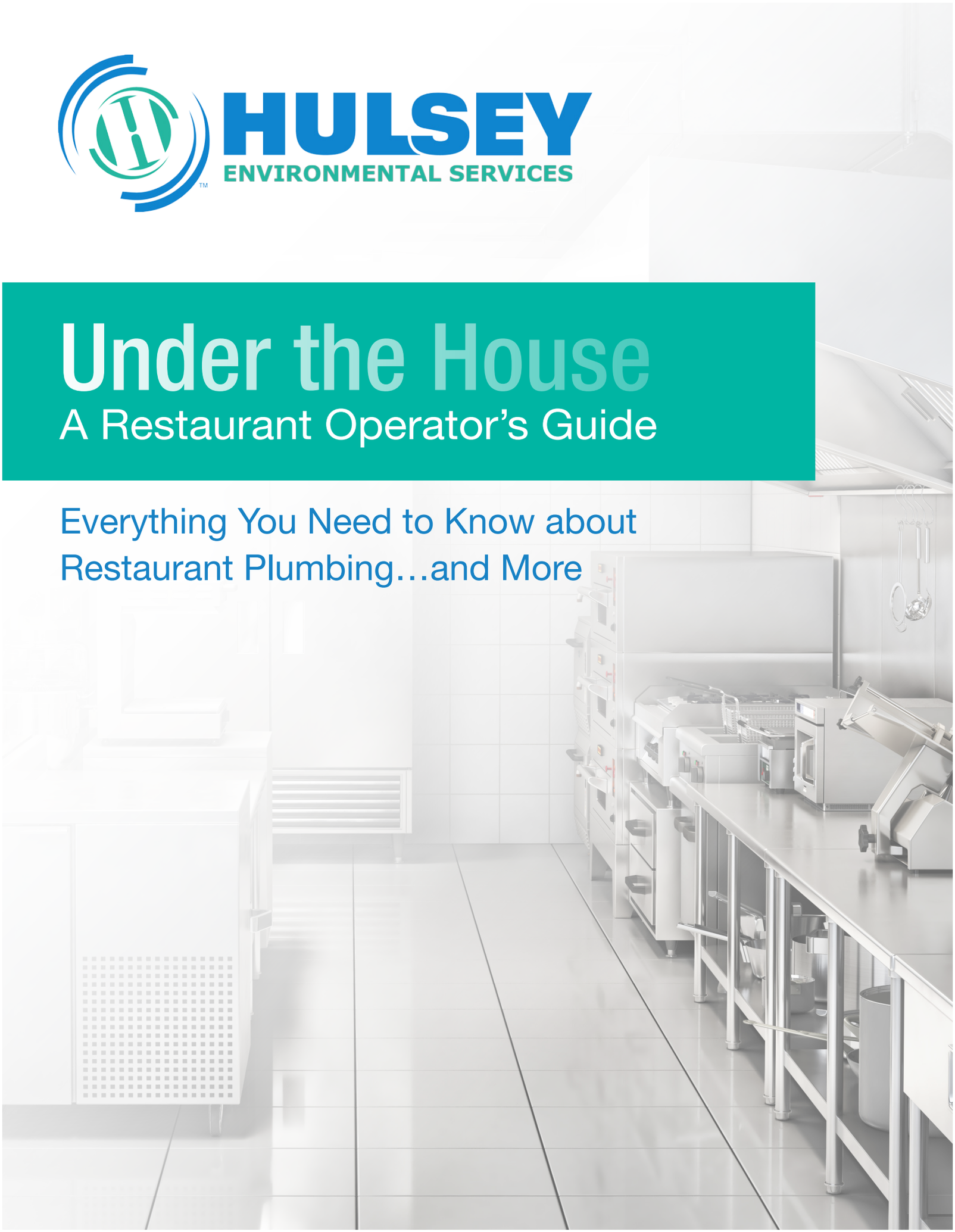
HULSEY
ENVIRONMENTAL SERVICES

Under the House

A Restaurant Operator's Guide

Everything You Need to Know about
Restaurant Plumbing…and More



Restaurant managers, owners, and regional leaders have to pile a lot on their plate to keep the business running smoothly. From staff management to finances, food prep to customer service—it's all handled by operators in-house…but what about under the house? Beneath your floors or behind the walls, your building's plumbing system, grease traps, and waste disposal systems lie almost invisible. Therein might be signs of potential problems. But they are difficult to notice and easy to ignore–until it's too late. Damage and repair of water damage is expensive not only in itself, but on its impact to the operation.

