

TECHNICAL BULLETIN
FOR BUILDING SEWER AND WATER SERVICE

Updated September 2024

BUILDING SEWER SERVICE

1. Building Sewer Material Types

The following are approved materials for gravity building sewer piping:

- 1.1 Service-weight cast-iron soil pipe and fittings per Commercial Standard CS-188. The hub-and spigot cast-iron soil pipe and fittings shall be joined with a one-piece elastomeric compression type seal per ASTM C564.
- 1.2 Polyvinyl Chloride (PVC) sewer pipe and fittings per ASTM D-3034-74, Type PSM (SDR-35). Polyvinyl chloride sewer pipe and fittings shall be joined using the gasketed jointed system using a one-piece elastomeric ring per ASTM D-3212-73T as specified and furnished by the pipe and fitting manufacturer.

Materials for low pressure building sewers shall be High Density Polyethylene (HDPE) pipe SDR-11 or PVC pipe conforming to the requirements of ASTM D-2241 SDR-21. Other materials for low pressure building sewers shall be subject to approval of the County Engineer.

2. Pipe Cover & Sizing

Building sewer piping shall have a minimum cover of 30 inches measured from top of pipe to existing or finished ground. Refer to Section 23 for requirements in situations where minimum cover conditions cannot be met.

The following are sizing requirements for building sewer based on land use application:

- 2.1 The building sewer shall not be less than 4" nominal diameter and shall be installed at a uniform fall of not less than one-eighth-inch fall per foot, unless otherwise directed by the County Engineer. If one-eighth-inch fall per foot is not obtainable, the sewer size and fall shall be as specified by the Engineer.
- 2.2 Receiving County lateral shall be 6" minimum diameter for residential applications.
- 2.3 Receiving County lateral shall be 8" minimum diameter for commercial applications. If a zoning change occurred or commercial parcel was not provided with an 8" diameter lateral, a Signed and Sealed request by an Engineer stating that the existing lateral is adequate for expected flows must be submitted for review.
- 2.4 Multi-Family Dwellings shall be as follows (see **Detail TB-1** in Attachment A):
 - 2.4.1 1-2 Units: Building sewer size 4" dia. | Req. County lateral size 6" dia.

2.4.2 3-4 Units: Building sewer size 6" dia. | Req. County lateral size 6" dia.

2.4.3 >5 Units: Building sewer size 8" dia. | Req. County lateral size 8" dia.

3. Property Owner Cleanouts

- 3.1 Cleanouts shall be located not more than 75 feet apart in four-inch building sewer lines and not more than 100 feet apart in six-inch building sewer lines, and shall be located at each change of direction greater than 45°. There shall also be a cleanout at the junction of the building sewer line and County sewer lateral consisting of a wye and a one-eighth bend piped to grade. Cleanout pipe and associated fittings shall match the sewer lateral size. Refer to **Detail TB-2** in Attachment A. See also *Sussex County Standard Details* for Cleanout and Lateral configurations.
- 3.2 Where applicable cleanouts shall be suitably protected from loading by passing through, with clearance for free movement, a concrete collar and cast-iron cleanout, frame and cover per *Sussex County Standard Details*.
- 3.3 There shall be a transition of building sewer and a cleanout within five feet of the building foundation, cleanout shall be similar to the cleanout located at the property.
- 3.4 Where a private building sewer connects to two or more individual building sewer drains, there shall be a cleanout at the juncture of each building sewer drain and building sewer line, and at the juncture of the building sewer line and the County sewer lateral. Additional cleanouts may be required by the County if determined to be necessary.

4. County Owned Cleanouts

- 4.1 Refer to *Sussex County Standard Details* for materials, configuration and installation of County-Owned sewer cleanouts laterals and related appurtenances.
- 4.2 If an under-sized cleanout was installed or no cleanout exists, at the time of a new connection or re-connection by the property owner, a cleanout matching the size of the County lateral shall be installed at the property owner's expense. If a "Geneco" cleanout cover was installed as part of the original sewer construction, it may be left in place to serve as the cap with a cleanout frame and cover installed per *Sussex County Standard Details*.

5. Suitability of Building Drain Vent and Plumbing Fixture Traps

- 5.1 The building sewer must connect to a building drain that is properly vented, and those plumbing fixtures discharging to the building sewer system must be properly trapped. It shall be the responsibility of the licensed plumber installing the building sewer to confirm that the building drain is properly vented and all plumbing fixtures are properly trapped in accordance with the current State of Delaware Plumbing Code as administered by the Delaware Division of Public

Health. All building venting and trapping must be in place prior to physical connection of the building drain to the building sewer system.

- 5.2 Note that it is the intent of these requirements regarding the suitability of the building vent and plumbing fixture traps to ensure that any gases or pressure transients in the public sewer will be relieved through the building vent system and no gases will be discharged to the building through plumbing fixtures with inadequate traps. Notwithstanding the requirements in the State of Delaware Plumbing Code, every building in which plumbing is installed shall have at least one main vent stack which shall run undiminished in size and as directly as possible from the building drain through to the open air above the roof, and in no case shall be less than three (3) inches in diameter.

6. Private On-Site Grinder/Lift Pump

- 6.1 Building drains below a building sewer which cannot be discharged to the sewer by gravity flow shall be discharged into a water-tight covered and vented sump from which the effluent shall be lifted and discharged into the building's gravity-drainage system by automatic pumping equipment or by any equally efficient method approved by the Engineer. Any privately maintained on-site grinder/lift pump is required to be industry rated for sewage and be equipped with high water level alarm.

7. Trenching, Installation and Backfill for Building Sewer

- 7.1 Trenching, installation and backfill shall be excavated to the proper depth and fall. A template shall be used to detect high spots and holes and fill depressions, and it shall be thoroughly tamped. Care should be taken during the excavation to provide as narrow a trench as practical at a point level with the top of the pipe. When the width of the trench at the base exceeds seven pipe diameters, selected stone backfill shall be used to embed the pipe and fill the trench to about one foot above the pipe.
- 7.2 When mud or water is encountered in the trench, such as may be found by excavation below groundwater, additional precautions shall be taken appropriate to the trenching conditions encountered to ensure that the pipe is bedded true to line and grade with uniform and continuous support from a firm base. Where excessive groundwater conditions exist, the Engineer may require trench pumping or well pointing in combination with specific trench-stabilizing methods.
- 7.3 Pipe and bed shall be laid in a selected backfill 1/4 to 1/3 of the pipe diameter. After the pipe is bedded and checked for fall, but not until inspected and approved, additional backfill shall be placed by shovel at the sides and over the top of the pipe and tamped carefully. Backfill free of all debris shall be placed and tamped in layers not to exceed six inches to a point twelve (12) inches above the pipe. Backfill above this level shall be placed in lifts not to exceed twelve (12) inches.
- 7.4 Backfill within trenches in structural or pavement areas shall be compacted to a minimum 95 percent of the maximum dry density as determined by the Modified Proctor Test, ASTM D1557 or AASHTO T-180, Method A. Outside of structural or

pavement areas, compaction shall achieve a minimum 90 percent of dry density to the same testing standards.

- 7.5 See Detail *Sussex County Standard Details* for Trench, Bedding and Backfill details. For a combined utility trench installation see **Detail TB-3** in Attachment A.

8. County Owned Grinder/Lift Pump

Refer to *Sussex County Standard Details* for materials, configuration and installation procedure of County-owned grinder pump stations and related appurtenances. Connection procedures for Grinder Pump Stations is outlined below.

- 8.1 Plumber applies for a standard sewer connection permit.
- 8.2 The plumber is notified by the Sussex County Utility Permit Technician of the following requirements:
- 8.2.1 A grinder pump is required based on a review of site conditions.
 - 8.2.2 The property owner shall supply an electrical connection which must be made prior to the pump being installed.
 - 8.2.3 A 30 Amp 240 VAC Circuit with Neutral shall be installed in accordance with the current version of NFPA 70 the National Electrical Code. If a duplex grinder is used, a separate service must be provided for each pump.
 - 8.2.4 According to Delaware Administrative Code, Title 24, Professional Regulation Subsection 1400 Board of Electrical Examiners, an electrical inspection shall be obtained by a qualified professional, and an inspection sticker placed in the disconnect box for Sussex County examination.
 - 8.2.5 The building sewer connection cannot be made until the plumber is advised by the Sussex County Utility Permits Division that the Grinder Installation has been completed.
 - 8.2.6 The Plumber's electrical contractor installs the wiring from the home to the control pedestal and calls a certified inspection agency for the inspection of the work.
 - 8.2.7 Once the electrical work has been inspected and the inspection sticker placed in the disconnect box, the plumber calls Sussex County Utility Permits at (302) 855-7719 to notify them the electrical work is complete.
 - 8.2.8 Utility Permits section will advise plumber when the Grinder Pump Installation is complete and plumber can then schedule inspection for the building sewer connection as stated in Section 17 of this document.

8.2.9. Sewer connection is installed by applicant and inspected by the Utility Engineering Division. Any deficiencies noted, based on inspection, must be corrected prior to final acceptance of Grinder Pump Station.

