

# **FATS, OILS AND GREASE PROGRAM**

**CITY OF LYNCHBURG, DEPARTMENT OF UTILITIES**

**AMHERST COUNTY SERVICE AUTHORITY**

**BEDFORD COUNTY PUBLIC SERVICE AUTHORITY**

**CAMPBELL COUNTY UTILITIES AND SERVICE AUTHORITY**

**Effective:\_\_\_\_\_**

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## **Section A - Introduction**

Fats, oils, and grease (FOG) are a common cause of blockages and sanitary sewer overflows (SSOs) in sanitary sewer systems across the United States. The U.S Environmental Protection Agency provided a report to Congress that pointed out the fact that almost half the SSOs in the Country occurred due to blockages from grease which solidifies within the collection system.

Many property owners and tenants are not aware of the potential problems associated with introducing FOG into the sewer systems. Residual FOG comes from cooking and cleaning processes in both residential and commercial establishments and the wastewater originating from these establishments then enters into the publicly-owned sewer system. Standard interior plumbing systems and sanitary sewer systems are not intended to handle discharges of FOG; therefore, discharged grease builds up within both systems. Over time, this buildup can result in restricted flows and blockages within the systems and, ultimately, create backups into residences or businesses or overflows to the ground and surface waters.

Raw sewage overflows can not only cause disruptions in service, but can also create potential environmental and human health risks. Raw sewage contains high nutrients and oxygen demanding substances which can deplete streams of dissolved oxygen resulting in environmental consequences as fish kills. It also may carry bacteria, viruses and parasites which can cause various health issues for humans (e.g., gastroenteritis, various diseases). In addition, the build up of grease in public sewer lines increases maintenance and repair costs which must be passed on to customers.

The best way to protect interior plumbing and the public sewer systems is to prevent as much FOG as possible from going down the drain and subsequently entering the public sewer system. FOG management methods, which can help in this effort, are included in this program.

High discharge rates of petroleum-based compounds can lead to visible sheens in the wastewater treatment works, potential explosive conditions and potential loss of treatment due to interruption of the biological treatment processes within the treatment facility. Visible sheens coming into the treatment facility necessitate additional maintenance (e.g., oil skimming or adsorption) in order to keep the oils from reaching any part of the treatment works, including the biological treatment system or the final outfall. In addition, some discharges have sand, grit or other abrasive materials associated with them (e.g., car and truck wash facilities) that can be detrimental to the treatment works (e.g., line blockage, damage to pump impellers); this material also needs to be removed prior to entering the sewer system.

This program was developed primarily for the management of FOG from food service establishments in order to address sanitary sewer overflow issues. However, commercial and industrial users with petroleum-based oils and grease (defined herein as petroleum-using establishments) have been included in order to limit their potential impact upon the treatment works.

## **Section B - Definitions**

Unless stated otherwise, the following words and phrases shall have the meanings respectively ascribed to them by this section:

**Approval Authority:** The appropriate governing locality, being either the City of Lynchburg's Department of Utilities, Amherst County Service Authority (ACSA), Bedford County Public Service Authority (BCPSA) or Campbell County Utilities and Service Authority (CCUSA).

**Commercial User:** Any property occupied by a nonresidential establishment not within the definition of an "Industrial User," and which is connected to the wastewater treatment works.

**Flow Control Device:** A device installed upstream from an interceptor having an orifice that controls flow rate through an interceptor and air intake (venting) downstream from the orifice allowing air to be drawn into the flow stream.

**FOG:** Fats, oils and grease originating from animal and vegetable sources which may be either liquid or solid (e.g., bio-fuels, vegetable oils, bacon grease, butter, lard and organic polar compounds derived from animal or plant sources that contain multiple carbon triglyceride molecules) or oils and grease originating from petroleum-based sources which may be either liquid or solid (e.g., motor oils, lubricating greases).

**Food Service Establishment:** Any place which prepares and/or packages food or beverages (especially items as meat, poultry, seafood, fried foods or dairy products) for sale or consumption on or off site, with the exception of private residences. These may include, but not limited to, food manufacturers, butchers, bakeries, restaurants, delis, food courts, ice cream shops, hospitals, nursing homes, retirement homes, motels/hotels, truck stops, grocery stores, churches, schools, jails and correctional facilities.

**Garbage:** The animal and vegetable waste resulting from the handling, storage, dispensing, preparation, cooking and serving of foods.

**Grease Control Device:** A device used to collect, contain and remove food waste and grease from the wastewater while allowing the remaining wastewater to be discharged to the publicly-owned sewer system. Devices include grease interceptors, automatic grease removal devices or other approved devices.

**Grease Interceptor:** A device, located either underground and outside of a food service establishment or located inside under sinks and in floor drains, that is designed to remove FOG from the wastewater prior to it passing into the publicly-owned wastewater treatment works. The grease interceptors located inside are small and need to be manually cleaned frequently in order to maintain their efficiency. The large outside interceptors must be pumped out into a vehicle or container for offsite disposal on a periodic basis to remove the collected materials.

**Grease/Solids Depth:** The combined depth of the floating grease/scum layer at the top of the outside grease interceptor's liquid level and the solids layer at the bottom of the interceptor.

**Grit Interceptor:** A device used to settle out sand, grit and other inorganic particulates prior to further treatment (e.g., before an oil/water separator) or prior to discharging into the public sewer system. These interceptors need to be manually cleaned frequently in order to maintain their efficiency.

**High Strength Waste Surcharge:** That rate charged in excess of the sewer service rate for all wastewater over and above normal wastewater standards.

**Hydro-mechanical Interceptor:** A plumbing appurtenance or appliance that is installed in a sanitary drainage system to intercept non-petroleum FOG from a wastewater discharge and is identified by flow rate, separation, and retention efficiency. The design incorporates air entrainment hydro-mechanical separation, interior baffling/barriers in combination or separately, incorporating an external flow control with air intake (vent).

**Interference:** An indirect discharge which, alone or in conjunction with an indirect discharge or discharges from other sources, inhibits or disrupts the wastewater treatment works, its treatment processes or operations or its sludge processes, use or disposal; and therefore, is a cause of a violation of any requirement of the receiving facility's VPDES permit including an increase in the magnitude or duration of a violation or the prevention of sewage sludge use or disposal in compliance with any of the following statutory/or local regulations: Section 405 of the Clean Water Act; the Solid Waste Disposal Act, including Title II commonly referred to as the Resource Conservation and Recovery Act (RCRA); any State regulations contained in any State sludge management plan prepared pursuant to Subtitle D of the Solid Waste Disposal Act; the Clean Air Act; the Toxic Substance Control Act; and the Marine Protection, Research and Sanctuaries Act.

**May:** Permissible.

**Normal Wastewater:** Wastewater discharged into the treatment works in which the average concentrations of total suspended solids is not more than four hundred (400) mg/l; BOD<sub>5</sub> is not more than three hundred (300) mg/l; total phosphorus is not more than fifteen (15) mg/l; total nitrogen is not more than eighteen (18) mg/l; animal or vegetable derived fats, oils and grease are not more than one hundred (100) mg/l, petroleum-based oil and grease are not more than fifty (50) mg/l [measured as total petroleum hydrocarbons (TPH)] and/or the total flow is not more than twenty-five thousand (25,000) gallons per day.

**Oil/Water Separator:** A device, usually located underground and outside of a commercial or industrial operation, that is designed to remove petroleum-based oils and grease from the wastewater prior to it passing into the publicly-owned wastewater treatment works. These units must be pumped out into a vehicle or container for offsite disposal on a periodic basis to remove the collected materials. These units are typically designed in accordance with specifications of the American Petroleum Institute.

**Person:** Any individual, partnership, co-partnership, firm, company, corporation, association, joint stock company, trust, estate, governmental entity, or any other legal entity; or their legal

representatives, agents, or assigns. This definition includes all Federal, State, and local government entities.

**Petroleum-using Establishment:** Any operation that utilizes petroleum-based oils and greases. It may include any place which services, builds, repairs, and/or remanufactures engines or motors or any place where petroleum-based oils and greases may originate based on a given process operation. These establishments may include, but not be limited to, automobile and truck maintenance shops, car and truck wash facilities, truck stops, small engine repair shops, factories, aircraft hangers and machine shops.

**Pretreatment:** The reduction of the amount of pollutants, the elimination of pollutants, or the alteration of the nature of pollutant properties in wastewater prior to discharge to the publicly-owned wastewater treatment works. It also includes the inclusion of controls to prevent surges or slug loads that might interfere with or otherwise be incompatible with the treatment works.

**Properly Shredded Garbage:** The wastes from the preparation, cooking and dispensing of food that have been shredded (i.e., in a sink drain garbage disposal) to such a degree that all particles will be carried freely under the flow conditions normally prevailing in public sewers, with no particle greater than one-quarter inch ( $\frac{1}{4}$ " ) in any dimension.

**Publicly-owned Treatment Works (POTW):** A treatment works as defined by Section 212 of the Clean Water Act (CWA), which is owned by a state or municipality (as defined by section 502(4) of the CWA). This definition includes any devices and systems used in the storage, treatment, recycling, and reclamation of municipal sewage or industrial wastes of a liquid nature. It also includes sewers, pipes and other conveyances only if they convey wastewater to a POTW treatment plant.

**Residential User:** All premises used only for human residency which are connected to the wastewater treatment works. Residential users include, but are not limited to single family residences, apartments, townhouses, condominiums, and manufactured homes.

**Sanitary sewer:** Any sewer that carries liquid and water-carried wastes from residences, commercial buildings, industrial plants or institutions.

**Sewer Service Charge:** The amount charged for wastewater discharge into the publicly-owned wastewater treatment works including service fees, taxes, permit fees, surcharges, and other appropriate fees to recover the cost of collection and treatment of wastewaters and maintenance of the wastewater treatment works.

**Shall:** Mandatory

**Solids Interceptor:** A device for collecting particulates from pre-rinse stations, food waste grinders and the dishwasher(s). It is installed ahead of the grease interceptor's flow control and inlet. The above noted areas of the kitchen are, collectively, one of the single greatest sources of FOG production to be introduced into the waste system.

**Wastewater:** A combination of liquid and water-carried wastes from residences, commercial buildings, industries and institutions, together with any groundwater, surface water or storm water that may be present. It is also commonly referred to as "sewage."

**Wastewater Treatment Works:** Any devices and systems used in the collection, storage, treatment, recycling, and reclamation of sewage or industrial wastes of a liquid nature. It also includes sewers, pipes and any other conveyances which convey wastewater to the treatment plant.

**Yellow Grease:** Fats, oils and grease that have not been in contact or contaminated with other sources such as water, wastewater or solid waste (e.g., fryer oil). This oil (referred to as renderable FOG) can be recycled into items as animal feed, cosmetics and alternative fuel.

### **Section C - Authority**

A Virginia Pollutant Discharge Elimination System (VPDES) permit for a wastewater treatment plant addresses operations and maintenance of the entire treatment works (treatment plant and collection system) and the final effluent discharge from the treatment plant. In addition, it may require the permittee to develop and maintain a pretreatment program to address various indirect dischargers into the publicly-owned system. This would include indirect discharges into any surrounding locality systems that ultimately enter the permittee's system.

