

GUILFORD TOWNSHIP AUTHORITY

**115 SPRING VALLEY ROAD
CHAMBERSBURG, PA 17202
717-264-7653 #2**

**RULES AND REGULATIONS
GOVERNING THE CONSTRUCTION
OF BUILDING SEWERS
IN
GUILFORD TOWNSHIP**

REVISED NOVEMBER 2020

GUILFORD TOWNSHIP AUTHORITY

RESOLUTION NO. 95-2

**A RESOLUTION OF THE BOARD OF GUILFORD TOWNSHIP
AUTHORITY, FRANKLIN COUNTY, PENNSYLVANIA,
AMENDING A RESOLUTION ADOPTED FEBRUARY 26,
1979, RELATING TO THE RULES AND REGULATIONS
GOVERNING BUILDING SEWERS AND CONNECTIONS TO THE
SEWER SYSTEM.**

WHEREAS, the Guilford Township Authority resolution adopted February 26, 1979, contains outdated and non-applicable rules and regulations governing building sewers; and

WHEREAS, the Board of directors of the Guilford Township Authority desires to update and upgrade said rules and regulations.

NOW, THEREFORE BE IT RESOLVED, the Board of the Authority amends section VI of the February 26, 1979 resolution to read as follows:

6.1 - GENERAL CONDITIONS

A. These rules and regulations are intended to regulate and govern the installation of sanitary sewer lines, called building sewers, as required under existing and/or future resolutions of Guilford Township Authority.

B. These rules and regulations shall apply to any individual, builder, or developer who is required to construct a building sewer, and to any individual builder, or developer who desires to construct a building sewer though not required to do so.

C. Any person required or desiring to connect to the sanitary sewer system owned and operated by the Guilford Township Authority ("the Authority"), must first obtain a sewer connection permit, and pay the prevailing tapping fee. In the case where a, new building, is being constructed, the owner or contractor must obtain the sewer connection permit and pay the prevailing tapping fee prior to receiving a Land Use Permit from the Guilford Township Board of Supervisors.

D. Building sewers for single-family residential units shall be a minimum 4" diameter. Building sewers for multiple-family residential units, where permitted by the Authority, shall be a minimum 6" diameter. Building sewers for all non-residential (commercial) establishments shall be minimum 6" diameter unless otherwise approved by the Authority. In no case will the Authority approve a building sewer service arrangement where buildings or separate adjacent lots are connected to the sanitary sewer system through a common building sewer. Any single-family residential unit that can be sold as a privately own parcel, must have its own sewer service connection.

E. With regard to any pipe, fittings, or other materials used in the construction of a building sewer, the manufacturer's recommendations and specifications concerning proper installation methods for said materials are to be followed.

F. Any excavation proposed within a Guilford Township road right-of-way may not be performed until the contractor has obtained the required Guilford Township Road Occupancy Permit from the Guilford Township Board of Supervisors. Any excavation proposed within a PENNDOT road right-of-way may not be performed until the contractor has obtained the required PENNDOT Highway Occupancy Permit, (HOP), applied for through the Guilford Township Authority.

G. Building sewer construction may be dangerous to personnel if safety requirements with regard to trenching and trench shoring, PVC chemical solvent and primer handling, and general construction site safety requirements are not met. All responsibility for meeting established safety requirements rests with the building sewer contractor.

6.2 - MATERIALS

A. Pipe

Pipe used for building sewers shall conform to one of the following:

1. Schedule 40 PVC-DWV Poly (Vinyl Chloride), Plastic Drain, Waste, and Vent Pipe and Fittings, gravity sewer pipe using solvent-weld joints and fittings, conforming to A.S.T.M. D2665. Cell Core Wall pipe will not be permitted.

2. Class 50/51 ductile iron pipe using bell & spigot push joint fittings, conforming to A.S.T.M. A536.

B. Crushed Limestone

Pipe bedding material to be used in the construction of building sewers shall conform to one of the following:

1. Limestone Dust (AASHTO #10)

2. 1B Stone (AASHTO #8)

It is recommended that 1B stone be used where wet conditions are anticipated below grade.