9. Issuing Permits

No permits for sanitary sewer connections will be issued unless an adequately sized lateral is available for the proposed construction. Sewer lateral must be inspected and accepted prior to issuance of permit.

10. Multiple Unit Construction

In order to obtain the necessary permits for multiple family dwellings, a drawing must be submitted to the Utility Engineering Division which indicates pipe sizes, wyes, cleanouts, angle sizes, etc.

11. Cleanout Location For Lateral Angles of Greater Than 45 Degrees

Required configuration for a cleanout for servicing angles of greater than 45 degrees between building sewer line and County sewer lateral is shown in **Detail TB-2** in Attachment A.

12. Cleanout Size

The property line cleanout shall match the county installed lateral size and must be installed or upgraded when the property is connected to the lateral. All other cleanout risers used for the building sewer must be the same size as the building sewer.

13. Tee-Wyes

In general, Tee-wyes may not be used for the building sewer drainage system. Tee-wyes may only be used for in-line cleanouts when placed in the vertical position.

14. Pipe Couplings

Fern-co type couplings are not permitted to join different sections of the building sewer piping. Dresser couplings must be used in all areas where transition from one type of pipe to another must be made (i.e., SDR 35 PVC to cast iron for driveway conditions).

15. Building Sewer and Lateral Sizes

15.1 The following chart summarizes minimum building sewer and receiving lateral sizes for multiple family dwellings, e.g. townhouses and condominiums - See **Detail TB-1** in Attachment A:

No. of Units	1-2	3-4	5 or More
Building Sewer Size	4"	6"	8"
Required County Lateral Size	6"	6"	8"

15.2 All commercial properties will require 8" min. building sewer and receiving laterals unless otherwise approved by the County Engineer.

16. Pipe Trench Width

Width of pipe trench shall be a minimum of 10-inches wide or 2-1/2 times the pipe diameter to facilitate proper pipe bedding and grading. See **Detail TB-3** in Attachment A where applicable.

17. Requests for Inspections

All requests for inspections must be made 24 hours in advance and by 3:30 p.m. on the day before needed. Scheduled inspections not cancelled within two (2) hours of the scheduled inspection time shall be charged a fee equal to 100% of the connection permit fee. Each re-inspection is subject to the additional fee.

18. Partial Installation and Inspection

18.1 Residential: Written request with attached drawing must be submitted and approved by the Utility Engineering Division. The drawing must show the length and type of material as defined in the County standards. Any unique circumstances regarding the request must also be provided. The approved drawing will be filed with the original copy of the permit and a copy given to the inspector to verify upon the scheduled inspection. Residential partial connections are not permitted to connect to the structure or the County lateral.

18.2 Commercial: Written request with attached drawing must be submitted and approved by the Utility Engineering Division. The drawing must show the length and type of material as defined in the County standards, with the location of the County's cleanout and the structure identified. Any other unique circumstances regarding the request must also be provided. The approved drawing will be filed with the original copy of the permit and a copy given to the inspector to verify upon the scheduled inspection. Commercial partial connections are not permitted to connect to the County lateral or the structure.

18.3 Contractors shall field verify the depth of all connection points. Any necessary adjustments to the building sewer line or County lateral will be at the property owners expense.

18.4 The property owner must obtain (2) permits to cover the full installation of the building sewer. One permit will be required for the partial installation of the

building sewer and the second permit will be required for the final connection. Two inspections will be performed, an inspection will be performed for the partial installation and the second inspection will be performed for the final connection. Partial permits are only granted in cases where special site conditions exist.

19. Camper and RV Connections at Campgrounds

All camper and RV connections within a campground or RV resort shall be foot operated, lockable flip top flip connection with seal. End of season closing procedures for campgrounds shall include securing all flip tops with zip ties or clips. Campers and RVs to provide their own flexible connection hose and use a donut seal/gasket. See **Detail TB-4** in Attachment A.

20. Sand Interceptors

Sand interceptors shall be placed at any facility used as a wash-down or shower area (such as campground or state park shower areas) where exists the high probability of increased amounts of sand/grit will be discharged into the sewer system. Such Sand Interceptors shall be per the size and quantity as determined by the Engineering Department. See **Detail TB-5** in Attachment A.

21. Commercial Property Connections

A grease trap is required for any facility that will be discharging grease or a grease-like product into a County sewer line. County inspectors will confirm proper installation of the grease trap at the time of inspection to verify the existence and that the trap installed meets the current ASME standards. See **Detail TB-6** in Attachment A.

22. Disconnect

In the event an existing property requires temporary or permanent disconnect from a County Utility, refer to **Detail TB-7** in Attachment A for disconnect locations.

23. Inadequate Cover

Building sewers that do not meet the minimum cover requirements or are located in heavy traffic areas will require concrete encasement or use of alternate material such as Ductile Iron Class 52. Concrete encasement is considered a last resort and is subject to County approval prior to installation. If approved for use, concrete encasement of sewer piping shall be per the *Sussex County Standard Details*.

24. On-Site Review Fees

On-site reviews are mandatory for commercial sewer designs and connections, or as deemed necessary by the Sussex County Engineering Department. Review fees are based on Sussex County Annual Fiscal Budget Ordinance. Submittals for on-site reviews shall be made on "Sussex County Engineering Plan Submission Form" which can be found on Sussex County's website.

25. Illegal Connections/Disconnections

In the event of an illegal sewer connection or disconnection where no permit was obtained or open trench inspection performed, a written waiver request for CCTV inspection must be submitted to the Utility Engineering Division for review. The request must include a drawing of the site, location of the installed building sewer with material type and sizes, and date of connection or disconnection. Any unique circumstances regarding the request must be provided with the request. Upon approval of the waiver request, a State of DE licensed plumber must obtain associated application/permit and a CCTV video inspection will be scheduled and performed by the Sussex County Pipeline Assessment Team. If approved by the Utility Engineering Division, a third-party CCTV inspection may be used. Based on the results of the video inspection, if system conditions are found to not meet the requirements specified herein a failed inspection will be issued to the Property Owner/Applicant. Any noted deficiencies shall be corrected at the expense of the Property Owner/Applicant and an open trench inspection scheduled through the Utility Engineering Division. The Property Owner/Applicant is responsible for all review, permit, and inspection fees in accordance with Sussex County fee structure in effect at the time of inspections.

BUILDING WATER SERVICE

1. Materials

The water service pipe extending from the County meter pit at property line to the building shall be meet any of the following material requirements:

- 1.1 Ultra-high-molecular-weight polyethylene pipe per ASTM D-2239 meeting the requirements of Type III, Class C, Category P34, polyethylene as defined in ASTM D-1248 and rated at minimum 160 psi at 73.4° F. and approved by the National Sanitation Foundation for use as a carrier of potable water. The polyethylene pipe joint system shall be equal to the Ford Meter Box Company's "Pack Joint," the Hays Manufacturing Company's "Hays-Tite" or the Mueller Company's "110 Compression Connection." The connection shall be brass and assembled with a stainless-steel pipe liner as specified and furnished by the connector manufacturer.
- 1.2 Polyvinyl chloride Schedule-40 pressure pipe meeting ASTM D1785 and approved by the National Sanitation Foundation for use as a carrier of potable water. The polyvinyl chloride pipe joint system shall be with solvent-weld Schedule-40 polyvinyl chloride fittings using a polyvinyl chloride solvent cement as specified by the pipe and fitting manufacturer and approved by the National Sanitation Foundation for use with potable water.
- 1.3 Type K or L copper water tube per ASTM B88-66. The copper water tube joint system shall be bronze fittings for flared copper tube per ANSI B-16.26.

2. Depth

Minimum depth of water service piping shall be below established freeze line of 24" from the top of finish grade, based on current building code.

3. Size

The water service piping shall be 3/4-inch, one inch, 1-1/2 inches or two inches as required for the service and not a lesser size than the water meter outlet connection.

4. Homeowners Pit

The Homeowners Pit shall be installed adjacent to the County Meter Pit. The location of the pit should be on private property and be the owner's responsibility for maintenance. The Homeowners Pit shall incorporate the following devices:

- 4.1 Manual Shut Off Valve
- 4.2 Check Valve
- 4.3 Pressure Relief Valve
- 4.4 Drain

4.5 Refer to the Section 8 Cross-Connection Control for additional device requirements.

5. Disinfection of Water Service Pipe

5.1 The Engineer or his authorized representative may require that the water service piping be disinfected before it is placed in service if, in his or her judgment, such action is necessary.

5.2 One of the following disinfecting methods shall be used:

5.2.1 The water service pipe shall be filled with a solution of 50 parts per million of available chlorine and allowed to stand six hours before flushing and placing in service.

5.2.2 The water service pipe shall be filled with a solution of 100 parts per million of available chlorine and allowed to stand two hours before flushing and placing in service.

6. Trenching, Installation and Backfill

The water service pipe shall not be less than five feet horizontally apart from the building sewer and shall be separated by undisturbed or compacted earth, unless all of the following conditions are met:

6.1 The bottom of the water service pipe at all points shall be at least 12 inches above the top of the sewer line at its highest point.

