

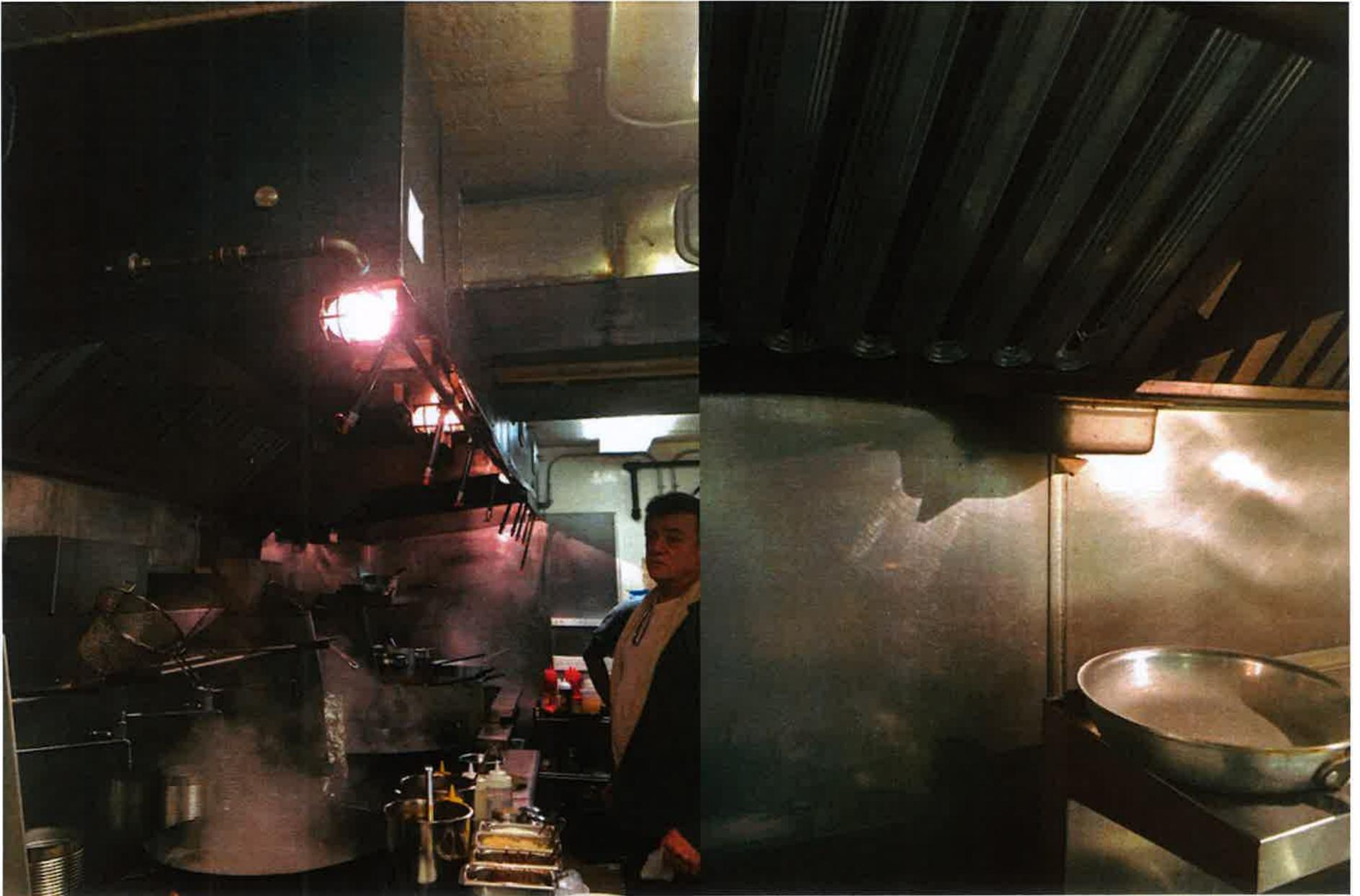


# Illicit Stormwater Discharges from Food Establishments

# Part 1

- Food Establishment Grease Hood Exhaust Issues

# Grease Hood



# Hood Cleaning



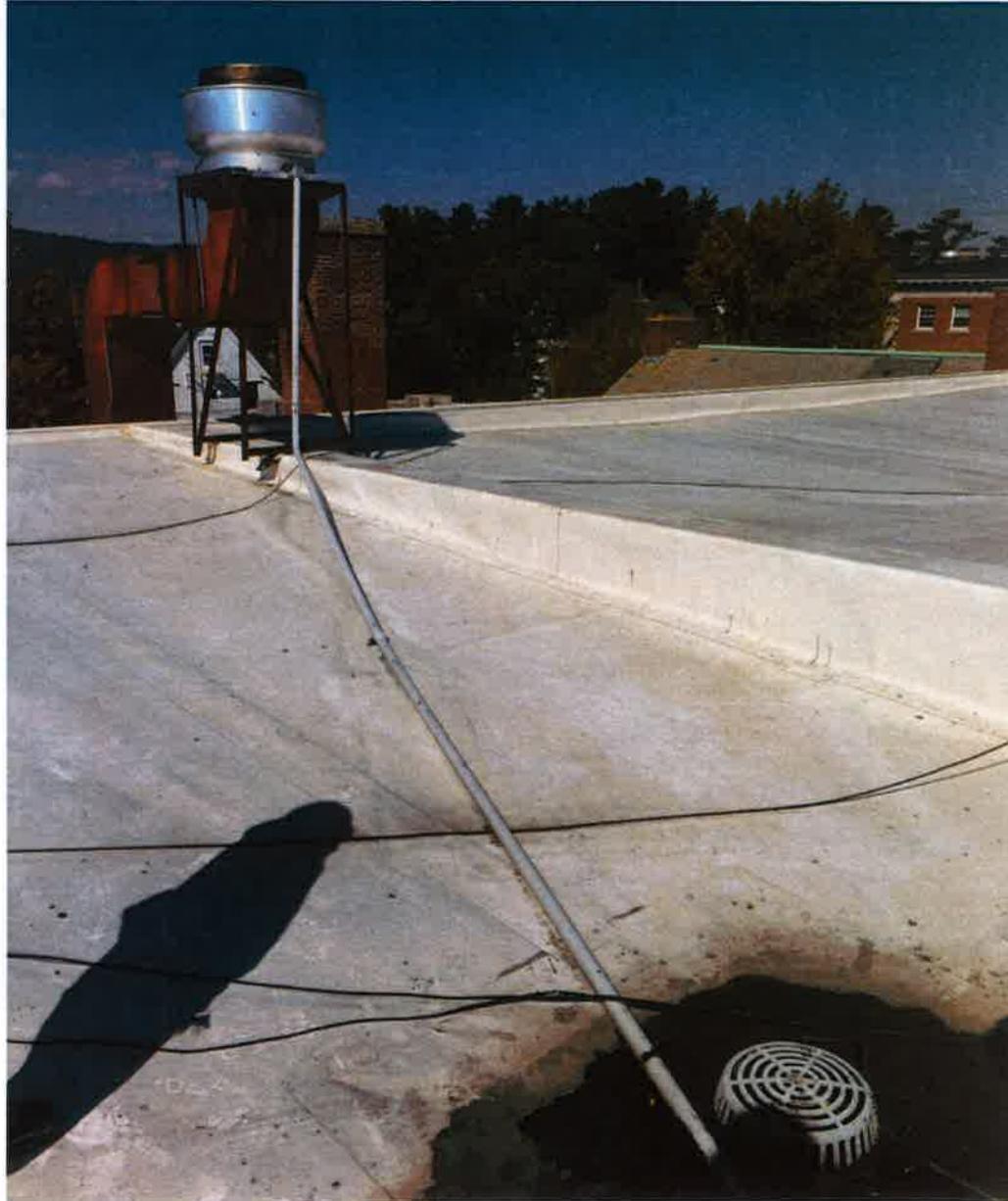
# “What Goes Up Must Come Down”

- Town Building Inspector/Health Inspector asks me to look at some questionable plumbing on a rooftop. I did not expect to find:

