



**CITY OF
LANCASTER**

A City Authentic

Department of Public Works

Bureau of Wastewater

1220 New Danville Pike

Lancaster, PA 17603

FOG CONTROL PROGRAM MANUAL

January 2019

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1. Regulatory Background

The City of Lancaster entered a Judicial Consent Decree (CD) with the Department of Justice, the US Environmental Protection Agency (EPA) and the PA Department of Environmental Protection (PADEP) to address its Long-Term Control Plan (LTCP) for its combined sewer overflows (CSOs). As part of the CD, the City must develop a program to address the discharge of fats, oils, and grease (FOG) to the City sewer system per Section VI.C. Paragraph 40. The FOG control program is required as part of the Nine Minimum Controls (NMC) to address discharges from the CSOs. The FOG program must be submitted 12 months after the effective date of the CD (February 27, 2019) as part of the NMC document.

2. Introduction

The FOG control program is designed to protect residents, businesses and the environment from sewer backups and overflows, which may be caused from the accumulation of FOG in the sewer collection and conveyance system. Controlling the sources of FOG from food service establishments (FSE) and petroleum oil establishments (POE), as well as ensuring proper maintenance and cleaning of the sewer collection system, can reduce FOG blockages and overflows. A FOG control program will also reduce the associated deterioration of sewer pipe from frequent cleaning.

The FOG Control Program will consist of FSE and POE inventory efforts, grease interceptor and oil/water separator sizing design and installation oversight, inspection of FOG facilities on a routine basis, implementation of best management practices (BMPs), public education on FOG prevention practices and FOG data management.

3. Definitions and Acronyms

3.1 Definitions

- A. **AUTHORIZED AGENT OF THE CITY** - A certified sewage enforcement officer, code enforcement officer, professional engineer or consultant, plumbing inspector, health inspector, or any other qualified or licensed person who is delegated by the City to carry out the provisions of this Ordinance.
- B. **BEST MANAGEMENT PRACTICES (BMPs)** – As used in this Ordinance, BMPs are schedules of activities, prohibitions of practices, maintenance procedures and other management practices to prevent or reduce the introduction of fats, oils and grease to the sewer collection system.
- C. **BROWN GREASE** – Floatable fats, oils, grease and settled solids produced during food preparation that are recovered from grease interceptors.
- D. **CITY** – The City of Lancaster, Lancaster County, Pennsylvania, a Pennsylvania municipal corporation, acting by and through its Council or, in appropriate cases, acting by and through its authorized representatives.
- E. **CODES OFFICE** – City of Lancaster Bureau of Codes Compliance and Inspections.
- F. **COMPOSITE SAMPLE** – A combination of individual samples obtained at regular intervals over a specified period of time. The volume of each individual samples may be either proportional to the

flow rate during the sample period (flow composite) or constant and collected at equal time intervals during the composite period (time composite).

G. **DIRECTOR** – The Director of the Department of Public Works who is authorized to supervise the operation of the sewer system or his/her authorized designee.

H. **EXISTING FACILITY** – Any building, structure or installation from which there is or may be a discharge of wastewater, the construction of which started prior to adoption of this Ordinance.

I. **FATS, OILS AND GREASE (FOG)** – Organic polar compounds derived from animal and/or plant sources that contain multiple carbon chain triglyceride molecules, such as rendered animal fat, vegetable shortening and other such oily material used for the purposes of and resulting from cooking and/or preparing food, and is distinct from petroleum or mineral oils.

J. **FATS, OILS AND GREASE DISCHARGE PERMIT (FOG PERMIT)** – The permit issued to an automotive repair, car wash or food service establishment that grants the facility permission to discharge the facility's wastewater to the sewer collection system under the conditions of the City Ordinance.

K. **FOOD SERVICE ESTABLISHMENT (FSE)** – Any food service facility that prepares, packages or serves food or beverages for sale or consumption, onsite or offsite, with the exception of private residences, and that use one or more of the following preparation activities: cooking by frying, baking, grilling, sautéing, rotisserie cooking, broiling, boiling, blanching, roasting, toasting or poaching. Also included are infrared heating, searing, barbecuing and other food preparation activities that produce a hot, non-drinkable food product in or on a receptacle that requires washing. Food service establishments shall include, but not be limited to, food courts, food manufacturers, food packagers, meat distributors, restaurants, grocery stores, convenience stores, warehouse stores, bakeries, lounges, hospitals, hotels, nursing homes, churches and schools.

L. **GARBAGE** – Solid or semi-solid wastes resulting from preparation, cooking and dispensing of food and from handling, storage and sale of produce.

M. **GRAB SAMPLE** – A sample that is collected from a waste stream on a one-time basis, with no regard to the flow in the waste stream and over a period of time not to exceed 15 minutes, but shall reasonably reflect actual discharge conditions for that instant.

N. **GREASE INTERCEPTOR** – A device typically located underground and outside of a food service establishment designed to collect, contain or remove food wastes and grease from the waste stream while allowing the wastewater to discharge to the sewer collection system by gravity. It may also include a device typically located inside a food service establishment or under a sink and designed to collect, contain or remove food wastes and grease from the waste stream by gravity or by hydromechanical means while allowing the wastewater to discharge to the sewer collection system.

