

Hatfield Township Municipal Authority

Sanitary Sewer Requirements

BEFORE YOU START:

1. For new construction, an **Items for Completion of Construction or PSA Agreement** must be submitted, along with your permit application. You may be required to provide the Pennsylvania Department of Environmental Protection (DEP) with a completed **Sewage Facilities Planning Module Application Mailer** available at www.depweb.state.pa.us keyword: act 537 or www.htmasewer.com
2. Prior to connecting ANY sewer lateral (new or replacement) to HTMA's sanitary system, a permit application must be completed and returned to our office at 3200 Advance Lane, Colmar, PA. All associated fees must be paid. You may be required to enter into a **Professional Services Agreement** to pay for HTMA Engineering and Administrative expenses. An additional **Construction Agreement** will be required if your project creates a to-be-dedicated sewer extension.
3. If work is being performed in the street, obtain a **Highway Occupancy Permit and/or Road Opening Permit** from the entity having jurisdiction over the public road (Pennsylvania Department of Transportation, Montgomery County, or Hatfield Township).
4. Submit a preliminary drawing of your proposal to HTMA to review for adherence to HTMA's standards.
5. Once the Sewer Connection Permit has been issued, the plumber should contact HTMA to arrange for an inspection. Inspections are performed Monday thru Friday between the hours of 8:00 a.m. – 2:00 p.m. Please call 215-822-9300 to schedule. **INSPECTIONS REQUIRE 24 HOUR ADVANCE NOTICE.**
6. There will be two inspections required for new construction. The first inspection will involve the excavation and removal of the end cap at the lateral connection point. The second inspection will involve a visual inspection, air leakage test and final connection.
7. For existing homes, both inspections required for new construction will be performed. In addition, an inspection will be required for the proper abandonment of the septic system (if applicable).
8. Upon final inspection, the plumber shall provide HTMA's inspector with an As-built drawing in PDF form. The inspector will sign a **Final Sewer Inspection** form and a copy will be given to Property Owner/Applicant.

MAINLINE PIPE & LATERALS

1. For new gravity sewer lines, SDR 26 PVC pipe with elastomeric seals are required. For depths greater than 18' or less than 3', ductile iron shall be used. The contractor shall install a Bentonite dam in the 1B stone between the main and prior to the SDR 26 2-way cleanout.
2. All 8 – 12" sewer mains will be Mandrel tested. Televising of main lines are to be done after final grading of site or after placement of the binder course of the macadam paving. Sewer mains will be air tested with low pressure air to 5.0 psi which shall be held for 5 minutes with zero psi allowable drop. Pressure gauge must be graduated in 1 lb. or less increments.
3. For "Emergency Repair" of gravity sewer laterals, 4" pipe and fittings may be SDR 35. "Emergency Repair" refers to a portion of the lateral that must be replaced outside the normal business hours of a plumbing supply store.
4. All 6" laterals are to have a minimum slope of 1% or 1/8" per foot. The 4" portion of the lateral shall be laid with a minimum slope of 2% or 1/4" per foot.
5. When adding a new lateral to an existing clay line, cut the existing clay pipe removing the pipe from clay joint to clay joint so that a SDR 26 wye with stubs will connect to full lengths of clay pipe with reinforced Furnco couplings. **Saddles are not permitted.**
6. If the new lateral connection to the main is different from the existing ("old") connection, the old connection must be removed or sealed at the main with a Cured In Place Pipe (CIPP) patch. If any portion of the old lateral is being used, the lateral will be air tested to include that portion of old pipe, and an 6"x6"x6" inspection tee will be added. If air testing cannot be done, the lateral shall be televised during a wet weather event chosen by HTMA. Should there be any leakage or roots, the contractor will CIPP line the old portion of pipe or dig and replace.
7. All new laterals are to extend a minimum of 10' past the street ultimate right-of-way line. The lateral end is to be capped (Furnco) and located with a stake sprayed with green paint. After curbing is installed, lateral locations are to be marked on the curb with green paint.
8. The contractor must apply Black Swan Adhesive-Lube and install a 4"x5" Furnco coupling or equal when inserting 4" PVC standpipes into a tee for cleanouts and/or sewer vents to prevent frost from lifting the standpipe out of the tee.

