

## SECTION 7.06 GREASE TRAPS, GREASE INTERCEPTORS, AND OIL/WATER SEPARATORS

It is the intent of the North Charleston Sewer District's (NCSD) Fats, Oils, and Grease (FOG) Program Standard to provide for specific standards for oil/water separator and grease trap/interceptor location, design, installation, construction, operation, and maintenance in compliance with NCSD's discharge requirements. Failure to comply with this Standard shall be considered a violation of applicable sections of the existing Sewer Use Resolution and subject to applicable penalties and/or denial or discontinuance of sewer service.

### A) Definitions

All definitions shall be as currently supplied in the existing NCSD Sewer Use Resolution with the following additions:

1. Best Management Practices (BMPs): Methods, tools, and techniques that have been used throughout the industry and have been determined to be the most effective and practical means of preventing or reducing FOG pollution/discharge when implemented properly and consistently. These BMPs may help to decrease the required maintenance of grease traps/interceptors and oil/water separators.
2. Change in Operations: Any change in the ownership, food types, or operational procedures that have the potential to increase the amount of FOG generated and/or discharged by Food Service Establishments in an amount that alone or collectively causes or creates a potential for sanitary sewer overflows (SSOs) to occur.
3. FOG (fats, oils and grease): Organic polar compounds derived from animal and/or plant sources that contain multiple carbon chain triglyceride molecules. Substances that solidify or become viscous at temperatures between 32° F - 150° F, (0° C - 65° C) be referred to as FOG. FOG may be referred to as "grease" or "greases" in this section.
4. Food Service Establishment (FSE): Shall mean any commercial facility discharging kitchen or food preparation wastewater including restaurants, motels, hotels, cafeterias, hospitals, schools, bars, etc. and any other facility that, in NCSD's judgement, would require a grease trap/interceptor installation by virtue of its operation. Such definition normally (though not always) includes any establishment required to have a South Carolina Department of Health and Environmental Control (SCDHEC) retail food establishment (RFE) permit. RFE exemptions that are still considered a FSE under NCSD regulation include, but are not limited to:
  - a. Businesses serving non-TCS (Time or Temperature Controlled for Safety) foods

- b. Residential kitchens or home-based food production under SC Cottage Food Law
  - c. Bed and breakfasts with ten (10) rental rooms or less  
See *SCDHEC Reg 61-25-8-301.12 (A)* for further information.
5. Grease Interceptor: A plumbing appurtenance or appliance that is installed in a sanitary drainage system to intercept non-petroleum fats, oils, and greases (FOG) from a wastewater discharge (See *2021 Uniform Plumbing Code Chapter 2* for further information).
- a. Gravity Grease Interceptor: A grease interceptor that is identified by volume, 30 minute retention time, baffle(s), not less than two compartments, a total volume of not less than 300 gallons (1135 L), and gravity separation. [These interceptors comply with the requirements of Chapter 10 of the 2021 Uniform Plumbing Code (UPC) or are designed by a registered design professional.] Gravity grease interceptors are generally installed outside.
  - b. Grease Removal Device (GRD): A hydromechanical grease interceptor that automatically, mechanically removes non-petroleum fats, oils, and grease (FOG) from the interceptor, the control of which are either automatic or manually initiated.
  - c. Hydromechanical Grease Interceptor: A plumbing appurtenance or appliance that is installed in a sanitary drainage system to intercept non-petroleum fats, oils, and greases (FOG) from a wastewater discharge and is identified by flow rate, and separation and retention efficiency. The design incorporates air entrainment, hydromechanical separation, interior baffling, or barriers in combination or separately, and one of the following:
    - i. External flow control, with an air intake (vent), directly connected.
    - ii. External flow control, without air intake (vent), directly connected.
    - iii. Without external flow control, directly connected.
    - iv. Without external flow control, indirectly connected.These interceptors comply with the requirements of Table 1014.2.1 of the 2021 UPC. Hydromechanical grease interceptors are generally installed inside. Hydromechanical grease interceptors may be referred to as “grease traps” in this section.
6. Grease Recycle Container: Container used for the storage of yellow grease.
7. Liquid Waste Hauler: One who is licensed to transfer waste from the site of a customer to an approved site for disposal or treatment. The hauler performs

maintenance, repair, and other services on a customer's grease trap/interceptor and/or oil/water separator at the customer's directive. The hauler is responsible for assuring that all federal, state and local laws and regulations are followed.

