

# City of Crystal River



Minutes from the Special Workshop  
[Cross Connection & Grease (F.O.G.) Ordinance]  
held Thursday, September 6<sup>th</sup>, 2018  
@ 1:00 p.m.



**Minutes of the  
Crystal River City Council  
Special Workshop:  
Cross-Connection & Grease (FOG) Ordinance  
Thursday, September 6, 2018 @ 1:00 p.m.  
Council Chamber, City Hall**

1. **CALL TO ORDER Mayor** - Mayor Farley called the workshop to order at 1:00 p.m.
  - A. Roll Call- Mayor Jim Farley and Council Member Robert Holmes.
2. **ADOPTION OF AGENDA** Council member Holmes moved to adopt the agenda, Mayor Farley seconded the motion. Motion carried 2-0.
3. **CROSS-CONNECTION CONTROL ORDINANCE**
  - A. *Need for Ordinance* – Chris Saliba of US Water presented information on the need for an ordinance (see Attachment A). Joe Mittauer presented information related to backflow devices (see Attachment B). Mr. Saliba provided a backflow device for the Council to examine. Mr. Saliba presented information on backpressure devices. Mr. Saliba showed the Council a double check backflow device. Mr. Saliba discussed testing of the backflow devices. Mr. Saliba showed council photos of current issues with grease back-ups that have been repaired in the City. Brandon Buckingham of Advanced Septic spoke about current issues related sanitary septic overflows within the City. Mr. Buckingham spoke about a recent issue near Hardwood Smokehouse because of grease trap failures (see attachment I). Also see attachments C-I.  
Council member Holmes asked if there was anything on the books now that requires grease traps for businesses. Mr. Saliba provided information as to what the current ordinance states.
  - B. *Discussion of Draft Ordinance* – Mr. Saliba presented information related to the draft ordinance.
  - C. *Funding of Implementation* – This item was briefly discussed under item 4C.
  - D. *Decisions to be made* - Mayor Farley and Council member Holmes stated that they felt the council would support the implantation of this ordinance.
4. **GREASE (FOG) ORDINANCE** (FOG = Fats, Oils, Grease)
  - A. *Need for Ordinance* – Joe Mittauer presented information on the need for the FOG ordinance. Council member Holmes asked if there was an ordinance on the books for motor oil drainage. Currently there is a very vague and general addressing of motor oil.
  - B. *Discussion of Draft Ordinance* – Mr. Mittauer presented information on the draft ordinance. Discussion related to the draft ordinance. The Mayor and Council member Holmes asked questions related to the draft ordinance.

C. *Funding of Implementation* – Mr. Mittauer explained how the funding for the project would work. Mr. Mittauer stated the council would need to decide if there would be a fee charged. Mr. Mittauer explained options to implement a fee. Council member Holmes suggested staff handle things related to bringing forth the ordinance.


D. *Decisions to be made* – Mr. Mittauer presented Council with some of the decisions to be made.

5. **ADJOURNMENT**

Mayor Farley adjourned the meeting at 1:50 p.m.