6.3 - INSTALLATION

All building sewer lines shall be installed in accordance with the following minimum requirements.

A. The minimum slope for four (4) inch pipe shall be one-quarter (1/4) inch fall per lineal foot. The minimum slope for six-(6) inch pipe shall be one-eighth (1/8)-inch fall per lineal foot.

B. Building sewers shall be bedded in and covered with limestone dust or 1B stone. The bedding and cover shall surround the pipe at least four (6) inches.

C. Building sewers are to be constructed in the most direct route possible. All lines must be installed with the related fittings of the material utilized excepting transitions to other pipe materials already in existence.

D. No building sewers shall be installed in unstable fill material.

E. No directional changes of more than 45 degrees will be permitted without the use of a long-radius fitting. All directional changes in excess of 45 degrees must be equipped with a cleanout extending vertically to ground level. (See also 6.6 D. "Cleanouts"). All cleanout fittings and standpipes shall be equal to pipe size being used.

F. All building sewers immediately adjacent to building foundations shall be suitably protected against forces caused by backfilling and earth settlement, by blocking or stone compaction for the entire pipe length subjected to these forces.

G. No building floor drain, sump pump, or any device permitting storm water, water table, or surface water to enter the sewer system, shall be permitted.

H. In order to protect against the possibilities of sewer gases and odors entering a building, all internal plumbing fixtures shall be equipped with suitable traps and vents in accordance with the requirements of the B.O.C.A. building code. The responsibility of ascertaining the existence and/or need of traps and vents shall remain with the property owner. Failure by the property owner to provide proper traps and vents, in no manner, shall impose any liability upon the Authority.

6.4 - PIPE JOINTS

Before joints are made, the pipe layer shall thoroughly clean and inspect all bell and spigot ends for defects.

A. Where solvent-weld joints are used, the pipe layer shall apply an even coat of an approved chemical primer the entire circumference of the spigot, back the same distance as depth of bell, and to the bell the full depth of same. After applying the primer, the pipe layer shall apply a uniform coating of an approved solvent-cement, using the same procedure as applying the primer. Joints shall be assembled immediately. Spigot end shall be pushed into bell until it bottoms, and then turned 1/4 turn. Pipe shall be held firmly in place until solvent-cement has set.

B. Where gasket joints are used (ductile iron pipe only), the gasket shall be removed from the retainer, if possible, thoroughly cleaned and checked for defects, and then reassembled. The gasket shall be fully seated and facing in the correct direction. The type of lubricant specified by the manufacturer shall be used.

6.5 - SADDLES

Installation of saddle "Y" connections in Guilford Township are not permitted unless specific permission is granted by the Authority manager. Connection of a building sewer to a sewer main shall be accomplished only by the installation of a PVC Wye Branch fitting and ridged PVC slip coupling into the existing PVC sewer main. Should significant sewage flows be present in the existing sewer main, the installing contractor will be required to provide bypass pumping around the connection point while this work is being performed.

All state or township roadways, as well as other right-of-way areas, must be restored to their original condition or in accordance with state or township road occupancy permits secured prior to excavation.

6.6 - CLEANOUTS

Each building sewer must be equipped with no fewer than two (2) cleanouts. Additional cleanouts may be required based on distance or direction changes. Cleanout criteria are as follows.

A. One cleanout shall be constructed immediately outside the building foundation wall or as close thereto as practical.

B. One cleanout shall be constructed immediately adjacent to the end of the sewer lateral provided by a developer or the Authority, or as close thereto as practical.

C. No pipe runs with greater than 75 lineal feet between cleanouts will be permitted.

D. Any changes in direction of greater than 45 degrees will require an additional cleanout immediately upstream of said direction change. (See Also 6.3 E. "Installation")

E. Cleanouts shall extend vertically to the surface using a 45 degree wye and 1/8th bend (45 degree ell), a long turn tee wye (commonly known as sweep tee) or a combination wye and 1/8th bend. Sanitary tees will not be permitted. All cleanouts must include the recessed slot type plug cap. Raised square type plugs will not be permitted.

