



FLOWSCIENCE ELECTRONIC SCALE CONTROL SYSTEMS

Require Little to **No Maintenance** and
Work on **Any Carbonite Scale**. Most
often entirely eliminating all jetting and
liquid de-scaler use permanently.

LEACHATE SCALE ELIMINATOR

KEEPS PIPES FLOWING
AND PUMPS PUMPING

FLOWSCIENCE DOES THIS:

FlowScience
GO WITH THE FLOW

WE BUILT A BETTER SOLUTION

- 1** **REGULAR JETTING IS NO LONGER REQUIRED** TO CLEAN LEACHATE COLLECTION PIPES OR PUMPS
- 2** **CHEMICALS & ACIDS ARE REDUCED OR ELIMINATED** FOR DISSOLVING LEACHATE SCALE ANYWHERE
- 3** **REDUCES MAINTENANCE HOURS** RELATED TO LEACHATE SCALE VASTLY. SYSTEMS RUN 24/7
- 4** **THERE ARE 100'S OF UNITS WORKING ON LANDFILLS** AND PLENTY OF REFERENCES
- 5** **SAVES COSTS SUBSTANTIALLY AND SUSTAINABLY** WITH SYSTEM LIFETIME OF 12-15 YEARS



LEARN [MORE >](#)



SAME APPLICATION
SAME FLOAT
AFTER 8 WEEKS OF TREATMENT



BEFORE

AFTER 12
Weeks with

FlowScience
GO WITH THE FLOW



FlowScience
GO WITH THE FLOW

SOLVED
SCALING ON
THESE TOUGH
PROBLEMS



**“THERE IS A WAY TO DO IT
BETTER - FIND IT.”**

THOMAS A. EDISON

KEEP IT FLOWING & RE-INVENT YOUR LEACHATE SCALE MAINTENANCE PROGRAM

REDUCE HOURS & COSTS

JETTING, CHEMICALS, ACID TREATMENTS AND PIPE REPLACEMENT WILL BECOME PAST MAINTENANCE PROTOCOL. LEACHATE WILL KEEP FLOWING AND GAS MIGRATING CONTINUALLY FOR COLLECTION SYSTEMS AND PUMPS.

**BY APPLYING OUR LSC SYSTEMS TO THE
EXTERIOR OF PIPES AND PUMPS; LEACHATE
SCALE IS NOT ONLY PREVENTED BUT REMOVED
CONTINUALLY AND SYSTEMS WORK 24/7.**

FlowScience
GO WITH THE FLOW

ABOUT US

WE'RE COST SAVERS

WE VET, INVEST, DEVELOP AND BRING SUSTAINABLE, COST SAVING TECHNOLOGIES TO INDUSTRY. IT MAY SOUND SIMPLE; BUT IT'S A DEMANDING PROCESS.



Leachate Scale Tech Breakthrough

In 2014 we perfected our Leachate Scale Control System that would help re-invent landfill maintenance plans. Today are proud partners in manufacturing with FlowScience; building the very best products for performance, safety and durability.

Confidence Guarantees Results

Our confidence and experience in the solutions we offer our clients allows us to GUARANTEE our technologies; assuring your organization that our applied technologies PROVE RESULTS. No project is too big. No project is too small. We love what we do and we stand behind it; as a company in helping create a greener planet and more efficient organizations everyday



**WE'VE WORKED
WITH**



SCS ENGINEERS



WE'VE SEEN A LOT IN 6 YEARS



Each Site Unique & **Always Evolving**

FlowScience Scale
Control Systems
Start Working in
Days and Are
Simple to Install

REFERENCES

AVAILABLE

ASK US



**Reduce
Costs**

Elimination of jetting, acids, chemical maintenance and time saves budget expenses. System life is 15 years on average. ROI is often under 1-year.



**Get More
Sustainable**

Mitigate environmental impact by often complete **elimination of jetting, chemicals and acids.** 120 VAC or 12 VDC Solar.



**Corporate
Responsibility
& Innovation**

Using proven technology that is Sustainable creates **better companies and a better earth.** Sustainable is cool. Savings in sustainability is epic.



