



HRSD

HRSD's Approach to Mitigate FOG

September 15, 2024

Sources of FOG



FOG and MOM

2007: HRSD and thirteen (13) area Localities entered a Consent Decree with the Virginia Department of Environmental Quality (DEQ).

- Formulation, implementation, and execution of an effective Management Operations and Maintenance (MOM) Program to minimize SSOs and provide adequate system capacity.



HRSD's Approach



Regulations



Locality Coordination



Community Education and
Outreach

Regulations

HRSD FOG Best Management Practice

- HRSD Fats Oils and Grease Best Management Practice
 - Require properly sized GCDs be installed and maintained.
- Inspected annually
- Issued to 70 FSEs in Surry*, King William, Mathews, Urbanna and West Point.
- Currently expanding into the Eastern Shore, adding ~40 FSEs



HRSD FOG BMP

- Section 1: Purpose
- Section 2: General Information
- Section 3: Access
- **Section 4: Definitions**
- **Section 5: Grease Control Devices**
 - A: Requirements
 - B: Installation
 - C: Maintenance
- Section 6: Waste Disposal
- **Section 7: Record Keeping**
- Section 8: Employee Certification
- Section 9: Unauthorized Discharge/Disposal
- **Section 10: Enforcement Action**
- Section 11: Correspondence



www.hrsd.com/fog-bmp

- **Food Service Establishment (FSE)** any commercial, industrial, institutional, or food processing facility discharging kitchen or food preparation wastewaters to the sanitary sewerage system.
 - Restaurants
 - Ice Cream/Coffee/Sandwich
 - Hospitals
 - Schools
 - Convalescent Centers

Definitions

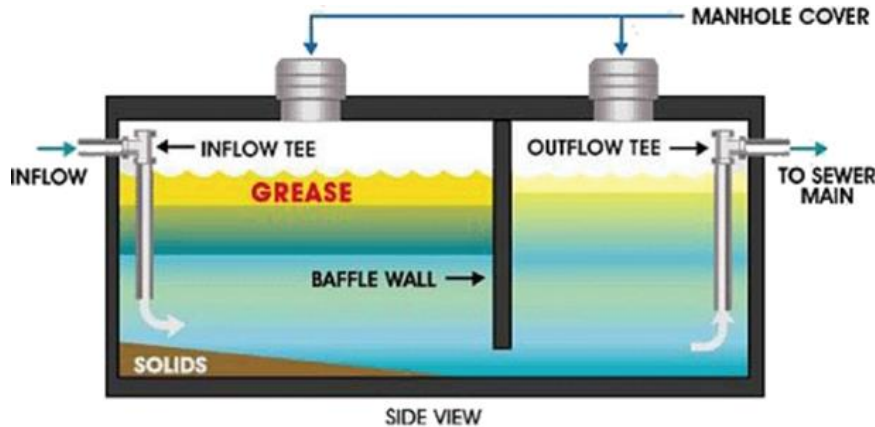


- Grease Control Device
 - Automatic Grease Removal Device
 - Gravity Grease Interceptor
 - Hydromechanical Grease Interceptor



Definitions

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- **Grease Control Device**
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- **Decanting** - discharging of removed wastewater back into the GCD, for the purpose of reducing the volume to be hauled or for recharging the GCD.

Grease Control Devices

- FSEs shall have a GCD(s) meeting all applicable requirements for testing and certification of
 - ASME A112.14.3,
 - ASME A112.14.14,
 - PDI G101
 - and/or CSA B481.
- The GCD(s) shall be sized and selected in accordance with the Hampton Roads Regional Technical Standards for GCDs



Record Keeping

HRSD
Cleaning wastewater every day for a better Bay.

HGI Cleaning Log

Date Cleaned	Cleaned By	Amount Removed in Inches			Calculation: Grease + Solids/Total Depth A + B C	% of FOG x 100
		Grease A	Solids B	Total Depth (No Air) C		
7/10/22	CB					
7/13/22	CB					
7/16/22	CB					
7/19/22	CB					
7/22/22	CB					
7/25/22	CB					
7/28/22	CB					
7/31/22	CB					
8/3/22	CB					
8/6/22	CB					
8/9/22	CB					
8/12/22	CB					
8/15/22	CB					
8/18/22	CB					
8/21/22	CB					
8/24/22	CB	.8	1	11	(.8+1) 11x100	16.36%
8/27/22	CB	.3	.8	11	(.3+.8) 11x100	10.9%
8/30/22	CB	.6	1.0	11	(.6+1.0) 11x100	6.36%
9/2/22	CB	.5	1.5	11	(.5+1.5) 11x100	18.18%
9/5/22	CB	.7	1.2	11	(.7+1.2) 11x100	12.73%
9/8/22	CB	.4	1.4	11	(.4+1.4) 11x100	16.36%
9/11/22	CB	.8	1.1	11	(.8+1.1) 11x100	17.27%
9/14/22	CB	.4	1.7	11	(.4+1.7) 11x100	19.09%
9/17/22	CB	.7	1.6	11	(.7+1.6) 11x100	20.90%

