Fats, Oils, and Grease Program

City Of Durango

Jake Yost, F.O.G Technician
Our Mission:

The City of Durango is here to help you take care of the environment, take pride in our city, and create a cleaner, less greasy world for tomorrow.
Purpose Of the Fats, Oils and Grease Program:

The City Of Durango’s Fats, Oils, and Grease (FOG) program is designed to eliminate issues resulting from fat, oils, and grease discharge into the sanitary sewage system owned by the City and its residents

- 2016/17: FOG has been identified as the cause of 45% of the sanitary sewer overflows (SSO)
  - Worse in prior years
- 2013: A concerted effort on the part of the City of Durango Utilities Department to more frequently and systematically perform regular sewer main maintenance has aided in reducing the frequency of SSO issues resulting from FOG
Purpose cont’d

- Reclamation of wastewater for discharge into the Animas river.
  - FOG collects in the treatment process piping
    - Must be skimmed off of clarifiers
    - Must be disposed of at various stages
    - Contributes difficulty in managing the treatment process in place to ensure water quality

- The City of Durango Utilities Department has utilized best practices for managing FOG contributions
  - Recognition and detection of FOG issues throughout the system and treatment works
  - Prioritization of targeted maintenance of lines where FOG is an issue
  - Tracking when and where FOG causes blockages and issues within the collection system
  - Implementing a program to avoid FOG entering into the collection system based on EPA provided management practices
Sewer System Ordinances

The City of Durango has adopted the following ordinances:

- Prohibited Discharges (Ch. 25 Sec. 25-88(4))
  - Solid or viscous substances in quantities or of such size capable of causing damage to or obstructing the flow in sewers or other interference with the proper operation of the sewage works

- Installation and Maintenance of Interceptors and Grease Control Devices (GCDs) (Ch. 25 Sec. 25-92)
  - To ensure the proper handling of liquid wastes containing excessive amounts of grease, flammable wastes, sand or other harmful ingredients
  - These devices shall be registered, located and kept to be readily and easily accessible for cleaning and inspection
Permit for Waste Grease Transporters (Ch. 25 Sec. 25-96)
- All Waste Grease Transporters of domestic-only waste collected as part of a Grease Control Device shall maintain an active and updated permit on file

Penalties for Violations (Ch. 25 Sec. 25-97)
- Refer to handout
- FOG Technician is responsible for inspections and ensuring compliance
The City of Durango is a Phase II MS4

*What does this mean?*

Durango is a **Phase II** because it’s a “**small**” municipality (under 100,000 people), and it has a system that collects stormwater and could potentially discharge polluted water to the Animas River. (A Water of the U.S).

This collection system is known as a **Municipal Separate Storm Sewer System (MS4)**.
Restaurants & Stormwater

- Stormwater runoff picks up pollutants as it flows over the ground or across paved surfaces and carries them into the storm drainage system and directly into the Animas River.

- Common sources of pollutants from restaurants includes:
  - Litter from outdoor areas
  - Trash from overfilled dumpsters
  - Pollutants from leaking dumpsters
  - Wash water from outdoor washing
  - Grease from spills or leaks from outdoor grease bins
Stormwater Regulations

- Local Ordinance - Sec. 25-176

(a) Prohibition of illicit discharges. No person shall discharge or cause to be discharged into the MS4 or watercourses any materials, including but not limited to pollutants or waters containing any pollutants that cause or contribute to a violation of applicable water quality standards, other than stormwater.

