Blue Works Inc.

SOVENT

A Brief Overview of Sovent Sewer Stack Systems, their Issues and Blue Works Un-Matched Results in Returning Sovent Piping to Original Operating Condition with the Least Destruction Required

Thank You,

Following is Critical Information regarding Cast Iron (Single Stack) Sovent Systems, their design, intent, issues & Blue Works, Engineer Approved experience in restoring these systems back to full operating condition, with the least amount of invasive access required, un-matched by any of our competition to date, we have the answers, resume and undisputed qualified experience to make small work of Big Sovent Problems. Please Contact Blue Works to Resolve Sovent Problems

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Engineer Reference

Blue Works always recommends (a)n Qualified / Experienced Engineer Reviews the Completed Work upon completion, Due to the Complexity of these, Systems and the Work Required, Blue Works has Multiple Engineers who have Completed Projects and can be Contacted Upon Request

System Breakdown

Throughout the years, the Sovent Design Guide and its Application has been Changed, each Building requires a Blue Print Review, Video Inspection and Interview of the onsite Staff to Properly Identify the work required.

The Ritz-Carlton, Amelia Island

Bill Hickman, Senior Engineer
Fernandina Beach, FL
8 Story, 448 Unit, So-Vent Single Stack Plumbing System
40 Vertical Sanitary Risers Accessed, Inspected, Cleaned & Re-inspected, completed in March 2015 with the balance of the Vertical Risers to be completed in November 2015

The Ritz-Carlton, Tysons Corner

Steve Grubic, Senior Engineer
Mclean, VA
24 Story, So-Vent Single Stack Plumbing System
3 Vertical Sanitary Risers Accessed, Inspected, Cleaned & Re-inspected, completed in November 2015 with the balance of the Vertical Risers to be completed in November 2016

Marbella Condominium Association,

Ralph Lustik – Maintenance Director
Naples, FL
21 Story, 118 Unit, So-Vent Single Stack System
6 Vertical Sanitary Kitchen Risers Accessed, Inspected, Cleaned & Re-inspected, including Cleaning & Lining of the Overhead 1st Floor Main, completed in August 2014

Sancerre Condominium Association, Inc.

Roberta McFarland – Property Manager
Naples, FL
9 Story, 23 Unit, So-Vent Single Stack System
38 Vertical Sanitary Risers Accessed, Inspected, Cleaned & Re-inspected, including Cleaning & Lining of the Overhead 1st Floor Garage Piping Down through to the Slab, completed in July 2014

Riva Del Lago

Tom McCarter – Board President
(2) 22 Story Towers
10 Kitchen and Bathroom So-Vent Single Stacks cleaned and RE-inspected
Fort Myers, FL

Vinoy Place Condominium Association, Inc.

Jill Silverman – Community Manager
(4) 13 Story Towers
44 Sanitary Kitchen, Bathroom, & Laundry Risers Cleaned & Re-Inspected
St. Petersburg, FL

Riva Del Lago

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May 7, 2015

Mr. Jeremy Schultz
Managing Director
Blueworks Company
4001 Sana Barbara Blvd. Ste. 369
Naples, Florida 34104
www.blurworkscompany.com

Dear Jeremy,

In October, 2014 our Association hired a plumbing company to scope our Sovent sewer system pipes. The report was not good, our kitchen sewer stacks were clogged with grease and other objects and we feared that serious sewer blockages were soon to occur. We had already had three serious "backflows" into three different condos in our North Tower.

Our condominium consists of two 22 story towers connected by a four story parking garage which also houses four apartments, our gym, library, business center, conference room, grand lobby and administrative offices.

Our Executive Committee authorized a plumbing company, which was a regular vendor to our Association, to proceed with a cleaning attempt. This was a big mistake; this company had no idea as to how to clean vertical Sovent sewer stacks in 22 story high rise buildings. Using a Jetter nozzle, a hose and a 3500 PSI pressure washer they forced their hose through the pipes, eventually causing two more sewer eruptions in the South Tower condos and doing little to clean our pipes. The effort was a disaster.