Self Cleaning

- Date
- Name

Certified Grease Hauler

- Company Name
- FOG ID
- Core Measurements
- Total amount removed

Service Request/Manifest

VALLEY PROTEINS, INC.
P.O. Box 2388
Windsor, VA 23064-2388

SERVICE ADDRESS: GENERATOR
HARDIES 82064
1000000000
MATHES, VA 23109
Customer Phone ()

Service Request No. 1007022

Transporter / Hauler
Valley Proteins Richmond
11310 Washington Highway
Ashland, VA 23005
Hauler Permit #
Truck Identification
Hauler & Make
License Tag #

Account No. 452385
Store No. 2084
Shop ID 121318
Frequency 4 Weeks
Purchase Order #
Vendor No.

YOU ARE REQUIRED BY LAW TO RETAIN A COPY OF THIS FORM FOR THREE YEARS

TRAP LOCATION: ☐ IN ☒ OUT OUTSIDE

EMERGENCY PUMP: ☐ YES ☒ NO Name of Caller:

Type Additional Charge Amount of Charge
Miles (R660) \$
Hours (R670) \$
Other (Describe) \$

Hauler Information
Driver Name (Printed) *Margus*
Driver Signature *Margus*

Grease Trap Service
Service Date: 7/22/22 Time In: 5:00 Time Out: 5:30

Grease Trap Sampling Unit Measurement (UN Inches)
Task Size (inches) 1000
Estimated Gullies (inches)
Sludge Judge Not Used - Enter Estimated Inches Sludge Judge Used? ☒ YES ☐ NO ☐ N/A
Transformer (Drum) ☐ FULL
Grease Middle Measure (Wider) *100*
Bottom Measure (Narrow) *100*
Solids PLACE STONE STAMP BELOW

Inspected By: (Customer/Generator)
Did The Customer Inspect The Trap ☐ YES ☒ NO
Printed Name: *Valley Proteins*
Title: *Gen M*
Signature: *Valley Proteins*

Disposal Site Receiver Signature

DO NOT PAY FROM THIS SERVICE REQUEST UNLESS COD - INVOICE TO FOLLOW

VP128

Enforcement Action

FFB	Failure to follow requirements of the BMP <i>First occurrence</i>	0.0	NOD
FFB1	Failure to follow requirements of the BMP <i>After NOD</i>	1.0	NOV
FFB2	Failure to follow requirements of the BMP Repeat of same failure within two (2) years	2.0	NOV
FM1	Failure to properly maintain records to include logs, inspections, or other reports as required <i>First occurrence</i>	1.0	NOV
FM2	Failure to properly maintain records to include logs, inspections, or other reports as required <i>Repeat of same failure within 360 days</i>	2.0	NOV

Point Value	Civil Penalty Ranges	
	Industrial User	Significant Industrial User
0.2	\$100 – 200	\$200 - 400
0.5	\$250 – 500	\$500 - 1,000
1.0	\$500 - 1,000	\$1,000 - 2,000
2.0	\$1,000 - 2,000	\$2,000 - 4,000
3.0	\$1,500 - 3,000	\$3,000 - 6,000
4.0	\$2,500 - 5,000	\$5,000 - 10,000

- Failure to maintain GCD Cleaning Logs
- Failure to maintain HR FOG Program Certification
- GCD Failure – requiring a new device
- Failure to maintain GCD cleaning frequency





Locality Coordination

HRPDC Regional FOG Committee

- Hampton Roads Regional Planning District Commission (HRPDC) FOG Committee
 - Model FOG Ordinance
 - Hampton Roads Regional Technical Standards for GCDs
 - HR FOG Certification Training
 - Locality Memorandum of Agreement for GCDs



Hampton Roads FOG Model Ordinance

HAMPTON ROADS FOG MODEL ORDINANCE

FATS, OILS, AND GREASE (FOG)