- State Law - Colorado Water Quality Control Act

- Federal Law - Clean Water Act
GREASE BUSTERS

Don't Strain the Drain!
FOG Technician

- Educate Food Service Establishments (FSEs) on Kitchen Best Management Practices
- Improve current GCD maintenance
- Inspect GCDs to ensure compliance with City Ordinance and minimize FOG going into the sewer
- Maintain compliance with the Federal Clean Water Act
- Record keeping and reporting
- Build upon strong partnerships between the City and its FSEs
Compliance of GCDs

Installation:
- International Plumbing Code (IPC) requires the installation of a properly sized and located GCD
  - Provides retention time for wastewater to separate solids, FOG and effluent
  - Releases effluent to the sanitary sewage system
- Many FSEs may already have sufficient GCDs installed

Registration:
- City of Durango GCD Registration form must be completed:
  - Nature of food served
  - Number and type of GCDs
  - Method and frequency of maintenance of GCDs
Compliance of GCDs cont’d

- **Maintenance:**
  - Regular maintenance intervals may vary based on:
    - Size of GCD
    - Number of fixtures discharging to GCD
    - Seating/customer throughput
    - Restaurant menu
  - City will follow the 25% rule for device maintenance
    - The 25% rule is used primarily by pretreatment authorities to determine when a grease interceptor is full
    - The rule states that the total depth of the floating grease layer plus the settle-able solids layer cannot exceed 25% of the total liquid depth of the interceptor
Both floating oils & grease as well as the food solids accumulation must be below 25% to stay in compliant with industrial waste FOGS requirements.

Exceeding the 25% FOGS variance can lead to citation, plumbing issues & costly clean up cost.
Interceptors and International Plumbing Code

For any new or remodeled business where plumbing is being amended, there is already a current requirement to comply with International Plumbing Code on Interceptor installation.

Accordingly many new establishments will have already met the requirements of installation and will only need to provide for registration of their interceptors and maintenance record keeping moving forward.

<table>
<thead>
<tr>
<th>TOTAL FLOW-THROUGH RATING (gpm)</th>
<th>GREASE RETENTION CAPACITY (pounds)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td>6</td>
<td>12</td>
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<td>7</td>
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<tr>
<td>75</td>
<td>150</td>
</tr>
<tr>
<td>100</td>
<td>200</td>
</tr>
</tbody>
</table>

For SI: 1 gallon per minute = 3.785 L/min, 1 pound = 0.454 kg.

a. For total flow-through ratings greater than 100 (gpm), double the flow-through rating to determine the grease retention capacity (pounds).
Installation of Interceptor

- Installation should only take from half a day to a full day
- Food Service Establishments will incur costs for purchase and installation of grease interceptors where none currently exist, and may incur maintenance costs ongoing for interceptor and trap cleaning and disposal
  - Estimated costs depend on flow and frequency of required cleaning
  - Disposal costs should have some level of mitigation as disposal can occur at the Santa Rita Water Reclamation Facility
Improper Installation of Grease Interceptors
<table>
<thead>
<tr>
<th>Equipment Types: the Good, the Bad, and the Ugly ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Benefits</strong></td>
</tr>
<tr>
<td><strong>GGI</strong></td>
</tr>
<tr>
<td>• Large FOG storage capacity</td>
</tr>
<tr>
<td>• Less maintenance</td>
</tr>
<tr>
<td>• Outside installation for easy maintenance and inspection access</td>
</tr>
<tr>
<td>• Maintenance can be performed during off hours</td>
</tr>
<tr>
<td>• Minimal contact by employees</td>
</tr>
<tr>
<td><strong>HGI</strong></td>
</tr>
<tr>
<td>• Requires significantly less space</td>
</tr>
<tr>
<td>• Less expensive to install</td>
</tr>
<tr>
<td>• Can be made with durable polyethylene materials</td>
</tr>
<tr>
<td>• Lower maintenance costs per event</td>
</tr>
<tr>
<td>• Can be maintained by restaurant staff</td>
</tr>
<tr>
<td><strong>Large HGI</strong></td>
</tr>
<tr>
<td><strong>Requirements</strong></td>
</tr>
<tr>
<td>• Uses less space than a GGI</td>
</tr>
<tr>
<td>• Typically less expensive installation than a GGI</td>
</tr>
<tr>
<td>• Typically made with durable polyethylene materials</td>
</tr>
<tr>
<td>• Lower maintenance costs per event than a GGI</td>
</tr>
<tr>
<td>• Larger FOG storage space than an HGI</td>
</tr>
<tr>
<td>• Airtight lids prevents odors</td>
</tr>
<tr>
<td>• Restaurant staff cannot conduct maintenance</td>
</tr>
<tr>
<td><strong>AGRD (type of HGI)</strong></td>
</tr>
<tr>
<td><strong>Requirements</strong></td>
</tr>
<tr>
<td>• Doesn’t require significant space</td>
</tr>
<tr>
<td>• Lower maintenance costs per event</td>
</tr>
<tr>
<td>• Self-cleaning resulting in less frequent complete pumping</td>
</tr>
<tr>
<td>• Often preferred by sewer agencies over regular HGIS</td>
</tr>
<tr>
<td>• Can be maintained by restaurant staff</td>
</tr>
<tr>
<td>• Typically cannot be installed below ground</td>
</tr>
</tbody>
</table>
Stormwater Best Management Practices

