

**STANDARD SPECIFICATIONS
FOR DEVELOPERS**

**ADDITIONS AND IMPROVEMENTS
TO THE SANITARY SEWER SYSTEM**

**BETHLEHEM TOWNSHIP MUNICIPAL AUTHORITY
NORTHAMPTON COUNTY, PENNSYLVANIA**

Section 01000

GENERAL CONDITIONS

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SECTION 01000

GENERAL CONDITIONS

1:01 Introduction

It is the intent of the instructions, specifications, and construction standards as presented herein to comprise the minimum requirements of the Bethlehem Township Municipal Authority for the construction of sanitary sewer facilities in Bethlehem Township, Northampton County, Pennsylvania.

All engineering design of sanitary sewer facilities in the Township shall be accomplished by an engineering firm approved by the Authority.

All work shall be done in accordance with the requirements of the Authority and these Specifications.

The work shall be executed in the best and most workmanlike manner by qualified, conscientious, and experienced workmen.

1:02 Definitions

The following definitions shall be applicable in these Specifications:

- A. Authority shall mean the Bethlehem Township Municipal Authority, its Board Members, Officers and employees.
- B. Contractor shall mean any individual, partnership, or corporation performing sanitary sewer construction work for the Developer.
- C. Developer shall mean any landowner, agent of such landowner, or tenant with the permission of such landowner, who makes or causes to make a subdivision of land or a land development.
- D. Developer's Engineer shall mean a registered Professional Engineer or architect in the State of Pennsylvania and shall be the individual, partnership, or corporation selected by the Developer and approved by the Authority to accomplish utility design in any development in the Township.
- E. Engineer shall mean the Engineer that represents the Authority. The term may also include a person authorized or employed by the Authority to observe construction on behalf of the Authority.
- F. Equal shall mean equal as approved by the Authority and Engineer.

- G. Subdivision shall mean the division or redivision of a lot, tract, or parcel of land by any means into two or more lots, tracts, parcels, or other divisions of land.
- H. Township shall mean Bethlehem Township, its Board of Commissioners, Officers, employees and consultants.
- I. Utility shall mean whenever these specifications refer to sewer lines, sanitary sewer, building sewer, lateral or the Authority's underground utility.
- J. Work shall mean labor, services, materials, and equipment as required for the successful completion of the project.

1:03 Responsibility of the Developer

- A. The Developer shall make himself familiar with the laws of the Commonwealth of Pennsylvania and the ordinances of Northampton County and Bethlehem Township concerning the employment of labor and the performance of Work. The Developer shall obtain a copy of the "Standard Specifications for Developers, Improvements and Additions to the Sanitary Sewer System, Bethlehem Township Municipal Authority, Northampton County, Pennsylvania, March 2019 or latest revision thereof, and shall follow and pursue the established criteria set forth therein, with no deviations, exceptions, or changes therefrom without prior written approval by the Authority and/or the Engineer.
- B. The Developer will be responsible for the payment of all Excise, Sales, or Use Taxes, and all other taxes required by law on all materials, tools, apparatus, equipment, fixtures, and incidentals that he purchases or uses for the purpose of fulfilling the Work.
- C. The Developer shall procure all necessary permits and licenses, including those to be obtained in the name of the Authority. He shall pay all charges and fees therefore, and shall give all notices necessary and incidental to the proper and lawful prosecution of the Work.
- D. Any Contractor installing sanitary sewer lines for the Developer shall be given a copy of these Specifications and shall construct the sanitary sewers in accordance with these Specifications. Use of the word "Developer" in these Specifications shall mean "Contractor", where applicable. However, the Developer shall be ultimately responsible for the satisfactory completion of his sewerage project and for the work done by his Contractor.
- E. All sanitary sewer lines shall be constructed in public streets, unless Authority agrees otherwise. Where Authority agrees in writing to permit sanitary sewer line construction in non-public streets, Developer shall provide Authority permanent rights-of-way, at least 20 feet wide, which rights-of-way shall be shown on Developer's plans. The same shall be clearly marked and identified as Sanitary

Sewer Line Right-of-Way to be granted to Bethlehem Township Municipal Authority. Developer shall show the course and distance around the perimeter of said rights-of-way. Developer shall provide a written perimeter description of each separate right-of-way, starting with a point of beginning oriented with a fixed point of record. In addition to the rights-of-way being depicted upon Developer's plan, he shall execute a Right-of-Way Agreement for the same unto Authority for purposes of being recorded, with rights-of-way plan and description attached, all in form satisfactory to Authority.