F. All cleanout fittings and standpipes shall be equal to pipe size being used.

G. Cleanouts located in paved or non-paved vehicular traffic areas may be of the standard PVC type, with recessed-slot type plug, but must be covered by a standard lamp hole frame and cover manufactured by Williamsport Foundry Co., Inc., or approved equal. 4" cleanouts require a 6" lamphole frame and cover and, 6" cleanouts require an 8" lamphole frame and cover, in order to allow for ease of removal of the PVC cleanout plug from the cleanout body and through the lamphole frame.

H. Upon completion of building sewer installation, or final yard grading in the case of new home construction, all cleanouts must be adjusted to be flush with or just below finish grade. Landscaping or other contractors working in proximity to the cleanouts must adequately mark Cleanouts to protect from damage.

I. Cleanouts must be capped at all times throughout the construction process in order to avoid the introduction of foreign matter into the sewer system.

6.7 - INTERCEPTORS

Grease, oil and sand (grit) interceptors must be installed when, in the opinion of the Authority, they are necessary for the proper handling of liquid wastes containing grease or oil in excessive amounts, sand or other ingredients harmful to the building sewer, the public sewer system, or the wastewater treatment plant or processes. Such interceptors shall not be required for private living quarters or dwelling units. All interceptors shall be located as to be readily and easily accessible for cleaning and inspection. The Authority will not be liable for the lack of efficiency of an approved interceptor. Interceptor design shall conform, but is not limited, to the following minimum criteria.

1. Prior to installation of any interceptor the contractor or owner shall submit a drawing of the proposed interceptor, including all pertinent information, to the Authority for review. The Authority must approve the size, type, and location of each interceptor.
2. No restrooms or wastes other than those requiring separation may be discharged into any interceptor.
3. Interceptors shall have a depth of not less than two (2) feet below the discharge invert.

4. Immediately downstream of the interceptor, the contractor shall install a standard tee fitting with a standpipe to the surface, capped with a cleanout fitting, for the purpose of periodic analysis of interceptor discharge.

5. Motor vehicle servicing facilities must install an oil separator with a capacity of at least one (1) cubic foot for each 100 square feet of floor surface, with a minimum capacity of six (6) cubic feet.

6. Restaurants must install a grease interceptor of the size determined by the Authority depending upon conditions such as seating capacity, percentage of carryout business etc.

6.8 - INSPECTION - TESTING

A. Twenty-four (24) hours prior to building sewer installation, the contractor shall notify the Authority and arrange for an inspection of said building sewer. All pipes, pipe joints, cleanouts, and any other appurtenances must be accessible for visual inspection.

B. Each building sewer shall be air tested, (no hydro testing will be allowed), by the contractor in order to establish the integrity of said building sewer. It is the contractor's responsibility to provide all necessary testing equipment including test plugs, gauges, hoses, air supply and any other materials or equipment needed to perform the air test. Air tests shall be performed as follows:

1. Isolate the section of sewer line to be tested with inflatable stoppers or other suitable test plugs.

2. Plug or cap the ends of all branches, laterals, wyes or stubs to be included in the test to prevent air leakage. All plugs and caps shall be securely braced to prevent blowout. One of the plugs or caps should have an inlet tap, or other provision for connecting a hose to a portable air source.

3. Connect the air hose to the inlet tap and portable air source. The air equipment shall consist of necessary valves and pressure gauges to control an oil-free air source and the rate at which air flows into the test section to enable monitoring of the air pressure within the test section.

4. Add air slowly to the test section until the pressure inside the pipe reaches 5.0 PSI. Adjust airflow to maintain 5.0 PSI for at least 2 minutes. Under no circumstances shall the air pressure be increase beyond 9 PSI.