O. **HAULER** – Any person who alone, jointly or severally with others conducts or operates tank truck(s) for use in the removal, transportation and disposal of sanitary sewage, industrial waste or FOG waste.

P. **HEALTH OFFICER** – An individual licensed by the Commonwealth of Pennsylvania as a Public Health Officer and recognized by the City.

- Q. IMPROVED PROPERTY – Any property located within the City, or the portion of Lancaster Township served by the City’s sewer system, upon which there is erected a structure or structures intended for continuous or periodic habitation, occupancy, or use by human beings or animals, and from which structure sanitary sewage and/or industrial waste shall be or may be discharged.
- R. INDUSTRIAL WASTE – Any solid, liquid or gaseous substance, water-borne waste or form of energy, which is produced as a result, whether directly or indirectly, of any industrial, manufacturing, commercial, trade or business or research process or activity, or in the course of developing, recovering or processing of natural resources and which is discharged into the sewer system; but not noncontact cooling water or sanitary sewage. Any wastewater which contains industrial waste and which is discharged from an industrial, manufacturing, trade or business premises is considered industrial waste for the purposes of this Ordinance.
- S. OIL/WATER SEPARATOR – A device typically located at an automotive repair facility or car wash that is designed to remove free-floating oil, grease and settleable oily-coated solids from oil/water mixtures associated with facilities engaged in services using petroleum products. Oil/water separators may be located aboveground or underground and may be equipped with coalescers that accelerate the separation process and greatly reduce the level of oil and oily-coated solids discharged to the sewer system.
- T. OWNER – Any person vested with ownership, legal or equitable, sole or partial, of any improved property.
- U. PENNSYLVANIA UNIFORM CONSTRUCTION CODE (UCC) – The model codes as adopted by the Commonwealth of Pennsylvania, including the International Building Code, the International Energy Conservation Code, the International Fire Code, the International Fuel Gas Code, the International Mechanical Code, the International Performance Code for Buildings and Facilities, the International Plumbing Code, the International Residential Code and the International Wildland-Urban Interface Code, which in turn are adopted by the City.
- V. PERSON – Any individual, partnership, co-partnership, firm, company, association, joint-stock company, society, trust, corporation, estate, governmental entity (federal, state and local), limited liability company or other group or legal entity, or their legal representatives, agents or assigns. The masculine gender shall include the feminine; the singular shall include the plural where indicated by context.
- W. PETROLEUM OIL ESTABLISHMENT (POE) – Any facility that has the potential to discharge petroleum products and mineral oils to the sewer systems via floor drains or oil/water separators. POE facilities may include but are not limited to, automotive repair and service facilities, automotive body shops and car washes.
- X. PLUMBER – A person engaged in the plumbing trade and licensed by the City.
- Y. PLUMBING INSPECTOR – A certified individual in commercial plumbing plan review and inspection who is registered with the Pennsylvania Department of Labor and Industry.
- Z. PROPERTY MAINTENANCE CODE – The International Property Maintenance Code as adopted by the City.

AA. **SANITARY SEWAGE** – Human excrement and gray water (showers, dishwashers, washing machines, etc.) generated from residential households, institutions, commercial and industrial establishments, but excluding industrial waste.

BB. **SEWER SYSTEM** – All facilities, as of any particular time, which are used for the collection, pumping, transporting, treatment and disposal of sanitary sewage and authorized industrial waste as owned by the City.

CC. **UNAUTHORIZED WASTEWATER** – Any substance which is discharged into the sewer system and which is not in compliance with the provisions of the industrial pretreatment program, or which is discharged by a person in violation of any of the provisions of the City FOG Ordinance.

DD. **USER** – Any person who contributes, causes or allows the contribution of wastewater, including industrial waste and sanitary sewage, into the sewer system.

EE. **YELLOW GREASE** – Fats, oils, and grease used in food preparation that have not been in contact or contaminated with other sources such as water, wastewater or solid waste. An example of yellow grease is fryer oil, which can be recycled into products such as animal feed, cosmetics and alternative fuel. Yellow grease is also referred to as renderable FOG.

2.2 Acronyms

BMP	Best Management Practice
BOD ₅	Biochemical Oxygen Demand
CCTV	Closed Circuit Television
CD	Consent Decree
CSO	Combined Sewer Overflow
DEP	Pennsylvania Department of Environmental Protection
DOJ	United States Department of Justice
EPA	United States Environmental Protection Agency
FOG	Fats, Oils and Grease
FSE	Food Service Establishment
IPC	International Plumbing Code
IPP	Industrial Pretreatment Program
LTCP	Long Term Control Plan
NMC	Nine Minimum Controls
NOV	Notice of Violation
POE	Petroleum Oil Establishment
POTW	Publicly Owned Treatment Works
SOP	Standard Operating Procedure
SSO	Sanitary Sewer Overflow
TSS	Total Suspended Solids
UCC	Uniform Construction Code

WWTP Wastewater Treatment Plant

4. City Regulatory Authority

The legal authority for the City to implement a FOG Control Program is provided by City Ordinances. The City regulates the discharge of industrial wastes to the sewer system under the EPA mandated Industrial Pretreatment Program (IPP). The IPP does not currently regulate commercial users for FOG. Under the City Plumbing Code, the City requires the installation of grease interceptors to catch grease before it enters the sewer system. This is typically a device installed under the sink, or on the building's sewer lateral line before it connects to the City sewer. Such grease interceptors can only be used if there is enough space below grade before the building sewer lateral connects to the City sewer. The City Codes Office regulates new users opening a commercial establishment or making changes to a building. Its regulatory authority over the grease interceptors ceases when the establishments open, unless there is a violation of some applicable code under its jurisdiction.