The pretreatment ordinances/regulations for the approval authorities provide the ability for addressing indirect discharges to wastewater treatment works that cause interference at publicly-owned treatment works (POTW). Those regulations also include a specific prohibition on solid or viscous substances in such quantities that would cause obstruction of flow or interference with the proper operation of the wastewater facilities. This interference may be caused by food service establishments discharging fats, oils and grease (FOG) into the sewage collection system. In addition, the same regulations also contain a specific prohibition on petroleum oil, nonbiodegradable cutting oil, or products of mineral oil origin in amounts that will cause interference of pass through. This prohibition would impact petroleum-using establishments with oils and grease in their wastewater. Controlling FOG discharges into the sewage collection system, especially from food service establishments, will reduce the potential for sanitary sewer overflows, and their potential health risks, due to diminished capacity or blockages. It will also reduce the costs associated with sewer line maintenance.

This program is established to address discharges of FOG into sanitary sewers from both food service and petroleum-using establishments. Food service and petroleum-using establishments are both defined under Section B above with various types listed.

The approval authority having jurisdiction reserves the right to provide a variance from or waiver to any provision of this program based on reasonable, factual information supplied by the owner or operator of the establishment (see appendix 5). In those cases, the approval authority having jurisdiction shall impose such reasonable conditions that will ensure, to the

extent possible, that the variance or waiver does not adversely affect the publicly-owner sewer system.

## **Section D - Requirements for Control Measures**

### **1. Food Service Establishments:**

#### **a. New Food Service Establishments**

- (1) All new establishments that involve food preparation with the potential to discharge FOG, excluding private residences, are to have a properly sized exterior grease interceptor installed for the kitchen wastes.
- (2) The interceptors must meet the minimum requirements set forth in section E. below and are to be reviewed and approved by the approval authority having jurisdiction.
- (3) Registration of the grease interceptor shall be completed prior to its installation. Forms for registration will be provided for use (see appendix 1).

#### **b. Existing Food Service Establishments:**

##### **(1) With Grease Interceptors:**

- (a) These establishments shall be required to register their grease control devices within 90 days of the effective date of this program. Forms for registration will be provided for use.
- (b) Upon any renovation activities which enlarge the seating capacity, alter the food preparation area or significantly change the type of foods prepared, a review of the existing grease interceptor will be made by the approval authority having jurisdiction to ensure it is of proper size for the proposed renovation. If required, a new properly sized unit meeting the minimum standards set forth in section E. below, shall be installed to handle the increase in flows. Registration of the new grease interceptor shall be completed prior to its installation. Forms for registration will be provided for use.

##### **(2) Without Grease Interceptors:**

- (a) May remain status quo unless visual inspection of the downstream sewer lines notes a problem with the build up of grease. In those cases:
  - (i) Where there is available space, a properly sized exterior grease interceptor meeting the minimum requirements set forth in section



E. below, reviewed and approved by the approval authority having jurisdiction, shall be required. The grease interceptor is to be installed within three (3) months of notification by the approval authority having jurisdiction. Extensions to the three-month installation requirement may be granted by the approval authority for proper cause, as long as progress is being made towards the installation. Registration of the grease control devices shall be completed prior to their installation.

- (ii) Where space is not available for an exterior grease interceptor, then as a minimum, properly sized interior grease interceptors reviewed and approved by the approval authority having jurisdiction, will be required to be installed within three (3) months. Extensions to the three-month installation requirement may be granted by the approval authority for proper cause, as long as progress is being made towards the installation. Registration of the grease control devices shall be completed prior to installation. In addition, a sampling manhole must be installed on the exterior of the establishment (see figure no. 13 in Appendix 2).
  - (iii) Where no interceptors are provided, a service charge will be added to the routine sewer bill to address routine maintenance of the sewer lines in order to prevent reduced line capacity and blockage.
- (b) Upon any renovation activities of an existing food service establishment which enlarge the seating capacity, alter the food preparation area or significantly change the type of foods prepared, the above requirements contained in b.(2)(a) of this section of the program shall be adhered to, based on the space available.

c. Existing Structures Renovated to Contain New Food Service Establishments:

The above requirements contained in b.(2)(a)(i), (ii) or (iii) of this section of the program shall be adhered to, based on the space available.

2. Multi-family Residences:

Grease interceptors are not required unless it is demonstrated that the complex is contributing FOG to the sewer system in quantities which may interfere with the collection system. In those cases, the above requirements contained in b.(2)(a)(i), (ii) or (iii) of this section of the program shall be adhered to, based on the space available.

3. Petroleum-using Establishments

- a. These facilities will be managed in the same manner as the food service establishments in this section [D.1. above], with regard to registration and

installation of grit interceptors and/or oil/water separators (see appendix 1 for registration form).

- b. Where facilities discharge petroleum-based compounds in quantities that cause interference, they will be required to register and install an oil/water separator. Some facilities that have the potential to contribute grit (e.g., car and truck wash operations) shall also be required to register and install a grit interceptor prior to an oil/water separator. Where space is not available to install an oil/water separator, other steps may be taken to address the discharge.
- c. Where grit interceptors and/or oil water separators are not installed, a service charge will be added to the sewer bill to address sewer line maintenance.

## **Section E - Design and Installation of Grease Interceptors**

### **1. General Requirements:**

- a. There are various prefabricated grease interceptor units available which may be utilized. The minimum size exterior grease interceptor will be 1000 gallons and the minimum size interior grease interceptor will be a 100 pound capacity unit. If the flow exceeds 50 gallons per minute for an interior interceptor, the state plumbing code will be followed for appropriate sizing increases.
- b. Grease interceptors will be installed in accordance with manufacturer's recommendations and any other requirements by the approval authority having jurisdiction, the latest edition of the International Plumbing Code, the Virginia Uniform Statewide Building Code, the State plumbing code or other appropriate specifications and construction diagrams. In no case shall the specifications be less stringent than the specific requirements noted in this section [E.2. below], unless approved. The approval authority having jurisdiction shall provide review and approval and a building permit shall be obtained prior to installation.
- c. All sink drains and floor drains in food preparation and storage areas and any other areas which may discharge FOG must be routed to a grease interceptor. Dishwashers should also be routed through a grease interceptor but first be preceded by a solids interceptor. The water temperature entering a grease interceptor shall not exceed 140 degrees Fahrenheit (<sup>0</sup> F).
- d. New food service establishments shall not have food grinders installed. Existing food service establishments with food grinders shall have a solids interceptor installed prior to the grease interceptor.
- e. The exterior grease interceptor shall be installed on the property of the facility and at a distance from the kitchen area as to allow for adequate cooling of water prior to

it entering the grease interceptor. It shall be fully accessible to allow for proper maintenance, inspection, cleaning and sampling without creating a nuisance.

- f. Sanitary wastes shall not be piped through any new exterior grease interceptor installation unless it is a unit going into an existing facility where the wastewaters are already combined.
2. Specific Requirements for Exterior Grease Interceptors:
- a. Sizing shall be based upon providing a minimum of 30 minutes detention using the totalized volume of the peak flow rate for each fixture, including the manufacturer's specified peak flow on automatic dishwashers. As noted in this section (E.1.a. above), in no case shall the interceptor be less than 1000 gallons. It shall be designed to achieve an oil and grease concentration of no more than 100 mg/l.
  - b. Access ports should provide full surface area access (See figure nos. 1 and 2 in Appendix 2).
  - c. Interceptors shall contain a built-in sample port on their effluent line (See figure no. 5 in Appendix 2).
  - d. Where the interceptor is located in a parking lot, it shall be designed to withstand traffic loads [see figure no. 2 (large manhole frames) in appendix 2] and be accessible at all times. As an alternative, it may be located in a protected traffic island with concrete curbing or protected with an appropriate number of bollards that are anchored, concrete filled six-inch or greater diameter steel pipe at least four feet high and four feet buried or other substantial protective guards.
  - e. The interceptor shall be properly vented to the atmosphere.
  - f. The interceptor shall be of watertight construction to prevent both infiltration and exfiltration.
  - g. The inlet and outlet tees must be a minimum of four (4) inches in diameter with the tops of each tee plugged with removable threaded caps. Penetration through the exterior walls shall not be sealed with any type of grouting mixture. The use of "boots", "link seals" or other approved methods shall be used to achieve sound infiltration and exfiltration capabilities.
  - h. The interceptor shall have an air gap at the top to keep the tank from becoming air bound.
  - i. There shall be a minimum of two (2) compartments with an interior baffle located at least 50% of the distance from the inlet wall. The interior baffle shall allow for venting at the top. The flow through pipe or port from the first compartment shall have a minimum opening equivalent to four (4) inches in diameter. The flow

through pipe shall not be sealed with any type of grouting mixture; “boots”, “link seals” or other approved methods shall be used.

- j. Full surface access is preferred and, therefore, should be provided (See figure no. 1 in Appendix 2). Where that is not feasible, watertight access openings, at least 24 inches (free and clear) in diameter each, shall be provided over each compartment and, if necessary, contain pick bars for removal (See figure no. 2 in Appendix 2). The access openings shall be at or above finished grade and protected from potential damage. The design shall take into account the ability to safely facilitate maintenance, inspection, cleaning and sampling (e.g., pump out operations, observation and measurement of grease/solid depth, sampling from the final effluent tee).
3. Review and approval of the grease interceptor by the approval authority having jurisdiction does not relieve the owner from any design deficiencies or the requirement to achieve any specified FOG pretreatment limitations for which the system was designed.

## **Section F - Design and Installation of Oil/Water Separators and Grit Interceptors**

There are a number of package designed oil/water separators on the market (see figure nos. 10 and 11 in Appendix 2). Oil/water separators for petroleum-based compounds required under this program will be designed in accordance with American Petroleum Institute performance specifications. This means that the separator design is based on the difference in the specific gravity of the oil and the wastewater from which the oil is being removed, taking into account how quickly the oil rises based on the oil droplet size and density. Based on the design, suspended solids will settle, the oil will rise and the wastewater is pulled from the middle. The separator shall be designed to achieve a total petroleum hydrocarbon level of no more than 50 mg/l. Installation will be in accordance with manufacturer's recommendations or a licensed professional engineer.

Unless the oil/water separator has a built-in grit interceptor (as shown in figure no. 10 in Appendix 2), there may be some industrial and commercial establishments where separate grit interceptors are necessary prior to an oil/water separator. These establishments may include car or truck wash facilities, heavy equipment wash down areas or any other operation that removes gritty, inorganic material using a washing solution that reaches the sewer system. These grit interceptors need to be designed based on the maximum flow rate from the operation and provide at least 30 seconds of detention, but in no case be less than three cubic feet in water volume. Full access for inspection and cleaning must be provided (see figure no. 12 in Appendix 2).

The grit interceptors and oil/water separators may also be designed by a licensed professional engineer and installed under his supervision. For all installations, the approval authority having jurisdiction shall provide review and approval and a building permit shall be obtained prior to installation.