5. Disconnect the air supply from the test section, the test may now begin.

6. Test sections where the pressure does not drop from 5 PSI to below 4 PSI (more than 1-PSI drop), within the 4-minute test period shall be considered acceptable.

7. Upon completion of the test, open the bleeder valve and allow all air to escape. Plug should not be removed until all air pressure in the test section has been reduced to atmospheric pressure.

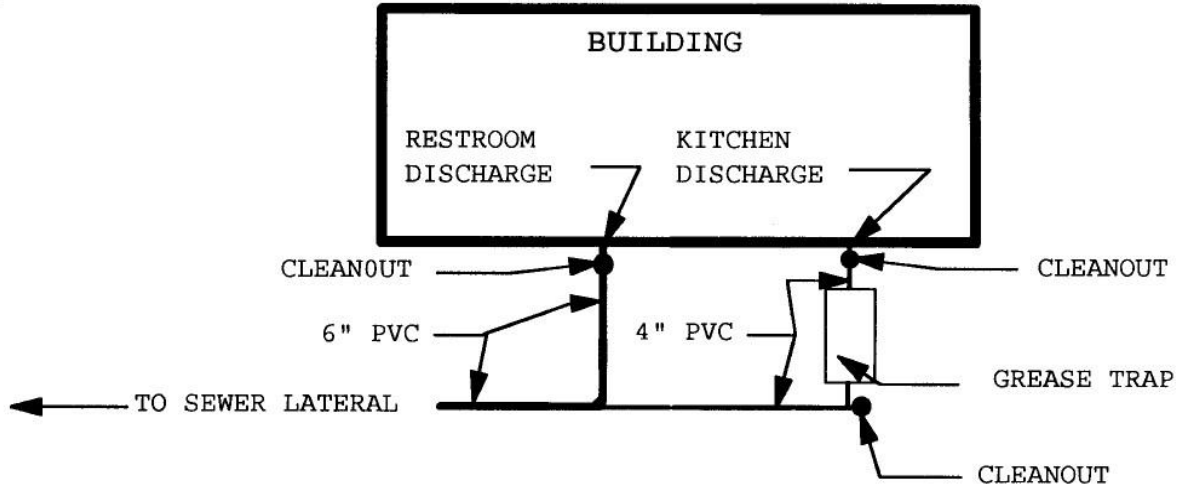
8. After removal of test plugs, proceed immediately to perform final building sewer connections.

SAFETY PRECAUTION:

This low-pressure test may be dangerous to personnel if, through lack of understanding or carelessness, a line is over pressurized or plugs/caps are installed or restrained improperly. It is extremely important that the various plugs be properly installed to prevent the sudden expulsion of a poorly installed or partially inflated plug.

6.9 - BACKFILLING

No portion of any building sewer connected or to be connected to the sanitary sewer system may be backfilled until inspected by the Authority or its appointed representative. All backfilling shall be performed with materials and in accordance with procedures recommended by the manufacturers of the pipe being used, as well as procedures established by the appropriate Guilford Township or PENNDOT Highway Occupancy Permit, if applicable. In no event shall stones in excess of four (4) inches in diameter be permitted in the backfill of any building sewer trench.

