

03/22/2023

OESAC / CEU Committee  
P.O. Box 577  
Canby, OR 97013-0577

Dear CEU Committee,

Every year, the Western States Alliance (WSA) coordinates and hosts a Fats, Oil, and Grease (FOG) Forum that is the premier event of its kind in the Pacific Northwest, and one of the best in the nation. The Forum is designed to inform and train wastewater professionals, restaurant owners, pretreatment folks, plumbers and others on the latest in FOG issues including, but not limited to: upcoming rules and regulations, reporting requirements, data measurement approaches, and newest technologies. In addition, the WSA FOG Forum will also introduce you to the WSA's growing online resources available at [www.westernstatesalliance.org](http://www.westernstatesalliance.org).

We are pleased to be offering the 2023 FOG Forum in a hybrid format so that it may be attended in-person or virtually (synchronous) via Zoom. The Forum will be held at the beautiful Hood River Inn, nestled on the banks of the Columbia River.

This two-day workshop and conference will offer 14 hours of FOG related technical training and networking with industry professionals. CEUs have been granted for past conferences and will be applied for in Oregon, Washington, Idaho, and Alaska. This is an excellent opportunity for municipal managers, supervisors, engineers and technicians, consultants, food and hospitality service providers, pumpers, other service providers, and anyone interested in best practices for managing FOG.

The FOG Forum continues to bring together municipal, state, and federal wastewater and pretreatment staff from cities in Oregon, Idaho, Washington, and Alaska this year at annual conference. Attendees are municipal employees responsible for administering Industrial Pretreatment Programs under 40 CFR 403. At this conference, pretreatment staff, administer and enforce industrial discharge permits, monitor industrial discharges, develop local limits and implement other programs specific information as needed to protect the publicly owned treatment plants, collection system, and workers.

This year, the FOG Forum is applying for 14 hours of Wastewater and Collection System CEU's with the Oregon Environmental Services Advisory Council (OESAC). The 2023 FOG Forum will be held in-person in Hoodriver, WA April 11 & 12, 2023. The following is a brief outline (course synopsis) of the presentations for the FOG Forum and course timelines:

**WESTERN STATES ALLIANCE**

**2023 FOG FORUM**

**April 11 & 12, 2023**

**Best Western Plus, Hood River Inn, 1108 E Marina Dr, Hood River, OR 97031**

**Tuesday, April 11, 2023**

**8:15AM-9:15AM Case Study: Food Waste Disposers**

(1.0 Hour)

**Ken Loucks, IW Consulting Service, LLC**

Plumbing codes dictate that food waste disposers (FWD) be routed directly to sanitary and bypass grease interceptors. This begs the question, is there fats, oils and grease (FOG) in food waste? If so, what are the consequences of routing FWDs directly to the sewer system?

**9:15AM-10:15AM Obstacles to managing a successful FOG Program**

(1.0 Hour)

**Angela Walker, Brunswick-Glynn Joint Water & Sewer Commission**

The presentation will cover the obstacles to managing a successful FOG program. These obstacles include, poor regulations, lack of staff and food service establishments failing to stay on schedule and failing to repair their grease interceptors.

**10:30AM-11:00AM Industrial Pretreatment**

(0.5 Hour)

**David James, Water & Environment Association of Texas**

The Water & Environment Association of Texas developed extensive public outreach materials for their utilities. This presentation will review their clog alert website, <https://www.weat.org/unflushables> and their media toolkit, <https://www.weat.org/assets/unflushables/Unflushables-Communications-Toolkit.zip>

**11:00AM-12:00PM FOG Outreach**

(0.5 Hour)

**John Gross, Goldstreet Design  
Portland, OR**

Goldstreet Designs is an industry leader in utility and local municipality outreach solutions with service to more than 430 clients across the country. John will review the principals of creating engaging multi-media materials to help educate consumers – kids, adults, and non-English speakers

**1:00PM-1:30PM Grease Interceptor Maintenance**

(0.5 Hour)

**Travis Hardy, IPEX/Endura**

Maintenance times for grease interceptor's will vary from the many different types of food service establishments and are based on factors of the installation such as the number of meals served per day, type of meals served and kitchen cleaning practices, to name a few. Maintenance is based deeply the “two step sizing method” for hydromechanical grease interceptors. The estimate's provided by our online calculator will provide the FSE in question with the amount of grease they are producing or will produced and also provides the size of grease interceptor need to provide coverage for the facility in question.