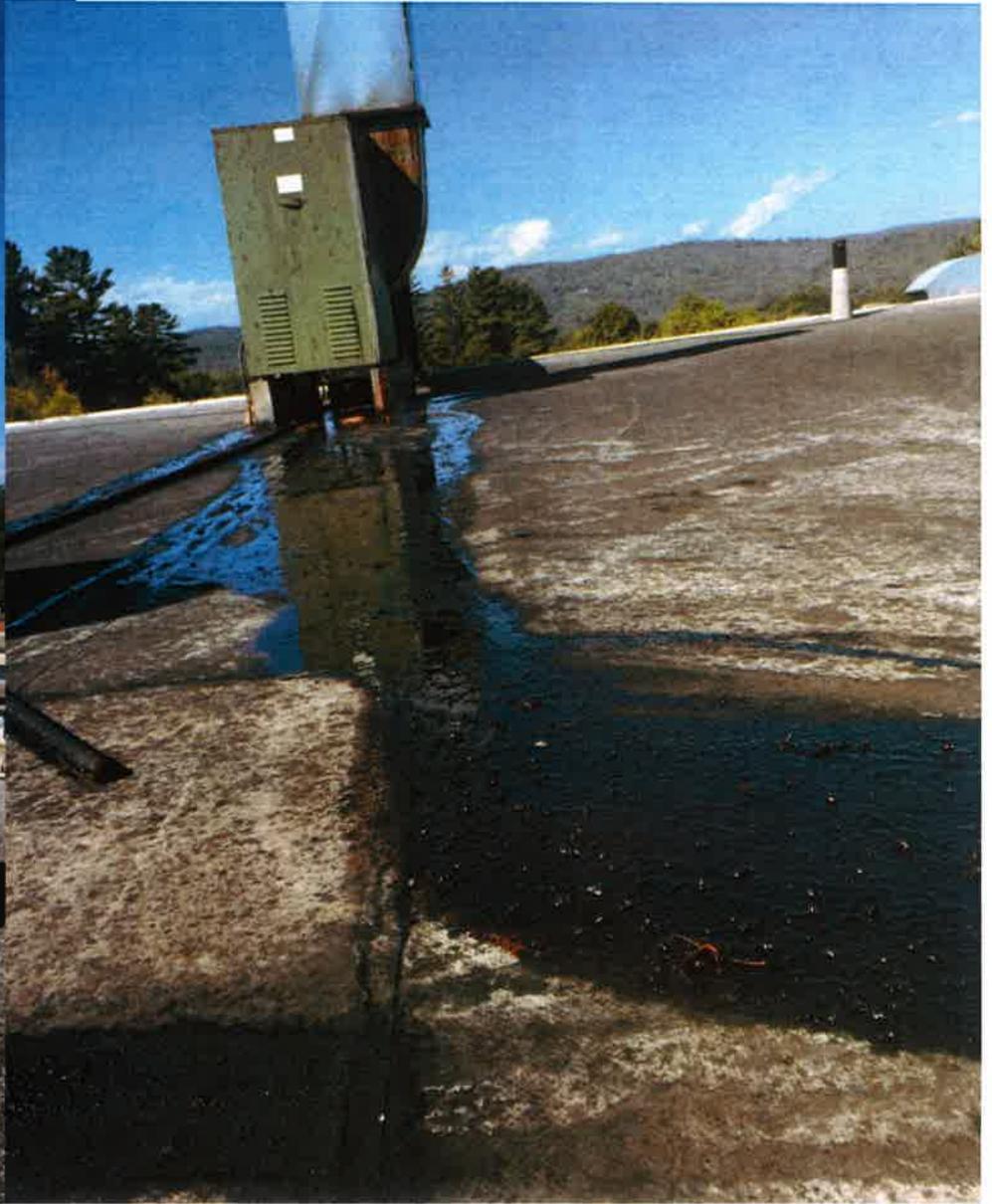
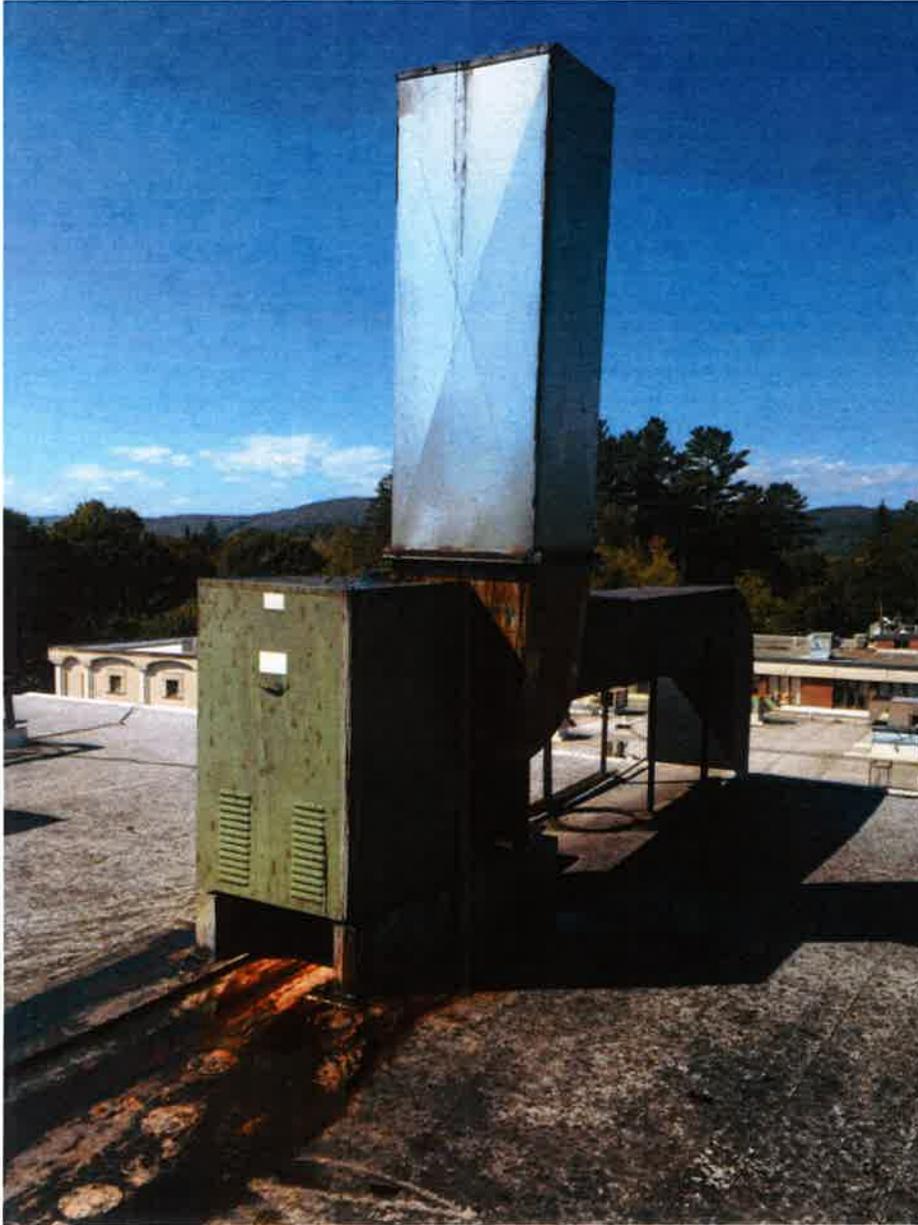
# Grease!