## **Section G - Management Practices and Maintenance for Food Service Establishments**

### **1. Inside Management Practices**

- a. Fats, oils and grease from cooking shall not be poured down sink drains, floor drains or water closets. Signs should be posted noting the same. Where possible, FOG shall be collected for recycle.
- b. Sink drain screens shall be maintained in place in order to prevent larger particles from going down the drains. Food scraps should be disposed of in trash containers rather than down the drains. Food grinders shall not be used unless an inline solids interceptor is installed prior to the grease interceptor.
- c. Dry methods of clean-up (e.g., scraping, wiping, sweeping) shall be utilized for fats, oil and grease prior to wet methods using water (e.g., rinsing and/or washing). Signs should be posted noting the same.
- d. Where floor drains are present, FOG spills need to be dry-cleaned in an effort to keep the material out of the drain.
- e. In order to prevent grease from re-solidifying in the sewer system and other potential harmful effects, hot water, caustics, acids, solvents, enzymes, drain deodorizers or other emulsifying agents shall not be utilized to dissolve grease.
- f. Hot water shall not be run through the grease interceptors to clean them out.
- g. In order to avoid spills, containers of used FOG should be emptied before they become full and covers should be utilized when carrying fats, oils and grease to outside storage containers.
- h. Outside storage containers for FOG shall be protected from precipitation and not stored in a manner where spills or leaks would enter a storm sewer.
- i. Staff shall be trained in the various management practices used to address FOG, with training documented.

### **2. Grease Interceptor Maintenance**

- a. Grease interceptors shall be inspected and cleaned on a sufficient periodic basis in order to ensure their proper operation. Exterior interceptors shall be cleaned at least quarterly. Smaller interior grease interceptors will be cleaned no less than weekly. More frequent cleaning may be required if inspections indicate that FOG is getting into the public sewer system in quantities sufficient to cause restricted flow, blockage or increased maintenance of the wastewater treatment works. All cleaning events should be observed to ensure that they are appropriately completed.

- b. Exterior grease interceptors shall not exceed 25% in grease/solids depth.

Example calculation: Floating grease/scum layer measures 8 inches and the bottom solids layer is 6 inches. If the total depth of the liquid level in the interceptor is 48 inches, the grease/solids depth is 14 inches divided by 48 inches times 100 which equals 29%; exceeds the 25% requirement.

- c. Each grease interceptor cleaning shall be a complete evacuation of the system, which will allow for proper inspection. Grease removed from interior interceptors should be placed in an outside storage container for disposal or recycling. Pumped contents from exterior grease interceptors shall be transported to a facility authorized to receive the wastewater.
- d. Grease interceptors shall be pumped by a transporter that is approved for the pumping and transport of the waste.
- e. A maintenance log documenting each cleaning event shall be maintained (see example in Appendix 3).

## **Section H - Management Practices and Maintenance for Petroleum-using Establishments**

### **1. Inside Management Practices**

- a. Oils and grease shall not be poured down sink drains, floor drains or water closets. Signs should be posted noting the same. Where possible, oils and grease shall be collected for recycle.
- b. Caustics, acids, solvents, or other emulsifying agents shall not be utilized for dissolving grease with subsequent pouring down sink drains, into floor drains or into water closets.
- c. Oil adsorbent materials and shop towels used to wipe oil and grease shall be disposed of in proper receptacles and not be flushed down the sewer.
- d. Where floor drains are present, spills of oils and grease shall be dry-cleaned in an effort to keep the material out of the drain.
- e. When possible, dry methods of clean-up shall be utilized for oil and grease prior to any wet methods which go to the sewer system.
- f. In order to avoid spills, containers of used oils and grease (as well as other fluids) should be emptied before they become full and covers should be utilized when carrying oils and grease to storage containers.

- g. All outside storage containers for oils and grease must be protected from precipitation and not stored in a manner where spills or leaks would enter a storm sewer.
  - h. Staff shall be trained in the various management practices used to address FOG.
2. Grit Interceptor and Oil/Water Separator Maintenance
- a. Grit interceptors shall be inspected weekly to ensure proper operation. The grit interceptor shall not be allowed to collect material to a point that is more than half the volume of the first settling chamber.
  - b. Material from the interceptor shall be collected and disposed of in a proper manner (i.e., not dumped on the site or flushed down the sewer).
  - c. Separators shall be inspected at least once a month to ensure their proper operation.
  - d. Oils collected in the separator shall be pumped on a sufficient periodic basis in order to ensure that excess oils and grease do not get into the sewer system.
  - e. Separators shall be pumped by a transporter that is approved for the pumping and transport of the waste.

## **Section I - Wastewater Pretreatment Permits**

All food service and petroleum-using establishments which are determined to need a permit to address discharges of fats, oils and greases into the sewer system will be issued a pretreatment general permit. The general permit will address specific maintenance procedures for grease interceptors, grit interceptors and oil/water separators, as appropriate, and may also contain numeric limitations with associated monitoring and reporting requirements. It will also contain requirements for developing, maintaining and submitting maintenance reports on these various treatment systems.

## **Section J - Recordkeeping**

All food service establishments shall maintain an inspection and maintenance log for each grease interceptor (see appendix 3 for an example). The inspection log is to include the date of inspection, who conducted the inspection, an indication if maintenance or cleaning is necessary and any other observations/comments. The maintenance log is to include the date of maintenance and/or cleaning, the name of the person/company providing the maintenance and/or cleaning, who observed the maintenance/cleaning and the volume removed with each cleaning. If yellow grease is hauled for recycling, the record shall contain the date it was hauled, the company providing the hauling and the volume hauled.

All petroleum-using establishments shall maintain an inspection and maintenance log for each grit interceptor and/or oil/water separator. For grit interceptors, the inspection log is to include the date of inspection, who conducted the inspection, an indication if maintenance or cleaning is necessary and any other observations/comments. The maintenance log is to include the date of maintenance and/or cleaning (grit removal), the name of the person/company providing the maintenance and/or cleaning, the approximate volume of grit removed with each cleaning and where the grit was disposed. For oil/water separators, the inspection log is to include the date of inspection, who conducted the inspection, an indication if maintenance or pumping is necessary and any other observations/comments. The maintenance log is to include the date of maintenance and/or pumping, the name of the person/company providing the maintenance and/or pumping, who observed the maintenance/pumping and the volume of oil removed with each pumping.

All records shall be maintained on site for a minimum of three (3) years and are to be made available for inspection by the approval authority, if requested. These records shall also be submitted to the locality, if requested.

### **Section K - Inspections and Sampling**

As deemed necessary, the approval authority having jurisdiction may conduct inspections of food service or petroleum-using establishments which discharge into their publicly-owned sewers. The purpose of the inspections will be to determine if the facilities are complying with the terms of this program and, if applicable, their wastewater pretreatment permits.

Owners or their occupants shall allow the approval authority access at all reasonable times to all areas of the facility that contribute FOG for the purpose of inspection, records review and sampling. In addition, the approval authority shall have the ability to set up sampling devices on the property to verify effluent quality. Denial of access for the purpose of inspections, records review and/or sampling will be deemed a violation of this program and/or permit. Any unreasonable delays in allowing the inspections may also be considered access denial and thus a violation.

Based on the results of sampling, surcharges may be applied to the facility's sewer bill as per the given approval authority's code/ordinance on high strength waste.

### **Section L - Compliance**

As a minimum, an establishment shall be considered to be in non-compliance with this program based on any of the following:

1. Failure to clean out the grease interceptors, grit interceptors or oil/water separator at the designated frequency.
2. Failure to maintain the grease interceptors, grit interceptors or oil/water separator in good working order.



3. Exceeding 25% of the grease/solids depth in an exterior grease interceptor.
4. Failure to maintain required records.
5. Failure to submit records as required.
6. Falsification of records.
7. Delay in allowing inspection or hindrance of the inspection.
8. Being the source of a sewer line blockage and/or a sanitary sewer overflow.

#### **Section M - Enforcement**

1. Violations of this program for fats, oils and grease will be enforced in accordance with both the Enforcement Response Plan for the given approval authority's pretreatment program and the given approval authority code/ordinance.
2. Potential civil charges for violations will be developed in accordance with this program's enforcement matrix in Appendix 4.
3. If the discharge from any establishment causes a deposit, obstruction or damage to any publicly-owned sewer line or treatment works, the approval authority having jurisdiction shall cause the deposit or obstruction to be promptly removed or cause the damage to be promptly repaired. The cost for such work, including materials, labor and supervision, shall be borne by the person or entity causing such deposit, obstruction or damage. In addition, this total cost will also include any associated costs for clean up.

# **APPENDIX 1**

## **REGISTRATION FORMS**

**(GREASE INTERCEPTORS,  
SOLIDS SEPARATORS,  
OIL/WATER SEPARATORS  
AND  
GRIT INTERCEPTORS)**

# REGISTRATION FORM

## Grease Interceptors and Solids Interceptors

1. Name of Establishment: \_\_\_\_\_
2. Establishment's Physical address: \_\_\_\_\_
3. Mailing address, if different: \_\_\_\_\_
4. Owner Name: \_\_\_\_\_

5. Representative Completing This Form:

Name: \_\_\_\_\_ Title: \_\_\_\_\_

Telephone No.: \_\_\_\_\_

6. Briefly describe the type of food service establishment:

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7. For food preparation, what is the primary cuisine?

American \_\_\_\_ Asian \_\_\_\_ Mexican \_\_\_\_ Italian \_\_\_\_ Other (indicate type) \_\_\_\_\_

What are the primary methods of preparation? (check all that are applicable; if more than one, circle one used the most)

Grill \_\_\_\_ Griddle \_\_\_\_ Oven \_\_\_\_ Stove top \_\_\_\_ Deep fat fryer \_\_\_\_

Pressure cooker \_\_\_\_ Wok \_\_\_\_ Microwave \_\_\_\_ Steamer \_\_\_\_

8. Does the food preparation area contain any of the following and, if so, how many?

a. Two compartment sink system Yes \_\_\_\_ No \_\_\_\_ How many \_\_\_\_

b. Three compartment sink system Yes \_\_\_\_ No \_\_\_\_ How many \_\_\_\_

c. Dishwasher Yes \_\_\_\_ No \_\_\_\_ How many \_\_\_\_

d. Mop sink Yes \_\_\_\_ No \_\_\_\_ How many \_\_\_\_

e. Floor drain Yes \_\_\_\_ No \_\_\_\_ How many \_\_\_\_

9. Are any food grinders (garbage disposals) present for waste? Yes \_\_\_\_ No \_\_\_\_ How many \_\_\_\_

## REGISTRATION FORM

### Grease Interceptors and Solids Interceptors

Page 2

10. Exterior grease interceptor information: NA \_\_\_\_

Size of interceptor (in gallons) \_\_\_\_\_

Flow through rating (in gallons per minute) \_\_\_\_\_

Location of interceptor \_\_\_\_\_

For existing facilities:

a. How often is it pumped \_\_\_\_\_

b. By what company? \_\_\_\_\_

c. Do you maintain copies of service records? Yes \_\_\_\_ No \_\_\_\_

d. If "Yes", for how long? \_\_\_\_ years

11. Solids interceptor information: NA \_\_\_\_

Size of interceptor (in pounds) \_\_\_\_\_

Flow through rating (in gallons per minute) \_\_\_\_\_

Location of interceptor \_\_\_\_\_

For existing facilities:

a. How often is it cleaned \_\_\_\_\_

b. How are solids disposed \_\_\_\_\_

c. Do you maintain copies of service records? Yes \_\_\_\_ No \_\_\_\_

d. If "Yes", for how long? \_\_\_\_ years

12. Interior grease interceptor(s) information: NA \_\_\_\_

Size of interceptor(s) (in pounds) \_\_\_\_\_

Flow through rating (in gallons per minute) \_\_\_\_\_

Location of interceptor(s) \_\_\_\_\_

REGISTRATION FORM

Grease Interceptors and Solids Interceptors

Page 3

For existing facilities:

a. How often are they cleaned \_\_\_\_\_

b. How is collected grease disposed \_\_\_\_\_

c. Do you maintain copies of service records? Yes \_\_\_\_ No \_\_\_\_

d. If "Yes", for how long? \_\_\_\_ years

## INSTRUCTIONS

### Grease Interceptors and Solids Interceptors

1. Provide the name of the food service establishment. The establishment name must be as registered with the State Corporation Commission.
2. Provide the physical location of the establishment (i.e., specific street address).
3. Provide the mailing address of the establishment, if different from the physical address (e.g., post office box).
4. Provide the owner of the establishment. The owner name must be as registered with the State Corporation Commission.
5. Provide the name, title and telephone number of the person completing this registration form.
6. Give a brief description of the food service establishment (e.g., this is a deli operation open for lunch and dinner; this is a food preparation operation within a retirement center).