**1:30PM-2:00PM Importance of Grease Trap Maintenance**

(0.5 Hour)

**Lisa Wagner, Sequential Environmental Services**

Maintenance times for grease interceptor's will vary from the many different types of food service establishments and are based on factors of the installation such as the number of meals served per day, type of meals served and kitchen cleaning practices, to name a few. Maintenance is based deeply the “two step sizing method” for hydromechanical grease interceptors. The estimate's provided by our online calculator will provide the FSE in question with the amount of grease they are producing or will produced and also provides the size of grease interceptor need to provide coverage for the facility in question.

**2:00PM-3:00PM Welcome Welcome to the Greasy Spoon FSE - FOG Demonstration** (0.75 Hour)  
**Clayton Brown, Ken Grimm, Ed Gilmore, David James, Jean Water, Patrick Bryan Western States Alliance**

The presenters will demonstrate the impact of water temperature on the separation of FOG in an interceptor; the impact of the presence of detergents on particle size and emulsification which affect the separation of FOG in an interceptor; and the importance of connecting food waste disposal units and dishwashers to interceptors, to minimize the use of FWDs, and the importance of scraping plates and pots and pans prior to rinsing.

**3:15PM-3:45PM Portland FOG Program** (0.5 Hour)

**Ryan Doherty, Port of Portland**

The Port of Portland is the port district responsible for overseeing Portland International Airport, general aviation, and marine activities in the Portland, Oregon metropolitan area in the United States.

**3:45PM-4:30PM FOG Needs Assessments - World Café Discussion** (0.5 Hour)

**Jean Waters, WSA**

WSA collects information on the needs of FOG professionals when they register for virtual or in-person training. We will use this time to discuss the three primary needs and brainstorm solutions for each one in a world-cafe style format.

**Wednesday, April 12, 2023**

**8:30AM-9:15AM How to Conduct a FOG Program Cost:Benefit Analysis** (1.0 Hour)

**David James, WSA**

The presentation will provide an overview of a cost-benefit spreadsheet tool being developed by the Northwest Pollution Prevention Resource Center and the Western States Alliance to assist FOG Programs compare FOG program implementation costs to the benefit of costs associated with reductions of FOG accumulations in the wastewater collection system and the treatment of FOG at wastewater treatment plants.

The tool is designed for FOG Program Managers to estimate implementation costs for staffing, activities, and resources needed for an effective, data-driven FOG Program and to compare the implementation costs with the total costs of dealing with sewer overflow responses, recurring collection system operation and maintenance, and wastewater treatment that are associated with FOG discharges from food service establishments and residential customers. The tool will assist decision makers determine how long it will take for FOG program implementation costs to equal the benefit of reduced FOG accumulation and wastewater treatment costs.

**9:15AM-10:45PM Benefits and barriers of moving your FOG program online** (0.5 Hour)

**Reilly Kirk, Swift Comply**

This presentation will explore the benefits and barriers for municipalities looking to move to a digital solution for their FOG program. We will discuss important things to consider such as data security, specific system functionality, and making the right decision as a municipality not only in the present but also for the future. Furthermore, we will highlight the importance of using digital technologies to enhance communication and information sharing among stakeholders, to ultimately ensure our communities' safety and health.

**10:45AM-10:30AM Starting Any Size Municipal FOG Program**  
**Sam McLeod, FOG BMP**

(0.75 Hour)

This presentation will guide attendees through the process of creating a municipal FOG program from start to finish. We will first review why municipal FOG programs exist in the first place and discuss the benefits of operating a thorough program as well as the downside to not having a FOG program in place. We will then step by step go through the entire process and we will actually create an actual mock municipal FOG program (small scale) with the audience during the presentation. We will be conducting the following steps.

- Enacting/Adopting/Creating a FOG Ordinance
- Profiling Stakeholders (Waste Haulers, Facilities, Grease Separation Devices)
- Cleaning Record Submission & Storage
- FOG Inspections
- Sewer Overflow & Environmental Reporting Protocols
- Engaging FOG Generating Facilities
- Data Reports & Progress Measurements
- Typical Daily FOG Program Tasks

We will be creating and reviewing actual examples of all of the above steps while creating a mock municipal FOG program. By the end of the presentation, we will look back at the program we have created as a whole and review how it operates.

