

FOG Scout Preview

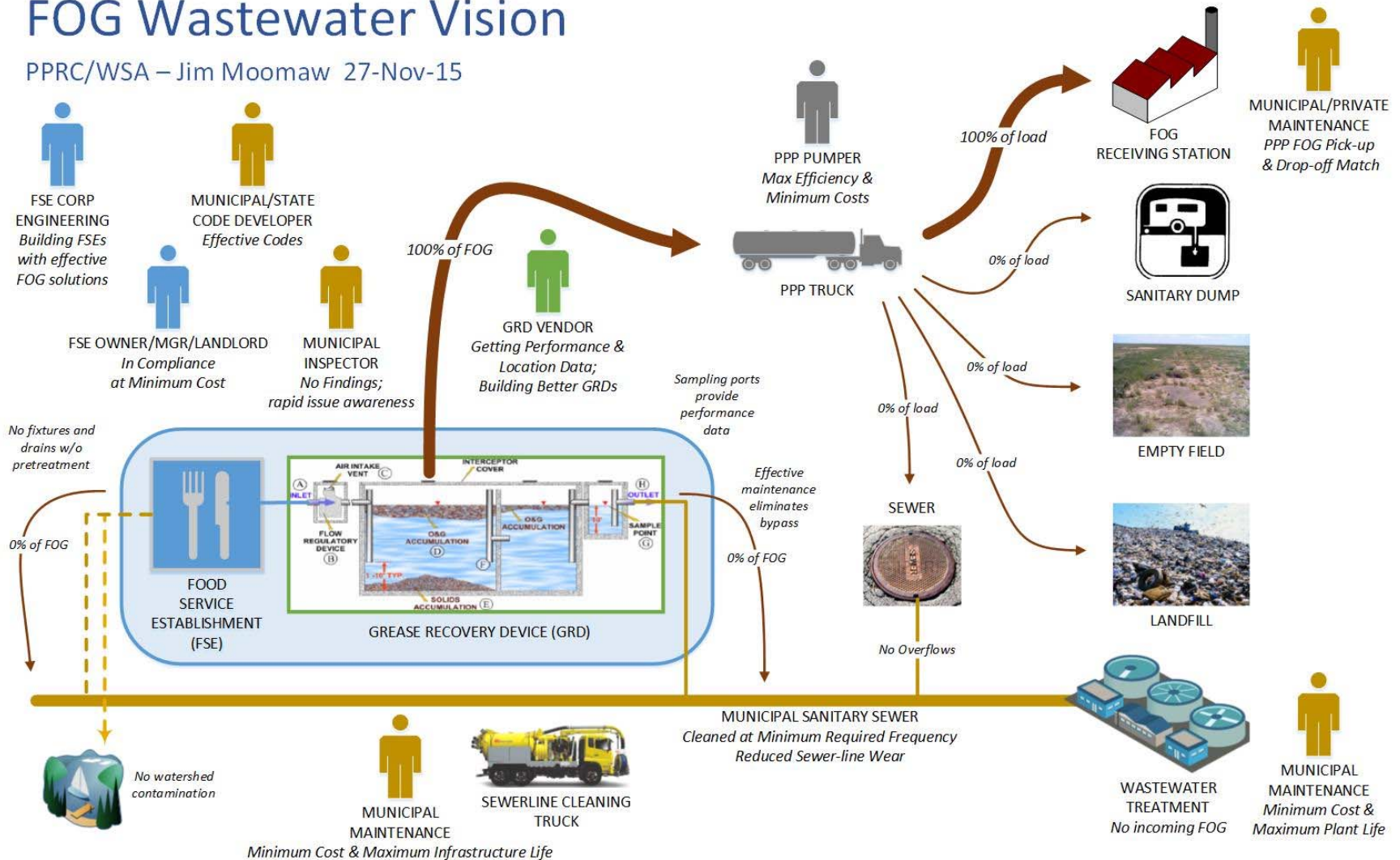
Jim Moomaw / Clayton Brown

19 Apr 2016

The FOG Scope

FOG Wastewater Vision

PPRC/WSA – Jim Moomaw 27-Nov-15



The Vision

- Food Service Establishments (FSE's) capture and hold all the FOG they create between interceptor cleanings
- All FSE interceptors are cleaned before they bypass into the public works; the FSE's know when cleaning is due
- Jurisdictions clean their sewer lines at minimum required frequencies because they aren't getting any FOG buildups; there are no overflow events
- Water treatment plants don't need to deal with FSE FOG input, reducing their operating costs
- Community benefits from stabilized rates
- FOG is recycled in an optimum way to recover energy and reduce pollution