Chapter 249 of the City Sewer Code contains federal pretreatment requirements and general pretreatment requirements, some of which are applicable to FOG establishments. The FOG Control Program will be periodically evaluated by the Bureau of and will be modified as necessary to maximize the effectiveness of the program.

Chapter 116 of the City Uniform Construction Code (UCC) adopts the International Plumbing Code (IPC) incorporated by reference into the Pennsylvania Construction Act, which generally states in Chapter 10 of the IPC that grease interceptors and oil/water separators shall be provided to prevent the discharge of FOG, sand and other substances harmful or hazardous to the building drainage system, the public sewer, the private sewage disposal system or the sewage treatment plant or processes.

Chapter 240 of the City Health Code contains inspection protocols for restaurants relative to sanitation requirements. Inspections are currently made by the City Health Officer at least every 6 months. The regulations state that all wastes shall be properly disposed of, and all such garbage and trash shall be kept in a suitable receptacle, in such a manner as not to become a nuisance. All garbage receptacles shall be covered at all times.

The proposed FOG Control Program will regulate City Facilities and those in portions of Lancaster Township, Manheim Township, Manor Township, and East Hempfield Township where the City owns the sewer system.

5. Understanding FOG Issues

5.1 Contributing Factors

FOG is common in wastewater discharges to the sewer system. FOG is discharged from commercial food service establishments (FSEs), such as restaurants, cafeterias (in universities, schools, hospitals, nursing/senior living centers, churches), social clubs, as well as petroleum oil establishments (POEs) such as car washes, and automotive repair shops. FOG is primarily discharged from sinks and drains of FSEs and POEs, which accumulates in the sewer lines and causes blockages. The blockages can cause backups into kitchens or basements and lead to overflows in the sewer collection system. Sewer overflows result in untreated wastewater flowing onto streets and into storm drains and surface waters. Sewer overflows can cause serious health risk to the public and are expensive to cleanup.

One contributing factor to the presence of FOG in the sewer collection system is the type of food prepared. Foods that generate high concentrations of animal fats tend to produce FOG that has a higher probability of accumulating in sewer lines. Animal fat congeals and hardens as it cools down. Discharges from FSEs of animal fat are likely at higher temperatures when entering the sewer collection system due to use of dishwashers and sanitary cleaning practices.

Other contributing factors are the quantity and type of kitchen equipment utilized at FSEs such as rotisseries, deep fryers, kettles and woks from which FOG may be generated; and the quantity of sinks and drains in food preparation and cleanup areas, as there are more opportunities for FOG to be discharged to the sewer collection system. Food scraps should be placed in the trash and not down the drain. The amount of customer seating may also be a contributive factor to FOG generation and disposal.

FOG can be treated by the microorganisms employed in wastewater treatment but can also cause the overgrowth of certain species of filamentous organisms. Filamentous bacteria that thrive on FOG include Type 0092, *Microthrix parvicella*, and *Nocardioforms*. *M. Parvicella* and *Nocardioforms* are also foam-producing organisms.

5.2 Public Education

A key element of a successful FOG control program is to ensure that the public, which includes residents, commercial, institutional and industrial establishments, are provided with effective education on the proper handling and disposal of FOG at their sites. Educational materials such as fact sheets and posters are available for FSE and POE staff training and are generated from the City's data management system and distributed during field inspections. Best management practices (BMPs) are provided on the educational materials. BMPs are discussed in more detail in section 7 of this manual. Sample educational materials are included in Appendix A of this manual.

5.3 Current Regulation of FOG Facilities

The City Health Division of the Department of Community Planning and Economic Development currently inspects restaurants at least annually as required by the PA State Department of Agriculture. Restaurants are required to have a Retail Health License. An example license is contained in Appendix B. This license must be posted in the facility. The two (2) City Health Officers currently ask about the clean-out of grease interceptors and who cleans them out, but FOG compliance is not the focus of the inspection. The inspectors request a manifest for grease disposal. Per the City Health Division records, Kline's Services performs most of the clean-outs in the City.

The Codes Office ensures that new business facilities or renovated facilities/buildings that are locating in the City are in compliance with City plumbing and building codes. The Codes staff, or contracted third party State-certified firms, reviews the plans and specifications for new facilities or facility renovations. Restaurants are required to install grease interceptors per the International Plumbing Code. Garages and service stations are required to install oil/water separators. Parking garages also install temporary separators when they wash-down the parking decks. Codes staff inspects during construction, but follow-up is on a case-by-case basis if there is a problem due to a code violation or when a complaint is filed.

As noted previously, Chapter 240 of the City Code provides for the inspection of restaurants. The PA Department of Agriculture mandates at least an annual inspection of food establishments. Records of

inspection are maintained by the City's Health Division in the City's Financial and Data Management system, Munis.