6.2 The water service pipe shall be placed on a shelf excavated at one side of the common trench.

6.3 The number of joints in the water service pipe shall be kept to a minimum.

6.4 Where the water service pipe must cross the sewer line, the bottom of the water service pipe, within five feet of the point of crossing, shall be at least 12 inches above the top of the sewer line. Joints shall not be used within five feet of the sewer line.

6.5 The building sewer shall be at least 10 feet removed from all wells unless such wells are permanently abandoned.

6.6 Trench shall be excavated to the proper depth and tamped to a uniform surface. When mud or water is encountered in the trench, such as may be found by excavation below groundwater, additional precautions shall be taken appropriate to the trenching conditions encountered to ensure that the pipe has a uniform and continuous support from a firm base. Where excessive groundwater conditions exist, the Engineer may require trench pumping, well pointing or other trench-stabilizing methods.

- 6.7 The pipe shall be uniformly supported throughout the trench by tamped fill. Plastic pipe shall be snaked into the trench to allow for expansion and contraction.
- 6.8 Trench shall be backfilled with the pipe at a temperature approximating normal operating, temperature of 40° F. to 60° F., running cool water through the pipe if necessary. It shall be backfilled with clean fill, free of all debris.
- 6.9 Refer to *Sussex County Standard Details* and/or **Detail TB-3** in Attachment A for configuration of utility trench; requirements as outlined above shall be implemented as appropriate.

7. Cross-Connection Control

As stipulated in 16 Del. Admin. C. § 4462, Sussex County is required to maintain a comprehensive *Sussex County Cross Connection Control Plan*. This Plan is intended to protect and preserve the safety of county-owned drinking water systems, and promote the elimination of potential cross connection and backflow of contaminants and pollutants into the water distribution system. The Plan shall also provide guidance to ensure continued system protection through education at the facility level of ways to reduce cross-connections.

As a result of these requirements, Sussex County has implemented the following general practices regarding protection and preservation of county-owned drinking systems:

- 7.1 Service line protection is required at all facilities that are deemed a high hazard as defined in the above referenced Delaware Administrative Code.
- 7.2 Sussex County accepts backflow prevention devices, assemblies, and methods as recognized by the following: the Delaware Building Code, ASSE, AWWA Standards C510 and C511, and ASME Standards.
- 7.3 It is the responsibility of the facility/owner, if deemed a high hazard, to have their service surveyed and the appropriate devices installed. In addition, backflow devices must be tested annually to ensure it functions properly. Records of test results must be maintained and submitted to the notifying party with any associates fees included.
- 7.4 Right of entry to building/facility shall be granted to Sussex County or its designated agent.
- 7.5 For any condition that could potentially create or is actively creating a risk of backflow into the water system, Sussex County reserves the right to discontinue service to the facility until any issues have been corrected.

Refer to full requirements outlined in the *Sussex County Cross Connection Control Plan*, and also refer to **Detail TB-8** in Attachment A.

RESTAURANTS / BREWERIES / DISTILLERS / WINERIES

The following regulations apply to all food-producing facilities contributing to a Sussex County Waste Water Treatment Plant (WWTP):

1. All food-producing facilities must have a Fat, Oil and Grease (FOG) permit to discharge to the WWTP. The Utility Compliance officer shall receive all FOG permit applications and issue appropriate renewal permits every three years.
2. No food-producing facility shall contribute, or cause to contribute, any fats, oils and grease to the WWTP. At the discretion of the Utility Compliance officer sampling of the discharge shall occur when the food producer is not complying with the requirements of this program. The food-producing facility shall be responsible for providing an adequate sampling port on the grease trap.
3. The food-producing facility is responsible for cleaning and/or having the oil and grease interceptor cleaned on a quarterly basis so as not to contribute fats, oils and grease to the WWTP. The frequency of cleaning shall be in accordance with the "25% Rule," as determined by the Utility Compliance officer and directed in the FOG permit. The "25% Rule" requires that the depth of oil and grease (floating and settled) in a trap shall not be equal to or greater than 25% of the total operating depth of the trap. The operating depth of a trap is determined by measuring the internal depth from the outlet water elevation to the bottom of the trap. In application of this Rule, the depth of floating oil and grease shall not be greater than 20% of the total operating depth of a trap since 5% of the oil and grease is generally settled at the bottom of the trap. The cleaning frequency shall also be determined by the size of the interceptor and inspection of the sewer lines.
4. Existing food-producing facilities which currently have an internal grease trap shall be required to clean and maintain that trap in an efficient manner. The following are prohibited to be discharged to an internal grease trap:
 - 4.1 Wastewater with a temperature greater than 140° F.
 - 4.2 Wastewater from a food grinder/garbage disposal must go through a 14-mesh strainer before entering grease trap.
 - 4.3 Acid or caustic trap cleaners. This may include enzymes and/or degreasers which liquefy the fats, oils and grease and allow them to pass from the grease interceptor and deposit in the WWTP lines. Therefore, all enzymes and degreasers must be approved by the Utility Compliance officer or his/her duly authorized representative.
 - 4.4 The discharge from a dishwasher must travel at least 5 feet and through a 14-mesh strainer prior to entering an internal grease trap.
5. Newly built food-producing facilities or renovated existing ones shall install a properly sized oil and grease interceptor from the facility that is approved by the Sussex County Engineer. The sewer line oil and grease interceptor shall have the following design features (as a minimum): a tee inlet in which one tee branch extends a minimum of one foot below the liquid level, an outlet tee with a minimum submergence of two-thirds of

the liquid depth, a baffle to separate the trap into two compartments, and two manhole access ways for inspection of inlet and outlet tees. The interceptor shall have cleanouts and be located for easy access for pump out and inspection. The formula below shall be used to determine the applicable size for the oil and grease interceptor.

6. A properly sized interceptor or trap shall be considered first, in conformity with the sizing chart in accordance with PDI standard G101. Should space limitations or other exceptional circumstances prevent their installation, the County Engineer may grant exceptions to the requirement of grease traps or grease interceptors as referenced in this section.

- 6.1 Connection to a properly sized grease trap/ interceptor is REQUIRED for all fixtures that discharge grease-laden waste, e.g. ware washing sinks, food prep sinks, pre-wash sinks for ware washers, woks, and other cooking equipment.

- 6.2 Sizing Formula. The size of a grease trap or grease interceptor shall be as determined by PDI standard G101.

- 6.3 All new food establishment construction shall be connected to an outside grease interceptor of no less than 1,500 gallons.

- 6.4 Example of Sizing For Grease Trap Selection: Select a grease trap for a three-compartment ware washing sink with bowl dimensions of 18" W x 24" L x 12" D

- 6.4.1 $\text{Volume} = (18\text{in} \times 24\text{in} \times 12\text{in}) \times 3 \text{ cmpts} = (5,184 \text{ cu in}) \times 3 = 15,552$ cubic inches

- 6.4.2 $\text{Capacity} = \text{Volume (cu in)} / 231 \text{ (cu in/gal)} = 15,552 / 231 = 67.3$ gallons per min.

- 6.4.3 Drainage load = 67.3-gal x 0.75 = 50.4, or approximately 50 gallons per min. grease trap is the minimum flow rate. Divide by 2 for the allowable 2 min. flow rate.

- 6.4.4 The rated capacity in pounds is twice the flow rate. A 50 gallon per minute grease trap is equal to a 100-pound grease trap.

- 6.4.5 For multiple fixtures add together 100% of the largest flow rate, 50% of the 2nd largest flow rate and 25% of all others.

- 6.5 Training: All food establishments shall train and document employees in the Kitchen Best Management Practices in FOG disposal. This record shall include Employee name, Signature, date trained and retained for minimum of 1 year. KBMP' shall be posted near all service sinks.

7. All food-producing facilities shall be inspected and enforced by the Utility Compliance Officer in the following way:

- 7.1 CLASS 1 PRODUCER is defined as any producer who has an oil and grease interceptor on the sewer line and/or a grease trap on the sink discharge. The inspection frequency shall be quarterly.

- 7.2 CLASS 2 PRODUCER is defined as any producer who collects fats, oils and grease and disposes of it into a grease barrel. The inspection frequency shall be semiannually.
 - 7.3 CLASS 3 PRODUCER is defined as any producer who creates minimal fats, oil and grease and/or has a seasonal operation. The inspection frequency shall be yearly. Seasonal Establishments will have their traps/interceptors cleaned before closing for the season, Documentation is required.
 - 7.4 Food-producing facilities violating any of the previous requirements are subject to more-frequent inspections, monetary penalties, as well as sampling of the discharge and administrative orders.
 - 7.5 In all cases, the Utility Compliance officer may, at his/her discretion, increase or decrease the frequency of routine inspections for a facility. The FOG Administrator will consider the facility's past compliance history and its willingness to comply with the FOG Program. The frequency of inspections may not be decreased by more than 1/2 of the general requirements for the facilities class during each calendar year. Facilities which consistently comply with the requirements of the FOG Program may be permitted to complete a compliance record and return the form by mail to the Utility Compliance officer. The compliance record may not substitute for more than 1/2 of the required inspections as determined by the facilities class.
8. Overflowing an oil and grease interceptor on the sewer line or on the sink discharge line is strictly prohibited. In such case, the food-producing facility shall be responsible for the subsequent containment, cleanup and disposal of the overflow material. It is the responsibility of the food-producing facility to immediately telephone the WWTP of the incident. The notification shall include the location of the overflow, the type of material, the volume and corrective actions. Within five days of the overflow, the food producer shall submit to Sussex County a detailed written report describing the cause of the overflow, steps taken to contain the overflow, steps taken to prevent it from happening again and the cleanup of the overflow.
 9. The food-producing facility must keep on site a current grease interceptor cleaning log as provided by the County. Included on the cleaning log shall be the following information: date, time, who did the cleaning, volume of waste disposed of, location of disposal and manifest, if done by an outside hauler.