Despite how critical these under the house components are, unfortunately, this is also where the biggest knowledge gap exists. Bridging the gap would require us to look at what's beneath the surface and appreciate the inner workings of the common plumbing system – and see some features commercial settings (i.e. restaurants) have. Then, we'll examine how this system is maintained, and what the common culprits are to its ills. Lastly, we'll present some of the solutions and technology as well as the specialists who could help you when problems and emergencies arise.

Here's what you can find in this guide

Plumbing System Anatomy

Before diving into the finer details of plumbing services, understanding how the system works is essential. Plumbing systems are typically composed of distinct systems that utilize gravitational force and pressure to bring freshwater in and drain wastewater out. While they may vary in scope or scale, many restaurant plumbing systems share the core elements of water supply and drainage, including drain-waste-vents, and fixtures like toilets, sinks and water closets. The water supplies consist of pipes and valves involved in regulating the flow of water. Pipes and drains are ABS, PVC, or cast iron materials that connect the fixtures within a building, while vents function to equalize the change in pressure when using plumbing fixtures, thereby avoiding sewer gasses from escaping. Plumbing fixtures are receptacles or devices that receive water, waste, or both, and discharge these into a drainage system.

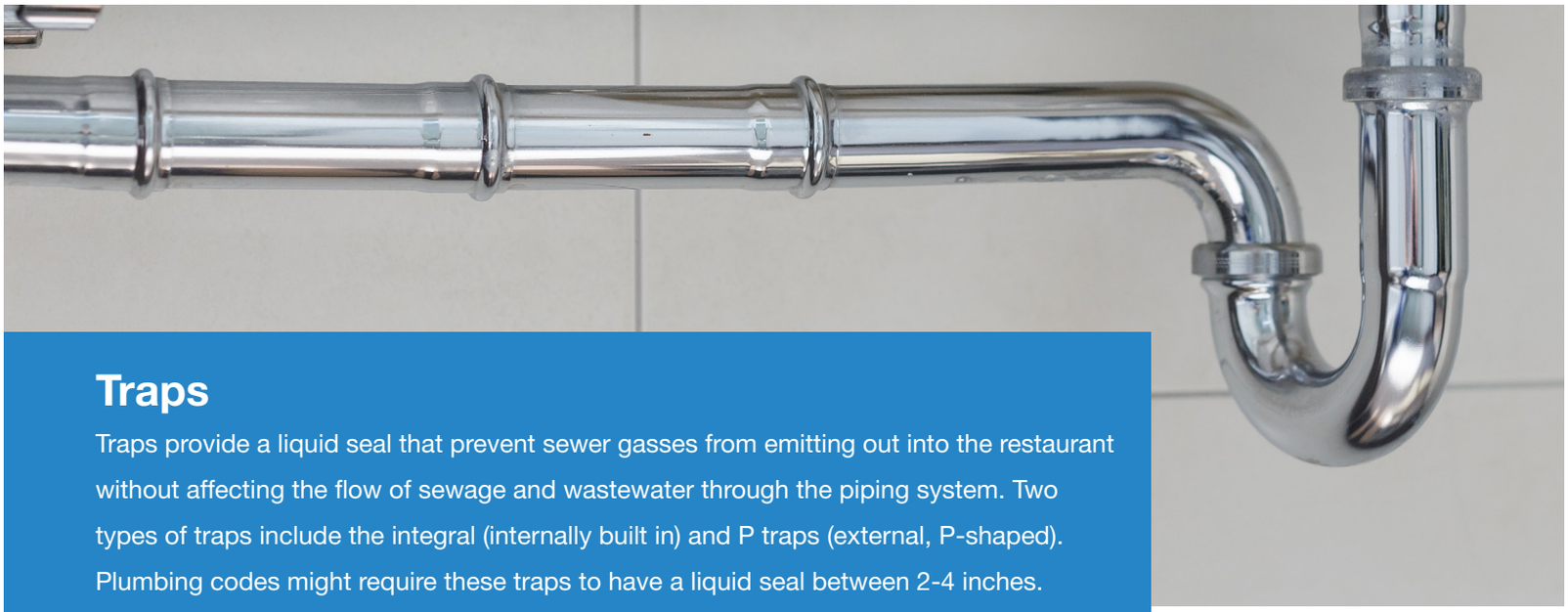
Some of the distinct components seen in commercial settings include but are not limited to the following:

Air Gap

The air gap is the clear vertical distance that stands between the lowest opening of a pipe and the flood level rim of a vessel. The distance of the gap, FDA recommends, should be twice the inside diameter of the water pipe that is above the flood rim level.

Air Break

An air break is a specific piping arrangement where the drain discharges into another fixture which is below the flood level rim. Like the air gap, it helps prevent backflow but the connection here is not necessarily vertical.



Traps

Traps provide a liquid seal that prevent sewer gasses from emitting out into the restaurant without affecting the flow of sewage and wastewater through the piping system. Two types of traps include the integral (internally built in) and P traps (external, P-shaped). Plumbing codes might require these traps to have a liquid seal between 2-4 inches.

Vacuum Breaker

A vacuum breaker is a rubber diaphragm attached to a toilet or urinal's flush valve that prevents backflow from entering a public drinking water system. A plumbing code related to this stipulates that valves should not be installed downstream from these vacuum breakers.

Condensate Pump

A condensate pump transfers the water from an HVAC, refrigeration, condensing boiler furnace, or steam system thus preventing water from getting trapped inside that causes cracks and leaks in panels and flooring.

The primary concern you'll have regarding this is making sure these components are up-to-code and that you're complying with state plumbing and FDA requirements. Missing the mark on this could adversely impact your business' reputation or, worse, even shut down your business. Having trusted specialists that are both familiar and able to implement these guidelines is crucial in not only in averting a crisis. They may also put forward plumbing solutions and best practices that bring savings to your business.

Maintenance

It is often said that bigger plumbing problems would be avoided if there is a simple maintenance program in place. Before they become “emergencies” or problems of scale, plumbing issues usually appear as innocuous, little irregularities such as a trickle or an abnormal sound or stench. Part of maintenance is learning to identify these and appropriately interpreting their plumbing implications and, if needed, corrective actions.

Preventive Maintenance

Preventive maintenance is anticipating where the usual problems might arise and what the typical causes are. A case in point is the familiar problem of clogging, wherein an impaction or blockage causes fluids in your plumbing system to stop flowing. Some telltale signs, causes, and maintenance solutions related to clogging are the following:

Drains

It is common to see leftover food and debris filling up the kitchen sink. The residue becomes compacted, eventually leading to clogs. This is solved by installing a drain lock or a strainer. The same protections could also be applied to floor drains so that large items don’t enter the restaurant plumbing system.

Grease Trap

A neglected grease trap eventually leads to grease build-up, molding, or, worse, pipe-rotting. The usual solution is to hydro-jet from the outside in. Although county inspectors establish requirements for timing, many restaurant owners try to save some money by stretching out the dates between cleanings. If you wait too long for service, the traps run the risk of getting full and overflowing, which leads to clogging.

Bathroom Sink & Toilet

Sanitary wipes, excessive toilet paper, and paper towels are infamously problematic for restaurant bathroom plumbing. Signages reminding guests to throw these items in the trash instead of the toilet and the availability of trash bins help mitigate this.

What are some other commonplace maintenance issues other than clogging?

Leaky Faucet

If not resolved in a timely manner, leaks could lead to high water bills for your restaurant. The solution may be as simple as tightening a bolt or screw in your plumbing system, or lowering the water pressure, or clearing a clog that leads to the affected faucet. Another option is to install low-flow aerators at each sink. A standard aerator uses 2.2 gallons of water per minute, while a low-flow version uses just 0.5 gallons. This can save you $100 per year per sink!