There is no current regulation of FOG facilities in the municipalities where the City owns the lines (Lancaster Township, Manheim Township, Manor Township, and East Hempfield Township).

6. General Requirements

6.1 FSE/POE Inventory

An up-to-date listing of FSEs and POEs to support inspection and compliance activities must be developed as part of the FOG Control Program. The City developed an initial inventory list using available records from the City Munis System, the Lancaster County Planning Commission databases, and Lancaster Township, Manheim Township, Manor Township, and East Hempfield Township.

Key information to be collected and managed under an FSE and POE data management system is presented in section 12 of this manual. The IPP will maintain pretreatment inspection records in the Linko system. Program implementation will start within 120 days of EPA approval so that the City may hire a staff person and/or commission consultant assistance. The City Health Division will maintain health inspection records in the City Munis system and will provide the Public Works Department Bureau of Wastewater Industrial Pretreatment Program (IPP) with an updated list of newly licensed FSEs. The Department of Community Planning and Economic Development will provide the IPP with POEs.

Appendix C contains a list of FOG facilities in the City and City-owned sewers.

6.2 FOG Discharge Permit

FSEs located in the City will continue to be licensed by the City Health Division. Therefore, the only FOG discharge permits that may be issued by the Public Works Department Bureau of Wastewater Industrial Pretreatment Program are the POEs in the City and FSEs and POEs that discharge to the Lancaster Township sewer collection system portion owned by the City.

An existing FSE or POE must apply for a FOG discharge permit within 60 days of receiving a FOG registration form from the City. An example FOG registration form and FOG discharge permit are enclosed in Appendix D of this narrative. FOG registration forms will be sent to City POEs and Lancaster Township, Manheim Township, Manor Township, and East Hempfield Township FSEs and POEs.

FOG Permits will be issued on a case-by-case basis, after initial inspection. FOG discharge permit conditions may include but not be limited to the following:

- Discharge limitations.
- Grease interceptor or oil/water separator pump-out frequency.
- Fryer and kitchen vent cleaning frequencies.
- Reporting and record keeping requirements.
- Sample location.
- General prohibitions.

- Annual FOG permit fee.

6.3 Waste Material Storage and Disposal

The disposal of waste cooking oils and yellow grease into sanitary, combined sewer or storm sewers is prohibited. Cooking oils and grease shall not be allowed to be deposited on the ground or pavement. Grease capture boxes shall be maintained on all kitchen exhaust fan shrouds. It is prohibited to clean kitchen equipment and hood baffles outside or to cause or allow grease residue from cleaning operations to be deposited on the ground or pavement.

All waste cooking oil and yellow grease shall be collected and stored properly in covered holding tanks, oil bins or drums to prevent entry of precipitation or debris. The storage container shall be located on impervious surface. Waste oil and yellow grease shall be disposed offsite by a licensed hauler and at such facilities permitted to receive such wastes, such as an oil recycler. Maintenance logs and corresponding manifests for offsite disposal shall be retained for at least 3 years. Manifests should include name, address, telephone number, volume hauled offsite and location of disposal. Example maintenance logs are included as Appendix E of this manual.

Waste materials pumped out of grease interceptors or oil/water separators shall not be returned to the grease interceptor or oil/water separator, or into any portion of the sewer collection system and shall be disposed offsite by a licensed hauler and at such facilities permitted to receive such wastes. Small FSEs may clean their own grease traps. In these cases, the inspection would confirm that the traps are being cleaned. Maintenance logs and corresponding manifests for offsite disposal shall be retained for at least 3 years. Manifests should include name, address, telephone number, volume hauled offsite and location of disposal.

6.4 Localized FOG Problem Areas

Incidences of localized FOG problem areas may occur in the sewer collection system. In addition to initial sewer overflow response actions, the City may collect key observations, including preliminary closed circuit television (CCTV) inspections, to help in determining an overflow cause. Determinations identifying FOG as a contributing factor to an overflow initiates a series of FOG source control follow-up actions.

In such cases, the City can generate a list of FSEs or POEs in the specific geographic area using their data management system and narrow their investigation of the culprits causing the problematic FOG discharges. After identifying the FSEs or POEs contributing to the FOG discharges through site inspections, the City works with the source FSEs and POEs on increased maintenance of their existing grease interceptors and oil/water separators and consistent use of kitchen and facility BMPs to ensure the FSEs and POEs are compliant. Measures to upgrade a facility's grease interceptor or oil/water separator may be imposed. The City can then manage such FOG problem areas by making sure the sewer lines are cleaned frequently enough and that hardened FOG deposits are effectively removed by cleaning.

7. Grease Interceptor and Oil/Water Separator Installation

Grease interceptors and oil/water separators may be required by the City to protect the sewer collection system from excessive amounts of FOG, and as necessary to address public health and safety, and

environmental concerns. Among the factors to be considered by the City is whether the user's discharge has the potential to obstruct the flow in the sewer collection system.

7.1 New and Remodeled Establishments

All new and remodeled FSEs and POEs shall install and maintain a grease interceptor or oil/water separator at the owner's expense. Grease interceptor or oil/water separator type, size and location shall be determined by a professional engineer or trained professional in accordance with City Code - Chapter 116 Uniform Construction Code.