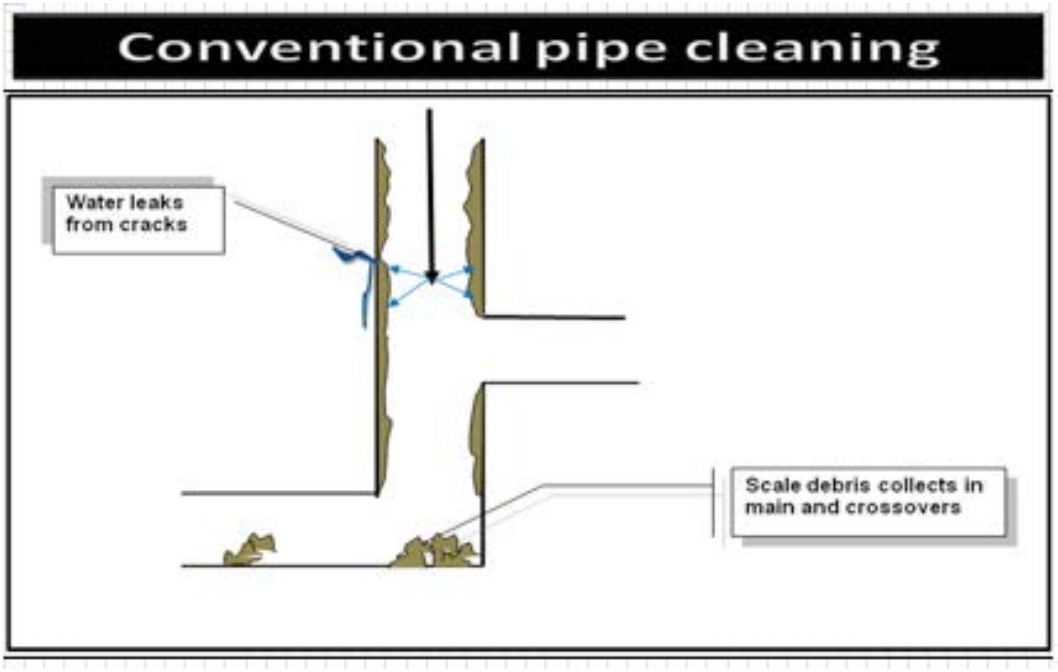
We fired those plumbers half way through the job! Then we found Blueworks! Blueworks scoped our pipes, examined the building blueprints, developed a plan and in two weeks cleaned all ten of our sewer stacks to "like new" condition. We asked the W.J. Johnson Engineering Company to examine the work and they confirmed it. Blueworks restored our kitchen sewer stacks to like new condition. Our Association is delighted with the work that Blueworks did and the professional way they did it.

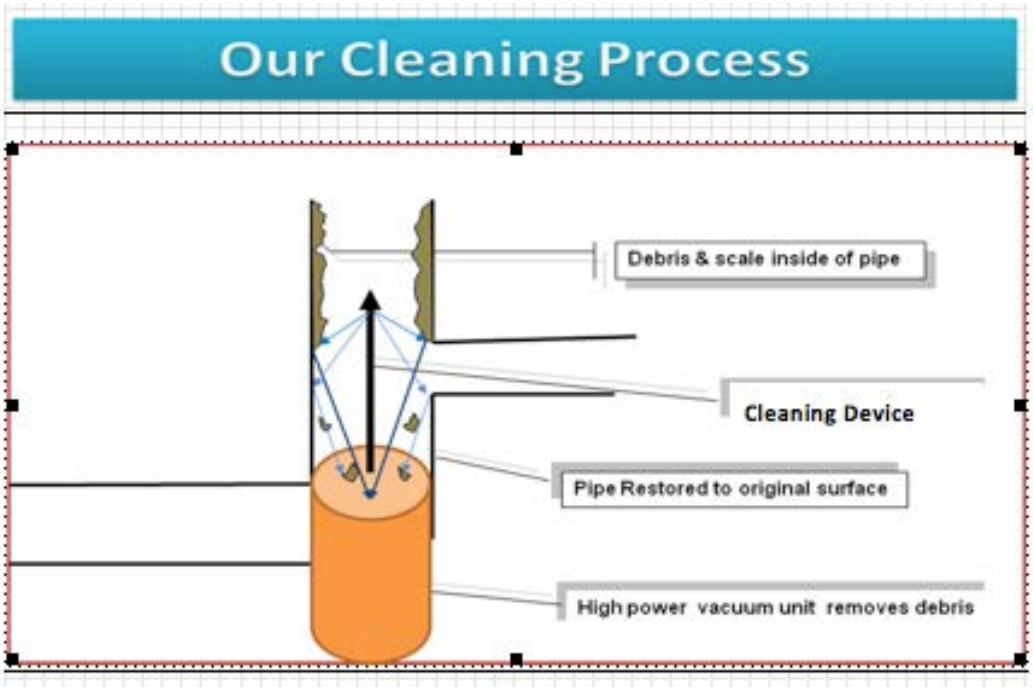
Shortly before Blueworks began the sewer cleaning project we called them to examine a leak dripping into a twelfth floor condo. Our other plumbers had located the leak in a pipe where it passed through a twelve inch concrete slab. Their solution was to break out the concrete slab and replace the pipe. Blueworks examined the leak, confirmed it was in the concrete, and then within two hours fixed the leak by inserting a fiberglass liner in the pipe. No broken concrete, no fuss, no damage to our building or our condos. Blueworks is a very professional company with substantial expertise; they know what they are doing! We give Blueworks our highest recommendation.

