S. Environmental Protection Agency or, where appropriate, the term may also be used as a designation for the Administrator or other duly authorized official of said agency.

GARBAGE — Solid waste resulting from the domestic and commercial preparation, cooking and dispensing of food and from handling, storage, and sale of produce.

GRAB SIMPLE — A sample which is taken from a waste stream on a one-time basis with no regard to the flow in the waste stream and without consideration of time.

GROUND WATER — That water which is contained in or passing through the ground.

HOLDING TANK WASTE — Any waste from holding tanks such as vessels, chemical toilets, campers, trailers, septic tanks, and vacuum-pump tank trucks.

INDIRECT DISCHARGE — The discharge or the introduction of nondomestic pollutants from any source regulated under § 307(b) or (c) of the Act (33 U.S.C. § 1317), into the sewerage system (including holding tank waste discharged into the system).

INDUSTRIAL USER — A source of indirect discharge which does not constitute a "discharge of pollutants" under regulations issued pursuant to Section 402, of the Act (33 U.S.C. § 1342).

INDUSTRIAL WASTE — Solid, liquid or gaseous substances, water borne waste or form of energy discharged or escaping in the course of any industrial, manufacturing, trade, or commercial process or in the course of development, recovering or processing of natural resources, but not sewage.

INDUSTRIAL WASTE DISCHARGE PERMIT — As set forth in § 404 of this Part.

INTERFERENCE — The inhibition or disruption of the sewage treatment plant processes or operations which contributes to a violation of any requirement of the Borough's NPDES permit. The term includes prevention of sewage sludge use or disposal by the Borough in accordance with § 405 of the Act (33 U.S.C. § 1345) or any criteria, guidelines, or regulations developed pursuant to the Solid Waste Disposal Act (SWDA), the Clean Air Act, the Toxic Substances Control Act, or more stringent State criteria (including those contained in any State sludge management plan prepared pursuant to Title IV of SWDA) applicable to the method of disposal or use employed by the Borough.

LATERAL SEWER or SERVICE CONNECTION — That part of the sewerage system extending from the sewer main to a point at the inside face of the curb or edge of pavement if no curb.

MANHOLE — A structure leading from the surface of the ground to a sewer, permitting access to the owner.

MG/L — Milligrams per liter.

MUNICIPALITY — Any county, county authority, municipal authority, city, borough, township, or school district.

NATIONAL CATEGORICAL PRETREATMENT STANDARD or PRETREATMENT STANDARD — Any regulation containing pollutant discharge limits promulgated by the EPA in accordance with § 307(b) and (c) of the Act (33 U.S.C. § 1347) which applies to a specific category of industrial users.

NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM or NPDES PERMIT — A permit issued pursuant to § 402 of the Act (33 U.S.C. § 1342).

NATIONAL PROHIBITIVE DISCHARGE STANDARD or PROHIBITIVE DISCHARGE STANDARD — Any regulation developed under the authority of § 307(b) of the Act and 40 CFR § 403.5.

NEW SOURCE — Any source, the construction of which is commenced after the publication of proposed regulations prescribing a § 307(c) (33 U.S.C. § 1317) categorical pretreatment standard which will be applicable to such source, if such standard is thereafter promulgated within 120 days of proposal in the Federal Register. Where the standard is promulgated later than 120 days after proposal, a new source means any source, the construction of which is commenced after the date of promulgation of the standard.

OPERATOR — Any person having charge, care, management or control of a tank truck or trucks for use in the removal, transportation and disposal of sewage and industrial wastes.

OWNER — Any person vested with ownership, legal or equitable, sole or partial, of an improved property.

PERSON — Any individual, partnership, copartnership, firm, company, corporation, association, joint stock company, trust, estate, governmental entity or any other legal entity, or their legal representatives, agents or assigns. The masculine gender shall include the feminine, the singular shall include the plural where indicated by the context.

pH — The logarithm of the reciprocal of the concentration of hydrogen ions, expressed in gram equivalent per liter of solution, and indicating the degree of acidity or alkalinity of a substance. A stabilized "pH" will be considered as a "pH" which does not change beyond the specified limits when the waste is subjected to aeration. It shall be determined by one of the accepted methods described in the latest edition of "Standard Methods for Examination of Water and Wastewater" published by the American Public Health Association.

POLLUTION — The man-made or man-induced alteration of the chemical, physical, biological, and radiological integrity of water.

POLLUTANT — Any dredged soil, solid waste, incineration residue, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discharged equipment, rock, sand, cellar dirt and industrial, municipal and agricultural waste discharged into water.

PRETREATMENT or TREATMENT — The reduction of the amount of pollutants, the elimination of pollutants, or the alteration of the nature of pollutant properties in wastewater to a less harmful state prior to or in lieu of discharging or otherwise introducing such pollutants into the sewerage facilities. The reduction or alteration can be obtained by physical, chemical or biological processes, or process changes or other means, except as prohibited by 40 CFR § 403.6(d).

PRETREATMENT REQUIREMENTS — Any substantive or procedural requirements related to pretreatment, other than a National Pretreatment Standard imposed on an industrial user.

PROCESS WATER — Industrial waste resulting from any industrial, manufacturing, trade or commercial process or operation, but not sewage.

QUALIFIED LABORATORY — Any laboratory which is certified by the Environmental Protection Agency to perform drinking water analysis for inorganics and which can document satisfactory participation in the EPA Quality Assurance Program for wastewater testing administered by the Quality Assurance Branch, Environmental Monitoring and Support Laboratory, U.S. EPA.

REFRIGERATION — The preservation of food products, the maintenance of temperature for aid in process work, and the maintenance of storage temperature.

REGULATORY AUTHORITY — The administrator of the EPA until such time as the State's pretreatment program is approved by the EPA.

SANITARY SEWER — A sewer which carries sewage and/or authorized industrial wastes and to which storm, surface, and ground waters are not intentionally admitted.

SEWAGE — The normal water-carried household and toilet waste from any improved property, excluding, however, the effluent from septic tanks or cesspools, rain, storm and ground water, as well as roof or surface water, drainage or percolating or seeping waters, or accumulation thereof, whether underground or in cellars or basements.

SEWER — A pipe or conduit for carrying sewage or authorized industrial waste.

SEWERAGE SYSTEM or SEWERAGE FACILITY — A publicly owned treatment works (POTW) as defined by § 212 of the Act (33 U.S.C. § 1292), which is owned in this instance by the Borough. This definition includes any sanitary sewers that convey wastewater to the sewage treatment plan, but does not include pipes, sewers or other conveyances not connected to a facility providing treatment. For the purposes of this Part, "sewerage system" shall also include any sewers that convey wastewaters to the sewerage system from persons who are, by contract or agreement with the Borough, users of the Borough's sewerage system.

SEWAGE TREATMENT PLANT — That portion of the sewerage system designed to provide treatment to wastewater. Includes but is not necessarily limited to any arrangement of devices and structures used for treating sewage and authorized industrial waste.

SEWER INSPECTOR — The Borough of Elizabethtown Sewage Treatment Plant Supervisor, his duly authorized assistant or representative.

SHALL — Is mandatory. MAY is permissive.

SIGNIFICANT INDUSTRIAL USER — Any industrial user of the sewerage system who (a) has a discharge flow of 25,000 gallons or more per average day, or (b) has a flow greater than 5% of the flow in the sewerage system, or (c) has in its wastes toxic substances, or (d) is found by the Borough, Pennsylvania Department of Environmental Resources, or the U.S. Environmental Protection Agency to have significant impact, either singly or in combination with other contributing industries, on the sewerage system, the quality of sludge, the system's effluent quality, or air emissions generated by the system.

SLUG — Any discharge of water, sewage or industrial waste in which concentration of any given constituent or in quantity of flow exceeds for any period of duration longer than 15 minutes more than five times the average twenty-four-hour concentration, or flow, during normal operation.

STANDARD METHODS — An abbreviated expression used to denote "Standard Methods for the Examination of Water and Waste Water," a manual published by the American Health Association specifying official analytical procedures for the measurement of wastewater parameters.

STATE — Commonwealth of Pennsylvania.

STANDARD INDUSTRIAL CLASSIFICATION (SIC) — A classification pursuant to the Standard Industrial Classification Manual issued by the Executive Office of the President, Office of Management and Budget, 1972.

SUSPENDED SOLIDS — Solids that either float on the surface of or are in suspension in water, sewage or other liquids and which are removable by laboratory filtering.

TOTAL NITROGEN — When related to wastewater, the sum of the organic nitrogen, ammonia nitrogen, nitrite and nitrate in the wastewater; an essential nutrient. **[Added by Ord. 966, 12/18/2014]**

TOTAL PHOSPHORUS — When related to wastewater, the sum of orthophosphates, polyphosphates, and organic phosphates in the wastewater; an essential nutrient. **[Added by Ord. 966, 12/18/2014]**

TOTAL SOLIDS — The sum of dissolved and undissolved constituents in water or wastewater.

TOXIC SUBSTANCES — Any substance or combination of substances that: (a) is listed as toxic in regulations promulgated by the Administrator of the Environmental Protection Agency under the provisions of CWA, § 307(a), or other Acts, or (b) is present in sufficient quantity, either singly or by interaction with other wastes, to injure or interfere with any sewage treatment process, to constitute a hazard to humans or animals, to create a

public nuisance, or to create any hazard in the sewerage system or in the receiving waters of the sewage treatment plant.

TWENTY-FOUR-HOUR COMPOSITE WASTEWATER SAMPLE — Consists of 24 hourly wastewater samples collected over a twenty-four-hour period. The individual hourly samples shall be proportioned according to the flow rate at the time of the sample or shall be of equal volume. The cumulative sample shall be refrigerated.

UNAUTHORIZED WASTE — Any waste which is not in compliance with the provisions of this Part, or which is discharged into the sewerage system by a person in violation of any provision contained in this Part.

USER — Any person who contributes, causes or permits the contribution of wastewater into the Borough's sewerage system.

WASTEWATER — The liquid and water-carried industrial or domestic wastes from dwellings, commercial buildings, industrial facilities, and institutions, whether treated or untreated, which is contributed into or permitted to enter the sewerage system.

WATER-COOLED EQUIPMENT — Any equipment using water as a cooling medium for purposes other than air conditioning or refrigeration.

WATERS OF THE STATE — All streams, lakes, ponds, marshes, watercourses, waterways, wells, springs, reservoirs, aquifers, irrigation systems, drainage systems and all other bodies or accumulations of water, surface or underground, natural or artificial, public or private, which are contained within, flow through, or border upon the State or any portion thereof.

2. Abbreviations. The following abbreviations shall have the designated meanings:

BOD_5 — Biochemical Oxygen Demand
CFR — Code of Federal Regulations
COD — Chemical Oxygen Demand
EPA — Environmental Protection Agency
l — Liter
mg — Milligrams
mg/l — Milligrams per liter
NPDES — National Pollutant Discharge Elimination System
POTW — Publicly Owned Treatment Works
SIC — Standards Industrial Classifications
SWDA — Solid Waste Disposal Act, 42 U.S.C. § 6901 et seq.

TSS — Total Suspended Wastes

USC — United States Code

§ 403. Regulations. [Ord. 700, 11/16/1989, § 3; as amended by Ord. 829, 11/15/2001]

1. Use of Sanitary Sewers and Admission of Industrial Waste.

A. All sewage and authorized industrial waste may be discharged to the sewerage system except those which are deemed harmful to the system or are specifically prohibited by this Part.

B. No user shall discharge or cause to be discharged any storm water, surface water, spring water, ground water, roof runoff, subsurface drainage, building foundation drainage, cellar drainage or noncontaminated cooling or process water into the sewerage system.

C. No user shall contribute or cause to be contributed, directly or indirectly, any pollutant or waste water which will interfere with the operation or performance of the sewage treatment plant. These general prohibitions apply to all such users of the sewerage system whether or not the user is subject to National Categorical Pretreatment Standards or any other National, State or local pretreatment standards or requirements.

D. No user shall discharge or cause to be discharged any septic waste or septic tank effluent.

E. Except as otherwise provided in this Part, no user shall discharge or cause to be discharged into the sewerage system any sewage, industrial wastes, or other matter or substance:

(1) Having a temperature at the point of user discharge higher than 150° F., having a temperature at the point of introduction into the sewerage system which exceeds 104° F. or is less than 32° F., or which will inhibit biological activity at the sewage treatment plant.

(2) Containing more than 80 milligrams per liter of oil and grease.

(3) Containing any liquids, solids or gases which by reason of their nature or quantity are, or may be, sufficient either alone or by interaction with other substances to cause fire or explosion or be injurious in any other way to the sewerage system or to the operation of the sewage treatment plant. Prohibited materials include, but are not limited to, gasoline, fuel oil, kerosene, naphtha, benzene, toluene, xylene, paint products, ethers, alcohols, ketones, aldehydes, peroxides, acids or bases, chlorates, perchlorates, bromates, carbides, hydrides and

sulfides and any other substances which are a fire hazard or a hazard to the system.