7.2 Existing Establishments

All existing FSEs and POEs and new FSEs and POEs located in existing buildings having the potential to discharge FOG which may stop or impede the flow in the sewer collection system shall install and maintain a grease interceptor or oil/water separator at the owner's expense meeting the same requirements for installation and design as new FSEs and POEs.

Where it is demonstrated to the City that the installation of an approved outdoor grease interceptor is not feasible or physically impossible to install, then an adequate and approved "under-the-sink" grease interceptor may be allowed for use on individual fixtures. Grease interceptors and oil/water separators may be installed in series if greater capacity is needed.

An existing FSE or POE may be required to verify and provide documentation that an existing grease interceptor or oil/water separator size, type and location are in accordance with the City Code - Chapter 116 Uniform Construction Code. An existing FSE or POE whose grease interceptor or oil/water separator is determined to be undersized, substandard or inadequately maintained to prevent FOG from entering the sewer collection system shall be notified, in writing, of the deficiencies and required improvements. A compliance deadline shall be provided in the written notification.

7.3 Exemptions

If an FSE or POE demonstrate to the City that the installation of a grease interceptor or oil/water separator is impractical due to existing conditions, the FSE or POE shall comply with the following conditions:

- A. Construct an appropriate sampling manhole at the Owner's expense.
- B. Locate the sampling manhole so that it is easily accessible for inspection and monitoring.
- C. Maintain sampling manhole in an effective operating condition.
- D. Apply for a FOG discharge permit.

7.4 Design

A. Sizing of grease interceptors and oil/water separators shall be based on wastewater flow and grease retention capacity. The design and sizing of grease interceptors shall be in accordance with the International Plumbing Code, Section 1003. Indoor grease interceptors shall be designed in accordance

with the Plumbing and Drainage Institute Standard PDI-G101. Oil/water separators shall be designed in accordance with UL-SU2215.

B. Grease interceptors shall be constructed of impervious materials capable of withstanding abrupt and extreme changes in temperature. They shall be of substantial construction, watertight and equipped with easily removable self-sealing waterproof and gastight covers. Other design considerations shall include, but are not limited to the following: minimum of two compartments, each with its own manhole, and a center baffle to allow floating of FOG and settling of solids; inlet and outlet on grease interceptor shall be properly baffled; flow control devices; manholes finished to grade to allow easy access for proper maintenance; cleanout on outlet side of interceptor; inaccessibility to insects and vermin; and installation of a sample vault with hydraulic jump on the discharge side of the interceptor.

C. Oil/water separators shall be designed for gravity separation of sand, grit, settleable solids or semisolids, and free oils (hydrocarbons and other petroleum products) from wastewater associated with automotive repair and car wash operations. The oil/water separator shall be designed in accordance with the current plumbing code as adopted by the state and the City.

D. All designs shall be approved by the City in writing prior to installation. All such facilities shall be inspected by the City during installation.

7.5 Installation

A. Grease interceptors and oil/water separators shall be located in the service lateral line between all fixtures that may introduce FOG into the sewer system and the service connection to the City sewer collection system. Such fixtures include, but are not limited to, sinks, soup kettles, dishwashers, garbage disposals, automatic hood wash units, floor drains in food preparation and storage areas, mop sinks and any other fixture that is determined to be a potential source of FOG.

B. Grease interceptors and oil/water separators are to be installed at a minimum distance of 10 feet from sinks and dishwashers to allow for adequate cooling of wastewater.

C. All grease interceptors and oil/water separators shall be located as to be readily and easily accessible for cleaning and inspection.

D. A grease interceptor shall preferably be located outside the building instead of an inside grease interceptor. The minimum size grease interceptor required is 1,000 gallons. Figure 1 is a sample outside underground grease interceptor installation.

E. An oil/water separator shall be installed aboveground or preferably belowground with top access at or above grade level. Figure 2 is a sample oil/water separator.

F. Indoor undersink grease interceptor installations may be approved if outside grease interceptors are not feasible. Figure 3 is a representation of an undersink grease interceptor.