1:04 Submission and Review Procedure

The Developer shall cause the following actions to occur:

- A. Deposit in an escrow account the amount estimated by the Authority to cover estimated engineering, construction observation, closed circuit television (CCTV) inspection, administrative, surveying, GPS data collection and legal costs of the Authority. This sum shall insure payment to include the following services to be performed by the Township staff, Engineer and/or Authority.
 - 1. Review and approval of all design plans and specifications.
 - 2. Execution of sanitary sewer permit applications as necessitated by State Law, and submission to the Commonwealth of Pennsylvania, Department of Environmental Protection.
 - 3. Construction observation and testing of all work covered by these Specifications.
 - 4. Closed circuit television (CCTV) inspection.
 - 4. Authority's legal and administrative costs.
 - 5. For the purpose of insuring as-built record submission to the Authority, the escrow shall include the total estimated cost of providing these drawings as required by paragraph 1.14. The Authority shall retain these funds until such time as the Developer provides as-built record plans acceptable to the Authority within the designated submission time frame. All remaining funds shall then be returned to the Developer within sixty (60) days of acceptance by the Authority. Failure of the Developer to provide the drawings as required shall result in the utilization of the funds toward the full costs associated with the creation of the as-built records.

The Engineer will bill the Authority on a time and expense basis for the above services. It is understood that should the actual amount of work performed by the Engineer exceed the escrow account, then this excess cost shall also be borne by the Developer. Conversely, should the actual amount be less than the escrow account, the remaining funds can be withdrawn by the Developer from the escrow account. No amount shall be withdrawn from escrow until completion of the work, and certification by the Engineer and final acceptance by the Authority takes place.

- B. Submit to the Authority all plans of the sanitary sewer design in the development, for review and approval by the Authority and Engineer. Such plans for review and approval shall be in two (2) complete copies.

The Authority has adopted the following specifications for the submission of all plans:

- Horizontal scale, 1"= 50', and Vertical scale, 1" = 5'
- Utility plan size, 24" x 36" (Plans and Profiles)
- All utility profiles shall be placed on sheets with corresponding plan views
- All utility plans illustrating proposed lot locations shall illustrate lot numbers
- All utility plans shall illustrate north arrow
- All utility plans and profiles shall illustrate sanitary sewer locations, including all manholes as well as all proposed gas mains, water mains, storm sewers and any other underground pipelines.
- All utility profiles shall illustrate manhole rim and invert elevations
- All utility profiles shall numerically illustrate slopes, pipe sizes, manhole rim and invert elevations, distances and piping material proposed illustrated along the utility line.
- All utility plan views shall illustrate flow arrows in the direction of flow. All utility plan views shall illustrate manhole numbers.

All plans shall include the following statement:

NOTE: Sanitary sewer line is to be designed and constructed in accordance with the Bethlehem Township Municipal Authority's Standard Specifications for Developers, Additions and Improvements to the Sanitary Sewer System, Bethlehem Township Municipal Authority, Northampton County, Pennsylvania, latest revision.

- All plans are to be signed and sealed by a registered Professional Engineer in the Commonwealth of Pennsylvania.
- All utility plans are to illustrate easements and rights-of-way.
- All utility plans are to illustrate lands to be dedicated to the Authority and/or the Township.
- All plans presented shall also include an overall utility plan illustrating the following:

- Lot numbers
- North arrow
- Sanitary sewer utility
- Manhole numbers
- Flow arrows
- Pipe sizes
- Storm sewer and all storm sewer structures

Water mains
 Gas mains

The overall utility plan will not be subject to the previously stated horizontal scale. The overall utility plan must remain independent of the soil erosion and control plan.

Any revised plans shall also be two (2) complete sets and shall be accompanied by a letter addressing all comments from the previous review and what revisions were made in response to those comments.

Subsequent to final approval by the Authority and Engineer, provide three complete sets of plans. One (1) set shall be used in the field (FIELD COPY), one (1) set shall be used for recording construction information, (OFFICE COPY), and one (1) set shall be stored as a Clean Set (CLEAN SET) for future use.

- C. The Developer shall provide and furnish to the Authority (before the start of any sanitary sewer construction work) proof of security established with the Bethlehem Township Board of Commissioners as per Township guidelines. This shall serve as guarantee that the work will be done in accordance with the approved plans and specifications. The Security shall be in the amount of One Hundred Ten Percent (110%) of the estimated construction cost of the sanitary sewer as determined by the Engineer.

When a sanitary sewer project or specified part is constructed, the Developer may in writing request a reduction in his established security. The Township Sanitary Sewer Department shall review the request for compliance with these specifications and release funds appropriately. The Authority recognizes the following table as the method used by the Bethlehem Township Sanitary Sewer Department to grant reductions of security upon completions of a sanitary sewer project or specified part.