SECTION 1. PURPOSE AND APPLICABILITY

a. The purpose of this Ordinance is to aid in preventing the introduction and accumulation of fats, oils, and grease into the City/County/Town's sanitary sewer system that may contribute to sanitary sewer blockages and obstructions. Food service establishments, grease haulers and other industrial or commercial establishments generating or collecting wastewater containing fats, oils, and grease are subject to this Ordinance. This Ordinance regulates such users by requiring that grease control devices and other approved strategies be installed, implemented and maintained in accordance with the provisions of this Ordinance and other applicable requirements of the City/County/Town of _____.

b. The provisions of this Ordinance shall apply to all food service establishments within the City/County/Town of _____ and to all grease haulers providing service to any such food service establishment.

SECTION 2. DEFINITIONS

Automatic Grease Removal Device (AGRD) shall mean an active, automatic device that separates and removes FOG from effluent discharge and cleans itself of accumulated FOG at least once every twenty-four hours utilizing electromechanical apparatus. Unless otherwise approved, AGRDs shall not be installed.

Brown Grease shall mean floatable fats, oils, grease and settled solids produced during food preparation that are recovered from grease control devices.

Commissary shall mean a catering establishment, food service establishment, or any other place in which food, food containers, or supplies are kept, handled, prepared, packaged, or stored for distribution to satellite operations.

Core Sampler shall mean a sampling tool, i.e. Shidge Judge, Dipstick Pro or equivalent, designed to take accurate readings of settleable solids, in a variety of liquids, to any depth.

Decanting shall mean discharging of removed wastewater back into the grease control device, for the purpose of reducing the volume to be hauled or for recharging the grease control device.

Enforcement Response Plan shall mean a system that sets forth the process and procedures for enforcement of this section by the City/County/Town of _____.

Fats, Oils, and Grease (FOG) shall mean material, either liquid or solid, composed of fats, oils or grease from animal or vegetable sources. Examples of FOG include, but are not limited to, kitchen cooking grease, vegetable oil, bacon grease and organic polar compounds derived from animal and/or plant sources that contain multiple carbon triglyceride molecules. These substances are

- First drafted in 2008, and revised in 2020
- Provides framework for the localities of Hampton Roads to utilize and incorporate widely practice FOG measures that have been regionally deliberated.

Hampton Roads Regional Technical Standards for GCDs

- Requirements:
 - All FSEs require a GCD
 - GCDs shall meet the product standards
 - Outlines specific fixtures for connection in addition to plumbing code
 - Addresses FWD
 - Parallel installation is prohibited
 - GGIs are prohibited, unless otherwise approved
 - Seasonal cleaning allowances
 - Professional grease haulers must provide cleanings, unless otherwise approved.



HRRTS: HGI

- HGI Sizing:
 - Step 1: Determine the Flow Rate

$$\left[\frac{L(in) \times W(in) \times H(in)}{231 \frac{in^3}{gal}} \right] \times 0.75 = \text{Fixture Capacity Gallons}$$

Table 1

Pipe Size (inches)	One-minute drainage period flow rate (GPM)	Two-minute drainage period flow rate (GPM)
2	20	10
3	75	35
4	125	75
5	250	125
6	400	200

1/4 Inch per foot based on Manning's roughness coefficient of n = 0.012

- Step 2: Determine grease capacity

Grease Factor X Meals or Customers Served per day X Days between pump-outs =
Minimum Grease Capacity