G. Grease interceptors and oil/water separators may be installed in series if greater capacity is needed.

H. All grease interceptors or oil/water separators shall be installed by a plumber licensed by the City.

Figure 1. Grease Interceptor Installation

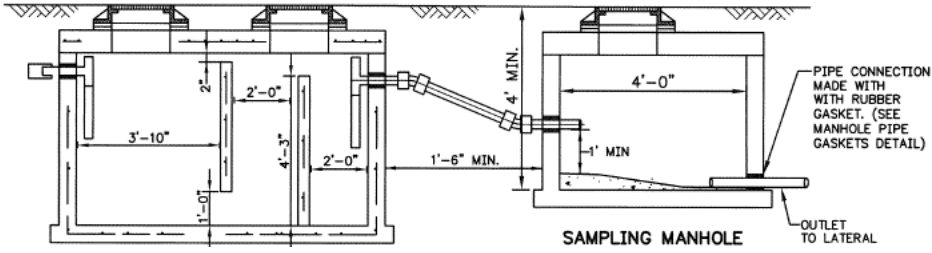


Figure 2. Oil/Water Separator Installation

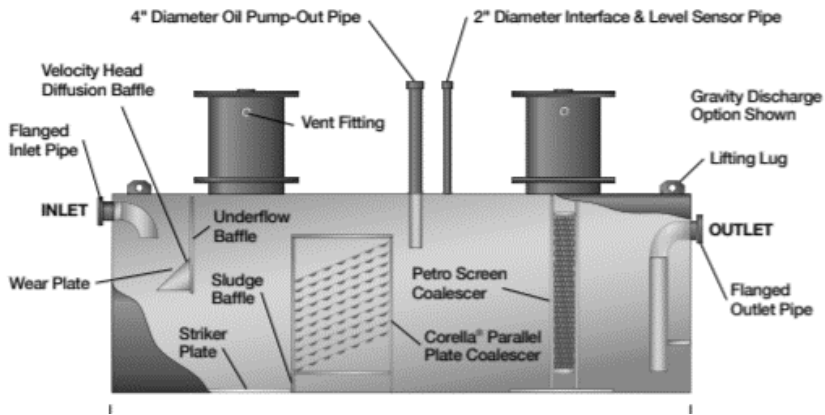
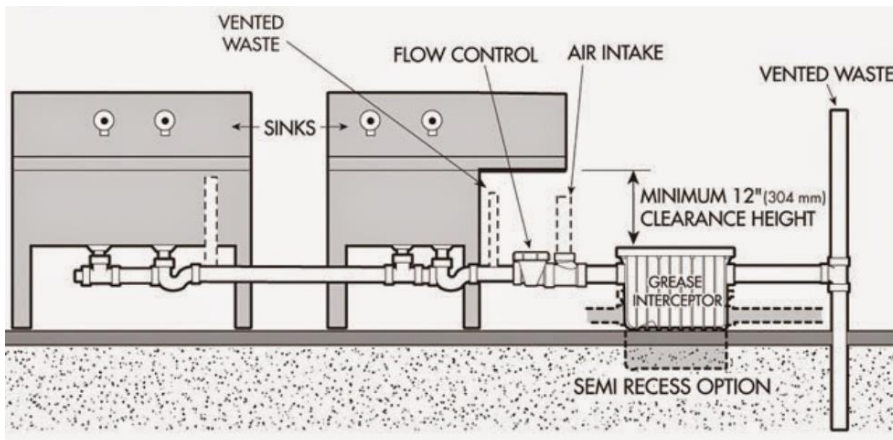


Figure 3. Undersink Grease Interceptor Installation



8. Inspections

Routine FOG inspection frequencies may vary depending on the FSE or POE compliance history. All identified FSEs and POEs will be inspected at a minimum of once per year by City staff. Inspection of both FSEs and POEs may be reduced to biennially after the initial inspection and impact of discharge. City staff have the authority to conduct inspections of FOG facilities during reasonable hours for the purpose of observing, measuring, sampling, testing or reviewing records relative to wastewater discharges from the facilities. Example inspection forms for FSEs and POEs are included as Appendix F of this manual. A routine inspection will be comprised of the following actions to ensure compliance.

- A. Evaluate plumbing fixtures and adherence to kitchen BMPs.
- B. Observe grease interceptor or oil/water separator operation. If the FOG and solids accumulation in a grease interceptor is found to exceed 25% of the overall liquid depth, as measured by an acceptable dipstick or sludge judge, the grease interceptor shall be pumped out within 5 days of discovery.
- C. In addition to the grease interceptor exceeding the 25% of the overall liquid depth as described in paragraph 8.B, if FOG is observed in the downstream sewer lateral from the FSE which connects to the City's sewer main, the FSE may be required to have the sewer lateral and/or line cleaned of all accumulated FOG.
- D. Observe oil/water separator operation. If floating oil is more than 2 inches in depth and bottom sediment is greater than or equal to 6 inches in depth, the oil/water separator shall be pumped out within 5 days of discovery.
- E. Review pumping and disposal records or cleaning records for small FSEs.
- F. Inspections may also occur in response to any of the following:
 - (1) To confirm corrective action has occurred to achieve compliance with any violation discovered during a routine inspection.
 - (2) The City has received a complaint or tip that the facility is in noncompliance with the FOG Control Program or FOG ordinance.
 - (3) The facility is suspected of causing a sewer blockage or overflow downstream of the facility's discharge point.

9. Best Management Practices

All FSEs and POEs are required to implement Best Management Practices (BMPs), which are schedules of activities, prohibitions of practices and maintenance procedures, to prevent and reduce the quantity of FOG discharged to the City sewer collection system. BMPs are specific to the type of FSE and POE, however, several criteria are common to all FSEs and POEs.

- A. **Employee Training:** All employees of FSEs and POEs subject to the City's FOG Control Program are required to be trained in the proper implementation of BMPs and have general knowledge about the function of the facility's respective grease interceptor or oil/water separator.

- (1) New employees should be trained within 1 week of employment and all employees should receive refresher training at intervals not to exceed 1 year.
- (2) Documentation of employee training shall be maintained onsite and available for review by the City.
- (3) Post educational posters and brochures provided by the City for staff to see. Sample educational material is found in Appendix A of this manual.

B. Housekeeping: Various housekeeping protocols may be implemented depending on the type of FOG facility. The following list contains possible housekeeping protocols that FSEs and POEs may employ.