**Rough-In inspection is required for ALL construction
Repairs replacing more than 14' of the existing sewer and/or have more than 2 joint connections
will be air tested.**

MANHOLES/FRAMES AND COVERS

1. All non-residential construction will have installed a sampling manhole instead of a test tee or cleanout shown in the attached lateral replacement drawing. A Mainline Backflow Products 4" PVC Inspection Chamber or approved equivalent may be used if the sample manhole is less than 4' deep.
2. Manholes shall be precast manufactured in accordance with ASTM C-478. The channel in the manhole base shall also be precast. "Doghouse" manholes will not be used.
3. Internal diameter of the manhole shall be 4', with a minimum thickness of 5". Any section of manhole deeper than 25' shall have a minimum wall thickness of 8".
4. The minimum compressive strength of the concrete for all manhole sections shall be 4,000 psi.
5. No more than 3 courses of precast grade rings and no more than 3 inches of rubber rings (Infra-Risers) shall be used in bringing manhole frames to the proper grade. Use of brick and/or mortar will not be allowed.
6. Mainline connections to existing manholes are to be core drilled. Solids cannot accumulate at the new pipe discharge.
7. The standard manhole frame and cover shall be East Jordan model 1119Z frame ASTM A48 CL35B and self-sealing 24" 1120AGS cover or equivalent.
8. Watertight manhole frame and cover shall be East Jordan model #1310. The lid diameter shall be 24"
9. Pipe seals in the base of the manhole shall have pipe-to-manhole seals equivalent to "A-LOK" manhole compression seals, or "Lock-Joint" flexible manhole sleeves.
10. All manholes are to be coated inside and outside. Outside coating to consist of coal tar pitch mastic, meeting ASTM D-450-&1 spec. Inside coating to consist of epoxy resin coating, Penn-Chem coating 54 SERIES PONAMID H-B TANK LINER or approved equal.
11. All manholes with frames are to be vacuum tested. Vacuum testing is to be done after final grading of the site or after placement of the binder course of macadam paving. Test the manhole from the frame rim at 10" (mercury) vacuum with an allowed maximum of 1" drop during 1-minute test period. Manhole influent and effluent pipes will be mortared/hydrocement from 3 o'clock to 9 o'clock to the bench interval to prevent the accumulation of debris/grit at the edge of the channel.

BEDDING/BACKFILL:

1. All trenches are to be kept free from water as much as possible. Trench water is to be removed by pumping or draining. Water cannot be pumped to a storm sewer.
2. All sanitary sewer lines are to be bedded in 1B stone (clean) extending from a point at least 6" below the bottom of the pipe to 1' above the pipe. Stone shall be chocked thoroughly as it is placed so that all voids under and around the pipe are completely filled.
3. In non-traffic areas, backfill shall consist of acceptable fill material containing no rocks larger than 6" in size, uniformly distributed, and no more than 20% by volume. Backfill to be compacted in 2' lifts. Magnetic locating tape shall be placed above the pipe on top of the 1B stone.
4. On township roads or state highways backfill material and compaction requirements shall be determined by the agency responsible. Usually, under road and walking surfaces 2A modified stone compacted in 2' lifts shall be backfilled to grade. Magnetic location tape shall be placed above the pipe after the first lift.

EROSION & SEDIMENT POLLUTION CONTROL PLAN

1. Conduct soil erosion and sediment pollution control work in accordance with rules, regulations and requirements adopted by the Pennsylvania Department of Environmental Protection (DEP).
2. Detail requirements for the control plan are described in an Erosion and Sediment Pollution Control Program Manual that may be obtained from the Bureau of Soil and Water Conservation, Division of Soil Resources and Erosion Control, Harrisburg, Pennsylvania.
3. Fines and related costs resulting from failure to provide adequate protection against soil erosion and sediment pollution control are the obligation of the Contractor.
4. Erosion and sediment pollution control measures employed will be subject to approval and inspection by the Pennsylvania Department of Environmental Protection and/or County Conservation District.

GRINDER PUMPS

1. A **"Grinder Pump Maintenance Agreement"** MUST be completed and signed, witnessed and notarized by the property owner. This agreement states the owner's obligations with regard to the installation, operation and maintenance of the grinder pump.
2. The manufacturer of the grinder pump shall be Environment One, or approved equal. Approved equal shall be approved by HTMA.
3. Pressure pipe shall be 1 ½" or 1 ¼" SDR-21 polyethylene PVC with elastomeric gaskets. A ball valve shall be installed at each end of the pressure pipe for air testing. A grinder service line connection detail is available upon request. Pipe bedding is consistent with Section 3. Backfill/Bedding Part B.
4. **Pressure pipe shall be air tested at 50 psi for 1 hour.**

PLAN CONFORMANCE NOTES

(The following notes must also appear on the plans prior to submittal)

1. Sanitary sewers shall be constructed in accordance with HTMA standard specifications.
2. A horizontal separation of 10 feet and/or a vertical clearance of 18 inches (measured between the outer walls) shall be maintained between the sanitary sewer and any other utility pipelines. Where pipelines must cross under a sewer, the installation must also provide adequate structural support for the sewer to prevent deflection and breaking of the sewer. Where proper clearances cannot be provided, the sewer shall be concrete encased for a distance of 10 feet on either side of the conflict.
3. Elevations on plans are based on PA State Coordinate System South Zone. Horizontal datum shall be NAD-83 (1992 adjustment) and vertical datum shall be NAVD-88.
4. No plantings or structures should be located within the sanitary sewer easements or within 10 feet of the sewer and laterals.