**10:45AM- 11:30AM Removal of FOG from Vent Hoods/Filter Exchange**  
**James Luebke, Filter Shine**

(0.5 Hour)

Management of FOG from restaurants, hospitals, universities and other commercial food service facilities to bypass the grease traps, lift stations and waste water treatment plants

**11:30AM-12:00PM FOG and Storm Water Impacts**  
**Patrick Bryan, WSA California**

(0.5 Hour)

Fats, Oils and Grease can impact storm water the quality. FOG can solidify and accumulate in and around storm drain inlets and the insides of underground pipes.. This can lead to blockages and backkups. If not managed properly grease from restaurants, homes, and commercial sources FOG can impact storm water. When sewer malfunctions occur, raw sewage enters the nearest storm drain inlet untreated, ultimately makes its way into streams, rivers, lakes, and oceans. This raw sewage carries excess nutrients as well as bacteria and other materials which can negatively impact human health, watersheds, and wildlife.

**1:00PM-1:30PM Using FOG for Energy**

(0.5 Hour)

**Jacob Corum, City of Gresham,**

Fats, Oils, and Grease (FOG) are problematic and pervasive constituents in wastewater collection and treatment systems. The City of Gresham has instituted a program to keep FOG out of the collection and liquid treatment systems and beneficially utilize the FOG for increased energy production at the treatment plant. Since 2012, the Gresham WWTP has been accepting FOG at its FOG Receiving Facility. In 2015, the WWTP attained Electrical Net-Zero status and has averaged zero utility import since. This presentation will review the history of the FOG program at Gresham with emphasis on the treatment plant's phased approach on the road to Electrical Net-Zero status.

**1:30PM-2:00PM Using FOG for Energy**

(0.5 Hour)

**Brian Levine GreaseZilla****Portland, OR**

Greasezilla is the leading cleantech provider in the FOG Separation industry. Greasezilla is a turnkey standalone system that optimizes FOG separation while producing a high-quality Brown Grease advanced biofuel offtake. Greasezilla's patented technology can be used for complete separation, providing a purely ecological sound alternative to chemically treating, lagooning, landfilling, incineration or dumping FOG waste. By running entirely on five percent of the advanced biofuel it harvests, Greasezilla eliminates fuel costs while using zero fossil fuels, making it the most cost-efficient and ecologically responsible Brown Grease separator available.

(1.0 Hour)

**2:00PM-3:00PM A Guide to Navigating Overlapping Jurisdictions in Grease Interceptor Enforcement****Jill Hoyenga, Environmental Engineer****City of the Dalles, OR**

The information in this presentation is based on a grease interceptor enforcement advisory memo developed from conversations across jurisdictions. I consulted with the Oregon Plumbing Program Chief, a representative from North Central Public Health and our local Oregon Department of Agriculture Food Safety Specialist. Each jurisdiction approved their section of the memo. Since that memo was written in 2019, the local jurisdictions in The Dalles have practiced wrap around enforcement with clearly defined hand-offs. By working together, we are more successful in reaching our mutual goal of protecting public health.

The memo and this presentation are written from the perspective of a recently hired pretreatment program coordinator of only five years of experience.

The presentation discusses these general topics:

- How a jurisdiction is defined and how to influence needed change
- Specific discussion about grease interceptor jurisdictions
- How to successfully navigate and find allies across overlapping jurisdictions, with case studies
- Suggested changes to strengthen the pretreatment jurisdiction

**3:15PM-3:45PM FOG Abatement Program Overview**

(0.75 Hour)

**Clayton Brown, Wester States Alliance**

The importance of implementing a data-driven vs. an effort-driven FOG program requires time and planning. This presentation covers the data elements needed, reviews three FOG data management tools, and reviews program cost/benefit analysis. The importance of stakeholder involvement is also reviewed.

**3:45PM-4:30PM Wrap-up Roundtable Discussion**

(1.0 Hour)

**WSA Trainers**

Throughout the conference, questions and topics of concern will be noted on Flip chart paper. Conference participants can also add their own questions to the list. At the end of the conference, if there are too many topics/questions, we will take a show of hands to determine the priority topics/questions for the roundtable discussions. The discussions will be conducted in small groups and then the groups will report out, and then the entire group will have the opportunity to comment further.

10 Hours	\$75
4 Hours (@ \$10/hr)	\$40
	Total \$115

Please contact me if you have any question.