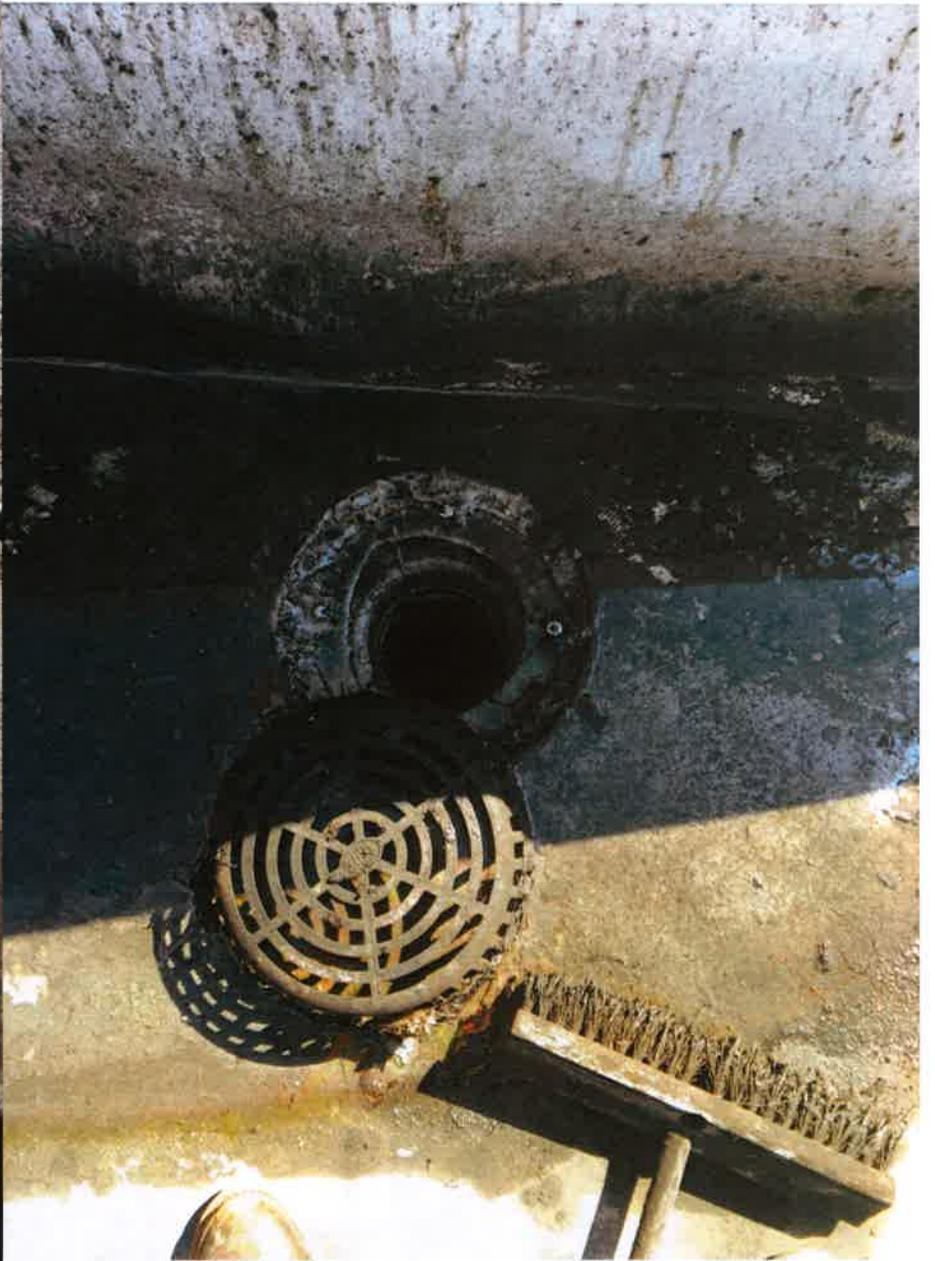
**NOT OK!**



# Next Roof







Also Not OK

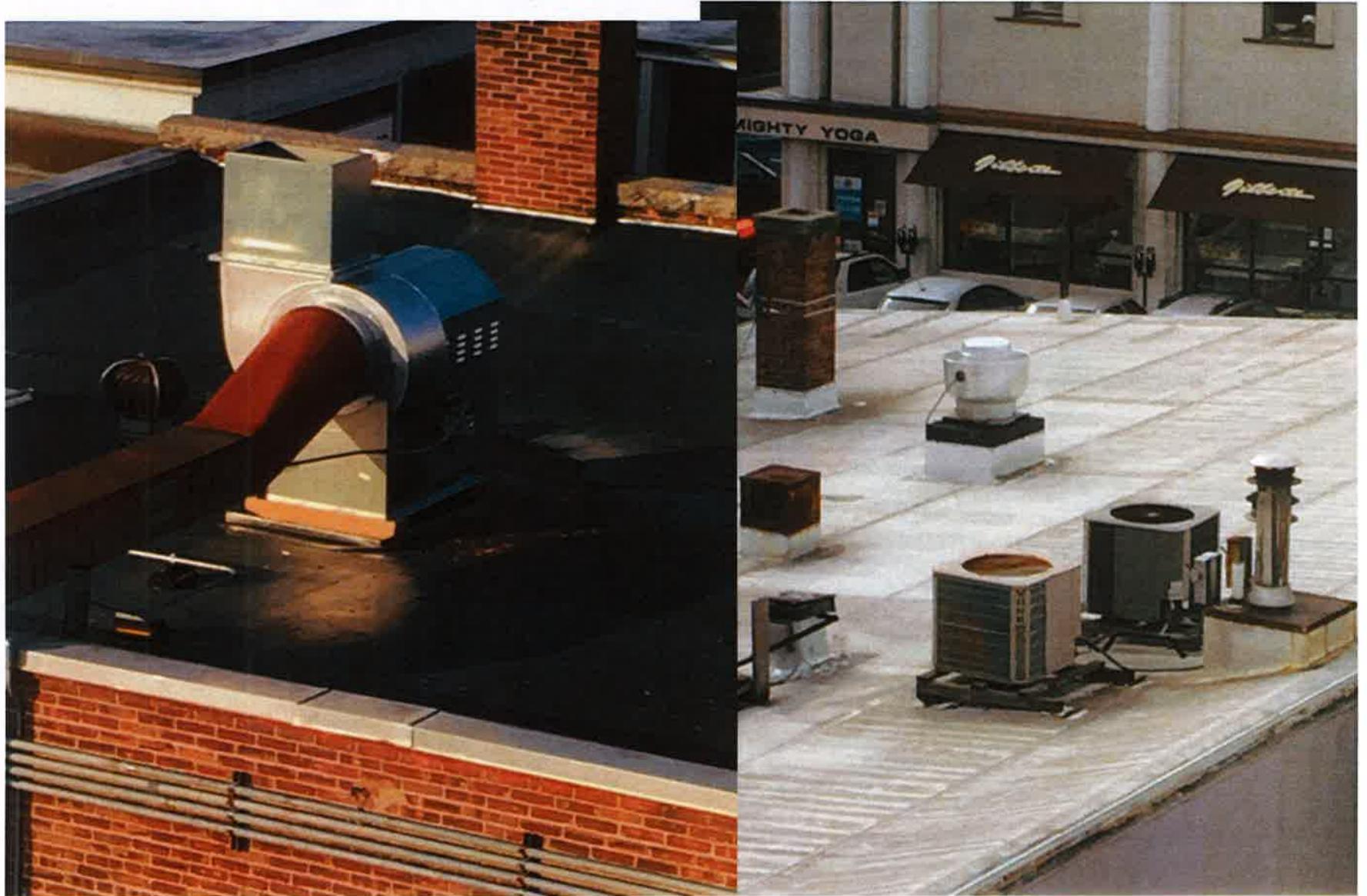


# Good View of Other Rooftops





Looks good from here



I think we have a problem  
that needs to be addressed  
and I think we need a plan

- Based on what I saw in the first inspection from the top of that one building it was clear we were going to find other issues on other rooftops in Hanover.



# Local, State, Federal, Authority

- Fire
- Building Code?
- Sewer Use Ordinance
- ENV 1700 Surface Water Quality Regulations
- Clean Water Act

# NFPA 96 Fire Code

Table 50.5.4 Schedule of Inspection for Grease Buildup

Type or Volume of Cooking	Inspection Frequency
Systems serving solid fuel cooking operations	Monthly
Systems serving high-volume cooking operations, such as 24-hour cooking, charbroiling, or wok cooking	Quarterly
Systems serving moderate-volume cooking operations	Semiannually
Systems serving low-volume cooking operations, such as churches, day camps, seasonal businesses, or senior centers	Annually

[96: Table 11.4]

# Town SUO

## SECTION 2 - GENERAL SEWER USE REQUIREMENTS

### 2.1 Use of Public Sewers

A. It shall be unlawful for any person to place, deposit, or permit to be deposited in any unsanitary manner on public or private property within the Town of Hanover (Town) or in any area under the jurisdiction of said Town, any human or animal excrement.

**B. It shall be unlawful to discharge to any natural outlet within the Town, or in any area under the jurisdiction of said Town, any wastewater or other polluted waters, except where suitable treatment has been provided in accordance with subsequent provisions of this Ordinance and with State and federal laws and regulations**

**C. Sewers for Intended Uses Only. No person shall discharge into any public sewer of the Town, or into any fixture which thereafter discharges into any public sewer, any waste or substance other than for which the particular sewer is intended, designed or provided.**

D. Applicable Permits Required. No person shall discharge into any public sewer of the Town, or into any fixture which thereafter discharges into any public sewer, any waste or substance until all applicable permits have been obtained.

E. Use of Sanitary Sewers. Except as specifically provided with reference to some particular sewer, sanitary sewers shall be used only for the conveyance and disposal of sanitary sewage, and for industrial wastewater that is not objectionable as hereinafter provided. No sanitary sewer shall be used to receive and convey or dispose of any storm or surface water, roof drainage, subsoil drainage, or unpolluted water.

**F. Use of Storm Sewers. Storm water, roof drainage, subsoil and all other unpolluted drainage shall be discharged to such sewers as are specifically designed as storm sewers, or a natural outlet approved by the Director of Public Works. Industrial cooling water, process waters, or storm water runoff generated in areas of industrial activity (as defined in 40 CFR Part 122) require an NPDES permit prior to discharge to a storm sewer or natural outlet.**

G. Use Designation. If the intended or designated use of any particular sewer or drain and allowable discharge thereto is unclear, the Director of Public Works will consider the pertinent facts and make a determination. Said determination will be final and binding.

O. No statement contained in the preceding paragraphs of this Section shall be construed to interfere with any additional requirements that may be imposed by the Health Officer.

# Env-Wq 1700

## Surface Water Quality Regulations

Additionally, pursuant to RSA 485-A:13 and related sections, NHDES regulates the discharge of pollutants to surface waters under a permit system. As part of this program, the Commissioner of DES has adopted NH CODE Admin. RULES Env-Ws 401 – 405 relating to permits and has adopted NH CODE ADMIN. RULES Env-Wq 1700 to establish water quality standards for the state's waters.

Pursuant to RSA 485-A:22, V, the NHDES Commissioner is authorized to impose fines for violations relating to this program. Pursuant to this section, the Commissioner has adopted NH CODE Admin. RULES Env-C 603 to establish the schedule of fines for such violations.

Pursuant to RSA 485-A:13, I(a) it shall be unlawful for any person or persons to discharge or dispose of any sewage or waste to a surface water or groundwater of the state without first obtaining a written permit from DES.

Pursuant to RSA 485-A:2, XVI. "Waste" means industrial waste and other wastes.

Pursuant to RSA 485-A:2, VI. "Industrial waste" means any liquid, gaseous or solid waste substance resulting from any process of industry, manufacturing trade or business or from development of any natural resources.

Pursuant to RSA 485-A:2, VIII. "Other wastes" means garbage, municipal refuse, decayed wood, sawdust, shavings, bark, lime, ashes, offal, oil, tar, chemicals and other substances other than sewage or industrial wastes, and any other substance harmful to human, animal, fish or aquatic life.

# Mass Mailing to Establishments and Building Owners



September 21, 2015



Re: Rooftop Grease Contamination,  
Food Service Establishment Grease Hood Exhaust Fan Concerns

#### To Whom it May Concern:

Recently the Town has become aware that some food establishment owners in Hanover have not been properly maintaining their rooftop grease hood exhaust fans and handling the associated grease from these exhaust fans in an appropriate manner. It is evident that some establishments have allowed grease to drain to the rooftop storm drains either through intentional diversion of the rooftop grease containment trap or through inattention of maintenance and handling of the accumulated grease. Rooftop drains are intended for conveying unpolluted rainwater and snow melt and are not intended to convey pollutants like grease to the Towns stormwater system.

The concerns are numerous; Grease clogged roof drains and storm drains could cause water to backup into buildings causing severe flooding and water damage. Grease accumulated on the rooftop and within the exhaust ductwork is a severe fire hazard which could cause loss of life and property damage. Grease causes roofing membrane material to soften, delaminate, blister, and crack causing thousands of dollars of damage. Lastly, the grease being conveyed to the rooftop drains causes stormwater pollution violating Local, State, and Federal environmental regulations. The Town takes these concerns seriously and is obligated now to conduct an inspection of all of these units in Hanover to insure that they are being maintained appropriately.

This letter is being sent to all food establishments and building owners in Hanover that have rooftop grease hood exhaust fans. Upon receiving this letter please contact Mark Roper at 603-643-2362 or [mark.ropcr@hanovernh.org](mailto:mark.ropcr@hanovernh.org) or Ryan Borkowski (603) 643-0708 [ryan.borkowski@hanovernh.org](mailto:ryan.borkowski@hanovernh.org) to schedule an inspection of the rooftop exhaust. Although it is

