Public Works & Utilities/Compliance
324 W. Evans St.
Florence, SC 29501
843-665-3236

Fats, Oils, and Grease (FOG) Program

FOG Discharge Approval Application Form

Instructions: For the City of Florence to properly evaluate, process, and issue a **FOG Discharge Approval Letter**, the applicant must provide a completed **FOG Discharge Approval Application Form**.

- The **FOG Discharge Approval Application Form** must be filled out completely. The application will be returned if it contains missing information. Please, write N/A if the information being requested does not apply.
- The application must be signed by the Food Service Establishment's (FSE's) Owner. The City of Florence will return the application if it is not signed by the proper applicant.
- All **Required FOG Documentation** as described in the **New FSE FOG Requirements Outline** must be submitted with this application. Complete the checklist on the last page provided to ensure completion of all requirements.

I. Food Service Establishment (FSE) General Information

Name of FSE: _____

Address: _____

City: _____ State: _____ Zip: _____

Phone Number: _____ E-mail Address: _____

Mailing Address (If different from above): _____

City: _____ State: _____ Zip: _____

II. FSE Owner Information

Name: _____

Address: _____

City: _____ State: _____ Zip: _____

Phone Number: _____ E-mail Address: _____

III. FSE Operational Characteristics

1. Type of Development (Check one): ☐ **REMODELED** ☐ **NEW CONSTRUCTION**

2. Wastewater Discharge (Check one): ☐ Existing Sewer Discharge
☐ Existing Septic Tank
☐ Proposed New Sewer Discharge
☐ Proposed New Septic Tank

Type of FSE		Location	
☐ Fast Food Restaurant	☐ Cafeteria	☐ Stand-alone FSE	☐ Nursing Home
☐ Full Service Restaurant	☐ Ice Cream Shop	☐ Strip Mall Attached	☐ Hotel/Motel
☐ Buffet	☐ Bar	☐ Mall/Food Court	☐ Supermarket
☐ Take - Out (only)	☐ Catering	☐ School	☐ Religious Institution
☐ Coffee Shop	☐ Hotel	☐ Club/Organization	☐ Correctional Facility
☐ Bakery	☐ Club	☐ Company/Office Building	☐ Convenience Store
☐ Delicatessen	☐ Grocery Store	☐ Stadium/Amusement Park	☐ Other _____
☐ Fish/Seafood Market	☐ Other _____	☐ Hospital	

Days of Operation	Hours of Operation
Monday	Start: _____ Stop: _____ Start: _____ Stop: _____ or ☐ 24 Hours ☐ Closed
Tuesday	Start: _____ Stop: _____ Start: _____ Stop: _____ or ☐ 24 Hours ☐ Closed
Wednesday	Start: _____ Stop: _____ Start: _____ Stop: _____ or ☐ 24 Hours ☐ Closed
Thursday	Start: _____ Stop: _____ Start: _____ Stop: _____ or ☐ 24 Hours ☐ Closed
Friday	Start: _____ Stop: _____ Start: _____ Stop: _____ or ☐ 24 Hours ☐ Closed
Saturday	Start: _____ Stop: _____ Start: _____ Stop: _____ or ☐ 24 Hours ☐ Closed
Sunday	Start: _____ Stop: _____ Start: _____ Stop: _____ or ☐ 24 Hours ☐ Closed

Miscellaneous Information			
# of Employees		Plate Washing	☐ Yes ☐ No
Seating Capacity		Seating	☐ Sit-down ☐ Take-out ☐ Both

IV. FOG Discharge Approval Required Documentation Checklist

- ☐ FOG Discharge Approval Application Form completed
- ☐ Formula showing Grease Control Device (GCD) calculations
- ☐ FSE Floor Plan - denoting size of GCD and piping
- ☐ Equipment/Plumbing Schedule
- ☐ Sanitary Plumbing Plan - denoting grease waste line and sanitary line
- ☐ Sanitary Isometric - denoting grease waste line and sanitary line
- ☐ Grease Interceptor Details (if applicable)
- ☐ Grease Trap Details (if applicable)
- ☐ FSE Menu - **ATTACH A COPY OF YOUR MENU TO THE APPLICATION**

I hereby certify that information submitted in this application is correct. I have read and understand City Code Chapter 12 pertaining to responsibilities of a User of the City of Florence's Sanitary Sewer System which is found at www.cityofflorence.com under the Code of Ordinances tab. This approval is only valid for this specific facility, ownership, processes, and operation indicated in this application. This approval cannot be sold, transferred, or reassigned.