**CITY OF CRYSTAL RIVER**

**ATTEST:**

  
\_\_\_\_\_  
LISA MORRIS, DEPUTY CLERK

  
\_\_\_\_\_  
JIM FARLEY, MAYOR

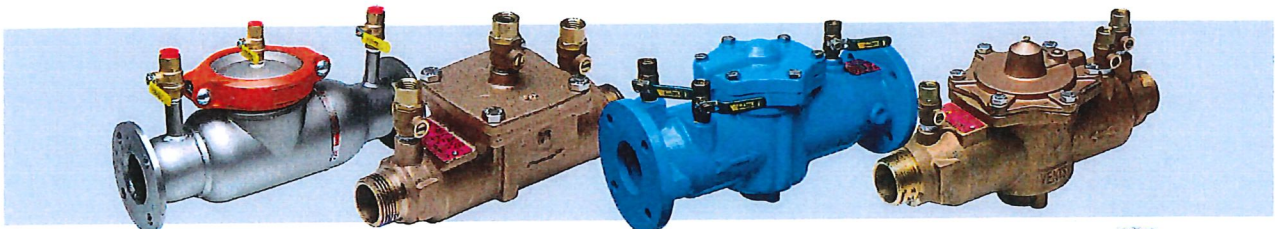


# City of Crystal River Cross-Connection Control and Backflow Prevention



## Overview

- History & Regulation
- What Causes Backflow
- Types of Back Flow
- Backflow Prevention
- What does this mean to me?
- Reports
- Enforcement
- Summary



## Safe Drinking Water Act

- SDWA - Safe Drinking Water Act Established in 1974
- City of Crystal River has an existing policy for Backflow and Cross-Connection



**U.S. Water**  
Services Corporation

A study conducted by the University of Southern California Foundation for Cross-Connection Control and Hydraulic Research (USCFCHR), discovered that 9.6% of the homes included in the study group had direct health hazards cross-connections.



## What Causes Backflow

- Backflow is the potential cross contamination of a contaminant into a potable water supply caused by the reversal of flow of water or mixture of water and / or other substances into the distribution pipes of the potable water supply from any other source or sources.

There are two conditions that can cause a backflow:

- Back-Siphonage
- Back-Pressure



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# Back-Siphonage

## What is back-siphonage?

Back-siphonage is the reversal of normal flow in a systems caused by a negative pressure (vacuum or partial vacuum) in the supply piping.



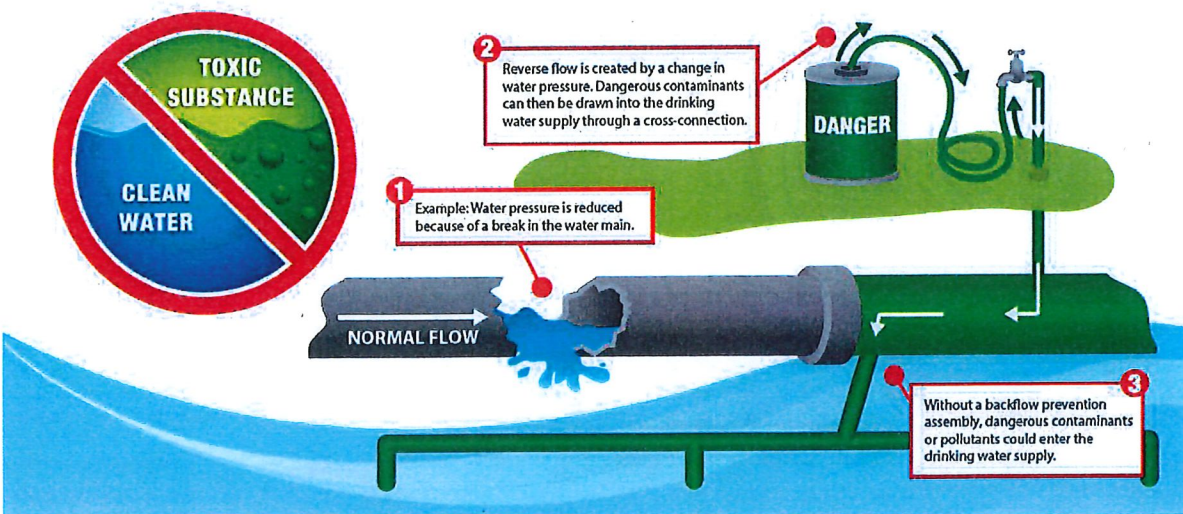
## What factors can cause back-siphonage?

Back-siphonage can be created when there is a stoppage of the water supply due to nearby fire fighting, repairs or breaks in city main, etc. The effect is similar to sipping through a straw, which induces a flow in the opposite direction by creating a lower pressure zone.