For the Board of Directors

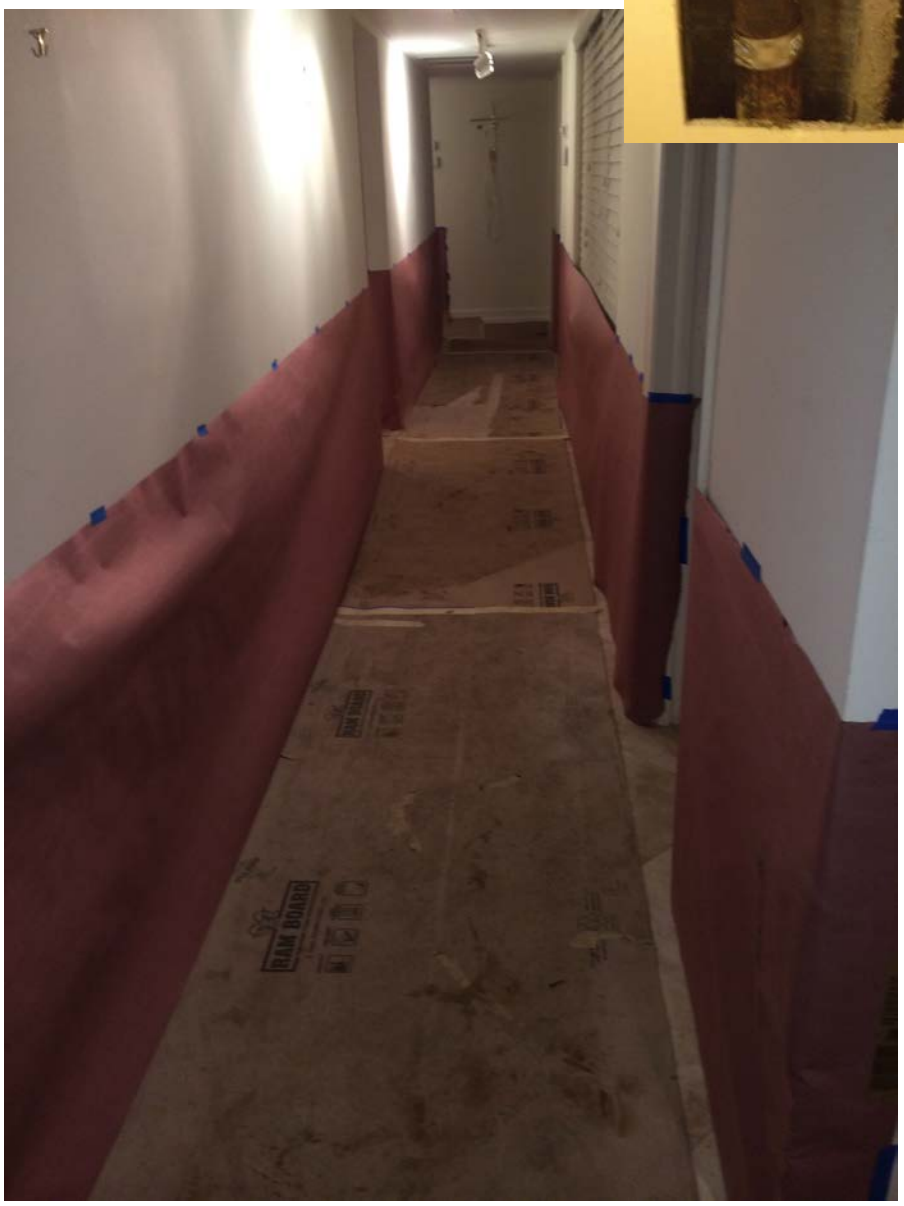
Tom McCarter
Tom McCarter
President

The Blue Works Difference: Advanced Blue Works Proprietary Cleaning Equipment & Process will Clean to Plumbing's Original Operating Diameter, The Right Way !





Blue Works Safe Guards Work Areas to Minimize Resident Disruption & Maintain Work Areas. Blue Works Typically only Needs One Access Point Per 10 Floors, to Clean a Stack, with the Equipment Connected at the Base, Typically in the Parking Garage.