(4) Containing unground garbage with particles greater than 1/2 inch in any dimension.

(5) Containing solid or viscous substances which may cause obstruction to the flow in a sewer or other interference with the operation of the sewage treatment plant such as, but not limited to: ashes, cinders, spent lime, stone dust, sand, mud, straw, shavings, metals, glass, rags, grass clippings, feathers, tar, plastics, wood, whole blood, paunch manure, bentonite, lye, building materials, rubber, asphalt residues, hair, bones, leather, porcelain, china, ceramic wastes, polishing wastes, glass grinding or other solid or viscous substances capable of causing obstruction or other interference with the operation of the sewerage system.

(6) Having a pH, stabilized, lower than 6.5 or higher than 8.5 or having any other corrosive or scale forming property capable of causing damage or hazard to structures, equipment, bacterial action or personnel of the sewerage system or the sewage treatment plant.

(7) Containing toxic or poisonous pollutants in sufficient quantity, either singly or by interaction with other pollutants, to injure or interfere with any wastewater treatment process, constitute a hazard to humans or animals or create a toxic effect in the receiving waters of the sewage treatment plant, or to exceed the limitation set forth in a Categorical Pretreatment Standard. A toxic pollutant shall include, but not be limited to, any pollutant identified pursuant to § 307(a) of the Act.

(8) Containing a BOD_5 or suspended solids concentration greater than 250 mg/l or a total nitrogen concentration greater than 40 mg/l, a total phosphorus concentration greater than 10 mg/l or an oil and grease (OG) concentration greater than 80 mg/l or of such a character and quantity that unusual attention or expense is required to handle such materials at the sewage treatment plant. Discharges of BOD_5 or suspended solids in excess of 250 mg/l or total nitrogen in excess of 40 mg/l or total phosphorus in excess of 10 mg/l shall be subject to surcharge as provided for in § 407 of this part. Discharges of BOD_5 or suspended solids in excess of 2,000 mg/l shall be subject to a penalty surcharge as provided for in § 407. **[Amended by Ord. 966, 12/18/2014]**

(9) Containing any noxious or malodorous liquids, gases, or solids which either singly or by interaction with other wastes are

sufficient to create a public nuisance or hazard to life or are sufficient to prevent entry into the sewers for maintenance and repair.

(10) Containing dye from any source that will not have an effluent the equivalent of that produced by chemical coagulation and chlorination to remove suspended or colloidal matter and bleach the dissolved dyes.

(11) Containing radioactive substances or isotopes of such half life or concentration as may exceed limits in compliance with applicable State or Federal regulations.

(12) Having a chlorine demand of such quantity that unusual attention or expense is required to handle such materials at the sewage treatment plant.

(13) Prohibited by any permit issued by the Commonwealth of Pennsylvania or the Environmental Protection Agency.

(14) Containing any substance which will cause the sewage treatment plant to violate its NPDES permit or the receiving water quality standards.

(15) Containing any substance which may cause the sewage treatment plant's effluent or any other product of the sewage treatment plant such as residues, sludges or scums to be unsuitable for reclamation and reuse or to interfere with the reclamation process. In no case shall a substance discharged to the sewerage system cause the sewage treatment plant to be in noncompliance with sludge use or disposal criteria, guidelines or regulations developed under § 405 of the Act, any criteria, guidelines, or regulations affecting sludge use or disposal developed pursuant to the Solid Waste Disposal Act, the Clean Air Act, the Toxic Substances Control Act, or State criteria applicable to the sludge management method being used.

(16) Containing wastes which are not amenable to biological treatment or reduction in existing treatment facilities, specifically nonbiodegradable complex carbon compounds.

(17) Containing any organic compounds of endrin, lindane, methoxychlor, toxaphene, dichlorophenoxyacetic acid or trichlorophenoxypropionic acid.

(18) Causing a hazard to human life or public nuisance.

(19) Containing total dissolved solids of such character and quantity that unusual attention or expense is required to handle such materials at the sewage treatment plant.

(20) Containing pollutants, including oxygen demanding pollutants (BOD_5, etc.) released at a flow rate and/or pollutant concentration which will inhibit or cause interference to the process or operation of the sewage treatment plant.

(21) Containing industrial waste slugs having an average daily flow greater than 15% of the average daily sewage flow at the sewage treatment plant.

(22) Containing any hazardous waste or substance as defined by EPA's Resource Conservation and Recovery Act (RCRA) or Chapter 75 of the Pennsylvania Department of Environmental Protection Regulations.

(23) Containing concentration of anions, cations, and other various objectionable substances in excess of the following limits, measured in a representative sample collected at the point of discharge to the sewerage system.

Substance	**Allowable Concentration mg/l**
Arsenic	0.1
Barium	5.0
Cadmium	0.05
Chromium (hexavalent)	0.10
Chromium (total)	1.0
Copper	1.0
Cyanides	0.5
Lead	0.2
Mercury	0.01
Nickel	0.2
Phenolics	0.1
Selenium	0.05
Silver	0.20
Zinc	2.0

Provided, however, that deviations from the above schedule may be authorized by the Borough in its sole discretion, upon an affirmative showing, by the person requesting the same, that such deviation will not be harmful to the sewerage system or the sewage treatment plant or cause the plant effluent to violate its current NPDES discharge limitations. For the purpose of this Part, an allowable deviation may be granted by the Borough up to the following maximum concentrations provided that the corresponding total loading for each objectionable substance does not exceed the maximum loading specified.

Substances	**Maximum Concentration mg/l**	**Maximum Loading lbs./day**
Arsenic	1.0	0.01
Barium	50.0	0.5
Cadmium	0.5	0.005
Chromium (hexavalent)	1.0	0.01
Chromium (total)	10.0	0.1
Copper	10.0	0.1
Cyanides	5.0	0.05
Lead	2.0	0.02
Mercury	0.1	0.001
Nickel	2.0	0.02
Phenolics	1.0	0.01
Selenium	0.5	0.005
Silver	2.0	0.02
Zinc	20.0	0.2

F. If such amounts of any waters or wastes are discharged, or are proposed to be discharged to the sewerage system, which waters contain the substances or possess the characteristics enumerated in this Section or which in the judgment of the Borough may have a deleterious effect upon the sewerage system or the sewage treatment plant, the Borough may, upon giving official notice to the discharger:

(1) Reject the waste.

(2) Require pretreatment to reduce characteristics to maximum limits permitted by this Part, or any other applicable rules or law.

(3) Require control over the quantities and rates of discharge.

(4) Require immediate discontinuance of the waste discharge until such time as it meets the requirements of this Section.

G. Nothing contained in this Part shall be construed as prohibiting any special agreement or arrangement between the Borough and any person whereby industrial wastes of unusual strength or character may be admitted into the sewerage system, either before or after pretreatment.

2. Federal Categorical Pretreatment Standards. Upon the promulgation of the Federal Categorical Pretreatment Standards for a particular industrial subcategory, the Federal standard, if more stringent than limitations imposed under this Part for sources in that subcategory, shall immediately supersede the limitations imposed under this Part. The Borough shall notify all affected users of the applicable reporting requirements under 40 CFR § 403.12.

3. Modification of Federal Categorical Pretreatment Standards. Where the Borough's sewage treatment plant achieves consistent removal of pollutants limited by Federal pretreatment standards, the Borough may apply to the regulatory authority for modification of specific limits in the Federal pretreatment standards. "Consistent removal" shall mean reduction in the amount of a pollutant or alteration of the nature of the pollutant by the sewage treatment plant to a less toxic or harmless state in the effluent which is achieved by the system for 95% of the samples taken when measured according to the procedures set forth in § 403.7(c)(2) of (Title 40 of the Code of Federal Regulations, Part 403) — "General Pretreatment Regulations for Existing and New Sources of Pollution," promulgated pursuant to the Act. The Borough may then modify pollutant discharge limits in the Federal pretreatment standards if the requirements contained in 40 CFR, Part 403, § 403.7, are fulfilled and prior approval from the regulatory authority is obtained.

4. State Requirements. State requirements and limitations on discharges shall apply in any case where they are more stringent than Federal requirements and limitations or those in this Part.

5. Borough's Right to Revision. The Borough reserves the right to establish by ordinance more stringent limitations or requirements on discharges to the sewerage system if deemed necessary to comply with the objectives presented in § 401(1) of this Part.

6. Excessive Discharges. No user shall ever increase the use of process water or, in any way, attempt to dilute a discharge as a partial or complete substitute for adequate treatment to achieve compliance with the limitations contained in the Federal Categorical Pretreatment Standards, or in any other pollutant-specific limitations developed by the Borough or State.

7. Accidental Discharges.

A. Each user shall provide protection from accidental discharge of prohibited materials or other substances regulated by the Borough. Facilities to prevent accidental discharge of prohibited materials shall be provided and maintained at the owner or user's own cost and expense. Detailed plans showing facilities and operating procedures to provide this protection shall be submitted to the Borough for review, and shall be approved by the Borough before construction of the facility.

B. No user who commences contribution to the sewerage system after the effective date of this Part shall be permitted to introduce pollutants into the system until accidental discharge procedures have been approved by the Borough. Review and approval of such plans and operating procedures shall not relieve the industrial user from the responsibility to modify the user's facility as necessary to meet the requirements of this Part. In the case of an accidental discharge, it is the responsibility of the user to immediately telephone notify the Borough of the incident. The notification shall include location of discharge, type of waste, concentration and volume, and corrective actions.

8. Written Notice. Within five days following an accidental discharge, the user shall submit to the Borough a detailed written report describing the cause of the discharge and the measures to be taken by the user to prevent similar future occurrences. Such notification shall not relieve the user of any expense, loss, damage, or other liability which may be incurred as a result of damage to the sewerage system, fish kills, or any other damage to person or property, nor shall such notification relieve the user of any fines, civil penalties, or other liability which may be imposed by this Section or other applicable law.

9. Notice to Employees. A notice shall be permanently posted on the user's bulletin board or prominent place advising employees whom to call in the event of a dangerous discharge. Employers shall insure that all employees who may cause or suffer a dangerous discharge to occur are advised of the emergency notification procedure.

10. Drainage of Swimming Pools. Filter backwash lines shall be discharged to the sewerage system as follows:

A. Sand filter backwash may be discharged directly to the sewerage system.

B. Diatomaceous earth filter backwash shall be connected to the sewerage system through settling tanks with a minimum of three months storage capacity for spent diatomaceous earth. The tanks shall be readily accessible for removing solid waste for disposal.

11. Disposal of Tank Truck Waste. Tank truck waste shall not be discharged to the sewerage system except in the event of an emergency at the sole discretion of the Borough. The waste shall not contain industrial waste, chemicals, or other matter, with or without pretreatment, that does not conform to the requirements of § 403(1) of this Part. Tank truck waste shall be discharged to the same system at the location and at the time or times designated and at the rate of discharge fixed by the Borough.

12. Interceptors. Grease, oil and sand interceptors or traps shall be provided when required by the Borough, for the proper handling of liquid wastes containing grease in excessive amounts or any flammable wastes, sand or other harmful ingredients. All interceptors shall be of a type and capacity approved by the Borough and shall be located as to be readily and easily accessible for cleaning and inspection.

13. Garbage Grinders. The use of mechanical garbage grinders producing a finely divided mass, properly flushed with an ample amount of water, shall be permitted. However, no such mechanical garbage grinder to serve premises used for commercial purposes shall be installed until permission for such installation is obtained from the Borough.

14. Pretreatment Requirements.

    A. User shall design, construct, operate and maintain wastewater pretreatment facilities whenever necessary to reduce or modify the user's wastewater to achieve compliance with this Part. The review or approval of pretreatment facility plans, specifications and operating procedures by the Borough or its consulting engineer shall not excuse or mitigate any violations by the user of this Part or any Federal, State or local requirements.

    B. The construction of required pretreatment facilities shall be accomplished in accordance with a reasonable completion schedule prepared by the user and approved by the Borough. If, in the opinion of the Borough, the schedule prepared by the user is not reasonable, a completion schedule shall be established by the Borough.

    C. When required by the Borough to provide pretreatment facilities, no construction of such facilities shall commence until:

        (1) Construction drawings, specifications, completion schedule and other pertinent information relating to the proposed facilities are submitted to the Borough.

        (2) The Borough provides written approval for the construction of the proposed facilities.

    D. When approved by the Borough and placed in operation, pretreatment facilities shall be continuously maintained in satisfactory and effective

operation by the user, at his own expense. The Borough shall have the right to inspect said facilities at any reasonable time to insure such are being properly maintained and operated in accordance with the requirements of the Borough.

