

Food Safe Facility Drainage Design

WHAT YOU SHOULD KNOW
ABOUT EFFECTIVE DRAIN SELECTION



A division of Global Drain Technologies



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**Existing Food
and Beverage
Facilities Face
Multiple
Drainage
Challenges**



Erosion & Corrosion

Insufficient, non-resistant materials lead to damaged plant Infrastructure.





Outdated Drainage Infrastructure

Outdated & Insufficient Drainage systems always snowball into **higher costs** and **higher risks** for everyone

Poorly Chosen Materials

Lead to **damaged drains**
and **unsafe,**
cumbersome work
areas.





The Biggest Problem... By Far

Underground Piping Challenges

Older Facilities encounter significant problems with underground piping

Plant Managers run scopes into old, corroded pipes, and find nothing but mud

More Underground = More Headaches



Underground Pipes Are Difficult To Access and Inspect

Expensive and disruptive excavation is required to identify leaks, corrosion, or blockages.

Negligence = a sudden failure, necessitating a complete overhaul.

Unplanned expenses are far more costly than a proactive, phased replacement.



Headaches For Staff

More issues, less time spent on production



Stagnant, Ponding Fluids



Missing & Failing Grates



Clogged Undergrounds



Concrete Failures



Open Pits




Plant Staff & Insufficient Drainage

Insufficient Drainage Sets Up Plant Staff for Failure

Corroded drains harbour **bacteria** and **pathogens**

The best training cannot avoid insufficient drainage infrastructure

Bad drains lead to **bad habits**, which snowballs into **massive problems later on**





**Staff Have
Been Known
To...**

Dispose of heavy solids directly
into the drains

Damage heavy equipment due to
complex floor sloping

Avoid consistent cleaning due to
inconvenient drainage layout

Improvise cleaning, leading to risk
of damage & contamination

The image is split into two parts. The top part shows a drain on a tiled floor with water overflowing and splashing. The bottom part is a close-up of a rusty, dark metal grate with vertical bars.

**One
Common
Cause**

**Broken Equipment, Clogged
Drains, Bacteria, Catastrophic
Failures, Corroded Drains....**

All of this leads back to one key
issue....

**An outdated
drainage layout**



Let's Talk About Solutions

3 Key Renewal Considerations

1

Is Your Design
Optimized?

2

Is it Sanitary and
Accessible?

3

Ease of Installation

An Optimized Design Means a Comprehensive Drainage Assessment

Who's the best person to assess and diagnose the problems in a specific facility?

What types of drains should I be using? In which areas? What's the most effective option?

How do I eliminate unnecessary floor slopes?

What are the risks associated with staying status quo?

Implementing a Drainage Evaluation Program



What drainage issues have Plant Managers & Supervisors noticed?

What's the cost benefit of considering a new drainage layout?

How does my layout affect my drainage? Who is the best person to consult on this?

What and who is the best option for my facility?