**Reduce
Maintenance**

FlowScience requires **little to no maintenance.** Pipes stay clear continually and pumps repel hard scaling. We create time for other things.



**Vendor
Guarantee**

How many of your vendors **guarantee** results? We stand behind what we do and put it in writing.



**Meet
Compliance
Standards**

Often **Municipal or State Jetting requirements** become negotiable as pipes and wells stay clear of leachate scale. Green grants are often available towards purchase.

WHERE FLOWSCIENCE MAKES A DIFFERENCE



PIPES

FlowScience can be adapted to work on any type of pipe. Even dual-walled HDPE. Pipes are our specialty. Force mains, gravity lines and any type of collection pipes where there is scaling precipitation can be permanently scale free with FlowScience.



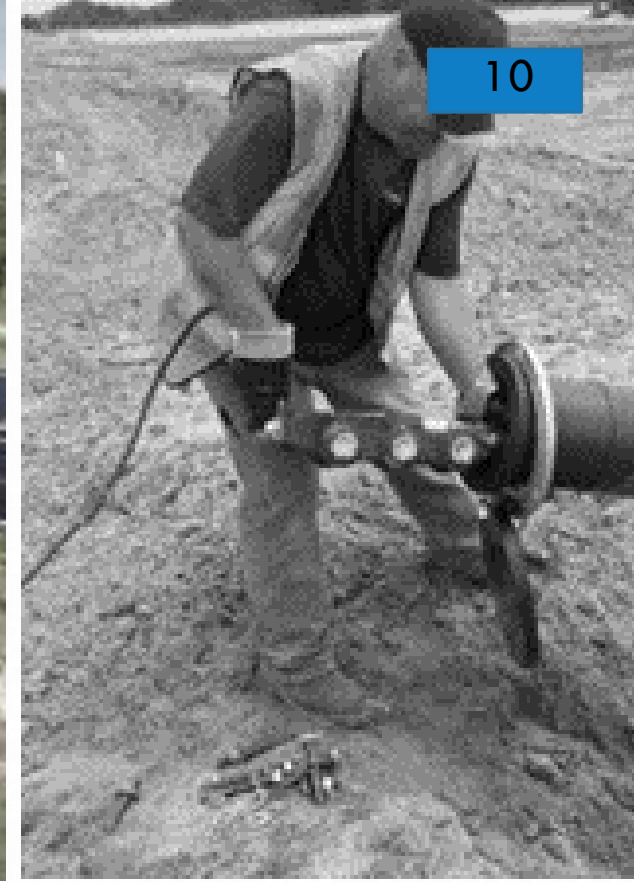
PUMPS

Tired of pulling pumps for maintenance? FlowScience can be adapted to pneumatic and electric pumps for use in any location. LFG wells and side slope risers have all been treated with our Leachate Scale Control Systems.



WASTEWATER TREATMENT EQUIPMENT

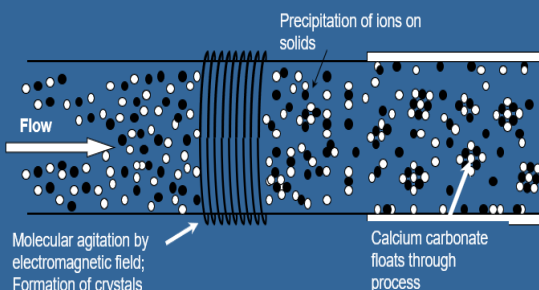
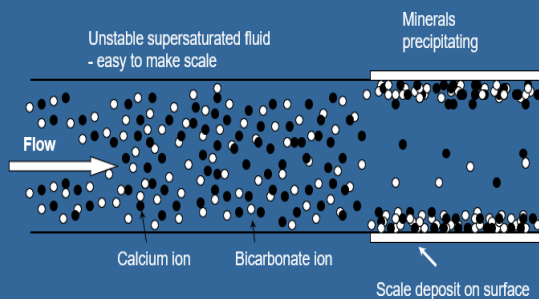
Critical areas of Waste-Water Treatment can fail due to precipitation of calcium carbonate scaling. Gii Scale Control has had tremendous success with; bio-reactors, RO Systems, heat exchangers, evaporators and more.