Sincerely,  
Patrick Bryan

*Patrick Bryan*

Patrick Bryan,  
Program Coordinator, FOG Trainer  
Pacific Northwest Pollution Prevention Resource Center  
(PPRC), Portland, OR  
(559) 940-5270  
pbryan@pprc.org



# Western States Alliance 2023 FOG Forum

April 11-12, 2023  
 Best Western Plus, Hood River, OR  
 (In-person and hybrid via private GoToWebinar link)

## AGENDA

*All times Pacific Daylight Time*

April 11 <sup>th</sup> (Tuesday)			
7:30	Breakfast		
8:00	Welcome	Ed Gonzalez	PPRC/WSA Executive Director
8:15	FOG Case Study: food waste disposers and Modern Trends in FOG Program Development	Ken Loucks	Interceptor Whisperer
9:15	Obstacles to managing a successful FOG Program	Angela Walker	BGJWSC.org
10:15	Break		
10:30	Industrial Pretreatment	David James	Water & Environment Assoc of Texas
11:00	FOG Outreach – educating FSEs and residential customers	John Gross	Goldstreet Design
12:00	Lunch		
1:00	Grease Interceptor Maintenance	Travis Hardy,	IPEX/Endura
	Importance of Grease Trap Maintenance	Lisa Wagner	Sequential Env. Services
2:00	Welcome to the Greasy Spoon FSE - FOG Demonstration	WSA Trainers	Western States Alliance, not ready for primetime staff
3:00	Break		
3:15	Port of Portland FOG Program (PDX)	Ryan Doherty	Port of Portland
3:45	FOG Needs Assessments World Café Discussion	Jean Waters	Western States Alliance
4:30	Adjourn		
6:30	Dinner and entertainment; Hospitality Suite		



April 12th (Wednesday)			
7:30	Breakfast		
8:15	Welcome	Ed Gonzalez	PPRC/WSA Executive Director
8:30	FOG Program Cost/Benefit analysis	David James	Western States Alliance
9:15	Data Management Systems	Reilly Kirk Sam McLeod	Swift Comply FOG BMP
10:30	Break (15 min)		
10:45	Removal of FOG from vent hoods/filter exchange; FOG Storm Water Impacts	James Luebke & Patrick Bryan	Filter Shine; Western States Alliance
12:00	Lunch		
1:00	Using FOG for Energy	Jacob Corum; Brian Levine	Gresham, OR; Greasezilla
2:00	Jurisdictional Authority	Jill Hoyenga	City of the Dulles, OR
3:00	Break		
3:15	FOG Abatement Program Overview	WSA	Clayton Brown
3:45	Wrap-up Roundtable Discussion	WSA Trainers	WSA
4:30	Adjourn		



**Western States Alliance  
2023 FOG Forum  
April 11 & 12, 2023**

***Hood River Best Western Plus Hood River Inn, Hood River, OR***

**Course Instructor Biographies**

**Course Title:** Western States Alliance 2023 Fats, Oil and Grease (FOG) Forum

**Location:** Hood River Inn, 1108 E Marina Dr, Hood River, OR 97031

**Date:** April 11 & 12, 2023

**Presenter Bios and Experience**

**Angela Walker**

Wastewater Pretreatment Compliance Coordinator at Brunswick Glynn Joint Water and Sewer Commission (BGJWSC) in Brunswick GA where she has the sole responsibility for conducting regulatory compliance inspections. She has worked in wastewater treatment systems for nearly 20 years and has obtained multiple licenses in the state of Georgia. Angela is also responsible for the BGJWSC Fats, Oils and Grease (FOG) program. She has a BS in psychology from Liberty University

**Ken Loucks**

Affectionately known as the Interceptor Whisperer. He has a knack for understanding grease interceptors and has spent more than 10 years learning how they work, how they have evolved over time and how to effectively manage them in fats, oils and grease (FOG) pretreatment programs. His experience in the plumbing industry goes back to 1989 beginning with his first job in wholesale distribution, then later as a manufacturer's representative, and finally directly for manufacturing. For the past several years he has worked specifically on codes, standards, ordinances, bylaws and policies as they affect commercial grease interceptors across the United States and Canada



# INTERCEPTOR WHISPERER

Consulting Service, LLC

Fats, oils and Grease (FOG) Program Development Assistance

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## Ken Loucks

Principal - Member

IW Consulting Service, LLC

[www.interceptorwhisperer.com](http://www.interceptorwhisperer.com)

[ken@iwconsultingservice.com](mailto:ken@iwconsultingservice.com)

888-615-5615 - ph/fx

360-540-0570 - cell

Ken Loucks, principal and member of IW Consulting Service, LLC, has been in the plumbing and fats, oils and grease (FOG) related industry since 1989 having worked in wholesale distribution, as an agency representing manufacturers and directly for a manufacturer of grease interceptors. For the past decade he has been focused on the plumbing codes, product standards and pretreatment regulations that govern commercial grease interceptors.