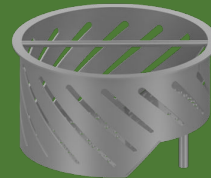
Area Drains

A Convenient Design That Mandates **Honest Maintenance**

Heavy-Duty
Drain Cover



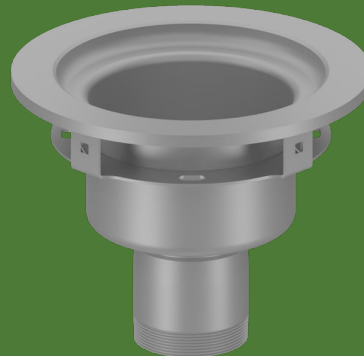
Primary
Removable
Strainer Basket



Locking
Secondary
Strainer



Radiused
Drain Body



Trench Drains

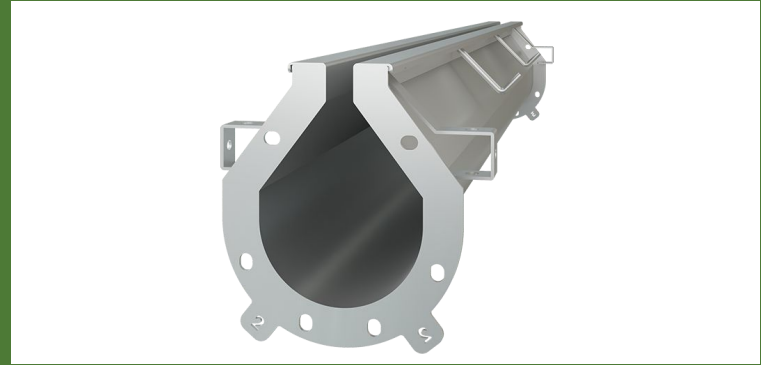


- The **round bottom design** eliminates sharp corners, which are known to harbor bacteria
- Withstands heavy traffic and corrosion
- Pre-sloped design ensures a consistent flow of high volume liquids and solids
- Wide-open channel and load-rated grates



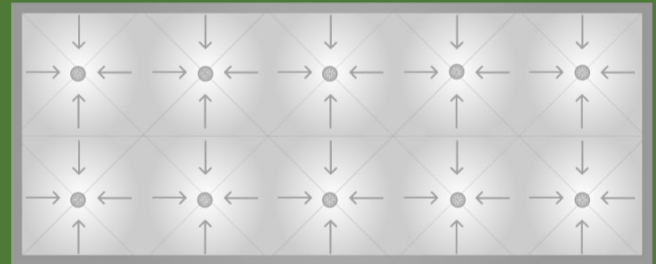
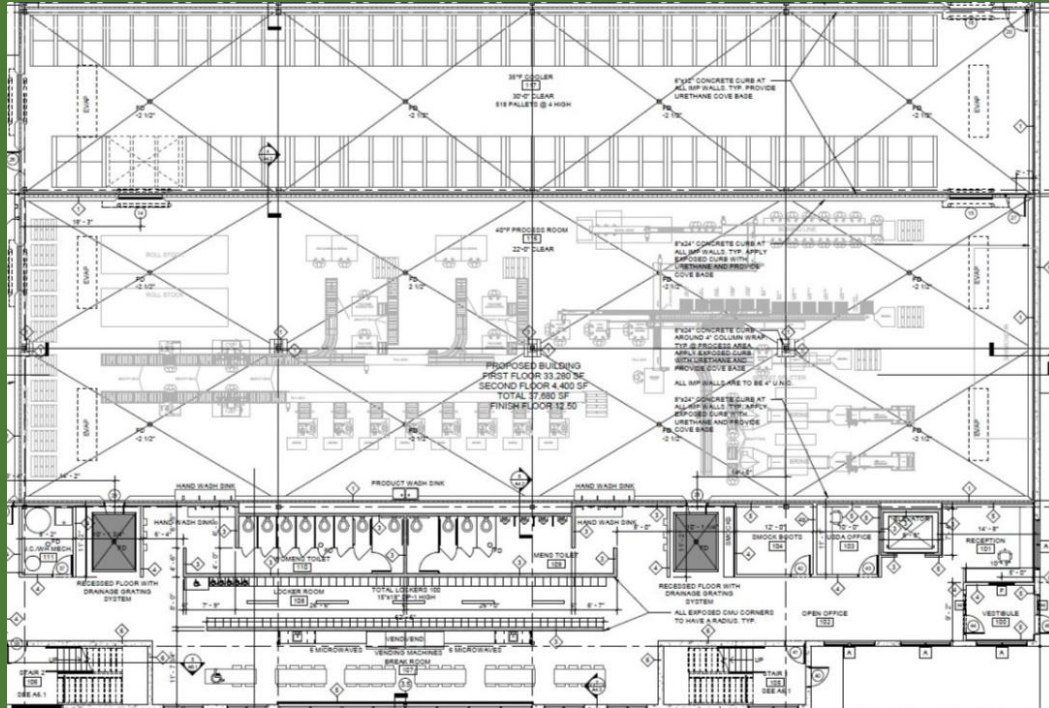