# First inspection after letter



# Explaining the problem

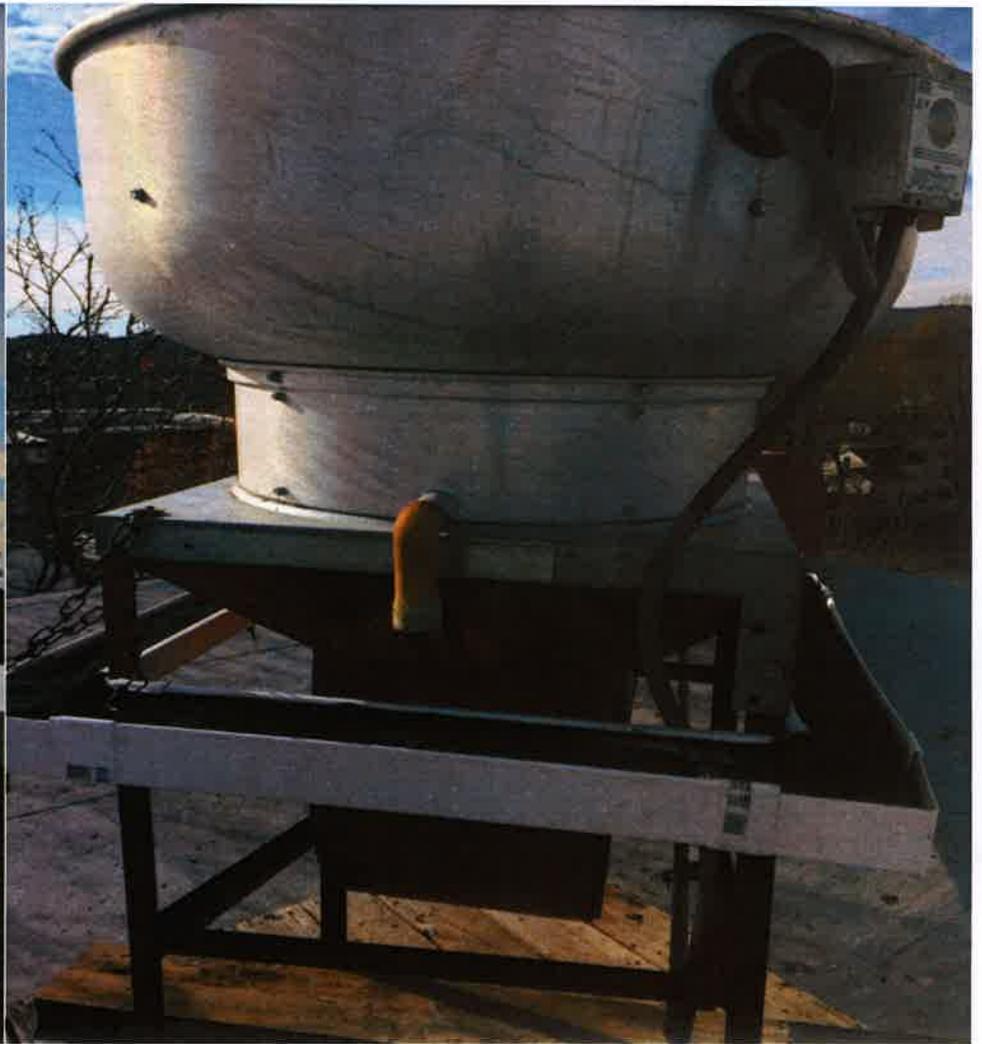
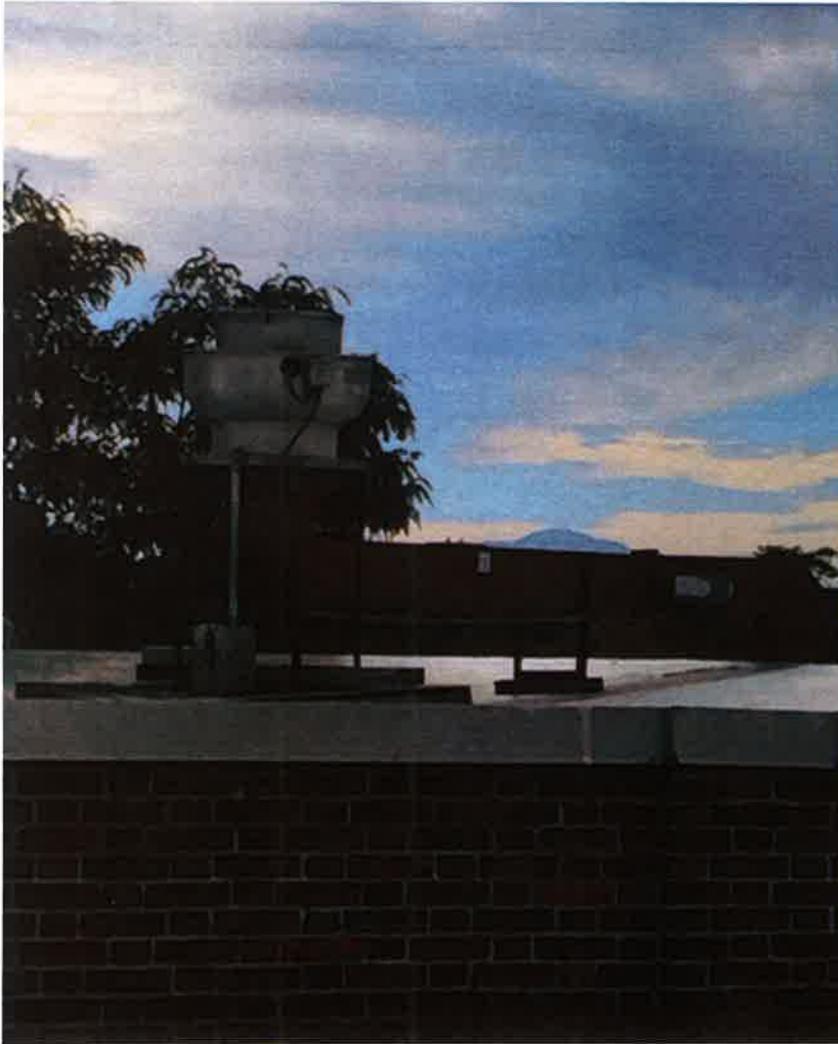


This was a hard roof to get on. How does the cleaning company do it?