Ken is a member of the technical committees that administer the grease interceptor product standards ASME A112.14.3, CSA B481 and IAPMO/ANSI Z1000/Z1001/Z1001.1. He is a current member of the American Society of Plumbing Engineers (ASPE), the American Society of Mechanical Engineers (ASME), the Canadian Standards Association (CSA), the International Association of Plumbing and Mechanical Officials (IAPMO), and the International Code Council (ICC). He actively supports regional pretreatment associations including Puget Sound PRE-FOG, Western States Alliance, Arizona FOG Group, and the Southeastern FOG Alliance.

As an educator, Ken has given live presentations to thousands of people across the US and Canada on various subjects relating to commercial grease interceptors. Audiences have included pretreatment professionals, plumbing, mechanical and civil engineers, plumbing code officials and plumbing and pumping contractors. He has been blogging about commercial grease interceptors since 2009 under the alias *Interceptor Whisperer* ([www.interceptorwhisperer.com/iw-blog](http://www.interceptorwhisperer.com/iw-blog)), which is read internationally by more than 25,000 people annually. Most recently, he was a contributing editor to the 2016-2017 edition of the *American Society of Plumbing Engineers Data Book Volume 4, Plumbing Components and Equipment, Chapter 8, Grease Interceptors*.



# Instructor Background And Information Form

Thank you for filling out this form.

Presentation Title: Removing FOG from the Wastestream

Presenter: Angela Walker Title: Wastewater Pretreatment Compliance Coordinator

Employer: Brunswick and Glynn County Joint Water Address: 1703 Gloucester St.

City: Brunswick State: GA Zip: 31520 Phone: 912-264-1700

Summary of Lesson content: Review of information to help jurisdictions remove FOG from the waste stream and utilize it as a useable product, instead of a waste product.

Professional Background: ( Note a brief - 2 page maximum - resume may be submitted in lieu of the following data. Please be sure the resume includes all requested information. Qualifications should be related to your presentation.) Use the reverse side of this form if more room is needed to fully answer the following questions.

Primary Knowledge/Skills/Abilities related to presentation: She has worked in wastewater treatment systems for more th  
She is responsible for the BGJWSC Fats, Oils, and Grease (FOG) program. Consultant for Biodiesel company utilizing FC

Education (High School, Upgrades, Colleges and Degrees): Bachelor of Psychology from Liberty University  
Juris Master's in International Law from Liberty University.

Professional Registration/Certification: State of Georgia Wastewater Operator Class I  
State of South Carolina Physical/Chemical Wastewater Operator Class A

Related papers/instruction you have presented:

Title: \_\_\_\_\_ Date: \_\_\_\_\_ Event: \_\_\_\_\_

Title \_\_\_\_\_ Date: \_\_\_\_\_ Event: \_\_\_\_\_

Professional Organizations/Activities:

\_\_\_\_\_ Date: \_\_\_\_\_  
Southeastern FOG Alliance Vice-President for Georgia Date: 2020-Present

Course sponsor: Western States Alliance

Signature of Instructor: Angela Walker Date: 5-9-2022

**DO NOT WRITE BELOW THIS LINE**

Date Evaluated: \_\_\_\_\_ By: \_\_\_\_\_ Approved: Yes \_\_\_\_\_ No \_\_\_\_\_

Return Completed Form To: OESAC CEU COMMITTEE  
P.O. Box 577  
Canby, OR 97013-0577  
Email: [info@oesac.org](mailto:info@oesac.org)  
Phone: 503-698-6486



# Instructor Background And Information Form

Thank you for filling out this form.

Presentation Title: Looking up for FOG and Closing the Loop

Presenter: James B Luebke Title: President

Employer: FilterShine Midwest Address: 1005 South Main Street

City: West Milton State: OH Zip: 45 38 3 Phone: 9 3 7 6 0-3 32

Summary of Lesson content: Looking up, Fog created by cooking, depositing in the exhaust system filters ,ductwork and fans. How these components are cleaned and where is the fog going. Closing the Loop, the disconnect between Fire and safety, and Health and Environmental.

Professional Background: ( Note a brief - 2 page maximum - resume may be submitted in lieu of the following data. Please be sure the resume includes all requested information. Qualifications should be related to your presentation.) Use the reverse side of this form if more room is needed to fully answer the following questions.

Primary Knowledge/Skills/Abilities related to presentation: IKECA member , USFOGA board , 22 year President of Liberty Services.

