



FATS, OILS, & GREASE (F.O.G.)  
SPECIFICATIONS & DETAILS

June 2016

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# 1. INTRODUCTION

- 1.1. The purpose of this document is to provide technical and procedural requirements for design and construction of traps, interceptors, and separators connecting to Bonita Springs Utilities (BSU) facilities. This document provides requirements for Developers/Owners, Engineers of Record, and Contractors.
- 1.2. The intent of this document is to maintain consistency with all local, state (e.g. **Florida Administrative Code (F.A.C.)**, **Florida Building Code (F.B.C.)**, etc.), and federal regulations and does not preclude compliance with South Florida Water Management District (SFWMD), Florida Department of Environmental Protection (FDEP), Florida Department of Health (FDOH), Florida Department of Transportation (FDOT), United States Army Corps of Engineers (USACE), City of Bonita Springs Development Standards, Village of Estero Development Standards, Lee County Development Standards, and any other Authority Having Jurisdiction (AHJ). Any deviations with the technical specifications and details or conflicts with local codes and ordinances should be noted prior to submittal of the plans.
- 1.3. Any reference made to specifications outside of this document is assumed to be to the current edition of such (e.g. **F.A.C.**, **F.B.C.**, etc.), unless otherwise specified.
- 1.4. Compliance with these Specifications does not preclude compliance with any ordinance enacted by the local governing authority (i.e. City of Bonita Springs, Village of Estero, and Lee County). Also, compliance must be maintained with BSU's Sewer Use Policy.
- 1.5. Specific written approval from BSU is required for all traps, interceptors, and separators utilized in the retention of fats, oils, & grease. All establishments where the potential exists to discharge any substance into BSU's sanitary sewer system that fall outside of BSU's Sewer Use Policy require evaluation.
  - 1.5.1. All new establishments are to be evaluated as described above.
  - 1.5.2. Existing establishments are to be evaluated where there is a change of use, occupancy, hours, number of seats, or any other change that may affect the retention requirement, whether or not any retention currently exists or not.
- 1.6. Please be advised that the Engineer of Record is responsible for insuring that the plans and specifications for projects are in full compliance with the BSU Fats, Oils, & Grease (F.O.G.) Specifications and the BSU Standard Specifications and Details.

- 1.6.1. Plans reviewed and approved for construction by BSU, that are not in full compliance with these standards, shall be considered approved contingent upon those deficient items being brought into compliance prior to acceptance by BSU.

## **1.7. Deviation Request Procedure**

- 1.7.1. Any deviation from the BSU Fats, Oils, & Grease (F.O.G.) Specifications or the BSU Standard Specifications and Details, not approved in writing by BSU prior to construction, shall require correction prior to acceptance of, and therefore service to the project. This includes any items not directly addressed during the plan review and approval process that are not in compliance with the requirements of this document.
- 1.7.2. A deviation from these specifications requires specific approval from the BSU Director of Engineering.
  - 1.7.2.1. A formal submittal is required for review by the BSU Engineering staff showing that the requested deviation will meet or exceed the requirements of the specifications and is, at a minimum, equal to the specified product or methodology.
  - 1.7.2.2. Attachments should be included for the requested product or methodology and/or a plan detailing the location for the deviation, if applicable.
  - 1.7.2.3. All requests shall be submitted in writing by the Engineer of Record (signed and sealed), and shall not be approved for use in the BSU service area until approved in writing by BSU.
  - 1.7.2.4. Plan revisions during construction due to unforeseen conflicts shall be submitted in writing to BSU prior to the change being constructed in the field.
    - 1.7.2.4.1. If the plan revision only requires BSU Engineering Staff approval and does not require approval of the Director of Engineering, the request can simply be made via e-mail and the approved changed can subsequently be reflected on the as-built record drawings.
  - 1.7.2.5. Reviews for Deviation Requests are subject to the same review time as final plan submittal reviews. Accelerated reviews for

Deviation Requests due to unforeseen circumstances will be handled on a case-by-case basis.

- 1.7.2.6. BSU inspectors cannot make decisions in the field, but can make recommendations that can be submitted by the Engineer of Record to the BSU Engineering staff for review.
- 1.7.2.7. Deviation Requests shall be submitted using the Deviation Request Form.

## **2. PRE-APPLICATION**

- 2.1. Engineers of Record and Developers are encouraged to set up a pre-application meeting for all construction projects, PRIOR to submitting an Application to Construct – Grease Interceptor(s). Pre-application meetings will aide in eliminating costly redesign of projects based on BSU comments.
- 2.2. Requests for record drawing information of existing BSU infrastructure should be made prior to this meeting.
  - 2.2.1. Utilize the Release of Data Authorization form for Record Drawing and GIS data requests.
- 2.3. Comments provided are subject to revision/modification by BSU staff during the review of the Application to Construct, at which time a more thorough review of the project will be performed.

## **3. APPLICATION TO CONSTRUCT / CONSTRUCTION PLANS**

- 3.1. Application for construction is to be done utilizing the Application to Construct – Grease Interceptor(s) form. Submittal information is included on the form.
  - 3.1.1. The Application to Construct – Grease Interceptor(s) is to be utilized for grease retention review of both new installations as well as evaluation of existing installations due to change of use, occupancy, hours, seats, etc.
- 3.2. If the project includes infrastructure to be dedicated to BSU (e.g. line extensions) as well as a grease retention device, the entire project is to be submitted with the standard Application to Construct (i.e. a separate Application to Construct – Grease Interceptor(s) is not required in those instances).
- 3.3. There is no fee for submittals via the Application to Construct – Grease Interceptor(s).

3.3.1. Submittals can be dropped off at BSU or at the City of Bonita Springs Community Development department (for projects within City of Bonita Springs limits).

3.3.1.1. Community Development drop-off is an intake for convenience only. They will not check the package for completeness; rather, they will issue a receipt for the package and forward all contents to BSU. BSU does not guarantee same day pick up for submittals dropped off at the City. If immediate attention is required, submit directly to BSU.

3.3.1.2. Submittals shall be checked over by BSU staff to verify all forms have been completed in their entirety and that all of the required items are included as listed at the top of the Application to Construct – Grease Interceptor(s).

### **3.4. Construction Plans**

3.4.1. Plans shall be submitted in accordance with the BSU Standard Specifications and Details. BSU standard detail sheets shall be included (unaltered) in each plan set. In general, plans will be reviewed within 2 weeks of the submittal. BSU agrees to complete reviews within 30 days of the submittal.

3.4.2. Construction Plans shall show proposed lines (location, size, type of pipe, etc.) and shall not exceed a 1" = 40' scale.

3.4.3. The plans shall contain the correct manhole number system as assigned by BSU.

3.4.4. The plans shall also show the location of all existing and proposed infrastructure, including lines, manholes, clean outs, valves, fire hydrants, air release valves, meters and backflows and other appurtenances.

3.4.5. Plans shall also show the location of other proposed utilities and of other existing utilities including gas, storm sewer, electric (including transformers and street lighting), irrigation lines, telephone, and any other utility or other obstruction (including landscaping) that may conflict with the proposed BSU facilities.

### **3.5. Plan Approval**

3.5.1. Plan approvals expire 1 year from the date of approval.

- 3.5.1.1. Revised plans conforming to current BSU requirements shall be submitted on all projects where approval has expired. Any changes to BSU Specifications since the expiration of the project approval shall be incorporated in the resubmittal.
- 3.5.1.2. BSU reserves the right to review previously accepted, expired, resubmitted projects as if they are being submitted for the first time.
- 3.5.1.3. If underground water and/or wastewater utility construction for a project has not physically commenced prior to the 1 year approval anniversary, the project approval shall be considered as expired and a complete resubmittal, including fees, shall be required.
- 3.5.1.4. Phased projects shall also be subject to the 1 year time frame, per phase. If a project is phased after the original submittal, additional submittals for those phases shall be required. If the infrastructure in a phased project is not to be completed and dedicated to BSU at the same time, additional submittals for those phases shall be required.
  - 3.5.1.4.1. If underground water and/or wastewater utility construction for the additional phases has not physically commenced prior to the 1 year approval anniversary, the project approval shall be considered as expired and a complete resubmittal, including fees, shall be required.

#### **4. PRE-CONSTRUCTION**

- 4.1. A pre-construction conference is required for all projects, and no physical water or wastewater utility construction will be permitted prior to.
  - 4.1.1. The start of physical construction shall be designated as actual effort by an underground utility contractor performing utility construction, based solely upon BSU discretion. Any break in physical construction greater than 1 year constitutes grounds for BSU to expire the construction plan approval permit.
  - 4.1.2. All pre-construction conferences are to be conducted at the Bonita Springs Utilities, Inc. office. On-site pre-construction meetings may be allowed for smaller projects (e.g. grease interceptors) with written permission from the BSU Engineering Department.