8. Mobile Food Unit: A self-propelled or vehicle mounted unit intended to be used as a food service facility. Mobile food units shall have an approved location for grease recycling and/or graywater disposal.
9. Oil/Water Separator (OWS): A device used to separate oil from wastewater prior to being discharged into the district's sewer system. There are two common types of oil/water separator units; they are (1) API-type OWS and (2) Coalescing plate separator (CPS). Both types are designed to separate sediment and oil from wastewater. Oil and sediment are stored within the unit until properly collected and disposed of. The water discharges to the sanitary sewer.
10. Vehicle Maintenance Wastewater: Wastewater generated by floor washdown and incidental drippage from vehicles as a result of routine vehicle servicing operations and/or washing of vehicle exteriors or interior equipment components.
11. Yellow Grease: Fats, oils and grease that has not been in contact or contaminated from other sources (water, wastewater, solid waste, etc.) and can be recycled. Yellow grease is normally stored in grease recycle containers or bins for beneficial reuse.

#### B) General Requirements

1. The requirements herein are applicable to all businesses and FSEs, new or existing, that discharge FOG waste, including those that are undergoing:
  - a. New construction;
  - b. Interior remodeling, renovation, or reconstruction;
  - c. Expansion or operational modifications;
  - d. Changes of ownership/occupancy; and
  - e. Facilities, which may be experiencing difficulty in achieving compliance with maintenance and/or wastewater discharge limitations.
2. All FSEs in NCSD's sewer service area shall have a grease trap/interceptor approved by NCSD. Establishments whose grease traps/interceptors are not in accordance with this Standard shall be given a compliance schedule with a deadline not to exceed three (3) months from the initial notification date.
  - a. Accelerated compliance shall be required for FSEs which are found to be discharging FOG in sufficient quantities to cause blockages or necessitate maintenance on the wastewater collection system to prevent blockages.

- b. Proper installation, operation, maintenance, and repair of grease traps/interceptors shall be done solely at the property owner and/or FSE owner's expense.
3. All grease traps/interceptors shall be designed, installed, and located in accordance with this Standard to allow for complete access for maintenance, inspection, cleaning, servicing, and/or sampling.
4. All FSEs shall be subject to periodic review, evaluation and inspection by NCSD representatives. Results of inspections will be made available to the property owner and/or FSE operator with overall ratings assigned and recommendations for correction/improvement (if necessary).
5. The facility receiving two (2) consecutive unsatisfactory evaluations or inspections shall be subject to penalties, restrictions, or other corrective actions for noncompliance with the NCSD Sewer Use Resolution.
6. Property owner(s) and/or FSE owner(s) shall be responsible for maintaining the facility's grease traps/interceptors by removal and disposal by appropriate means of the captured material. Removal and hauling of collected materials not performed by owner's personnel must be performed by a currently licensed liquid waste hauler. Records of the dates and means of disposal, along with any maintenance contracts, must be kept on-site for a minimum of three (3) years and be available for review at the discretion of NCSD.
  - a. FSEs shall observe Best Management Practices (BMPs) for controlling the discharge of FOG from their facility.
  - b. FSEs shall dispose of yellow grease in an approved container, or recycle container, and the contents shall not be discharged to any sanitary sewer line, stormwater grate, drain or conveyance.
  - c. It shall be a violation of this policy to push or flush any portion of a grease trap/interceptor into the public sewer.
7. NCSD may sample all grease trap effluent flows suspected or perceived to contain an oil and grease concentration in excess of 100 mg/l for analysis by a certified laboratory. FSEs whose sampled flows are found to exceed 100 mg/l of oil and grease shall be liable to NCSD as outlined in the current Rate Resolution.
8. FSEs whose operations cause or allow excessive grease to discharge to or accumulate in the sewer collection system, cause an obstruction of sewer lines or who fail to properly maintain required grease trap documentation shall be notified of any non-compliance and provided a schedule whereby corrections must be accomplished. Failure to complete corrective actions by the schedule provided may be subject to penalties as outlined in the current Rate Resolution. Failure to pay charges may be grounds for sewer service discontinuance.