Education (High School, Upgrades, Colleges and Degrees): High School

Professional Registration/Certification: IKECA

Related papers/instruction you have presented:

Title: \_\_\_\_\_ Date: \_\_\_\_\_ Event: \_\_\_\_\_

Title \_\_\_\_\_ Date: \_\_\_\_\_ Event: \_\_\_\_\_

Professional Organizations/Activities: \_\_\_\_\_ Date: \_\_\_\_\_

\_\_\_\_\_ Date: \_\_\_\_\_

Course sponsor: David James

Signature of Instructor: [Signature] Date: May 11 2022

**DO NOT WRITE BELOW THIS LINE**

Date Evaluated: \_\_\_\_\_ By: \_\_\_\_\_ Approved: Yes \_\_\_\_\_ No \_\_\_\_\_

Return Completed Form To: OESAC CEU COMMITTEE  
P.O. Box 577  
Canby, OR 97013-0577  
Email: [info@oesac.org](mailto:info@oesac.org)  
Phone: 503-698-6486



**Ed Gonzalez** is Executive director of Pollution Prevention Resource Center. He has 20 years of experience working in the environmental and health fields, managing programs/projects in the states of Texas, New Mexico, Nevada, California, and now Washington. Ed holds a BA in Political Science from the University of Texas at El Paso. While working as Program Manager at University of Texas at El Paso, Ed's project work included: wetland restoration; providing access to potable water and health care for impoverished families in Juarez, Mexico; the introduction of green building concepts to local builders; and the management of the Southwest Pollution Prevention Resource Center. Ed has also served as the Program Director of the Western Sustainability and Pollution Prevention Network (WSPPN), a cooperative alliance of pollution prevention (P2) programs throughout EPA Region 9, which is based out of the University of Nevada, Reno.

**Sam Mcleod**

Director of Compliance for FOG BMP Software. Sam focuses on working with local governments, waste haulers, and corporate restaurant chains by offering expertise in the area of fats, oils, and grease (FOG) compliance to environmental and plumbing code requirements. Before joining FOG BMP Software, Sam served as Vice President of EPAS and Plumbing Division Business Unit Manager at NSF International. He has experience in the fields of grease trap testing/certification, grease trap research/development, wastewater consulting, plumbing codes/standards, and environmental compliance. Sam holds both a Bachelor of Science degree and a Masters of Science degree concentrated on the fields of Engineering and Environmental Studies.

**John Gross**

President and Founder of Goldstreet Designs, Bend, OR. John received his MBA for technology management from the University of Phoenix in 2005 with a B.A. from Central Washington University. Prior to founding Goldstreet, John worked for AT&T Wireless and Qwest Communications as part of their Corporate Account Sales Team providing Hi-Tech voice and data solutions to larger corporations in the Portland Metro area. John's skills include working with customers to develop a marketing/communications strategy that best fits the customers expected results and budget.

**David James**

PPRC FOG trainer, is a PPRC Project Manager with more than 45 years' experience providing environmental technical and compliance assistance to public and private entities, specializing in developing and implementation of SSO and FOG abatement and pollution prevention programs, 26 years with Texas Commission on Environmental Quality, 12 years as WWTP O & M Services, BS and MS, Civil Engineering, Texas A & M. Texas Class A Wastewater Operator, life time member of the American Water Works Association and the Water Environment Federation.





### **Patrick Bryan**

PPRC Technical Program Manager and FOG trainer, has 28 years of experience working in the environmental field, with an AS degree in Hazardous Material and Environmental Technology. He has worked with Stanislaus County's Hazardous Materials Division as Region Inspector; 23 years with the Fresno County Flood Control District, Environmental Department, National Pollution Discharge Eliminations Systems (NPDES) Region QSP Inspector. He has created and developed training programs for a wide range of audiences including municipal staff, industrial facilities, construction/development sector and community outreach & education program. He understands the disconnection that occur between the communities we serve such as Food Service Establishment's (FSEs). These disconnects can occur within municipal agency departments. Building a relationship within agency departments and private stakeholders is essential for a successful FOG Program. Patrick served as board member with the Western Sustainability and Pollution Prevention Network (WSPPN), a cooperative alliance of pollution prevention (P2) programs

### **Jean Waters**

PPRC FOG trainer, is a PPRC Project Manager Waters has more than 25 years of experience assisting businesses in pollution prevention and sustainability, helping them increase energy efficiency and eliminate waste at the source. Waters was Deputy State Director for the Nebraska Business Development Center (NBDC), where she supervised and worked with NBDC consultants in the small business development centers, the Procurement Technical Assistance Centers (PTAC), the Pollution Prevention Regional Information Center (P2RIC), the Technology Commercialization Program, and the Export Program. She previously served as program manager for the Pollution Prevention Resource Exchange (P2Rx) national network and was Director of the Pollution Prevention Institute at Kansas State University. Waters has a Masters of Science degree in chemical engineering from Kansas State University and is an Economic Development Finance Professional.