(SANITARY SEWER CREDIT REDUCTION TABLE)

* SANITARY SEWER PIPE – Construction Observer Verified	60%
* SANITARY SEWER PIPE – Low Pressure Air Tested	90%
SANITARY SEWER PIPE – Mandrel Test and Television Inspection Complete	100%

MANHOLES – Construction Observer Verified	90%
x MANHOLES – Vacuum Tested	100%

* LATERALS – Construction Observer Verified	60%
* LATERALS – Low Pressure Air Tested	90%
LATERALS – In Conjunction with Mains that are Televised	100%

* (Connections to the system are prohibited.)

x (All manholes tested prior to street base paving must be re-tested prior to final acceptance.)

It shall be the responsibility of the Developer to accomplish and bear all costs for the connections of the Work to the existing sanitary sewer system. The Developer shall cooperate with the Authority in placing sanitary sewer service laterals to existing properties or homes when the sanitary sewer system is extended beyond those properties to the Subdivision.

1:05 Insurance by the Developer

A. Workmen's Compensation Insurance

The Developer shall take out and maintain in amounts required by law, Workmen's Compensation Insurance for all his employees employed at the site of the project, and in case any Work is sublet, the Developer shall require the subcontractor similarly to provide Workmen's Compensation Insurance for all the latter's employees. The Developer shall, at all times, indemnify and save harmless the Authority, Township and Engineer, and their officers and employees, of and from all claims for Workmen's Compensation which may be made by any of the employees of the Contractor or by any of the employees of any subcontractor.

B. Public Liability and Property Damage Insurance

The Developer shall, at all times, indemnify and save harmless the Authority, Township, and Engineer of and from all claims for Public Liability and Property Damage. The Developer shall enter into an agreement with the Authority and said agreement shall be endorsed by the Developer or an authorized representative of the Developer and authorized representatives of the Bethlehem Township Municipal Authority. This agreement shall be witnessed and notarized to include the aforementioned endorsements.

The Developer shall take out and maintain such Public Liability and Property Damage Insurance as shall protect him, the Authority, Township, and Engineer, and their officers and employees from claims for damages for personal injury, including accidental death, as well as from claims for property damages, which may arise from operations by the Developer whether such operations are by himself or by any subcontractor or by anyone directly or indirectly employed by either of them. Hazards insured against for property damage liability shall include explosion, collapse, underground object, and blasting, to the extent that any such exposure exists.

The Developer, their heirs, executors, administrators and assigns, shall be solely responsible for any and all damage, injury or loss caused from drainage, sedimentation, or erosion damage incurred by downstream properties as a

consequence of developing their Subdivision and shall, at their own expense, repair any damage done to abutting property owners or their land because of said drainage, sedimentation or erosion damage. Anything to the contrary notwithstanding, the Developer hereby agrees to exonerate, indemnify and save Authority, Township and Engineer and their officers and employees harmless from and against any and all claims, actions of any nature or kind, and to pay all expenses incidental to the defense of any such claims or actions which such claims or actions may in any manner arise out of the drainage, sedimentation or erosion damage arising as a consequence of developing their Subdivision.

C. Minimum Amounts of Insurance

The Developer shall carry or cause to be carried the following forms of insurance applying to all operations undertaken by him, his agent, employees, and subcontractors in the minimum amounts indicated hereunder.

	<u>Form</u>	<u>Minimum Limits</u>
1.	Workmen's Compensation	Proof of coverage
2.	Workmen's Compensation	Statutory
3.	Contractor's Public Liability <i>(including specific contractual liability)</i>	\$1,000,000 each occurrence \$ 2,000,000 aggregate
4.	Contractor's Property Damage Liability including explosion, collapse hazard, underground damage hazard, and blastings <i>(XCU Coverage)</i>	\$1,000,000 each accident \$2,000,000 aggregate
5.	Automobile Bodily Injury	\$1,000,000 each occurrence \$ 2,000,000 aggregate
	Automobile Property Damage	\$1,000,000 aggregate
6.	If subcontractors are employed, Contractor's Protective <i>(Contingent)</i> Liability Protection Bodily Injury	\$1,000,000 each occurrence \$ 2,000,000 aggregate
	Property Damage	\$1,000,000 each occurrence \$ 2,000,000 aggregate

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|----|---|--|
| 7. | Umbrella/Excess Liability
(providing additional coverage
over above liability coverage) | \$ 3,000,000 each occurrence
\$ 3,000,000 aggregate |
| 8. | Contractors Limited Pollution
Liability, Bodily Injury, Property
Damage and Clean-Up Cost | \$500,000 each occurrence |

The Developer shall file with the Authority properly executed Certificates of Insurance or copies of the insurance policies, naming Bethlehem Township, including the Board of Commissioners, their Officers and employees, Bethlehem Township Municipal Authority, including their Board members, Officers and employees, ARRO Consulting, Inc., and the Pidcock Company (or other consultants of the Authority) additionally insured prior to the time construction has begun. All such insurance shall be in sound insurance companies, satisfactory to the Authority, and authorized to do business in the Commonwealth of Pennsylvania.