Slot Drain



- Sleek, Stainless, Sanitary, Safe
- Easy to Maintain - No Cumbersome Parts
- Significantly Reduces Floor Slopes

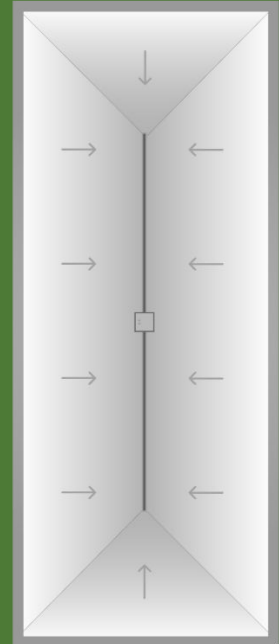
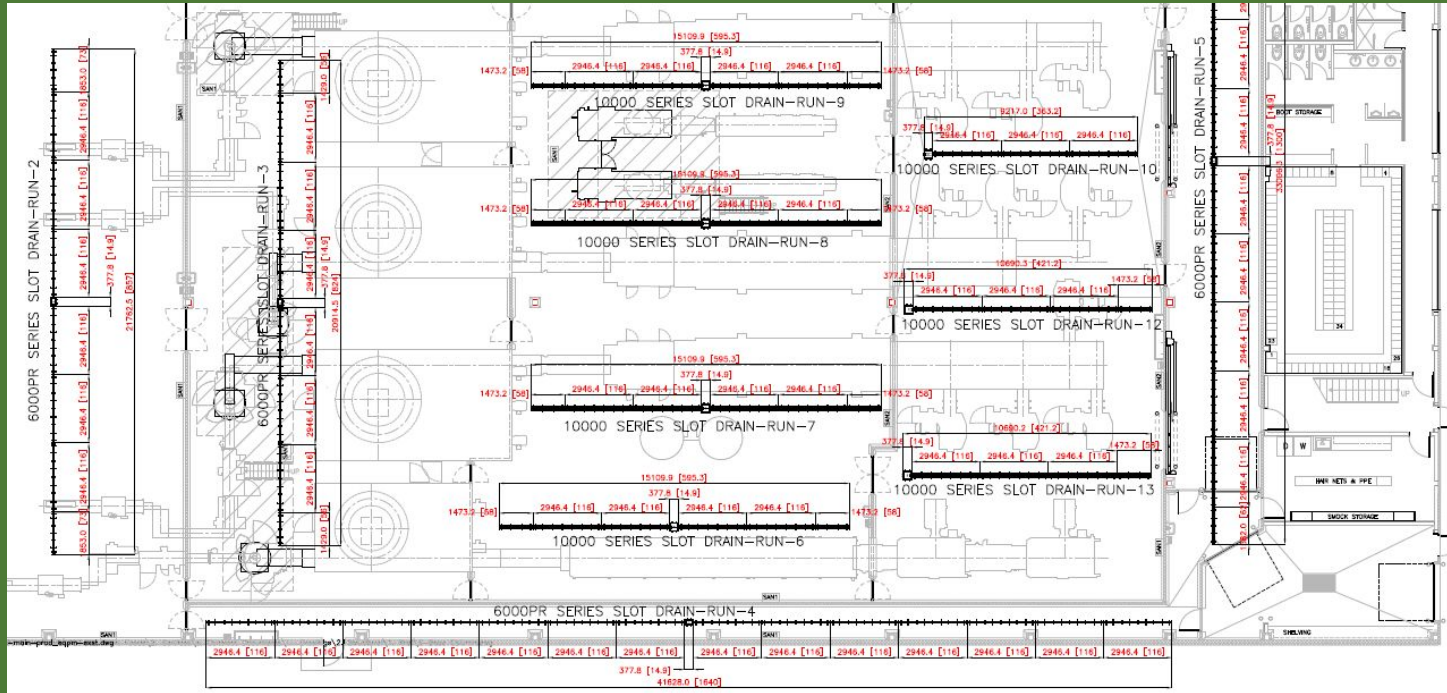
Area Drain Approach