Type	Menu	Grease Factor →	without Fryer w/o flatware	without fryer with flatware	with fryer w/o flatware	with fryer with flatware
			A	B	C	D
1	Bakery		0.0250	0.0325	0.0350	0.0455
2	Bar - Drinks Only		0.0050	0.0065	0.0250	0.0325
3	Bar and Grille		0.0250	0.0325	0.0350	0.0455
4	BBQ		0.0250	0.0325	0.0350	0.0455
5	Buffet		0.0250	0.0325	0.0350	0.0455
6	Cafeteria - Full Serve		0.0250	0.0325	0.0350	0.0455
7	Cafeteria - Heat & Serve		0.0050	0.0065	0.0250	0.0325
8	Chinese		0.0350	0.0455	0.0580	0.0750
9	Coffee Shop		0.0050	0.0065	0.0250	0.0325
10	Continental breakfast		0.0050	0.0065	0.0250	0.0325
11	Convenience Store		0.0050	0.0065	0.0250	0.0325
12	Deli		0.0050	0.0065	0.0250	0.0325
13	Donut Shop		0.0250	0.0325	0.0350	0.0455
14	Don't know yet		0.0250	0.0325	0.0350	0.0455
15	Family Restaurant		0.0250	0.0325	0.0350	0.0455
16	Fast Food - Pre-Cook		0.0050	0.0065	0.0250	0.0325
17	Fast Food - Full Prep		0.0250	0.0325	0.0350	0.0455
18	Fried Chicken		0.0250	0.0325	0.0350	0.0455
19	Greek		0.0250	0.0325	0.0350	0.0455
20	Grocery Store		0.0250	0.0325	0.0350	0.0455
21	Ice Cream/Yogurt/Smoothies		0.0050	0.0065	0.0250	0.0325
22	Indian		0.0250	0.0325	0.0350	0.0455
23	Italian		0.0250	0.0325	0.0350	0.0455
24	Mexican		0.0350	0.0455	0.0580	0.0750
25	Pizza Restaurant		0.0250	0.0325	0.0350	0.0455
26	Pizza Carryout		0.0050	0.0065	0.0250	0.0325
27	Multi-unit dwelling		0.0050	0.0065	0.0250	0.0325
28	Salads / Healthy Bowls		0.0050	0.0065	0.0250	0.0325
29	Sandwich Shop		0.0050	0.0065	0.0250	0.0325
30	Seafood		0.0250	0.0325	0.0350	0.0455
31	Snack Bar		0.0050	0.0065	0.0250	0.0325
32	Steak House		0.0250	0.0325	0.0350	0.0455
33	Sushi		0.0050	0.0065	0.0250	0.0325

Regional FSE and Grease Hauler Educational Certification

Translate this page:
Select Language ▼

FOG CERTIFICATION

HOME CONTACT HELP

Use this site to learn how to prevent sanitary sewer backups caused by improper handling and disposal of fats, oils, and grease. For a step-by-step Getting Your FOG Certification is as Easy as 1-2-3!

1. LEARN

Learn all about FOG issues and backup prevention.

More »

2. REGISTER/MANAGE PROFILE

Register to create your account and profile. Keep your contact and employment info current.

More »

3. GET CERTIFIED

Take our simple tests to get certified.

More »

RECORD LOOKUP

Look up public certification records by name or business.

More »

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www.hrfgog.com

Regional FSE Certification Terra Dantona

CERTIFIED INDIVIDUAL

The bearer of this card has successfully completed training in the proper methods of handling and transporting discarded grease within the 16 jurisdictions that comprise Hampton Roads.

8/5/2024

CERTIFIED DATE



ID#: 121637

8/5/2027

EXPIRATION DATE

HRSD

Locality Memorandum of Agreement for GCDs

MEMORANDUM OF AGREEMENT PERTAINING TO MUTUAL COOPERATION IN REDUCING SANITARY SEWER GREASE BLOCKAGES AND OVERFLOWS

THIS MEMORANDUM OF AGREEMENT is made by and between the **INSERT NAME OF LOCALITY** ("Locality") and the Hampton Roads Sanitation District (HRSD) as of the date that the last signature is affixed hereto.

BACKGROUND

WHEREAS, the Consent Order dated December 19, 2014 entered into by the State Water Control Board and Virginia Department of Environmental Quality (together referred to as VDEQ) requires the named Hampton Roads Localities (including the Locality) to implement a Management, Operations and Maintenance (MOM) Program to minimize sanitary sewer overflows; and

WHEREAS, to minimize the number of sanitary sewer overflows, it is necessary and appropriate that each of the Hampton Roads Localities develop and implement or continue implementing affirmative measures as a component of its MOM Program to reduce the impact of discharges of fats, oils, and grease (FOG) to the sanitary sewer system of each locality and HRSD; and

WHEREAS, in furtherance of compliance with the Consent Order the Hampton Roads Localities, together with HRSD, have developed a model FOG Ordinance, Enforcement Response Plan, and the Hampton Roads Regional Technical Standards for Grease Control Devices (Technical Standards) as templates for use in MOM Program development; and

WHEREAS, it is anticipated that each of the Hampton Roads Localities will adopt a FOG Ordinance, Enforcement Response Plan and Technical Standards, which are industry-standard elements of typical FOG control programs and

WHEREAS, FOG discharged into the sanitary sewer system from Food Service Establishments (FSEs) is known to cause or contribute to sanitary sewer blockages and to cause

Agreement between HRSD and the locality to allow the locality request assistance with enforcing an FSE to install a GCD.