1:06 Conduct of Work and Safety

The Developer shall make use of all reasonable means to maintain the normal flow of traffic on Township and State Highways during all phases of construction. Should it become necessary to close any street or highway, the Developer shall obtain permission to do so from the applicable governing agency. The Developer must submit a traffic control plan for review by Bethlehem Township a minimum of three working days prior to commencing work within Bethlehem Township rights-of-way. The Developer shall erect suitable warning lights and signs at each end of the street closures, sufficient distance from the work to alert motorists of construction. The Developer shall also erect applicable signs indicating the route of detours. All traffic control shall be in accordance with PA DOT Publication 213. Work on State Highways shall be in accordance with PA DOT requirements.

Caution shall be exercised at all times for the protection of persons and property. The safety provisions of applicable laws and building and construction codes shall be observed.

The Developer and his Contractor shall take all precautions and furnish and maintain all guards, barricades, handrails, lights, and other appurtenances, etc., for the prevention of accidents to all persons or property at or near the project.

The Developer shall be responsible for and shall see that all equipment, tools, and supplies are operated or handled in such a manner that at no time will they be permitted to contact power, telephone, or other lines.

The Developer alone shall be responsible for the safety, efficiency, and adequacy of his plant, appliances, and methods, and for any damage which may result from their failure or their improper construction, maintenance, or operation.

The Developer shall take care to repair all works in the Township affected by construction. These works shall have an appearance or state equal to or better than that which existed prior to the construction.

1:07 Equipment and Materials

Whenever any item of equipment or material is designated by reference to a particular brand, manufacturer, or trade name in these Specifications or Plans, it is understood that an approved equal product may be substituted, if acceptable by the Authority and Engineer, unless specifically identified as "No substitutions".

Each major item of equipment shall be inspected by a manufacturer's representative during installation and upon completion of the work. The Developer shall supply the Authority with a certificate of such inspection.

The use of any equipment and materials other than as specified or beyond the scope of these Specifications (for example, metering stations or sewage pumping stations) must be approved, in writing, by the Engineer. The Developer shall ascertain the Authority's requirements for such special items (such as metering stations or sewage pumping stations) prior to submitting plans for approval.

1:08 Location and Protection of Existing Utilities

In preparation for and prior to commencing with the excavation work required by this Project, the Developer or Contractor shall comply with requirements of Pennsylvania Underground Utility Line Protection Act, Act 287 of 1974, as amended by Act 121 of 2008, (the "Act"). The Developer will be responsible for locating all existing utilities including, but not limited to water, steam, oil, gas mains, sanitary and storm sewers, cable, telephone and electric conduits that may be encountered during the construction operation. He shall also be responsible for locating all underground structures. He shall, at his own expense, arrange with the owners of such utilities for locating them. The Developer shall be held responsible for providing adequate protection against damage to utilities encountered during the course of construction and shall be responsible for repair of any utilities damaged during the course of his construction. Refer also to Section 02015 of these Specifications.

1:09 Emergency Maintenance During Construction

The Developer shall have available at all times, including nights and holidays, an emergency maintenance crew and a person of authority and responsibility to act in cases of emergency, such as flooding, cave-ins, or other disorders, resulting from the construction in this Subdivision. Such person(s) shall be made known to the Authority

prior to the start of any sanitary sewer construction. The Developer will be responsible for the cost of any such emergency work.

In the event the Developer fails to perform such emergency maintenance within a reasonable period of time, the Authority may have the work performed at the Developer's expense.

1:10 Construction Observation

The Developer shall afford every facility for inspection of materials and workmanship and shall prosecute the work in a systematic manner. The absence of Authority's designated construction observer will not in any way lessen the obligation of the Contractor for construction in accordance with the Specifications.