The Reality

- Most FSE's (>80%) aren't capturing and holding all the FOG they should be; many (>25%) don't capture any
- FSE interceptors are usually (>75%) not being cleaned before they bypass; FSE's don't have accurate info to schedule cleaning
- Jurisdictions are dealing with hotspots, elevated line cleaning and sewer overflows because of FOG buildups
- Waste-water treatment plants spend millions per year dealing with high volumes of FSE FOG input they shouldn't need to
- Ratepayers are subsidizing the costs of treating FOG, not the FSE's who are causing the problems
- Jurisdictions don't have good data for managing their FOG programs to realize "The Vision"; Regulators don't know where to best focus their attention

The Goals

- Provide **jurisdictions** with information they need to effectively manage their conveyance systems and treatment plants at lowest costs
- Provide **regulators** with prioritized action plans that will give them the most leverage in reducing the worst FOG issues
- Provide (empower) **FSEs** with just-in-time information to effectively manage FOG interceptor components & *pumpers*
- Provide **pumpers** with an easy means to report FSE cleaning event data so jurisdiction does not need to enter that itself
- Provide data to interceptor vendors, building-code officials, plumbers and architects to create better, lower-cost solutions that perform well

The Challenges

- Municipalities don't have good metrics on the real issues causing FOG-bypass to public works
 - **The Great Escape:** Municipalities typically see 70-80% of FSE FOG bypassing into public conveyance and treatment plants but they don't have the metrics to trend this
 - **You can't pump what you don't capture:** Inadequate FSE FOG capture/hold is a major issue but there are few metrics for trending
 - **Ineffective Pumping:** Pumping is on fixed schedules that have little relevance to GRD size, efficiency or time to bypass; there are few metrics for trending pumping effectiveness/timeliness

The Challenges

- Off-the-shelf pretreatment & FOG software is municipality or jurisdictional specific, but FOG management requires an open scope
 - FSE franchises and management cross jurisdictional boundaries
 - FOG interceptor service providers (pumpers) cross jurisdictional boundaries
 - Collected FOG crosses jurisdictional boundaries (pickup and dump)
 - FOG interceptors (GRDs) are used in multiple jurisdictions

The Challenges

- Inability to integrate the data limits its power
 - Fragmented data isn't effective at providing performance feedback on existing FOG regulations and enforcement, building codes & practices and vendor product performance & reliability
 - Lack of data stifles equipment manufacturer innovation
 - Lack of data prevents FSE facility managers from building effective and efficient capture systems, and efficiently managing interceptors across jurisdictions
 - FOG is a valuable renewable energy source but public & private recovery organizations don't know how much is available, which limits ability to fund and build recovery facilities

The Challenges

- Off-the-shelf pretreatment & FOG software doesn't provide management features needed
 - Commercial offerings narrowly limit their focus to scheduled pumping, which does little to reduce FOG bypass into public works
 - Cities participating in Preferred Pumper Program receive reams of paper or scanned reports and must input data into their local system; they are looking to enable the pumpers to enter that data for them BUT pumpers aren't going to want to use multiple applications
 - The software vendors may use this data to further lock munis into proprietary/closed systems

The Strategy

- Develop a new application (FOG Scout) that gathers data and provides reports needed to fundamentally manage all FOG elements affecting total FOG capture and costs
- Design scalability, availability and security into the application from the get-go for US-wide use
- Release major features in phases
- Allow historic-data loading and data extracts
- Assign WSA/PPRC with responsibility to create and manage the application and make it available to any interested US municipality

The Features

- First-Phase:
 - Allow jurisdictions to (privately) enter and maintain FSEs, GRDs and sewer connections, hotspot sewer sections, treatment plants, and site contacts
 - Auto-notify FSEs on GRD service due
 - Allow (jurisdiction-authorized) pumpers to directly enter GRD service data (including photos) from desktops or mobile devices
 - Provide regulators with prioritized action reports on biggest issues regarding FSE FOG capture and timely pumping
 - Provide trending graphs showing:
 - Percent FOG captured and held at FSEs (shows systemic bypass)
 - Percent FOG captured by pumping (shows late-pumping bypass)
 - Elevated line-cleaning trend (shows amount of elevated cleaning)