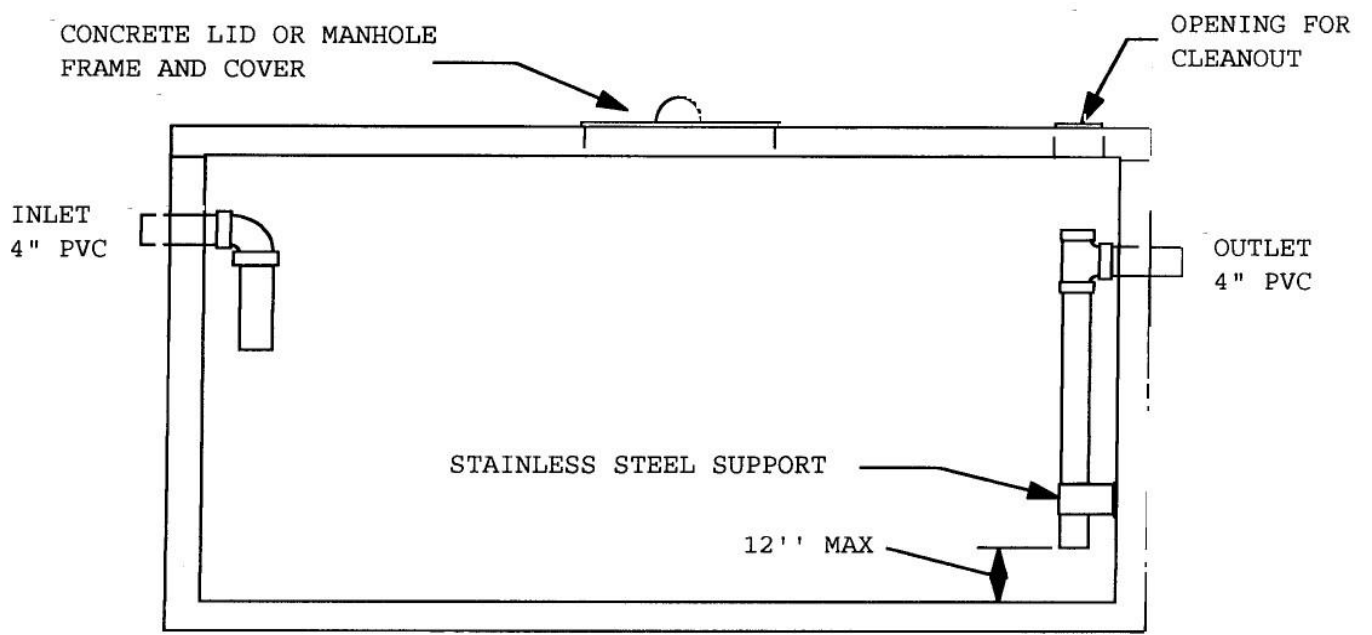


TYPICAL SEWER LAYOUT W/GRASE TRAP

NOT TO SCALE

CONCRETE GREASE TRAP

TOP SEAM STYLE ONLY



6.91 SEWAGE GRINDER PUMPS

It is a lot owner's responsibility to determine whether a sewage grinder pump is required for the discharge of wastewater into the sanitary sewer system. Should a grinder pump system be required, the property owner must purchase either the

Environment/One, DHO71-93 Extreme (Residential) or DHI52-93 Extreme (Commercial), or Other Appropriate Model, Grinder Pump System.

as specified by the Guilford Township Authority. Property owners may contact the Guilford Township Authority Manager for assistance in acquiring the specified grinder pump system.

6.92 STANDARDS GOVERNING THE CONNECTION OF GRINDER PUMPS

- A. The gravity portion of the grinder pump connection, which is the 4" pipeline connecting the dwelling, or restrooms in a commercial application, to the grinder pump tank, must be installed in compliance with all previous sections of this document.
- B. The grinder pump tank, and the pressure discharge pipeline connecting to the pressure sewer main in the street, must be installed in compliance with the following standards:

1. PUMP TANK INSTALLATION

- a. For installation of the grinder pump tank, disconnect panel, electrical wiring, poured-in-place concrete ballasting and backfilling; refer to the Environment/One installation manual supplied with each pump.
- b. With regard to concrete ballasting, the contractor must provide the Authority's inspector with a copy of the concrete delivery ticket establishing that a minimum of $\frac{3}{4}$ of a yard of concrete was poured as ballast for each grinder pump tank. As an alternative contractor may purchase and install a Bal-Last Interlocking Concrete Ballast Block System available through Site Specific.
- c. Any questions remaining unanswered after studying the supplied installation manual should be addressed to Guilford Township Authority personnel.