Signature: _____ Date: _____

Mail the completed application and additional information to:
City of Florence
Compliance Assistance – Brian Hays
324 W. Evans St.
Florence, SC 29501

If you have any questions concerning the City's FOG Program contact Brian Hays, CMOM Compliance Inspector for the City of Florence by phone **(843) 665-3236** or by e-mail at **bhays@cityofflorence.com.**

New & Remodeled Food Service Establishment Fats, Oils, and Grease Requirements Outline

Introduction

The following requirements are for Food Service Establishments (FSE)s discharging into the City of Florence's Sanitary Sewer System. All new FSEs are required to install a grease control device(s) (GCD)(s) before discharging into the City's sewer. Any business that is required by SCDHEC to obtain a Retail Food Establishment Permit must adhere to the requirements provided to receive a Fats, Oils, and Grease (FOG) Discharge Approval Letter from the City. If you have any questions regarding FOG Compliance or construction contact Brian Hays, Capacity, Management, Operations, and Maintenance (CMOM) Compliance Inspector at **(843) 665-3236** or **bhays@cityofflorence.com.**

Approval of FOG Discharge

All components of the establishment's FOG discharge must be approved by the City of Florence prior to installation including GCD(s) and fixtures draining through the establishment's grease line. This ensures that the GCD(s) and grease waste line meet sizing requirements, construction standards, and conforms to applicable City and plumbing codes. A completed and signed **FOG Discharge Approval Application Form** and other **Required FOG Documentation** must be submitted to Compliance Assistance to obtain approval.

Kitchen fixtures that must drain through grease waste line include:

- Pot Sinks
- Pre-Rinse Sinks
- Dishwashers
- Rotisserie ovens/broilers or other grease generating equipment with drip lines
- Mop Sinks
- Can Washer(s)
- Soup Kettles (Kettle Cookers) or sinks into which kettles are drained
- Garbage Disposal (with solids interceptor)
- Automatic Hood Wash Unit(s)
- Floor Drains in food preparation area
- Wok Sinks
- Any other fixture that produces grease-laden wastes

* Any fixture not containing grease-laden waters shall not be plumbed to the establishment's GCD(s) but to the sanitary waste line.

Minimum Design Standards – Grease Interceptors (Typical Included on Last Page)

The sizing of grease interceptors approved by the City of Florence Compliance Assistance is as follows:

Steps	Formula	Example
1	Determine **cubic content** of fixtures draining to grease interceptor. Multiply **length** x **width** x **depth** x **# of compartments**	A **3**-compartment sink **24"** long by **24"** wide by **12"** deep. **Cubic content:** 24" x 24" x 12" x 3" = **20,736 in.³**
2	Determine **capacity in gallons** gallon = 231 in.³	**Capacity in gallons:** 20,736 in.³ / 231 **= 89.8 gal.**
3	Determine **actual drainage load**. Fixture is normally only filled to 75% capacity with water. Items being washed displace about 25% of the fixture content, thus actual drainage load = 75 % of fixture capacity	**Actual drainage load:** .75 x 89.8 gal. = **67.35 gal.**
4	Calculate **peak flow rate** based on a **2 minute drainage period**. Drainage period is the actual time required to completely drain the fixture. **Peak Flow Rate** = Actual Drainage Load / Drainage Period	**Peak flow rate for 2 minute drainage period:** 67.35 gal. / 2 min. = **33.7 GPM**
5	Calculate **total peak flow rate** of all calculable fixtures draining to grease interceptor by repeating **steps 1-4** **Total Peak Flow Rate =** Fixture 1 GPM + Fixture 2 GPM + Fixture 3 GPM, etc.	**Total Peak Flow Rate** 33.7 GPM + 15 GPM + 7 GPM = **55.7 GPM**
6	Add the **discharge rate** from dishwashers, laundry machines, glass washers, etc. The user's manual for these appliances should indicate the manufacturer's **discharge rate** in GPM. Apply them to your calculation after determining the **total peak flow rate** to get the FSE's **total FOG discharge**. **Total FOG Discharge** = Total Peak Flow Rate + Discharge Rate	**Total FOG Discharge** **55.7 GPM + 5 GPM** **= 60.7 GPM**
7	Calculate Size of **Grease Interceptor in Gallons** based on 24 minute retention time. 24 minutes is an industry standard given to allow separation of emulsified grease from water. **Grease Interceptor Size (Gallons)** = Total FOG Discharge x 24 minute retention time	**Grease Interceptor Size (Gallons)** 60.7 GPM x 24 min. = 1456.8 round up to nearest available size = **1500 Gallon Grease Interceptor**