10

THE JETTING GUYS

We're sorry guys. But leachate scale control systems are good for the environment too. Elimination of diesel equipment, chemicals, acid and pipe replacement is a very good thing for the planet.



Role of CO₂ Gas in Removal of Scale

Boundary Layer;
High concentration of Ca⁺⁺ ions



HOW IT WORKS

Controls the Formation of Scale

The FlowScience system uses advanced signal generating technology applied to water via proprietary web induction treatment pads that are attached to piping, pumps or custom designed reaction chambers. This technology produces an electrically generated surface active catalytic effect in water that neutralizes the natural charge of suspended solids.

The technology, in effect, creates billions of available nucleation sites out of the suspended solids in the water that were previously unavailable due to their natural charge. When nucleation occurs, the dissolved calcium carbonate follows a path of least resistance by precipitating as microscopic seed crystals onto the suspended solids that are in solution with it and travelling at the same rate, rather than onto static piping or equipment surfaces.

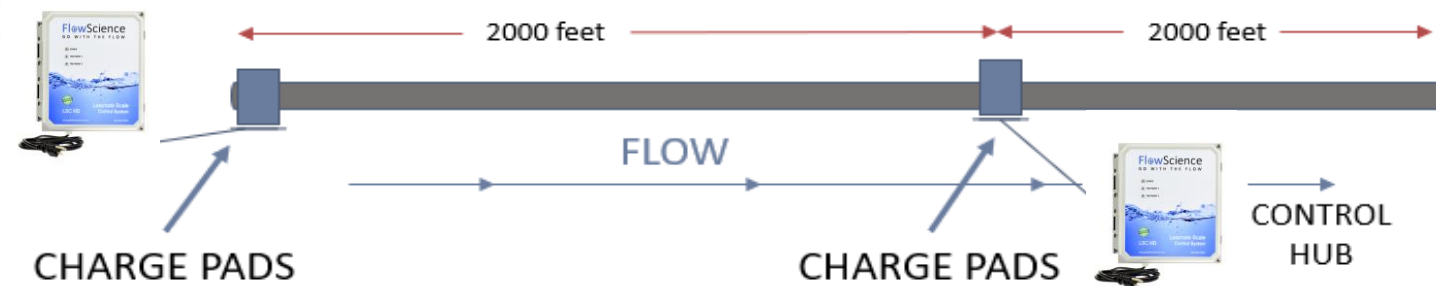
PREVENTS

MAINTAINS

DISSOLVES

CONTROL HUB

TREATMENT DISTANCE



A SINGLE SYSTEM CAN TREAT OVER **2000 FEET** OF PIPE

Dissolves & Eliminates Existing Scale

In addition to controlling the formation of new scale, the FlowScience system provides two functions that allow existing mineral scale deposits to be gradually softened and removed:

1. The precipitation reaction previously outlined above transforms the previously supersaturated solution into a lesser or undersaturated solution that has greater ability to dissolve existing calcium carbonate scale and carry it in solution.
2. Descaling can also be attributed to the liberation of dissolved CO₂ from leachate solution as CO₂ nanobubbles. These nanobubbles have a localized low pH in the range of 4 to 4.5. Physical contact of the acidic bubbles with existing scale promotes a carbonic acid effect that softens existing deposits. These bubbles have little effect on the bulk pH solution.