- (1) Minimize use of soaps and degreasers that may be discharged through the grease interceptor or oil/water separator.
- (2) Recycle waste cooking oil and other grease and oil products. Do not pour such substances down the drain.
- (3) Establish a schedule for cleaning grease-laden areas and equipment such as fryers, vents and grills.
- (4) Dry wipe or scrape food off plates, trays, cooking utensils, pots and pans before washing. Place scraped food and other materials into trash receptacles.
- (5) Install drain screens on all sinks and floor drains.
- (6) If garbage disposal is located in the kitchen, limit its usage to non-greasy food materials such as lettuce.
- (7) Use absorbent materials to prevent grease spills from entering drains and clean up spills immediately.
- (8) Dry sweep floors prior to washing and mopping. Place collected material from sweeping into trash receptacles.

10. Operation and Maintenance

A. Grease interceptors and oil/water separators shall be cleaned as often as necessary to ensure that sediment and floating materials do not accumulate to impair the efficiency of the unit; to ensure the discharge is in compliance with local discharge limits; and to ensure no visible oil or grease is observed in the discharge to the sewer system.

B. Grease interceptors shall be completely evacuated every 90 days, or more frequently when the 25% rule is exceeded as described in paragraph 8.B of this manual.

C. Grease interceptors shall be fully evacuated, cleaned and inspected at least once every 180 days.

D. Oil/water separators shall be completely evacuated when floating oil is more than 2 inches in depth and bottom sediment is greater than or equal to 6 inches in depth.

- E. All costs for maintenance, repair and pumping is the responsibility of the FSE or POE owner.
- F. The City has Grease Interceptor and Oil/Water Separator Maintenance Logs available at the City Wastewater Bureau for facilities to use to record their maintenance activities. Example maintenance logs are included as Appendix E of this manual.
- G. The use of any biological or chemical additives such as enzymes, solvents and chemical emulsifiers, as substitutes for grease interceptors or oil/water separators, or the proper maintenance of grease interceptors or oil/water separators, is prohibited. However, the use of biological additives comprised of 100% bacterial cultures as a supplement to maintenance may be authorized on a case-by-case basis. Proper documentation of approval shall be obtained by the owner in writing from the City Wastewater Bureau Manager or authorized agent

11. Reporting and Record Keeping

- A. If a grease interceptor or oil/water separator becomes inoperable for any reason, the facility owner shall inform the City within 48 hours of the unit first becoming inoperative.
- B. FSEs and POEs shall maintain all records required under the City's FOG Control Program for a minimum of 3 years and make such records available to the City upon request. Types of records to be maintained include:
 - (1) Grease interceptor and oil/water separator maintenance and repair service documents.
 - (2) Grease interceptor and oil/water separator maintenance and observation logs.
 - (3) Waste cooking oil or oil recycler manifests for removal offsite, including quantity and location of disposal.
 - (4) Wastewater discharge sampling test reports and chain of custodies.
 - (5) Employee training records.

12. Data Management

The City will manage FOG information utilizing the Linko industrial pretreatment and FOG compliance software. Key information to be collected and managed under an FSE and POE data management system includes but may not be limited to the following:

- A. Contact information for owner, operator or manager that includes name, mailing address, facility address, telephone number and email address.
- B. Description of facility.
- C. Kitchen equipment that may contribute to facility's potential for FOG discharge to the City sewer collection system.
- D. Type, size and location of grease interceptor or oil/water separator and sampling manhole.
- E. Scheduling of initial and follow-up inspections.

- F. Maintenance and repairs for grease interceptor or oil/water separator.
- G. Recommended pump-out frequencies for grease interceptor or oil/water separator.
- H. Reporting and compliance tracking.
- I. Track violations and implement enforcement actions.
- J. Educational outreach mailings.

13. Enforcement

The City may take enforcement actions for noncompliances with the FOG Control Program or City ordinances. Such enforcement actions may consist of one or more of the following actions, depending on the violation:



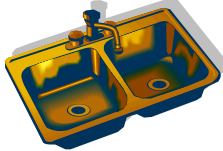



- A. Notice of Violation (NOV): A written NOV may be issued for a noncompliance with the FOG Control Program or City ordinance. An NOV shall contain requirements for corrective actions.
- B. Additional Enforcement Actions: The City may take additional enforcement actions against an FSE or POE depending on the severity of the violation, which may include administrative penalties.
- C. A violation of the City ordinance may be punishable by a fine in an amount not to exceed \$1,000.00 per §249-18 G of the City Sewer Code.
- D. The City reserves the right to terminate sewer service of the offending person.







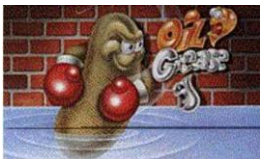
Appendix A – FOG Educational Materials

CITY OF LANCASTER

Kitchen Best Management Practices (BMPs) for Fats, Oils & Grease (FOG)

The best way to stop FOG from building up in sewer lines is to prevent it from entering your drains, by using 'Kitchen Best Management Practices'. The most common Kitchen BMPs are shown below.