Chesapeake
Newport News
Norfolk
Smithfield
Virginia Beach
York

Community Outreach and Education

Educational Materials

NO GREASE, NO FOOD DOWN THE DRAIN

No arrojar grasa
ni comida por
el drenaje

请勿将油脂和食物
倒入下水道



For more information, please contact
the askHRgreen.org FOG Program
(757) 420-8300 | HRfog.com

Managing Fats, Oils and Grease

Never



NEVER pour cooking residue
directly into the drain.

NUNCA vierta residuos de cocina
directamente en el drenaje.

切勿将烹饪残渣直接
倒入下水道。



NEVER dispose of food waste
into the garbage disposal.

NUNCA eche restos de comida en
la trituradora de basura.

切勿将食物残渣倒入
垃圾处理器中。

Always



ALWAYS wipe pots, pans, and
work areas prior to washing.

SIEMPRE limpie con un paño las
ollas, sartenes y áreas de trabajo
antes de lavarlas.

请务必在清洗之前擦净
厨具并清洁工作区域。



ALWAYS dispose of food waste
directly into the trash can.

SIEMPRE elimine los restos
de comida directamente en el
contenedor de basura.

请务必将食物残渣直接
倒入垃圾桶。

MANAGING COOKING OIL

Safe Storage and Disposal Tips

HANDLING & STORAGE



Used cooking oil should be collected and stored in indoor and/or outdoor recycling storage containers clearly labeled with the restaurant name.



Oil storage containers should be stored away from storm drain openings and should remain covered with a securely fitting lid to avoid spills or overflows.



Only used cooking oil from frying (not grease control devices) should go in the oil storage container.



Routinely inspect storage containers for open lids, spills, or illegal dumping.



Train kitchen staff routinely on best management practices for safely handling and disposing of used cooking oil.

FOG = FATS OILS GREASE

Improper disposal of FOG can wreak havoc on your business and the sanitary sewer system. Over time, grease build-up can cause major damage to pipes and lead to sewage back-ups in your business.

Potential problems include:

Rancid odors

Pest infestation

Raw sewage overflows due to blocked sewer lines

Expensive cleanup, repair, and replacement of damaged property

Potential fines

Why Clean Your Hydro-mechanical Grease Interceptor (HGI) Frequently?

FEWER SMELLS & ODORS The longer waste sits, the stronger the odors.

NO CLOGS Regular cleanings help keep sewer pipes clean and reduce backups due to clogged lines.

LONGER LIFE Rotting foods create acids which eat away at the internal components and tank, reducing the lifespan of your HGI and leading to increased repair and replacement costs.

CLEAN WITH EASE More frequent cleanings = easier cleanings.

CLEANING TOOLS & MATERIALS

- A trash can, multiple heavy duty trash can liners/bags, or sealable containers
- Absorbent material (i.e. floor dry, saw dust, unscented kitty litter)
- Proper hand tools and safety equipment for opening the device (hex key, screwdriver, small pry bar, rubber gloves, and safety glasses)
- Tools for removing contents (scoop for removing water and solids or a wet/dry vacuum, plastic scraper or putty knife)
- Paper towels or cloth rags for cleanup
- Measuring device (i.e. small sludge judge, ruler, or clear cup)

PLEASE COOK RESPONSIBLY

Be mindful of what you wash down the drain while cooking and cleaning up in the kitchen. When leftover food scraps, fats, oils and grease go down the drain, they cause buildup on pipe walls. Over time, blockages form resulting in sewer overflows into our streets, storm drains and waterways. It's not just a messy situation; it's a dangerous one for you and our waterways.

PREVENT SEWER OVERFLOWS BY FOLLOWING THESE "GOOD TO DO" STEPS



CATCH THE SCRAPS

Mealtime scraps don't belong in the drain so ditch the disposal. Catch food scraps in your sink with a strainer and toss them into the garbage or compost bin.



CAN THE GREASE

Pour used cooking grease into an empty, heat-safe container, such as a soup can, and allow it to cool. Once solidified, toss the can into the garbage.



SCRAPE THE PLATE

Before washing, wipe all pots, pans, dishes and cooking utensils with a paper towel to absorb grease and scrape food scraps into the garbage or compost bin.

Community Outreach





Questions?

Amanda Albright

HRSD Pretreatment & Pollution Supervising Specialist

aalbright@hrsd.com

More information about the HRSD BMP for GCDs visit

<https://www.hrsd.com/fog-bmp>

Educational Materials Request

Katie Cullipher, HRPDC

kcullipher@hrpdcva.gov