Dishwasher Repair

You know that your restaurant's dishwasher works a lot harder than your average home appliance. Frequent issues include leaking, not drying or not cleaning well enough. For a quicker, more effective fix, it's important to have a trained and certified provider to help with dishwasher repairs instead of trying to do it yourself.

Hot Water Heater

A common issue with water heaters is that some might take a long time to heat up. You won't want to get to a point where they don't heat up at all – heat is critical for food safety. The earlier you can have a plumber out to check on a potential problem, the better so your business avoids compromising the safety of your guests or being cited with a food code violation.

Leaking is yet another problem with heaters. A good practice is to check if the ground around your hot water heater is wet, which is a sure sign you have a leak somewhere.

Proactive Measures

Aside from preventive actions, you can also engage in proactive measures that could have financial implications. Unless you have meticulously recorded all your plumbing and emergency repair-related costs, it may be easy to dismiss the impacts of these under-the-house concerns on your profit-and-loss. Nevertheless, as a restaurant owner or manager, you generally strive to keep your costs down. **Some of these equipment and practices may help you proactively save money:**

Water Brooms

Some restaurants might use a standard garden hose and squeegee to keep surfaces clean. Using a hose can wear out the grout in kitchen tile, leading to expensive repairs in addition to being a massive waste of water. A better option is to use a water broom. Not only are they faster and more efficient, they also use a minimal 2 gallons of water compared to the 7 gallons used with a hose. Another useful tip: Utilize wide spray arms and multiple jets to manage the amounts of water used.

Drain Tempering Kits

Before entering the municipal sewer system, any hot water must first be cooled down. When dishwashers and other hot water sources are present, the used water must pass through a drain tempering kit before entering the sewer system. In addition, you may use copper pipes in drain tempering systems to avoid melting or warping plastic pipes over time.

Water Filtering Systems

Aside from the amount of water used, water cleanliness should also be monitored. For example, if chloramine levels are left unchecked, it can damage your restaurant plumbing system and deteriorate any stainless steel it flows through. A whole water filtering system lowers the probability and percentages of unwanted chemicals and contaminants going through.

No matter what your preemptive effort is, be it preventive or proactive, simple and cheap or detailed and expensive, the proper maintenance of the plumbing system will save you that unwanted headache and expense in the short and long run.

When to Call in the Professionals

As a manager, we know you're dealing with a lot in both the front and back on the house in your restaurant operation. We also understand that the nuances of plumbing requirements, codes, and regulations in your city or state can be overwhelming and time-consuming to fully take in. Preventive maintenance programs that help steer off full-blown emergencies may have been put in the back burner as are education programs about common plumbing issues, best practices, and simple fixes designed to equip the staff.

And if you're like most managers, you'd rather focus on the day-to-day, and not have to deal with unforeseen plumbing emergencies. However, they do occur and some may prove so complex or significant that a professional plumbing service is required. Consider these scenarios:

- **Flooding** If a main pipe bursts and spews water all over the floor or damages adjacent building structures, you should call for help. The cost of hiring a 24-hour plumber will be less than the cost of replacing your flooring and damaged items.
- **Critical Fixtures** When highly used fixtures in your restaurant are overflowing or clogged, the waste, fluids, and odious smell are off-putting. Aside from lost business, the unsightly visuals from these malfunctions could easily go viral and further adversely impact your business's reputation.
- **High-Value Equipment** If a plumbing part or equipment that needs repair is not only essential but also costs a lot to replace, then having it serviced by a qualified technician is the best course. The dishwasher or the water heater are some of these big-ticket items.
- **Leaks** Initially undetected and persistent leaks that crawl behind a wall cause mold and rot problems over time. What's worse, affected areas may not be as accessible. In situations such as these, professionals may be more familiar with the use of and have with them specialized tools.