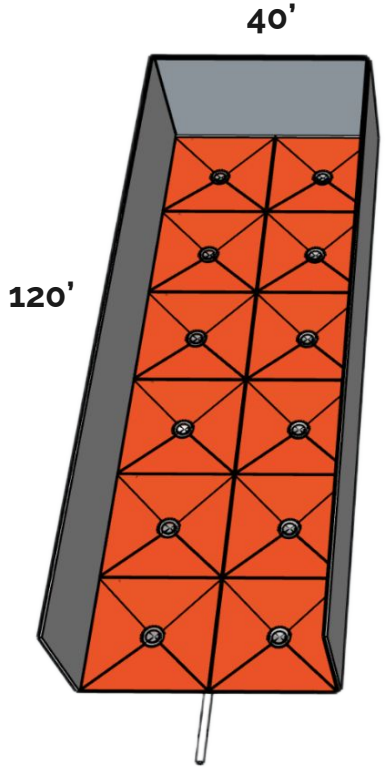
A construction site showing a long, narrow trench with a central pipe and rebar reinforcement. The trench is filled with concrete, and the pipe is supported by a central blue structure. The surrounding area is a mix of dirt and concrete, with various construction materials and tools scattered around. The text "Eliminating Floor Slopes and Complex Underground Piping" is overlaid on the bottom of the image.