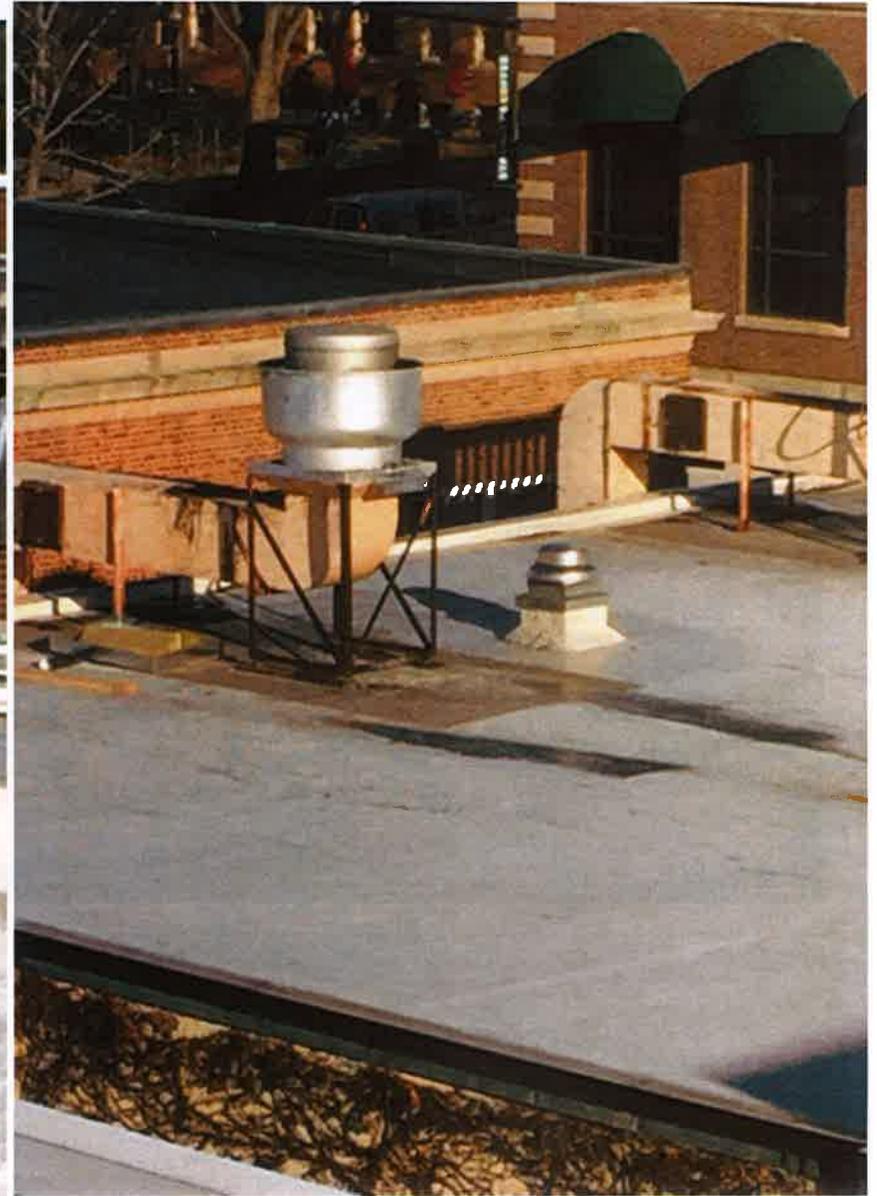




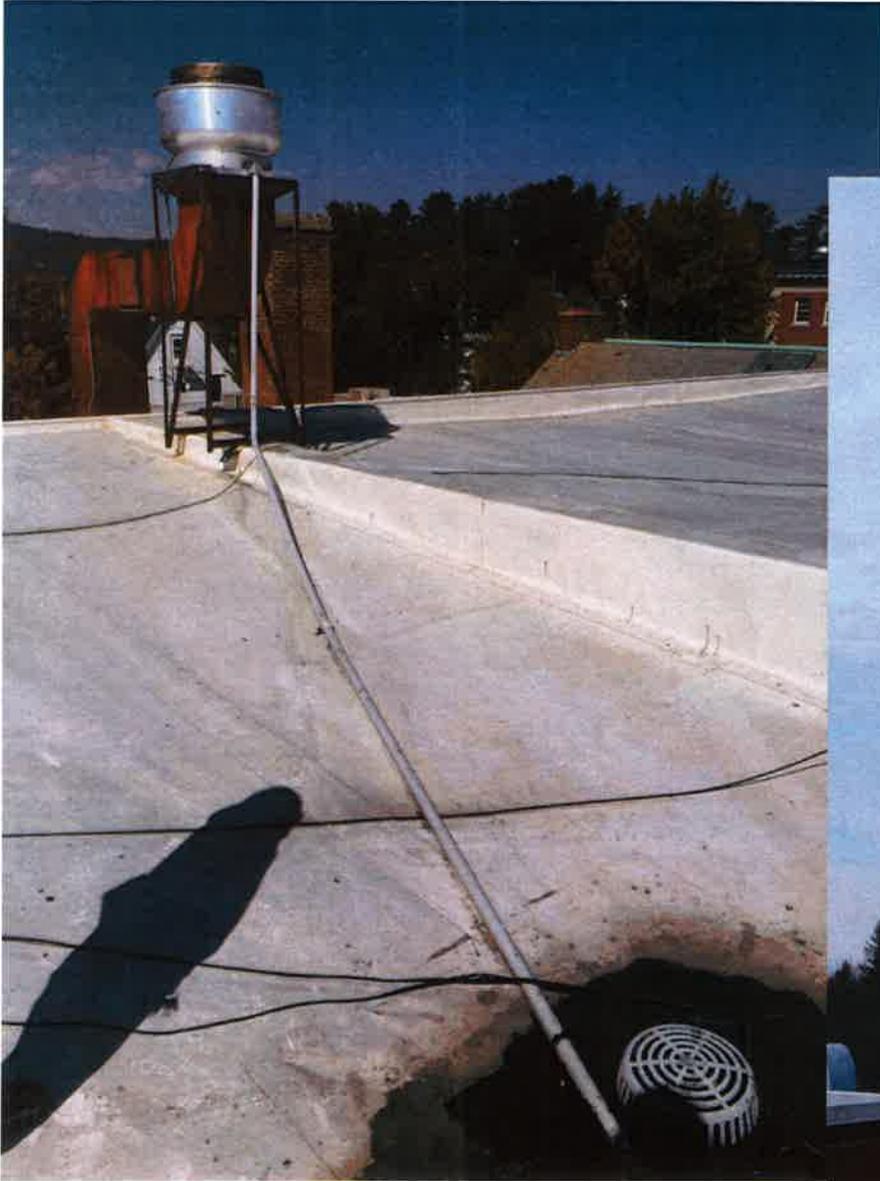
# Before & After



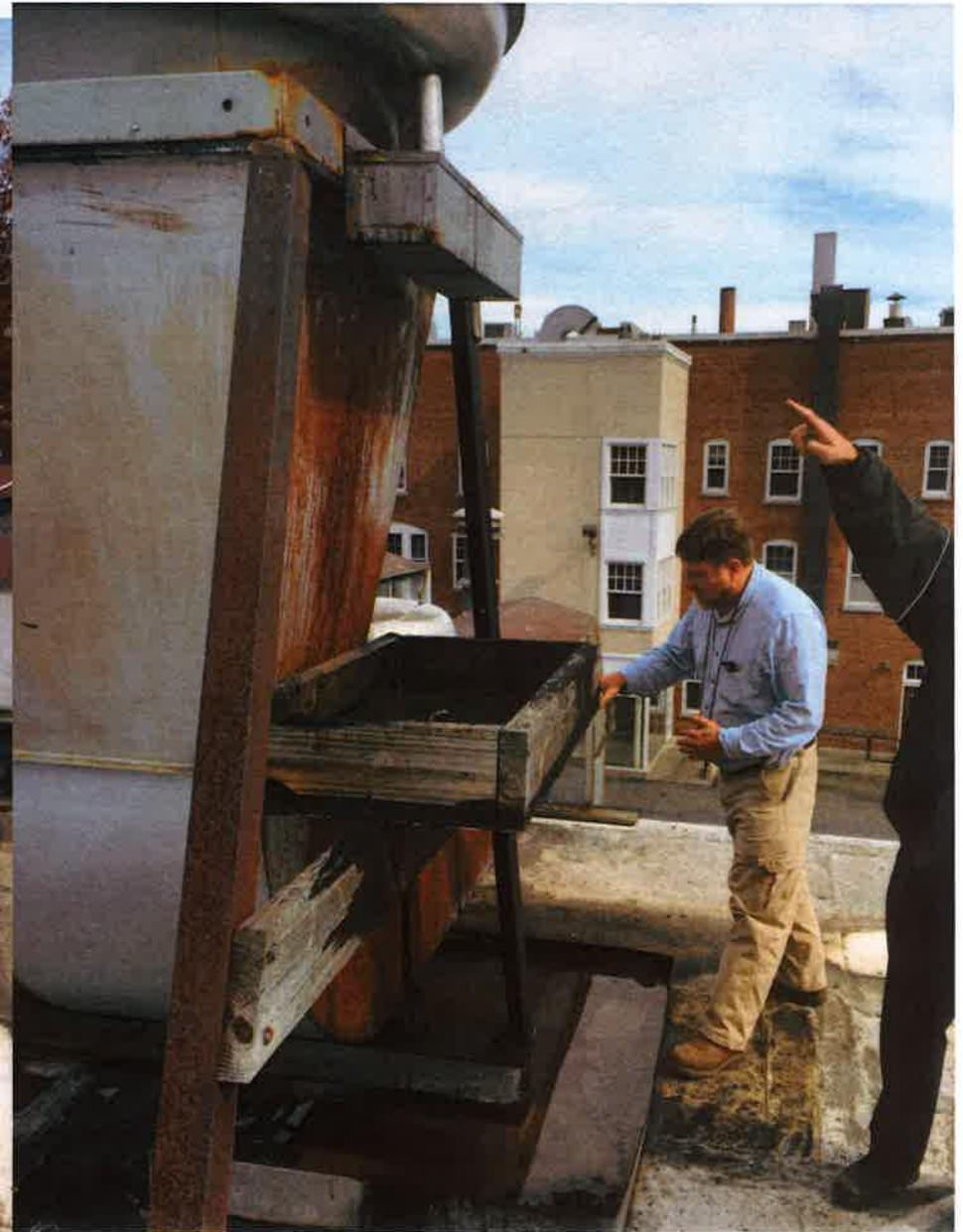
# Before & After



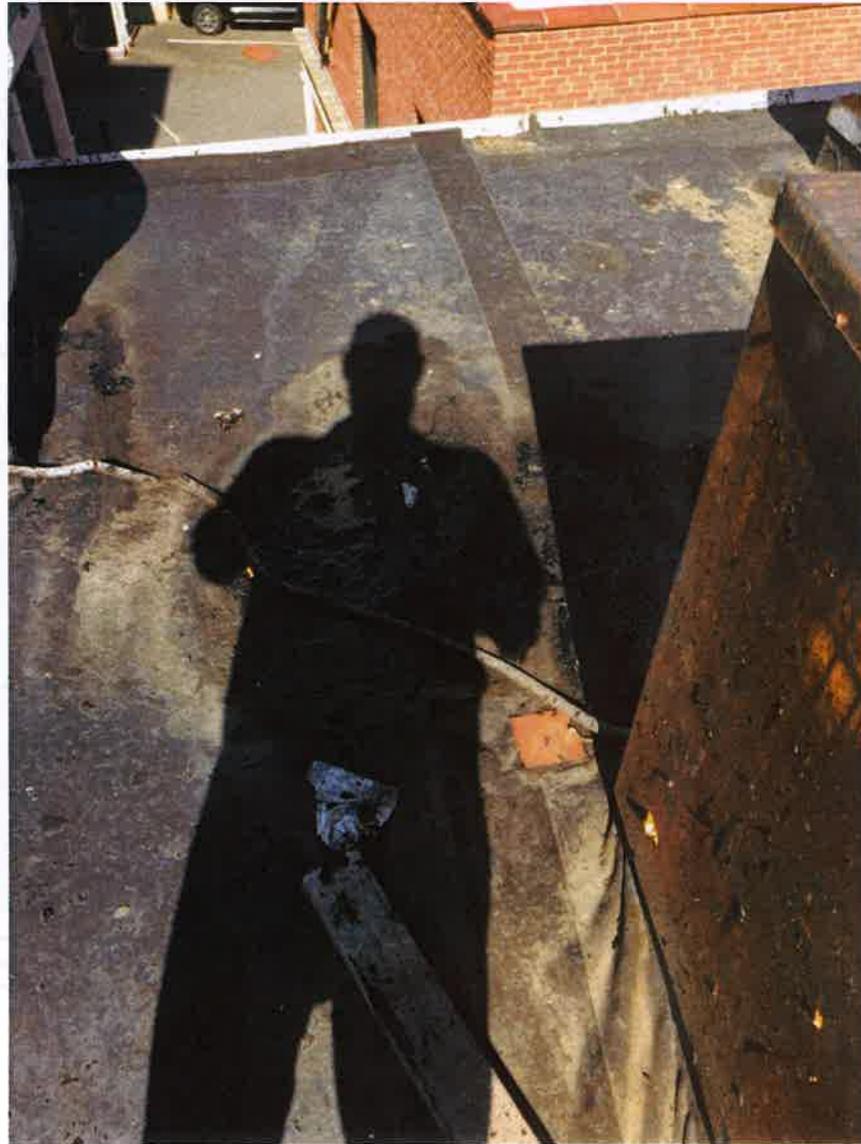
# Before and After



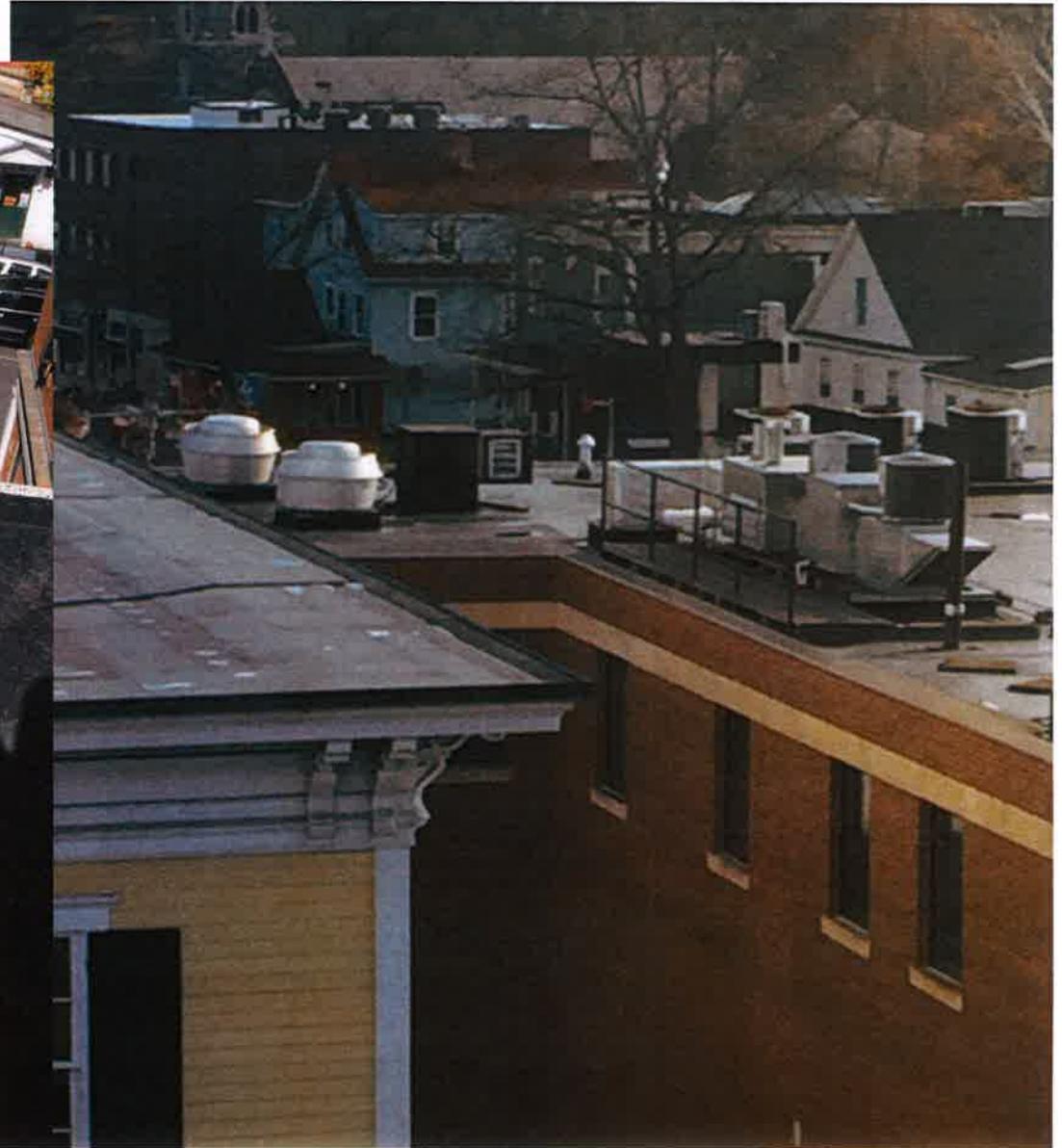
# Bring in the Fire Dept.