- Outdoor Grease Storage
  - Secure, cover, and provide secondary containment
  - Routine inspections for leaks or spills
  - Regular maintenance (regular pick-ups with your grease hauler)
  - Make sure your employees are informed and trained on proper disposal and storage techniques

Spill plan
- Control and contain immediately using dry clean up practices
- Clean up the dirty absorbent and dispose of properly
- If you notice a discharge to the storm drain call 970-375-4850 to report
F.O.G. clogs!
FOG Program Requirements

- Install and register appropriately sized GCDs within your individual service system
- Perform or have performed regular maintenance and cleaning to maintain a minimum flow through the GCDs
- Complete and maintain records of GCD maintenance and FOG hauling for a two-year period

*All sinks, not specifically used for hand washing, need to be tied into a grease trap/interceptor*
Impacted Facilities

All FSEs that discharge or have the possibility of discharging wastewater including FOG into the City sewer system will be required to comply with the FOG program. Examples of potentially impacted users include:

- Restaurants
- Carry-Out establishments
- Delis
- Convenience Stores
- Commercial Kitchens
- Hospital and School Cafeterias
- Nursing home and assisted living facilities
- Coffee shops
- Groceries
- Mobile food facilities
I'M THE GUY GETTING RID OF LEFTOVERS DOWN YOUR GARbage DISPOSAL, NOW YOUR PLUMBING IS WRECKED

THROW AWAY YOUR FOOD SCRAPS AND AVOID MAYHEM LIKE ME
Compliance Timeline

- 2019: Inspection will concentrate on compliance with installation and registration of GCDs to allow for mitigation of FOG Discharges moving forward
- 2020 and beyond: Inspection of GCDs and maintenance records to ensure proper function and disposal of waste FOG
Violations

FSE compliance status is determined by the FOG Technician. An FSE may be found to be compliant or non-compliant. Violation types include:

- Unauthorized Discharge
- Refusal of Entry
- Inaccessible GCD
- Inadequate/Unavailable Maintenance Log
- Inspector Observes GCD Violation
- Missed Milestone or Compliance Date
- Other- Best Management Practices not being followed
City Action to Violations

- Issue Notice of Violation (NOV)
- Issue Second NOV
- Consent Agreement
- Administrative Order
- Permit Revocation/Termination of Service/Judicial Action

*All violations shall be addressed according to the FOG Program Violation Matrix*
Description of Enforcement Actions

- **Notice of Violation** – A Notice of Violation (NOV) is generated upon the occurrence of any violation of FOG policy. Any NOV will be accompanied by an inspection report referencing the occurrence of a violation.

- **Consent Agreement** – A Consent Agreement is developed when repeat violations have occurred with no resolution or return to compliance. The consent agreement will provide reference to previously provided NOV(s), reference to the code provisions which have been found in violation, a finding of noncompliance, an identified remedy to resolve noncompliance, and finally a schedule of implementation of such remedy.

- **Administrative Order** – An Administrative Order is developed when repeat violations have occurred with no resolution, or when violations have been found to be egregious. An administrative order will include all aspects included in a Consent Agreement, but may also include an assessment of penalties.