15. Flow Equalization. The Borough reserves the right to require users having large variations in the rate of waste discharge to install suitable regulating devices for equalizing flows to the sewerage system. This requirement shall apply specifically to users with a discharge containing industrial waste slugs having an average daily flow greater than 15% of the average daily sewage flow at the sewage treatment plant.

§ 404. Administration. [Ord. 700, 11/16/1989, § 4; as amended by Ord. 829, 11/15/2001]

1. Industrial Waste Discharge Permit.

   A. General. All industrial users connected or proposing to connect to the sewerage system shall obtain an industrial waste discharge permit.

   B. Permit Application. Users required to obtain an industrial waste permit shall complete and file with the Borough an application in the form prescribed, and accompanied by a fee as detailed in § 405(2). Existing users shall apply for an industrial waste discharge permit within 60 days after the effective date of this Part. New users shall apply at least 90 days prior to the anticipated date for connecting to the sewerage system. In support of the application the user shall submit the following information:

      (1) Name and address of user and location of discharge.

      (2) Wastewater characteristics including, but not limited to, those listed in § 403(1) of this Part. Sampling and analysis shall be performed in accordance with "Standard Methods for the Examination of Water and Wastewater," latest edition, and shall be performed by a qualified laboratory.

      (3) Time and duration of industrial waste discharge.

      (4) Average daily and peak flow rates (including daily, monthly and seasonal variations, if appropriate).

      (5) Site plans, floor plans, mechanical and plumbing plans, and details to show all sewers, sewer connections and appurtenances by size, location and elevation.

      (6) Description of process producing industrial waste.

      (7) Description of product and approximate rate of production.

(8) Description of raw materials processed.

(9) Number of employees, hours of plant operation, and projected hours of operation of pretreatment system (if applicable).

(10) Additional information required by the Borough as necessary to evaluate the permit application.

C. Permit Conditions. Industrial waste discharge permits shall be expressly subject to all provisions of this Part and all other applicable regulations, user charges and fees established by the Borough. Permits shall include any or all of the following:

(1) The unit charge or schedule of user charges for the wastewater to be discharged to the sewerage system.

(2) Limits on the average and maximum wastewater characteristics.

(3) Limits on average and maximum rate and time of discharge or requirements for flow regulation and equalization.

(4) Requirements for installation and maintenance of inspection and sampling facilities.

(5) Specifications for monitoring programs which may include sampling locations, frequency of sampling, number, types and standards for tests and reporting schedule.

(6) Compliance schedules.

(7) Requirements for submission of discharge reports.

(8) Requirements for maintaining operating records relating to wastewater discharge and affording Borough access thereto.

(9) Other conditions as deemed appropriate by the Borough to ensure compliance with this Part.

D. Procedures. The procedure to be followed by the Borough in acting on industrial waste discharge permit applications shall be as follows. Within 30 days of receipt of the application, the Borough shall notify the applicant in writing:

(1) That the wastewater proposed to be discharged is acceptable and a permit will be issued by the Borough.

(2) That the wastewater proposed to be discharged is unacceptable.

(3) That the wastewater proposed to be discharged will be acceptable provided certain action is taken and maintained by the applicant, specifying the terms and conditions thereof.

(4) That the Borough requires further information, studies or tests, specifying the requirements thereof, before it can determine whether the proposed discharge is or is not acceptable.

E. Permit Duration. A permit shall be issued for a specified time period, not to exceed five years or it may be issued to expire on a specific date. The user shall apply for permit reissuance a minimum of 180 days prior to the expiration of an existing permit. The terms and conditions of the permit shall be subject to modification by the Borough during the term of the permit as limitations or requirements are modified or other just cause exists. The user shall be informed of any proposed changes in his permit at least 30 days prior to the effective date of change. Any changes or new conditions in the permit shall include a reasonable time schedule for compliance.

F. Permit Transfer. Industrial waste discharge permits are issued to a specific user for a specific operation. A permit may not be reassigned, transferred or sold to a new owner, new user, different premises or a new or changed operation without the approval of the Borough.

G. Waste Characteristic Change. Any owner of any improved property who is discharging industrial waste into the sewerage system and who contemplates a change in the method of operation or in the pretreatment facilities which will alter the type of industrial waste then being discharged into the sewerage system shall apply for a new industrial waste discharge permit at least 30 days prior to such change. The revised industrial waste discharge permit will be subject to a fee as established from time to time by resolution of Borough Council. Approval or disapproval of a modified permit shall be regulated by the procedures established hereunder for the issuance of an original permit.

H. Separation of Wastes. In the case of complete separation of domestic sewage from industrial wastes within an industrial establishment, with the domestic wastes only discharged to the sanitary sewer, no discharge permit fee shall be imposed on that portion of the wastes going to the sanitary sewer.

2. Reporting Requirements for Permittee.

A. Each industrial waste permittee shall submit to the Borough 10 days prior to the first day of March, June, September and December, an industrial waste contribution report. The report shall be on a form provided by the Borough and shall indicate the nature and concentration of pollutants in the industrial waste effluent. The waste

characteristics shall be based on the results of analysis of the waste performed by a qualified laboratory. Upon specific approval of the Borough the permittee may elect to employ in-house facilities for the analysis of certain parameters being monitored. However, at least once per year, a split sample shall be analyzed for all parameters being monitored in-house by both the in-house laboratory and a qualified laboratory. The results of both laboratories shall then be submitted to the Borough for review. The Borough reserves the right to waive approval for the use of in-house facilities at any time.

B. The report shall also include the average daily flow for the reporting period. At the discretion of the Borough and in consideration of such factors as production schedules, budget cycles, etc., the Borough may agree to alter the months during which the above reports are to be submitted.

3. Sampling, Flow Measurement, Testing and Inspection.

A. Any user whose property is serviced by a sewer carrying industrial waste shall install at his expense a suitable control manhole together with such necessary meters and other appurtenances in the sewer to provide for inspection, sampling and measurement of the waste. The control manhole should normally be situated on the user's premises, but the Borough may, when such a location would be impractical or cause undue hardship on the user, allow the faculty to be constructed in the public street or sidewalk area and located so that it will not be obstructed by landscaping or parked vehicles.

B. There shall be ample room in or near the control manhole to allow sampling and preparation of samples for analysis. The control manhole, sampling and measuring equipment shall be maintained at all times in a safe and proper operating condition at the expense of the user. Construction of the control manhole shall be completed within 90 days following notification by the Borough.

C. Users discharging industrial waste to the sewerage system shall provide the Borough and its representatives the opportunity of access at any time, upon reasonable notice, to any improved property served by the sewerage system as shall be required for purposes of inspection, measurement, sampling, testing and records examination to ascertain whether the purpose of this Part is being met and all requirements are being complied with, and for performance of other functions relating to service rendered by the Borough. The Borough shall have the right to set up on the user's property such devices as are necessary to conduct sampling inspection, compliance monitoring and/or metering operations.

D. In the event that no special manhole has been required, the control manhole shall be considered to be the nearest downstream manhole in the public sewer to the point at which the building sewer is connected.

E. All measurements, tests, and analysis of the characteristics of waters and wastes to which reference is made in this Part shall be determined in accordance with the latest edition of "Standard Methods for Examination of Water and Wastewater," published by the American Public Health Association.

F. A twenty-four-hour flow proportional composite sample shall be considered the standard for all sampling performed in accordance with the Part. However, other appropriate sampling procedures may be acceptable at the discretion of the Borough.

G. The costs of all sampling, testing, inspection and other monitoring activities incurred by the Borough while enforcing the provisions of this Part shall be reimbursable from the respective user.

§ 405. Fees. [Ord. 700, 11/16/1989, § 5]

1. Purpose. It is the purpose of this Section to provide for the recovery of costs from users of the Borough's sewerage system for the implementation of the program established herein. The applicable charges or fees shall be set forth in the Borough's Schedule of Charges and Fees.

2. Charges and Fees. The Borough may from time to time collect charges and fees to include:

A. Fees for reimbursement of costs of setting up and operating the Borough's pretreatment program.

B. Fees for monitoring, inspections and surveillance procedures.

C. Fees for reviewing accidental discharge procedures and construction.

D. Fees for permit and modified permit applications.

E. Fees for filing appeals.

F. Fees for consistent removal (by the Borough) of pollutants otherwise subject to Federal pretreatment standards.

G. Other fees as the Borough may deem necessary to carry out the requirements contained herein.

These fees relate solely to the matters covered by this Part and are separate from all other fees chargeable by the Borough.

§ 406. Enforcement. [Ord. 700, 11/16/1989, § 6]

1. Harmful Contributions.

   A. The Borough may suspend wastewater treatment service and/or an industrial waste discharge permit when such suspension is necessary, in the opinion of the Borough, in order to stop an actual or threatened discharge which presents an imminent or substantial endangerment to the health or welfare of persons or the environment, causes interference to the sewerage system or causes the Borough to violate any condition of its NPDES permit.

   B. Any person notified of a suspension of wastewater treatment service and/or an industrial waste discharge permit shall immediately stop or eliminate the discharge. In the event of a failure of the person to comply voluntarily with the suspension order, the Borough shall take such steps as deemed necessary including immediate severance of the sewer connection, to prevent or minimize damage to the sewerage system or endangerment to any individuals. The Borough shall reinstate the industrial waste discharge permit and/or wastewater treatment service upon proof of the elimination of the noncomplying discharge. A detailed written statement submitted by the user describing the causes of the harmful discharge and measures taken to prevent any future occurrence shall be submitted to the Borough within five days following the date of occurrence.

2. Revocation of Permit.

   A. Any user who violates the following conditions is subject to having his permit revoked in accordance with the procedures of this Section of this Part:

      (1) Failure of a user to factually report the wastewater constituents and characteristics of his discharge.

      (2) Failure of the user to report significant changes in operations, or wastewater constituents and characteristics.

      (3) Refusal of reasonable access to the user's premises for the purpose of inspection or monitoring.

      (4) Violation of conditions of the permit.

   B. If a permit is revoked, the Borough may take any steps it deems advisable, including severance of the sewer connection, to promote compliance with this Part.

3. Legal Action. If any person discharges sewage, industrial wastes or other wastes into the sewerage system contrary to the provisions of this Part, or any order of the Borough, the Borough Solicitor may commence an action for

appropriate legal and/or equitable relief in the Court of Common Pleas of Lancaster County.

4. Settlements. Nothing in this Part shall be construed to limit or deny the right of the Borough or any other person to such equitable or other remedies as may otherwise be available with or without process of law, including payment of damages to the Borough by any person causing damage or injury to the sewer system. Any person who causes harm or damage to the sewerage system as a result of a violation of this Part shall be liable to the Borough for the full costs of such harm or damage.

§ 407. Surcharges. [Ord. 700, 11/16/1989, § 7]

1. General.

   A. Discharges containing concentrations of BOD, and/or suspended solids in excess of 250 mg/l shall be subject to a surcharge.

   B. Discharges containing concentrations of BOD_5 and/or suspended solids in excess of 2,000 mg/l shall be subject to a penalty surcharge of three times the standard surcharge rate for that portion of the concentration in excess of 2,000 mg/l, and the standard surcharge rate for the portion of the concentration in excess of 250 mg/l but less than 2,000 mg/l.

2. Surcharge Formula.

   A. Whenever the Borough consents to accept industrial waste into the sewer system which has a total suspended solids concentration in excess of 250 mg/l or BOD_5, in excess of 250 mg/l, a surcharge factor will be applied to the normal sewer bill to arrive at the industrial surcharge bill. The surcharge factor will be computed as follows:

   Surcharge factor 0.001 x [(BOD_5-250 + (TSS- 250)]

   The surcharge factor cannot exceed 1.75 for BOD_5 and 1.75 for suspended solids.

   B. Whenever the Borough consents to accept industrial waste into the sewer system which has a total suspended solids concentration in excess of 2,000 mg/l or BOD_5 in excess of 2,000 mg/l, a penalty surcharge factor will be applied to the normal sewer bill to arrive at the industrial surcharge bill. The penalty surcharge factor will be computed as follows:

   Penalty Surcharge Factor =.003 x [(BOD_5-2,000) + (TSS-2,000)]

   The penalty surcharge factor is added to the surcharge factor to determine the factor to be applied to the monthly metered charge to arrive at the total industrial waste surcharge bill.

3. Nutrient Surcharge. Whenever the Borough consents to accept industrial waste into the sewer system which has a total nitrogen concentration in excess of 40 mg/l or a total phosphorus concentration in excess of 10 mg/l, a nutrient surcharge factor will be applied to the normal sewer bill to arrive at the industrial surcharge bill. The nutrient surcharge factor will be computed as follows: **[Added by Ord. 966, 12/18/2014]**

   Nutrient surcharge factor = 0.01 x [(Nitrogen-40) + (Phosphorus-10)]

   The nutrient surcharge factor is added to any other surcharge factors to determine the factor to be applied to the monthly metered charge to arrive at the total industrial waste surcharge bill.