The Developer or its agent shall contact the Authority a minimum of forty-eight (48) hours prior to starting sanitary sewer related work. Authority will observe 100% of the construction and testing of all facilities to be dedicated to the Authority and any other additional work that will affect the sanitary sewer system. Once work has begun and continues to progress, the Developer shall provide notice to the Authority prior to the end of construction that day for cancellation of construction observation services if no work is to be performed the following day or days. Failure to provide such notice of cancellation will result in charges to the Developer. If the Developer intends to work prior to or beyond normal Authority business hours, the Authority and/or their construction observer must be given a minimum of twenty-four (24) hours notice.

All travel time to and from the work site, record keeping, and other project related documentation will be charged to the Developer as construction observation work. The Developer will be charged 1.5 times the typical hourly rate for any construction observation work over eight (8) hours per day and for all weekend and holiday work – including travel time to and from the work site.

The Authority's representative is to make final inspection within ten (10) working days after Authority receives written notification by the Developer that the work is completed and final inspection is requested. Defective work or work not conforming to the Specifications is to be repaired or replaced to the satisfaction of Authority's representative.

1:11 Possession After Testing

- A. After any section of sewer has been tested, televised, and has received a written certification of substantial completion from the Authority, as stipulated in the following sections herein, the Authority may use the completed section. Issuance of a written certification however, will not imply final acceptance. The Developer shall be responsible for the maintenance of all completed portions of the line, whether used by the Authority or not, until the final inspection is made and for a

period of eighteen (18) months after acceptance by the Authority in conjunction with all Township approvals.

- B. The date of substantial completion of a sanitary sewer project or specified part of a project is when the construction is sufficiently completed, in accordance with these specifications, so that the Authority can occupy or utilize the sanitary sewer or specified parts for its intended purpose.

1:12 Maintenance and Completion

The Developer shall, after final inspection but prior to acceptance by the Authority maintain and repair the line and trench, including paving for a period of eighteen (18) months, following date of acceptance certificate, and rebuild or replace the same in whole or in part if defective. Upon written notice from the Engineer, Authority or Township, the Developer shall immediately make any repairs that may be necessary, or, in case the same are not effected promptly, such repairs will be made by Authority or Township, at expense of Developer or his Surety. In case of an emergency where delay would cause serious loss or damage, Authority or Township may undertake to effect any repair, replacement, or rebuilding without previous notice, and the expense of the same shall be borne by the Developer or his Surety.

1:13 Final Acceptance of Work

Following issuance of written acceptance of certification by the Authority of said lines, the Authority shall then become the owner of said extension line or lines, subject to the duty of Developer to maintain, repair, rebuild, or replace as referred to above under Paragraph 1:12.

1:14 As-built Record Drawings

During the review process (of the final submission product) one set of hardcopy plans are required for review purposes only. All final records, once approved by the Authority, must be delivered in Adobe PDF.

As-built records and drawings shall be submitted to the Authority **within sixty (60) days from the completion of base course paving of all applicable roadways**. All drawings for review prior to acceptance by the Authority shall consist of approved prints, legibly marked. These drawings are to become the property of the Authority. Plans must be consistent in format with Paragraph 1:04 B. The following field verified data must be on the plans, signed and sealed by a registered surveyor or engineer:

Plan View

Manhole location including dimension from curb line

Locations of all laterals stationed from downstream manhole

Lateral lengths from main to end, including calculated depths

Lateral depths shall be provided from top of curb elevation to invert elevation at end of pipe

All sewer segment pipe lengths

Profile View

Rim Elevation of all manholes

Invert elevations of all manholes

Length of all sewer segments

Slope of all sewer segments

Special Construction

Special construction shall include, but not be limited to, pump stations, meter stations, inverted siphons, concrete encasements, cradles, anchors, bypass connections, and valve pits. As-built drawings for all special constructed facilities shall include complete plans, profiles, sectional views, diagrams, and electrical schematics. All information must be field verified of actual construction.

Operation and Maintenance Manuals

The Developer shall provide two copies of manufacturers operation and maintenance manuals for all applicable mechanical and electrical equipment.

As-built Record Fees

The developer shall be responsible for bearing all costs associated with filing as-built record data, data conversion, and data storage into the Authority's electronic record system. **For the purpose of insuring submission, the Developer will be required to deposit into the established escrow account the necessary funds.**

All submitted data is subject to review and approval prior to acceptance within the fee classification. The Authority reserves the right to reject any electronically submitted data it feels does not meet **their** minimum data conversion standards. The Developer must comply with the reproducible requirements above.

The Authority has adopted the following fee schedule:

The fee schedule is a base charge of \$350.00 per phase submission and a sewer segment charge of \$20.00 per 100 linear feet of sewer (Minimum \$370.00).

END OF SECTION