



Like many multi-unit buildings with active residents who like to cook at home, **Morningside Condominiums in Denver, Colorado** suffered from all-too frequent plumbing service calls to relieve backed up sinks, showers, and tubs. Backups were also causing bad odors and common outflow problems affecting multiple units at a time.

Outside service calls were numbering as high as **165 per year** among 3 separate buildings with an aggregate of **140 units**. Each call was averaging about \$100, adding more than **\$16,000 per year** to general maintenance costs!

THE SOLUTION

In 2013, Ms. Connie Santini, property manager for **Skyline Management**, which oversees maintenance operations of Morningside, responded to the request of a resident to look at **microbial/enzyme treatments** as a possible solution.

While at first skeptical with an inexpensive and environmentally-friendly approach, she began to methodically test MegaMicrobes on a building-by-building basis.

Based on the success of the first building treated, two more were added in year 2, with 7 more coming online in 2016-17.

All of the treatments, which were implemented by the residents themselves, consisted of a regular pouring of a mixture of MegaMicrobes® activated enzymes and friendly bacteria down all household drains.

THE RESULTS (FIRST 3 BUILDINGS TREATED)

| Annual Number of Service Calls | Building 1 | Building 2 | Building 3 |
|--------------------------------|------------|------------|------------|
| Prior to Treatment | 30-40 | 100 | 25 |
| Treatment Year 1 | 10 | 4 | 1 |
| Treatment Years 2-3 | 1 | 0 | 0 |

Approximate savings based on eliminating service calls **by 97%**, and after bulk cost of MegaMicrobes:

TOTAL SAVINGS = \$14,575

LOCATION OVERVIEW

Established in 1973, **Morningside Condominiums** now comprises **10 buildings** with a total of **434 living units** nestled within a beautifully landscaped campus near the Hampden Heights area of southeast Denver. This case study looks at the initial treatments applied to just three of the buildings. **Skyline Management** oversees general operations of the facilities.

LOCATION OVERVIEW

Backed-up unit drains and clogged outflow stacks are challenges faced by most residential and commercial multi-unit, and single family dwellings. Many buildings simply accept the costs of frequent plumbing calls and jetting services as an unpleasant but necessary maintenance expense. But as Morningside has demonstrated, that is an expense that can be slashed with bioremediation.

WHY IS BIOREMEDIATION EFFECTIVE IN KEEPING DRAINS & PIPES CLEAR OF BLOCKAGES & ODOORS?

Similar to the idea of adding **probiotic supplements** to one's diet to fortify the naturally occurring bacteria that is essential to food digestion in the body, applying living organisms to organic waste in drains and pipes **breaks down fats, oils, and grease** in a way that mechanical methods and corrosive chemicals cannot.

With **bioremediation**, the waste is metabolized or "digested" into simple and harmless compounds rather than temporarily moved aside or pushed down the line. And very significantly, this solution is completely safe for humans, pets, and pipes. It also eliminates or dramatically reduces waste put into the local environment and over-taxed sewage systems.

KEYS TO SUCCESSFUL IMPLEMENTATION

Leadership: In this case, Ms. Connie Santini, an RPA & CAM certified property management professional, responded to this maintenance challenge with a well-thought out implementation plan that would provide reliable assessment of results.

Resident Participation: Buy-in by all or most residents in each building was critical. Since everyone is affected by communal maintenance costs and headaches, this is easier than it might sound. As residents of untreated buildings start to see tangible results of the "early adopters," they become eager to join the program and realize the benefits.

PRODUCT SELECTION: There are numerous products on the market that vary widely in composition and cost. MegaMicrobes powder was selected for its high level of friendly bacillus cells - 1 billion cells per gram - and enzyme makeup that allows for both aerobic and anaerobic microbial metabolism. Manufactured in the USA under strict laboratory QC protocols, the product is available in economical bulk containers. Once selected, the product was tested on a small scale at first to determine its efficacy before continuing with the program.

IMPLEMENTATION: In consultation with the distributor, an application protocol was initiated with the help of resident volunteer "enzyme managers" for each building. A treatment consists of adding 1/2 ounce of powder to about a pint of water, mixing thoroughly, and pouring it slowly down each drain at a time when the drain will not be used for 5-7 hours, such as at bedtime or before leaving for work. The powdered microbial/enzyme mixture is non-toxic, odorless, and 100% biodegradable.

MONTH 1: Starting with the first floor only, a "shock treatment" of 5 consecutive days of application into each household drain is applied.

MONTH 2: 2nd floor starts with the 5-day shock treatment and the 1st floor goes to once monthly treatments.

This process continues month by month; with the 6-story building, for example, it took 6 months to complete the initial treatments. When all floors are on-board, the entire building simply goes to once-monthly treatments. The powder product is re-distributed to each resident in small plastic containers, alternating black & white lids for each month to help keep applications on schedule.

RESULTS: As detailed on page 1, plumbing service calls been reduced to a total of 6 calls in the first year that all three buildings have been on the treatment program at the same time. This is roughly a 97% reduction in calls, resulting in more than \$14,500 maintenance savings.

DOES BIOREMEDIATION WORK? IN THIS CASE, "THE PROOF'S IN THE PLUMBING"

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