§ 408. Responsibility of Owners of Improved Property. [Ord. 700, 11/16/1989, § 10]

The owner of each property connected to the sewerage system shall be responsible for all acts of tenants or other occupants of such improved property insofar as such acts shall be governed by provisions of this Part.

PART 5

SANITARY SEWER INSTALLATION SPECIFICATIONS

A. General Provisions.

§ 501. Purpose. [Ord. 751, 4/21/1996, § 1]

1. This Part sets forth uniform requirements for the acceptance and ownership of sewers and appurtenances constructed by others.

2. This Part defines certain terms and provides for the regulation of the construction or repair of sewers and appurtenances by others, by contract or agreement or any other means with the Borough. Except as otherwise provided herein, the Borough Manager shall administer, implement and enforce the provisions of this Part.

§ 502. Short Title. [Ord. 751, 4/21/1996, § II]

The short title of this Part shall be the "Borough of Elizabethtown Sanitary Sewer Installation Specification Ordinance."

B. Rules and Regulations.

§ 511. General. [Ord. 751, 4/21/1996, § A; as amended by Ord. 829, 11/15/2001]

1. Rules and Regulations. In these rules and regulations, Borough shall mean Elizabethtown Borough and contractor shall mean contractor, subcontractor, owner or developer. Any sewers, pump stations, force mains and other sewerage facilities constructed within Elizabethtown Borough shall meet the requirements contained herein before the ownership of such facilities is accepted by the Borough.

2. Observance of Laws. The contractor at all times shall observe and comply with all Federal and State laws and regulations, and local bylaws, ordinances and regulations in any manner affecting the conduct of the work, as well as all safety precautions and orders or decrees which have been promulgated or enacted, or which may be promulgated or enacted, by and legal bodies having authority or jurisdiction over the work. Such observance and compliance shall be solely and without qualification the responsibility of the contractor without reliance on superintendence or direction by the Borough. The duty of enforcement of all of said laws, ordinances, regulations, orders, or decrees lies with the body or agency promulgating them, not with the Borough.

3. Legal Documentation. After all construction and inspection requirements are fulfilled and approved by the Borough, the contractor shall prepare proper legal documentation to the satisfaction of the Borough in order to formally transfer ownership of the sewerage facilities to the Borough. General forms and guidelines for conveying the facilities to the Borough are included in Appendix A.

4. Warranty. The contractor shall provide a warranty for one year following the date of acceptance of the facilities by the Borough. This warranty shall include all equipment, materials or appurtenances installed. It shall be the sole responsibility of the contractor to repair or replace any equipment, materials or appurtenances deemed defective by the Borough during that period. The warranty shall include restoration and/or settlement of excavated areas either in public or private rights-of-way. The contractor shall be solely responsible for refilling excavations and restoring surfaces damaged due to settlement during that period. In State highways, the warranty shall be extended to two years from date of acceptance of the facilities by the Borough. In Borough roads, the warranty shall be as required by the Borough.

5. Plans and Specifications.

   A. Plans and specifications for all sewerage facilities shall be properly prepared by either a registered professional engineer or professional land surveyor as allowed by the Pennsylvania Department of Environmental Protection (DEP), and approved by the Borough.

   B. Complete plans of all facilities must be prepared, including plan and profile views on the same sheet, and shall be submitted to the Borough for approval. The scale shall be one inch = 50 feet horizontally, and one inch = 10 feet vertically for all sewers and force mains. An overall plot plan reflecting the proposed sewer installation with arrows indicating the direction of flow shall be included. The Borough may require the contractor to extend a terminal sewer section to a nearby public road. Unless written permission is obtained from the Borough for an exception, all sewers will be installed in public rights-of-way. Suitable scales shall be used for pump stations and appurtenances. Sheet size shall be standard 22 inches by 36 inches or 24 inches by 36 inches. The Borough datum (U.S.G.S.) shall be used for all elevations. All rights-of-way shall be shown on all drawings, and shall be properly acquired and properly recorded in the name of the Borough prior to acceptance of the sewer. The right-of-way agreement shall be in a format approved by the Borough. All plans shall bear and signature and seal of a registered professional engineer.

   C. Upon completion of the work and prior to acceptance by the Borough, record plan mylar reproducibles shall be given to the Borough, and these shall include the location, pipe type, length and depth of all

sewer lines, lateral sewers, and forcemains, record drawings for pumping stations and all operating manuals. In addition, two complete sets of legible prints of each mylar sheet shall be furnished by the Borough.

6. Shop Drawings. The Borough reserves the right to require shop drawing submission by the contractor for any and all items to be used in the construction of the sewers or appurtenances. The contractor must obtain approval of shop drawing items prior to use or installation.

7. Permits. The contractor shall secure in the name of the Borough all permits that are required in the name of the Borough such as those from the Department of Environmental Protection, Conrail, and PennDOT. Any existing street, highway, or other improvements disturbed during construction shall be restored to the satisfaction of the Borough before the facilities will be approved for final acceptance by the Borough. All costs of such permits including any and all bonds required shall be the sole expense of the contractor. All costs of inspections, as may be required by permit issuing agencies, shall be the sole expense of the contractor.

8. Inspections. The work shall at all times be subject to inspection and examination by the Borough's representative. The contractor shall provide free access and reasonable facility for examination of the work, including uncovering and testing thereof.

§ 512. Design. [Ord. 751, 4/21/1996, § B; as amended by Ord. 829, 11/15/2001]

1. All designs shall conform to good engineering practice, meet the requirements of DEP, OSHA and the Pennsylvania Department of Labor and Industry, and shall conform to the requirements contained herein. The minimum diameter shall be eight inches and the minimum slope for all terminal sections of sewers shall be 1.0%. The minimum slope for all other eight inch diameter sections shall be 0.50%.

2. Sewers shall be designed on the basis that all units shall be served by a four inch sewer lateral having a minimum cover of three feet at any point along its entire length. All wyes shall be set in accordance with the details noted on Plate 1 contained herein using four-inch bends. The invert elevation of the four inch service lateral at the 30 bend shall be the same as the elevation of the crown of the main. The use of PVC "T-wyes" will not be permitted.

3. Under normal conditions, sewer lines with depths greater than 15 feet will not be approved. In each instance, these conditions should be thoroughly evaluated and discussed with the Borough during the design. In all cases were subsequent approval is given by the Borough, trench load calculations shall be submitted to verify the type of pipe and bedding conditions to be utilized. The calculations for PVC pipe shall include a safety factor of 1.5.

§ 513. Materials and Equipment. [Ord. 751, 4/21/1996, § C; as amended by Ord. 829, 11/15/2001]

1. Gravity Sewer Pipe Materials and Joints.

   A. Cement Lined Ductile Iron Pipe and Fittings.

      (1) Ductile iron pipe shall be in full accord with the standard specification as set forth in the ANSI Specification A21.51 or A.W.W.A. specification C151, Latest Edition, with wall thickness in full accord with the standard specification as set forth in the ANSI Specification A21.50 or A.W.W.A. Specification C150, Latest Edition.

      (2) Joints shall be of the push-on type or mechanical joint type in full accordance with ANSI A21.11 or A.W.W.A. C111 specifications, latest edition.

      (3) Cement mortar linings shall be in full accord with ANSI Specification A21.4 or A.W.W.A. C104, latest edition, except the thickness of linings should not be less than the following:

         (a) Three inches through 12 inches — 1/8 inch.

         (b) Fourteen inches through 24 inches — 3/16 inch.

      (4) Minimum Thickness. The minimum pipe thickness shall be Class 52.

   B. Polyvinyl Chloride Sewer Pipe.

      (1) Materials. Polyvinyl Chloride (PVC) sewer pipe conform to ASTM D-3034-SDR35.

      (2) Joints. The pipe and fittings shall be joined with an integral bell-and-spigot type rubber gasketed joint. Each integral bell joint shall consist of a formed bell with a single locked rubber gasket as manufactured by J.M. Manufacturing Co. or approved equal. Gaskets shall conform to ASTM D-3212.

2. Pressure Sewer Pipe Materials and Joints.

   A. Ductile Iron Pipe.

      (1) Material.

         (a) Ductile iron pipe and fittings shall be Class 52 in full accordance with the standard specification as set forth in the ANSI Specification A21.S1 or A.W.W.A. Specification C151 latest edition, with wall thickness in full accordance with the standard specification as set forth in

the ANSI Specification A21.50 or A.W.W.A. Specification C150, latest edition.

(b) All ductile iron pipe and fittings shall be coated inside and outside with a bituminous based material at least one mil. thick. In long force mains, the Borough may require a polylining of the pipe.

(2) Joints. Pipe joints shall be of a type which employs a single elongated grooved rubber gasket to effect the joint seal or mechanical joints in full accordance with ANSI A21.11, or A.W.W.A. C111 specifications, latest edition.

B. Steel.

(1) Material. Steel pressure sewer pipe shall conform to A.W.W.A. Standard C-202. Interior lining shall be in accordance with A.W.W.A. Standard C-203. All steel pipe and fittings shall be coated inside and outside with a bituminous based material at least one mil, thick.

(2) Joints. Joints shall be bell and spigot type with O-ring gasket, or approved sleeve type couplings with rubber gaskets.

3. Concrete.

A. Cast-in-place concrete shall be in accordance with the ACI 350; concrete sanitary engineering structures and shall be normal weight concrete with 3000 psi, 28 day compressive strength.

B. Ready-mix concrete shall comply with ASTM C94.

4. Air Release Valves.

A. The valves shall be designed for sewage service and shall be nonclogging with cast iron body, bronze trim and stainless steel floats. Valves shall be provided with shutoff valve, blow-off valve and quick disconnect hose connection and backflushing hose and valve.

B. Valves shall have a venting capacity of 270 C.F.F.A.M. at 50 psig differential pressure and shall be similar to those manufactured by APCO.

C. Manhole shall be standard precast concrete construction in accordance with ASTM C-478. Manhole base shall be provided with drain. Manhole cover shall be adequately vented to insure discharge or intake of free air as specified above.

5. Precast Reinforced Concrete Manholes.

A. Precast Reinforced Concrete Manhole Risers and Tops.

(1) Precast reinforced concrete manhole risers and tops shall conform to A.S.T.M. Specification C-478 (latest revision) and shall be of watertight construction. Joints between manhole sections shall be provided with performed plastic joint sealing material such as Rub-R-Nek as manufactured by K. T. Snyder Co., MAS-STIK as manufactured by Concrete Products Supply Co., or approved equal. The performed joint sealer shall be protected by a removable two piece wrapper and shall be applied in strict accordance with the manufacturer's recommendations. The chemical composition of the sealer shall meet the following requirements: the latest revision of Bitumen-A.S.T.M. D-4-77, Inert Ash Mineral A.A.S.H.T.O. T-111-42, Volatile Matter A.S.T.M. D-6-67.

(2) Manholes shall be constructed in accordance with the standard details noted on Plate 1 contained herein. Shop drawings shall be submitted for approval.

(3) All manhole covers shall be set at same slope and crown as finished road surface. If an extension is made from an existing manhole that will be below finished grade, that manhole shall be raised to finished grade at the expense of the contractor. If the existing Borough manhole will be above the finished grade, the contractor shall adjust the manhole to finished grade. If the proposed construction includes an existing street or right-of-way in which the existing grade will be changed, the contractor shall be responsible for adjusting all existing manholes to finished grade. All adjustments required shall be in accordance with methods approved by the Borough. Such approval must be obtained in writing prior to construction.

(4) Lift holes in manholes shall not extend through the entire width of the wall.

(5) Manhole bases may be cast-in-place concrete, and shall have a compressive strength of not less than 3,000 psi after 28 days (tests to be in accordance with A.S.T.M. Specification C-39, latest revision).

(6) Precast manhole bases shall have flexible watertight joints at the point of entry of any sewer pipe into the manhole. The rubber materials shall conform to ASTM C443. The gaskets shall be cast into the manhole base to become an integral part of the concrete. The gaskets shall be Press Wedge II as manufactured by Press-Seal Gasket Corporation, Dura-Seal III, or Dura-Seal PSX, as manufactured by Dura Tech Inc., and supplied by Monarch, Dallastown, PA, Dual Seal II as supplied

by Terre Hill concrete Products, "FLEX-LOK" as supplied by York Concrete, York, PA or equal.

B. Frame and Cover. Manhole frame and cover shall be of soft grey iron equal in design to Number R-1656 manufactured by the Neenah Foundry Company, Neenah, Wisconsin, machined and having the words "SANITARY SEWER" cast approximately in the center of the cover. All frames on manholes shall be securely attached to the manhole by use of anchor bolts. The joint between the frame and the precast manhole section shall be provided with preformed plastic joint sealing material equal to Ram-Nek as manufactured by K. T. Snyder Company, Inc. of Houston, Texas. It is required that this joint be watertight.

