

ADAPTABLE SOLUTIONS DELIVERING CONSISTENT RESULTS

Communication proves
key in overcoming unique
project challenges.

In this issue:



**A Quick Response
in Trying Times**
Page 2



**A Mobile Solution
for Modular Home
Communities**
Page 4



**Preventative Solutions
for Health Care Facility
Remedy Unreliable
Hot Water System**
Page 6



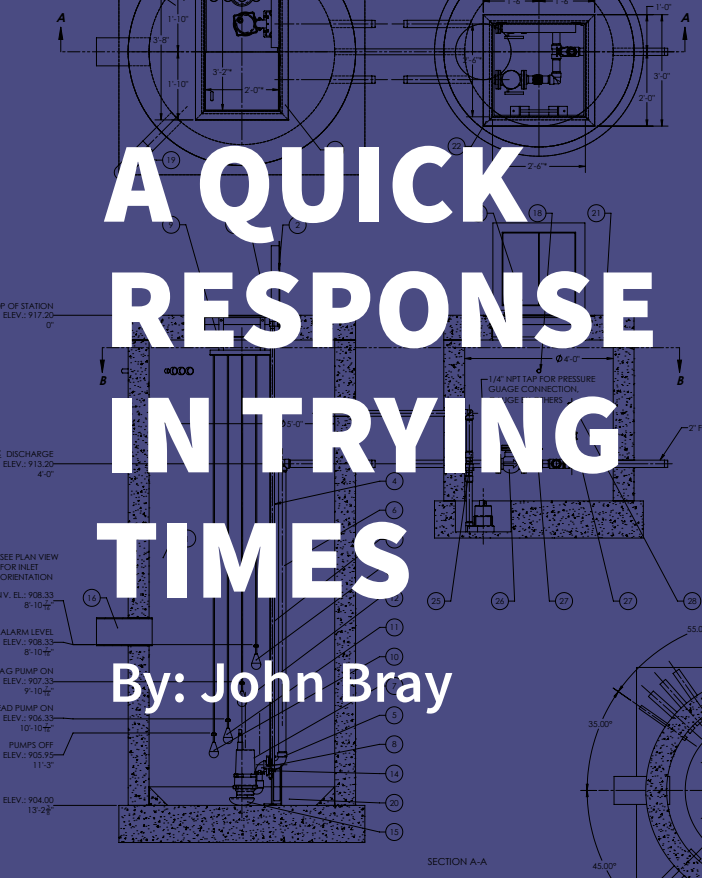
**Improving Water Quality
in the Catskill Watershed**
Page 8



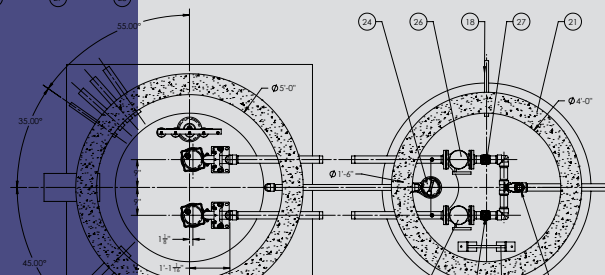
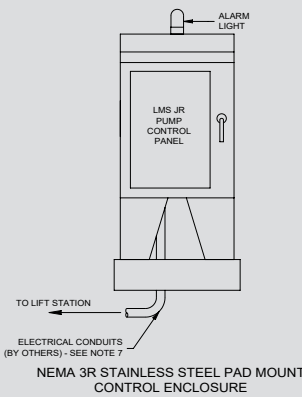
**Product Highlights
from Emecole Metro
and Ion Technologies**
Pages 10 & 11