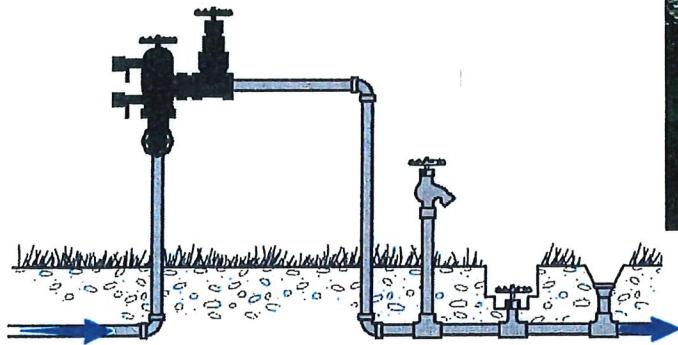
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# Back-Siphonage



## Back-Siphonage



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## Back-Pressure



### What is Back-Pressure?

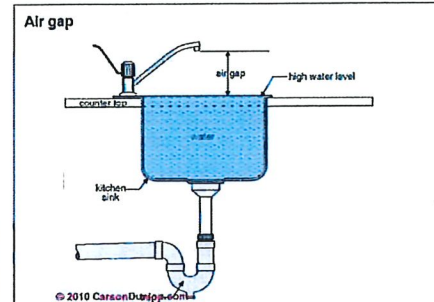
Back-pressure is a reversal in flow that occurs when the pressure downstream increases over the system pressure and causes a reversal in flow of water.

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# Air Gap

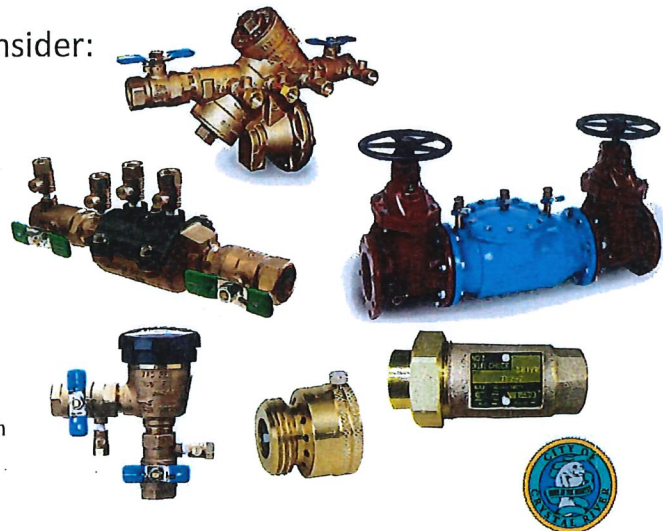
**Air Gap** – required at or for service connections conveying water to a tank or waste discharges; provides maximum protection if not altered and must be available for inspections.



# Backflow Preventer Selection

• Backflow Selection should consider:

- Level of Hazard
  - High
    - Health hazard
    - Contaminant
    - Impairs water quality
    - Will cause sickness or death
  - Low
    - Non-health hazard
    - Pollutant
    - Impairs water quality
    - Will not cause sickness or death

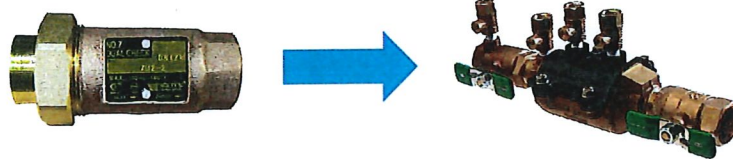




## So What Does All This Mean to Me?

### Water Meter Replacement Program

- The City is actively seeking grant funding to complete a city-wide water meter replacement program
- Residential backflow prevention is incorporated into the meter change out program
- Revenue will likely increase after meter change out program
- Most connections have a dual check valve that will be replaced