Indicate the number of employees typically at the establishment at any given time. Provide the number of hours the establishment operates during a typical week and what are the days of operation. Please indicate if there are extended hours of operation during a weekend. [e.g., 10 hours/day, Monday-Friday; 9 hours/day, Monday-Thursday and 12 hours/day, Friday-Saturday]

7. Indicate the primary type food being prepared. Also indicate all methods used for preparing the foods. If more than one is noted, circle the one that is utilized the most.
8. Indicate if the food preparation area contains any of the indicated items and, if so, how many of each. This does not include sinks that are within separate bathrooms for guests or mop sinks or floor drains that are separate from the food preparation area(s).
9. Indicate if there are any food grinders (garbage disposals) in the food preparation areas.
10. Provide the following information for the exterior grease interceptor. If you do not have one, check "NA".
  - a. The size of the separator, in gallons (e.g., 1000 gallon unit).
  - b. The design flow rating for the separator (e.g., 25 gallons per minute).
  - c. Provide a brief description for where it is located (e.g., in the rear of the establishment on the east side approximately 20 feet from the building).
  - d. Indicate how often (on average) the separator is pumped and by what company or companies.
  - e. Indicated if records are kept for each servicing of the separator and, if so, how long the records are retained.

## **INSTRUCTIONS**

### **Grease Interceptors and Solids Interceptors**

Page 2

11. Provide the following information for solids separators. If you do not have one, check "NA".
  - a. The size of the separator's holding capacity, in pounds (e.g., 20 pound unit).
  - b. The design flow rating for the separator (e.g., 15 gallons per minute).
  - c. Provide a brief description for where it is located (e.g., in the line from the dishwasher prior to the grease interceptor).
  - d. Indicate how often (on average) the separator is cleaned and by what company or companies. If the separator is maintained by the establishment, indicate what is done with the collected solids.
  - e. Indicated if records are kept for each servicing of the separator and, if so, how long the records are retained.
  
12. Provide the following information for each internal grease separator. If you do not have any, check "NA".
  - a. The size of the separator's holding capacity, in pounds (e.g., 50 pound unit).
  - b. The design flow rating for the separator (e.g., 25 gallons per minute).
  - c. Provide a brief description for where it is located (e.g., in the rear of the kitchen in the floor; in the drain line from the triple sinks).
  - d. Indicate how often (on average) the separator is cleaned and by what company or companies. If the separator is maintained by the establishment, indicate what is done with the collected grease.
  - e. Indicated if records are kept for each servicing of the separator and, if so, how long the records are retained.

# REGISTRATION FORM

## Oil/Water Separators and/or Grit Interceptors

1. Name of Establishment: \_\_\_\_\_
2. Establishment's Physical address: \_\_\_\_\_
3. Mailing address, if different: \_\_\_\_\_
4. Owner Name: \_\_\_\_\_

5. Representative Completing This Form:

Name: \_\_\_\_\_ Title: \_\_\_\_\_

Telephone No.: \_\_\_\_\_

6. Briefly describe the type of operations occurring at the establishment:

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7. Are there any parts washing operations? Yes \_\_\_\_ No \_\_\_\_

If "Yes", please describe what is washed, what items are used (e.g., soaps, grease cutters) and what is done with the used washing solution.

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8. Oil/water separator information: NA \_\_\_\_

Size of unit (in gallons) \_\_\_\_\_

Flow through rating (in gallons per minute) \_\_\_\_\_

Location of separator \_\_\_\_\_

For existing facilities:

a. How often is it serviced \_\_\_\_\_

b. Who provides the service \_\_\_\_\_

c. How is collected oils and grease disposed \_\_\_\_\_

d. Do you maintain copies of service records? Yes \_\_\_\_ No \_\_\_\_



REGISTRATION FORM

Oil/Water Separators and/or Grit Interceptors

Page 2

e. If "Yes", for how long? \_\_\_\_\_ years

9. Grit interceptor information: NA \_\_\_\_\_

Size of unit (in gallons) \_\_\_\_\_

Flow through rating (in gallons per minute) \_\_\_\_\_

Location of interceptor \_\_\_\_\_

For existing interceptors:

a. How often is it maintained \_\_\_\_\_

b. Who provides the maintenance \_\_\_\_\_

c. How is collected grit disposed \_\_\_\_\_

d. Do you maintain copies of service records? Yes \_\_\_\_\_ No \_\_\_\_\_

e. If "Yes", for how long? \_\_\_\_\_ years

## INSTRUCTIONS

### Oil/Water Separators and/or Grit Interceptors

1. Provide the name of the petroleum-using establishment. The establishment name must be as registered with the State Corporation Commission.
2. Provide the physical location of the establishment (i.e., specific street address).
3. Provide the mailing address of the establishment, if different from the physical address (e.g., post office box).
4. Provide the owner of the establishment. The owner name must be as registered with the State Corporation Commission.
5. Provide the name, title and telephone number of the person completing this registration form.
6. Give a brief description of the operations occurring at the establishment (e.g., this is a car wash operation; this is a truck stop that provides maintenance on trucks as one of its services).
7. Indicate if any parts are washed for the purpose of removing oils or grease. If so, indicate what is used (specific chemical, soap) to remove the oils and grease and what is done with the used wash solutions.
8. Provide the following information for the oil/water separator. If you do not have one, check "NA".
  - a. The size of the separator, in gallons (e.g., 1000 gallon unit).
  - b. The design flow rating for the separator (e.g., 25 gallons per minute).
  - c. Provide a brief description for where it is located (e.g., in the rear of the establishment on the east side approximately 20 feet from the building).
  - d. Indicate how often (on average) the separator is pumped and by what company or companies. If the separator is maintained by the establishment, indicate what is done with the collected oils.
  - e. Indicated if records are kept for each servicing of the separator and, if so, how long the records are retained.
9. Provide the following information for each grit separator. If you do not have any, check "NA".
  - a. The size of the separator, in gallons (e.g., 5 gallon unit).
  - b. The design flow rating for the separator (e.g., 5 gallons per minute).
  - c. Provide a brief description for where it is located (e.g., in the floor drain of each car wash bay).
  - d. Indicate how often (on average) the separator is cleaned and what is done with the collected grit.
  - e. Indicated if records are kept for each servicing of the separator and, if so, how long the records are retained.

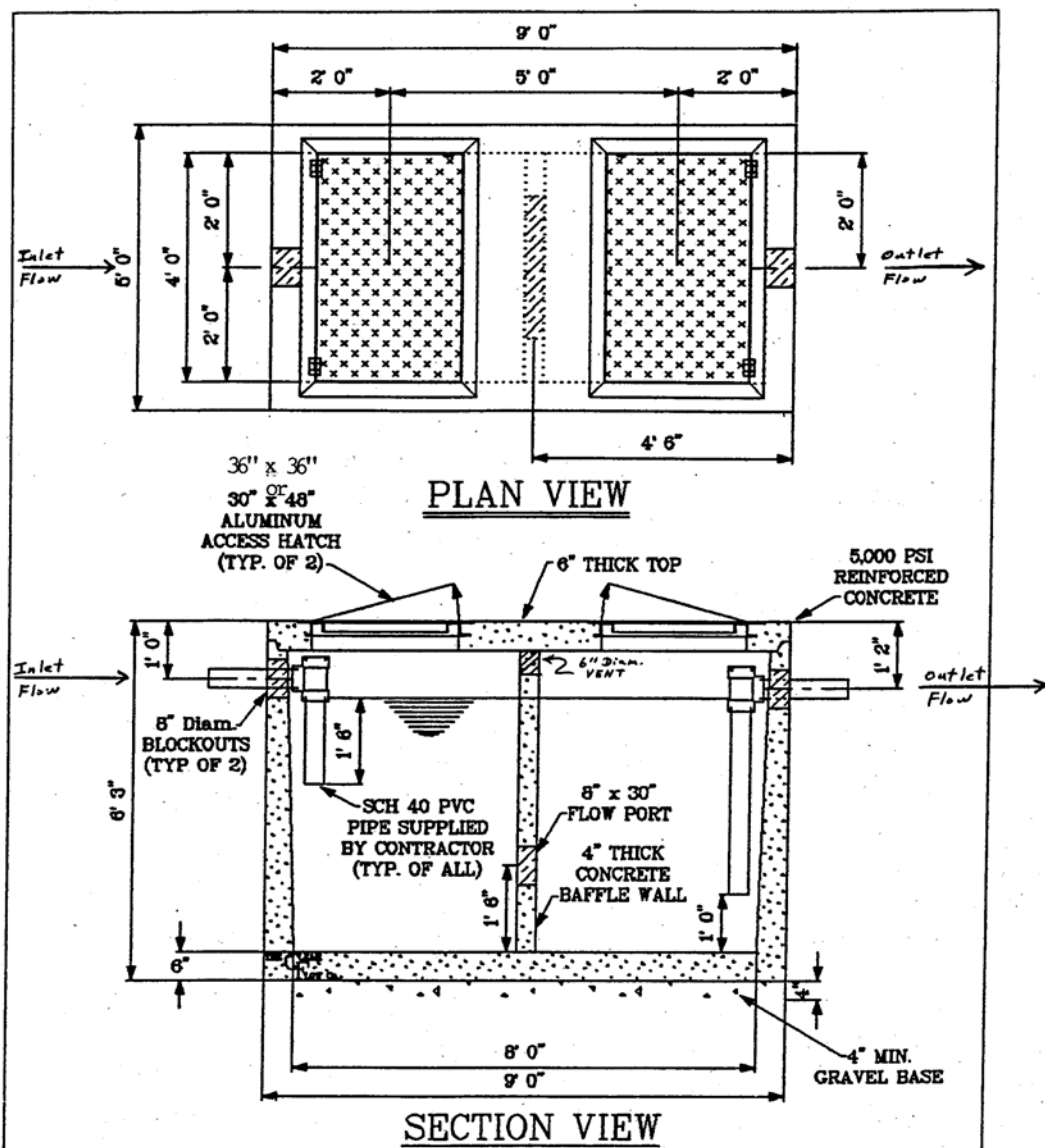
# **APPENDIX 2**

## **EXAMPLE DESIGNS**

**(GREASE INTERCEPTORS,  
SOLIDS INTERCEPTORS,  
OIL/WATER SEPARATORS  
AND  
GRIT INTERCEPTOR)**

**NOTE:** THESE DIAGRAMS/PICTURES ARE PROVIDED AS EXAMPLES AND DO NOT REPRESENT AN ENDORSEMENT OF THE PRODUCT.

### Figure No. 1 – Grease Interceptor With Full Surface Access



**NOTES:**

1. VAULT SHIPPED IN ONE PIECE WEIGHING APPROXIMATELY 16,000 LBS.


DESIGN			THE CLEAR FLOW CO. P. O. BOX 1487 1321 NORTH DELPHINE AVENUE WAYNESBORO, VIRGINIA 22980 (540) 949 - 6369	MADISON HEIGHTS, VIRGINIA
DRAWN	MICHAEL WESSLER			1,000 GALLON GREASE TRAP
CHECKED	CRAIG A. SHREWSBURY			
APPROVED				
REVISIONS		DATE		
			PROJECT NO. PC-	