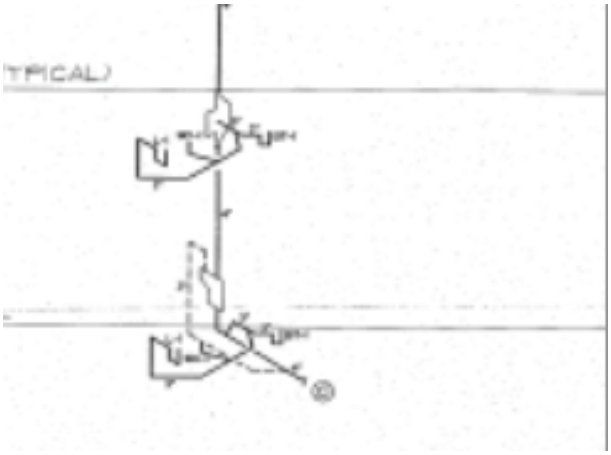


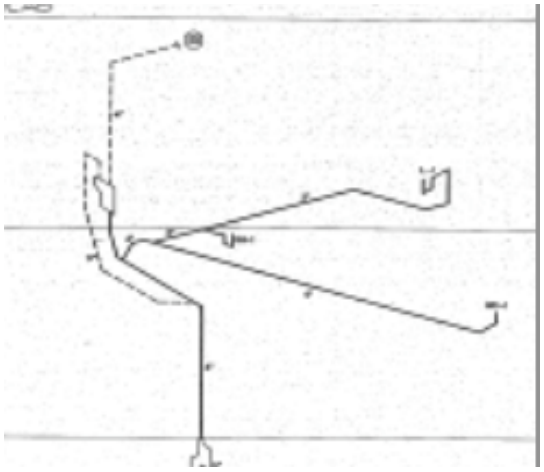
Sovent Systems

Blue Works understands these systems and their design better than anyone else, here is a Cut-Away from a Sovent Device, the areas in Pink make traditional cleaning of the system more than difficult, and create areas for Pipe Occlusion, Reducing Positive Air Flow & Accelerating Pipe Debris Buildup.

Sovent Systems

Below are the Sovent Devices as they are installed in a Building, Typically each floor has the unit on the left (Areator), while the device on the right (De-Areator) is installed at the Base of the Stack, and sometimes at Transitions near the Roof. Page Bottom are few Examples of Schematics of Sovent Buildings Isometrics





Below is a Investigation Report Completed in 1993, although there is no formal Conclusion, the public investigation 23 years ago, documenting Alleged Sovent Complaints & Problems, that are common today Lends the Impression that Sovent Issues are not Unique and Experienced Commonly, as Blue Works has developed the Equipment, Techniques & Price Structure to Remediate these Problems.

The disadvantages of Sovent are typical of any system that reduces sizing of components, that being, correct installation is critical to correct system operation. Alleged failures in the Sovent system are reported to be: backwash from detergent sudsing, grease build-up, and more sensitivity to installation. It is alleged that the above stated problems may cause obstruction in the venting and clogging of the system, which in turn may lead to both objectionable noise, pressure build-ups, and odors. After review of the allegations, there appears to be no quantifiable evidence that supports these the stated problems.

Additional empirical research is necessary to thoroughly analyze the Sovent system, with particular focus on mid-rise and high-rise condominium or apartment structures. Seasonal usage can allow trap seals to be lost, which may account for objectionable odors or gases entering the units. These types of occupancies are prone to the sudsing and grease buildups in certain applications, but at this juncture, no empirical testing indicates Sovent is more prone to problems in this regard than the two-pipe systems.

The Bigger Problem is Accelerated Pipe Cracking, or Stress Corrosion Cracking in Cast Iron, Due to Debris in the System, Below is an Example of a 10 Year Old Building Experiencing Failures & Leaks in their Sovent Cast Iron Piping. The Following Pages Identify the debris sitting on the interior of the Cast Iron Piping directly causes these Failures of the Cast Iron Piping. The only way to stop this degradation is to clean the Piping to Original Operating Diameter, once the Piping starts to leak, it will have to be replaced, or CCIP Lined, which is dramatically more expensive, a monumental undertaking.