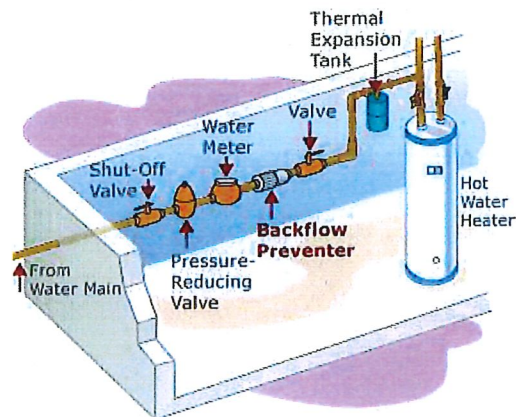
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## So What Does All This Mean to Me?

### Residential

- City will purchase and install the devices on ALL residential connections
- City will test, repair and maintain the assemblies biennially (every two years)
- Thermal protection provided as required



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## So What Does All This Mean to Me?



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### Commercial

- Owners must provide and install required devices
- Owners must test, repair and maintain assemblies annually



## Questions?



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# Introduction of Proposed Ordinances

August 13, 2018

1. Cross Connection Control
2. FOG – Fats, Oils & Grease

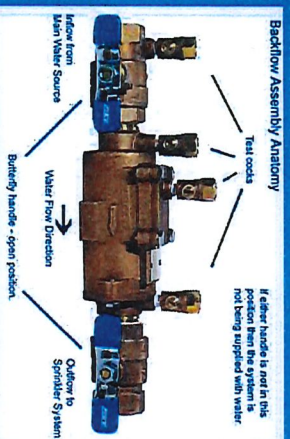


Prepared by Mittauver & Associates, Inc. Consulting Engineers

1

# Cross Connection Control

- Ordinance is required by FDEP
- Prevents backflow contamination from entering the drinking water distribution system



2

## Cross Connection Control

- The City is considering installing backflow prevention devices on all residential connections.
- Funding will be from the FL DEP and the rate base.
- Commercial customers will supply their own devices



3

## Why regulate FOG?



Grease that was poured down kitchen drains & from poorly maintained grease traps

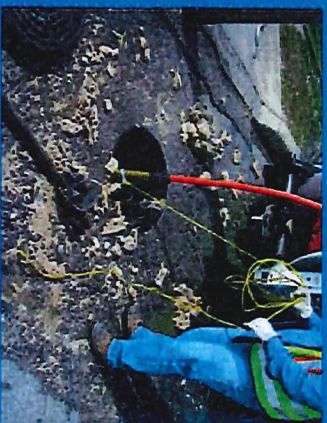
- Clogs sewer pipes & pump stations
- Causes backups and overflows
- Can create serious problems at sewer treatment facility
- Costly to City



4

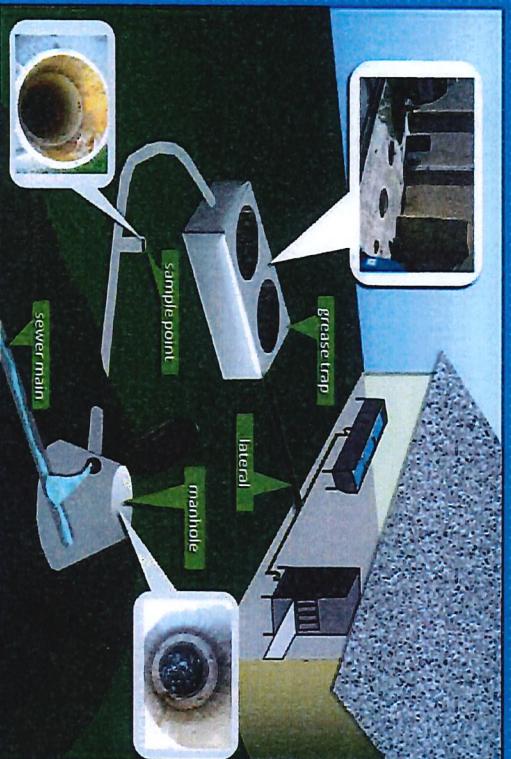
## FOG Ordinance may include

- Scheduled clean-out of grease traps
- Periodic Inspections
- Design requirements
- Transition time for existing facilities
- Education program for businesses, residents and visitors



5

## Typical Commercial Grease Trap Layout



6

**Don't feed the GREASE MESS MONSTER!**

He's a nasty public enemy—known for causing sewer overflows and discharges of dangerous partially-treated effluent!