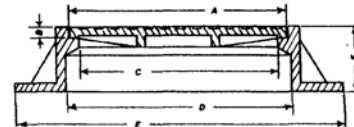
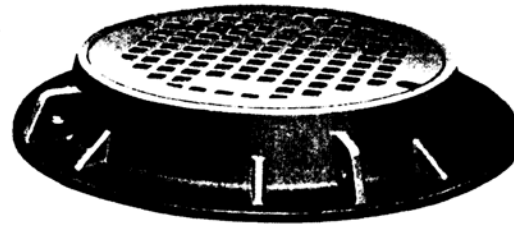
Figure No. 2 – Manhole Frames Providing Full Surface Access

**R-1740 Series Large Manhole Frames, Solid Lids**

Heavy Duty

Also available with  
platen lid.

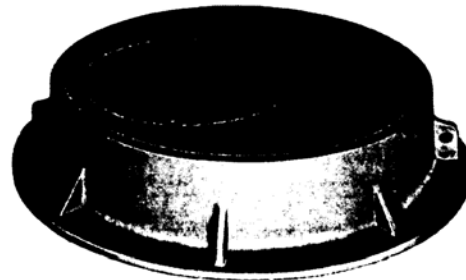
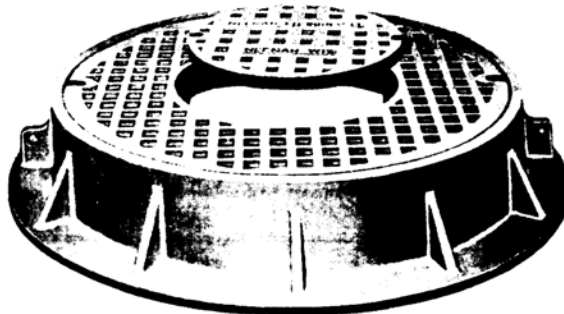
Catalog No.	Dimensions in inches						Wt. Lbs.
	A	B	C	D	E	F	
R-1740-B	32	1½	30	36	46	7	550
R-1740-D	38	1½	36	40½	49	10	875



**NEENAH**  
FOUNDRY COMPANY

**R-1740-1 Series Large Manhole Frames  
Solid Lid with  
Removable Center Lid**

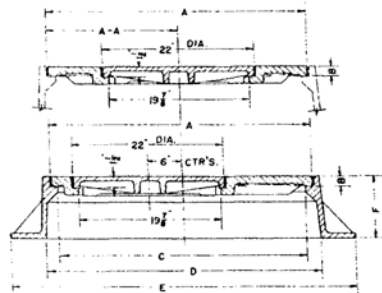
Heavy Duty



Illustrating  
R-1741-D with type "C" checkered lid

Removable 100 lb. 22" diameter lid provides  
easy access to underground vault. R-1741-D off  
center access lid aligns with permanent under-  
ground ladder fastened to vault wall.

Illustrating  
R-1740-E with type "B" lid.



Illustrating  
R-1740 Series  
with 22" dia.  
access lid

Illustrating  
R-1741 Series  
with access  
lid off center

Catalog No.	Dimensions in inches							Lid Type	Wt. Lbs.
	A	AA	B	C	D	E	F		
R-1740-D2	38	19	1½	36	40	49	10	B	875
R-1740-E	44	22	1¾	42	46	56	10	B	1170
R-1740-E1	(See note below**)								
R-1740-F†	50	25	2	48	51	62	10	B	1630
R-1741-D*	38	—	1½	36	40	49	10	C	840
R-1741-E*	44	—	1¾	42	46	56	10	C	1130
R-1741-F*†	50	—	2	48	51	62	10	C	1570

\*22" dia. center lid located 6" off center.

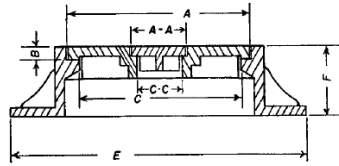
\*\*Same as R-1740-E, except center lid has 31½" diameter.

†Base flange (Dimension E) is flattened to 59" at four quarter points.

## R-1900 Series Valve Manhole Frame, Solid Lid and Center Lid

Heavy Duty

Small inner lid permits easy access to valve without need of removing larger lid.



Dimensions in inches							
Catalog No.	A	AA	B	C	CC	E	F
R-1900-A	18	7 1/4	1 1/4	16 3/4	6	30	8
R-1900-B	23	6	1 1/2	21	5	36	9
R-1900-B1	24	7 1/4	1 1/2	22 1/4	6 1/8	35	7 1/2
R-1900-C	26	9 3/4	1 1/2	24 1/8	8 1/2	35 7/8	6 15/16
R-1900-D	32	12	1 1/2	30	10	46	7
R-1900-E	38	12	1 1/2	36	10	49	10

## R-1900-D1 Valve Manhole Frame, Solid Lid and Center Lid

Heavy Duty

Small inner lid permits easy access to valve without need of removing larger lid.

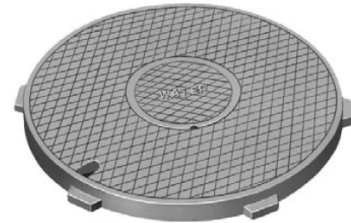
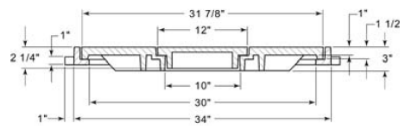
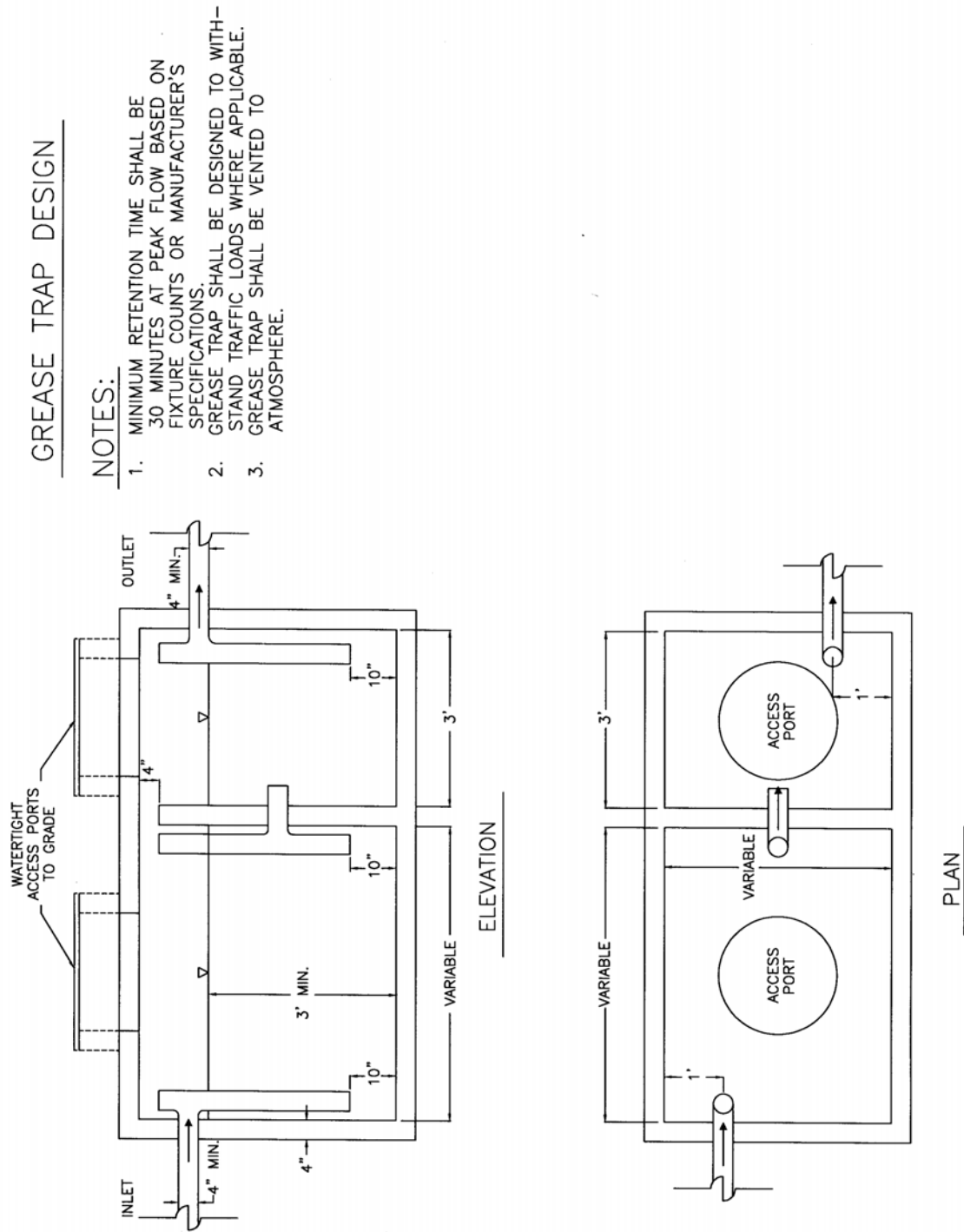