2. INLET PIPE INSTALLATION

- a. The inlet pipeline into the pump tank from the dwelling must be installed in compliance with all previous sections of this document.
- b. Inlet piping must be new solid –wall (**No Cell-Wall Pipe permitted**) PVC or ABS 4” schedule 40 DWV pipe with a 4.50” outside diameter. The tank is supplied with a rubber grommet for connecting the 4” pipe.
- c. The inlet pipe must be chamfered and lubricated with a soap solution prior to insertion into the grommet. Lubricate the inlet grommet with the soap solution as well.
- d. If you believe that the existing line (currently to the septic tank) meets the pipe standards outlined above and is watertight, its re-use may be accepted by the Authority upon passing a pressure test. An Authority inspector must observe any pressure tests.
- e. During insertion of the 4” gravity line into the tank, care must be taken not to damage the pip-stop located inside the tank, thus obstructing pipe free flow.

3. DISCHARGE PIPE MATERIAL AND INSTALLATION

- a. Grinder pump discharge piping must be **1.25” SDR-21** rubber gasket joint pressure pipe conforming to ASTM 2241.
- b. An all stainless steel flexible connector rated for pressure sewage flow must be installed immediately outside the pump tank.
- c. All discharge piping must be installed below frost level.
- d. Discharge piping must be bedded in crushed limestone with a minimum of 4” beneath the pipe and a minimum of 6” above the pipe. Acceptable bedding material is limestone dust (#10 stone) or 1Bs (#8 stone). Detection tape labeled as “**Caution: Buried Sewer**”, or similar, must be installed over the entire length of the trench line. Locate tape approximately 1’ below ground service.
- e. A 12 awg direct burial tracer wire must be installed entire length of discharge piping. Tracer wire is to be connected with wire nut or other hard connection to existing authority wire at lateral end and terminate at pump so as to be detectable by electrical detection device. Wire shall be firmly attached to discharge piping every 4-6 feet, as well as any directional change fittings, using black electrical tape.

- f. The contractor must install a 1.25” PVC schedule 40 solvent-weld test tee with a 1.25” solvent-weld by 0.5” IPS PVC schedule 40 bushing and a 0.5” IPS plug. This test tee will facilitate the hydrostatic pressure test required in section 5, and should be installed next to the main line service connection point.

4. PHASING OF INSTALLATION

- a. The grinder pump and piping will, in most cases, be installed in two (2) phases, as follows:

PHASE 1

The grinder pump and pump discharge piping must be installed, inspected and then held in a stand-by mode until pump “start-up” is performed by Authority personnel. Existing homeowners will continue using their septic system during this period.

PHASE II

Upon satisfactory “start-up” and approval by Authority personnel, the contractor may complete the gravity connection between dwelling and the pump tank.

5. INSPECTION, TESTING AND START-UP

a. Pump Tank

To be performed after the tank is installed in the ground, and the concrete ballast is poured.

b. Piping – 2 inspections required

Inspection #1: To be performed after installation of the discharge piping. The contractor shall contact the Authority for the hydrostatic pressure test at this time.