Let's join forces to protect our "AQUA" culture—the union of our green city and our blue waters.

**STOP GREASE AT THE SINK!**  
Protecting our water is as easy as 1-2-3!

- 1. WIPE grease from pans, using squeegees or paper towels.
- 2. Pour cooled grease in CONTAINERS.
- 3. Always place food scraps in collection CONTAINERS.

Remember—a drain is NOT proper grease disposal! Help to educate others. The base picture shown above is an actual photo of grease balls removed from Cedar Key's sewers.



# **CEDAR KEY WATER AND SEWER DISTRICT**

## **COOKING OIL RECYCLING SERVICE**

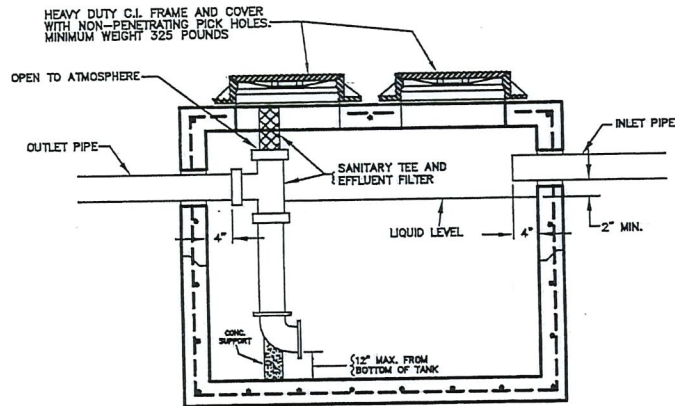
**SAVE RESOURCES AND**

**KEEP YOUR WASTEWATER SYSTEM WORKING PROPERLY**

**RECYCLE YOUR USED COOKING OIL IN THE BLACK  
CONTAINER NEXT TO THE DISTRICT BUILDING  
FACING C STREET**

**REMEMBER! NEVER PUT COOKING OIL DOWN THE DRAIN  
IT CLOGS WASTEWATER PIPES AND PUMPS**





**NOTES**

1. ALL PIPING SHALL BE A MINIMUM OF 4" PVC.
2. PIPING SHALL BE INSTALLED USING A CONCRETE MANHOLE ADAPTER.
3. SANITARY "T" OUTLET SHALL BE INSTALLED 4" INSIDE OF WALL.
4. TANK SHALL BE A MINIMUM OF 750 GALLONS, AND A MAXIMUM OF 1250 GALLONS.
5. TANK SHALL BE TRAFFIC BEARING AND CONCRETE SHALL COMPLY WITH ASTM C 478, LATEST REVISION.
6. WALLS & BOTTOM SLABS SHALL BE MINIMUM 4" THICK REINFORCED CONCRETE.
7. TOP SLAB SHALL BE A MINIMUM 6" THICK REINFORCED CONCRETE.
8. SECTIONS SHALL BE JOINED AND SEALED WITH MINIMUM 1" "RAM-NEK" SEALER OR EQUIVALENT TO FORM A WATER TIGHT SEAL.
9. RISER JOINTS SHALL COMPLY WITH ASTM C 443, LATEST REVISION.
10. EFFLUENT FILTER SHALL BE SIZED BY THE ENGINEER AND INSTALLED AT LOCATIONS STIPULATED BY THE U.D. ZABEL A300-B SERIES OR APPROVED EQUAL.
11. WHEN THE REQUIRED EFFECTIVE CAPACITY OF THE TANK IS GREATER THAN 1250 GALLONS, INSTALLATION OF MULTIPLE GREASE TRAPS IN SERIES IS REQUIRED.
12. GREASE TRAP DESIGN SHALL CONFORM TO F.A.C. 64E-6.013 (8)
13. IF THE FACILITIES INCLUDE FOOD PREPARATION AND LAUNDRY SERVICES, THE GREASE TRAP SHALL BE LARGE ENOUGH TO COOL THE SOLUTIONS SO GREASE IS NOT PASSED THROUGH IT.