When **grease interceptor** design and construction begin the following minimum compliance standards must be adhered to in order to receive approval and obtain a **FOG Discharge Approval Letter** upon completion of said design and installation (see typical on last page):

- Shall be designed, constructed, and installed for adequate load-bearing capacity.
- Should be located outside of building in an accessible area so that inspecting, pumping, and maintenance can be easily performed at any time. Placement should allow the interceptor covers to be visible and easily removed without obstruction.
- Directly accessible from the surface by 24" diameter manhole covers over the influent tee, effluent tee, as well as over the baffle wall tee.
- Manhole covers and risers shall be constructed to prevent the release of odor and the inflow or infiltration of water.
- Dual compartments separated by an interior baffle wall.
- The top of the baffle wall shall terminate two inches below the bottom side of the tank top in order to leave space for air or gas passage between compartments.
- Influent compartment should account for 2/3 of the interceptor's liquid capacity.
- Effluent compartment should account for 1/3 of the interceptor's liquid capacity.
- Grease interceptor tank length shall be at least two (2) but not more than three (3) times the width.
- The liquid depth shall not be less than four (4) feet.
- A minimum of nine (9) inches of freeboard shall be provided.
- Useable liquid capacity for grease interceptors shall not be less than one thousand (1000) gallons.
- The knockouts for the inlet and outlet openings of pre-cast tanks shall have a concrete thickness of not less than one (1) inch in the tank wall. The openings shall allow for a minimum diameter of four (4) inch pipe or a maximum of six (6) inch pipe.
- No openings shall be permitted below the tank liquid level.
- The influent, effluent, and baffle wall tees for grease interceptors shall be cast-in-place concrete, polyvinyl chloride (PVC), or polyethylene (PE), made of not less than Schedule 40 pipe or equivalent fittings and material.
- Cast-in-place concrete tees shall have a minimum thickness of not less than two (2) inches.
- The invert of the effluent shall be at least two (2) inches lower in elevation than the invert of the influent.
- Influent, effluent, and baffle wall tees shall extend above liquid depth to approximately one (1) inch from the top of the tank to allow between tank compartments.
- The influent tee shall extend at least sixteen (16) inches below the liquid level.
- The effluent tee and baffle wall tee shall extend below liquid level to twelve (12) inches above the tank bottom.
- The influent, effluent, and baffle wall conduit openings for all tanks must utilize a resilient, watertight, and non-corrosive connective sleeve. The use of grout is prohibited.

Minimum Design Standards – Grease Traps

The sizing of grease traps approved by the City of Florence Compliance Assistance is as follows:

Steps	Formula	Example
1	Determine **cubic content** of fixture. Multiply **length** x **width** x **depth** x # **of compartments**	A **3**-compartment sink **24"** long by **24"** wide by **12"** deep. **Cubic content:** 24" x 24" x 12" x 3" = **20,736 in.^{3}**
2	Determine **capacity in gallons** 1 gallon = 231 in.^{3}	**Capacity in gallons:** 20,736 in.^{3} / 231 **= 89.8 gal.**
3	Determine actual drainage load. Fixture is normally only filled to 75% capacity with water. Items being washed displace about 25% of the fixture content, thus actual drainage load = 75 % of fixture capacity	**Actual drainage load:** .75 x 89.8 gal. = **67.35 gal.**
4	Calculate flow rate based on a 2-minute drainage period. Drainage period is the actual time required to completely drain the fixture. Flow rate = **Actual Drainage Load** / **Drainage Period**	**Calculate flow rate for 2-minute drain down period:** 67.35 gal. / 2 min. = **33.7 GPM Flow Rate**
5	Select Grease Trap based on calculated flow rate. Note: Select next larger size when flow rate falls between two PDI manufactured grease traps	**Select Grease Trap** **PDI size 35 GPM**

* When grease trap will handle multiple fixtures add together GPM Flow Rate's of each fixture to determine proper PDI size.