### **Clayton Brown**

PPRC FOG trainer and WSA Program Manager, Clayton is an award-winning clean water industry professional with over 21 years of pollution control and water treatment experience and helped start the Regional Preferred Pumper Program. He was the SC Manager at CWS for 30 years, and retired in October, 2017. His current role is board chair for the Pacific Northwest Source Control Training Association. He demonstrates innovative leadership, team building and coaching skills with the ability to motivate staff incorporating holistic and collaborative communication. Clayton has proven program and project management skills with demonstrated capacity to drive projects to successful completion. He is responsible for numerous process improvements resulting in significant resource and capital savings and is active in several industry associations. Clayton has a Bachelor of Science degree in Biology from Portland State University, and a Masters in Business Administration from George Fox University.





**Seth Markwood**

Liberty University BS and MA Religious Studies  
Sales and Marketing Director, Thermaco INC. Seth works to build strategic partnerships, effective customer relations, and focuses on training and education.

**Travis Hardy**

Over fifteen years of experience in the field of construction and civil engineering. I began my career in the field of civil engineering working GS2 Engineering of Columbia, SC then for ESP Associates of Fort Mill, SC. The jobs I worked on included projects such as: military bases, public school, and owned state buildings. After I left the civil engineering field, I started my career with the City of Sumter, SC. First as the stormwater engineering working with FOG control under EPA and SCDHEC guidelines. Second, as the Construction Supervisor where I directed and supervised operations of all construction projects from conception to completion under my office. After the City of Sumter I started a short career with Knights Redi- Mix of Summerville, SC as a Plant Manager were oversaw the daily operations of the plant from creating the specific mix design of task direct concrete to delivery of the product to the customer. In my current role as a market development specialist, I work on marketing programs and projects to secure sales and premium goals for the Endura Brand of products.

**Ken Grimm**

PPRC FOG trainer, is PPRC Industry Outreach Manager with 18 years' experience serving in different training and technical roles, including national trainer for FOG abatement and forspray paint efficiency, as well as database and measurement system development. Ken also provides web services and maintenance for PPRC and WSA websites.

**Ed Gilmore**

PPRC FOG trainer, is a PPRC Program Manager with 20 years of experience in industrial pretreatment, storm water and pollution prevention programs with Water Environment Services of Clackamas County, Oregon, and the City of Portland. He developed and implemented the FOG program for the sewer district and assisted in FOG program development across the Portland metro area.

**Jill Hoyenga,**

City of Dulles, OR. Water Resource & System Planner & Regulatory Compliance Manager Eugene Water & Electric Board (EWEB). I have worked in Water Demand Management program development and implementation as well as Cross Connection Control, maintaining water quality by preventing contamination from customer piping, for 15 of the 20 years I have worked at EWEB. As a planner I continue to support Water Demand Management and have expanded my service to the utility to include project management and demand forecasting.

**Jacob Corum**

WWTP FOG Program Coordinator and Engineer 1 at the City of Gresham WWTP. Prior to his current position, Jacob worked as an operator at the WWTP and has first hand knowledge of operating and managing the FOG receiving facility for Gresham.

Fats, Oils, and Grease (FOG) are problematic and pervasive constituents in wastewater collection and treatment systems. The City of Gresham has instituted a program to keep FOG out of the collection and liquid treatment systems and beneficially utilize the FOG for increased energy production at the treatment plant. Since 2012, the Gresham WWTP has been accepting FOG at its FOG Receiving Facility. In 2015, the WWTP attained Electrical Net-Zero status and has averaged zero utility import since. This presentation will review the history of the FOG program at Gresham with emphasis on the treatment plant's phased approach on the road to Electrical Net-Zero status.





a Downey Ridge Environmental Company

# ADVANTAGES

## TURNKEY

- Fully automated
- Ideal for sites with 10-50,000 gallons of FOG per day
- Available in flexible configurations that are designed to be expandable and scalable
- Small footprint of 1000 square feet

## ECOLOGICAL

- No polymers, flocculants or other chemicals required
- Drastically reduces waste and landfilling
- Runs on 5% of the Advanced Biofuel it produces

