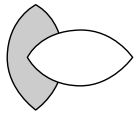


# The Metropolitan Update



**Metropolitan  
Industries, Inc.**

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## **CHICAGO BOARD OF TRADE EXPANSION COMPLETED** **FEATURES INNOVATIVE WATER PRESSURE BOOSTER SYSTEM TECHNOLOGY**



The expansion of the Chicago Board of Trade Center has recently been completed. This project, which began in 1995, features the prototype system of our latest innovation in water pressure booster system technology.

At the heart of the system is our "Metro-Varipac". This packaged system utilizes controls consisting of two 15-HP variable frequency drives and a logic controller. The "Metro-Varipac" provides energy efficient constant output pressure, regardless of flow rate, suction pressure or hydraulic friction.

This system incorporates two innovative design features.

Most water pressure booster systems are designed with calculated values including static

building height; a minimum desired pressure at the highest point (typically 30 to 35 PSI); and expected maximum system losses due to hydraulic friction, typically calculated based on peak flow.

With the Board of Trade system on the other hand, a remote pressure transmitter is located at the high point of the building. Programmed into the logic controller, it runs the pumps at the minimum speed required to deliver 35 PSI at the highest point, regardless of flow rate or friction. This permits the system to operate at peak efficiency at all times, without producing unnecessary excess pressure to overcome the nonexistent or minimal friction losses. In a typical office building of this nature, the

*Continued on back page.*

## **OUR FIRST OPEN HOUSE IN THE NEW FACILITY!**

### **COME JOIN US ON THURSDAY, JUNE 4TH**

*The dust has settled and the pictures are on the wall, so we guess the move into our new facility is complete. Now it's time to show you what it's all about. On June 4th from 11:00 am to 6:00 pm we will host an open house to show you our exciting new facility. Of course, we will have food and drinks throughout the event as well as door prizes and product demonstrations. Mark your calendars now; so you can join us for a great time. Watch your mail for the invitation with all the details.*

### **A REMINDER ON HOW TO FIND METROPOLITAN**

*In case you didn't know, our new address is:*

**37 Forestwood Drive, Romeoville, IL 60446.**

*Our new phone number is 815-886-9200.*

*Our new fax numbers are as follows:*

Main Office	815-886-4573
Municipal & Commercial Sales	815-886-6932
Wholesale Product Sales	815-886-6277
Electrical Manufacturing Sales & Service	815-886-6133
Municipal & Commercial Parts & Service	815-886-6938
Wholesale Parts & Service	815-886-6369

# TWO NEW WEST SUBURBAN INSTALLATIONS PROVIDE METROPOLITAN WITH NEW CHALLENGES

## CANTERA DEVELOPMENT PROJECT WARRENVILLE, ILLINOIS

Engineer: S.D.I. Consultants; Contractor: Tricon Corporation; Operator: Mike Smith

The Cantera Project is a 900+ acre corporate development along the I-88 corridor in Warrenville, Illinois, twenty-seven miles west of downtown Chicago. A new interchange on I-88 enables access to the park which, when completely developed will include multi-story office buildings, light manufacturing, warehouses and some multi-unit residential buildings.

Metropolitan is involved with a new sanitary liftstation as well as improvements on the Bower Wellhouse. The upgrades of this system incorporated automatic operation of five different flow modes. This was achieved through careful positioning of valves along the system flow.

The new triplex sanitary liftstation required flow meters and a new Kohler generator. Custom control panels were comprised of Metropolitan's SCADA (Supervisory Control & Data Acquisition) System. Through the use of a pentium computer, the SCADA



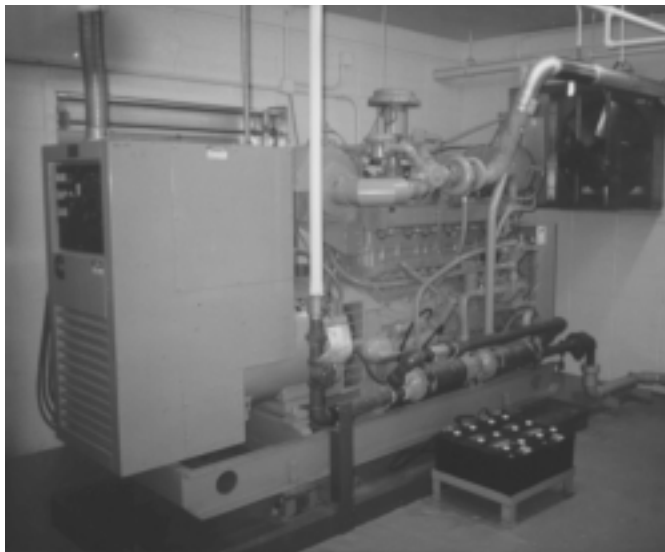
*The two new Aurora Booster Pumps and several of the Bermad control valves used in the system.*

System enables engineers to monitor all liftstation system controls with a simple graphic interface for flow, pressure, level and valve functions. SCADA acquires operational data, as well, to form the basis of system usage and maintenance.

Additional improvements were made to the well house. New equipment included two Aurora Booster Pumps, eleven Bermad control and pressure relief valves,

sized and selected by Metropolitan to meet the exact system requirements. A motor control center, also incorporating a SCADA system with touchscreens, operates Bermad Control Valves. A 500 gpm iron and manganese filter and standby generators add to the overall efficiency of this new system.

The new improvements were undertaken in the anticipation of the Cantera Park completion in the next couple of years.