- 4.1.2.1. In addition to BSU personnel, the Engineer of Record, Owner/Developer, Underground Utility Contractor that will set the retention device, and plumber responsible for making the final connection(s) are required to be at the pre-construction meeting, unless otherwise approved by BSU in writing.
- 4.1.3. A BSU representative shall attend the pre-construction conference, and the Engineer of Record, Contractor, and an Owner's representative shall be present at all pre-construction conferences. The Engineer of Record, the Contractor, or the Owner's representative is responsible for coordinating the pre-construction conference schedule with all parties.
- 4.1.4. The signed Acknowledgement Letter and revised construction plans (if the plans were approved with stipulations) shall be provided 1 week prior to the pre-construction conference to allow BSU staff to review the plans to assure conformance to the stipulations of the approval.
- 4.1.5. The pre-construction conference shall be cancelled and required to be rescheduled if the plans have not been resubmitted for review, if the plans have not been revised to reflect all of the stipulations of the approval, if the Acknowledgement Letter has not been submitted or has not been signed by the appropriate parties, and/or if all required parties are not present.
- 4.1.6. BSU requires four (4) signed and sealed approved plan sets for construction. If the Engineer of Record desires their own plan set(s) stamped by BSU as approved, additional plan sets will need to be provided.
- 4.1.7. Rescheduled pre-construction conferences may require additional fees to be paid prior to the meeting being rescheduled, based upon BSU Tariff rates.
- 4.2. In the event that project approvals were received more than 1 year prior to physical construction, new submittals and reviews are required as noted above. Changes made subsequent to BSU approvals shall be appropriately indicated, and re-approval of the changes is required prior to construction of those changes.
- 4.3. The Contractor shall retain a copy of the BSU approval letter for the referenced project, a complete set of the BSU Fats, Oils, & Grease (F.O.G.) Specifications and the BSU Standard Specifications and Details and under which the project was approved, and copies of approved Deviation Requests on-site during the



course of construction. Non-compliance with this provision is terms for suspending work and inspection services for the project.

- 4.4. A licensed underground utility contractor shall be utilized for all utility work to be dedicated to BSU. A qualified licensed general contractor may be utilized with prior written approval from BSU.
- 4.5. Additional fees, based upon BSU Tariff rates, shall be paid for any scheduled meetings or inspections with BSU personnel that are cancelled due to the absence of required parties not being present or the lack of required construction preparation. This fee shall be paid prior to scheduling any additional meetings or inspections with BSU personnel for that project. The following are examples of meetings and inspections that shall require additional fees to be paid: Pre-construction, Final Inspection, any required utility testing, etc. It is the Applicant's / Owner's responsibility to cancel and reschedule any meeting or inspection requiring BSU personnel prior to the scheduled event/time in order to potentially avoid these fees. Five (5) business days' notice is required to schedule a pre-construction conference, and 48 hours' notice is required for all utility testing.

## **5. DESIGN AND TECHNICAL REQUIREMENTS**

- 5.1. The Engineer of Record shall comply with the design and construction requirements as provided by the BSU Fats, Oils, & Grease (F.O.G.) Specifications and the BSU Standard Specifications and Details, and the design shall be in accordance with FDEP, **F.A.C.**, and **F.B.C.** requirements.
- 5.2. Conflicts between the Specifications and the Standard Details shall be resolved in favor of the Specifications. Conflicts between the Specifications and Construction Plans shall also be resolved in favor of the Specifications.
- 5.3. Standard Details included in this manual must be included in the plan sets without alteration. These detail sheets in 24"x36" format are provided on the BSU Web page [www.bsu.us](http://www.bsu.us). If supplementary details are required they shall be included on additional sheets.
- 5.4. Retention of Grease Laden Waste
  - 5.4.1. A grease interceptor is a device whose rated flow exceeds 50 gpm, which has a minimum effective grease retention capacity of 750 gallons and a maximum effective grease retention capacity of 1,250 gallons, and is located underground and outside of a food service establishment.
    - 5.4.1.1. Grease interceptors are not required for private residences/living quarters or individual dwelling units **F.A.C. 64E-**

6.013 (7) / *F.B.C. – Plumbing, Chapter 10, Section 1003.3.3*. However, 1 or more grease interceptors shall be required where grease laden waste (fats, oils, & grease i.e. F.O.G.) is produced in quantities that could otherwise cause a line stoppage or hinder sewage disposal *F.A.C. 64E-6.013 (7) / F.B.C. – Plumbing, Chapter 10, Section 1003.5*. Interceptors and separators shall be provided to prevent the discharge of oil, grease, sand and other substances harmful or hazardous to the public sewer. *F.B.C. – Plumbing, Chapter 10, Section 1003.1*.

- 5.4.2. A grease trap / hydromechanical grease interceptor is a device whose rated flow is less than or equal to 50 gpm, and is located inside a food service establishment.
  - 5.4.2.1. Grease traps / hydromechanical grease interceptors are not approved for service within BSU's franchise area, unless otherwise approved in writing by BSU.
    - 5.4.2.1.1. If approved, grease trap / hydromechanical grease interceptor design and sizing shall be consistent with *F.B.C. – Plumbing, Chapter 10, Section 1003.3.4*.
- 5.4.3. Wastes that do not require treatment or separation shall not be discharged into any interceptor or separator *F.B.C. – Plumbing, Chapter 10, Section 1003.2*.
- 5.4.4. A grease interceptor shall be required to receive the drainage from fixtures and equipment with grease laden waste located in food preparation areas, such as restaurants, hotel kitchens, hospitals, school kitchens, bars, factory cafeterias, and clubs. Fixtures and equipment shall include: pot sinks, pre-rinse sinks, soup kettles or similar devices, wok stations, floor drains or sinks into which kettles are drained, and automatic hood wash units and dishwashers without pre-rinse sinks. Grease interceptors shall receive waste only from fixtures and equipment that allow fats, oils, or grease to be discharged *F.B.C. – Plumbing, Chapter 10, Section 1003.3.1*.
- 5.4.5. Where food waste grinders connect to grease interceptors, a solids interceptor shall separate the discharge before connecting to the grease interceptor. Solids interceptors and grease interceptors shall be sized and rated for the discharge of the food waste grinder. Emulsifiers, chemicals, enzymes, and bacteria shall not discharge into the food waste grinder *F.B.C. – Plumbing, Chapter 10, Section 1003.3.2*.

- 5.4.6. The design and sizing of grease interceptors shall be consistent with *F.A.C. Chapter 64E-6* and *F.B.C. – Plumbing, Chapter 10*.
- 5.4.6.1. The first chamber of the tank shall have a minimum effective capacity of at least  $\frac{2}{3}$  of the total required effective capacity. The second chamber shall have a minimum effective capacity of at least  $\frac{1}{5}$  of the total required effective capacity *F.A.C. 64E-6.013 (2)(a)*.
- 5.4.6.2. The liquid depth of compartments for grease interceptors shall be at least 40", but no greater than 84" *F.A.C. 64E-6.013 (2)(b)*.
- 5.4.6.3. A vented inlet tee, shall be provided to divert the incoming sewage. The inlet tee shall have a minimum diameter of 4" and shall not extend below the liquid surface more than 33% of the liquid depth *F.A.C. 64E-6.013 (2)(d)*.
- 5.4.6.4. Sewage flow between the first and second chamber shall interconnect utilizing a minimum 4" diameter vented tee. The outlet device or slot shall extend below the liquid level of the receptacle so that the invert level is located not less than 30% nor greater than 40% of the liquid depth *F.A.C. 64E-6.013 (2)(h)*.
- 5.4.6.5. The State Health Office's designated approval number for the receptacle, and the effective capacity of the receptacle in gallons shall be cast or stamped into the wall or permanently stenciled or decaled onto the wall at the inlet end, to begin within 6" of the top of the wall. All identifying marks shall be inscribed or affixed at the point of manufacture only. All information supplied in the legend shall be provided with a minimum of 2" high lettering *F.A.C. 64E-6.013 (2)(j)*.
- 5.4.6.6. Each compartment shall have access using manholes, with each manhole having a minimum area of 225 in<sup>2</sup>. Manholes shall be located so as to allow access to the inlet and outlet devices *F.A.C. 64E-6.013 (2)(k)*.
- 5.4.6.7. The inlet invert shall discharge a minimum 2½" above the liquid level line and the outlet pipe shall have a tee with a minimum diameter of 4" that extends to within 8" of the bottom of the tank *F.A.C. 64E-6.013 (7)(a)*.
- 5.4.6.8. Interceptors (and separators) shall be designed so as not to become air bound where tight covers are utilized. Each

interceptor (or separator) shall be properly vented *F.B.C. – Plumbing, Chapter 10, Section 1003.9.*