Eliminating Floor Slopes and Complex Underground Piping

Linear Only Approach

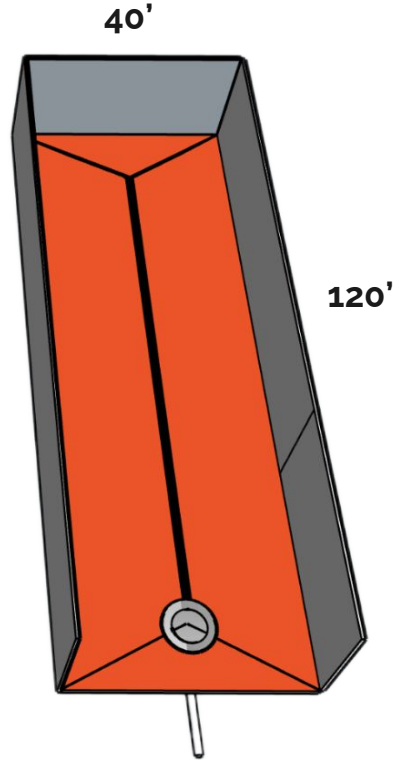


AREA DRAIN

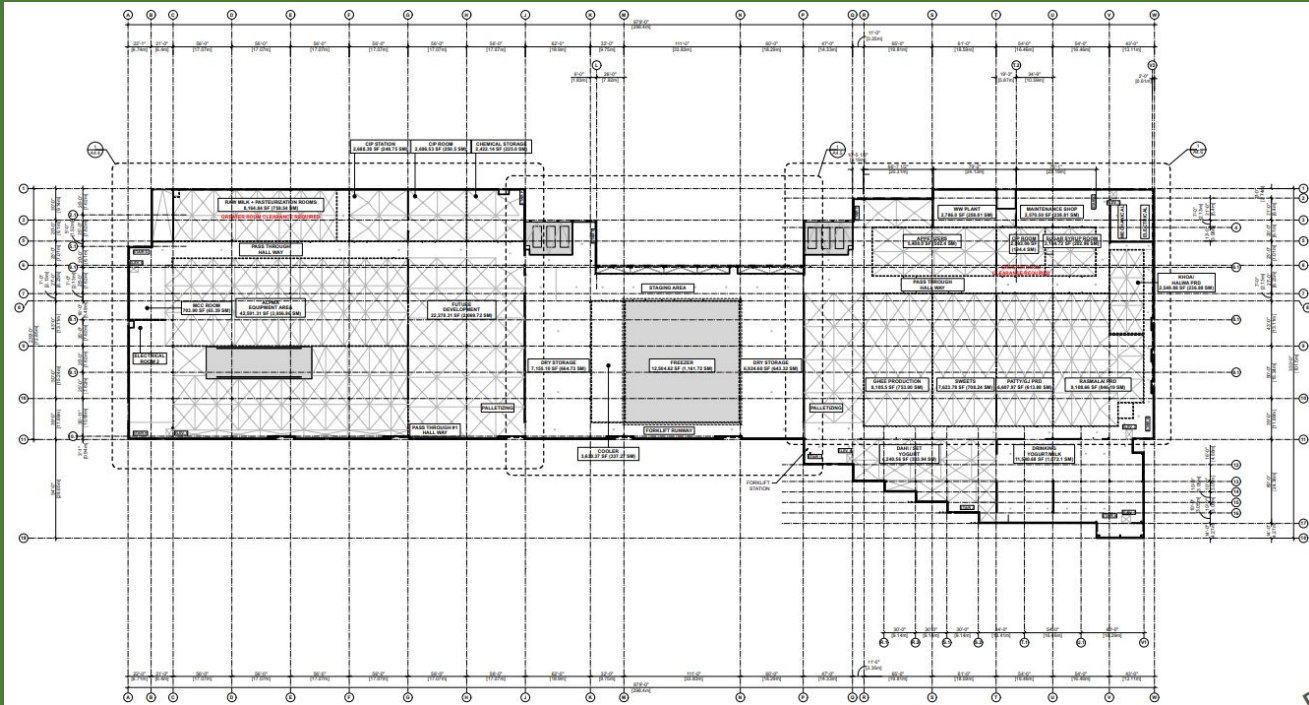


48	— Floor Slopes —	4
48	— P-Traps —	12
24	— Couplers —	2
6	— Y-fittings —	1
120'	— 4" in Pipe —	10'
100'	— 6-8" Pipe —	-