Licensed Class F haulers will provide Sussex County detailed monthly data on customers, trap/interceptor size, dated, condition and estimated gallons pumped. Haulers that are under contract to the food establishment/landlord will be held responsible for charges if they fail to maintain the contract schedule.

10. Responsibilities

The owner and operator of the establishment shall be wholly responsible for the maintenance, operation, and cleaning of the trap/interceptor.

If a grease interceptor/trap is already in place the Tenant should make sure that the existing unit is of adequate size to meet its needs and that of any other occupants who may share the unit and that it is in good working order.

11. Fees and Rates

- 11.1 All FOG fees shall be payable quarterly for the previous three months. All bills are the responsibility of food-producing facility and must be paid within 30 days. Bills remaining unpaid after the due date will be charged additional interest at the rate of 6% per annum.
- 11.2 All fees for food-producing facilities contributing to the WWTP shall be established as part of the annual budget.
- 11.3 Should the FOG inspectors need to sample any producer; the producer shall be responsible for the costs required for the analytical laboratory to perform the analysis of the sample.

12. Enforcement

Sussex County shall suspend any FOG permit in which the producer does not adhere to the requirements of the Program. Once the permit is suspended, the producer shall not discharge to the WWTP until the permit is reinstated. The permit shall remain suspended until the producer shows proof that the noncomplying requirement was eliminated. The following shall be the methods of enforcement:

13. Violations and Penalties

NOV (Notice of Violation). Necessary when the producer has violated any part of the FOG permit, the Utility Compliance officer may serve the producer with a notice of violation specifically citing the nature of the violation.

WINE, BEER and DISTILLERY MAKING FACILITIES

1. Wastewater from Alcohol making operations can contain high levels of organic matter, solids, and extremes in pH levels. These discharges can adversely impact wastewater treatment and the collection system. The following general requirements apply to Wine, Beer and Distillery Making Facilities.
 - 1.1 Install and maintain at owners expense a sampling port for the purpose of wastewater sample collection and pH measurement of wastewater being discharged. pH readings shall be taken daily when brewing or distilling process is discharging waste to the sanitary sewer. All Best Management Practices in approved Permit must be followed.
 - 1.2 Wastewater volume flow will be calculated by using the Monthly Brew total submitted to the state with a ratio of 5 to 1 (EDU). Monthly Brew volume will be entered into the quarterly Brew spreadsheet.
 - 1.3 Allow authorized representatives of the County access at all reasonable times to all parts of the premises where wastewater related facilities are located, including the sampling port and flow measuring device.
 - 1.4 Install wastewater pretreatment facilities or make plan or process modifications, if deemed necessary by the County, to meet the pretreatment requirements outlined in the "Code of Sussex County, Chapter 110, and any applicable State of Federal regulations.
 - 1.5 Liquid wastes from cleaning and sterilizing activities must be tested for pH and adjusted to a pH between 5.5 and 9.5 standard units before being discharged into sanitary sewers. A common approach to avoiding this violation is the installation of a holding tank in order to adjust the pH of the process wastewaters before discharging.
 - 1.6 All solid waste (grape skins, stems, seeds, etc.) shall be collected and reused or recycled and not discharged into the sanitary sewer.
 - 1.7 All records of information, including discharge flows, pH analyses shall be retained on site. Records shall include the date, exact place, method and time of sampling, the name of person(s) taking the samples and performing the analyses. This information shall be sent quarterly**

**Utility Compliance
Sussex County Engineering Department
33711 South Coastal Lane
Frankford, DE 19945**

- 1.8 The permit holder shall advise the Sussex County Engineer of any proposed changes (permanent or temporary) to the premises or operations that significantly change the quantity or quality of the wastewater discharge permit application submitted by the permit holder. The Sussex County Engineer shall be informed in writing 30 days prior to implementing the proposed change.

- 1.9 Permit holder shall notify the Division of Environmental Services (302) 855-7730 within twenty-four hours (24) of gaining knowledge of any event contributing to wastewater discharges in violation of this permit. Written notification detailing the violations must follow within five (5) days of initial notifications. Written notifications shall at a minimum, include causes of the discharge, contaminant identifications and concentrations, and immediate and preventative response actions. The notification shall be sent to Utility Compliance to the address, email noted above.
- 1.10 The authorization to discharge may be modified, suspended or revoked in whole or in part during its term for cause including but not limited to:
 - 1.10.1 Violation, in any capacity or degree, of any terms or condition of this permit or the Code of Sussex County, Chapter 110.
 - 1.10.2 A change in any condition that requires temporary or permanent reduction or elimination of the permitted discharge.
 - 1.10.3 Non-compliance with Federal or State laws, rules or regulations.
2. Any discharges to the sanitary sewer must meet the requirements of the "Code of Sussex County," Chapter 110. The most relevant discharge prohibitions where waste is concerned are listed below:
 - 2.1 Solid or viscous substances, either whole or ground by garbage grinders, which may cause obstruction to the flow in a sewer or other interference with the operation of the wastewater treatment facilities, such as but not limited to grease, garbage with particles greater than 1/2 inch in any dimension, animal guts or tissues, paunch manure, bones, hair, hides or fleshing entrails, whole blood, feathers, ashes, cinders, sand, spent lime, stone or marble dust, metal, glass, straw, shavings, grass clippings, rags, spent grains, spent hops, wastepaper, wood, plastics, gas, tar, asphalt residues, residues from refining or processing of fuel or lubricating oil, mud or glass grinding or polishing wastes.
 - 2.2 Any wastewater having a pH less than 5.5 or greater than 9.5 or wastewater having any other corrosive property capable of causing damage or hazard to structures, equipment and/or personnel of the POTW.
 - 2.3 Any substance which will cause the POTW to violate its NPDES and/ or state disposal system permit or the receiving water quality standards.

RECYCLED WATER USAGE BY CAR WASHES

1. The following definitions govern this section of the Technical Bulletin:
 - 1.1 “Conveyor car wash” means a commercial car wash where the vehicle moves on a conveyor belt during the wash and the driver of the vehicle can remain in or wait outside of the vehicle.
 - 1.2 “In-bay car wash” means a commercial car wash where the driver pulls into a bay, parks the car, and the vehicle remains stationary while either a machine moves over the vehicle to clean it or one or more employees of the car wash cleans the vehicle, instead of the vehicle moving through a tunnel.
 - 1.3 “Self-service car wash” means a commercial car wash where a customer washes his or her own car with spray wands and/or brushes.
 - 1.4 “Water recycling system” means a water system at the car wash that captures and reuses water previously used in wash or rinse cycles.
 - 1.5 An in-bay car wash or a conveyor car wash permitted and constructed after January 1, 2014, shall do either of the following:
 - 1.5.1 Install, use, and maintain a water recycling system that recycles and reuses at least 60 percent of the wash and rinse water.
 - 1.5.2 Use recycled water provided by a water supplier for at least 60 percent of its wash and rinse water.
 - 1.6 This article shall apply to all new conveyor car washes permitted and constructed after January 1, 2017, regardless of water source. The provisions of this article do not apply to any car washes that were constructed prior to the effective date of this article, now do they apply to self-service car washes or in-bay car washes. Should an existing car wash remodel its facilities, it shall be subject to the provisions of this article if it utilizes conveyor technology.

2. Sediment Pits & Oil/Water Separators Standards

- 2.1 The sedimentation pit shall be located upstream of the oil/water separator.
- 2.2 The design shall ensure that all non-domestic waste from the vehicle wash operation is directed to one or more sedimentation pits and one or more oil/water separators before discharge to the sewer. See the applicable details in Attachment A.

3. Inspection and Maintenance

The Owner / Operator of a car wash shall ensure that:

- 3.1 The sampling ports shall be readily and easily accessible at all times. A sampling port may consist of a simple tee or an opening for a pump sampling tube.

- 3.2 The sediment pits and oil/water separators shall be inspected once per month. The depth of bottom sludge and floating oils shall be measured.
- 3.3 The solids in the sedimentation pit(s) shall not exceed 75 percent of the wetted height of the sedimentation pit. (As solids build up in the bottom of the pit, efficiency of the pit decreases and the chance of sludge passing through the interceptor increases.)