This was another hard roof to get on and it shows by the grease and disrepair.



# Before & After



# Just Cleaned?



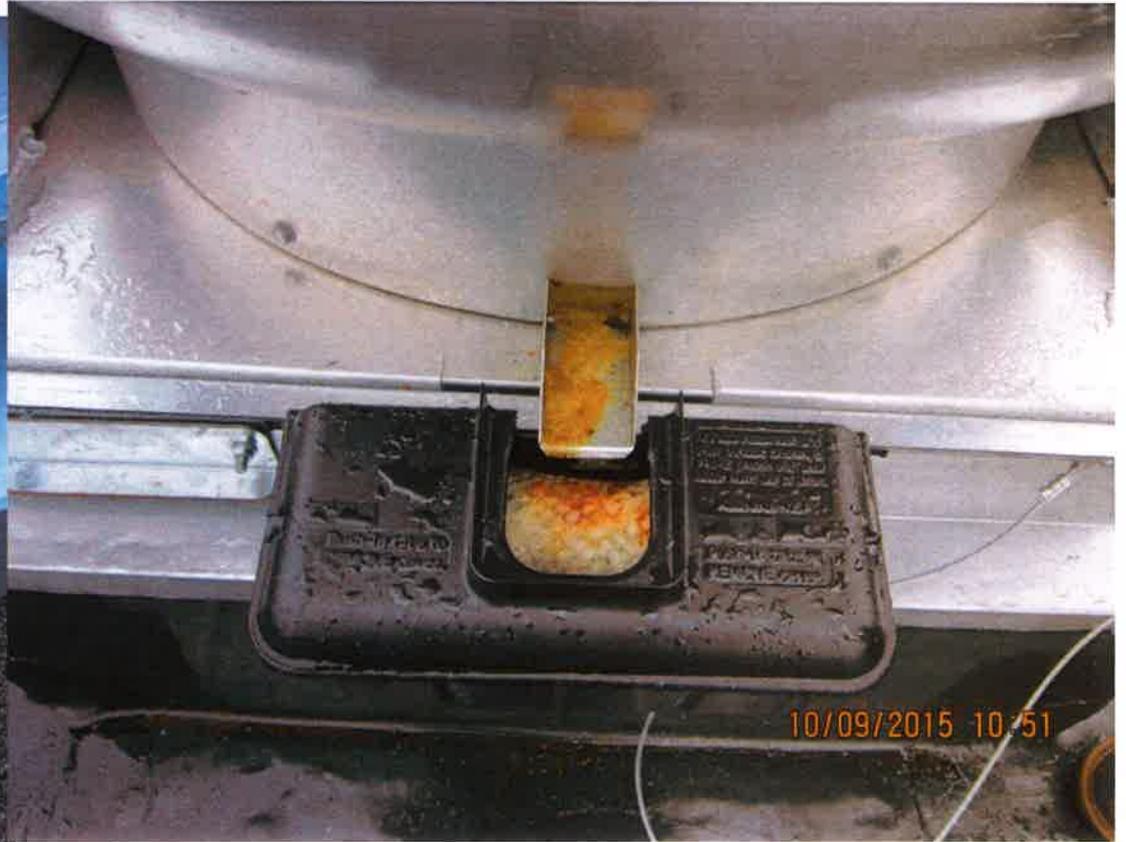
# Drain Disposal

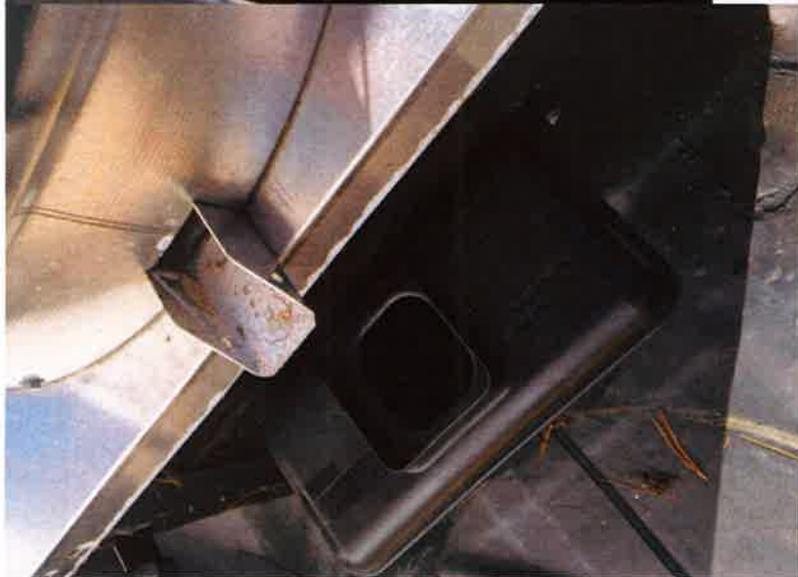


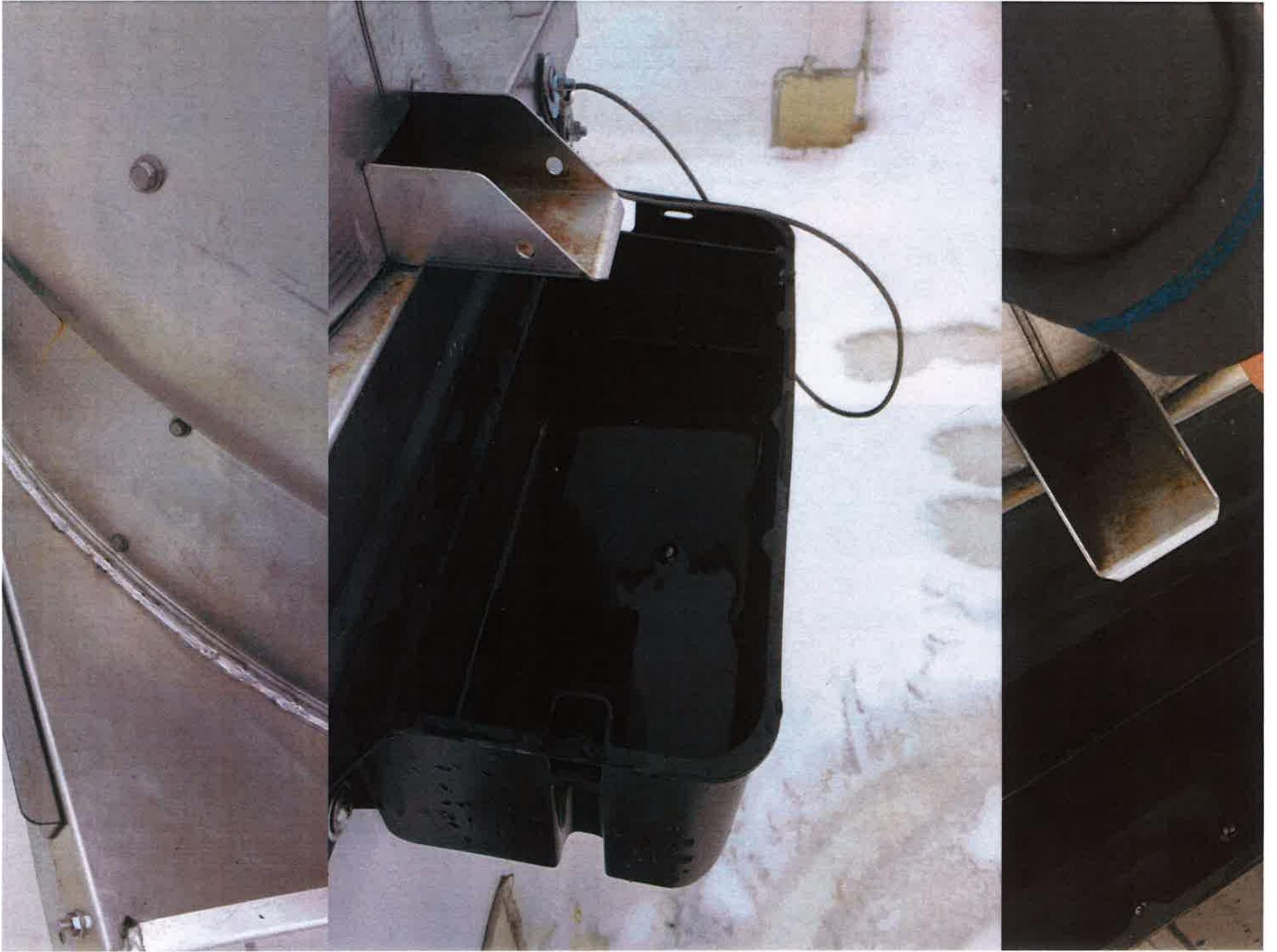
# Typical Collection Container

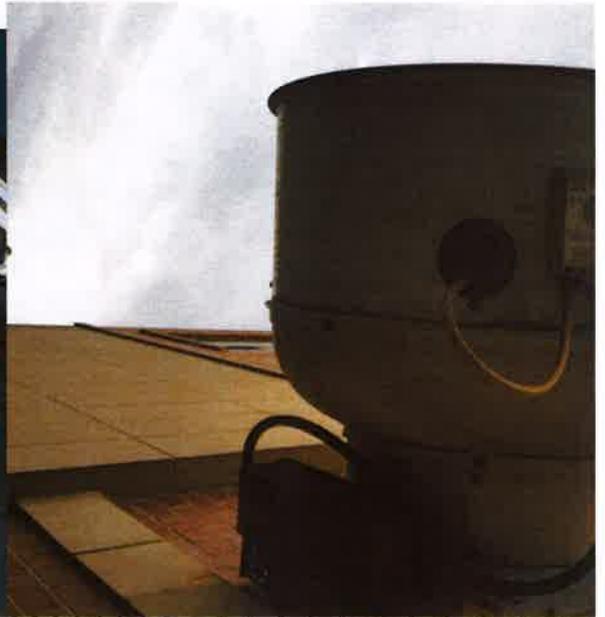


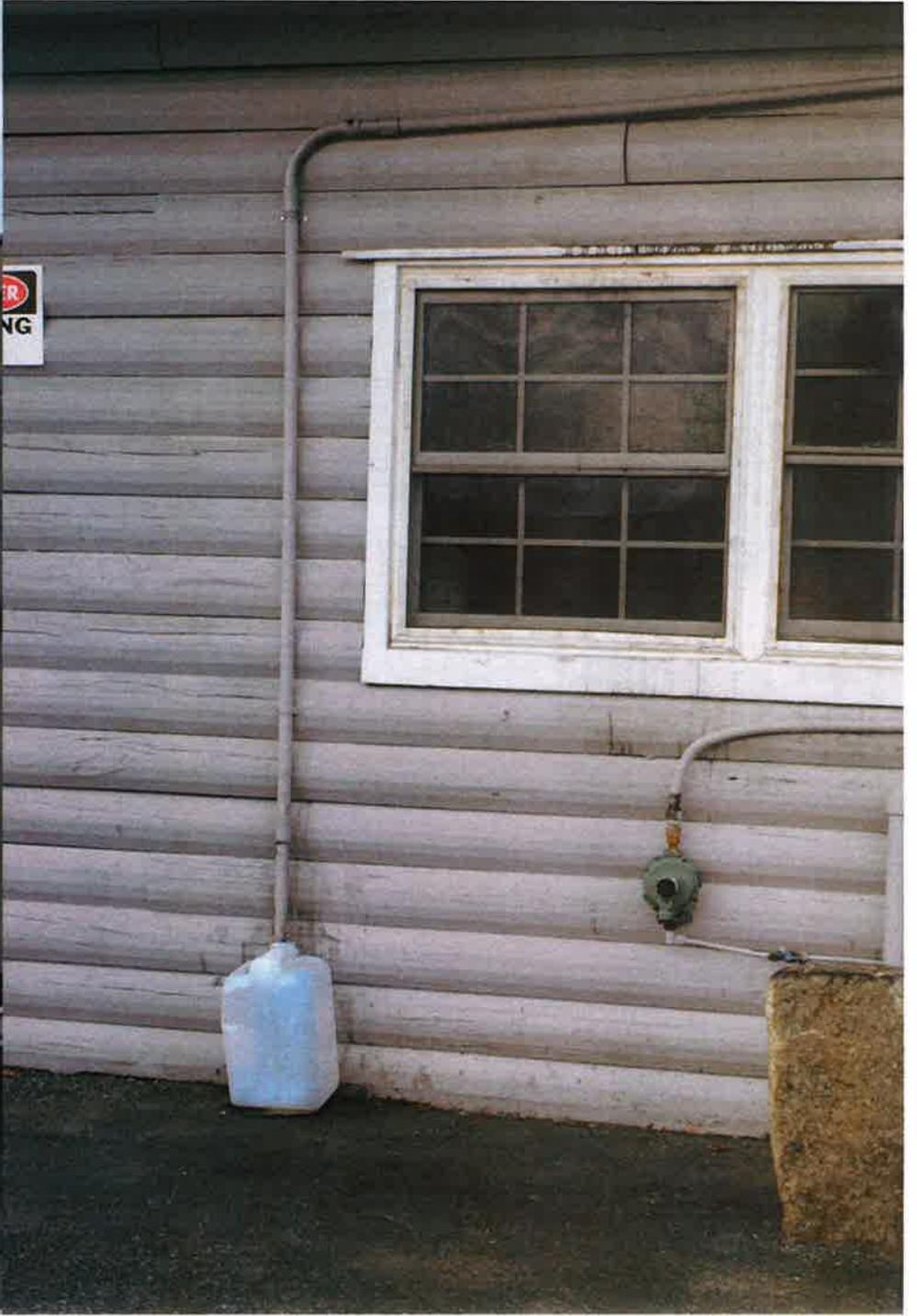
# Oil Sorbent



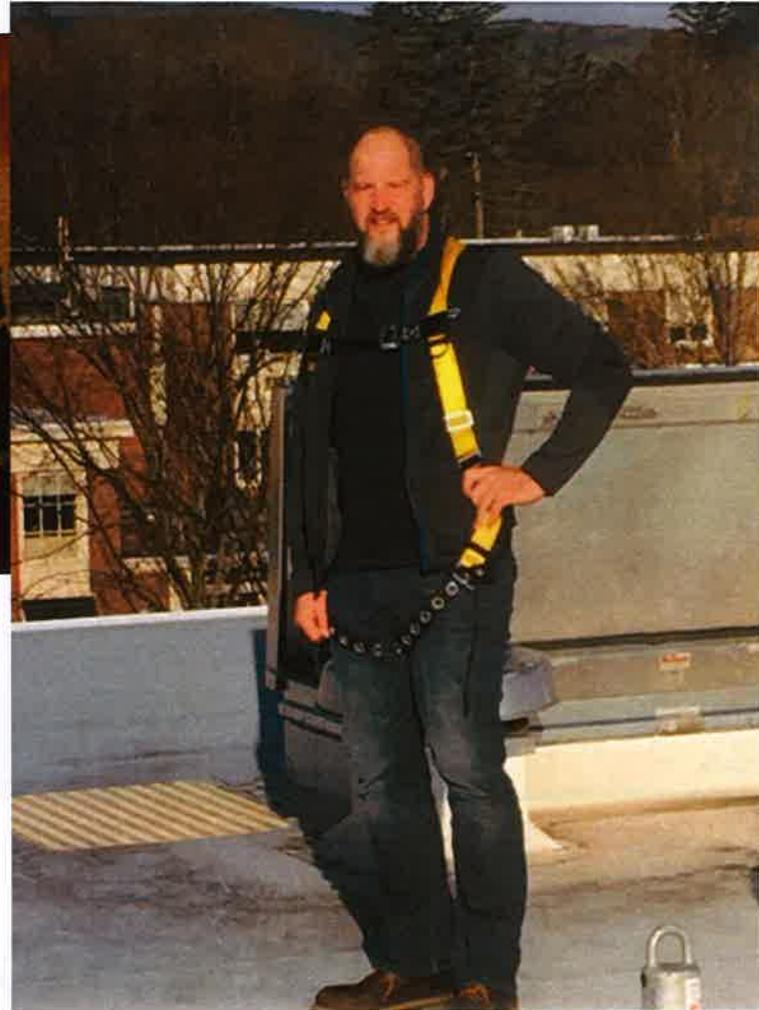








# OSHA Requirement?



# Gaslight Restaurant





## Best Management Practices: Food Establishment Grease Hood Exhaust Systems

### Best Management Practices (BMPs)

Best Management Practices (BMPs) are operating procedures and practices developed by an establishment to control site runoff, spills, leaks, or drainage from a targeted pollutant. This fact sheet is intended to provide information for your establishment to develop its own BMP plan for pollutants associated with a Grease Hood Exhaust System.

### Background

Grease Hood Exhaust Systems are used to remove heat, smoke and grease from ovens, stoves, grills and fryers. As the grease goes up the hood, most of it cools and condenses on the filters. Over time the grease that passes the filters will build up in the ductwork and may drain out from openings or overflow the rooftop grease collection system.

### Problem

If you do not periodically remove grease build-up in your exhaust hood system, it eventually will build up to the point that it can leak outside of the ductwork and onto your rooftop or onto the ground. Over time, that grease will discharge to a roof drain or storm drain. Another problem may occur if your hood cleaning company washes or dumps grease or polluted wash water to a roof drain or storm drain. Grease that enters a storm sewer will eventually make its way to the nearest stream or river. Grease is considered a pollutant and is illegal to discharge to a waterway and your establishment could face Municipal, State or Federal enforcement action including fines or cleanup fees if found responsible.

### Grease Hood Exhaust System Cleaning Schedule

The minimum schedules that Grease Hood Exhaust Systems are cleaned and inspected are based on fire code standards found in NFPA 96. These are guidelines intended for fire protection and may not be enough to prevent grease from building up and leaking from your Grease Hood Exhaust System.

### Choosing a Grease Hood Exhaust System Cleaning Company

Don't just look for the most inexpensive hood cleaning company; contract with a company that has the appropriate certifications and is knowledgeable about environmental regulations regarding disposal of grease and wash water. Some cleaning companies may not be aware of or the fact, that it is illegal to dispose of grease and contaminated wash water to a storm drain. When looking for a company, look for one that will:

- ✓ Thoroughly inspect and clean your entire system's ductwork from top to bottom, inside and out.
- ✓ Repair leaks in the ductwork and take steps to contain them.
- ✓ Maintain the rooftop exhaust system's grease collection container and empty its accumulated grease to an approved location. Oil absorbent pads in the container are recommended.
- ✓ Dispose of accumulated grease and greasy wash water only to approved disposal locations and not to a roof or storm drain.
- ✓ Recommend a schedule based on the accumulation of grease in your ductwork in addition to NFPA 96.
- ✓ Provide a written report detailing the work that was performed and what, if any, additional maintenance or cleaning is required.

### Examples of Grease Hood Exhaust BMPs

- Clean Grease Hood filters frequently, and only in sinks connected to a grease interceptor.
- Oversee Grease Hood cleaning operations which typically occur after business hours.
- Use a grease spill kit to clean up small grease spills.
- Have an employee training program to ensure all employees are familiar with the appropriate disposal locations for grease.

More late  
night  
activities  
in Hanover



# What I Have Learned About Grease Hood Exhaust Systems (In Hanover)

- There is very little effective oversight from agencies other than occasionally from a local fire or building inspector. Rooftop grease problems are out of sight out of mind.
- Hood cleaning companies are not familiar with environmental rules only fire protection rules. CWA?
- Lack of cleaning and maintenance of equipment is the biggest cause for grease reaching a rooftop. When grease does reach the rooftop shroud it often bypasses the grease collection container through leaky joints. When grease does reach the grease collection container it is often neglected and eventually overflows onto the rooftop.
- Cleaning and maintenance schedules are dictated by fire regulations not environmental regulations. You can meet your NFPA 96 requirements and still have grease on your rooftop.
- Even the best and most expensive hood companies (in Hanover) admit to using roof drains in one way or another to discharge hood cleaning wash water and associated chemicals.
- It's not easy (or safe) for a hood company to do what they do. Rooftops are not easy to get to and even harder to get equipment 2 or 3 stories up. If there is grease on an exhaust or rooftop and there is a drain nearby the drain is going to be used.