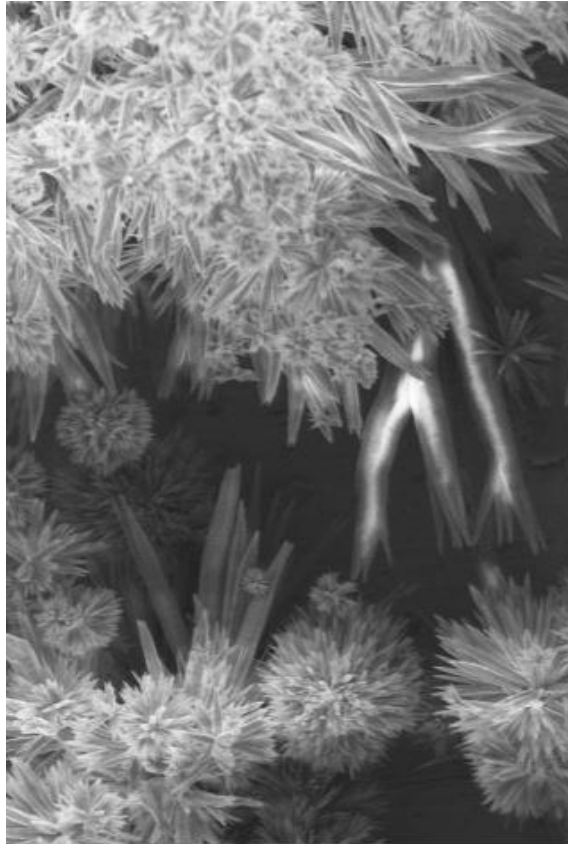
LANDFILL OPERATIONS

HOW MANY VENDORS GUARANTEE RESULTS?

WE DESCALE
EVERYTHING THAT
FLOWS & PUMPS



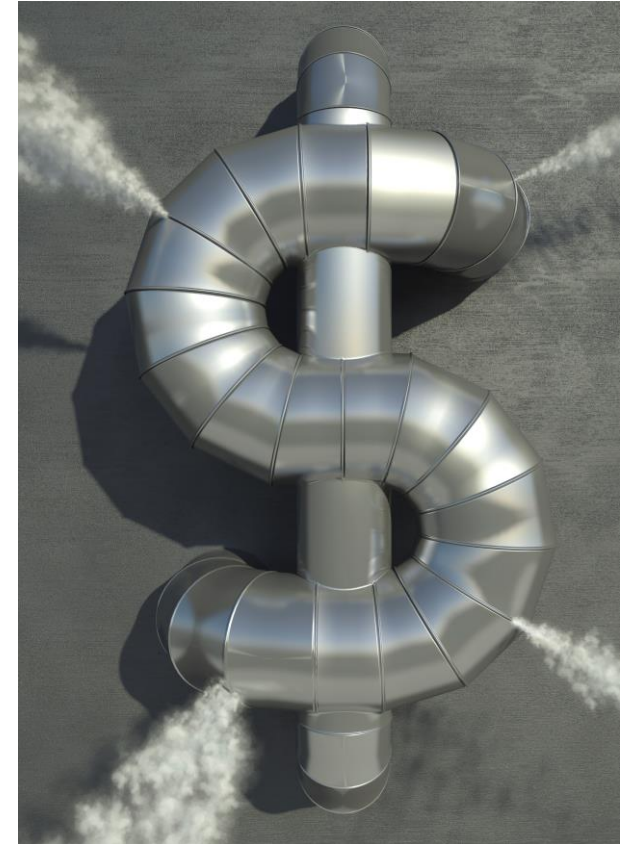
ALL LEACHATE IS DIFFERENT;
BUT CALCIUM CARBONATE IS
THE ONLY VARIABLE THAT
MATTERS WITH FLOWSCIENCE



DO IT ELECTRONICALLY &
ELIMINATE REDUNDANT
MAINTENANCE



CLOGGING CHOKES
LANDFILLS. USING
FLOWSCIENCE REDUCES
COSTS SIGNIFICANTLY



SYSTEM SPECIFICATIONS



FlowScience **LSC Systems** are designed to last and stand up to the harshest of environments. Up to **11-Year Warranty Available**.



ESA Certified



ISO 9001 Manufacturing Facility



NEMA 4X Outdoor Weather Resistant Enclosures



Designed to Fit Pipes: 2"-24"



100-240 Volt & Solar Options



Harsh Environment Cabling



EPA Compliant



Adaptable to Pumps & Waste-Water Treatment Applications



Works 24/7

Sometimes the most daunting task is just getting started.

It's Easy to Try. That's why it is important to understand that we've made that simple. Once a power source is determined and made available the rest of the install can be done in **as little as 20 mins** with our easy to understand **IOM** (included with every system). Your systems are drop shipped directly to the site already set for your application.