## COST-EFFECTIVE

- Low operational costs
- ROI is less than 2 years
- High EBITDA
- Remote monitoring capabilities require minimal staffing
- Creates profitable new revenue streams



**Contact Us**  
 304-658-4778  
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# GREASEZILLA FOG SEPARATION SYSTEMS

THE LEADING FOG SEPARATION SYSTEM FOR LIQUID WASTE PROCESSORS, WASTEWATER TREATMENT FACILITIES AND HAULERS INDUSTRY-WIDE



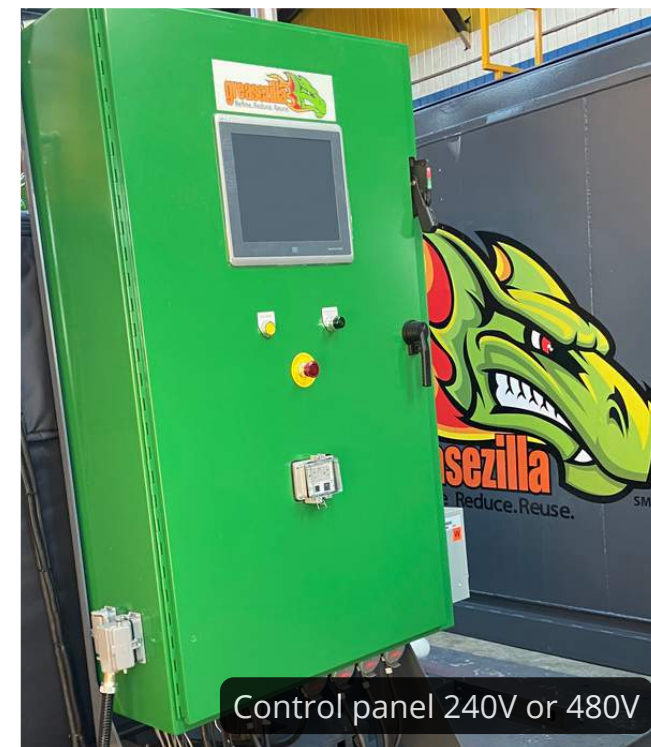
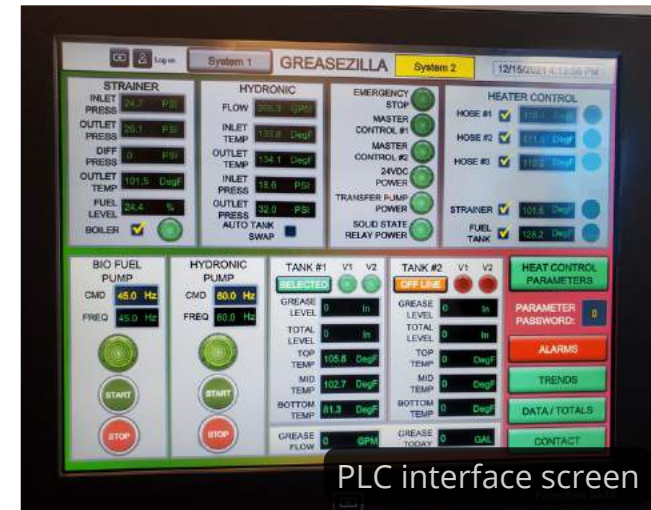
# THE GREASEZILLA SYSTEM



Greasezilla® is a turnkey standalone system that separates and processes FOG waste. The system's ecological grease-separating process removes FOG from the waste stream, reduces waste disposal expenses and creates new revenue. The system operates without dewatering, leaves nothing to be landfilled and has a total operating cost of 1-2 cents per gallon.

**No chemicals. No landfilling. No waste.**

**Greasezilla®**  
solves FOG  
treatment  
and disposal  
challenges  
worldwide



Greasezilla® patented technology effectively separates FOG from grease trap waste (GTW), while removing over 99% of the water (MIU) from the Brown Grease. Greasezilla®, running on its own fuel, is the purely ecological alternative to chemically treating, lagooning, landfilling, incineration or dumping FOG waste.

Greasezilla® is modular and scalable, available in configurations for interior or exterior placement. Easy to operate and maintain, the system is equipped with an Allen Bradley® Programmable Logic Controller with SCADA integration for remote monitoring.

## FOG Separation Layers



**Greasezilla® separates FOG into three layers:**

**8-10%** Low-moisture (<1%) Brown Grease Advanced Biofuel and feedstock

**5-10%** Batter for anaerobic digestion or composting

**80-85%** Pasteurized water ready for wastewater treatment plants