## Part 2

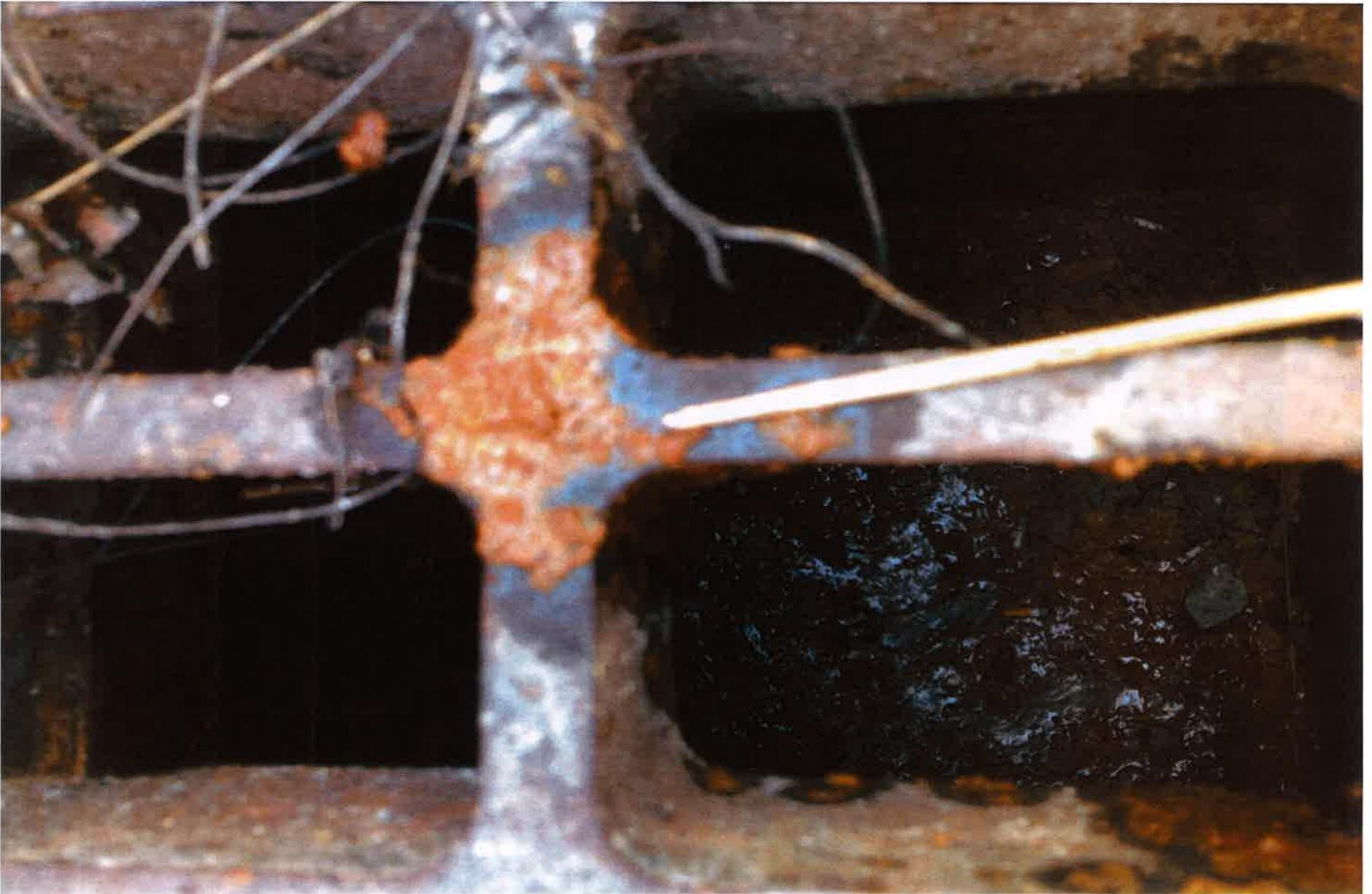
# More Food Establishment Illicit Discharges

- From Food Establishment Staff Dumping Grease in Storm Drains
- From Grease Hood Ductwork Leaking on Ground and into Drains
- From Grease Rendering Containers Overflowing onto Ground and into Storm Drains
- From Cleaning Companies Using Storm Drains to Dispose of Wash Water.

# Food Establishment Staff



Yum



# Extreme Measures!



SMILE!



# Next to Town Hall will Draw Some Attention



# Tracking down the source



Looks like what was in Catch Basin



SCORE!



## **ILLICIT STORMWATER DISCHARGES - NON HAZARDOUS STAFF RESPONSE PLAN**

*Some pollutants like petroleum based oils and solvents require a special response and different reporting requirements. Refer to Town of Hanover Emergency Operations Plan for Large Hazardous Materials Spills or consult NH DES when these situations occur.*

### **SITUATION**

Hanover has a concentrated base of permitted industrial users and food establishments within the downtown business district increasing the potential for an illicit stormwater discharge. Illicit stormwater discharges can occur intentionally and unintentionally by individuals, or through failing or unmaintained equipment, tanks or conveyance systems. Illicit stormwater discharges can be in the form of a liquid, semi solid, or solid material. While some discharges are acceptable to be discharged to a storm drain others are not acceptable.

### **ACCEPTABLE STORMWATER DISCHARGES**

The following stormwater discharges are acceptable provided they have not been deemed by the Town, EPA, or State to be a significant contributor of pollutants to surface waters of the State.

- Water line flushing
- Landscape Irrigation
- Uncontaminated Groundwater infiltration
- Discharges from potable water sources
- Foundation drains (for uncontaminated groundwater water)
- Air conditioning condensate
- Irrigation water, springs, diverted stream flows, rising ground waters
- Uncontaminated water from crawl space pumps
- Footing drains
- Lawn watering
- Individual residential car washing
- Flows from riparian habitats and wetlands
- Dechlorinated swimming pool discharges
- Street wash water (without detergents)
- Residential building wash waters without detergents
- Discharges from firefighting activities (see complete definition)

### **EXAMPLES OF ILLICIT STORMWATER DISCHARGES**

- Grease and associated wastewater from food establishment grease traps
- Motor, hydraulic oil, antifreeze (requires special response and reporting)
- Grease and associated wastewater from food establishment grease hood exhaust systems
- Chlorinated pools
- Floor waxes and cleaning materials
- Paints/thinners
- Domestic or industrial wastewater
- sludge, septage

Any other material, substance, or pollutant that would cause a significant contribution to surface waters.

# Illicit Discharge From Hood Cleaning



What's in that tote?



# Follow the Tracks



# To a Catch Basin



# Illicit Discharge From Collection Containers



# Around the Corner to Trench Drain



No! You can't pressure wash it to the drain!



After



# Here we Go Again!







2016-09-27 09:40:59  
SSS Cam1



9:48:32  01:50



6-09-27 09:41:05

Cam1



2016-09-27 09:41:13

SSS Cam1



9:48:42



# More BMP's



## Best Management Practices: Food Establishment Outdoor Grease Storage Containers

### Best Management Practices (BMPs)

Best Management Practices (BMPs) are operating procedures and practices developed by an establishment to control site runoff, spills, leaks, or drainage from a targeted pollutant. This fact sheet is intended to provide information for your establishment to develop its own BMP plan for pollutants associated with outdoor Grease Storage Containers.

### Background

Outdoor Grease Storage Containers serve as a location for a food establishment to put grease from grease traps, grease exhaust hoods, or other sources of vegetable and animal based oils that can be rendered or recycled into something else.

### Problem

Outdoor Grease Storage Containers can become a problem when:

- ◆ A container is full and overflows grease onto the ground.
- ◆ Lids are left open and rain enters the container, displacing the grease onto the ground.
- ◆ Spills on or around the container build up and then wash to a storm drain during a rain event.
- ◆ Grease spills on the container or on the ground are pressure washed with detergents to a storm drain.

Grease that enters a storm sewer will eventually make its way to the nearest stream or river. Grease is considered a pollutant and is illegal to discharge to a waterway and your establishment could face Municipal, State, or Federal enforcement action including fines or cleanup fees if found responsible.

### Maintaining your Outdoor Grease Storage Container

The best way to prevent your Grease Storage Container from becoming a problem is to take care of the small spills immediately, before they turn into a bigger and harder to clean mess. Make sure your grease recycling/rendering company is scheduled to come wch. before the container is full and, most importantly, designated staff should be aware of BMPs for your establishment's Grease Storage Container.

### Examples of Grease Storage Container BMPs

The following are a few examples of BMPs for your establishment's Grease Storage Container:

- ✓ Train staff on how to transport and manage grease and how to respond to and clean up spills.
- ✓ Locate storage containers on a flat impervious surface away from storm drains.
- ✓ Always keep storage container covers closed when not actively adding or removing grease.
- ✓ Inspect containers frequently for leaks, spills, and grease buildup.
- ✓ Always check the level of the container before adding more grease.
- ✓ **DO NOT** pressure wash spills or cleanup material to a storm drain. Use dry cleanup methods.
- ✓ Witness cleaning events and scheduled removal by rendering/recycling companies.

### Make a Spill Kit

- > Rags or paper towels to wipe up small spills
- > Pads that absorb oil but not water for larger spills or leaks
- > Kitty litter for removing grease stains on pavement
- > Shovel and driveway broom for picking up kitty litter
- > Scrapers for scraping hardened grease off of container
- > Make sure the spill kit is labeled, visible, and replenished as needed

# Going Forward

- I'm looking beyond the grease trap and kitchen when I perform inspections.
- I'm using the BMP sheets I made up and attaching them to Permits and for training and inspections.
- I'm working with Fire Department and Health Inspector to come up with more encompassing plan to include safety issues, reporting, and an approved list of hood cleaners. Hood cleaners will ultimately need to be registered in Hanover and Certify certain conditions will be met.

?

[mark.roper@hanovernh.org](mailto:mark.roper@hanovernh.org)

603-643-2362