THE FOLLOWING STANDARDS ARE REQUIRED BY HTMA:

1. The Lateral design should be reviewed and approved by the Township Code Enforcement Officer (CEO).
 - a. The slope of the lateral should be specified on the plan view and/or a profile of the lateral should be provided. Lateral should have a minimum slope of 1/4" per foot.
 - b. Clean-outs should be installed in the lateral every 50 feet and/or at bends that exceed 45°. For commercial/industrial projects the first clean-out, as close to the building as possible should be a sample manhole for minimum depth consideration.
2. The sanitary sewer construction notes should be added to each of the profile drawings.
3. The sanitary sewer should be shown in the storm sewer profile to show adequate clearance is provided.
4. A list of contact information for the appropriate utility agencies should also be added to the plans and conforms with standard PA One Call notice protocol.
5. Plans must be signed and sealed by a professional engineer registered in Pennsylvania.

RECORD KEEPING

1. With the construction of developments, daily logs are to be furnished to the HTMA Inspector containing the following information:
 - Manhole to manhole distances
 - Invert and rim elevations of manholes
 - Grade (slope) of pipe between manholes
 - Location and stations of all lateral connections
 - Length of lateral run and depth of the lateral at the 4" transition
 - Lot number or house number serviced by lateral
2. Upon completion, a cut sheet detail from manhole to manhole with the above information shall be furnished to the Inspector. GPS referencing coordinates of each new manhole are to be forwarded to the engineer.

DETAIL DRAWINGS LIST (may be requested by HTMA)

MANHOLES DETAILS: (MH)

- Precast Concrete Manhole with Precast Concrete Base - Type1
- Precast Concrete Manhole with Precast Concrete Base - Type2
- Inside Drop Manhole
- Manhole Steps
- Heavy Duty Self-Sealing Frame and Cover
- Heavy Duty Watertight Frame and Cover
- Typical Plan of Manhole Channels
- Manhole Gasket
- Leveling Rings, Concrete Riser and Bolted Frame Details
- Poured Concrete Riser for Street Grades of 4% or Greater
- Manhole Pipe Gaskets
- Manhole Coring Gasket Detail (Kor-N-Seal)
- Precast Concrete Manhole with Precast Concrete Base - Deep
- Sample Manhole Detail

BUILDING SEWERS/SERVICE LATERALS: (LAT)

- Service Lateral - Shallow Sewer
- Service Lateral - Deep Sewer
- Building Sewer
- Service Lateral Connection to Existing Sewer Main
- Service Lateral Disconnection from Existing Sewer Main
- Cleanout Cover (ROW Areas)
- Cleanout Cover (Paved Areas)

FORCEMAIN DETAILS: (FM)

- Flush Chamber
- Air Release Valve Chamber
- Forcemain Locator Assembly
- Horizontal Thrust Block Details
- Concrete Thrust Block Details
- Trench Detail

TRENCH DETAILS: (TRENCH)

- Trench Backfill Detail in Paved Areas
- Trench Backfill Detail in Unpaved Areas
- Unsuitable Material Excavation Detail
- Bentonite Clay Dam Detail
- Concrete Encasement Detail

SEWER PIPING DETAILS: (SEW)

- Pipe Reconnection Detail
- Casing Details for Pipe Boring/Tunnels
- Pipe Disconnection Detail (Cut and Cap)

LOW PRESSURE SANITARY SEWER DETAILS: {LP}

- Typical Grinder Pump Installation Detail - Elevation
- Typical Grinder Pump Installation Detail-Plan
- E-One Control Panel Detail
- E-One Grinder Pump Station
- Simple Grinder Pump Station
- Typical Electrical Layout
- Low Pressure Service Line Connection at Gravity Main and/or Low Pressure Main
- Low Pressure Sewer Discharge to Manhole
- In-Line Cleanout Naive Pit for Low Pressure Sewer Main
- In-Line Terminal Cleanout for Low Pressure Sewer Main
- In-Line Valve Pit for Low Pressure Building Service Line
- Curb Stop and Box Detail

GREASE INTERCEPTOR DETAILS: (GR)

- Typical Grease Interceptor to Sampling Vault Connection - Plan and Section