C. Watertight Manhole Frame and Cover. Watertight manhole frames shall be of soft grey iron similar in design to Number R-1755C as manufactured by Neenah Foundry Co., Neenah, Wisconsin, and having the word "SANITARY SEWER" cast approximately in the center of the cover. Watertight frames shall be securely attached to the manhole by use of anchor bolts. The joint between the frame and the precast manhole section shall be provided with performed plastic joint sealing material equal to Ram-Nek as manufactured by K. T. Snyder Company, Inc. of Houston, Texas. It is required that this joint be watertight.

D. Manhole Steps.

(1) Manhole steps shall be 3/4 inch diameter aluminum alloy 6061-T6, similar in design to R-1982-W as manufactured by the Neenah Foundry Co., Neenah, Wisconsin. Manhole steps shall be grouted in place using a nonshrink, nonmetallic grout, cast in place or driven into polypropylene inserts or manhole steps made of steel reinforced copolymer polypropylene similar in design to PS2-PF or PS2-PFS as manufactured by M. A. Industries Inc., Peachtree City, GA.

(2) The Borough reserves the right to have steps tested according to the latest revision of ASTM Specification C-478 at the contractor's cost.

(3) Manhole steps shall be positioned in the manhole in such a manner to permit easy access to the manhole and not conflict with either influent or effluent lines. The first step shall be no further than 24 inches from the top of the manhole.

6. Pumping Stations.

A. General.

(1) Sewage pump stations which are intended to be transferred to the Borough shall be properly designed to conform to all applicable regulations of the Pennsylvania Department of Environmental Protection (DEP), OSHA, and the Pennsylvania Department of Labor and Industry. Prior to approval by the Borough, detailed construction drawings and specifications, as well as the design calculation, must be submitted.

(2) Both wetwell/drywell, and submersible type stations will be considered. These requirements pertain to pumping stations which will serve multiple dwellings and/or industrial or other developments which discharge sewage by gravity to the pump station site. They do not apply to individual effluent or sewage pumps in low-pressure systems.

(3) The contractor shall obtain DEP approval and permits in the name of the Borough.

(4) Special consideration must be given to the fact that wet wells, other than those on residential properties, are considered hazardous Class 1, Group D environment.

(a) Safety Requirements. All gears, chains, coupling, projecting set screws, keys and similar rotating or reciprocating parts shall be protected in accordance with American Standards Association Safety Code for Mechanical Power-Transmission Apparatus 815-1927.

(b) Drawings and Details. The contractor shall furnish the Borough detailed plans and instructions for installation and operation of the pumps, detailed drawings showing the piping arrangement required, and two copies of characteristic performance curves for each proposed pump. The drawings will be examined only for general design, general dimensions and apparent suitability and will be approved or returned for the changes required. Such approval will not relieve the contractor of the responsibility for furnishing equipment which will satisfactorily perform under the conditions specified.

(c) Description of Equipment. The contractor shall furnish a complete description of all equipment offered under this specification, including manufacturer's information and pertinent curves based on laboratory tests of existing similar pumps. The curves shall show the capacity, head, efficiency and brake horsepower throughout the head and capacity range.

(d) Spare Parts and Tools.

1) The contractor shall furnish one complete set of tools that are necessary for the maintenance and repair of the pumps. One pressure grease gun for each type of grease required for pumps and motors shall be furnished.

2) Spare parts shall consist of one extra set of pump bearings, two sets packing, or mechanical seals for each pump station and one extra shaft sleeve for each size pump.

(e) Site and Access Road.

1) The pump station site shall be properly graded to eliminate any stormwater problems and/or ponding conditions. After grading, the site shall be seeded and landscaped. Provisions shall be made to include shrubbery in the landscaping to enhance the appearance of the station. The contractor is responsible for obtaining a good stand of grass until the time of first cutting. The site shall be fenced and shall be of sufficient size to accommodate the pumping facilities and to permit the turnaround of service vehicles. The access road and turnaround shall have a paved surface. The minimum width of the paved surface of the access road shall be 12 feet.

2) Specifications. Form, shape and compact subgrade. Six inches compacted stone base course. One and a half inch BCBC base course and one inch BCBC wearing course. Toe drains and stormwater culverts as dictated by topography.

3) The site shall be provided with overhead exterior lighting.

4) The site shall be fenced with vinyl coated link Fence six feet high with sliding/rolling link fence gate and man gate. Locking devices must be provided on both gates.

(f) Emergency Generator Building. An emergency generator shall be mounted permanently in a building with all appropriate electrical controls (including automatic "switch-over" controls). This building shall also house pump control panel specified elsewhere. The building shall conform aesthetically with adjoining residential units. Construction details of the building shall be

subject to approval of the Borough. Temporary or flimsy housing or structures will not be accepted, nor will metal or fiberglass enclosed generators.

B. Station Construction.

(1) Wetwell/Drywell Type.

(a) General.

1) The wetwell must be capable of being isolated by means of a gate valve located upstream of the wetwell.

2) The station shall consist of two prefabricated sections assembled in the field. The entrance tube shall be a minimum 42 inches I.D. The pump chambers shall be of 1/4 inch structural plate and the top and bottom heads 3/8 inch structural plate. Reinforcing eight inch I-beams shall be welded to the bottom head. Top head shall be reinforced with either eight inch I-beams or channels. Lifting lugs shall be provided of sufficient capacity to carry the entire weight of the complete chamber. Pump chamber dimensions shall be eight feet inside diameter and eight feet in height.

3) All welds shall be continuous and watertight. Lugs shall be properly positioned and welded to the ceiling to lift each pump and motor.

4) The entrance tubes shall be 1/4 inch structural steel plate, rolled and seam welded and reinforced at the top and bottom with rolled angles. Entrance tubes shall extend above grade a minimum of 18 inches. The lid shall be raintight and fitted with a handle and positive automatic latching device and have a lock that can be opened with a knob from the inside and a key from the outside. Two steel vent pipes shall be attached to the outside of the entrance tube to provide a fresh air intake and exhaust vent. Pipes shall be screened and have a rain-proof opening.

5) Two magnesium anodes shall be furnished with insulated wire to be attached to each station and placed in the backfill to provide cathodic protection.

6) The entrance tubes shall be provided with intermediate landings in accordance with DEP standards.

(b) Pumping Facilities.

1) A minimum of two pumps shall be provided and installed. Pumps shall be of the nonclog type capable of passing a sphere with a minimum diameter of three inches. Pump casing shall have built-in suction elbow. Each pump shall be close coupled and shall have two sets of ball bearings designed for both radial and vertical thrust.

2) The pump shaft shall be sealed by a standard packed stuffing box. Stuffing box shall have minimum of five rings of graphite impregnated square packing with cast iron gland seal. The seal shall be lubricated by:

a) Water taken directly from the public water supply, if available, to a lantern ring inside the seal housing; or,

b) Water taken from the pump volute through a filter to a lantern ring inside the seal housing. Filter shall be of corrosion resistant materials and shall screen out solids larger than 50 microns.

3) The use of mechanical seals shall also be considered.

4) A manually operated brass valve shall be provided to vent the pump volute.

(c) Motors.

1) The pump motors shall be specially built NEMA P base, open drip-proof induction type, suitable for three phase, 60 Hz, 230/460 volt electrical service. The motors shall have a service factor of 1.15. They shall have normal starting torque and low starting current, as specified for NEMA Design B characteristics. The motors shall not be overloaded at the design condition, nor at any head in the specified operating range.

2) Motors shall have Class F insulation, Class B temperature rise, 40°C ambient. Insulation shall

be of non-hygroscopic materials which resist moisture and are fungus resistant.

3) Each motor shall have oversized, grease-lubricated ball bearings with the thrust bearing at the bottom locked in position to eliminate shaft end-play. The motor shaft shall be solid stainless steel.

4) The motor-pump shaft shall be centered, in relation to the motor base, within 0.005 inches. The shaft run-out shall be limited to 0.003 inches.

5) The motor shall be fitted with heavy lifting eyes, each capable of supporting the entire weight of the pump and motor.

6) A special varnish treatment shall be applied to the stator windings and rust preventative compounds shall be used to coat the rotor and stator air gap surfaces and protect the motor against corrosion.

(d) Controls. The control equipment shall be as for submersible type stations. (See § 113(6)(A)(2) et seq.)

(e) Dehumidifier. The contractor shall install an automatic refrigeration type dehumidifier to maintain the relative humidity of the air in the pump chamber as low as possible. The dehumidifier shall be capable of removing three gallons of moisture per 24 hours, and shall be automatically controlled by an adjustable cold coil thermostat and a panel mounted humidistat. The condensation shall drain to the sump.

(f) Sump Pump. The contractor shall install in each pump station a submersible sump pump with 1/3 HP motor mounted directly above the impeller. The volute casting shall have feet to support the impeller entrance the proper distance above the bottom of the pump. It shall have a minimum capacity of 1000 GPH at 20 feet TDH. The pump shall be controlled by a level control switch, capable of operation on a two inch differential water level. It shall discharge back into the wet well through a 1 1/4 inch pipe with two check valves and a gate valve within the pump chamber.

(g) Ventilating Blowers. A ventilating blower capable of displacing 30 air changes per hour should be installed in

the pump chamber and the wet well. The blower and lights shall be turned on by a NEMA one entrance switch at the entrance to the pump chamber or wet well respectively. The pump chamber blower shall also be timer controlled. No piping from the wet well may enter the pump chamber.

(h) Wiring.

1) The pump station shall be completely wired at the factory, except for the power feeder lines, and shall be in accordance with the National Electric Code. All wiring in the pump station shall be color coded as indicated on the wiring diagram. Minimum wire size shall be #12 AWG copper. All wiring outside the panel shall be in rigid galvanized steel conduit, 3/4 inch minimum, except for 115 volt accessory items which are provided with connecting insulated service cord by the manufacturer. The manufacturer shall furnish and install conduit from the control panel across the ceiling, and up the entrance tube to receive the feeder lines. The conduit shall terminate in a threaded conduit connection through the wall of the entrance tube above ground level.

2) Accessory items such as the sump pump, dehumidifier, and air compressors shall be plugged into polarized, grounded convenience outlets, located close to their installed position so that such items can be readily removed and serviced if necessary.

(i) Heater. A 750 watt, 120 volt, electric heater shall be installed in the station. The heater shall be thermostatically controlled. The heater shall not be placed within two feet of the control panel.

(j) Station Painting.

1) After welding, all inside and outside surfaces of the structure shall be blasted with steel grit to remove rust, mill scale, weld slag, etc. All weld spatter and surface roughness shall be removed by grinding. Immediately following cleaning, a single heavy inert coating shall be factory applied to all inside and outside surfaces prior to shipment. This coating shall be of "Versapox" epoxy resin, or equal, especially formulated for

abrasion and corrosion resistance. The dry coating shall contain a minimum of 85% epoxy resin with the balance being pigments and thixotropic agents.

2) A touch-up kit shall be provided for repair of any mars or scratches occurring during installation. This kit shall contain detailed instructions for use and shall be a material which is compatible with the original coating. The touchup coating shall contain a minimum of 85% epoxy resin.

3) All motors, pumps, bases, brackets, ladders, piping and steel support shall be properly primed and painted with two coats of rust inhibitor paint in strict accordance with the manufacturer's recommendations.

(2) Submersible Type.

(a) General. A minimum of two pumps must be provided and installed. The station, including pump and valve chambers, manholes, meter pits and other structures constructed below grade shall be watertight and must meet current ASTM Specifications. A separate valve chamber must be provided in accordance with DEP requirements.

(b) Sump Basin and Cover.

1) The sump basin shall be of reinforced concrete and shall be provided with a hinged aluminum cover of non-skid pattern. The basin shall be large enough to comfortably accommodate the pumps. The cover shall have angle frame with rectangular opening of sufficient size to permit easy removal of the pumps. Cover shall have a hold-open bar that can be locked in open position, and shall have a lock that uses a key or special insert to open. All hardware shall be of noncorrosive material.

2) Basin shall be provided with an extendable aluminum access ladder with rungs at 12 inch oc. Extendable section must consist of two vertical handrails projecting a minimum of three feet above top of basin.

(c) Valve Chamber.

1) A separate valve chamber shall be provided on the discharge side of the sump basin. The valve chamber shall accommodate a check valve and gate valve for each pump, and shall be large enough to comfortable accommodate the valves and fittings.

2) A NEMA four limit switch shall be provided on each check valve to signal open/close operation. The switches shall have N.O./N.C. contacts rated 120 volts, 10 amps. These switches shall be connected into the pump fail circuitry.

3) The valve chamber shall be provided with an aluminum hatch cover a described in subsection (2), above.

4) Chamber shall be minimum four feet six inches deep with aluminum access ladder with rungs at 12 inches oc. A three inch diameter drain shall be provided from the floor of the chamber to the pump sump. The floor shall be sloped towards the drain. The drain shall have a check valve to prevent backflow from pump sump in case of high water level in the pump sump.