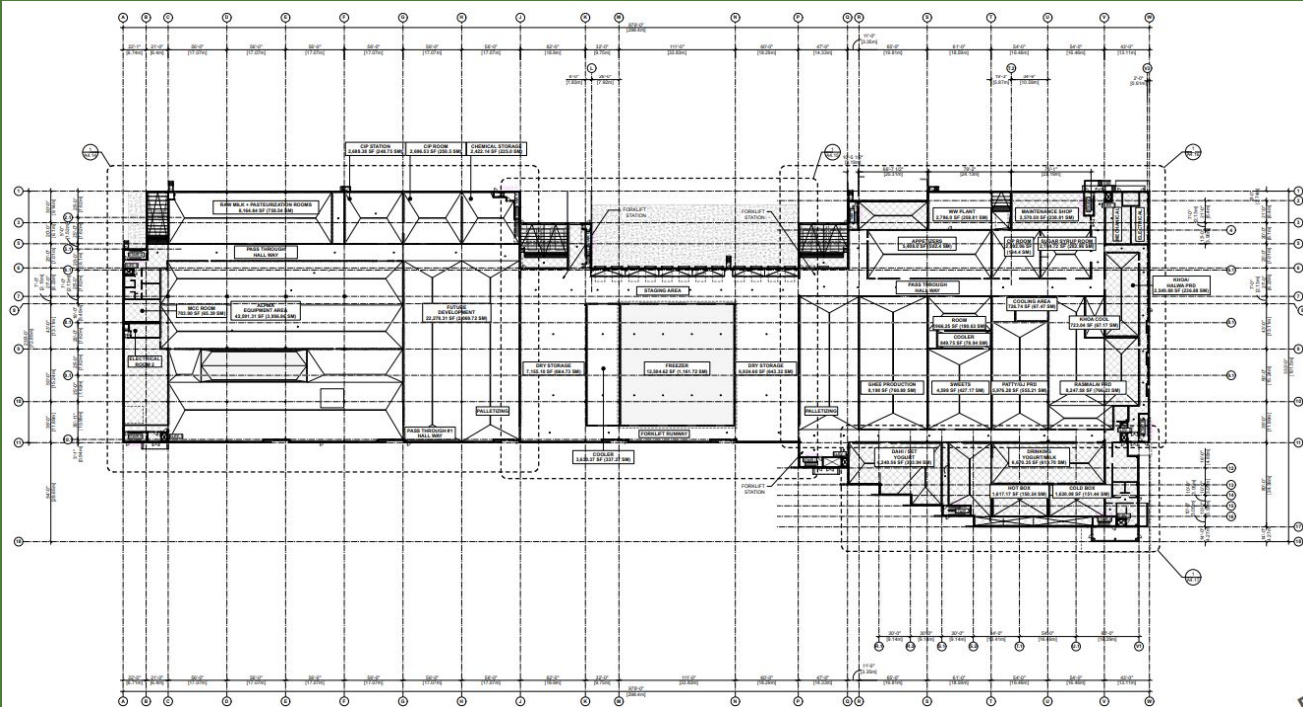
LINEAR DRAIN



Consultative Linear Approach



Consultative Linear Approach



Whole Facility Approach Savings

- 171 Fewer P-traps
- 684 Fewer Unique Floor Slopes
- 30% Less Underground Pipe Required
- Less Material & Labor
- \$500K+ Savings

Slot & Trench Drains Significantly Reduce Floor Slopes

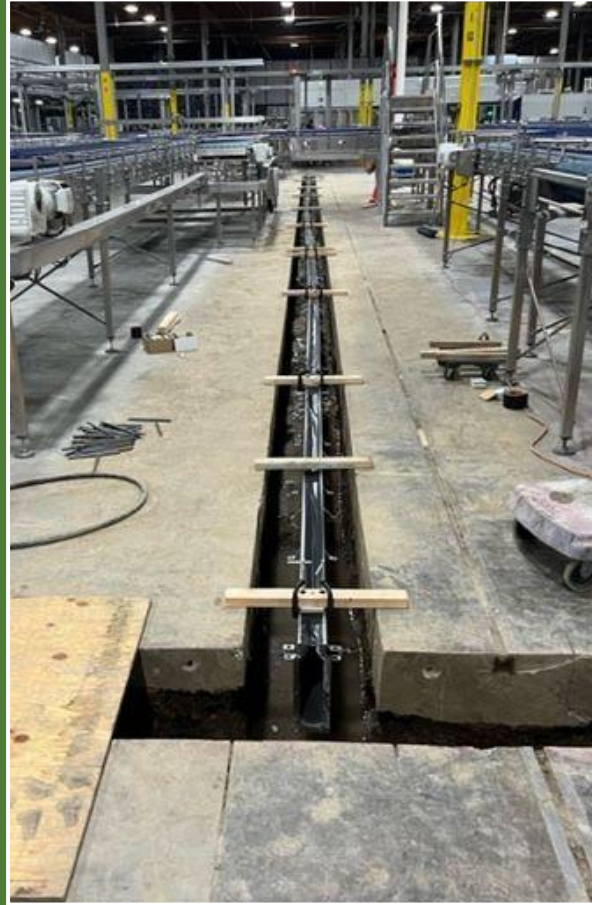


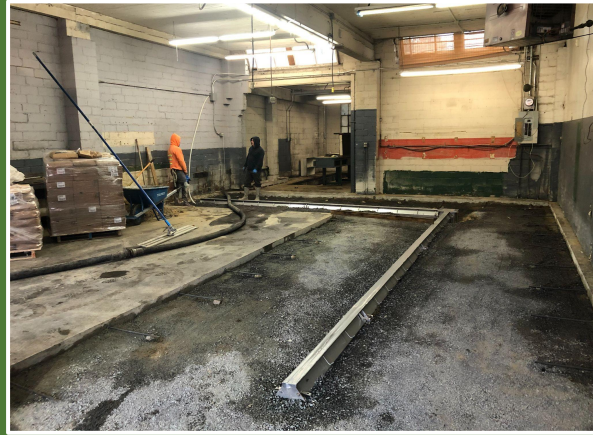
Due to their Linear Design, Trench and Slot Drains make the floor installation stage simpler