- 5.4.7. The following is required to be submitted for review and approval prior to construction of a grease interceptor:
  - 5.4.7.1. Grease interceptor calculations.
    - 5.4.7.1.1. Calculations are to be as stated in *F.A.C. Chapter 64E-6* (also restated later in this section).
    - 5.4.7.1.2. The total number of seats utilized in the formula are to include any bar and outdoor seating.
    - 5.4.7.1.3. The number of hours utilized in the formula shall be the hours of operation, not the hours that the establishment is open to the public (e.g. to include kitchen prep and clean up time).
    - 5.4.7.1.4. Calculations are to be signed and sealed by a registered Professional Engineer (P.E.).
  - 5.4.7.2. Shop drawings must be submitted for review and approval prior to the device being constructed and sent to the jobsite.
  - 5.4.7.3. Seating maps.
    - 5.4.7.3.1. Seating maps must include any bar and outdoor seating and the number of seats shown must match the number utilized in the formula.
  - 5.4.7.4. Plans detailing the design with the connection to the gravity sanitary sewer system (i.e. plumbing plans and civil site plan).
    - 5.4.7.4.1. One (1) set of plans, signed and sealed by a registered Professional Engineer (P.E.), and a digital copy of the same shall be required.
    - 5.4.7.4.2. The plan set shall consist of both the plumbing plans and civil site plans detailing the internal and external sanitary sewer and grease lines, respectively, for the project.
    - 5.4.7.4.3. The grease interceptor sizing calculations and the applicable BSU Standard Detail Sheet shall be included on either the plumbing plans or civil plans.

- 5.4.7.5. Proposed menus.
- 5.4.8. 6" two-way clean outs (4" with prior written approval from BSU) are required to be installed on the upstream and downstream side of each interceptor for sampling purposes. A sampling box may be substituted for the downstream two-way clean out. Installation of a shallow manhole may replace an existing cleanout for sampling purposes.
- 5.4.9. Manhole lids for grease interceptors shall be labeled "GREASE". Lids labeled "SANITARY" or the lids incorporating the BSU logo are not permitted on grease interceptors.
- 5.4.10. Grease interceptors shall be capable of supporting H-20/HS-20 highway loading, regardless of the location *F.B.C. – Plumbing, Chapter 10, Section 1003.5*.
- 5.4.11. Grease interceptors shall be located so as to provide easy access for routine inspection, cleaning and maintenance (i.e. BSU does not allow indoor installations of interceptors) *F.A.C. 64E-6.013 (7)(b) / F.B.C. – Plumbing, Chapter 10, Section 1003.10*. Interceptors and separators shall be maintained by periodic removal of accumulated grease, scum, oil, or other floating substances or solids deposited in the interceptor *F.B.C. – Plumbing, Chapter 10, Section 1003.10*.
- 5.4.12. Standard manhole ring and covers shall be provided over the inlet and outlet of each grease interceptor and shall be brought to finished grade *F.A.C. 64E-6.013 (7)(b)*.
- 5.4.12.1. Manhole access covers located in "green" areas require the standard concrete collar as described in Detail SS-8.
- 5.4.13. Only kitchen wastewater from food preparation shall pass through the grease interceptor and then be discharged into the BSU system *F.A.C. 64E-6.013 (7)(c) / F.B.C. – Plumbing, Chapter 10, Section 1003.5*.
- 5.4.13.1. Hot water shall not be discharged through the grease interceptor (i.e. any wastewater having a temperature which will inhibit biological activity in the Publicly Owned Treatment Works (POTW) resulting in interference, but in no case wastewater with a temperature at the introduction into the POTW which exceeds 40° Celsius (104° Fahrenheit).
- 5.4.14. Sizing of grease interceptors shall be based on the equations below. The minimum volume of any grease interceptor shall be 750 gallons

and the maximum volume of a single grease interceptor shall be 1,250 gallons. When the required effective capacity of the grease interceptor is greater than 1,250 gallons, installation of grease interceptors in series is required *F.A.C. 64E-6.013 (7)(d)*.

5.4.14.1. Restaurants:

$(S) \times (GS) \times (HR/12) \times (LF) =$  effective capacity of grease interceptor in gallons.

S = number of Seats in the dining area  
(including bar and outdoor seating)

GS = Gallons of wastewater per seat:  
(25 gallons for ordinary restaurants)  
(10 gallons for single service article restaurants)

HR = number of Hours establishment is open  
(i.e. hours of operation, including prep and clean up time)

LF = Loading Factor  
(2.0 for interstate highways, e.g. I-75)  
(1.5 for other freeways, e.g. US-41, Bonita Beach Road)  
(1.25 for recreational areas)  
(1.0 for main highways, e.g. Old 41 Road)  
(0.75 for other roads)

5.4.14.2. Other type establishments with commercial kitchens:

$(M) \times (GM) \times (LF) =$  effective capacity of grease interceptor in gallons.

M = Meals prepared per day

GM = Gallons of wastewater per Meal  
(use 5 gallons)

LF = Loading Factor  
(1.00 with dishwashing)  
(0.75 without dishwashing)

5.4.15. Any change to the Food Service Establishment (F.S.E.) (e.g. any change to the above formulas such as change in hours, seats, etc.) may require additional grease retention or alternative requirements as directed by BSU.

5.4.16. Any new permit issued for an existing grease retention device requires that the grease retention device be brought to current applicable codes.

- 5.4.17. A Grease Interceptor Service Record shall be posted in the kitchen area so it is accessible to BSU inspectors. See BSU forms for the appropriate form to be utilized.
  - 5.4.18. Grease laden waste shall not be re-circulated nor disposed of into the BSU wastewater system. Grease laden waste pumped from grease interceptors shall be disposed of in accordance with FDEP regulations. BSU does not allow “pump and return” pump outs of the interceptors.
  - 5.4.19. All grease retention devices that operate as part of a series for an establishment shall be entirely evacuated during each pump out.
  - 5.4.20. No chemicals or additives are to be used that may hinder the effectiveness of the grease interceptor. Grease laden waste requires retention time to separate the grease from the effluent flow; therefore, no chemical or additive shall be utilized that will emulsify the grease laden waste.
- 5.5. At repair garages, car-washing facilities, at factories where oily and flammable liquid wastes are produced, and in hydraulic elevator pits, oil separators shall be installed into which all oil-bearing, grease-bearing, or flammable wastes shall be discharged before emptying into the BSU system *F.B.C. – Plumbing, Chapter 10, Section 1003.4.*
- 5.5.1. An oil separator is not required in hydraulic elevator pits where an approved alarm system is installed *F.B.C. – Plumbing, Chapter 10, Section 1003.4.*
  - 5.5.2. Oil separators shall have a depth of not less than 2’ below the invert of the discharge drain. The outlet opening of the separator shall have not less than an 18” water seal *F.B.C. – Plumbing, Chapter 10, Section 1003.4.2.1.*
  - 5.5.3. Where automobiles are serviced, greased, repaired, washed, or where gasoline is dispensed, oil separators shall have a minimum capacity of 6 ft<sup>3</sup> for the first 100 ft<sup>2</sup> of area to be drained, plus 1 ft<sup>3</sup> for each 100 ft<sup>2</sup> of area to be drained into the separator. Parking garages in which servicing, repairing, or washing is not conducted, and in which gasoline is not dispensed, shall not require a separator. Areas of commercial garages utilized only for storage of automobiles are not required to be drained through a separator *F.B.C. – Plumbing, Chapter 10, Section 1003.4.2.2.*
- 5.6. Laundry facilities not installed within an individual dwelling unit or intended for individual family use shall be equipped with an interceptor with a wire basket or similar device, removable for cleaning, that prevents passage into the BSU

system of solids  $\frac{1}{2}$ " or larger in size, strings, rags, buttons, or other materials detrimental to the BSU system *F.B.C. – Plumbing, Chapter 10, Section 1003.6.*

- 5.7. Sand and similar interceptors for heavy solids shall be designed and located as to be provided with ready access for cleaning, and shall have a water seal of not less than 6" *F.B.C. – Plumbing, Chapter 10, Section 1003.11.*