(d) Lift-Out Rail System. Station shall be provided with a rail system to facilitate easy removal of the pumps. Rails shall be firmly fixed with rail supports to the wall of the sump basin. Rails, supports and all hardware shall be made of noncorrosive materials.

(e) Submersible Pumps.

1) Casings. Pump casing and motor casing of ASTM-A48 cast iron. Pump casing of the single volute type, ribbed to prevent excessive deflection and hydrostatically tested to twice the design head or 1 1/2 times the shutoff head whichever is greater. Volute sized at all points to pass solids which can pass through the impeller and internally finished to provide smooth, unobstructed flow.

2) Impeller. Nonclogging type of ASTM-A48 cast iron, statically, dynamically and hydraulically balanced, capable of passing three inch solids. Key seat the impeller and secure it to the shaft by a hex head impeller nut.

3) Pump Shaft. Stainless steel of sufficient strength and size to safely transmit the maximum torque developed by the drive unit. Shaft sized to provide rigid support of the impeller and prevent excessive vibration.

4) Pump Shaft Bearings Ball or roller type, oil lubricated. Upper bearings to support full dead load and hydraulic thrust. Design bearings with a 20,000 hour B10 minimum bearing life per AFBMA test procedure.

5) Shaft Seals. Provide each pumping unit with a double mechanical seal, running in an oil filled reservoir, composed of two separate lapped faced seals, each consisting of one stationary and one rotating tungsten carbide ring each held in contact by a separate spring, so that the outside pressure assists spring compression in preventing the seal faces from opening.

   a) Protect the compression spring against exposure to the pumped liquid. Seal the pumped liquid from the oil reservoir by one face seal and the oil reservoir from the motor chamber by the other.

   b) Equip each pumping unit with a liquid sensing device to prevent damage to the motor in the event of a shaft seal failure.

6) Pump Motor. Provide a motor having Class F insulated windings (which are moisture resistant) housed in a watertight casing. The motor shall have cooling characteristics suitable to permit continuous operation in a totally, partially or nonsubmerged condition. Motors shall be rated Class one, Group D hazardous.

7) Pump Accessories. Provide the following accessories with each pumping unit.

   a) Stainless steel chain of adequate strength and length to permit raising of the pumping unit for inspection and removal. Chain must have large secondary links attached at minimum 10 foot intervals.

   b) Guide rails.

c) Upper guide rail brackets.

d) Pump motoring plate with discharge elbow and lower guide rail support brackets.

e) Power cable of adequate length.

(f) Controls.

1) Mercury Float Switch Controller. Provide a control system consisting of mercury float switch and other necessary appurtenances. Switches to be molded into an epoxy filled polypropylene float. Provide two spare floats with cables to the Borough.

2) Pump Controls.

a) One circuit breaker disconnect unit per pump with magnetic trip sized for individual pump protection. This unit shall provide the maximum electrical motor protection available, serving as a circuit breaker and manual disconnect switch.

b) One across-the-line starter per pump, sized in accordance with NEMA horsepower standards.

c) 1 N.O. auxiliary contact for run status and 1 N.C. auxiliary contact for stop status, overload relay, and all other controls and accessories necessary for proper operation and protection.

d) Low voltage (24 VAC) level sensing circuitry for intrinsically safe relaying.

e) Solid state alternator for duplex controls.

f) Individual toggle type selector switches to provide "AUTO-OFF-HAND" control of each pump.

g) Twenty-four volt AC control transformer, protected by circuit breakers or fuses on both the primary and secondary.

h) Terminals shall be provided for connection of the level sensors.

i) A removable dead-front panel shall be provided to protect the operator.

j) All operator's controls, toggle switches, circuit breakers, etc., shall be accessible without removing the dead-front panel.

k) NEMA one enclosure with latch mechanism.

l) Duplex three phase 240 or 480 volt power supply as dictated by the power company and motor requirements.

m) A relay which automatically reconnects the control circuit to pump number two if pump number one circuit breaker trips.

n) High level and low level alarm relays with unpowered contacts and terminals shall be included.

o) Pump running transformer type pilot lights (red) mounted on operator's control panel. Pump stopped pilot lights (green) mounted on operator's control panel.

p) Nonresettable running time meters mounted on operator's control panel.

q) Seal leak detector for each pump with unpowered relay contacts for alarming.

r) Three phase power monitor with adjustable settings, stops pump for low voltage, single phasing and phase reversal.

s) One pump to be locked off during generator operation with ability to switch to other pump should selected pump fail.

t) A "HAND-OFF-AUTO" selector switch provided for each of the two pumps controlled with the following operation:

i) Hand Position. In this position, the pump controlled by the switch will run regardless of the wet well level. The pump will continue to run until

the switch is turned to "OFF" or "AUTO".

ii) Auto Position. In this position, the operation of the pumps is controlled automatically by the level sensors in the wet well as follows:

a. The control circuit is placed in standby when the liquid level rises to tilt the lowest sensor which is a redundant cutoff and low water alarm.

b. As the level continues to rise, the control circuit is energized when the pump off level sensor rises.

c. As the level continues to rise and the next level sensor is tilted, the first (lead) pump will start. In this step, the pumps will alternate on successive cycles. If pump number one starts first on one cycle, pump number two will start first on the next cycle. This insures equal operating time and wear on each pump.

d. As the level in the well is pumped down, the pump or pumps will continue to operate until the level drops just below the pumps off level sensor.

e. If the level in the well continues to rise with one pump in operation, the second pump will be turned on when the level reaches lag pump on/high water level float.

f. If the water continues to rise, the high water alarm level sensor will activate an alarm.

C. Pipes and Fittings.

(1) Suction and discharge piping shall be Class 52 (Min) Ductile Iron (Cement Lined): ANSI A21.50 and ANSI A21.51. Fittings

shall be Gray Iron or Ductile Iron: ANSI A21.10, up to 12 inches inclusive 250 psi rated.

(2) Flanged joints shall be used inside structures.

(3) Pipes and Fittings to be factory coated inside and out with bituminous material; minimum one mil dry thickness.

D. Valves.

(1) Gate Valves.

(a) Provide valves of the same type by the same manufacturer suitable for the intended service.

(b) Valves shall open to the left (counter-clockwise). Operating nuts or wheels shall have cast thereon, an arrow and the word OPEN indicating the direction of opening.

(c) Acceptable manufacturers:

1) Clow Corporation;

2) American Darling Valve;

3) Kennedy Valve; or,

4) Equal.

(2) Check Valves.

(a) Designed for a minimum working water pressure of 150 psi.

(b) Iron body, bronze mounted, full opening swing check type with bolted cover, stainless steel hinge and malleable iron clapper arm.

(c) Disc of cast iron with bronze seat ring.

(d) Valves less than 10 inches and larger furnished with outside lever and spring.

(e) Valves less than 10 inches furnished with outside lever and weight.

E. Alarm System. An alarm system capable of monitoring the following functions and transmitting the relevant signal to the designated location, shall be installed:

(1) Wetwell/Drywell Type Stations.

(a) Power failure.

(b) High wetwell.

(c) Low wetwell.

(d) Water in drywell.

(e) Generator failure.

(f) Louver failure.

(g) Pump failure.

(2) Submersible Type Stations.

(a) Power failure.

(b) High wetwell.

(c) Low wetwell.

(d) Seal leak.

(e) Generator failure.

(f) Louver failure.

(g) Pump failure.

(3) Acceptable Manufacturers. The dialer shall be a real voice type with eight-channel capacity. Dialer shall be Verbatim by RACO or MCS500 by Microtel.

(4) Provide a wall mounted pushbutton telephone and RJ11 jack. Acceptable Manufacturer: Bell, AT&T, G.E., or approved equal. Contractor shall make all arrangements with telephone company and pay all relevant installation charges and fees.

F. Flow Metering. **[Amended by Ord. 966, 12/18/2014]**

(1) A flow metering device must be provided capable of continuously recording pumped flows. If meter is used with a wet well/dry well type station, the meter shall be installed inside the dry well area. If the meter is used with a submersible type station it shall be installed in a manhole of sufficient size as to permit easy access for maintenance.

(2) Acceptable Product: Toshiba Mount Anywhere flow meter or equal.

G. Water Supply. Where public water supply is available, a 3/4 inch diameter metered water service terminating at a frostproof yard hydrant, in the case of submersible type station, and terminating inside the drywell in the case of wetwell/drywell station, must be provided. Service to include all fees and charges for the provision thereof.

H. Tests. Field tests shall be carried out at the expense of the contractor to ensure that pumps and all equipment meet the design criteria. The Borough's personnel will witness the field tests.

I. Emergency Power.

(1) The contractor shall install a diesel or propane powered emergency generator set and automatic transfer switch required to run the pumps and all equipment within the station upon loss of normal power.

(2) The system components shall be new equipment of current design, not one-of-a-kind, and consist of an approved engine-driven electric plant with mounted start-stop controls, an automatic load transfer control, and all necessary accessories. All components shall be completely built, tested and shipped by a manufacturer who has been regularly engaged in the production of such equipment for the past 10 years and who has local parts and service facilities, so there is one responsibility for the proper functioning of the entire system. The plant shall be as manufactured by Kohler, Caterpillar, Onan or approved equal.

(3) The plant shall be mounted on a welded steel skid base, which in turn shall mount on six-inch high I-beams securely mounted to the frame and a concrete pad. The pad shall be sloped to prevent standing water to accumulate under the generator set. The starting batteries shall be placed on a cast iron rack on the inside of the housing. The muffler shall be attached to the exhaust line by 125 pound American standard pipe flanges. The exhaust line shall contain a condensate trap with drain cock, at the first point of rise in the line from the engine. Only long radius elbows shall be used in the exhaust line. All required anchor bolts shall be furnished and installed. A stainless steel flexible pipe shall connect engine to the exhaust system.

(4) Exhaust air ductwork between radiator and exhaust louver, shall be 20-gauge galvanized sheet steel. Engine radiator shall have a flexible duct adapter.

(5) A thermostatically controlled jacket water heater shall be provided to maintain a jacket water temperature of 90° F. This unit shall be as manufactured by Chromalox, Singer, or approved equal.

(6) Provide a line circuit breaker with the generator. Breaker shall be rated to handle the generated fault currents and shall be one of those listed by the transfer switch manufacturer as providing withstand and closing ratings listed. Breaker shall have the required number of poles and current rating capable of handling required load.

(7) Provide generator control panel with the following: voltmeter, ammeter, selector switch, start controls, voltage level adjustment rheostat, oil pressure gauge, fault indicators for safety shutdown, "AUTO/MANUAL" switch, water temperature gauge, battery charge rate ammeter, field circuit breaker, running time meter, panel face illumination from the battery, generator failure output contacts.

(8) Provide base mounted diesel fuel/gas tank of sufficient capacity to sustain a minimum of 24 hours running at full tank of fuel/gas.

(9) A current limiting battery charger shall be furnished to automatically recharge the starting batteries. Charger shall float at 2.17 volts per cell and equalize at 2.33 volts per cell. It shall include overload protection, silicon diode full wave rectifiers, voltage surge suppressors, DC ammeter, and fused AC input. AC input voltages shall be 120 volts. Amperage output shall be no less than five amperes. Charger shall be LaMarche Manufacturing Company, Model A-5, ESB Inc., or approved equal.

J. Transfer Switch.

(1) The automatic transfer switch shall be fully rated, to protect all types of loads, inductive and resistive, from loss of continuity of power. The switch shall afford complete protection. The switch shall be rated as suitable for all classes of loads without derating, either open or enclosed.

(2) The transfer switch shall automatically transfer its load circuit to an emergency or alternate power supply from failure of its normal or original supply. Upon restoration of the normal supply, the transfer switch shall automatically retransfer its load circuits to the normal supply.

(3) All pilot devices/relays shall be of the industrial type rated 10 amperes with self-cleaning contacts.

(4) Transfer mechanism shall be energized only momentarily during transfer.

(5) Components of the operating mechanism shall be insulated or electrically dead.

(6) All electrical equipment or apparatus of any one system must be the product of one manufacturer or equivalent products of a number of manufacturers which are suitable for use in a unified system. No circuit breaker types are acceptable nor parts thereof.

(7) For complete protection, close differential voltage sensing relays shall be provided to monitor each phase of the normal supply. A drop in voltage in any phase below the predetermined dropout value of the relay shall initiate load transfer. The relay shall initiate retransfer of the load to the normal supply as soon as the voltage is restored in all phases beyond the predetermined pickup value of the relay.

(8) The transfer switch shall obtain its operating current from the sources to which the load is being transferred.