A QUICK RESPONSE IN TRYING TIMES

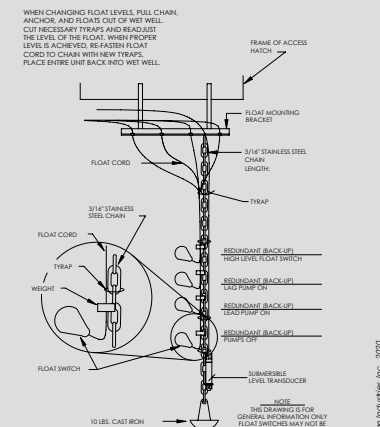
By: John Bray



- CONTRACTOR:
- ALL CONCRETE WORK IS THE RESPONSIBILITY OF THE CONTRACTOR.
 - CONTRACTOR AND/OR ENGINEER TO VERIFY ALL DIMENSIONS, ELEVATIONS, PIPING LAYOUT, AND ORIENTATION OF INLET (S), DISCHARGE AND CONDUIT (S).
 - ALL PIPING & VALVES ARE TO BE PROVIDED BY CONTRACTOR, UNLESS NOTED OTHERWISE.
 - CONDUITS ARE AS FOLLOWS: (1) 2" FOR LEVEL CONTROLS; (1) 2" FOR EACH PUMP POWER CORD; (1) 2" FOR EACH PUMP SENSOR CABLES; (1) 1" FOR TRANSDUCER & (1) 1" FOR VALVE VAULT SUMP PUMP POWER.
 - CONTRACTOR TO ORDER CONTROL AND POWER CORDS OF SUFFICIENT LENGTH TO REACH CONTROL PANEL FROM POINT OF ORIGIN ON PUMPS WITHOUT SPLICING.
 - METROPOLITAN PUMP TO PROVIDE ONLY THE ITEMS SHOWN IN BOLD.



7	WPG200	SEWAGE GRINDER PUMP, 1 1/4" NPT DISCHARGE	2
8	BEKS-0125 SEALING FLANGE ASSEMBLY	2"x1 1/4" SEALING FLANGE	2
9	FLOAT MOUNTING BRACKET	STAINLESS STEEL TO BE SHIPPED LOOSE - CONTRACTOR TO INSTALL IN FIELD	1
10	FLOAT: OFF LEVEL	METROPOLITAN SUBMERSIBLE LEVEL SWITCH	1
11	FLOAT: ONE PUMP ON	METROPOLITAN SUBMERSIBLE LEVEL SWITCH	1
12	FLOAT: TWO PUMPS ON	METROPOLITAN SUBMERSIBLE LEVEL SWITCH	1
13	FLOAT: ALARM LEVEL	METROPOLITAN SUBMERSIBLE LEVEL SWITCH	1
14	SUBMERSIBLE LEVEL TRANSDUCER		1
15	ANCHOR	100% CAST IRON, WITH STAINLESS STEEL CHAIN FOR LEVEL CONTROL MOUNTING	1
16	INFLUENT PIPE	BY OTHERS	1
17	2" CONDUIT	BY OTHERS, SEE NOTE 7	3
18	1" CONDUIT	BY OTHERS, SEE NOTE 7	2
19	4" VENT PIPING	BY OTHERS	1
20	CONCRETE FILLET	SLOPE 1:1, BY OTHERS	1
21	CONCRETE VALVE VAULT	4'-0" DIA. x 5'-0" DEEP, BY OTHERS	1
22	AP5300-30x30	SIMPLEX ALUMINUM ACCESS HATCH	1
23	LADDER	ALUMINUM LADDER	1
24	SUMP PUMP		1
25	1.50" CHECK VALVE		1
26	2" HORIZONTAL SWING CHECK VALVE		2
27	2" GATE VALVE	NON-RISING STEM	3
28	CAM-LOCK MALE COUPLING	MALE END	1



Agility has been part of Metropolitan Industries' DNA since the very beginning. We know that shifting needs and unforeseen obstacles can mean everything from design changes and shortened lead times to expanded project scopes and access challenges at installation. Nothing surprises us anymore.

Then came the 2020 COVID-19 pandemic right as we entered the busy spring season. Even we can admit our surprise as the United States began to shut down and business for many slowed or halted all together. However, even during the most challenging times, critical infrastructure and industry — including water distribution and wastewater collection — must keep moving forward. Our experience and abilities allowed us to pivot with our employees' and customers' safety in mind without losing focus or momentum. Of course, our commitment to our customers, and their changing needs, never wavered either. And not even the pandemic could affect our ability to move quickly and think on-the-spot.

So, when a lift station design we completed in February for Trident Manufacturing in Pingree Grove, Ill. was suddenly needed almost overnight, we were ready to make it happen.