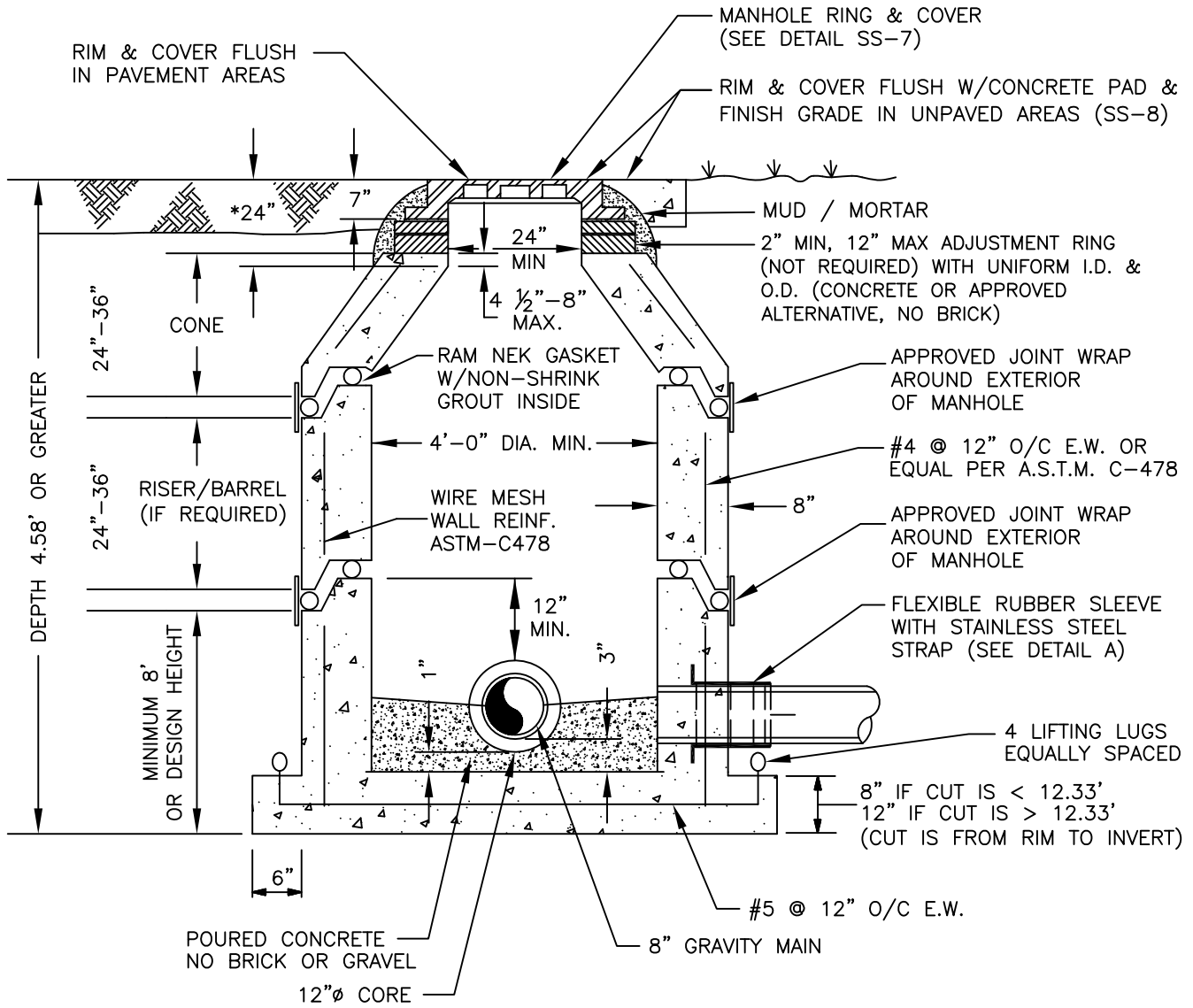
## **6. CONSTRUCTION / TESTING SPECIFICATIONS AND APPROVAL FOR SERVICE**

- 6.1. All Construction / Testing Specifications and Approval for Service Requirements shall be per the BSU Standard Specifications.



## **STANDARD DETAILS**

Revised 06/2016



**PRECAST MANHOLE - CONCENTRIC**

SS-1

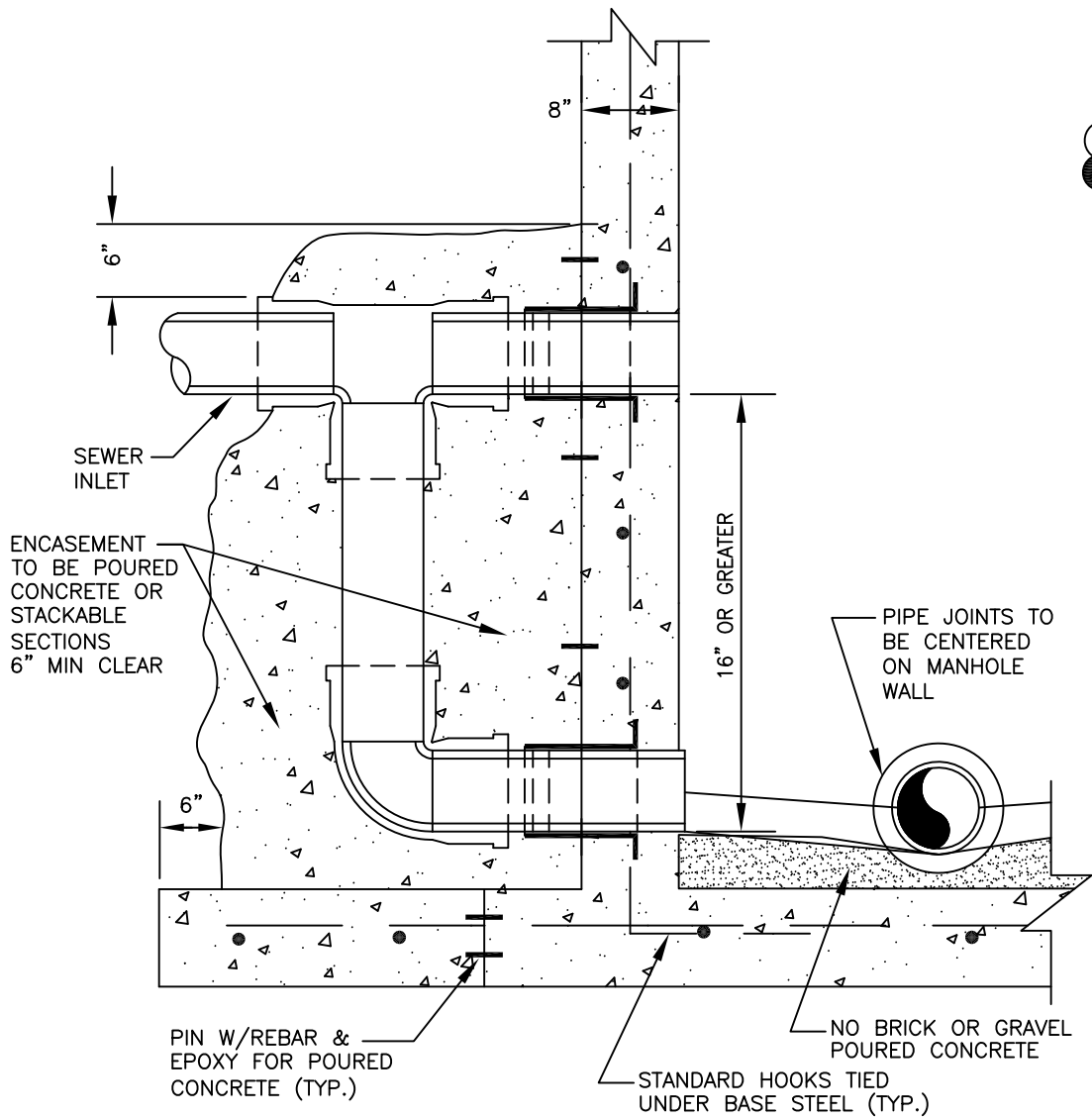
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11900 E. TERRY STREET  
 BONITA SPRINGS, FLORIDA 34135