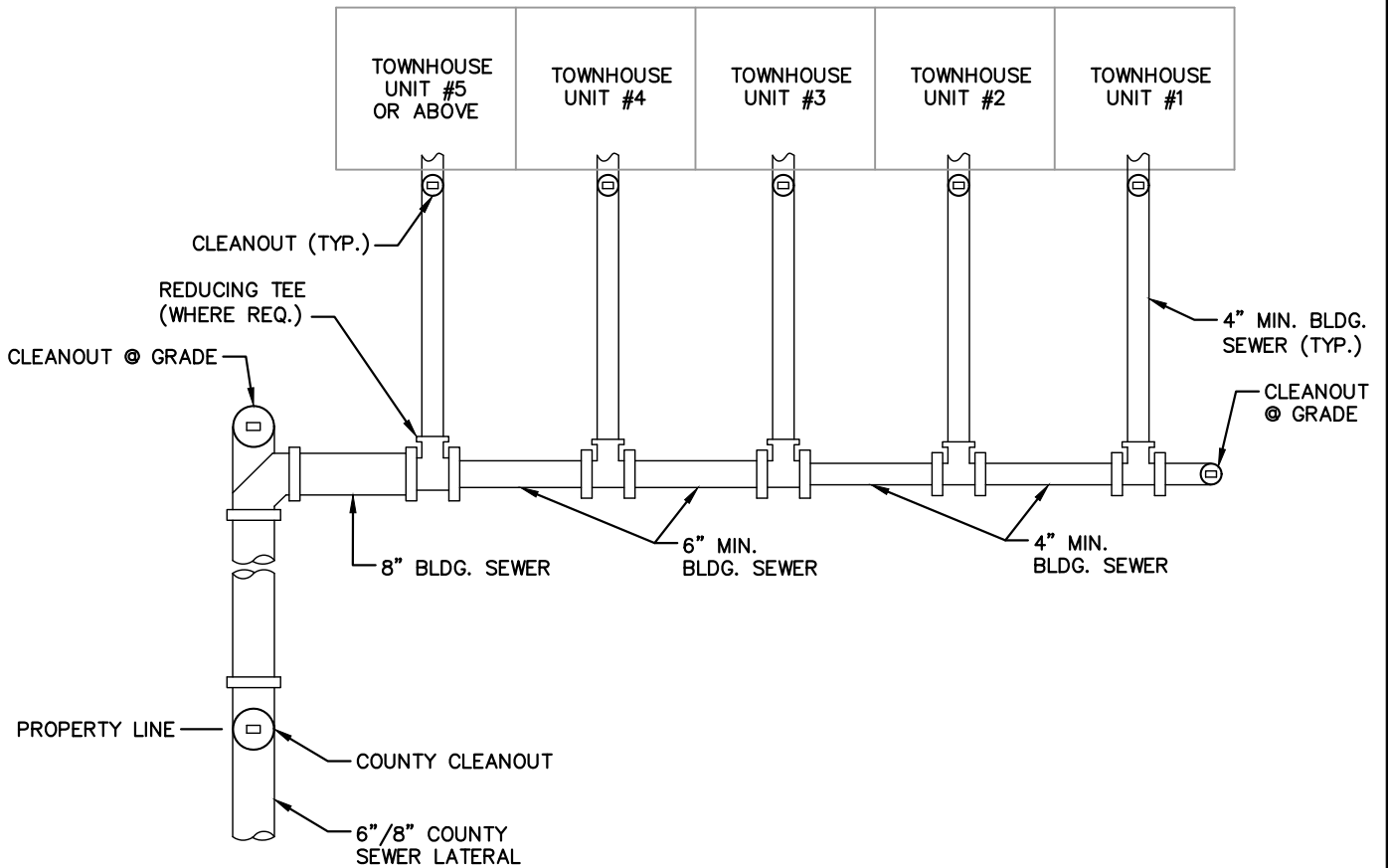
4. Commercial car wash water recycling requirement

- 4.1 All new commercial conveyor car washes, permitted and constructed after January 1, 2017 and any car wash remodeled after that date utilizing conveyor car wash technology, shall install operational recycled water systems. A minimum of 50% of water utilized by such facilities shall be captured and recycled within the facility.
- 4.2 Once installed, all operational recycled water systems shall be maintained in proper working order in accordance with manufacturer's specifications. Semi-annual or more frequent inspections of the system shall be performed by the owner, and records of all inspections shall be maintained at the place of business where they shall be available for inspection by the County during normal business hours.

5. Penalties

Failure of a conveyor car wash to capture and recycle its wastewater or to improperly maintain such facilities after installation, as required by this article, shall subject the owner and manager of the conveyor car wash, upon conviction, to the penalties prescribed in the County Code.

ATTACHMENT A
TECHNICAL BULLETIN DETAILS



PLAN
SCALE: NTS



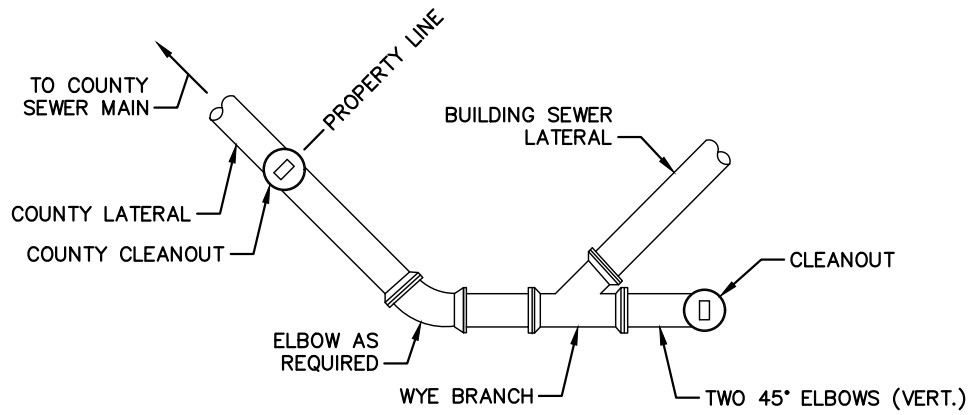
SUSSEX COUNTY
ENGINEERING DEPARTMENT

APPROVED: *Mike Harmer*
SUSSEX COUNTY ENGINEER

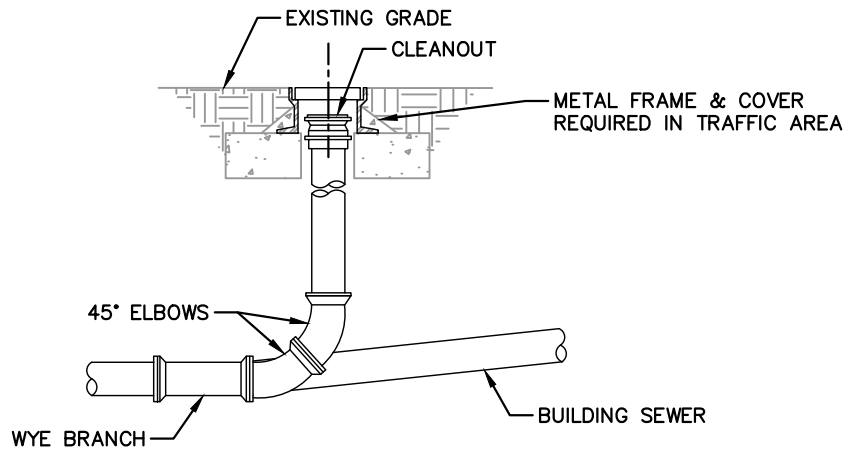
HEADER PIPE
CONNECTION

DETAIL
TB-1

DATE ISSUED:
9/30/2024



PLAN
SCALE: NTS



ELEVATION
SCALE: NTS

NOTE:
THIS DETAIL APPLIES TO SEWER LATERAL CONFIGURATIONS
WITH A TOTAL CHANGE IN DIRECTION OF GREATER THAN 45°
BETWEEN BUILDING SEWER LATERAL AND COUNTY LATERAL.