## C) Construction Standards

### 1. New Food Service Establishments

- a. All newly constructed (or newly located) FSEs shall be required to install a grease trap/interceptor, approved by the NCSD, prior to initiating operations.
- b. FSEs required to install new grease traps/interceptors shall complete and submit a Grease Trap Application to the NCSD FOG Department prior to installation.
  - i. Along with the completed required Grease Trap Application, all grease traps/interceptor plans, designs, and specifications must be reviewed and approved by NCSD prior to installation or modification.
  - ii. The user, owner, and/or leasee will be held responsible for installation of the approved grease trap/interceptor.
  - iii. It is the responsibility of the FSE, new or existing, to notify a NCSD FOG program representative to schedule a preliminary plan review appointment.
  - iv. The review and approval of the plans and procedures shall in no way relieve the FSE of the responsibility of modifying the facilities or procedures in the future, as necessary to produce an acceptable discharge, and to meet the requirements of this policy or any requirements of other regulatory agencies.
- c. Grease traps/interceptors shall be constructed and located in accordance with current EPA, UPC, and SC Plumbing Code standards.
- d. All underground grease interceptors, whether singular or tanks in series, must be directly accessible from the surface. The minimum access opening dimensions shall be 18 inches x 18 inches or a minimum of 24 inches in diameter. Access to grease interceptors shall be provided by a minimum of one (1) manhole per interceptor division (baffle chamber). Access opening covers should be removable with ease by one person. Concrete or metal coverings in excess of 75 lbs. are not considered removable by one person, therefore the owner must provide personnel to open/close the cover for inspections.
  - i. Grease interceptor access manholes shall never be paved over or have any other hindrances to allow access. Any temporary or permanent obstruction to safe and easy access to the areas to be inspected and/or monitored shall

be removed promptly by the responsible party at the written or verbal request of NCSD or its authorized agents. The costs of clearing such access shall be borne by the responsible party.

- ii. The access manholes shall extend at least to finished grade and be designed and maintained to prevent water inflow or infiltration.
- e. The inlet and outlet piping for a grease interceptor shall have 2-way cleanout tees installed and leveled. The inlet piping shall enter the receiving chamber two-and-one-half (2 ½) inches above the invert of the outlet piping. A pipe installed in the bottom of the inlet tee shall extend to a point of 2/3 the depth of the liquid retained in the tank.
- f. The outlet for a grease interceptor must be fitted with an extended sanitary tee that terminates 6 to 12 inches above the tank floor. The outlet piping shall be no smaller than the inlet piping, but in no case smaller than 4 inches in diameter.
- g. If the interceptor is two chambered, the inlet compartment shall be 2/3 of the total liquid capacity with the outlet compartment at 1/3 liquid capacity of the interceptor.
- h. The grease interceptor shall have a non-flexing (i.e. concrete, steel, etc.) baffle extending the full width of the interceptor, sealed to the walls and the floor, and extending from the floor to within 6" of the ceiling. The baffle wall(s) must be equipped with an extended elbow or extended sanitary tee no less than 4 inches in size that is installed in the inlet compartment side of the baffle and terminates 6 to 12 inches above the tank floor. The horizontal portion of the tee shall extend through the baffle into the outlet compartment. The baffle wall shall be sealed to the sweep.
- i. The flow control of the grease interceptor shall be vented and terminate not less than six (6) inches above the flood rim level of the fixtures being served. Vent piping must be a minimum two (2) inches diameter.
- j. Grease interceptors shall be structurally designed to withstand any anticipated load to be placed on the interceptor (i.e. vehicular traffic in parking or driving areas).
- k. Grease interceptors that are installed in series shall be installed in such a manner to ensure positive flow between the tanks at all times. Therefore, tanks shall be installed so that the inlet invert of each successive tank shall be a minimum of 2 inches below the outlet invert of the preceding tank.