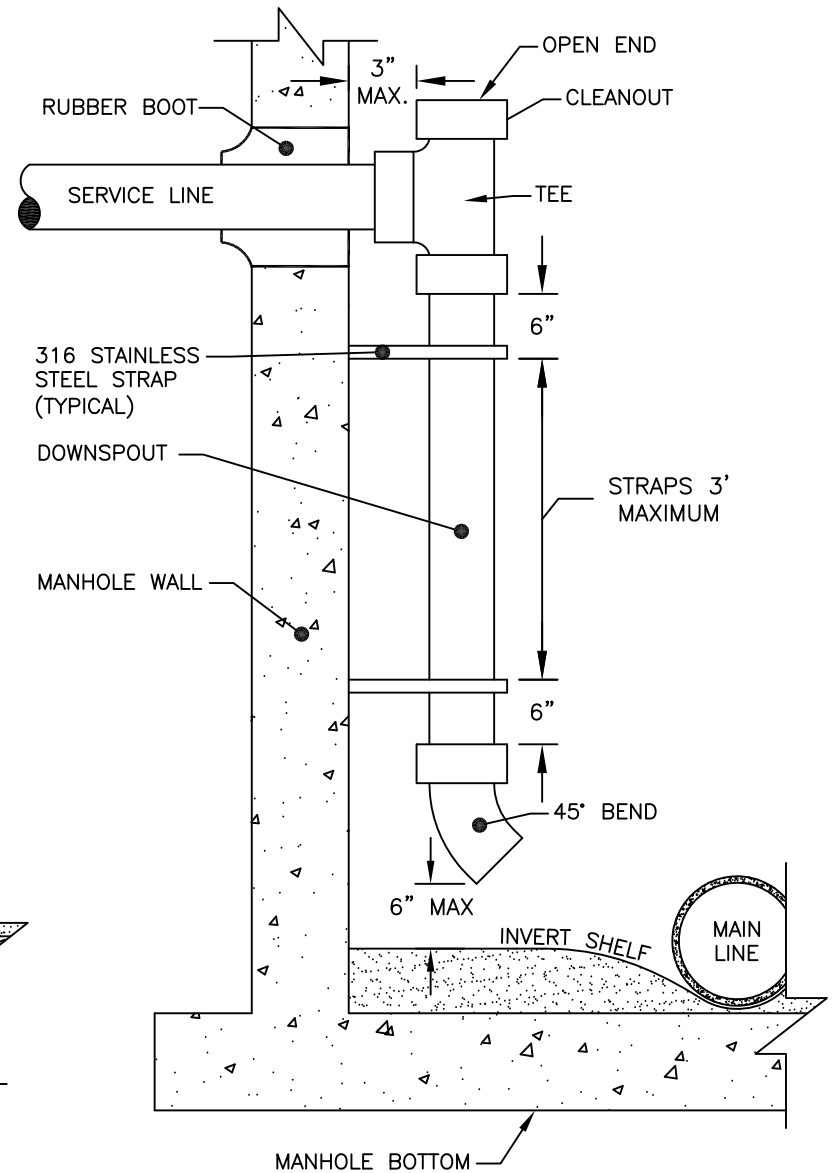
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DATE: MAY 2016

DWG #: SS-1.DWG



EXTERNAL DROP MANHOLE CONNECTION



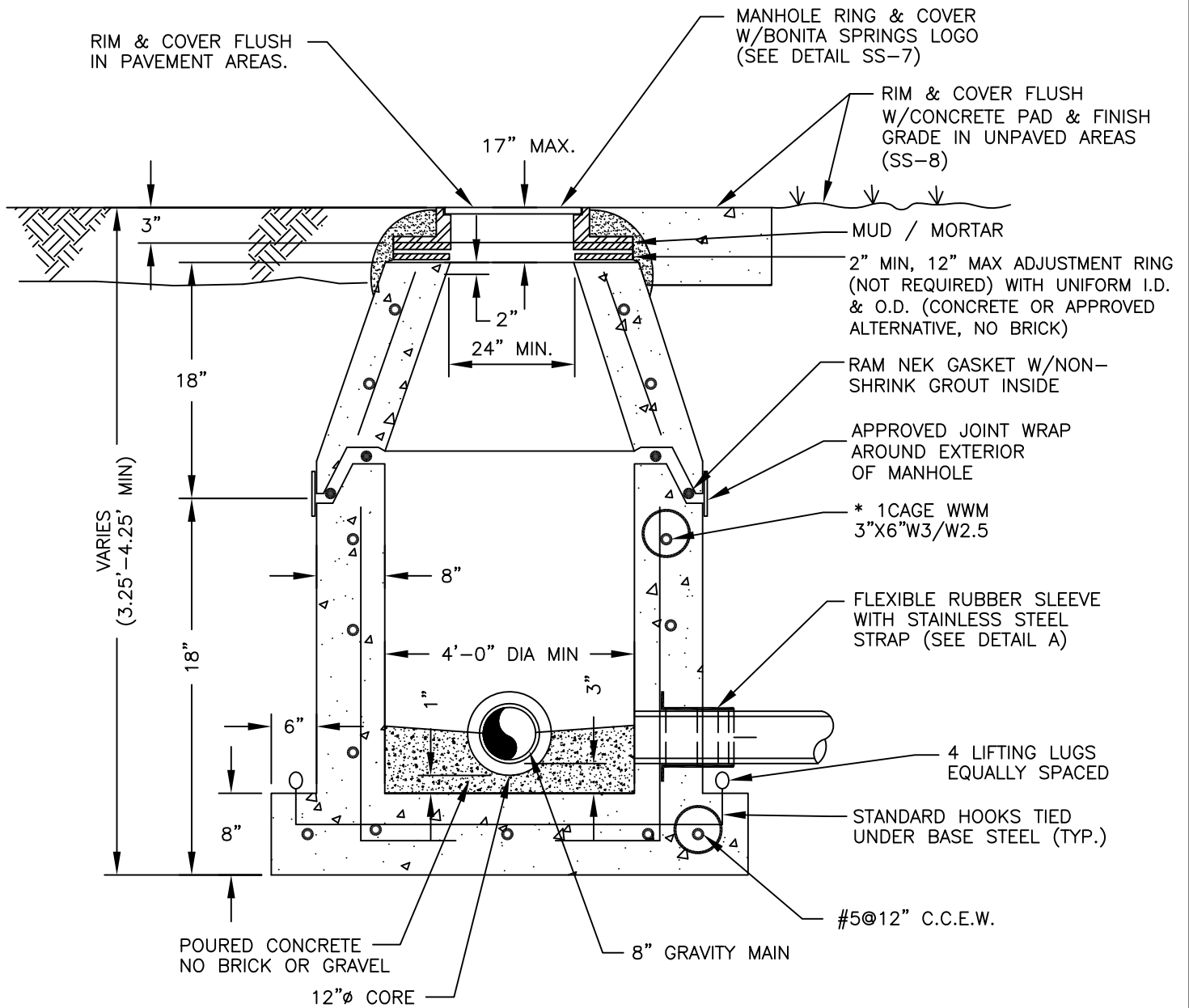
INTERNAL DROP MANHOLE CONNECTION  
(WITH WRITTEN BSU APPROVAL ONLY)

**DROP MANHOLE CONNECTIONS**

SS-3

**BONITA SPRINGS  
UTILITIES, INC.**  
11900 E. TERRY STREET  
BONITA SPRINGS, FLORIDA 34135

SCALE: NOT TO SCALE
DATE: MAY 2016
DWG #: SS-3.DWG



**SHALLOW MANHOLE**

SS-4

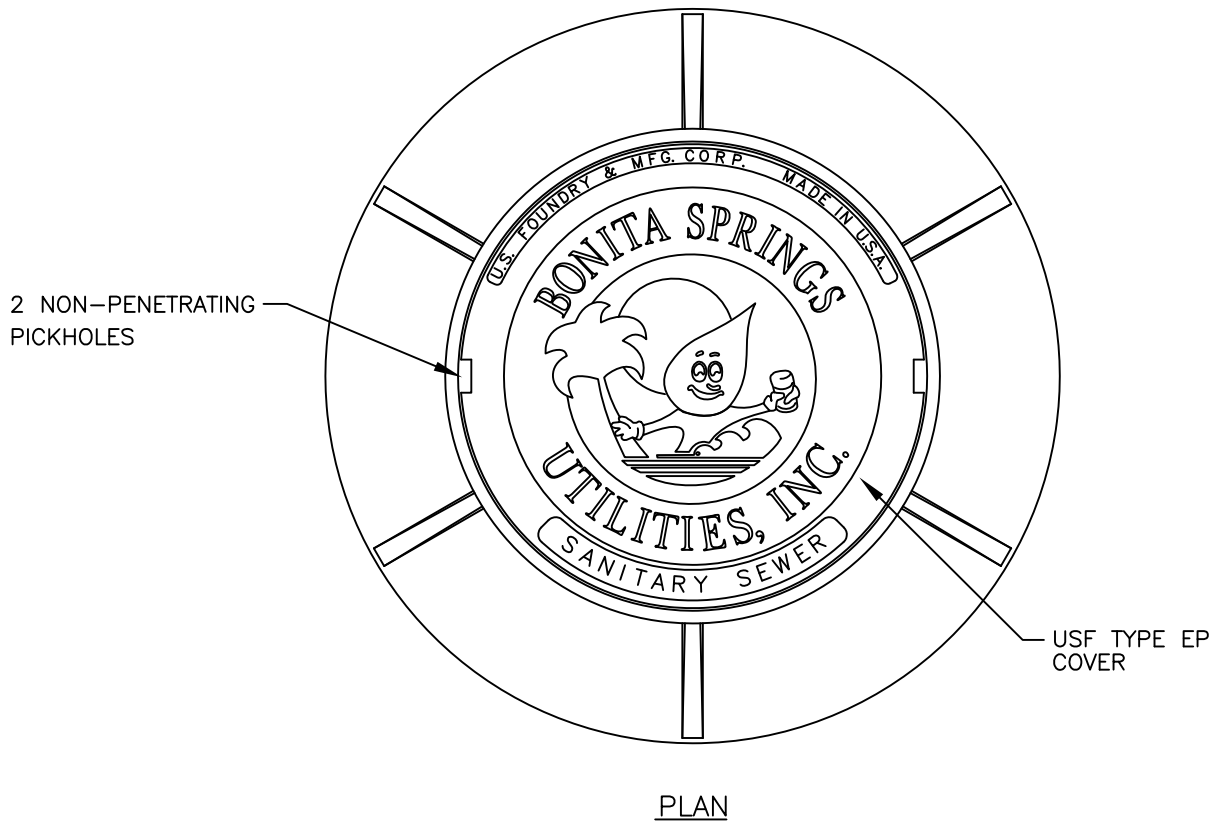
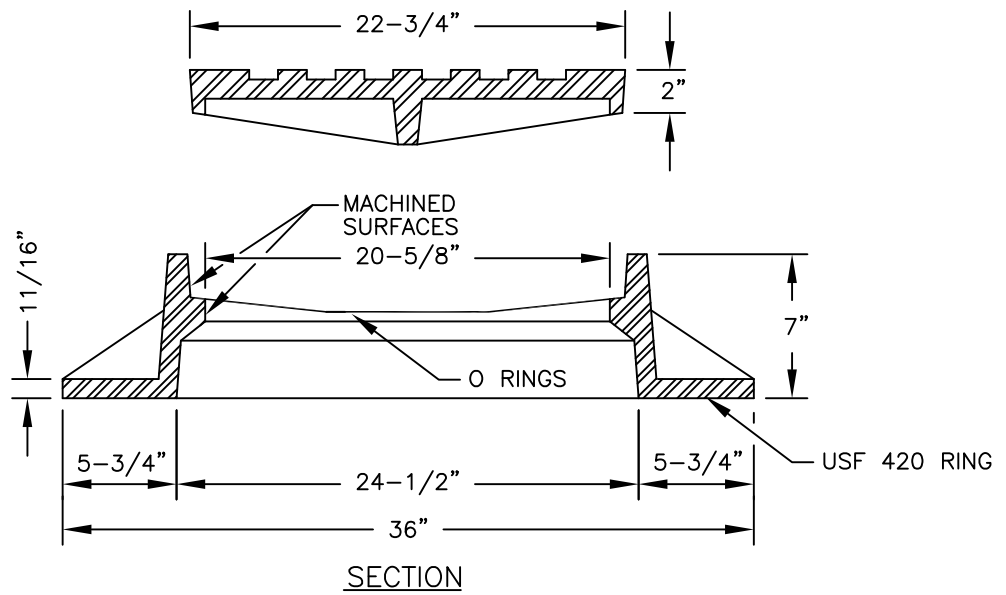
**BONITA SPRINGS UTILITIES, INC.**