Efficiency, Meet Efficiency

Trident Manufacturing is pretty familiar with agility, too. By combining the knowledge of a best in class medical device contract manufacturer and a top-tier automobile supplier, they offer turnkey medical manufacturing solutions that span from product design to customer packaging. When the pandemic hit and the healthcare industry began to see increased demands, Trident was ready to help.

There was only one hiccup: they needed to complete the newest addition to their manufacturing facility before they could begin full production on a critical medical component.

Having the sanitary lift station design already completed and approved did save some time, but the equipment still needed to move through production

(including programming, testing, and packaging to enable simple installation) and then installed at the facility. Could Metropolitan manufacture and provide the equipment to the installers to make this happen?

Absolutely. In fact, the entire team at our Romeoville facility answered that question with a resounding yes. The all-hands approach required careful communication from the first step to the last. Under normal conditions, a project like this would take about ten weeks including submittal review, but it could run longer depending on complexity. We cut those times in half more than once to have the full system on its way in less than two weeks.

The job was far from complete after the final pallet was loaded on the truck, but we took a minute to celebrate because we had every reason to be confident.

All of our systems are designed for intuitive installation without any surprises. Even so, surprises still manage to pop up. That is why the importance of a skilled contractor in

the field cannot be overstated, and Metropolitan always finds reliability in Kellenberger Plumbing and Underground in Elgin, Ill. We knew that as soon as our components — in this case, pumps, guide rails, access hatches, and complete control equipment — arrived, everything would go down without a hitch. Similarly, Kellenberger knew they could rely on their experience with Metropolitan. “We appreciate the relationship that we have with you,” says Miles Kellenberger, Sitework Project Manager at Kellenberger. “When you say you’re going to do something, you do it, and Metropolitan is very good with communication.”

A Reliable System from a Single Source

Manufacturing facilities have just as much need to remove wastewater as they do to ensure the reliable supply of freshwater, meaning an effective lift station is essential. While there are arguably several appropriate ways to design a good system, Metropolitan’s various pump and control system options offer unique advantages that keep both the facility and the maintenance team in mind.

“When you say you’re going to do something, you do it, and Metropolitan is very good with communication.”

Our LMS Jr Level Controller and complete control panel provided a powerful and versatile duplex lift station pump control solution that also allowed for local and remote alarm monitoring capabilities for the owner/operator to know what is happening at the pump station by monitoring operations of the system from MetroCloud’s SCADA platform via safe and secure cellular communications.

Additionally, we pride ourselves in being a single-source supplier, which simplifies component sourcing and service calls. Metropolitan engineers, builds, programs, and tests everything in our facility. This full-service approach allows us to ensure quality while decreasing installation complexity

with a “plug-and-play” system that can be connected with ease. Then, when everything is complete, our 24/7 service and large parts inventory means help is just one call away.

It is probably fair to say that no one wants to tackle rush jobs. Then again, life often forgets to take our wants into account. This is why we remain ready for the unpredictable. If our customers find themselves in a tight spot, we make sure they know they are not alone. This time around, that meant leveraging close collaboration with our internal teams and Kellenberger to get Trident up and running in no time. And when the need for an agile supplier inevitably surfaces again in the months and years ahead, we will be ready for that too.



Top Image: Drawing of the sanitary lift station designed and manufactured by Metropolitan Industries for Trident Manufacturing.

Bottom Image: LMS II Controller: Metropolitan's intuitive lift station level-management system that allows operators to monitor pump status, adjust set points, and view historical data.

A MOBILE SOLUTION FOR MODULAR HOME COMMUNITIES

By: John Bray

Modular, or mobile home communities are in nearly every state in the U.S., and these homes continue to represent an accessible housing option for millions of American families.

As with all residential communities, from bustling cities to sprawling subdivisions filled with single family homes, developers must plan for water movement and management solutions for every resident. However, modular home communities are traditionally built in unincorporated parts of a municipality, meaning they have to design, build, and maintain their own systems, including lift stations.

This scenario is not uncommon, with large subdivisions frequently stretching into unincorporated land as cities grow and spread, but modular home communities face three unique challenges.