Staff encounter fewer tripping hazards

Installers have fewer design concerns to manage

More Linear Drains... Less Cost, Obstruction, and Design Headaches

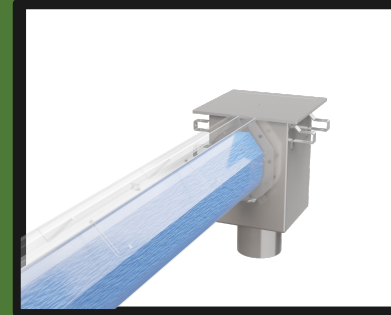




Cleaning Solutions



SlotHog: Designed to connect hoses directly to slot drains to **eliminate any messy liquids directly on the floor.**

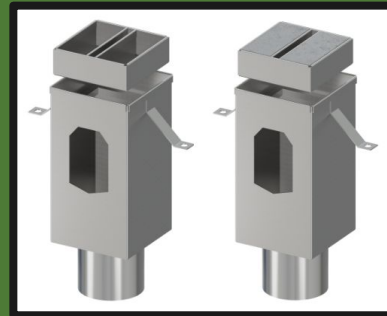


The **CIP Catch Basin** comes with a plug which allows you to plug and fill the system without concerns of overflowing and flooding.

- Cleaning is faster
- Poses less of a chemical exposure risk to people
- No hazardous trench openings



SlotDog: High pressure 180 degree nozzle cleaning tool to aid in sanitation and help prevent splash, splatter, and particulate transfer.



Pan Lids that masks the catch basin cover. Built to withstand heavy traffic. Can match any flooring style. **Compatible with FlushFlo Systems**

Cleaning SOPs



Helping to Standardize Excellence

A thorough, informed and deliberate Cleaning SOP is a cheat code for effectiveness and accountability

Part of the full facility design approach includes a guided procedure building process



Cleaning Solutions



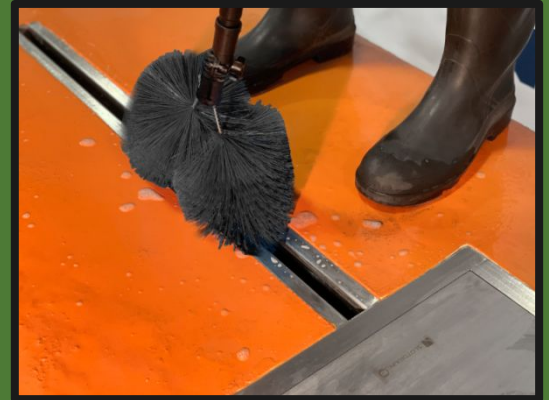
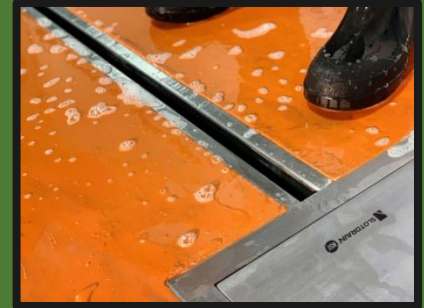
**See The SlotDog in Action
at a Working Food
Processing Plant**