- l. Grease traps may be allowed where underground grease interceptors are not feasible. Grease traps shall be located as close to the source fixture as possible and be fitted with flow control fittings to the inlet side of the unit to prevent overloading the grease trap.
  - i. Grease traps must have the Plumbing Drainage Institute certification, and be installed as per manufacturer's specifications. Grease traps may not be installed so as to be recessed into the floor of any building or installed outside any building.
  - ii. No grease trap installed within the District may be of a size less than a 20-gallon-per-minute/ 40-pound capacity.
- m. Dishwashers, high-temperature equipment (water temperatures greater than 140 F), and garbage grinders piped directly to any grease trap/interceptor are prohibited.
- n. Drainage systems conveying sanitary waste (toilets, lavatories, etc.) shall not be connected to the grease trap/interceptor.
- o. All grease bearing waste streams should be routed through an appropriate grease trap/interceptor.
- p. All grease traps/interceptors must be installed by properly licensed plumbing contractors.

2. Existing Food Service Establishments

- a. All FSEs that are existing, new businesses in existing buildings, renovations, changes in operation, and/or changes of ownership are required to have a grease trap/interceptor approved by NCSD. FSEs without a grease trap/interceptor or whose existing grease trap/interceptor is under-designed, substandard, or poorly operated will be given a compliance deadline not to exceed three (3) months from date of notification to have an approved grease trap/interceptor installed or repaired to be in compliance with this Standard. Failure to come into compliance within the specified time frame will be considered a violation of the existing NCSD Sewer Use Resolution and will subject the establishment to penalties, corrective actions and/or discontinuance of sewer service.
- b. Construction and/or repair of grease traps/interceptors for existing FSEs shall comply with the requirements set forth in this Section 7.06, Subsection C (1), "New Food Service Establishments".

- c. A change in property ownership, change in FSE ownership, and/or significant change in operation shall be reported to the NCSD FOG Program in writing within thirty (30) days of the property ownership and/or FSE change.
  - d. Any FSE that goes out of business shall report such closure to the NCSD FOG Program in writing within thirty (30) days of closure and shall ensure that any grease trap/interceptor shall be cleaned and pumped before the building is vacated.
3. New Multi-Unit (Strip Mall) Facilities:
- a. All new buildings or strip centers containing sections designated for commercial enterprise of the strip center may be required to provide a stub-out for a separate waste line for future grease interceptor installation; all plans are subject to approval by the NCSD FOG Department.
  - b. The user, owner, and/or leasee of a new strip center shall consider suitable physical property space and sewer gradient that will be conducive for the installation of an exterior, in ground grease interceptor(s) for any flex space contained within the strip center.
4. Multifamily Dwellings:
- a. All new multifamily dwellings being constructed within NCSD service bounds shall be required to install and properly maintain an approved grease recycle container on the premises.
  - b. Existing multifamily dwellings which are found by NCSD to be contributing FOG in sufficient quantities to cause main line stoppages, maintenance problems at lift stations, and/or increased maintenance in the collection system shall be required to install and properly maintain an approved grease recycle container on the premises.

#### D) Maintenance

- 1. Maintenance of grease interceptors must include thorough pump-out and/or cleaning with a frequency not to exceed ninety (90) days, or more often as determined by an NCSD inspector.
- 2. Maintenance of grease traps must include thorough pump-out and/or cleaning with a frequency not to exceed thirty (30) days, or more often as determined by an NCSD inspector.