1. Aging Infrastructure

Many of these communities were built at least 50 years ago. The infrastructure has already passed end of life and requires servicing or replacement. This often means lift station controllers can only issue common alarms from an alarm light or horn or at best, an old alarm dialer, keeping operators in the dark until they observe the equipment in person.

2. Limited Budgets

Budgetary constraints limit upgrade options for critical infrastructure. One advantage of a modular home community is a low association fee, but this leaves little money for necessary improvements. Over time, this leads to a system that is held together by short-term fixes rather than more appropriate upgrades.

3. Off-site Operators

It is common for developers to own and oversee multiple communities. This allows for resource sharing, leading to operators who are responsible for maintaining all utility management equipment at multiple locations. As a result, response times may be longer, and operators or service personnel bill for travel time to and from distant sites even for phantom alarms or minor issues.

Any one of these challenges would be difficult to contend with on its own, but the combination of all three is the perfect storm for system degradation. Metropolitan Industries' decades of expertise with water management



have enabled us to help modular home communities throughout Illinois update their systems and take advantage of more robust monitoring options. In fact, our MetroCloud remote monitoring and control products are the perfect solution for this trio of challenges.

Utilities, meet the digital age

So, when Blackhawk Estates in Des Plaines, Ill. recently turned to Metropolitan to help them upgrade their lift station controller and meet EPA regulations, we knew just what to offer: The MetroCloud's LMS II level control system.

This cloud-based controller comes standard with an array of features — including a flow metering algorithm, flushing cycle capabilities, and automated report generation for the EPA — and can be customized to address site-specific needs. With the capacity to manage all of the most common system parameters, every critical aspect can be connected and accounted for. Real-time updates keep operators informed, while round-the-clock system access means alarm severity can be assessed remotely so service calls will only be performed — and invoiced — when absolutely necessary. For increased accountability, the system also tracks when the alarm was received and acknowledged, and which operator handled the issue.

The upgrade allows Blackhawk Estates to feel confident that their lift station is functioning as it should be. They no longer need to buy or update on-site hardware, and Metropolitan even ensures all software is regularly updated, saving Blackhawk Estates time, money, and hassle. Now, the only thing that needs monitoring is the lift station itself.

Naturally, though ease of use and an array of features are important, the team at Metropolitan also made security a top priority.

A “typical” Supervisory Control and Data Acquisition (SCADA) system streamlines information access by centralizing the monitoring of large water systems. Unfortunately, older and “traditional” systems operate with a single on-site computer. This equipment requires regular hardware and software updates and operators typically need to be on-site, as well, to accurately assess alarms.

MetroCloud solutions eliminate these shortcomings by moving everything to cloud servers and storage, and offering system access from anywhere with a cellular signal or internet access. The peace of mind offered at

every level makes these systems appealing in a variety of applications, and the inherent cost savings and 24/7 system access make our cloud SCADA systems especially appealing for mobile home communities.

Authorized Users Only

All MetroCloud systems rely on Google and Amazon servers to ensure an uptime of greater than 99.9%, and system access has multiple layers of security.

A virtual private network (VPN) application is added to all approved devices when the system is setup. The VPN is secured with two-factor authentication, accessing system data then requires an additional login, and every user can be setup with their own privileges (e.g. some can have set-point changes, others are limited to monitoring only). Easy management of the user roster also allows the call-out schedule to fit a fluid operator schedule. Finally, Metropolitan programmers are available to help with any questions that may arise.

Looking at the built-in color touch screen on the MetroCloud LMS II, it is easy to forget everything this advanced controller can manage. Ultimately, the same can be said about every product in the MetroCloud family. Despite this deceptively simple appearance, the system will work with you and for you to ease management in a way that no one could have even dreamt of when these mobile home communities were built.

Today, we are excited to showcase all MetroCloud products on our newly redesigned website: metrocloud.us. And, as always, we are here to answer any questions you might have.

MetroCloud is a mobile solution offering offsite operators the ability to see what's going on with the system no matter where they are.