**GREASE, OIL AND SAND INTERCEPTOR**

DETAIL No.V-7

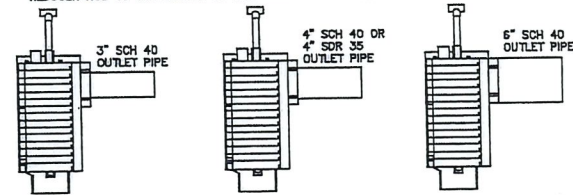
REVISED NOV. 2005

MODEL	DIAMETER	HEIGHT	FILTRATION	SETTLING AREA	NOVAL FILTER SURFACE	MINIMAL FEET OF WEB	GALLONS PER DAY
A300-BX12	8"	11.5"	1/32"	248 IN <sup>2</sup>	664 IN <sup>2</sup>	39	800
A300-BX18	8"	18.5"	1/32"	492 IN <sup>2</sup>	1,329 IN <sup>2</sup>	78	1200
A300-BX26	8"	25.5"	1/32"	773 IN <sup>2</sup>	2,088 IN <sup>2</sup>	123	1800
A300-BX32	8"	32.5"	1/32"	1,019 IN <sup>2</sup>	2,753 IN <sup>2</sup>	162	2400

MULTIPLE FILTERS MAY BE INSTALLED TO HANDLE LARGER FLOWS.

OUTLET HUB ACCEPTS 3", 4" OR 6" PIPE.

EXTRA SUPPORT FOR THE 28" AND 32" LONG MODELS MAY BE ACHIEVED BY EXTENDING A 4" SUPPORT PIPE FROM THE REDUCER HUB TO THE BOTTOM OF THE TANK.



ZABEL A300-B SERIES OR APPROVED EQUAL.