Phase1 Features – Reports / Graphs

ATTENTION: Grease Interceptor Service Coming Due

Business

Albertsons Store #556
 6054 SW 185th Ave, Beaverton, Oregon

Business Contacts

Name	Email	Role
Lisa Gossett	lisa.gossett@supervalu.com	Biz Owner
Dan Johnson	djohnso@gmail.com	Biz Mgr
Justin Kim	jae1974@hotmail.com	Prop Mgr

Please contact a FOG pumper to have your grease interceptors cleaned within **10 days** of the Cleaning Due Dates below

Cleaning Due Date	Location Description	Last Cleaned	Cleaning Interval (days)	Previous Pumper Company	Tank Vol (gallons)	Grease Interceptor Type	Database ID
9-Jan-2016	under 3comp sink	10-Dec-2015	30	Pro-Pump	20	HGI	2160

Cleaning Due Date	Location Description	Last Cleaned	Cleaning Interval (days)	Previous Pumper Company	Tank Vol (gallons)	Grease Interceptor Type	Database ID
8-Feb-2016	parking spot N of handicap	10-Nov-2015	90	Darling	1000	GGI	2501

Cleaning Due Date	Location Description	Last Cleaned	Cleaning Interval (days)	Previous Pumper Company	Tank Vol (gallons)	Grease Interceptor Type	Database ID
OVERDUE	Indoor - DELI POTSINK	5-Feb-2014	57	Darling	60	HGI	3358

This is a courtesy communication from CLEAN WATER SERVICES. If you have any questions or corrections to this information please call 503-555-1212. Recent service not yet recorded may show as overdue; please disregard in that case.