Cleaning Tools

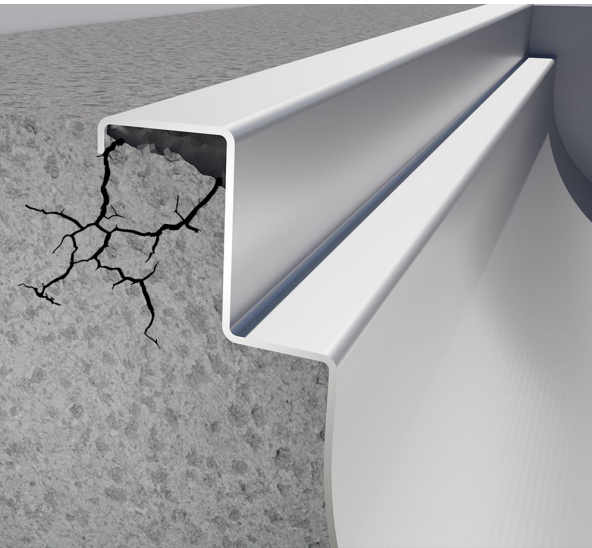
Our specialized cleaning tools allow you to clean your systems in minutes:

Cleaning Brush: A flexible brush that helps you clean every inch of the drainage channel.

Cleaning Paddle: Our fitted cleaning paddle allows your staff to move solid debris along the channel and into the catch basin for easy removal.



KeyForms: Simplifying and Optimizing Installations



KeyForm
Epoxy Floor and Drain Adhesion System

Alleviate
Cracking During
Installation



How it works?



The KeyForm proprietary keyway cover is designed to snap in place on Slot Drain Systems allowing for tool free installation.



The KeyForm cover protects the drain from damage during concrete pour while forming a keyway or rabbet along the drain.



Removal of the Keyway system is achieved with a small pry bar prior to full concrete cure. This exposes the formed keyway ready for the application of a commercial floor coating.



Floor Coating adhesion is improved due to the greater surface area at the interface between floor and drain combined with our proprietary drain pretreatment nanotechnology.

If You're Designing a New Facility...



What to Consider

Optimize your design through a comprehensive drainage assessment.

Prioritize sanitary and accessible drainage solutions for easy maintenance.

Ensure ease of installation with suitable materials and expert coordination.

What to Avoid

Outdated and insufficient drainage systems that lead to higher costs.

Reliance on status quo designs that are bound to cause problems

Choosing materials prone to erosion and corrosion, leading to damaged infrastructure.

The Right Partner for Your Renovation

You Can Have:



A Great Product



A Great Design



A Full-Facility
Solution Planned

BUT...

It can be rendered
totally **ineffective**
if installation is
done improperly

Installation Considerations: The Right Way with The Right People



Precision Planning:

Accurate assessment of existing slopes and layout is the foundation for a seamless, precisely cut drainage retrofit.

Navigating Existing Infrastructure:

Connecting new drains to old plumbing requires careful navigation of existing pipes and utilities to avoid damage.

Choosing the Right Materials:

Stainless Steel Drains protect against pathogens more effectively than any material on the market

A Coordinated Approach:

Effective coordination between designers, contractors, and engineers ensures a compliant, safe, and functional installation.

The Right Partner for your Retrofit

A Network of Expertise

The GDT Alliance Partner Program:

- Connects you with a specialized, curated network of installation and design professionals in the food and beverage industry.
- Ensures your project is handled by vetted experts who understand the nuances of hygienic design and regulatory compliance.
- Offers a full suite of services, including site analysis, design consultation, and on-site guidance.
- **Provides Reduced Risk, Guaranteed Results:** By leveraging the collective knowledge and experience of our Alliance Partners, you mitigate the risks associated with complex renovation projects.



To Summarize...

A Full Facility, Conscious Drainage Design Approach:

- **Dramatically Reduces the Risks** of Listeria, Foodborne Illness, Liability, and Plant Shutdowns.
- **Minimizes Erosion, Corrosion, and Buildup.**
- **Provides Higher Load Ratings** for Day-to-Day traffic in any context.
- **Significantly Reduces Material, Construction, and Development Costs** thanks to the elimination of extra P-Traps, Unnecessary Sloping, excessive underground piping, and additional infrastructure.
- Provides a **long-term, legacy solution** that makes drainage headaches a thing of the past.





Thank You

Questions or Comments?

Feel free to reach out to me at:
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