**GREASE INTERCEPTOR AND SPECIAL APPLICATIONS FILTER**

DETAIL No.V-8

CITRUS COUNTY STANDARD DETAILS  
Current as of AUG 2018



City of Crystal River  
FOG & Cross Connection Ordinance Considerations

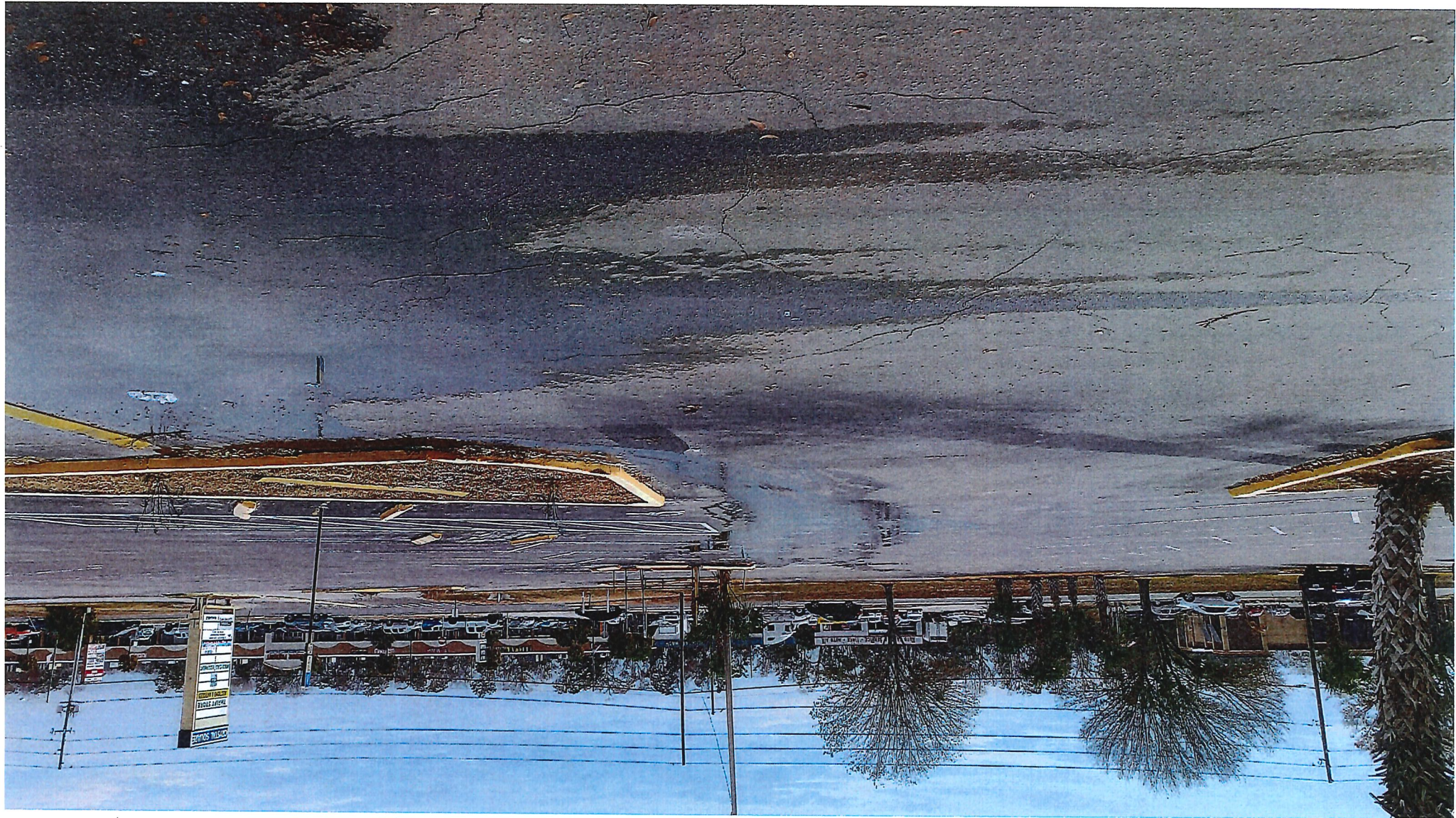
August 13, 2018

FOG/GREASE INTERCEPTORS	
ISSUE	OPTIONS
Inspections	Fee Or performed free by City
Permitting	Require a permit for every grease trap Or only require as a part of building permit
When FOG device fails / compliance schedule	Allow 7 days for repair 30 days for plans/corrective action plan 90 days for installation Or as required by City based on conditions
Unlawful discharge – not meeting schedule	Cease discharge or get water cut off
All existing facilities	Provide as-built plans within 90 days
Existing facilities whose design doesn't meet code	90 days for plans 180 days for construction Alternatively: more frequent pup-outs
Frequency of cleaning	Every 60 days Or as needed By licensed hauler
Frequency of full pump-out	Minimum 1/year Or minimum 180 days
Record keeping	Kept by owner Or maintained by City if reporting is required
Reporting of cleaning, repairs	Sent to City (possibly online) Or kept onsite
Training	Required and must be reported Or left up to owner
Grease traps connected to septic system	Included in ordinance?

CROSS CONNECTION CONTROL	
ISSUE	OPTIONS
Inspections - residential	City to provide for residential
Inspections - commercial	Owner must provide
Installation - residential	City to provide
Installation - commercial	Owner must provide
Recordkeeping	City for residential Owner for commercial
Education	Frequently Asked Questions on Website, mailers in bills, outreach to restaurants,



Attachment 5



Attachment H