- **Permit Revocation** – Permit Revocation may occur when repeat enforcement actions have not resulted in compliance or when a violation causes imminent or substantial danger to human health, welfare or the environment. A permit revocation will include all aspects included in an Administrative Order, but will also include specific prohibition on continued operations unless or until the identified violations are resolved.
Sec. 25-58- Violations; Penalties

(a) Any person found to be violating any provision of this article except section 25-53 shall be served by the city with written notice stating the nature of the violation and providing a reasonable time limit for the satisfactory correction thereof. The offender shall, within the period of time stated in such notice, permanently cease all violation.

(b) Any person who shall continue any violation beyond the time limit provided for in subsection (a) shall be guilty of a misdemeanor, and on conviction thereof shall be fined in an amount not exceeding three hundred dollars ($300.00) for each violation. Each twenty-four-hour period in which any such violation shall continue shall be deemed a separate offense.

(c) Any person violating any of the provisions of this article shall become liable to the city for any expense, loss or damage occasioned the city by reason of such violation.
Stormwater Violations

- **Local Enforcement**
  - Bill from Streets Department for required clean up (Mike email)
  - Notice of Violation for Illicit Discharge
  - City Fines up to $250 per day until resolved
  - Court Summons - depending on severity of violation

- **State Enforcement - CDPHE-WQCD**
  - Fines starting at $1000 per day depending on history and severity of violations
  - Court Summons - depending on severity of violation
EPA Actions:

- In administrative enforcement, under Section 309(a), EPA can issue administrative compliance orders requiring a violator to stop any ongoing illegal discharge activity and, where appropriate, to remove the illegal discharge and otherwise restore the site. Under Section 309(g), EPA can assess administrative civil penalties of up to $16,000 per day of violation, with a maximum cap of $187,500 in any single enforcement action.

- In judicial enforcement, Sections 309(b) and (d) and 404(s) give EPA and the Corps the authority to take civil judicial enforcement actions, seeking restoration and other types of injunctive relief, as well as civil penalties. The agencies also have authority under Section 309(c) to bring criminal judicial enforcement actions for knowingly or negligently violating Section 404.
YOU BENEFIT, THEY BENEFIT

EVERYONE BENEFITS
Benefits of Properly Installing and Using a Grease Trap

- Lower energy costs
  - Lower energy bills
- Reduce greenhouse gas emissions
- Make money by recycling used cooking oils
Recycling Used Cooking Oils

- Recycled cooking oil can be turned into biodiesel
  - Brown grease found in grease traps is harder to recycle because it contains water and many more contaminants
  - Brown grease can be dewatered and turned into fuel
Lower Energy Costs

- Waste Water Treatment Facilities waste more energy by skimming oils and grease out of wastewater.
- Separation of the oils and grease from the wastewater also create costs in transportation to a proper recycling facility or landfill.
- By keeping FOG out of the wastewater, commercial kitchen operators reduce the electricity demand at treatment plants, as well as reducing carbon dioxide emissions from power plants that provide power to the treatment plants.
- Recycling organic waste that can be transferred into methane gases to power the treatment plants.
  - Decomposing food waste at landfills creates methane gas.
  - When captured, methane can be burned and used to produce electricity to power the treatment plants.
  - By creating usable energy, savings will be seen at the treatment plant and savings will be passed down to the community.
Fatbergs: a very large mass of solid waste in a sewage system, consisting especially of congealed fat and personal hygiene products that have been flushed down toilets

- **London:**
  - 130 tons
  - 230 yds x 150 yds
  - Cost: $1.3 Million per month

- **Baltimore:**
  - 140 tons
  - 300 yds x 100 yds
  - Cost: $75,000

- **Detroit:**
  - 100 ft x 11 ft x 6 ft

*Main cause of blockages was Fats, Oils, and Grease and flushable wipes*
I poured grease down the drain, now the plumber is charging an arm and a leg.