Preventative Solutions for Health Care Facility Remedy Unreliable Hot Water System

By: Martin Hawrysko

The University of Illinois Hospital and Health Sciences System in Chicago serves as an important institution to the people of Illinois and beyond. In addition to being a world-renowned healthcare facility, it also is home to the country's largest medical school. The multi-building infrastructure is reliant on a variety of processes that makes the healthcare, education, and research within its confines possible. With so much on the line when it comes to supplying urgent medical care, there is virtually no time to spare when a problem occurs in any of the building's processes.

When the availability of hot water started to become a noticeable problem, building engineers anticipated that the water heaters in both the north and south pavilions needed replacing. Based on the success that Metropolitan Industries recently had correcting issues with the hospital's storm and sewage water equipment, UI Health asked us to review their hot water heating applications with the expectation that we would recommend replacing their existing semi-instantaneous steam fired water heaters.

While Metropolitan has become known for our complete system design and manufacturing, we are also often called upon for our strong expertise in retrofitting antiquated systems.

Uncovering the Underlying Problem

After reviewing applications in both pavilions of the Outpatient Care Center, Metropolitan was quick to identify that an installation error was the likely cause of the problem. According to Matt Brickey, a commercial sales representative at Metropolitan and the point-of-contact for this project, the original installation of the heaters had caused gravity flow issues of the discharged condensate from the units.

"The way that the existing steam fired water heaters were currently setup, they didn't allow condensate to gravity drain back to the condensate pump system," he said. As that condensate backs up into the water heaters, it becomes very corrosive, can cause water hammer, and will eventually lead to

premature failure of the equipment. Upon a more thorough inspection, certain deposits and buildup was found around the heaters, confirming the initial suspicion.

From an equipment standpoint, a replacement of the old would solve their hot water generating capabilities in the short-term, but the same problem would eventually resurface. The recommendation by Metropolitan was not only new equipment as originally planned, but a complete re-piping of the application so that the new heaters would be correctly installed.

"Without our recommendations, they would have taken out the old equipment and simply replaced it with new equipment without addressing the underlying problem, leading to the new equipment having a shorter shelf life," he said. Brickey added that the same premature failing of the equipment would happen all over again within a few years.

With Metropolitan's recommendation, the new heating equipment would be correctly installed, allowing for the systems to last their full life expectancy, an average of 15 to 20 years when properly maintained.

UI Health's previous hot water system; improperly mounted water heaters prevented proper gravity flow of condensate, leading to premature system failure.



Metropolitan was tasked with the redesign and engineering of the new semi-instantaneous steam fired water heating systems for both pavilions. As part of the initial design process, Metropolitan met on-site with Althoff Industries, the hired contractor based out of Crystal Lake, Ill, multiple times to walk through the planned installation. Metropolitan produced the fabrication drawings so that the contractor would have a thorough understanding of the equipment so that they were prepared with how to install them into each of their respective spaces. Althoff played a vital role in ensuring that the fabrication drawings by Metropolitan were practical for the respective spaces and would be further instrumental when it came to the successful installation of both systems.

Manufactured Per Unique Project Specifications

What separates Metropolitan from other plumbing and mechanical system suppliers is our in-house manufacturing and fabrication. Our project partners don't have to worry about making concessions or accept limitations with the final product as a result of having to make-do with a previously sized packaged system. Our units can be made to stand elevated to support a required height that better assists gravity flow or be constructed as shorter, taller, wider, or skinnier to better fit into a specified mechanical space. The two systems for UI Health were designed and manufactured to accommodate their unique job site requirements.

A hallmark of Metropolitan is that we are a control panel manufacturer, meaning that our designed and assembled packaged systems are integrated with our own controls. Bringing the controls to life onto our water heating systems for UI Health is the ThermoTech, a color touch screen controller that integrates into the building automation system, giving building engineers full-scale monitoring capabilities.

And finally, each system was equipped with a new condensate pump, simplifying maintenance and replacement long into the future by knowing each individual piece of equipment shares the same start-of-life date.

Initiating Successful Installation Requires Thorough Coordination

The first system was installed in the north pavilion over the summer, while the second system is scheduled to be completed by the end of the year. With such installations, the



New horizontally mounted Semi-Instantaneous Hot Water Heaters provided by Metropolitan Industries allow gravity flow of the condensate to their receivers.

availability of hot water is temporarily disrupted, meaning that the scheduling of both installations and start-up of equipment had to be well thought-out and thoroughly coordinated ahead of time to ensure all personal members were fully prepared to make necessary arrangements.