11900 E. TERRY STREET  
BONITA SPRINGS, FLORIDA 34135

SCALE: NOT TO SCALE

DATE: MAY 2016

DWG #: SS-4.DWG



**MANHOLE RING & COVER DETAIL**

SS-7

\* COVER W/BSU CASTING NOT TO BE USED FOR GREASE INTERCEPTORS;  
GREASE INTERCEPTOR COVERS TO BE LABELED "GREASE".

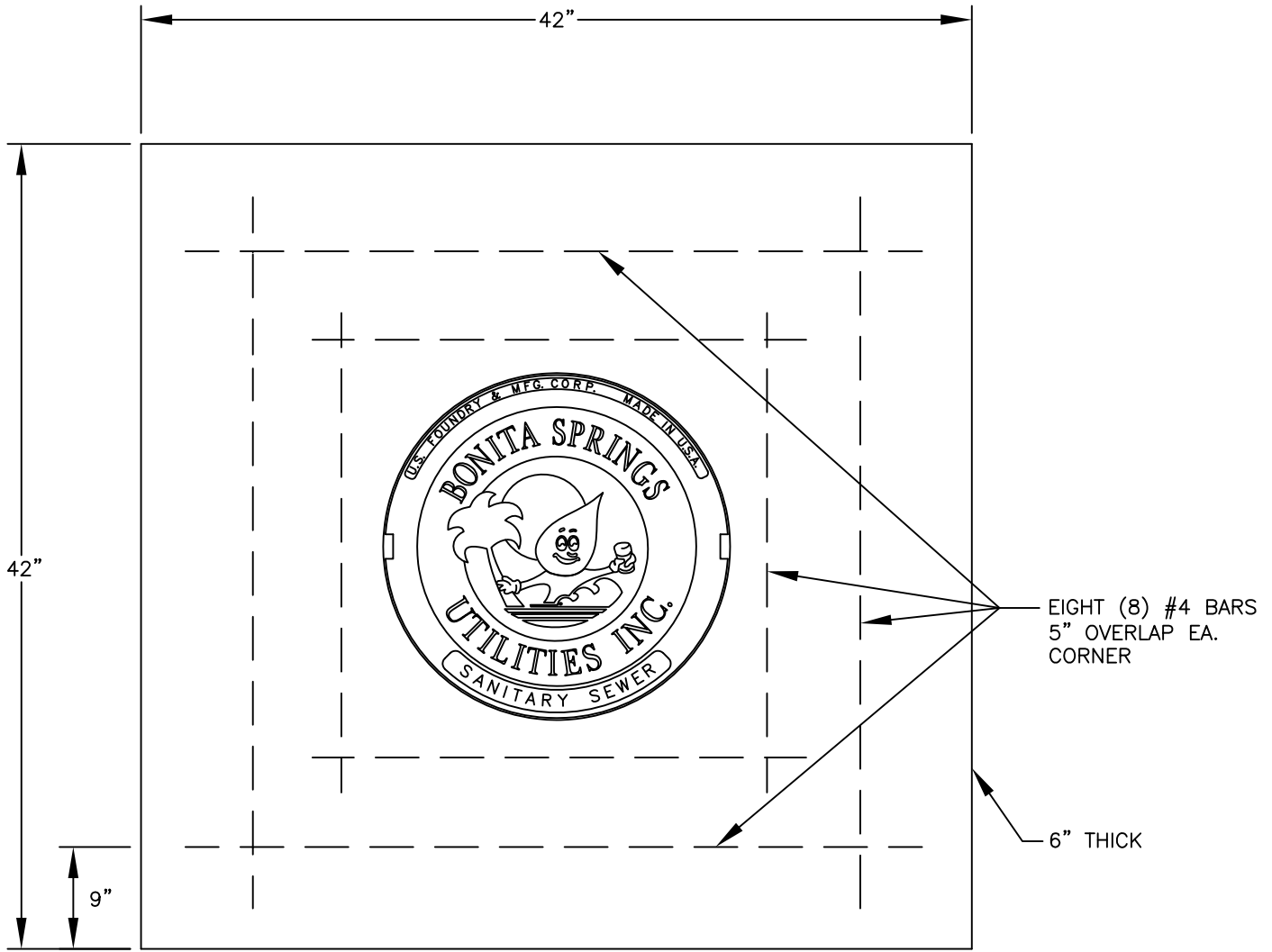
**BONITA SPRINGS  
UTILITIES, INC.**

11900 E. TERRY STREET  
BONITA SPRINGS, FLORIDA 34135

SCALE: NOT TO SCALE

DATE: MAY 2016

DWG #: SS-7.DWG

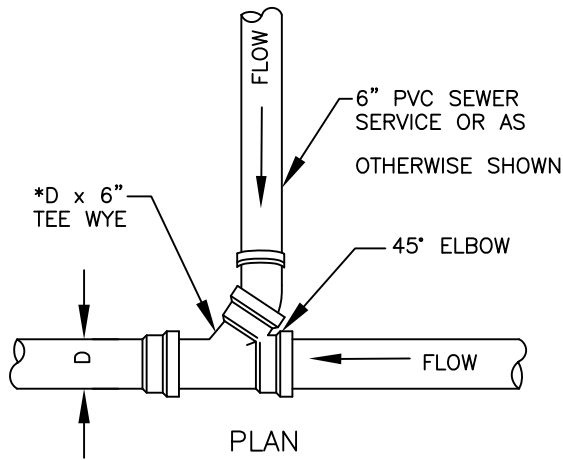


**MANHOLE CONCRETE COLLAR**  
SS-8

\*FOR USE IN UNPAVED  
AREAS AND/OR AT THE  
DISCRETION OF BSU

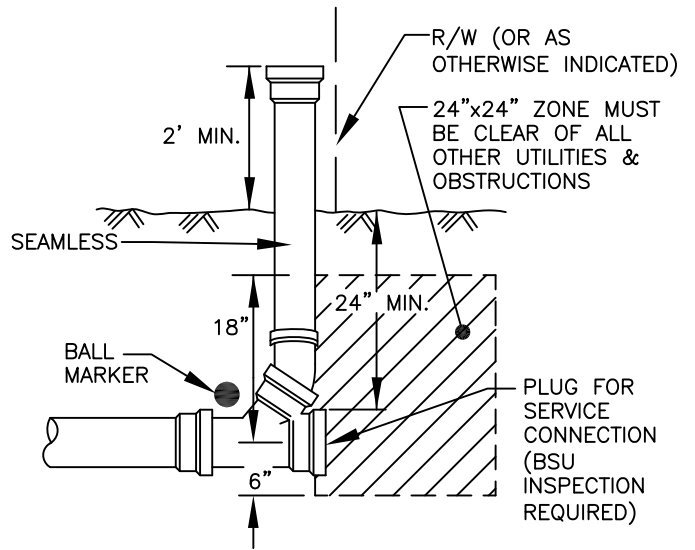
**BONITA SPRINGS  
UTILITIES, INC.**  
11900 E. TERRY STREET  
BONITA SPRINGS, FLORIDA 34135