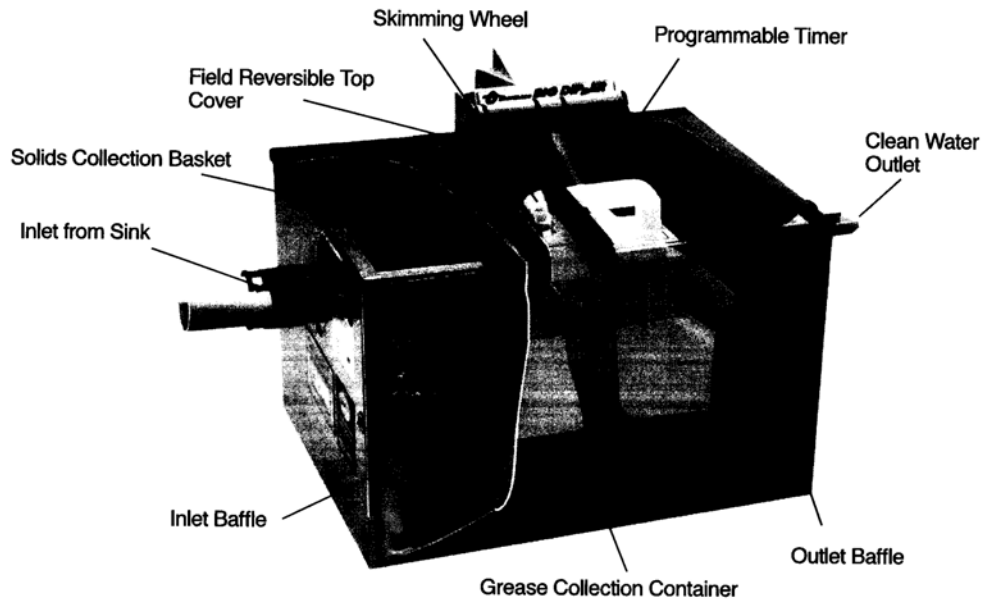
Figure No. 3 – Grease Interceptor With Pipe Through Center Wall



## Figure No. 4 – Grease Interceptor

### **BIG DIPPER® IS Unit Operation**

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Cutaway Drawing of BIG DIPPER® W-200-IS

### **BIG DIPPER® Product Features and Benefits**

---

- **BIG DIPPER® units separate fats, oils and grease with a proven efficiency of up to 98.6%.<sup>2</sup> Automatic removal of grease retains unit separation efficiency.**
- **Fully automatic self cleaning cycle with 24-hour programmable timer Removes collected grease & oils from tank without any operator assistance.**
- **Constructed of corrosion resistant materials. Suitable for installation in virtually any location.**
- **Integrated Motor/Grease Outlet/Heater/Lid on the IS Series. Enables fast, do-it-yourself unit operation reversal.**
- **Incidental solids automatically removed in AST Series. No strainer basket to manually empty.**
- **Easy lift grease collector in the IS Series. Simplifies grease collection container emptying.**
- **Compact footprint. Makes installation possible in tight spaces.**

<sup>2</sup> As tested to ASME standards A112.14.3 and A112.14.4



[illegible]

Figure No. 6 – Picture of Tank Type Grease Interceptor



Figure No. 7 – Solids Interceptor

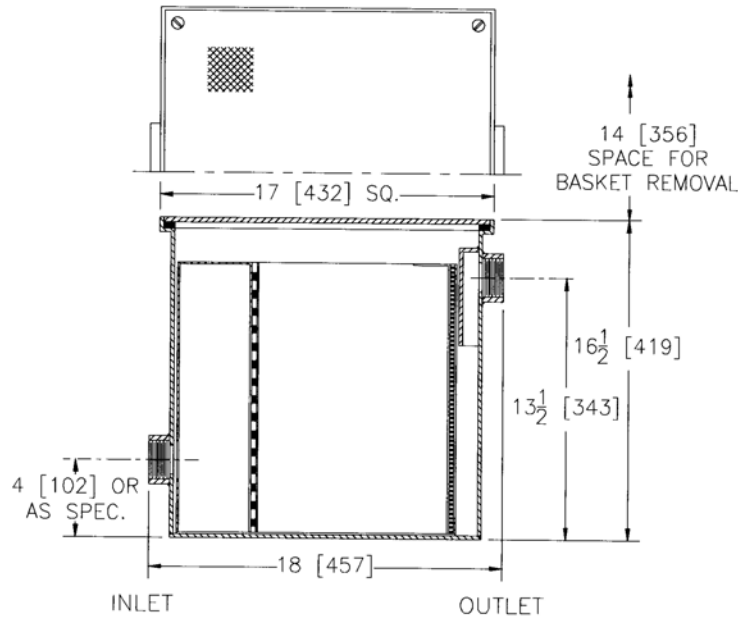


**Z1181**  
**SOLIDS INTERCEPTOR**

SPECIFICATION SHEET

TAG \_\_\_\_\_

Dimensional Data (inches and [ mm ]) are Subject to Manufacturing Tolerances and Change Without Notice



Inlet/Outlet Inches	Flow Rate GPM [L]	Approx. Wt. Lbs. [kg]
1-1/2, 2**, 3 [38, 50, 75]	30 [113]	40 [18]

**ENGINEERING SPECIFICATION:** ZURN Z1181 Large capacity Acid Resistant Coated interior and exterior fabricated steel solids interceptor, in lieu of fixture 'P' trap, for on-floor or flush with floor installation. Furnished with a removable Acid Resistant Coated fabricated steel bucket having removable primary (3/8 [10] dia. holes) and secondary (3/32 [2] dia. holes) flow diffusing/intercepting brass screens, and complete with a top access gasketed secured cover. Regularly furnished with 2 [50] low inlet and high outlet\*\*.

**OPTIONS** (Check/Specify appropriate options)

**PREFIXES**

\_\_\_ Z Standard Assembly\* (See Engineering Specification)

**SUFFIXES**

\_\_\_ -CS Custom Screens (Specify material & perforation size required)  
 \_\_\_ -R Acid Resistant Coated Interior and Exterior Fabricated Steel Recessing Receiver for Recessed Installation is Equipped with Adjustable Support Brackets and Gasketed Non-Skid secured cover with Covered Recessed Lift Handle  
 \_\_\_ -SS Stainless Steel Perforated Screens for Bucket (Specify perforation size)  
 \_\_\_ -YR Replacement Basket Assembly with Perforated Screens

REV. D DATE: 9/17/03 C.N. NO. 91281

DWG. NO. 58913 PRODUCT NO. Z1181

\*REGULARLY FURNISHED UNLESS OTHERWISE SPECIFIED

ZURN INDUSTRIES, INC. • SPECIFICATION DRAINAGE OPERATION • 1801 Pittsburgh Ave. • Erie, PA 16514  
 Phone: 814/456-0921 • Fax: 814/454-7929 • World Wide Web: www.zurn.com  
 In Canada: ZURN INDUSTRIES LIMITED • 3544 Nashua Drive • Mississauga, Ontario L4V1L2 • Phone: 905/405-8272 Fax: 905/405-1292

Figure No. 8 – Solids Interceptor With Filter Bags

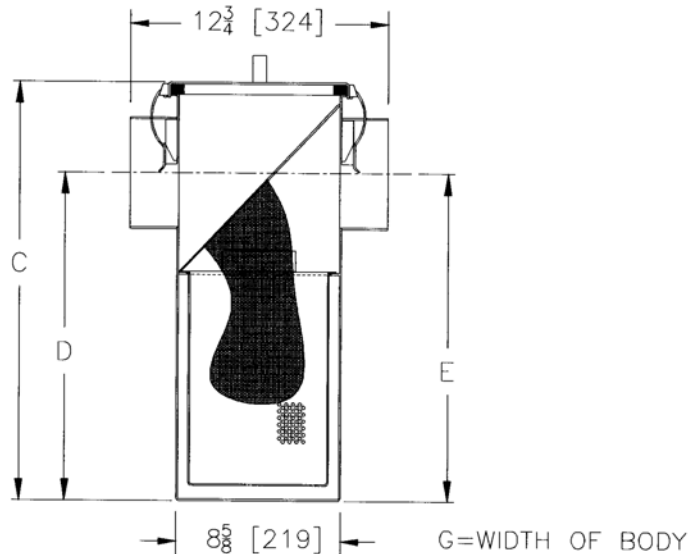


**Z1183-DF**  
**SOLIDS INTERCEPTOR WITH**  
**DISPOSABLE FILTER BAGS**

SPECIFICATION SHEET

TAG \_\_\_\_\_

Dimensional Data (inches and [ mm ]) are Subject to Manufacturing Tolerances and Change Without Notice



Size	Inlet/ Outlet Size	Flow Rate G.P.M. [L]	Solids Cap. of Basket Cubic Ft. [m³]	Dimensions In Inches			No. of Filter Bags Per Unit
				C	G	D/E	
100	2 [50]	4 [15]	0.20 [.006]	10 [254]	9 7/8 [251]	7 1/4 [184]	1
200	2 [50]	7 [26]	0.29 [.008]	11 1/8 [283]	11 7/8 [302]	8 1/8 [206]	2
300	3 [75]	10 [38]	0.33 [.009]	11 3/4 [298]	14 [356]	8 1/4 [210]	2
400	3 [75]	15 [57]	0.38 [.011]	13 3/8 [340]	16 3/4 [425]	9 3/8 [238]	2
500	3 [75]	20 [76]	0.66 [.019]	15 [381]	17 1/4 [438]	11 3/4 [298]	2
600	4 [100]	25 [95]	0.79 [.022]	17 [432]	19 15/16 [507]	12 7/16 [316]	3
700	4 [100]	35 [132]	1.17 [.033]	18 3/4 [476]	22 1/2 [572]	14 3/16 [360]	3
800	4 [100]	50 [189]	1.35 [.038]	21 1/2 [546]	22 1/2 [572]	16 [406]	3
900	4 [100]	75 [284]	1.61 [.046]	22 3/4 [578]	22 1/2 [572]	18 1/2 [470]	3

**ENGINEERING SPECIFICATION:** ZURN Z1183-DF Acid resistant coated fabricated steel, or stainless steel, solids interceptor, for on floor or semi-recessed installation with replaceable filter bags, retainer plate, latched lid, and removable sediment basket. Size to be used with corresponding Z1170 grease Interceptor.

**PREFIXES**

\_\_\_\_ Z Acid Resistant Coated Fabricated Steel\*  
 \_\_\_\_ ZS All Type 304 Fabricated Stainless Steel

**SUFFIXES**

\_\_\_\_ -XB Extra Solids Interceptor Basket.  
 \_\_\_\_ -XF Extra Supply of 30 Solids Filter Bags.

**CAUTION:** Solids interceptor must be maintained periodically in order to ensure proper operation of the system.  
 Cleaning schedule based on usage.

\*REGULARLY FURNISHED UNLESS OTHERWISE SPECIFIED

REV. DATE: 12/15/03 C.N. NO. 91784

DWG. NO. 67592 PRODUCT NO. Z1183-DF

ZURN INDUSTRIES, INC. • SPECIFICATION DRAINAGE OPERATION • 1801 Pittsburgh Ave. • Erie, PA 16514  
 Phone: 814/455-0921 • Fax: 814/454-7929 • World Wide Web: www.zurn.com  
 In Canada: ZURN INDUSTRIES LIMITED • 3544 Nashua Drive • Mississauga, Ontario L4V1L2 • Phone: 905/405-8272 Fax: 905/405-1292

Figure No. 9 – Solids Interceptor

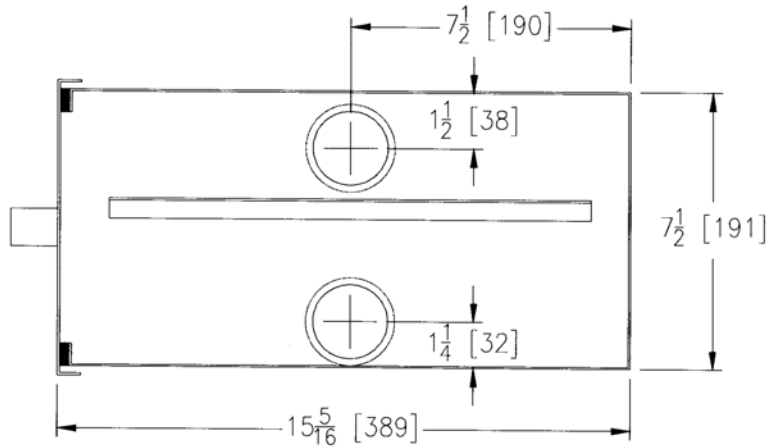


**Z1182**  
**SIDE ACCESS SOLIDS INTERCEPTOR**

SPECIFICATION SHEET

TAG \_\_\_\_\_

Dimensional Data (inches and [ mm ]) are Subject to Manufacturing Tolerances and Change Without Notice



WIDTH =  $11\frac{1}{2}$  [292]

Inlet/Outlet Inches	Flow Rate GPM [L]
2 [50]	35 [132]

**ENGINEERING SPECIFICATION:** ZURN Z1182 Side access stainless steel solids interceptor for suspended or under sink installations where there are height restrictions for a top removal solids interceptor. Furnished with removable sediment basket attached to a removable, gasketed, latched lid. All units have a high inlet and a low outlet on each side for right or left hand mounting.