No Pipe Cutting or
Injection Points



Simply Plugs
into 120 V



Zero Maintenance
Required



A Single System Treats
up to 2000 Linear
Feet of Pipe



Treatment Pads Attach
to Pipe or Pump
Exterior Easily



Remote Monitoring
Available

APPLICATION IS SIMPLE



Zip Tie + Cover + Plug-In
It's That Simple

FROM YOUR OPERATING BUDGET TO
THE ENVIRONMENT;
THERE ARE SAVINGS IN YOUR PIPES.
DO YOU STILL NEED MORE
CONVINCING?

STILL NOT CONVINCED?

NOT READY TO
ELIMINATE CHEMICAL
AND JETTING
TREATMENT OF
LEACHATE SCALING YET?

FlowScience
GO WITH THE FLOW

Trial programs are available



11-YEAR WARRANTY

Full replacement 11-year
EXTENDED WARRANTY.
That's a long time.



PERFORMANCE GUARANTEE

If your FlowScience LSC System
doesn't work to your satisfaction WE BUY
IT BACK. Wouldn't it be nice if everything
in life was?



AGGRESSIVE RETURN ON INVESTMENT

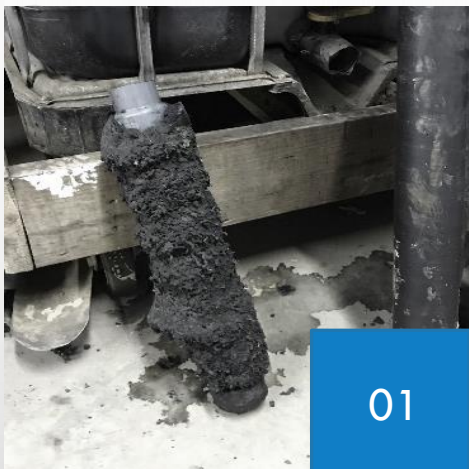
Maintenance savings create ROI that
is usually within mere months.
Apologize to the jetting guys for us.



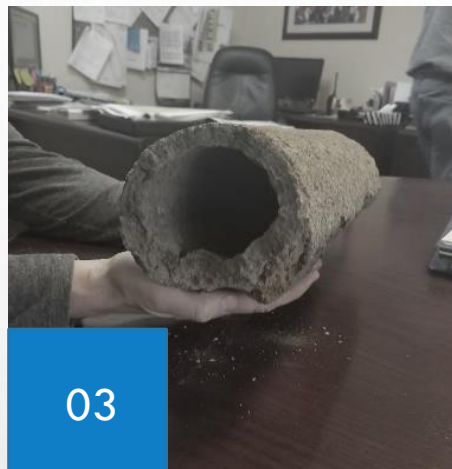
SUSTAINABLE TECHNOLOGY

Going Green is in. Low power
consumption and elimination of
diesel powered jetting trucks and
chemicals is a bonus.

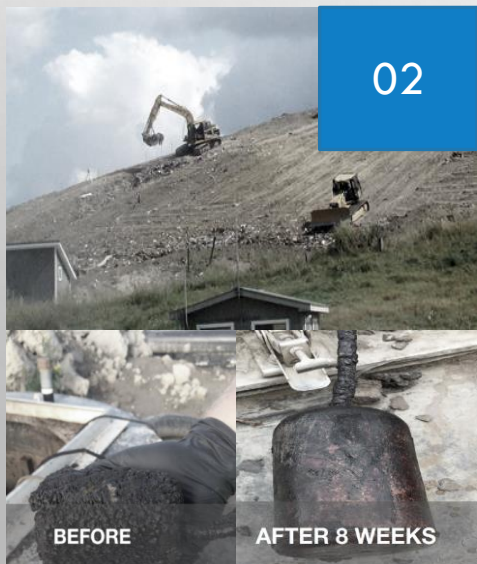
SOME PROJECTS



01



03



02



04

PROJECT ONE

LFG Wells have temperatures of close to 180F. Pneumatics are being pulled weekly for acid baths and maintenance. LSC Pump Protectors have kept the affected pumps scale free and dewatering for over a year and counting.