Kitchen BMP	Reason For	Benefits to Food Service Establishment
<p>Train employees in the proper use of kitchen BMPs, including the proper methods of FOG disposal. Provide frequent refresher training as well.</p> 	<p>Employees are more willing to support an effort if they understand the importance of implementing BMPs to prevent sewer spills.</p>	<p>Subsequent benefits of BMPs will have a better chance of being implemented.</p>
<p>Display the appropriate "No Grease" signs or posters prominently in the workplace.</p> 	<p>Signs serve as a constant reminder for employees working in kitchens.</p>	<p>These reminders will help minimize grease discharge to the interceptors and reduce the cost of cleaning and disposal.</p>
<p>Install screens on all kitchen drains. Consider openings that are not more than 3/16 inch. Screens should be removable for frequent cleaning.</p> 	<p>Drain screens prevent food particles containing FOG from entering the sewer system and causing blockages.</p>	<p>Drain screens will reduce the amount of material going to grease interceptors. As a result, grease interceptors will require less frequent cleaning, thus reducing maintenance costs.</p>
<p>Hot water over 140°F from cooking or cleaning operations should not be put down a drain that is connected to a grease interceptor.</p> 	<p>Temperatures in excess of 140°F will dissolve grease, which may re-congeal or solidify in the sewer collection system as the water cools down in temperature.</p>	<p>Using water less than 140°F where applicable will reduce gas or electric energy costs for heating the water. It also helps prevent FOG pass through in grease interceptors.</p>
<p>When transporting used FOG, do not overflow containers and cover containers with lids.</p> 	<p>If containers are too full or lack covers, the FOG may spill over.</p>	<p>Adequately sized and covered grease receptacles will prevent FOG drips and spills.</p>
<p>Pour all cooking grease (yellow grease) and liquid oil from pots, pans and fryers into a covered grease container for recycling. Use a permitted waste collection company or authorized rendering/recycling facility and maintain a log of all offsite disposal of FOG.</p> 	<p>Recycling reduces the amount of FOG discharged to the sewer system.</p>	<p>The Food Service Establishment may be paid for the waste material as opposed to having to pay for the waste to be disposed of, therefore, reducing the amount of offsite waste disposal costs.</p>

Kitchen BMP	Reason For	Benefits to Food Service Establishment
<p>Scrape or dry-wipe excess food and solidified grease from pots, pans, fryers, utensils, screens and mats, then dispose of the grease in the trash or recycling container.</p> 	<p>By dry-wiping pots, pans and dishware, and disposing food wastes in trash or recycling containers, the material will not be sent to the grease interceptor.</p>	<p>Dry-wiping reduces the amount of material going to grease interceptors, which in turn require less frequent cleaning and reduces maintenance costs.</p>
<p>Clean all mats and dispose of mop water through a utility sink that is connected to a grease interceptor. Allow the dirty mop water to cool down below 140°F if it is still hot.</p> 	<p>Disposing of grease-laden floor mop water through a grease interceptor prevents FOG from entering sewer system directly without treatment.</p>	<p>Placing greasy mop water in utility sink connected to grease interceptor prevents untreated FOG from entering the sewer system directly, which reduces the FSE costs if sewer blockages occur.</p>
<p>Dispose of food waste by recycling or placing in trash receptacle.</p> 	<p>Some recyclers will take food waste for animal feed. In the absence of such recyclers, food waste can be disposed of as solid waste in landfills.</p>	<p>Recycling of food waste will reduce the cost of solid waste disposal as well as reduce the frequency of cleaning grease interceptors, thereby reducing maintenance costs. Remember – food wastes are biodegradable and may also be composted.</p>
<p>Wipe up spills before using water to flush down the drain.</p> 	<p>Wiping up spills prevents the FOG from going to the grease interceptor.</p>	<p>Wiping up spills reduces the amount of material going to grease interceptors, which in turn require less frequent cleaning and reduces maintenance costs.</p>
<p>Use 'Spill Kits'. Make your own spill kit with absorbent pads or kitty litter. Keep the spill kits well-marked and accessible for cleaning spills. Dispose of used absorbent and kitty litter in the trash. Designate a key employee on each shift to monitor cleanup and restock the kits.</p> 	<p>Absorbent materials can serve as an effective agent to absorb grease and oil.</p>	<p>Spill kits will reduce the amount of FOG going to the grease interceptor, which in turn require less frequent cleaning and reduces maintenance costs.</p>
<p>Routinely clean kitchen exhaust system filters/hoods. Dispose of waste from filters and hoods by emptying into trash, if possible; or have the hoods professionally maintained.</p> 	<p>If FOG escapes through the kitchen exhaust system, it can accumulate on the roof of the establishment and eventually enter the storm sewer system when it rains.</p>	<p>The discharge of FOG to the storm drain system will degrade water quality of nearby streams. In addition, it may be a violation of local water quality regulations, which could result in penalties or fines.</p>
<p>Do not introduce enzymes, emulsifying agents or bacteria to grease interceptors or drains.</p> 	<p>While enzymes, emulsifiers and bacteria break down grease at the chemical addition point, FOG tends to re-emulsify/solidify downstream in the sewer pipe and may cause blockages.</p>	<p>Blockages of sewer lines due to FOG are costly to clean and maintain and costs could be passed on to the FSEs, thereby increasing maintenance costs.</p>

