

FOG Abatement Program – Establishing the Business Case Worksheet

Utility FOG-line Cleaning Costs

What **data** is currently collected?

- FOG analysis by an environmental laboratory
- Photographs of grease interceptors or FOG build-up
- Videos of clean or dirty sewer lines
- FSE inspections
- Pump-out dates and quantities
- Other _____

How many **lineal feet of collection system are being cleaned** in excess of normal cleaning cycle (normal cleaning is typically 3-5 years)

Number of feet cleaned	Cleaning frequency (months)

What is the routine cleaning frequency for all other sanitary sewer lines?

- Every three years
- Every four years
- Other _____

What is the **cost to clean sanitary sewer lines** per lineal foot?

Column A	Column B	Column C	Column D	
Time to clean each line section (hrs)	Fully loaded labor rate (\$/hr)	Equipment cost (\$/hr)	Traffic Control (\$/hr)	Total cost (A*(B+C+D))

Fully loaded labor rate includes benefits and overhead. For emergency cleanouts, include overtime charges. Equipment costs may be estimated based upon the cost for renting equipment. Traffic control costs may be estimated based on the cost for contracting out for traffic control.

What is the **cost to clean pump stations**?

Column A	Column B	Column C	Column D	
Time to clean each pump station (hrs)	Fully loaded labor rate (\$/hr)	Equipment cost (\$/hr)	Traffic Control (\$/hr)	Total cost (A*(B+C+D))

Are you **cleaning air relief valves**?

- What is the estimated cost of this?
- If not cleaning air relief valves, are you monitoring electricity usage at the pump station?

What does it cost to **dispose of FOG** removed from lines, pump stations or air relief valves?

Column A	Column B	Column C	Column D	Column E	
Number of Loads	Fully loaded labor rate (\$/hr)	R.T. Time to haul waste FOG (hrs)	Transportation costs (\$/load)	Disposal Costs (\$/load)	Total disposal cost (A*(D+E)+B*C)

Transportation costs may be estimated based on the cost for renting equipment to move the waste FOG. Disposal costs are landfill tipping fees, the cost to mix FOG in with municipal biosolids, or to dry it, etc.

What is the **excess wastewater treatment (WWT) plant cost of FOG**? WERF (Water Environment Research Foundation) estimates one pound of FOG is approximately equal to 0.5 pounds of COD. BOD is typically a fifth lower than COD. For cost estimation, use the cost to treat 0.4 pounds of BOD for every one pound of FOG estimated to be treated.

Do you have a surcharge for COD or BOD for non-residential users?

Do you have an estimate of the amount of FOG entering your WWT plant?

Use these estimates to calculate an approximate expense of treating FOG at the wastewater treatment plant.

Pounds of FOG entering the WWT plant/yr * 0.4*(BOD surcharge/lb) = annual WWT plant operations costs.

Does your WWT plant staff track their time spent on FOG issues?
 Estimate their fully-burdened rate of maintaining equipment affected by FOG.

This is a summary of the existing costs for cleaning the FOG lines? This is your “do nothing” cost.

Item	Fully burdened Cost/year
Lineal feet/yr that must be cleaned.	
Pump stations that must be cleaned.	
Air Relief valves that must be cleaned.	
FOG Disposal	
Wastewater treatment plant operations	
Wastewater Treatment Plant Maintenance	
Total	

EVALUATING FOG PROGRAM COSTS

How many FSEs are in the jurisdiction? Use previous “Inventory of FSEs in the Jurisdiction” table.

Staff costs

- Estimate number of FSE inspections that can be completed per day (include travel time and data entry):
- Estimate Full Time Employees (FTE) to initiate the program (number of FSE / inspections per day /260 days per year):
- Estimate FTEs to continue the program (number of inspections per day will be higher for ongoing inspections than for initial inspections but data entry and analysis may be significant):

SUMMARY OF FOG PROGRAM CONSIDERATIONS

Program Costs

- Inspections
- Data management
- Oversight

Stakeholder interactions (these take time and thought)

- Public outreach
- FSE regulation/communication
- Communicate the FOG program as a cost-effective service to achieve protection of the public health and environment

Implementation

- Understand grease removal devices (GRDs), their effective uses, how they're sized, and how maintained; have clear expectations and communicate with FSEs
- Try to have consistent plumbing/building codes for GRDs
- Provide clear guidance and technical assistance
- Provide equity between retrofits and new construction
- Have clear objectives for initial and subsequent inspections
- Use data management tools to target inspections

Communicate with Food Service Establishments (FSEs).

- Municipality FOG requirements
- They need to have a grease removal device (GRD)
- They must maintain the GRD with regular pump outs
- They must keep records of the pump outs
- There is potential for enforcement action

Cost-Benefit Analysis

Summarize Current Costs of Excess Cleaning Identified in Tables above

Item	Total Cost (\$/yr)
cost to clean sanitary sewer lines per lineal foot	
cost to dispose of FOG removed from lines	
cost to clean pump stations	
cost to dispose of FOG removed from pump stations	

Summarize Estimated Costs to Develop and Implement FOG Program

Item	FTE Required	Total cost (FTE * rate)
Initiate Program/initial inspections		
Legal authority implementation		
Stakeholder engagement		
Create process map and communicate it		

Summarize Estimated Costs to Maintain a well-managed FOG program

Item	FTE Required	Total cost (FTE * rate)
Ongoing inspections		
Data analysis (software license or in-house effort)		
Stakeholder engagement and education		

DOES THE COST FOR FOG PROGRAM OUTWEIGH EXISTING COSTS (STATUS QUO)?

EXISTING PROGRAM COSTS _____

FOG PROGRAM IMPLEMENTED COSTS _____