PROJECT TWO

A Big 3 landfill is laden with aluminum dross composition in multiple cells. Precipitation of scaling is accelerated due to elevated temperatures. The landfill was desperate for a solution as there wasn't enough hours in the day for jetting catch-up. The site started with 2 systems and today has 34 with over \$1.5 million in annual savings

PROJECT THREE

Force Mains are more frequently requiring jetting and tens of thousands of feet of pipe are affected. Jetting costs are heavy. 6 LSC systems keep nearly 14000 linear feet of force main clear to date and even removed existing deposits site personnel didn't even know existed.

PROJECT FOUR

Bio-Reactor (SMBR) media was the grow point for biologicals to treat leachate. Very effective. Over time media became covered with scale and fell to the bottom of the basins. This would require serious maintenance time and costs to clean or replace the media entirely to begin the process again. It took a few attempts but today we keep SMBR's scale free without the use of chemicals.

A CLIENT REFERENCE

Mike H.
District Manager
Big 3 Landfill



“A sustainable/green solution that will save landfills costs is a winner in my books”

REFERENCE LETTER

To Whom It May Concern:

| have had the opportunity to use Gii Scale Control's Leachate Scale Control System which was able to fulfill all my expectations as a landfill Assistant District Manager. | was able to try the systems on the landfill | manage and operate to remove scaling on a 6" leachate collection pipe feeding the main tanks.

Results were as described and proved any skepticism wrong. The system was able to inhibit active scaling and eliminate existing deposits. As a solution to conventional jetting and chemical treatment | highly recommend the technology if leachate scale is a problem at your site. The product comes with a complete installation manual and was installed by my crew in under 20 minutes.

A sustainable/green solution that will save landfills costs is a winner in my books. | now know who to call if scale develops anywhere on my site. I'd encourage you to do the same as Gii Group guarantees results or they buy it back. That's pretty unique.

Very Best Regards,

Michael H. Assistant District Manager

WHAT CUSTOMERS SAY



District Manager
Big 3 Landfill

"I sincerely apologize for taking so long. Thank you for your persistence and follow-up. Now let's do the rest of the landfill"



Michel Emond
Mabarex WasteWater
Treatment

"It's tres magnifique. You solved a big problem for us"



JETTING GUY
Pressure Washing
Company

"I don't like these FlowScience guys"

✓ REFERENCES
✓ CASE STUDIES
✓ TRIAL
APPLICATIONS

ARE AVAILABLE

SITE **COST SAVING** RECON

SITES USING FLOWSCIENCE TODAY

*Note: Numbers are based on communication with site personnel with access to financials. Gii Group does not warrant that they view any confidential financials of any customer without express written permission.

*Forecasting model is based on past industry knowledge and experience of Gii Group and its subsidiaries.

PROJECT DETAILS	2000 FOOT 4" FORCE MAIN	BIO-REACTOR	HIGH TEMP LANDFILL 14 LSC SYSTEMS	TYPICAL "SCALECENTRIC" SITE - 5 LSC SYSTEMS
SUMMARY	4" line was in need of jetting 2x per year	The suspended media within chamber scaled to fail every 6-12 months	A "Scale Cooker". Extreme conditions for carbonite environment precipitation. Pumps, pipes, WW	3 side slop risers 2 x 6" pipes
ANNUAL CLEANING COSTS	\$17,000 - \$21,000/year	\$60,000-\$100,000+/year	\$640,000+	\$100,000 plus
FLOWSCIENCE 1-TIME COST	\$13,990.00	\$51,000.00	\$128,000.00	\$61,000.00
1st YEAR SAVINGS	\$3000-\$7000	\$9000-\$50,000+	\$400,000+	\$20,000
2nd YEAR SAVINGS	\$17,000 - \$21,000	\$50,000.00 +	TBD	\$80,000+
10-YEAR SAVINGS	\$150K PLUS	TBD \$500,000++ Trackability	\$5 million PLUS	\$800,000 PLUS

3 STEPS

3-4 HOURS



1 CONSULTATION

2 DESIGN & QUOTE

3 INSTALLS IN 20 Mins to 1-HOUR

CONSULT TO INSTALL IN **HOURS**
RESULTS IN **WEEKS**



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