(9) The automatic transfer switch shall also be furnished with the following options: adjustable two to 120 seconds time delay on normal to emergency; adjustable zero to 15 second time delay on engine starting; adjustable 12 seconds to 30 minutes time delay on emergency to normal; adjustable zero to 30 minutes, set at five minutes time delay for engine cool off; frequency/voltage relay for emergency source; test switch in cover of switch; normal supply pilot lights, emergency supply pilot light; engine start-stop contacts; relay auxiliary contacts on normal and emergency source, 1 N.O. and 1 N.C.; solid neutral bar assembly; plant exerciser for automatic test operation of plant with transfer of load for pre-selected intervals (adjustable 0-168 hours in multiples of 15 minutes) at least once a week.

(10) All accessories and equipment shall be front accessible for ease of maintenance or removal.

(11) Transfer switches and options shall be as manufactured by ASCO 940, Kohler, Onan or approved equal.

K. Lighting.

(1) The contractor shall furnish all luminaries, lighting equipment and components shown on the drawings, listed in the fixture schedule, and specified herein. He shall furnish all labor and materials required to install specified equipment in a workmanlike manner.

(2) The contractor shall furnish and install lamps and accessories as required. Prior to acceptance of building by the Borough, all fixtures shall be cleaned, free of dust, insects and all foreign matter.

(3) The light fixture schedule is listed below.

(4) Description.

(a) Industrial, ceiling mounted fluorescent, two lamp, four foot, 10 15 apertured up-light porcelain enamel reflectors, 120 volts.

(b) Outdoor wall mounted high pressure sodium, 120 volts, photo control.

L. Electric Unit Heaters.

(1) Horizontal forced air unit heaters shall be rated for the building size. Mounting brackets designed for either ceiling or wall swivel mounting shall be furnished for each heater. The cabinet shall be of 18 gauge dieformed furniture grade steel. Individual adjustable louvers shall be furnished to provide desired control of discharge air. All metal surfaces of the casing shall be phosphate coated to resist corrosion, with a baked enamel finish.

(2) Automatic reset thermal over-heat protection shall be provided.

(3) Motors shall be of the totally enclosed continuous fan-duty sleeve bearing type equipped with built-in thermal overload protection.

(4) Fans shall be aluminum, directly connected to fan motor, dynamically balanced and designed specifically for unit heater application.

(5) Heaters shall be equipped with built-in comfort control thermostats and necessary control transformers and contractors. Heaters shall be equipped with cord and twist lock plug for connection to receptacle and shall be Chromalox Type MUH, Singer, Berko or approved equal.

M. Metal Louvers.

(1) The contractor shall furnish all metal louvers (both the gravity and motor operated type) required for installation in the generator building. He shall provide the metal louvers complete with all motors, controls, screens, trim and closure pieces required for a complete installation. It shall be the responsibility of the contractor to check all opening sizes and completely coordinate the installation to insure a neat workmanlike job.

(2) A gravity louver shall be furnished for installation on the generator discharge. This shall be a fully automatic louver with the exhaust blades normally in a closed position and set to open when air pressure is applied. The blades shall move independently of each other, smoothly and without flutter.

(3) The head, sill, jambs and blades shall be extruded aluminum section, 6063-T52 alloy with reinforced bosses. The exhaust blades shall be cushioned the full length by vinyl gaskets. The heads, sills and jambs shall be one piece structural members with integral caulking strips and retaining beads. All fasteners to be stainless steel or aluminum. All louvers shall be provided with #2 mesh 0.063 inch diameter wire bird screen secured by an extruded aluminum frame on the louver exterior which can be easily removed for cleaning.

(4) The louvers shall be free of scratches and blemishes and provided in a fluorocarbon polymer finish in a color to be selected by the Borough.

(5) The gravity louver shall be Model ASA/FBE as manufactured by Penn Ventilator Airstream, Airolite Co., or approved equal.

(6) A motor operated louver shall be furnished for use as the generator air intake. This shall be a fully automatic louver with the operating blades normally in a spring closed position and opened by a motorized operator. The blades shall operate in a smooth continuous motion.

(7) The head, sill, jambs and blades shall be extruded aluminum sections, 6063-T52 alloy with reinforced bosses. The operating blades shall be double gasketed with a vinyl material. The heads, sills and a jambs shall be one piece structural members with integral caulking slot and retaining beads. All fasteners shall be stainless steel or aluminum.

(8) The operating blades shall be operated by electrically controlled motor operator. The motor shall be totally enclosed and suitable for operation on 120 volt, 60 Hz, single phase service. The unit

shall be furnished with all controls and miscellaneous accessories for a complete working installation.

(9) The motor operated louver shall be Model ASA/FBI as manufactured by Penn Ventilator Airstream, Airolite or approved equal.

(10) The louvers are to be sized to suite the generator air requirements. The exhaust louver shall be sized so that the maximum pressure drop shall not exceed 1/2 inch of water when the generator is operating at full speed. The intake louver shall be sized 25% larger than the exhaust louver.

(11) The motor operated intake louver shall be wired for both manual and automatic operation. A selector switch shall be provided for manual open-close operation.

(12) The intake louver shall automatically open when the emergency generator starts, and shall remain open until the generator shuts down. All necessary controls, relays and wiring necessary for a complete working installation shall be furnished and installed.

(13) A thermostat shall also be provided to automatically open the intake louver on excessive heat build-up within the generator building. Thermostat shall have control range of 70° to 140° F., with a 2° F. differential, and shall be Model T631C, as manufactured by Honeywell, Chromalox or approved equal.

(14) A limit switch shall be installed at the intake louver location, and shall be positioned so that the switch is operated by the opening of the louver blades. If the louver, and switch, does not open after a preset time, a relay shall signal a "louver failure" condition to the telemetering alarm system. Limit switches shall be as manufactured by Westinghouse Type RR, Square D or approved equal.

N. Electrical Construction.

(1) The contractor shall meet with the electric company (PP&L) and the local telephone company (UTS) to determine all requirements at the site for service and metering. Any excess charges by the utilities for furnishing the required service shall be the responsibility of the contractor.

(2) The contractor shall furnish and install a service pole at each pumping station if the service is overhead. Service conductors and raceways shall be installed from the generator building underground to the service pole, and up pole terminating in an

approved entrance fitting. The power company will furnish and install an overhead service drop to the pole and connect to service conductors. Poles shall be guyed if required to offset pull of power company's service drop.

(3) If the service is underground, the contractor shall furnish and install underground conduit, current transformer cabinet, and meter base. Current transformer cabinet or self-contained meter base, as necessary, shall be mounted on the generator building. The utility companies will furnish and install and service lateral.

(4) A grounding grid shall be provided at the service pole. Metal raceways, metal enclosures of electrical devices, transformer frames, neutral conductor and other equipment shall be completely grounded in accordance with the National Electrical Code. All necessary conduit, conductors, clamps, connectors, etc. for the grounding system shall be furnished and installed by the contractor.

(5) Provide a main service entrance approved disconnect switch with current limiting fuses as required. Heavy duty type, NEMA 1 enclosure indoors, NEMA 3R enclosure outdoors with padlock attachment; Square D, Cutler-Hammer, G.E. or equal.

(6) The panel board shall be rated for the voltage present, dead-front type, lockable with thermal-magnetic bolt-on circuit breakers, neutral and ground bus, typed circuit directory.

(7) Lightning protection shall be provided on the feeders immediately on the load side of the main disconnect witch, grounding lead as short as possible to grounding system, Innovative Technology, Inc. "P-Plus" series, or equal as manufactured by Liebert, Current Technologies or Transducer; A plug-in protector shall be used which has receptacles and RJ-11 jack for the telephone/dialer connections, Innovative Technology, Inc., Model PIU, or equal as manufactured by Liebert, Current Technologies or Transducer.

(8) Light switches to be 20 amp, 120/277 volt rated, P&S Series 20AC or approved equal; if weatherproof use P&S WP-1 level handle weather-sealing cover with FS box.

(9) Receptacles shall be 20 amp rated, 120 volt, two-pole, grounding duplex, P&S 5362 or approved equal; ground fault type to be P&S 2091-F; if weatherproof use FS box with set location cover; power outlet receptacle rated as shown on the drawing and as required, heavy-duty, twist-lock, P&S series or approved equal.

(10) Underground conduit shall be polyvinyl chloride schedule 40 as manufactured by Carlon, Sedco or approved equal. All bends in duct lines of 40° and greater shall be manufactured steel elbows of the same size as the PVC ducts. Ducts shall be encased in four inches of concrete. Where conduits pass under roadways, parking lots or on filled ground, a mat shall be provided in concrete, consisting of two longitudinal #4 bars with #3 ties, one foot on center. Trenches shall be backfilled with clean dirt, thoroughly compacted.

(11) All conduit shall be rigid galvanized steel or intermediate type, conforming to Federal Specifications WW-C-581E and be U.L. listed and manufactured by Triangle Conduit & Cable Company, National, Allied Tube & Conduit or approved equal.

(12) Fittings for IMC conduit shall conform to Federal Specifications W-F-408 and shall be threaded type.

(13) Install sealing fittings, Crouse-Hinds type EYS and EZS, Appleton type EYS or ESU or approved equal, wherever a conduit passes into a hazardous area or extends between areas having widely different temperatures.

(14) Wires and cables shall be medium hard drawn copper of the size as shown on the drawings, or #12 minimum if unspecified. For 600 volt service and under, wire shall have Type THHN-THWN insulation. Wire size of #10 and larger shall be stranded. All wiring shall be color coded in accordance with current NEC requirements.

(15) For wire size #10 and smaller, a solderless type press connector similar to "Buchanan" shall be used with snap-on type nylon insulator; splices of larger sizes of wire shall be made using an indentor type coupling applied with a hydraulic pressure tool.

(16) All materials and workmanship shall meet the minimum requirements of the following standards where applicable:

(a) National Electrical Code — National Fire Protection Association, 60 Batterymarch Street, Boston, Massachusetts (N.E.C.)

(b) National Electrical Manufacturers Association, 155 East 44th Street, New York, New York — Standards (NEMA)

(c) Institute of Electrical and Electronic Engineers, 33 West 39th Street, New York, New York — Standards (IEEE)

(d) The U.S.A. Standards Institute, 29 West 39th Street, New York, New York — Standards and Definitions of Electrical Terms (U.S.A.S.)

(e) National Bureau of Standards, Washington, D.C. — National Electrical Safety Code.

(f) Reflector and Lamp Manufacturers Institute, Inc., 307 North Michigan Avenue, Chicago, Illinois — Lamp Reflector.

(g) Underwriters' Laboratories Inc. — Standards.

(h) OSHA standards, where applicable, shall also be met, including those for temporary wiring on construction sites.

(17) All necessary permits and fees for this work shall be secured and paid for by the contractor. Inspection shall be by an approved inspection agency licensed by the Commonwealth of Pennsylvania and final certificate of approval shall be delivered to the Borough prior to acceptance.

O. Phase Converter.

(1) If single phase power is the only source of utility power and the motors must operate from three phase, then a phase converter shall be used.

(2) Phase converter shall be static using capacitors and auto transformer, no rotary phase converter is acceptable. The converter shall independently operate two duplex pump motors. House in a NEMA 1 enclosure indoors or a NEMA 3R enclosure if outdoors, pad-mounted if outdoors, lockable enclosure; unit shall be Ronks Duo Add-A-Phase or approved equal; field adjust the capacitors to the motor loads.

P. Startup.

(1) The contractor shall provide the services of fully qualified manufacturer's representatives for services during installation, at start-up, for instructing the Borough's personnel in the operation, routine maintenance and "trouble shooting" for all equipment, mechanical and electrical, furnished with the pumping station.

(2) Contractor shall full load the generator for four continuous hours using a contractor furnished load bank. If testing stops for any reason, correct the problem and start a new four hour test. Submit test results to the Borough, contractor shall notify

the Borough and the Engineer at least 48 hours prior to performing load test.

(3) The contractor shall provide five bound copies of a manual fully explaining the operation, routine maintenance and "trouble shooting" for equipment. The manuals shall include copies of all shop drawings with all required revisions. These manuals must be submitted to the contractor for approval prior to acceptance.

(4) The manuals must include information relative to suppliers of spare and replacement parts.

§ 514. Installation. [Ord. 751, 4/21/1996, § D]

1. Laying Pipe, Bedding and Backfill.

A. All pipe shall be laid to a uniform line and grade, bell ends upgrade, with a firm and even bearing along the barrel of the pipe. The spigot end of the pipe is to be centered in, shoved tight and secured against the bell of the previously laid pipe. The interior of each pipe shall be cleaned of all excess joint and foreign material before the next pipe is laid. Pipe-laying shall commence at the lowest point and proceed upgrade. At the close of each day's work and at such other times when pipe is not being laid, the open end of the pipe shall be protected with a close fitting stopper.

B. The trench shall be excavated to a depth of six inches below the outside diameter of the pipe barrel, or deeper if so specified. The resultant subgrade shall be undisturbed, or compacted as approved by the Engineer, if disturbed. The bedding shall be thoroughly compacted.