*The new Kohler standby generator for the Bower Wellhouse.*

## METROPOLITAN TO EXHIBIT AT AMERICAN SOCIETY OF PLUMBING ENGINEERS SHOW (ASPE)

*On October 26th & 27th, Metropolitan will be exhibiting at the National ASPE show at the Indiana Convention Center in Indianapolis. On display will be our prepackaged booster systems, controls, as well as our new line of submersible sewage and storm water pumping systems. If you are in town, stop by Booth #60 for a look at what's new.*

# TWO NEW WEST SUBURBAN INSTALLATIONS PROVIDE METROPOLITAN WITH NEW CHALLENGES

## FOX METRO SANITARY DISTRICT TRAVELING BRIDGE FILTER AURORA, ILLINOIS

Design Engineer: Walter Deuchler & Associates

Equipment: U.S. Filter/DAVCO



*The U.S. Filter/DAVCO Gravisand™ Traveling Bridge Filter System,*

The Fox Metro Sanitary District required additional filtration capabilities. It was decided the new technology from USFilter/DAVCO would provide the ease of operation and reduced maintenance costs that were prime concerns. A Gravisand™ Travelling Bridge Filter System was installed for filtration and regeneration. Operation of the Gravisand is managed through

the bridge-mounted PLC control panel incorporating a simple, user-friendly interface. The installation was simplified because the Gravisand employs a unique slotted under-drain system requiring no cell wall dividers. The simple bolt-in design of “no-cast” components made this an ideal solution to complement existing filtration components. The 5.0 MGD unit includes the XCELL™ configuration for advanced operation without cell dividers. A special design backwash shoe seals adjacent underdrain laterals during backwash.

The installation the Gravisand System resulted in a significantly lower capital investment and reduction of associated maintenance costs when compared to other Traveling Bridge Filter systems. The backwash system provides superior media cleaning and the overall system is *flexible* for future expansion as needed.

## *Just When You Thought it was Safe to Move Back In...*

**Thanks to all our loyal customers, business has been great.** We're not stopping with this new facility, it's still not “big enough” to accommodate our growing

business. Plans are already under way for a 50,000 sq. ft addition scheduled for completion in the fall 1999. This year we will bring in fill and build a pad for the building and parking lot. This addition will allow us to better serve you by expanding space for our service departments, electrical manufacturing, and additional inventory.

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## PUMP SCHOOLS & CONTROL SEMINARS ARE BACK IN SESSION

With a new 2,000 sq. ft conference center, we're set-up to reconvene classes. Metropolitan offers different types of seminars mainly geared at the Municipal & Commercial markets. Ranging from pump construction and troubleshooting, to sophisticated controls and systems design, these seminars are tailored to meet

your specific needs. If you have a group of people or an organization that would benefit from attending one of these informative seminars, please contact your sales person. We will gladly arrange one to conveniently fit your work schedule.

# Metropolitan Industries, Inc.

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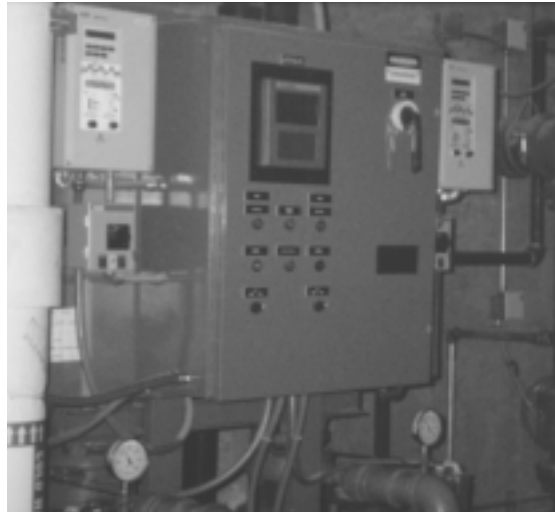
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## BOARD OF TRADE *Continued from page one.*

pressure setpoint reduction could range from between 10 to 25-PSI. For the building owner, this new technology translates into significant energy savings and reduction of associated costs.

The second innovation was incorporating a hydropneumatic tank into a variable-speed system. Typically, a Hydropneumatic pressure tank as part of a constant speed pump system, enables pumps to shut down during low flow, or from running when there is little or no need. Pump wear is reduced and energy consumption minimized. Excess pressure output of the pump at low flow conditions with constant speed pumps is trapped between the pressure regulating valve and the pump discharge nozzle. This pressure is stored in the tank, and released slowly during low flow periods.

Previously, it was not possible to incorporate a hydropneumatic tank into a variable speed pump system, because the output pressure of the pump was at a constant level, there was no excess pressure



*The "Metro-VariPac" system, 15Hp VFD's and Touchpad™ logic control system.*

available to store in the tank. One of the pumps on the system was required to run continuously at low RPM in order to maintain system pressure 24 hours a day. Now, with the use of the "Metro-Varipac" control system it is not only possible, but desirable, to provide a tank on a variable speed system. The result is optimum energy conservation and significantly reduced wear on pumps and system components.

Through the programmable logic controller, on the "Metro-Varipac" system it is easy to determine the

low flow periods. The system can then be programmed automatically to raise the pressure set-point at a predetermined low-flow set point pressure (typically 10-PSI above the design pressure). The excess pressure then flows into the hydropneumatic tank until the tank is fully charged. This allows the variable speed pumps to shut down, until normal flow resumes.

Metropolitan is constantly striving to innovate, in the name of satisfying its customer's needs.

### *References:*

#### **Consulting Engineering:**

Environmental Systems Design, Inc.  
Chicago 312-372-1200  
Mr. John Bukalski - V.P. Engineering  
Mr. Phil Blazic - Associate

#### **Installing Contractor:**

Great Lakes Plumbing & Heating  
Chicago 773-489-0400  
Mr. Henry Reiss, Sr. - V.P.  
Mr. Art Schug, Jr. - Purchasing

Patent #5,707,211