**OPTIONS** (Check/specify appropriate options)

**PREFIXES**

\_\_\_ ZS- Stainless Steel\*

**SUFFIXES**

\_\_\_ -YR Replacement Stainless Steel Basket Assembly

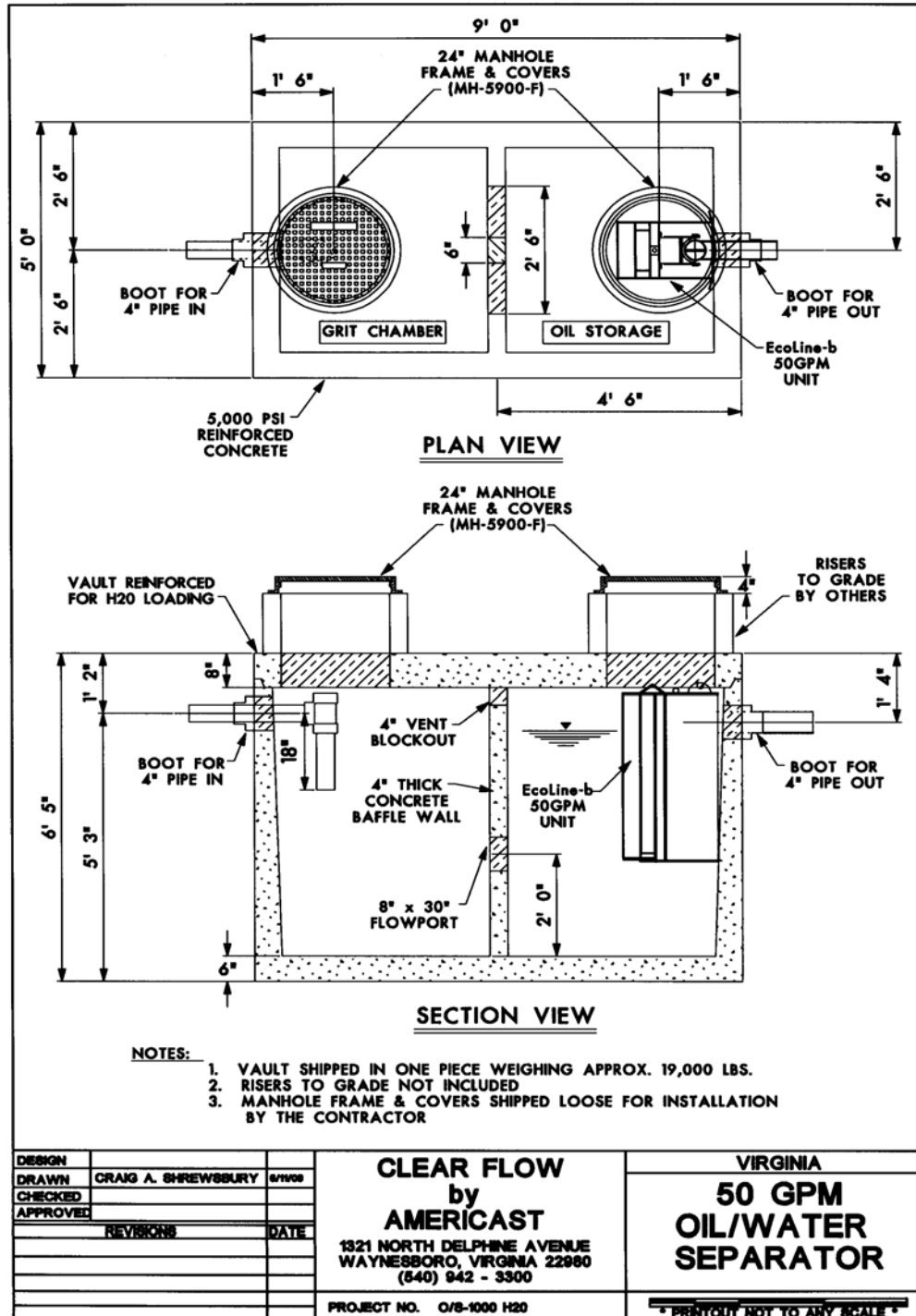
REV. E      DATE: 2/9/04      C.N. NO. 91921

DWG. NO. 59266      PRODUCT NO. Z1182

\*REGULARLY FURNISHED UNLESS OTHERWISE SPECIFIED

ZURN INDUSTRIES, INC. ♦ SPECIFICATION DRAINAGE OPERATION ♦ 1801 Pittsburgh Ave. ♦ Erie, PA 16514  
Phone: 814/455-0921 ♦ Fax: 814/454-7929 ♦ World Wide Web: [www.zurn.com](http://www.zurn.com)  
In Canada: ZURN INDUSTRIES LIMITED ♦ 3544 Nashua Drive ♦ Mississauga, Ontario L4V1L2 ♦ Phone: 905/405-8272 Fax: 905/405-1292

Figure No. 10 – Oil/Water Separator Example



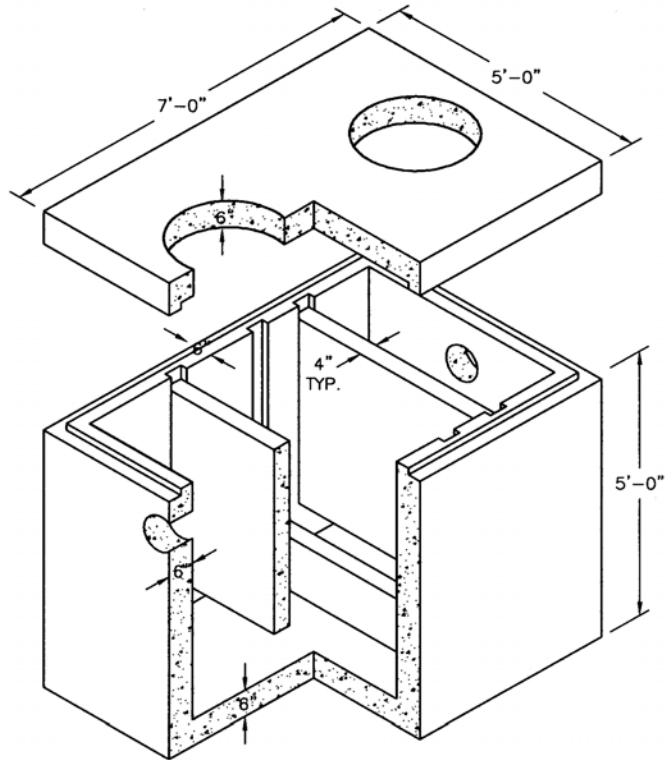
**Figure No. 11 – Oil/Water Separator Example**

**NOTES:**

1. Concrete: 28 Day Compressive Strength  $f'_c = 4,000$  psi.
2. Steel Reinforcement: ASTM A-615, Grade 60.
3. Boxes meet H-20 Loading to 4' Depth.
4. Butyl Rubber Joint Sealant SS-S-00210.
5. Contractor to Verify Size and Location of all Openings.
6. Not Responsible for Watertight Joints.
7. Contractor to Install and Grout in Baffles and Weir. Supply and Install all Piping and Sampling Tees. Fill with Clean Water Prior to Start-up of System.

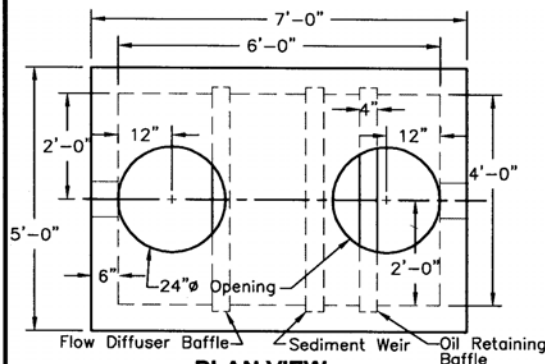
**Weight Schedule**

Top Slab	WT/Lbs
	2,154
Solid Base	WT/Lbs
	9,999
Flow Diffuser Baffle	WT/Lbs
	743
Sludge Retainer Baffle	WT/Lbs
	212
Oil Retainer Baffle	WT/Lbs
	743



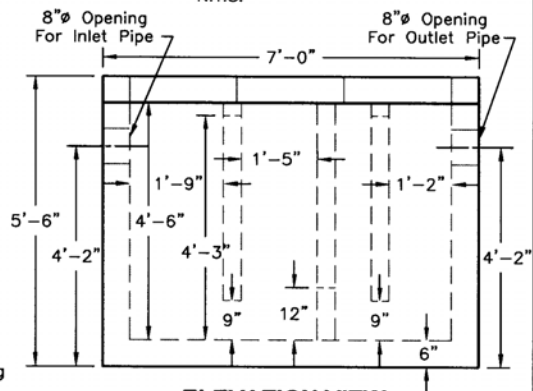
**ISOMETRIC VIEW**

N.T.S.



**PLAN VIEW**

N.T.S.



**ELEVATION VIEW**

N.T.S.