C. The bedding shall provide uniform and continuous bearing and support for the pipe at every point between the bells.

D. The pipe shall be bedded on six inches of B stone, the full width of the trench, and shall be covered with b stone to a height of 12 inches over the top of the pipe.

E. The trench may be filled with excavated material above the b stone as specified above except that stones larger than eight inches may not go in the trench and the fill shall not contain more than 20% stone in total volume.

F. The trench shall be properly tamped in lifts not to exceed the maximum thickness for the type of tamping equipment being used. If the trench is in an existing street, the surface is to be restored as required by the regulating authority.

G. All bedding and backfill shall be compacted to 95% of maximum dry density per ASTM T-180 method D test.

H. During the installation of a force main, the pipe shall be laid at a constantly increasing grade to each high point, air release manhole, or point of discharge, as shown on the contract drawings. The contractor shall provide sufficient construction control to assure that there are no sags or decrease in slope in the force main which could tend to accumulate air other than at the high points shown on the drawings. Failure to comply with this requirement shall necessitate the contractor take remedial steps to correct the situation. All such costs shall be borne by the contractor.

2. Special Bedding.

A. Concrete Cradle and Concrete Encasement.

(1) Preparation. Prior to the formation of the cradle or encasement, temporary supports consisting of timber wedges and solid concrete bricks or cap blocks shall be used to support the pipe in place. Temporary supports shall have minimum dimensions and shall support the pipe at not more than two locations, one at the bottom of the barrel of the pipe adjacent to the shoulder of the socket and the other near the spigot end.

(2) Placing.

(a) After jointing of the pipe has been completed, concrete shall be uniformly poured beneath and on both sides of the pipe. Placement shall be done by the use of suitable equipment. The concrete shall be wet enough during placement to permit its flow, without excessive prodding, to all required points around the pipe surface. The width of cradle shall be such as to fill completely the trench width. In case of extremely wide trenches, concrete encasement may be confirmed above the top of the pipe to a narrower width, but in no case shall it be less than the width of trench required for the size of pipe being used.

(b) Before depositing concrete, the space within the limits of the pour shall have been cleared of all debris and water. Water shall not be allowed to rise adjacent to or flow over concrete deposited for less than 24 hours. Concrete shall be protected from the direct rays of the sun and kept moist, by a method acceptable to the Borough, for a period of seven days or until backfilling is begun. In no case shall backfilling begin within 24 hours of the time of

placing and the Borough shall have strict control of the rate of backfilling.

(3) Design Mixes. The cradle or encasement shall be made with normal weight concrete with a twenty-eight day compressive strength of 3000 psi.

B. Unstable Subgrade. Where the bottom of the trench at subgrade is found to be unstable or to include ashes, cinders, any type of refuse, vegetable, or other organic material or large pieces or fragments of inorganic material, which, in the opinion of the Borough, should be removed, the contractor shall excavate and remove such unsuitable material to the width and depth recommended by the Borough. Before pipe is laid, the subgrade shall be formed by backfilling with 2B stone in three inch (uncompacted thickness) layers thoroughly compacted to a Proctor density of 95% and the bedding prepared as hereinbefore specified.

C. Special Foundations. Where the bottom of the trench at the subgrade is found to consist of material which is unstable to such a degree that, in the opinion of the Borough, it cannot be removed and replaced with an approved material thoroughly compacted in place to support the pipe properly, the contractor shall construct a foundation for the pipe, consisting of piling, timbers or other materials, in accordance with plans approved by the Borough.

D. Excavation in Fill. When the pipe is to be laid in fill, prior to excavation, the fill shall be compacted to a proctor density of 95% to a height of 12 inches above the proposed top of the pipe.

3. Backfilling Methods.

A. Backfilling shall not be done in freezing weather except by permission of the Borough, and it shall not be done with frozen material. No backfilling fill shall be done if the material already in the trench is frozen.

B. In State highways all backfill shall be in accordance with the requirements of PA DOT Chapter 459. The requirement for backfilling in other streets shall be as required by the Borough.

4. Pipe Clearance in Rocks.

A. Ledge rock, boulders and large stones shall be removed to provide a clearance of at least six inches below and on each side of all pipe and fittings for pipes 24 inches in diameter or less, and nine inches for pipes larger than 24 inches in diameter.

B. The specified minimum clearances are the minimum clear distances which will be permitted between any part of the pipe and/or fitting

being laid and any part, projection or point of such rock, boulder or stone.

C. Excavation for laterals shall extend four feet beyond the end of the lateral and backfilled with selected excavated material.

5. Pipes at Manholes or Other Rigid Structures. Pipes directly connected to or supported by rigid structures, shall not have a length beyond the rigid support in excess of that shown in the manhole detail on Plate 1.

6. Manholes.

A. Unless otherwise noted, manholes shall be constructed of precast concrete with cast iron frames and covers, as shown on Plate 1 contained herein. The invert channels shall be smooth and semicircular in shape conforming to the inside of the adjacent sewer section. Changes in direction of flow shall be with a smooth curve of as large a radius as the size of the manhole will permit.

B. Changes in size and grade of the channels shall be made gradually and evenly. The invert channels may be formed directly in the concrete of the manhole base, may be built up with brick and cement grout, may be half tile laid in concrete, or may be constructed by laying full section sewer pipe through the manhole and breaking out the top half after the surrounding concrete has hardened. If this method is utilized, the manhole floor shall form a neat joint with the pipe barrel. The floor of the manhole outside the channels shall be smooth and shall have a slope toward the channels of not less than two inches per foot and not more than four inches per foot.

7. Lateral Sewers. Fittings, (Wye branches, risers and bends) and lateral sewer pipe shall be furnished and installed in strict accordance with these specifications and any and all practices and precautions required for the main sewers are equally applicable to the lateral sewers. Lateral sewers shall be a minimum four-inch diameter, and shall be installed to serve all lots. Installation shall be at a minimum 1% slope, shall be to a point five feet behind curb line or edge of street, or one foot beyond the road right-of-way, whichever is the greater and shall include a water-tight plug at the end. Excavation, in any material, shall extend for four feet beyond the end of the lateral for the full depth of the lateral. Prior to backfilling, a minimum two inch x four inch wooden marker shall be placed against the end of each lateral, and shall extend a minimum of 12 inches above the ground.

8. Grade and Alignment Control. Prior to construction, the contractor shall furnish three copies of a grade sheet for each manhole run to the Borough. Grade and alignment control shall be established by one of the following methods:

A. Laser — direct reading.

B. Twin string line offset.

Same "pavement restoration" specs as in water line specs.

§ 515. Testing. [Ord. 751, 4/21/1996, § E]

1. Gravity Sewers.

A. Alignment. After the mains have been laid and backfill placed to a depth of 1 1/2 feet above the top of the pipe, a light will be flashed between manholes or manhole locations to determine whether the alignment of the sewer is true and whether any pipe has been displaced, broken or otherwise damaged subsequent to laying. This test will again be conducted before final acceptance of the sewer. Each section (manhole to manhole) of sewer shall show a good light circle throughout its length and any and all defects shall be corrected to the satisfaction of the Borough before acceptance. Sewers shall be tested for leakage only after all sewers and lateral sewers, including stoppers, are installed.

B. Leakage Tests.

(1) Each sewer section between manholes including all laterals will be tested with low pressure air. Testing will be done only after all back-filling has been completed and trench settlement has been minimized. The contractor shall furnish all labor, materials, water, tools, equipment and accessories necessary to perform the required tests. All tests shall be made in the presence of, and to the complete satisfaction of, the Borough.

(2) The pipe shall remain under pressure for not less than two minutes before the test begins, to allow equilibrium of the air temperature with the pipe wall.

(3) The minimum test pressure, measured in pounds per square inch (psig), shall be calculated by the following formula:

(D / 2) + 2

Where D = Depth of the deeper manhole in feet

Example: D = 9.6 feet

Minimum Test Pressure = (9.6 / 2) + 2 = 6.8 psig

(4) In no case shall the test pressure in the sewer or the laterals be greater than the maximum differential joint pressure recommended by the manufacturer of the pipe.

(5) The contractor shall repair or replace all defective material and/or workmanship and shall conduct such additional retests

as required to demonstrate that the sewer meets the requirements, at his own expense and at no additional cost to the Borough. All materials and methods used to repair the sewer shall meet with the approval of the Borough's Engineer.

2. Manhole Testing.

A. All manholes shall be tested for water infiltration. The contractor shall furnish all labor, materials, water, tools, equipment and accessories necessary to perform the required tests. All tests shall be made in the presence of and to the complete satisfaction of the Borough.

B. The manhole shall be thoroughly cleaned and all openings sealed to the satisfaction of the Borough. All pipe openings in the base and the wells shall be plugged with plugs properly designed to provide a watertight seal.

(1) Vacuum Test. Manholes shall be tested by applying a negative (vacuum) pressure measured in pounds per square inch, as calculated by the following formula:

(D / 2) + 1

Where D = Depth of the manhole in feet

Example: D = 9.6 feet

Minimum Test Pressure = (9.6 / 2) + 1 = 5.8 psig

The manhole shall be considered acceptable if the air infiltration does not increase the negative (vacuum) pressure by more than one psig in the time as calculated by the following formula:

Six minutes - (D x 10) seconds

Where D = Depth of manhole to the next even foot

Example: depth of manhole = 8.35 feet. Then D = nine

Minimum time allowed for pressure increase of one psig = six minutes - (9 x 10) seconds = four minutes 30 seconds

(2) Water Test.

(a) The Borough may permit the testing of manholes by filling with water.

(b) After the manhole has been properly cleaned and sealed, it shall be completely filled with water. To allow for the water absorbed by the manhole, the manhole to be tested shall be completely filled with water for a minimum period of 12 hours prior to the test.

(c) At commencement of the test, the manhole shall be filled with water to a point level with the top of the manhole. The amount of exfiltration shall be determined from the loss in water level converted into gallons per day. The manhole being tested shall be considered "acceptable" when there is no loss in water level for a period of two hours.

(d) If any manhole fails to meet the testing requirements, the contractor shall determine at his own expense the source or sources of leakage.

(e) The contractor shall repair or replace all defective material and/or workmanship and shall conduct such additional retests as required to demonstrate that the manhole meets the requirements, at his own expense and at no additional cost to the Borough. All materials and methods used to repair the man-holes shall meet with the approval of the Borough's Engineer.

3. Hydrostatic Tests for Force Mains.

A. Pressure Test.

(1) After the pipe has been laid and backfilled as specified, all newly laid pipe, shall be subjected to a hydrostatic pressure of 150 pounds per square inch, or 150% of the normal working pressure, whichever is greater.

(2) Where any section of a main is provided with concrete reaction backing, the hydrostatic pressure test shall not be made until at least five days have elapsed after the concrete reaction backing was installed. If high early strength cement is used in the concrete reaction backing, the hydrostatic pressure test shall not be made until at least two days have elapsed.

B. Duration of Pressure Tests. The duration of each pressure test shall be at least two hours or as determined by the Engineer.

C. Procedures. Each section of pipe shall be slowly filled with water and the specified test pressure, based on the elevation of the lowest point of the line or section under test and corrected to the elevation of the test gauge, shall be applied by means of a pump connected to the pipe in a manner satisfactory to the Borough's Engineer. The pump, pipe connections, and all necessary apparatus, including gauges, shall be furnished by the contractor and are subject to approval by the Engineer. The contractor will make all taps into the pipe, and furnish all necessary assistance for conducting the tests.

D. Expelling Air Before Test. Before applying the specified test pressure, all air shall be expelled from the pipe. If permanent air vents are not located at all high points, the contractor shall make the necessary taps at such points before the test is made. After the test has been completed the contractor shall remove and plug the taps or leave them in place at the direction of the Engineer.

E. Examination Under Pressure. Any cracks or defective pipes, fittings, or valves discovered in consequence of this pressure test, shall be removed and replaced by the contractor with sound material, and the test shall be repeated until satisfactory to the Engineer.

F. Test pressure Variations. Test pressures shall not vary by more than five psi for the duration of the test.

G. Saturation of Cement Lining. It is good practice to fill the pipeline to be tested 24 hours in advance of the test to allow the cement lining of the pipe to become saturated.

H. Test Failure. Should the test pressure not meet the requirements specified above, the contractor shall, at his own expense, locate, repair and replace the defective joints, pipe or fittings until the pressure is maintained within the specified allowance.

§ 516. Backflow Preventors. [Ord. 751, 4/21/1996, § F]

All sanitary sewer lateral connections shall be fitted with a backflow preventor approved by the Borough Engineer. The backflow preventor shall be located outside of the Borough's right-of-way between the unit(s) and the right-of-way line. The backflow preventor shall be owned and become the responsibility of the individual property owner(s) upon installation and satisfactory testing by the Borough Engineer.