When a properly sized **grease trap(s)** is/are installed the following minimum compliance standards must be adhered to in order to receive approval and obtain a **FOG Discharge Approval Letter** upon completion of said design and installation:

- Must be certified by the Plumbing & Drainage Institute (PDI) and installed with all applicable components.
- The PDI nameplate shall be permanently marked with the manufacturers name, the PDI symbol rating and the minimum grease retention capacity in lbs.
- Grease traps shall be installed in strict accordance with the manufacturer's instructions.
- Install trap as close as practical to fixture or fixtures being served, PDI recommends not to exceed twenty-five (25) feet.
- The grease trap may be set on the floor, partially recessed in the floor, with top flush with the floor, or fully recessed below the floor to suit piping and structural conditions.
- Grease traps shall be equipped with a cover that can be opened for inspection and sampling and a mechanism for a secure closing.
- Anticipate sufficient clearance for removal of trap cover for cleaning.
- Grease traps shall be equipped with a device to control the rate of flow through the unit. The rate of flow shall not exceed the manufacturers rated capacity recommended in gallons per minute for the device.
- The flow-control device and the grease trap shall be vented in accordance with the International Plumbing Code current edition. The vent shall terminate not less than six (6) inches above the flood-rim level or in accordance with the manufacturer's instructions.
- Do not install grease trap in waste line from garbage grinder unless a solids interceptor is installed. Rapid accumulation of solid matter will greatly reduce grease trap efficiency preventing operation in compliance with rated capacity.
- The capacity of the grease trap shall be related to the flow rate as indicated in Table 1 and the appendix of the PDI Standards G101 document.
- The flow control fitting furnished with PDI certified traps must be installed prior to the grease trap in the waste line beyond the last connection from the fixture and as close as possible to the underside of lowest fixture. When waste of two or more sinks or fixtures are combined to be served by one grease trap, a single flow control fitting should be used. If the drain line drops ten (10) feet or more to the trap, check with the manufacturer to see if an additional flow control is needed due to built up head pressures.
- Air intake for flow control shall terminate six (6) inches above the flood rim of the sink, terminate in a return bend at the same height and on outside of building, or be re-vented into the vent system of the building per International Plumbing Code. When fixture is individually trapped and back vented, air intake may intersect vent stack.
- Grease traps shall have a vented waste on the outlet side, sized in accordance with code requirements for venting traps to retain water seal and prevent siphoning.
- One grease trap to serve multiple fixtures is recommended only where fixtures are located close together. In such installations, each fixture should be individually trapped and back vented.
- A separate grease trap is recommended for each commercial dishwasher. The size of the interceptor is determined by the GPM discharge rate of the dishwasher as specified by the manufacturer.

Submittal of Required FOG Documentation

The following information must be submitted to receive approval to discharge FOG into the City's Sanitary Sewer System:

- FOG Discharge Approval Application
- Formula used to calculate GCD(s) size(s)
- FSE Floor Plan - showing the size and location of the GCD(s) and piping
- Equipment/Plumbing Schedule
- Sanitary Plumbing Plan - denoting grease waste line and sanitary line
- Sanitary Isometric - denoting grease waste line and sanitary line
- Grease Interceptor Detail(s) (if applicable)
- Grease Trap Detail(s) (if applicable)
- Menu

FOG Compliance Inspection

The FSE's GCD(s) will be inspected after installation to ensure Minimum Design Standards were satisfied. To receive final approval to discharge FOG into the City sewer an appointment must be made with an inspector from Compliance Assistance of the City of Florence during construction/renovation for the inspection of the establishment and the installation of its GCD(s).

Upon installation of the FSE's plumbing an inspector will check to ensure all applicable fixtures are connected to the grease waste line. If the FSE is renovated, the grease line maybe subject to dye testing to determine compliance.

Grease Interceptor

- The grease interceptor should not be backfilled
- The manhole covers should be removed from the interceptor and the downstream manhole

Grease Trap

- Cover should be removed
- PDI-certification should be visible on lid

FOG Discharge Approval Letter

A letter will be sent in 2-3 business days after the FOG Compliance Inspection to confirm that final approval has been given to discharge FOG into the City of Florence Sanitary Sewer System or contact will be made with the appropriate parties to discuss what elements of the FOG discharge need to be changed. This approval letter will be needed to discharge grease-laden wastewater to the City Sewer. The design elements that did not meet the approval of the City of Florence must be corrected and may need to be re-submitted for further review.