SCALE: NOT TO SCALE
DATE: MAY 2016
DWG #: SS-8.DWG

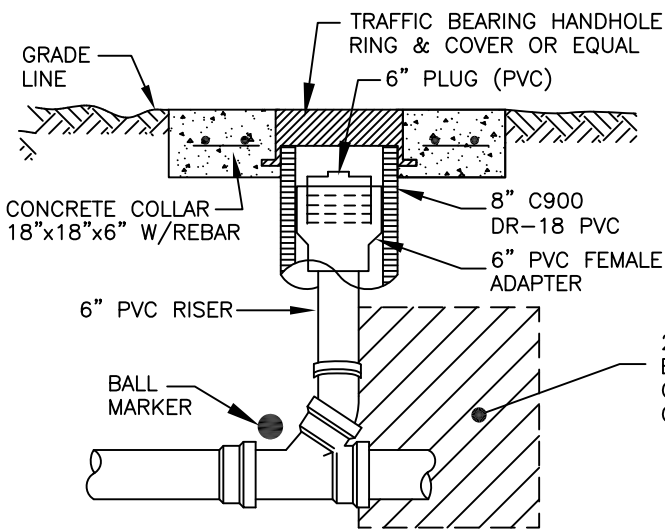


**SEWER SERVICE CONNECTION**

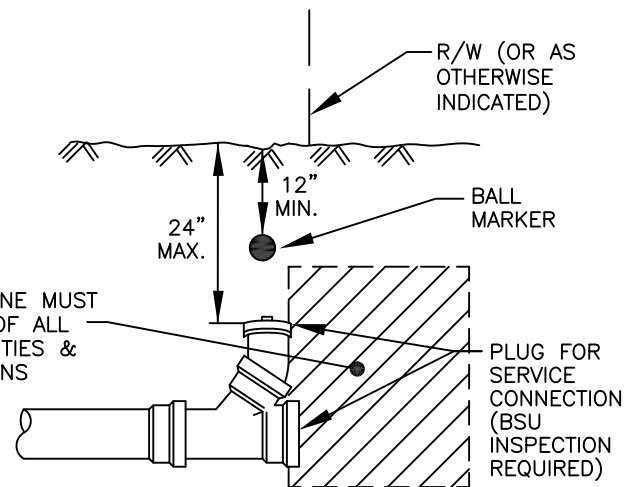
\* D IS 8" MIN. Ø



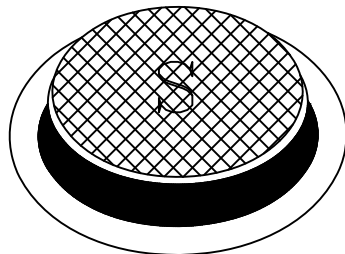
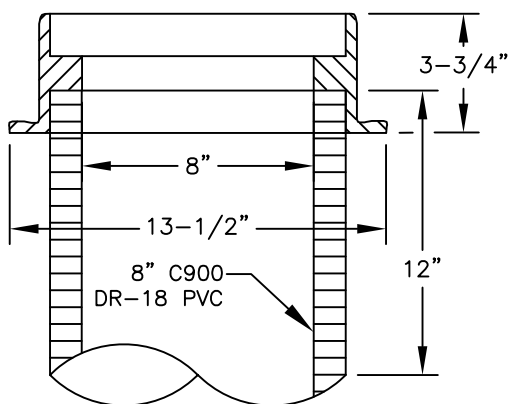
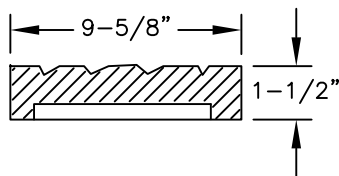
**TEMPORARY SERVICE**



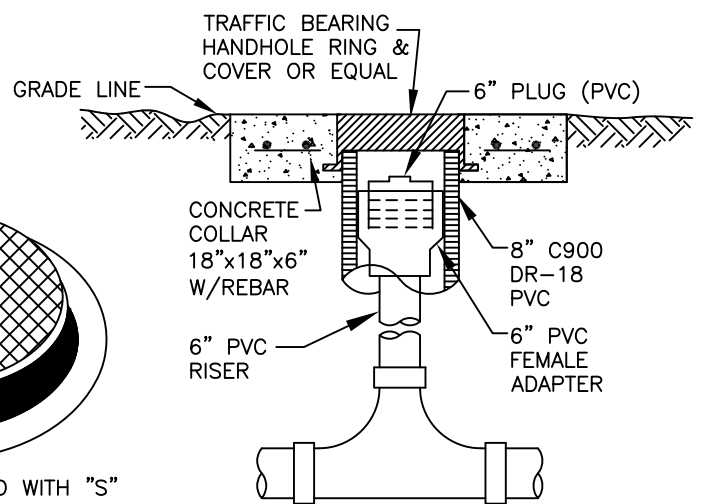
**PERMANENT SERVICE**



**PERMANENT SERVICE  
(REQUIRES WRITTEN BSU APPROVAL)**



COVERS ARE MARKED WITH "S"