ENGINEERING ANALYSIS

INTRODUCTION

An analysis was initiated regarding the failure of 2-inch and 3-inch cast iron drain pipes. The pipes were from a 258-unit complex that was reportedly built in at least two phases. The drain pipe system was stated to have been 30 years old. It was reported that the drain pipes had been installed crooked, bent, not supported, and not clamped. A sampling of drain pipes was removed and submitted to the Laboratories for examination and testing. It was reported that cracked drain pipe from first floor units had previously been replaced due to cracking. The failed pipe involved longitudinal splitting or cracking. The analysis included visual and microscopic examinations and digital and dimensional documentations, Scanning Electron microscopic and Energy Dispersive spectrographic analysis of the fracture surface, and chemical analysis and metallographic examination of the base material. The objective of the analysis was to determine the cause of the failures.

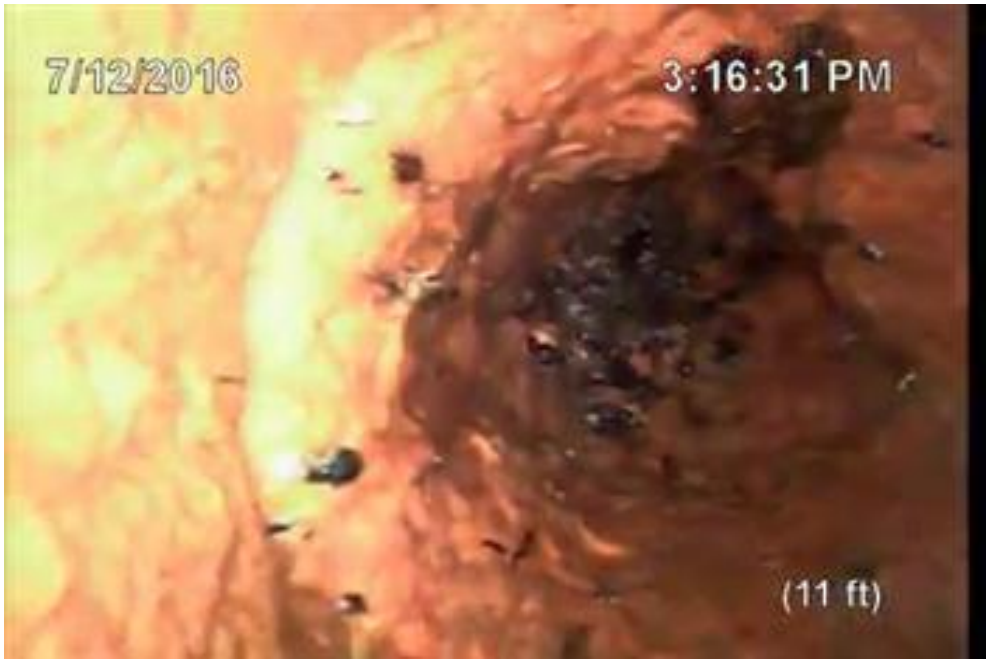
In multiple level units, the first floor drain pipes commonly sustain heavier corrosion and greater potential for cracking due to longer exposure to corrosive chemicals/media, heavier corrosion product buildup, and greater stress due to the corrosion products and the vertical weight of the drain pipe system.

CONCLUSIONS

The cast iron pipes submitted failed prematurely due to: varying degrees of residual stress, corrosion which decreases wall thickness and can induce hoop stress, microstructure variances, and apparent installation deficiencies that would increase pipe stresses. Thus, it is concluded that the propensity for failure of the remaining cast iron drain pipe would differ based on these variables.

Respectfully submitted,

The Blue Works Difference: **Before Cleaning / After Cleaning**, Same Pipe, Same Place, **(Top)** Sovent Piping Choked Off to Less than 2", **(Below)** Sovent Re-Opened to 4" in Diameter Approx. 1 Hour Later, 1 Access Point, No Gimmicks, No Tricks, No Maybe's



Sovent Problems + Blue Works = Problem Solved

If you made it this far, Thank You for reading, the basis is; Properly Cleaning Sovent Piping Systems is the only way to Maintain the Integrity of the Sovent System, or any Sanitary Piping System for that Matter, Most Properties do not Budget Annually to have their systems serviced, we find it Humorous that they typically spend more on Lawn Care and Paint then the one system they cannot live without. These systems need to be cleaned every about 10 years, However if Proper Access is Installed in the Units, the Cost of the work will go down Dramatically for the Following Years, Blue Works has additional information on other Techniques, Please Contact for Further Information:

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Referenced Publications:

Connie Manufacturing Publication: 10/20/2014

Sovent Design Manual: 101

Single Stack Investigation: 1993

CISPI Handbook: 2006

Vollmar-Gray Report: 2006

SCC Report: 1982, Revised 2000

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