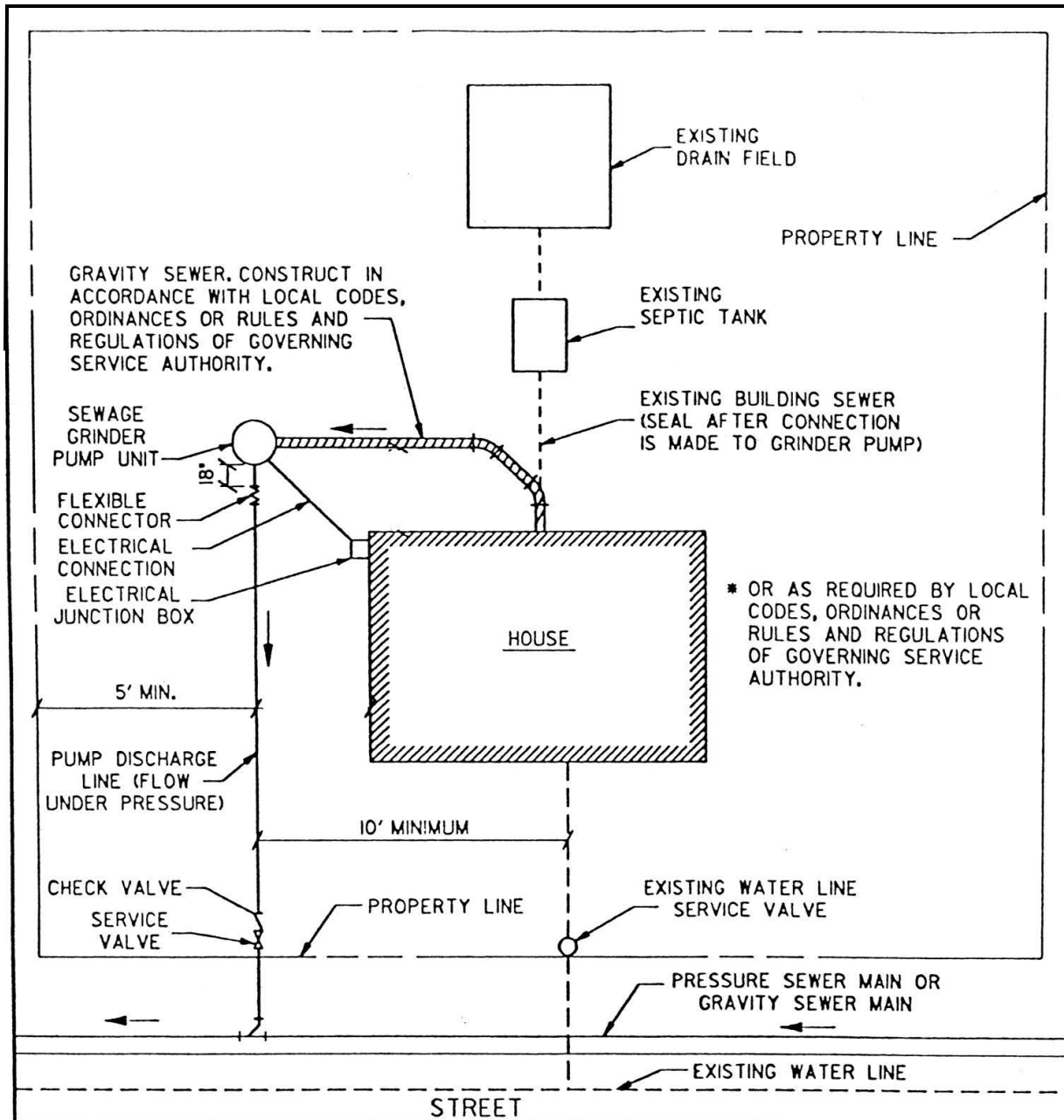
Inspection #2 To be performed after installation of the gravity inlet piping.

c. **Hydrostatic Pipe Test**

The discharge piping between the grinder pump and the pressure main service connection must be hydrostatically tested at **90 PSI** for a period of not less than 15 minutes. Longer test times may be required at the discretion of the inspector. Be sure to close the ball valve in the tank and the ball valve at the street connection point prior to beginning the test.

d. **Pump Start-Up**

Authority personnel will perform the “Start-Up” procedure between piping inspections #1 and #2.



LEGEND:

- EXISTING WATER LINE
- - - - EXISTING DRAIN LINE
- ////// BUILDING SEWER
- SGP DISCHARGE LINE
- SGP SEWAGE GRINDER PUMP

NOTE:

DISCHARGE LINE
SERVICE VALVE NOT REQUIRED FOR
CONNECTION TO GRAVITY SEWER MAIN

DRAWN BY: DLS
DATE: 9-30-93
CHECK BY:
DATE:



**TYPICAL
PRESSURE SEWER
SERVICE CONNECTION**

APPROVED BY:
DATE APPROVED:
DETAIL NO.
5220