3. All grease traps/interceptors shall be maintained for continuous, satisfactory and effective operation by the property owner and/or FSE owner, leaseholder or operator at his expense. The property owner and/or FSE operator is ultimately responsible for ensuring best management practices are followed within the facility to minimize the discharge of fats, oils, and grease.
4. In maintaining the existing grease trap/interceptor, the owner shall be responsible for the proper removal and disposal of captured material by appropriate means and shall maintain records of the dates and means of disposal that are subject to review by the NCSD.
5. The use of chemicals, solvents, acids, caustics, enzymes, hot water, emulsifiers, surfactants, or other additives in the grease trap/interceptor is prohibited.
6. Grease-consuming bacteria may be considered as complimentary maintenance on a case-by-case basis by NCSD, provided this method is effective and satisfactory. Exclusive use of bacteria in lieu of physical cleaning is prohibited. Bacteria shall not be a consideration in determining grease interceptor sizing or maintenance frequency.
7. The FSE shall maintain a file on site of the records and other documents pertaining to the facility's grease traps/interceptors, including but not limited to inspection records, cleaning/maintenance activity records, grease hauler manifests, FOG BMPs, and monitoring data, if required. The file shall be available at all times for inspection and review by NCSD. Records shall be maintained for a period of three (3) years.
  - a. Copies of cleaning records and/or manifests shall be submitted by the FSE user, owner, and/or lessee every three (3) months to the NCSD FOG Department.
8. It shall be the responsibility of the property owner or FSE owner/operator to inspect the grease trap/interceptor during the pumping or maintenance procedure to ensure that the cleaning is done properly and that all fittings and fixtures inside the grease trap/interceptor are in working condition and functioning properly. NCSD reserves the right to be present to inspect all maintenance.
9. For each grease trap/interceptor that is rated for 50 gallons per minute (gpm) or more, FSEs are required to utilize a liquid waste hauler to collect, transport and dispose of the waste within the grease trap/interceptor.
10. Skimming the surface layer of waste material, partial cleaning of the grease trap/interceptor or use of any method that does not remove the entire contents of the grease trap/interceptor is prohibited. It is prohibited to allow the discharge of

liquid, semi solids, or solids back into an interceptor during and/or after servicing.

11. All waste removed from each grease interceptor shall be disposed of at a facility permitted and authorized to receive such waste in accordance with all applicable Federal, State and local laws and regulations. In no way shall the interceptor waste be returned to any private or public portion of NCSD's collection system, into the environment, or be otherwise improperly disposed of.
12. All FSEs shall have Best Management Practices (BMPs) in place to reduce and prevent discharges of FOG to the public sewer and to ensure proper performance of grease traps/interceptors. NCSD may require BMP modifications as necessary to ensure compliance.
13. Any liquid waste hauler, plumber, or contractor that cleans FOG from a FSEs' private sewer lines must ensure that the FOG and other debris cleaned from the private sewer lines is removed and does not cause an obstruction or blockage in the NCSD's sanitary sewer system.

#### E) Inspections

1. All grease traps/interceptors as well as any pertinent records/files shall be subject to review, evaluation and inspection by NCSD or their authorized representative as necessary to assure compliance with the requirements herein. NCSD shall also determine if all Best Management Practices agreed upon have been implemented by the FSE.
2. If any deficiencies are recorded by the NCSD Inspector during an inspection, the NCSD Inspector shall provide the FSE a verbal and/or written notice to correct the deficiency and a tentative date for a first re-inspection.
  - a. The NCSD Inspector shall re-inspect the FSE which received deficiency notices after the original inspection and charge a re-inspection fee (as set forth and established by the current NCSD Rate Resolution).
  - b. The NCSD Inspector shall inspect any repairs or other deficiencies and shall provide verbal and/or written notice of compliance or non-compliance as the case may be. In the event of continuing non-compliance, successive reinspections will be scheduled and fees (as set forth and established by the current NCSD Rate Resolution) shall be charged to the FSE concerned for all successive reinspections.

#### F) Enforcement

1. Enforcement of this Standard shall be in accordance with the provisions of the most current NCSD Sewer Use Resolution. Failure to comply with this Standard may be grounds for penalty imposition and/or discontinuance of wastewater service.

Additionally, failure to comply may result in notification to the SCDHEC for request of enforcement action that may lead to revocation of retail food service permits.

2. NCSD may elect to request from the appropriate building official that certificates of occupancy be withheld until compliance with NCSD's requirements, including grease trap compliance, is fully met.

#### G) Requests for Variance or Waiver from Grease Trap/Interceptor Requirements

1. A request for waiver or variance from the requirements or implementation of the requirements contained within this Resolution may be submitted by a FSE to the NCSD FOG Program. The request for variance must specifically state the reason for the request and how the FSE will ensure demonstrated compliance with established limits. The NCSD FOG Program's determination to grant or revoke a waiver or variance will be on a case-by-case basis.
2. In no case shall a variance be issued in lieu of compliance with established discharge limits or when damage to the collection system is evident.
3. A waiver or variance may be revoked at any time when any of the terms and conditions for its issuance is not satisfied or if the conditions upon which the waiver was based change so that the justification for the waiver no longer exists.
4. In the event an FSE is temporarily closed or has significantly decreased food service operations, pump-out and cleaning of an interceptor shall be required at least once every 180 days.