Specialized Tools

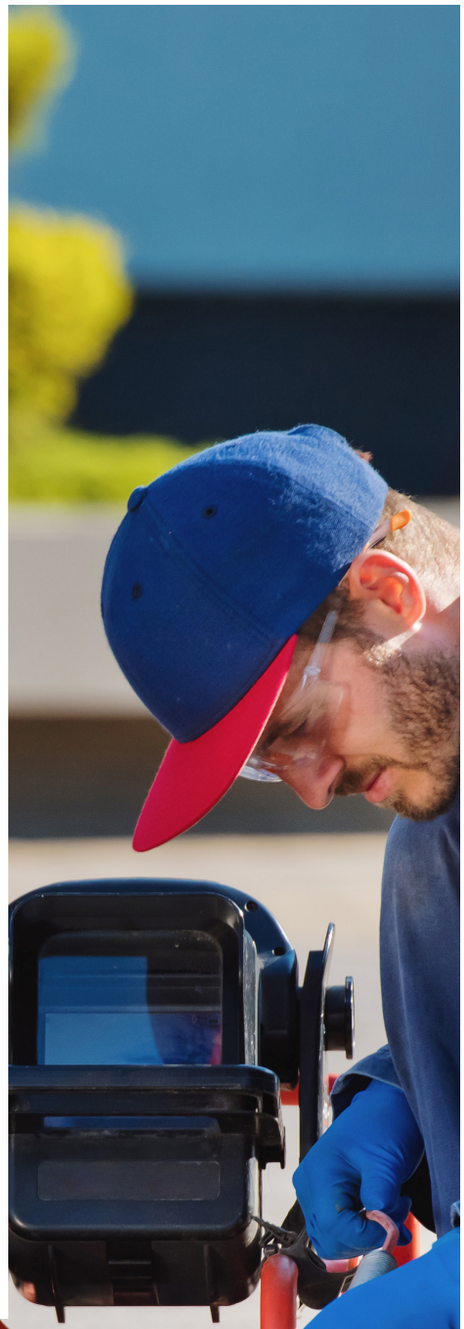
Aside from the standard plumbing toolbox, here are some of the specialized tools you might see your plumbing professional would use:

Video Cameras

Specially-made fiber optic cameras allow for a visual inspection of drains, underground sewer lines, and other piping to determine the nature of tougher blockages, as well the condition of the inside of your pipes and plumbing system. They could also register the depth and physical location of the problem so that plumbing defects and obstructions can be more easily identified and corrected.

Hydro-Jet Systems

High-pressure streams of water remove built-up debris in pipes, septic tanks, and sewer lines. Hydro-jetting is usually done through a clean-out, which is an opening in your plumbing that allows plumbers to clean out clogs. The water is forced down the drain, pushing grease, mineral build-up, hair, and other debris through the drain.



Your key takeaways:

- ☐ **Create a preventive maintenance checklist**
  - ☐ Install drain locks
  - ☐ Maintain your grease traps
  - ☐ Ensure proper tissue disposal
- ☐ **Initiate cost saving measures**
  - ☐ Use water brooms
  - ☐ Install filtration systems
  - ☐ Utilize copper pipes in tempering kits
- ☐ **Educate your staff about signs of potential problem**
- ☐ **Identify a good plumber who you can call 24/7**

Hulsey Environmental - Your Trusted "Under the House" Professionals

In Georgia and throughout the South, businesses have trusted Hulsey Environmental Services, Inc. for more than 100 years to handle professional plumbing and environmental services. Our licensed technicians are certified to do remodeling, renovation, and restoration projects, in addition to the more traditional plumbing services, such as water heater repair, drain cleaning, and septic tank services.

More Than Plumbing

Our proprietary method for developing environmentally sustainable solutions for the treatment of commercial and industrial waste is part of a comprehensive package of environmental services that include the following:

- **Commercial & Industrial Waste Management**
- **Commercial & Industrial Septic Installation, Pumping & Maintenance**
- **Collection & Processing Of Used Cooking Oil**
- **Wastewater Collection & Treatment**
- **Grease Pumping, Hauling And Disposal**
- **Restaurant Services**
- **Grease-Trap Installation, Pumping, And Service**

Let us partner with you.

We are here 24/7 to help your business with your plumbing, grease trap, oil recycling, and emergencies.

HULSEY ENVIRONMENTAL SERVICES

Call us at 770-536-1161 or visit our website, hulseyenvironmental.com.