920 Withers Road Raleigh, NC 27603  
Phone: 919.772.6301 Fax: 919.772.1209

**487254-OWS**

FILE NAME: 4500WS7254\_DET.DWG

ISSUE DATE: JULY, 2008

[www.oldcastleprecast.com](http://www.oldcastleprecast.com)

**Oil-Water Separator  
600 Gallon**

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Figure No. 12 – Grit Interceptor Example

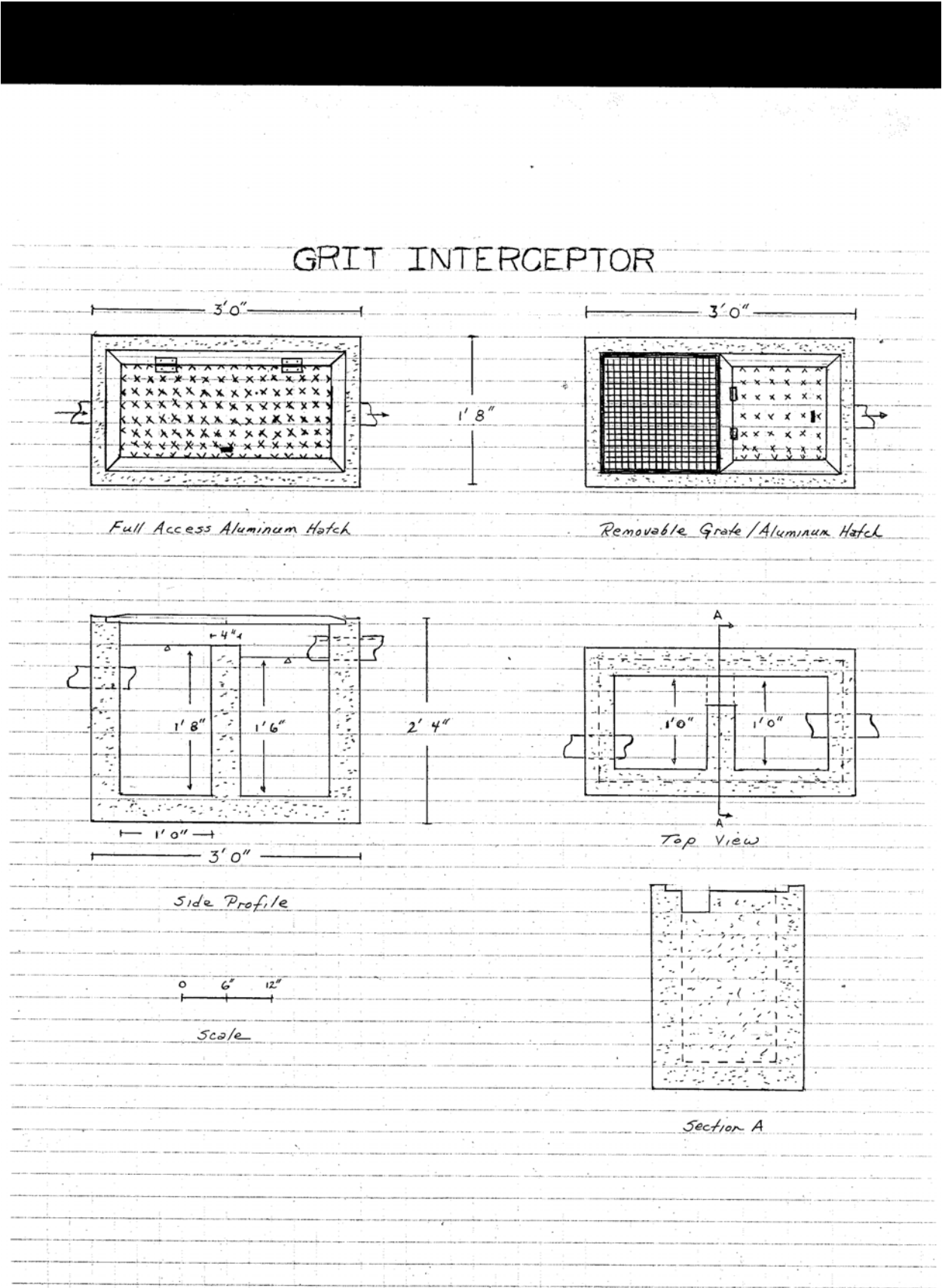
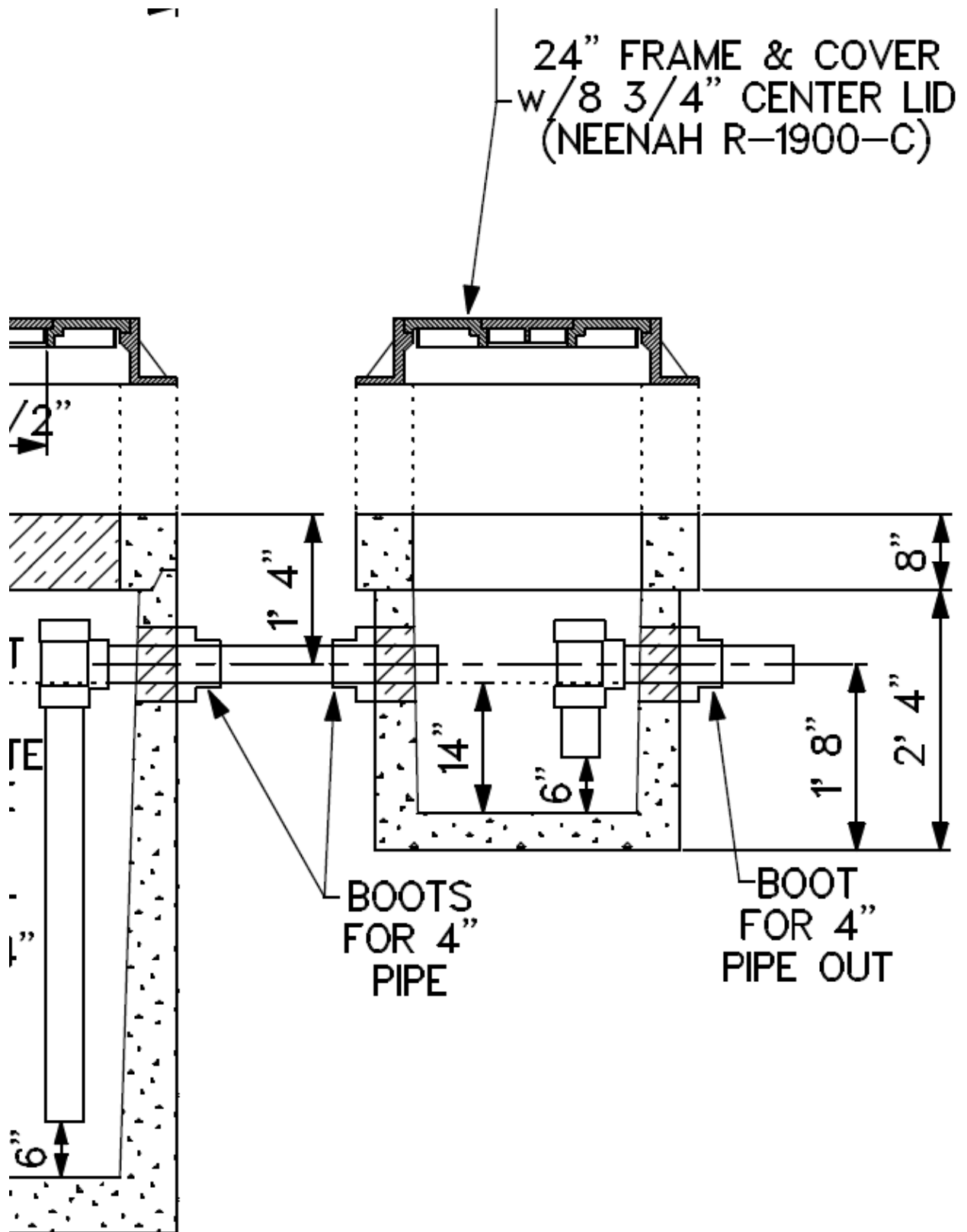




Figure No. 13 – Sampling Manhole Example



# **APPENDIX 3**

## **EXAMPLE INSPECTION AND MAINTENANCE LOGS**

# INSPECTION LOG

## GREASE INTERCEPTOR

Establishment Name: \_\_\_\_\_

Physical Address: \_\_\_\_\_

[illegible]

# MAINTENANCE LOG

## GREASE INTERCEPTOR

Establishment Name: \_\_\_\_\_

Physical Address: \_\_\_\_\_

[illegible]

# INSPECTION LOG

## OIL/WATER SEPARATOR

Establishment Name: \_\_\_\_\_

Physical Address: \_\_\_\_\_

[illegible]

# MAINTENANCE LOG

## OIL/WATER SEPARATOR

Establishment Name: \_\_\_\_\_

Physical Address: \_\_\_\_\_

[illegible]

# INSPECTION LOG

## GRIT SEPARATOR

Establishment Name: \_\_\_\_\_

Physical Address: \_\_\_\_\_

[illegible]

# MAINTENANCE LOG

## GRIT SEPARATOR

Establishment Name: \_\_\_\_\_

Physical Address: \_\_\_\_\_

[illegible]



## **APPENDIX 4**

### **EXAMPLE ENFORCEMENT MATRIX**

## Enforcement Matrix

The following matrix will be used to assist in establishing charges for violations of this program. Each day of non-compliance is considered a separate offense and there can be multiple violations considered. Non-compliance will be reviewed on a rolling 12-month period.

<b>MINOR</b>	<b>1<sup>st</sup> Offense</b>	<b>2<sup>nd</sup> Offense</b>	<b>3<sup>rd</sup> Offense</b>
Failure to register grease interceptors, grit interceptors or oil/water separators	Warning; complete within 5 business days	\$50.00	Doubling (e.g. \$100.00)
Failure to maintain required records.	Warning; initiate within 5 business days	\$50.00	Doubling (e.g. \$100.00)
Failure to submit records as required.	Warning; complete within 5 business days	\$50.00	Doubling (e.g. \$100.00)
Delay in allowing inspection or hindrance of the inspection.	Warning	\$50.00	Doubling (e.g. \$100.00)
<b>MODERATE*</b>			
Failure to clean out the grease interceptors, grit interceptors or oil/water separator at the designated frequency.	Violation Notice	\$100.00	Doubling (e.g. \$200.00)
Failure to maintain the grease interceptors, grit interceptors or oil/water separator in good working order.	Violation Notice	\$100.00	Doubling (e.g. \$200.00)
Exceeding 25% of the grease/solids depth in an exterior grease interceptor.	Violation Notice	\$100.00	Doubling (e.g. \$200.00)
<b>SEVERE/MAJOR*</b>			
Falsification of records.	\$500.00	\$750.00	Doubling (e.g. \$1500.00)
Being the source of a sewer line blockage and/or a sanitary sewer overflow.**	\$500.00	\$750.00	Doubling (e.g. \$1500.00)

\* As an alternate approach, water and sewer service may be discontinued at an earlier point in the number of offenses for both moderate and severe/major violations, including immediately, for severe/major violations.

\*\* For this offense, the cost will include materials, labor and supervision for unblocking the sewer line. In addition, this total cost will also include any associated costs for the actual clean up.

Note: There will be a \$100.00 inspection fee for any inspection performed as a result of a notice of violation.

# **APPENDIX 5**

## **PROGRAM REQUIREMENTS WAIVER FORM**

## PROGRAM REQUIREMENTS WAIVER FORM

1. Establishment Information:
  - a. Name of establishment: \_\_\_\_\_
  - b. Physical address: \_\_\_\_\_
  - c. Mailing address (if different): \_\_\_\_\_
2. Contact person:
  - a. Name: \_\_\_\_\_
  - b. Telephone no.: \_\_\_\_\_
3. Provide the specific section(s) of the FOG program to which a waiver/variance is being sought. [e.g., section E.1.a.]
4. Provide the specific provision of each section of the FOG program to which a waiver/variance is being sought.
5. Provide a detailed explanation as to why the waiver/variance is being sought.

---

### For Approval Authority Use Only

Reviewed By: \_\_\_\_\_ Date: \_\_\_\_\_

Additional Information Requested: Yes ☐ No ☐

Additional Information Received: Yes ☐ No ☐ Date: \_\_\_\_\_

Approved: Yes ☐ No ☐