“The main reason we contracted with Metropolitan on these two projects was to minimize downtime to the facility. Given that you offered a custom packaged skid, that allowed our piping contractor to be hyper-efficient with their demo and installation, and localize the facility impact to a single weekend,” stated Kevin Sheehan, Assistant Director for Capital Projects - Mechanical Engineering with UI Health. “I was really impressed with the level of coordination and teamwork that your team provided prior to and during the installation because I think that was a huge key to the project’s success.”

Upon completion of the project, the hot water generating capabilities at UI Health will no longer be a concern. Regardless of demand imposed by doctors, medical personnel, educators, or students, the availability of hot water at UI Health will be readily available for many years to come.



IMPROVING WATER QUALITY IN THE CATSKILL WATERSHED

By: Susan Gnirke
& Martin Hawrysko

During normal times, New York City is filled with a surplus of people, movement, and activity. Millions of people come and go while going about their business, with hardly any thought towards the many behind the scenes services and processes that allow it to run as it does – at least until something goes wrong.

Of all the processes that New York City is dependent on, one of the most important is its water supply. Any disruption to that availability would without a doubt be catastrophic. As it turns out, such a scenario wasn't far off from occurring.

The problem began 125 miles north in Shandaken, N.Y. a small rural community compiled of 12 hamlets. Thanks to a 2018 environmental impact study, it was discovered that the septic water systems in Shandaken as well

as many other communities were on the brink of failure. Collectively, these areas are an integral part of the New York City Catskill-Delaware Watershed, which is responsible for supplying New York City's water.

Both the New York City Department of Environmental Protection (NYC-DEP) and Catskill Watershed Corporation, agencies responsible for protecting the water quality in New York City's Watershed West of the Hudson River, recognized the necessity to work proactively to keep clean water flowing through the watersheds.

After thorough examination, it was decided that the most practical and efficient approach to solving the problem was by adding a secondary treatment system. Evergreen Mountain Contracting was awarded the job, designed by Lamont Engineers based in

Cobleskill, N.Y. Their recommendation was to supplement the septic systems with Anua PuraFlo systems, which provide an advanced secondary treatment process that purifies septic tank effluent to an extremely high degree before final dispersal.

Based on previous work experience with the Anua PuraFlo systems, Evergreen Mountain Contracting knew that Emmons Metro, a division of Metropolitan Industries, had the experience needed to solve the problem in Shandaken.

Kim Emmons, general manager of Emmons Metro, became involved with the Anua PuraFlo systems 17 years earlier when it was first introduced as a new process to supplement septic systems. Following a thorough vetting with the manufacturer, researching the science, and examining the capability



Anua Puraflo system that Emmons Metro provided, being installed in Shandaken, NY.

of its components, Emmons saw the potential in the green-friendly system, and recognized that it would be an efficient, effective, and nature-based solution to protect the integrity of drinking water, especially in New York's rural areas.

The Anua Puraflo system utilizes a peat fiber as a biofilter to purify septic tanks. This environmentally friendly process uses little to no energy, resulting in clean water at a lowered cost. In addition to being simple to use, its unique peat fiber with high lignin content provides for a longer media life.

The filtered septic tank effluent collects under gravity in the pump tank. A timed dosing system is activated by a programmable timer, which pumps the effluent through a flow splitting inlet manifold located at the base of the treatment modules. An orifice

plate located inside the top of each inlet manifold allows the flows to be split equally and fed simultaneously to each biofilter module.

The inlet manifold is connected to the base of the biofilter module and is fed upwards to a rectangular distribution grid located 6 inches below the top of the lid. The effluent percolates laterally and vertically through the depth of the peat fiber treatment media and emerges as a clear, innocuous liquid from the base of the system. The treated effluent is then collected and dispersed. To ensure long-term safety, Puraflo systems are inspected annually to test the water quality coming out and going in.

The integration of the Anua Puralfo systems for the Shandaken project was recently completed, sparing New York City from a disruption to the quality of

its water supply. As a result, the millions of people who live, work, and play within New York City can continue going about their business without a second thought to its water supply process.