**TWO-WAY CLEAN OUT ASSEMBLY**

**CLEANOUT ASSEMBLY**

SS-9

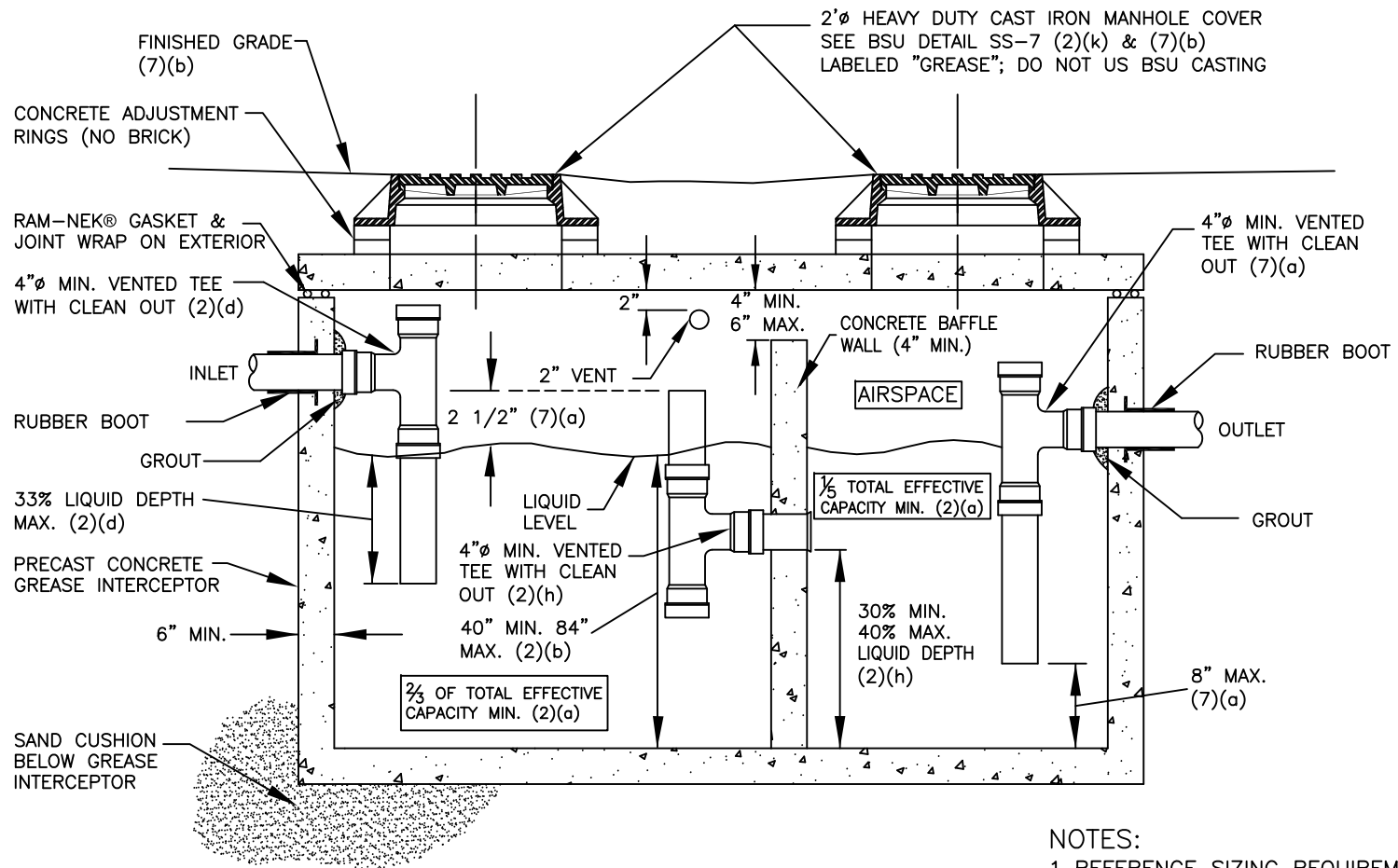
**BONITA SPRINGS  
UTILITIES, INC.**

11900 E. TERRY STREET  
BONITA SPRINGS, FLORIDA 34135

SCALE: NOT TO SCALE

DATE: MAY 2016

DWG #: SS-9.DWG



**GREASE INTERCEPTOR**

SS-11

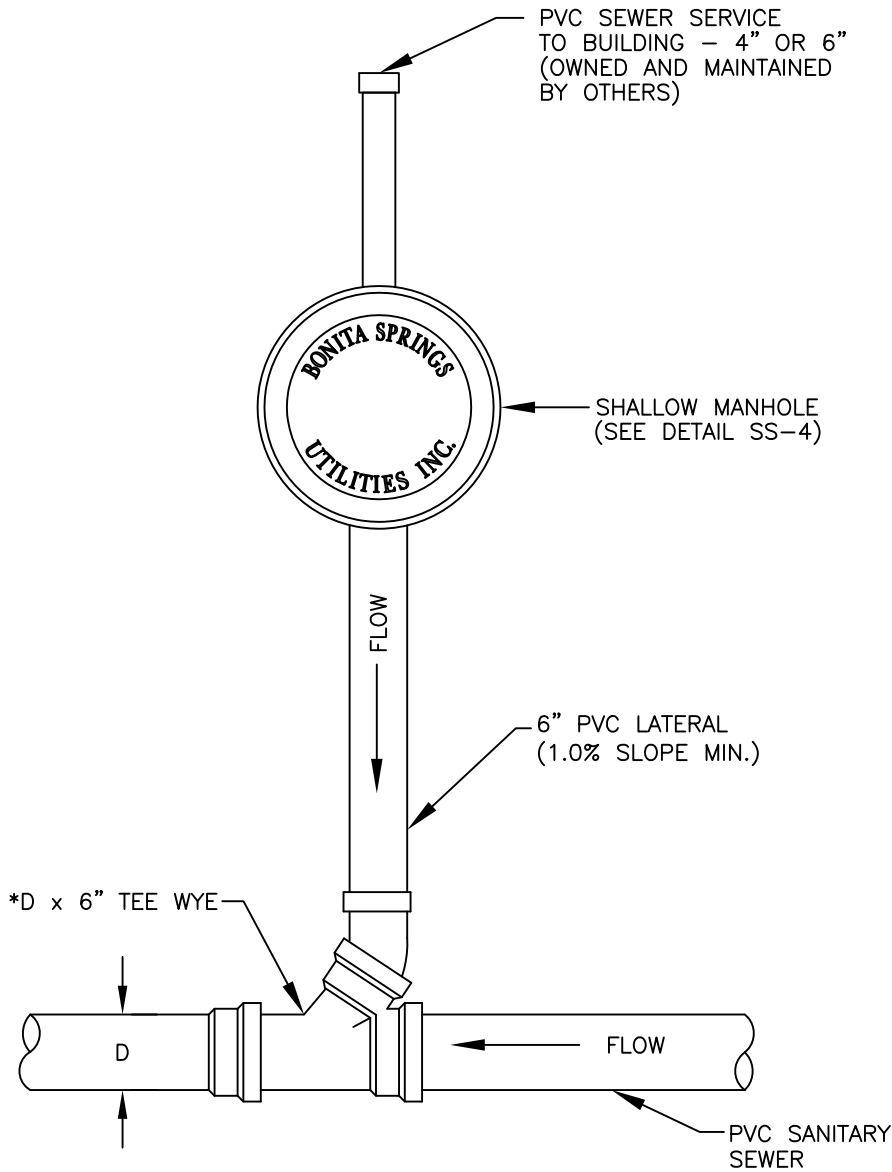
**NOTES:**

1. REFERENCE SIZING REQUIREMENTS WITHIN THE STANDARD SPECIFICATIONS
2. (#)(x) REFERS TO SECTION IN FLORIDA ADMINISTRATIVE CODE CHAPTER 64E-6.013
3. TRAFFIC RATED PER F.A.C. 64E-6.013 (1)(f)

**BONITA SPRINGS UTILITIES, INC.**  
 11900 E. TERRY STREET  
 BONITA SPRINGS, FLORIDA 34135

SCALE: NOT TO SCALE  
 DATE: MAY 2016  
 DWG #: SS-11.DWG



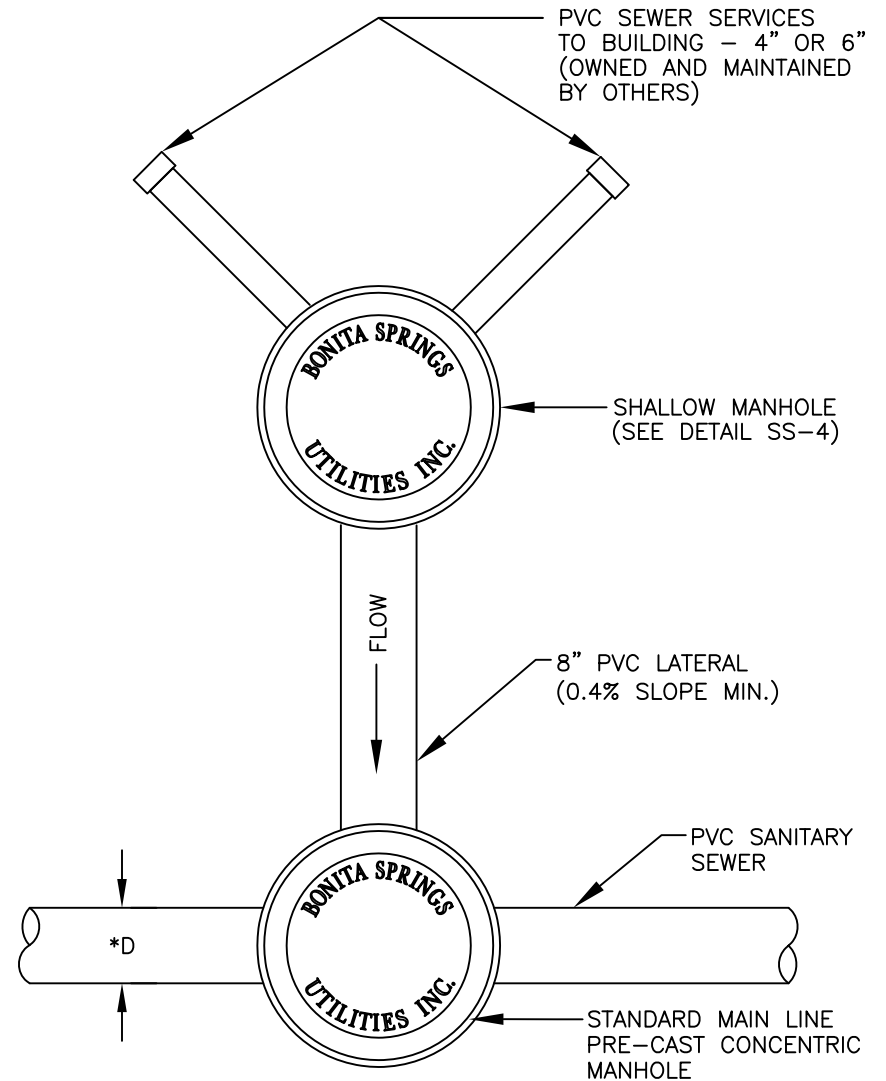


**SHALLOW MANHOLE DETAIL  
WITH 4" OR 6" SERVICE**

(SINGLE BUILDING CONNECTION)

SS-25

\*D IS 8" MIN.  $\phi$



**SHALLOW MANHOLE DETAIL  
WITH 4" OR 6" SERVICES**

(MULTIPLE BUILDING CONNECTIONS)

SS-25

\*D IS 8" MIN.  $\phi$

**BONITA SPRINGS  
UTILITIES, INC.**

11900 E. TERRY STREET  
BONITA SPRINGS, FLORIDA 34135

SCALE: NOT TO SCALE

DATE: MAY 2016

DWG #: SS-25.DWG

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