SUSSEX COUNTY
ENGINEERING DEPARTMENT

APPROVED: *Mike Harmer*
SUSSEX COUNTY ENGINEER

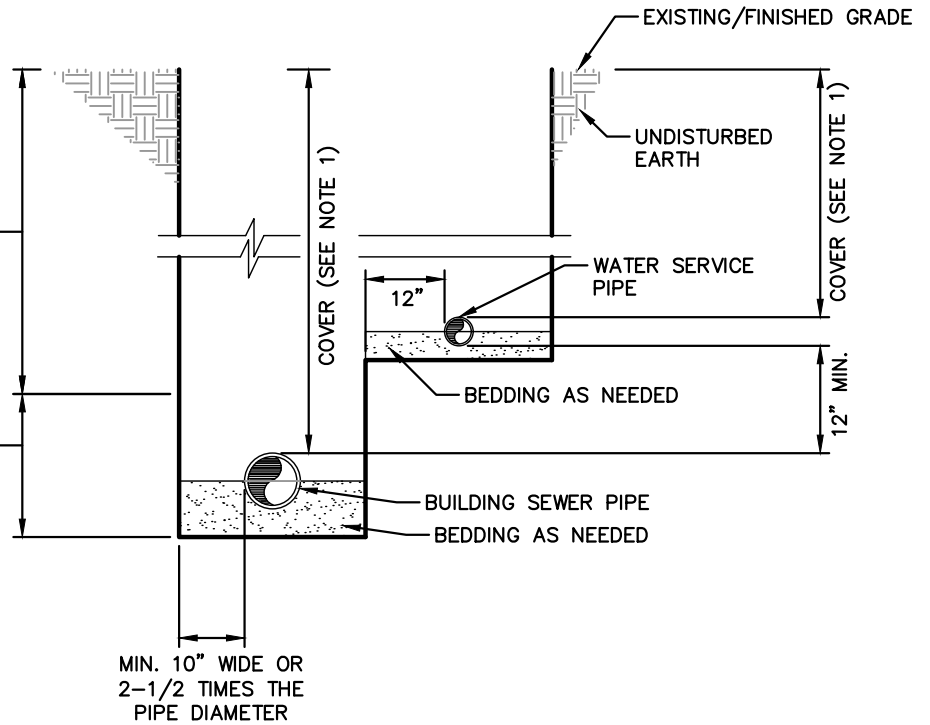
BUILDING SEWERS
GREATER THAN 45°

DETAIL
TB-2

DATE ISSUED:
9/30/2024

BACKFILL WITH MATERIAL FROM EXCAVATION
IF SUITABLE OR SPECIAL BACKFILL AS
NEEDED OR AS DIRECTED BY THE ENGINEER.
BACKFILL TO BE DONE IN 12" MAX LIFTS

HAND PLACE AND MECHANICALLY TAMP
BACKFILL TO MIN. 12" ABOVE PIPE CROWN



SECTION
SCALE: NTS

NOTES:

- PIPE COVER CONDITIONS SHALL CONFORM TO THE FOLLOWING REQUIREMENTS:

	TRAFFIC AREAS	NON-TRAFFIC AREAS
WATER PIPE	24 INCHES	24 INCHES
SEWER PIPE	30 INCHES	2.5 X PIPE DIA.
COVER MEASUREMENT	TOP OF PIPE TO BOTTOM OF PAVEMENT BOX	TOP OF PIPE TO FINISHED GRADE

- IF INDEPENDENT UTILITY TRENCHES FOR SEWER AND WATER ARE USED THERE SHALL BE 5' MIN. HORIZONTAL SEPARATION BETWEEN THE OUTSIDE OF RESPECTIVE PIPES.



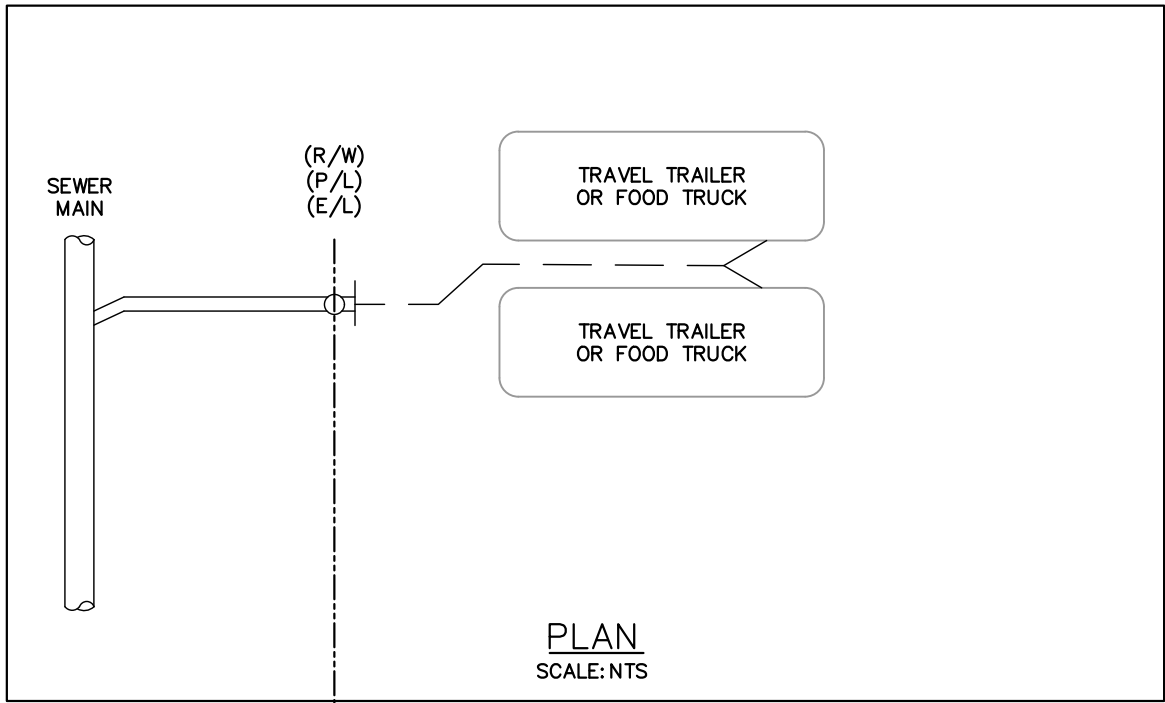
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SUSSEX COUNTY ENGINEER

JOINT UTILITY TRENCH

DETAIL
TB-3

DATE ISSUED:
9/30/2024

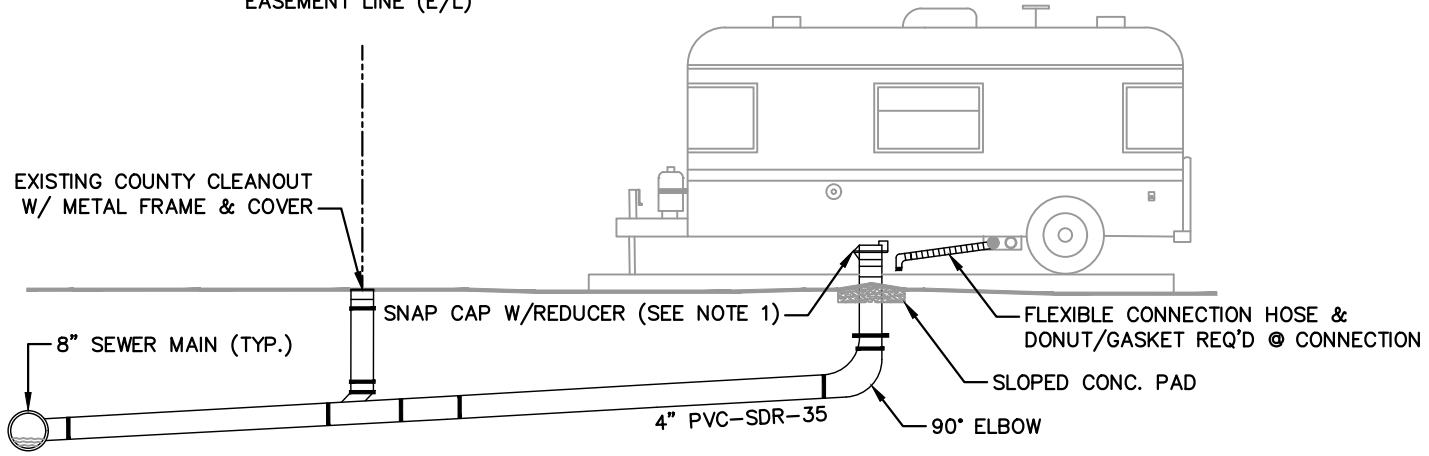


END OF SUSSEX COUNTY MAINTENANCE \rightleftarrows END OF PARK OWNER MAINTENANCE

NOTES:

1. MUST USE SNAP CAP (MANUFACTURED BY MWSS, INC. HOLLYWOOD, FLORIDA) OR APPROVED EQUAL, OR 4" J PLUG.
2. FOR FOOD TRUCKS:
 - 2.1 ALL SEPTIC TANKS MUST BE PUMPED OUT AND FILLED.
 - 2.2 SYSTEM CONNECTION CHARGE (SCC) MUST BE PAID TO RECEIVE A PERMIT TO CONNECT.