Find a list of Preferred Pumpers at: <http://preferredpumper.org>



Phase1 Features – Reports / Graphs

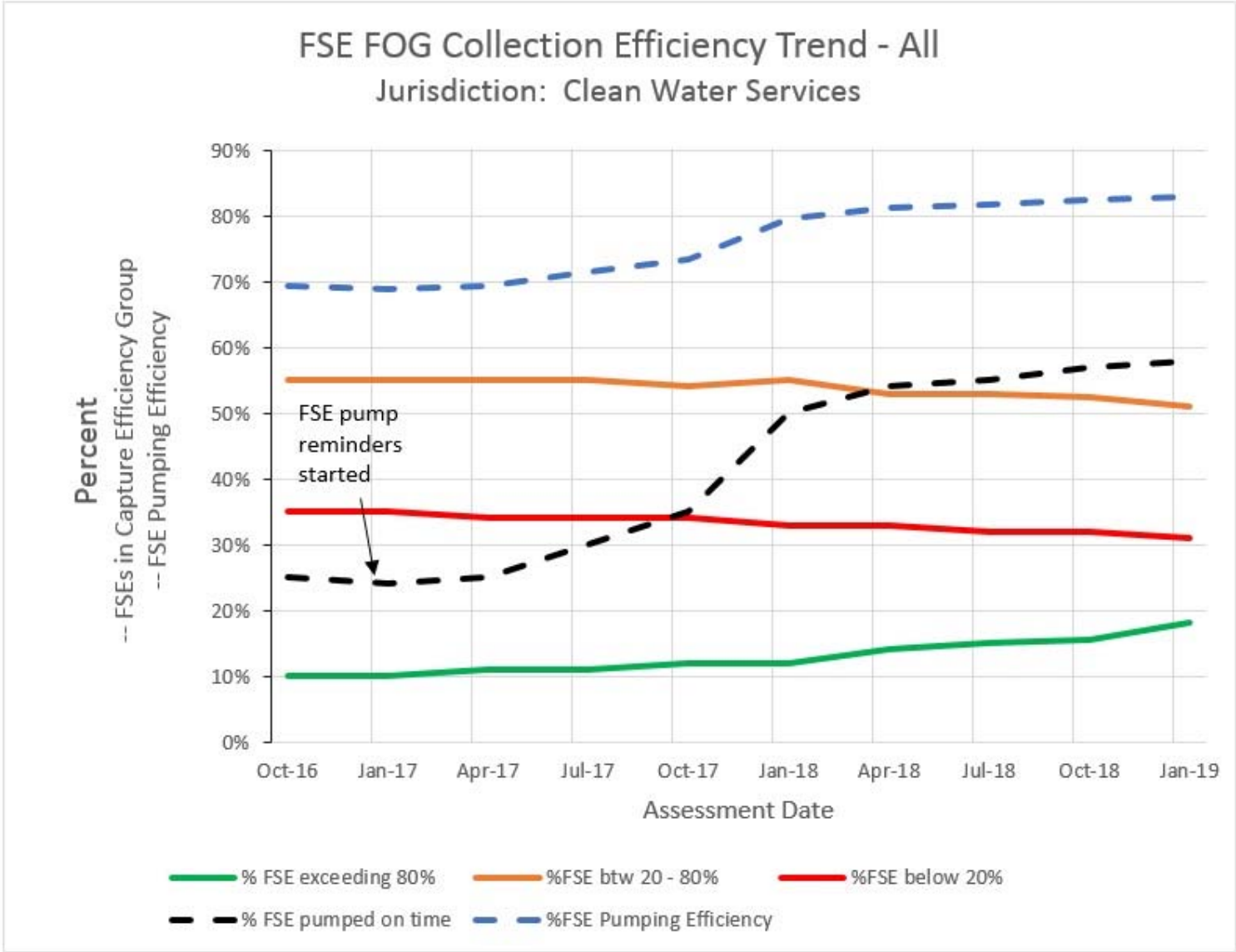
FSE Deficient Capture Report

Corrective Action Impact	Site Address	Business Name	Capacity Issue	Cleaning Issue	Mech Issue	F&D Issue	FSE Net Capture Efficiency	Hotspot Name	Hotspot Rating 0-3	FSE FOG Potential 1-4	Biz Contact	Site Contact
24	123 Main, Bvtn	Flying Burrito				X	0%	Main-Bvtn	3	4	M.Chevy	M.Pots
18	134 Main, Bvtn	Frys Market		X		X	0%	Main-Bvtn	3	3	J.Brock	M.Pots
12	100 Able, Bvtn	Starbucks	X		X		10%	Able-Bvtn	2	3	J.Bean	S.Hodges
6	105 Able, Bvtn	Dinnies Pie	X				50%	Able-Bvtn	2	3	T.Dinnie	S.Hodges
6	22 Oak, Bvtn	pizza pizza				X	0%		0	3	B.Marco	
4	90 Maple, Bvtn	Ice Crème Parlor			X		50%		0	4	B.Patty	
2	200 Vine, Bvtn	Giant Muffins	X				50%		0	2	A.Baker	S.Kling
0	140 Main, Bvtn	Chili Barn					100%	Main-Bvtn	3	4	D.Hound	M.Pots