#### H) FOG Program Rates and Fees

1. An annual fee of \$ 45 will be charged for any new grease trap/interceptor added to the District's collection system or when there is a change in ownership or significant change in operation.
2. An additional compliance inspection fee of \$ 45 may be charged to each food service establishment for each re-inspection due to noncompliance issues.

*\*Rates and fees are subject to change. Refer to the current NCSD Rate Resolution for applicable fees.*

#### I) Oil/Water Separator (OWS) Requirements

1. Installation and Design
  - a. An OWS shall be installed at, but not limited to, mechanical/automotive repair shops, car-washing facilities, lube and oil change operations, and any business where floor drains collect vehicle maintenance wastewaters. The owner, user, or leaseholder shall be responsible to have an architect, engineer, plumber, or other qualified person design, properly size, and install an Oil Water Separator for their specific business operation in accordance with the Universal Plumbing Code 2021 and SC Plumbing Code 2018 standards for traps, interceptors, and separators.

- b. The owner, user, or leaseholder, shall provide the following to the NCS D FOG Program Authority prior to installation: OWS preliminary application, building blueprints with plumbing plans, calculation(s) used to determine the size of the OWS, and a new customer information form.
  - c. All equipment, including drains, that have the potential to discharge oil or similar pollutants, shall be connected to the OWS. No valve or piping bypass equipment that could prevent vehicle maintenance wastewater from entering appropriate treatment equipment shall be present at such facility or site. Unless the OWS has a built-in grit interceptor, there may be some industrial and commercial establishments for which separate grit interceptors will be necessary to install prior to an OWS.
  - d. OWS's shall be installed and maintained continuously in satisfactory and effective operation by and at the expense of the facility owner, user, or leaseholder. Both the facility owner, user, or leaseholder shall be jointly and severally responsible for installing an OWS and for properly servicing and maintaining the device. In the event an existing facility's OWS is either under-designed or substandard in accordance with this policy, the owner, user, or leaseholder will be notified in writing of the deficiencies in addition to the required improvements. There shall be a compliance deadline not to exceed (6) months.
  - e. Facilities without OWS's will be given a compliance deadline not to exceed six months from the date of notification to have approved equipment installed to be in compliance with this standard. Failure to do so will be considered a violation of the NCS D Sewer Use Resolution and may subject the facility to enforcement proceedings which shall include civil penalties.
  - f. Applications for a waiver will be considered on a case-by-case basis. If the application is approved, District signature of the application will constitute waiver approval. The waiver will remain effective on a conditional basis pending continued compliance with the oil and grease discharge limits. The waiver is non-transferable. A new application shall be submitted if ownership should change. The waiver may be withdrawn upon development of oil and grease or grit problems in the public sewer traceable to the site; or if the commercial or institutional activity at the site materially changes.
2. Maintenance and Records
    - a. Facilities with OWS's shall submit all service manifest records for OWS pumping/cleaning services that are performed by licensed companies that specifically service and haul OWS devices and its waste to the NCS D Fats, Oils, & Grease (FOG) program department every 6 months. The owner, user, or

leaseholder shall be responsible for the proper removal and disposal of OWS contents and are required to maintain on-site records which shall include service manifest forms. Wastes removed from an OWS shall be disposed of at a facility permitted to receive such waste. It is the responsibility of the facility's owner, user, or leaseholder to ensure that the OWS maintenance service company is in compliance with all Federal, State and local regulations concerning the pumping of OWS's and the hauling & disposal of their contents.

- b. The OWS shall have all contents pumped out followed by cleaning of the device equipment which shall be performed by a liquid waste hauler that specifically services OWS equipment devices and waste as often as necessary to assure that the separator continues to operate efficiently. The quantity of oil, grease and grit located within the separator at any time shall not exceed twenty percent (25%) of the distance between the separator base and static liquid level.
- c. It is the facility owner, user, or leaseholder's duty to inform the District of any facility name change within thirty (30) days. If a facility name changes and they do not inform the District of such changes within thirty (30) days, they may be subject to enforcement action which may include civil penalties.