RIGHT OF WAY (R/W)
PROPERTY LINE (P/L)
EASEMENT LINE (E/L)



CONNECTION FOR CAMPGROUNDS
SCALE: NTS



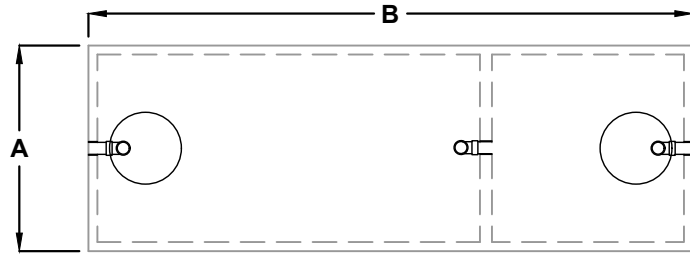
SUSSEX COUNTY
ENGINEERING DEPARTMENT

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SUSSEX COUNTY ENGINEER

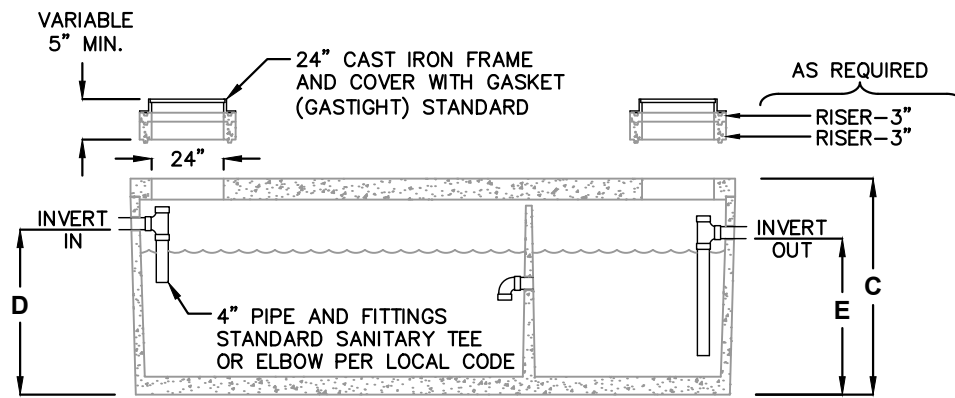
CONNECTION FOR
CAMPGROUNDS

DETAIL
TB-4

DATE ISSUED:
9/30/2024



PLAN (COVERS REMOVED)



SECTION

LIQUID CAPACITY (GALLONS)	DIM A	DIM B	DIM C	DIM D	DIM E	MINIMUM EXCAVATION WIDTH	MINIMUM EXCAVATION LENGTH	DEPT OF BURY
320	3'-0"	7'-0"	4'-6"	3'-7"	3'-4"	4'-0"	8'-0"	1' TO 8'
500	4'-0"	6'-0"	5'-10"	4'-10"	4'-7"	5'-0"	7'-0"	1' TO 6'
750	4'-3"	8'-1"	6'-3"	5'-0"	4'-9"	5'-3"	9'-1"	1' TO 6'
1000	5'-4"	8'-2"	6'-3"	5'-0"	4'-9"	6'-4"	9'-2"	1' TO 6'
1200	6'-0"	8'-6"	6'-6"	5'-0"	4'-9"	7'-0"	9'-6"	1' TO 6'
1500	5'-10"	10'-8"	6'-3"	5'-0"	4'-9"	6'-10"	11'-8"	1' TO 6'
2000	4'-11"	15'-11"	6'-0"	5'-0"	4'-9"	5'-11"	16'-11"	1' TO 6'
2500	5'-9"	16'-10"	6'-0"	5'-0"	4'-9"	6'-9"	17'-10"	1' TO 5'
3000	5'-9"	16'-10"	6'-9"	5'-9"	5'-6"	6'-9"	17'-10"	1' TO 5'
4000	7'-8"	16'-7"	6'-9"	5'-6"	5'-3"	8'-8"	17'-7"	1' TO 5'
5000	7'-8"	16'-7"	7'-11"	6'-9"	6'-6"	8'-8"	17'-7"	1' TO 4'

320-5000 GALLON INTERCEPTORS

SCALE: NTS



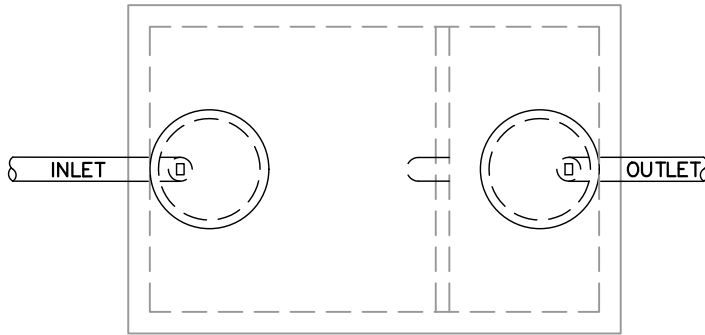
SUSSEX COUNTY
ENGINEERING DEPARTMENT

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SUSSEX COUNTY ENGINEER

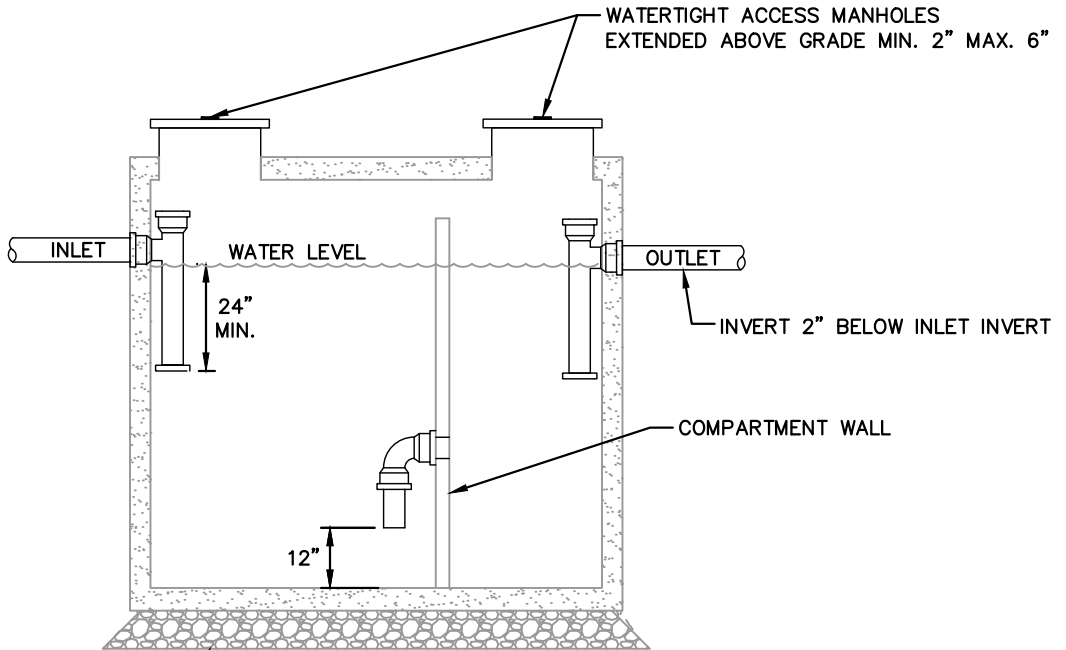
320-5000 GALLON
SAND INTERCEPTORS

DETAIL
TB-5

DATE ISSUED:
9/30/2024



PLAN



6" COMPACTED WASHED AGGREGATE BED (WHEN REQUIRED)

SECTION

TYPICAL GREASE TRAP

SCALE: NTS

NOTES:

1. EXCAVATION LIMITS SHALL EXTEND A MIN. OF 24" BEYOND TANK PERIMETER.
2. ALL PIPE CUTOUTS TO BE SEALED WITH WATERTIGHT GROUT OR APPROVED RUBBER GASKET.



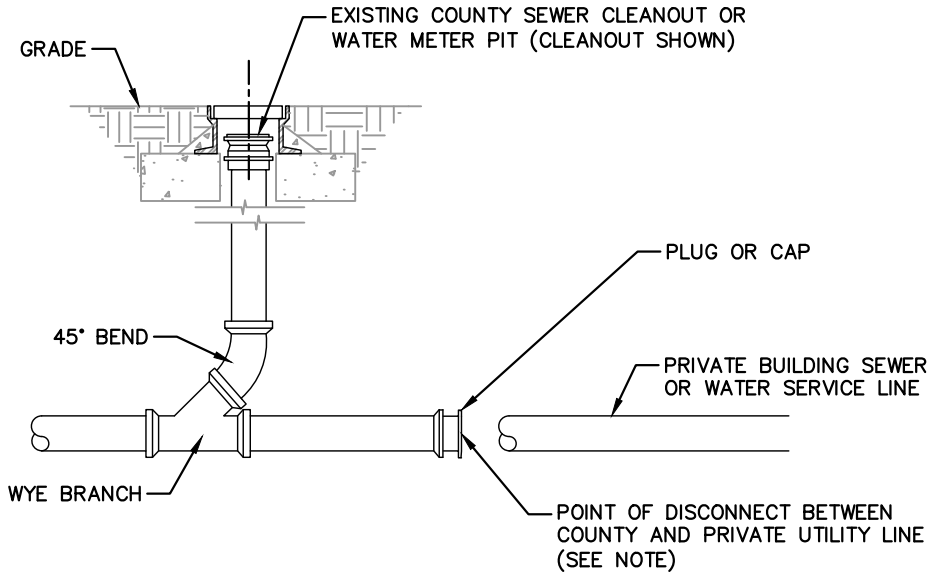
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SUSSEX COUNTY ENGINEER

TYPICAL GREASE TRAP

DETAIL
TB-6

DATE ISSUED:
9/30/2024



ELEVATION

SCALE: NTS

NOTES:

1. UNLESS OTHERWISE DIRECTED BY SUSSEX COUNTY BASED ON SITE SPECIFIC CONDITIONS, UTILITY DISCONNECT LOCATION SHALL BE:
 - 1.1 WATER: AT BACK SIDE OF COUNTY METER PIT AT OUTLET THREADS OF HOME OWNER'S CONNECTION.
 - 1.2 SEWER: FIVE FEET FROM COUNTY CLEANOUT OR VALVE.