Pour your grease in a can and avoid mayhem like me.
5-402.12 Grease Trap
   - If used, a grease trap shall be located to be easily accessible for cleaning

5-403.11 Approved Sewage Disposal System
   - SEWAGE shall be disposed through an APPROVED facility that is:
     (A) A public SEWAGE treatment plant; or
     (B) An individual SEWAGE disposal system that is sized, constructed, maintained, and operated according to LAW
### Uniform Waste Grease Manifest (Form WG-2)

**NOTE:** For the purposes of this form, the terms "waste" and "neutralized waste" mean any of the following:

- Any greases, used oils, or similar substances that are generated in the course of any activity conducted by a person, such as the dining or cooking activities of a person, or from the use of machinery or equipment, excluding any substances that are generated in the course of: (i) the ordinary maintenance of machinery or equipment; (ii) the maintenance or repair of machinery or equipment; or (iii) the construction or repair of machinery or equipment.

- Any substances that are generated in the course of any activity conducted by a person, such as the dining or cooking activities of a person, or from the use of machinery or equipment, excluding any substances that are generated in the course of: (i) the ordinary maintenance of machinery or equipment; (ii) the maintenance or repair of machinery or equipment; or (iii) the construction or repair of machinery or equipment.

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**WASTE OIL SOURCE OR GENERATOR INFORMATION**

- **Name:** [Insert Name]
- **Address:** [Insert Address]
- **City:** [Insert City]
- **State:** [Insert State]
- **Zip:** [Insert Zip]

**Waste Oil Source/Generator:**

- **Name:** [Insert Name]
- **Address:** [Insert Address]
- **City:** [Insert City]
- **State:** [Insert State]
- **Zip:** [Insert Zip]

**Waste Oil Transporter Information:**

- **Name:** [Insert Name]
- **Address:** [Insert Address]
- **City:** [Insert City]
- **State:** [Insert State]
- **Zip:** [Insert Zip]

**Waste Oil Destination Facility:**

- **Name:** [Insert Name]
- **Address:** [Insert Address]
- **City:** [Insert City]
- **State:** [Insert State]
- **Zip:** [Insert Zip]

**TOTAL AMOUNT OF WASTE OIL IMPORTED FROM OUT OF STATE (IF APPLICABLE):**

- **Amount:** [Insert Amount]

**TOTAL AMOUNT OF WASTE OIL IMPORTED OUT OF STATE (IF APPLICABLE):**

- **Amount:** [Insert Amount]
# Fats Oils & Grease Inspection Form

<table>
<thead>
<tr>
<th>Date of Inspection</th>
<th>Inspection Pass/Fail</th>
<th>Type of Inspection</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

**Inspection Results**

- Accessible for maintenance/cleaning:

<table>
<thead>
<tr>
<th>Item</th>
<th>Pass/Fail</th>
<th>Comments</th>
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</thead>
<tbody>
<tr>
<td>Clear flow of oils and liquids</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clay/Filter</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>No COD ppm</em></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Used cooking in receptacle</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Condition of access vector</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Condition of liquids tube</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Condition of interior walls, floors, top,</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grease trap/interceptor rack</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maintenance</td>
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</tbody>
</table>

**Service Records**

<table>
<thead>
<tr>
<th>Date of Last Inspection</th>
<th>Water Supply</th>
<th>Training Log</th>
<th>Comments</th>
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</thead>
<tbody>
<tr>
<td></td>
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</tr>
</tbody>
</table>

**Interceptor Information**

- **Inspection Form**
THIS IS THE END OF THE PRESENTATION

ANY QUESTIONS? IF NO JUST CLAP
References:

- City of Durango: Got Grease? Website.
  - https://www.durangogov.org/706/Got-Grease

- International Plumbing Code
  - https://codes.iccsafe.org/content/IPC2018/chapter-10-traps-interceptors-and-separators

- CDPHE Regulation for Effluent Limitations
  - https://www.sos.state.co.us/CCR/GenerateRulePdf.do?ruleVersionId=4740&fileName=5%20CCR%20201002-62

- 40 CFR Part 403: General Pretreatment Regulations for Existing and New Sources of Pollution

- City of Durango Municipal Code: Chapter 25 Article III Division 3. Discharge Regulations
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