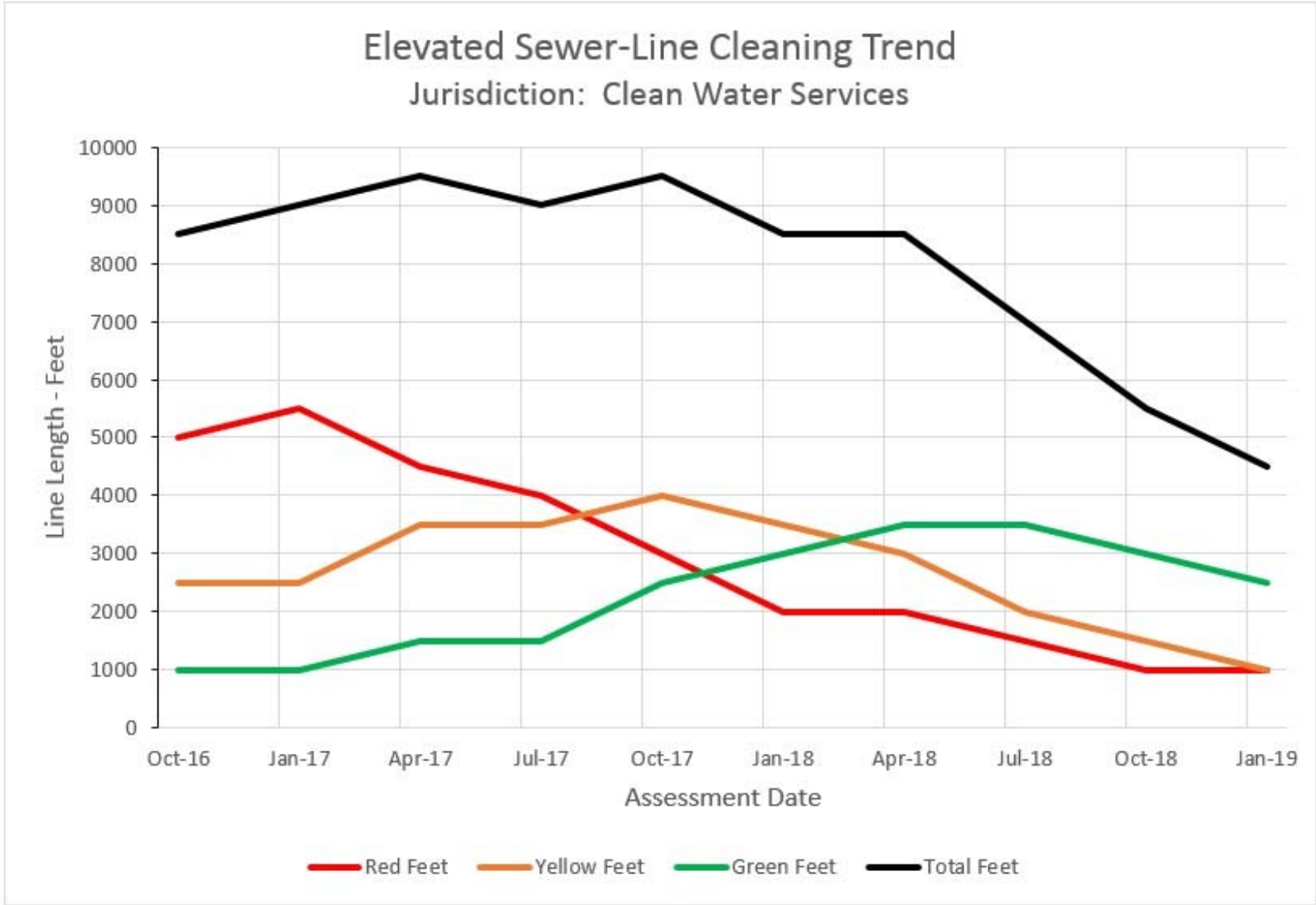
FSE Deficient Pumping Report

Corrective Action Impact	Site Address	Business Name	GRD Location	GRD Type	Days to Bypass	Days Past Bypass	FSE Net Capture Efficiency	Hotspot Name	Hotspot Rating 0-3	FSE FOG Potential 1-4	Biz Contact	Site Contact
24	123 Main, Bvtn	Taco Taco #1	3 comp	HGI	30	18	100%	Main-Bvtn	3	4	M.Chevy	M.Pots
18	134 Main, Bvtn	Bales Market	rear lot	GGI	90	60	100%	Main-Bvtn	3	3	J.Brock	M.Pots
12	100 Able, Bvtn	Cofee Haus	#2 sink	HGI	30	200	90%	Able-Bvtn	2	3	J.Bean	S.Hodges
12	100 Able, Bvtn	Cofee Haus	#3 sink	HGI	30	200	90%	Able-Bvtn	2	3	J.Bean	S.Hodges
6	105 Able, Bvtn	Dinnies Pie	driveway	GGI	90	120	50%	Able-Bvtn	2	3	T.Dinnie	S.Hodges
4	90 Maple, Bvtn	Bills Burgers	back room	HGI	57	30	25%		0	4	B.Marco	
4	22 Oak, Bvtn	Little Italy	outside	GGI	62	20	25%		0	4	B.Patty	
2	200 Vine, Bvtn	Giant Muffins	back room	HGI	57	42	50%		0	2	A.Baker	S.Kling
0	140 Main, Bvtn	Hot Dog!	3 comp	HGI	30	360	0%	Main-Bvtn	3	4	D.Hound	M.Pots

Phase1 Features – Reports / Graphs



Phase1 Features – Reports / Graphs



The Features

- Future-Phases:
 - Jurisdiction/municipality inspection report entry (including photos)
 - FSE contact/issue management
 - Pumper scheduling
 - Barcoded GRDs (for rapid field ID and database entry)
 - Vendor GRD performance reports
 - Quantitative estimates of FOG pumped
 - FOG recovery management

The Timeline / Cost

- Application Status
 - Application specs created & funding available
 - Code & test in 2016
 - Pilot testing early 2017 for Portland metro area
- Anticipated cost structure
 - Subscription service at \$16/FSE/year
- Jurisdictional Setup
 - Enter (via Excel spreadsheet data migration templates or online) FSE and GRD info, approved pumpers, hotspot sewer sections (optional), treatment plants
 - Enter (via Excel spreadsheet data migration templates) historical pumping data (optional)
 - Provide approved users & roles to WSA/PPRC DBA for account creation, including FOG administrative personnel for DBA to contact and to manage jurisdictional accounts

Questions?