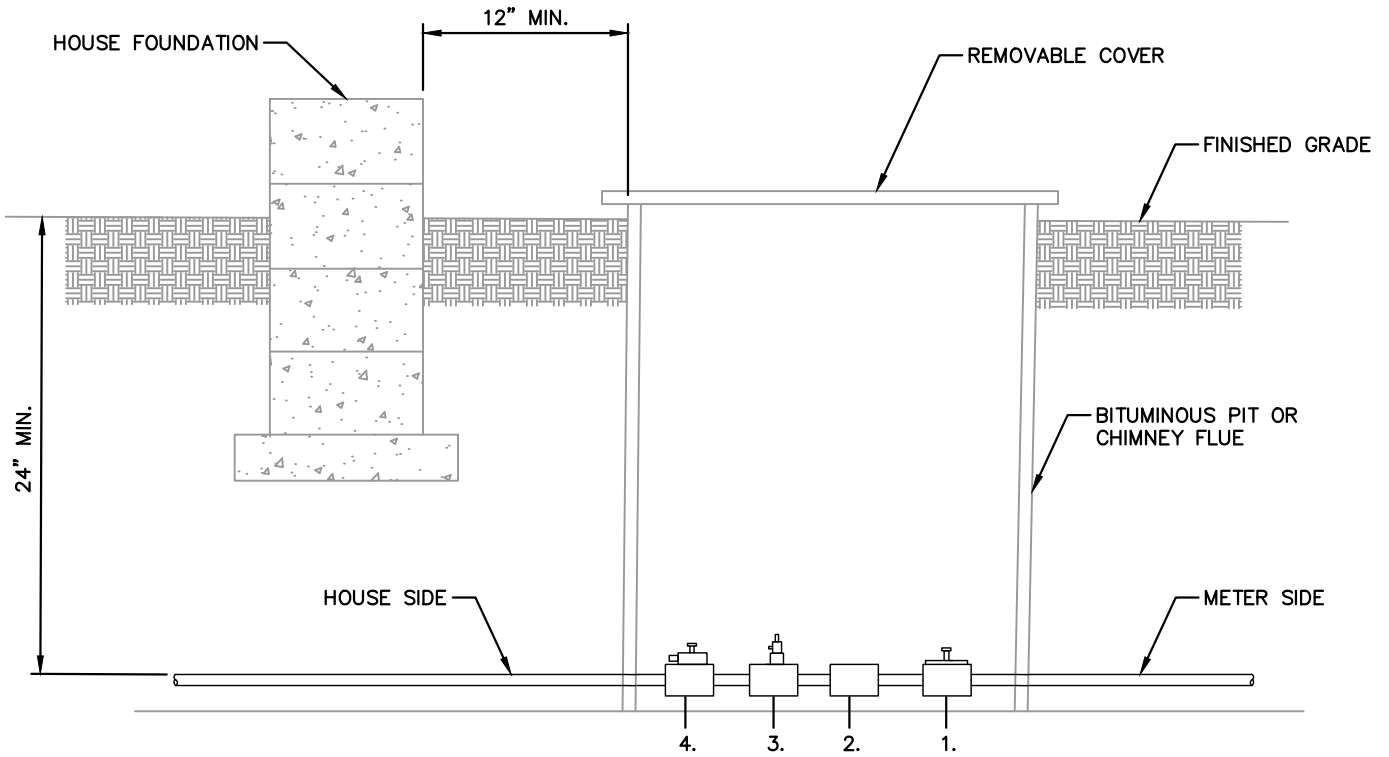
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ENGINEERING DEPARTMENT

APPROVED: *Mike Harmer*
SUSSEX COUNTY ENGINEER

PROPERTY
DISCONNECT

DETAIL
TB-7

DATE ISSUED:
9/30/2024



- NOTES:
1. MANUAL SHUT OFF
 2. CHECK VALVE
 3. PRESSURE RELIEF
 4. DRAIN (OPTIONAL)

BACK FLOW PREVENTION
SCALE: NTS

NOTE:
SEE SECTION 8 OF BUILDING WATER SERVICE FOR
CROSS-CONNECTION CONTROL REQUIREMENTS



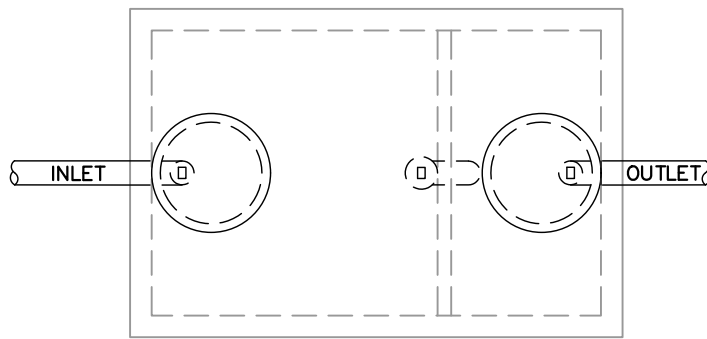
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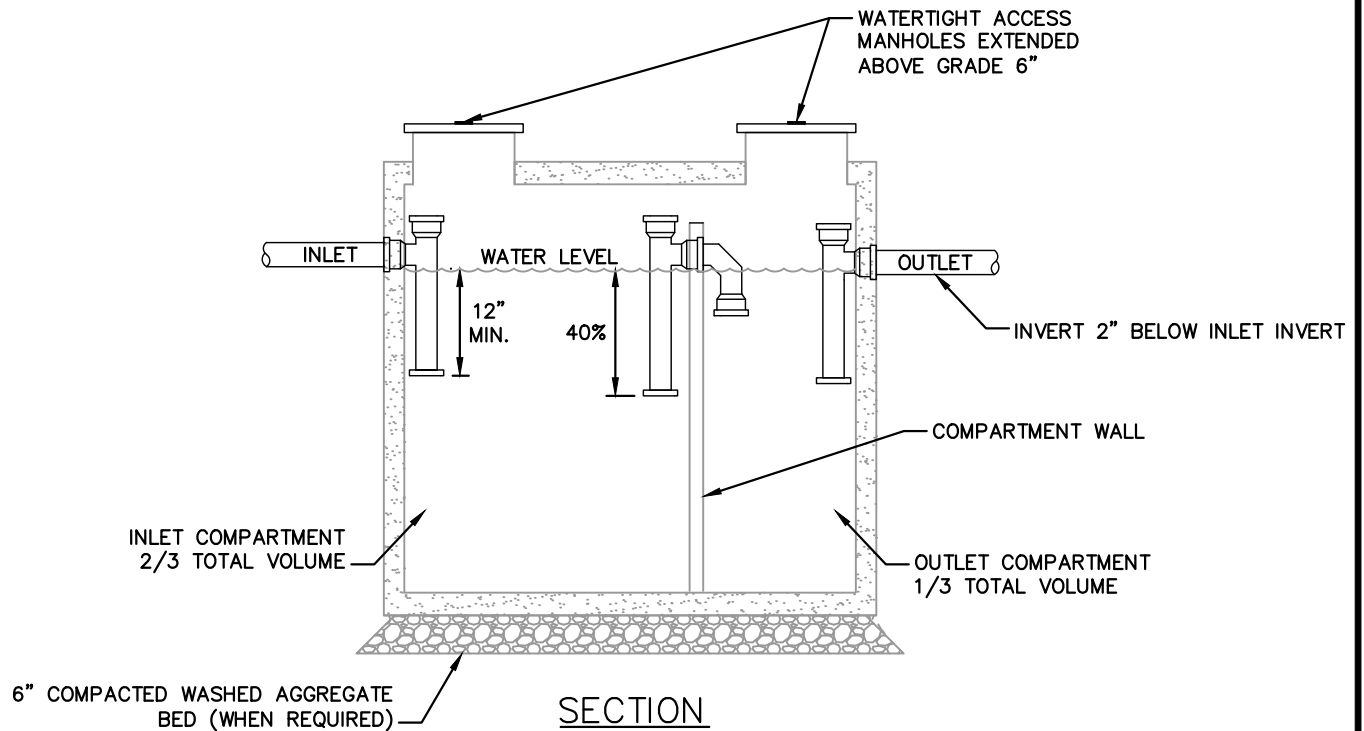
BACK FLOW PREVENTION

DETAIL
TB-8

DATE ISSUED:
9/30/2024



PLAN



SECTION

TWO-COMPARTMENT CONCRETE SEPTIC TANK

SCALE: NTS

NOTES:

1. ALLOW 2' CLEARANCE IN EXCAVATION AROUND TANK FOR TAMPING.
2. ALL PIPE CUTOUTS TO BE SEALED WITH WATERTIGHT GROUT OR APPROVED RUBBER GASKET.



SUSSEX COUNTY
ENGINEERING DEPARTMENT

APPROVED: *Mike Hammer*
SUSSEX COUNTY ENGINEER

TWO-COMPARTMENT
CONCRETE SEPTIC TANK

DETAIL
TB-9

DATE ISSUED:
9/30/2024