To this day, Emmons Metro continues to promote the Anua Puraflo systems for the various watersheds of the NYC-DEP, the Lake George Region, the Adirondacks, and Western New York.

The most recent success in Shandaken further fuels Emmons Metro's enthusiastic advocating of the system. As a result, New Yorkers have cleaner water and more effective septic solutions that make the application viable for all communities, large and small.

Emecole Metro Adds Two New Dehumidifiers to Our Line of Home Health Solutions

Contractors servicing wet basements and concrete issues can up their ticket by adding moisture control to their line of residential services. The proactive dehumidification of excess moisture protects the home's air quality by minimizing the consequential growth of mold and mildew, in addition to musty smells.

Manufactured in the USA, Aprilaire dehumidifiers are equipped with high-quality components, including corrosion-resistant coils, resulting in a premium built product proven to average a life expectancy of 10 to 15 plus years. For when a problem situation does arise, Aprilaire's customer support team is easily accessible to troubleshoot your end users within minutes, while also supported by their generous five year "bumper to bumper" warranty.

Emecole Metro's selection of Aprilaire dehumidifiers are applicable for basements and crawl spaces, complementing our full line of basement waterproofing and crawl space encapsulation solutions.



1820

2800 ft²

Ideal for tight spaces, including crawl spaces.

70 pints per day

15 year lifespan

1850

5200 ft²

Designed for stand alone use in basements or as part of home's HVAC system.

95 pints per day

15 year lifespan



emecole.com
815-327-2493

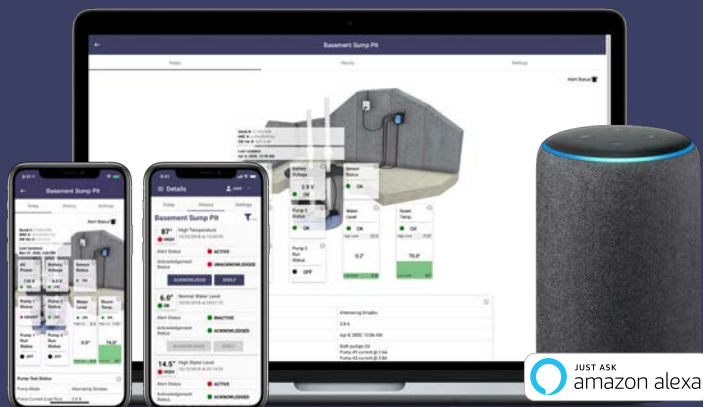
*Know What's
Happening Inside Your
Sump Pit, Whether
Home or Away*



The new
ion+[®] Connect
Sump Pump Alarm System

Patents pending, Patent No. 8,591,198,
9,033,686 and 9,680,401

- 4G Cellular (WiFi coming soon)
- Status updates & setting adjustments via a dedicated app
- Monitors:
 - Sump pump status
 - Sump pit water level
 - Basement temperature
- Notifications via voice, push notifications, and email
- Integration with Amazon Alexa-enabled smart speakers
- Automatic simplex or duplex operation
- Multi-user privilege settings perfect for property managers & plumbers



Monitor and control your sump pump through
a dedicated app and/or webpage.

Take Control.
ion Technologies
A division of Metropolitan Industries, Inc.

Questions? We're here for you.
815-886-9200 • ionproducts.net/gen2

**Metropolitan
Industries, Inc.**

37 Forestwood Dr
Romeoville, IL 60446

**Emecole
Metro LLC**

724 Parkwood Ave
Romeoville, IL 60446

**Emmons
Metro LLC**

453 N Pearl St
Albany, NY 12204

Reliable and Intuitive Just Like Our SCADA Technology

We pride ourselves on designing equipment and controls that are easy to use for the end users. So why should our websites be any different?

Our recently updated MetroCloud website includes newly added case studies and demonstration videos that showcase the reliable, effective, and secure technology our Cloud SCADA solution offers.

Are you ready to upgrade all of your water monitoring & management capabilities?

Visit Metrocloud.us now!

Metrocloud.us

Connect with
Metropolitan Industries on

