

TEAM DES

2010 YEARBOOK



Maggie Brooks
County Executive

Michael J. Garland, P.E.
Director

Department of Environmental Services

Business Services, Engineering & Facilities,
Environmental & Regulatory Management,
Fleet, GIS & Infrastructure, Solid Waste and
Pure Waters



Office of the County Executive
Monroe County, New York

Maggie Brooks
County Executive



It's my pleasure to introduce the 2010 Department of Environmental Services Yearbook. The following pages detail the achievements made throughout the past year to protect our environment and preserve our investments in facilities and infrastructure. Most importantly, these successes were reached in a cost-effective manner demonstrating Monroe County's commitment to its taxpayers.

I hope that you find the 2010 DES Yearbook to be as informative and interesting as I did. My congratulations to all of our employees on these accomplishments; they clearly demonstrate the very best government has to offer when we work collaboratively and diligently on common goals.

Thank you to the employees of DES for the opportunity to share in the Yearbook with you and my very best wishes for continued success in 2011. As always, you have my support and my gratitude for a job well done.

Sincerely,

A handwritten signature in black ink that reads "Maggie Brooks". The signature is written in a cursive, flowing style.

Maggie Brooks
County Executive

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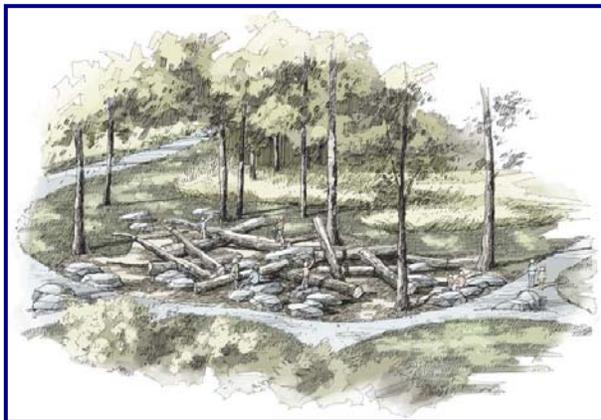
Abraham Lincoln Park Improvements Project

David Cross

DES and the Parks Department completed Phase 1 of the Abraham Lincoln Park Improvements Project during 2010. Phase 1, which is located on Empire Boulevard in the Town of Penfield, includes an ADA accessible playground, two timber frame outdoor picnic shelters, a Nature Play Zone, stone dust trails, asphalt parking and landscaping.

Demolition of an existing house and barn was managed by **Irv Murph**. 150 year old beams were salvaged from the barn, planed and re-used in the picnic shelters.

The Nature Play Zone is constructed entirely of site-salvaged materials from Monroe County Parks. The design emphasizes balance, exploration, environmental interaction and free-play. Parks Department personnel instrumental in constructing the Play Zone and playground were **Joe Bernal** and **Joe Hedges**.



Nature Play Concept Sketch (EDR)

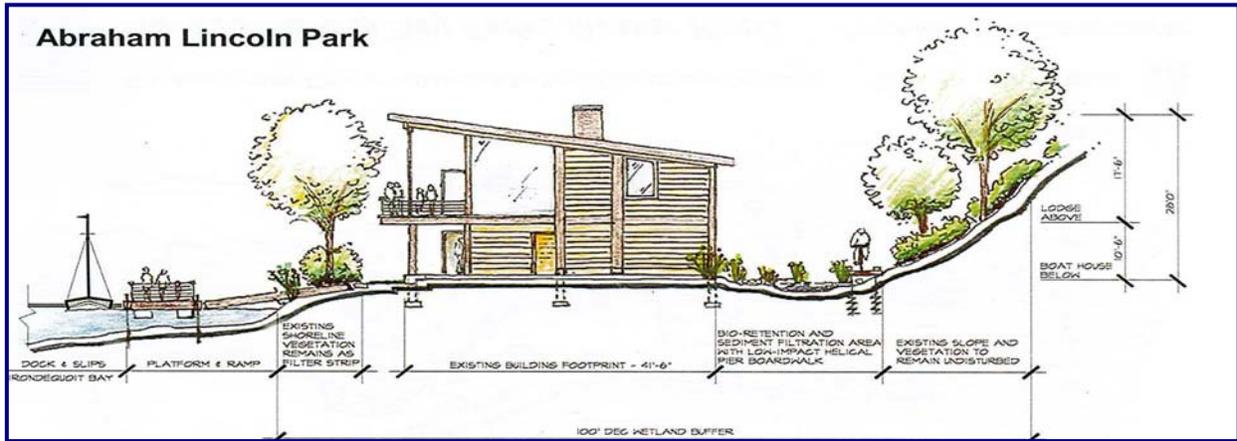


Nature Play Zone (EDR)

Approximately 4,000 cubic yards of material was used to bring the site up to grade. This material was sourced and hauled by DES from Monroe County's Fleet Facility. Many thanks to **Pat Slattery, Bill Hanna, El Sierra, Tony D'Onofrio, Phil Carris, Al Harewood, Joe Bujak** and **Mike Ward** for their assistance in this effort.

Phase II – currently in design and anticipated to be built in 2011, includes a new multi-purpose waterfront lodge, dock and parking area with enhanced waterfront recreational opportunities. The lodge presents an opportunity to showcase green building construction techniques and sustainable site design.

Other green design solutions include rain gardens, permeable paving and recycled materials.



Section through Phase II – Lodge Site (EDR)

Aeration Repairs and Upgrades at NWQ and FEV

Steve Christensen

Aeration systems at the VanLare and Northwest Quadrant Wastewater Treatment Plants are critical biological processes that function as the heartbeat of both plants. These systems, comprised of large horsepower mechanical mixing equipment, must run continuously with no down time. VanLare aeration, in service since the 1970s, has a total of 9,000 HP with 60 mixers. NWQ aeration equipment, running since mid-1990, operates a total of 650 HP with eight mixers. Continued maintenance and upkeep is an ongoing project at all sites. With a multi-million dollar upgrade at VanLare looming on the horizon, large repairs have been deferred. In general detail, here is a description of the work that has been done at both plants in 2010:



*Mario Caletz, Dan Smith, Ed Witzel & Tom Rossiter
pulling one of the gearboxes using a 75 ton CP Ward crane*

FEV

Over the past 30 years, regularly scheduled maintenance has been performed to keep the aeration equipment in top shape. In 1995, the gearbox rebuild program was started and two rebuilds were scheduled annually. At that time, the cost of one rebuild approached \$20,000. Ten years later, the price had climbed to \$40,000. In 2006, with aeration upgrade on the horizon, and the cost of rebuilding gearboxes approaching the cost of buying new, a business

decision was made to stop rebuilding and wait for the upgrade. Over the past four years, work orders to rebuild the gearboxes have started to mount as key mixers were going out of service. Operations began to become concerned that this would impact the plant during winter months. **Tom Tieppo, Manny Burgio** and **Tim Lemcke** devised a plan to utilize mixers from other areas of the system. The project, which required the removal and replacement of eight 150 HP motors and gearboxes without impacting the aeration process, was presented and discussed at a monthly coordination meeting.

Operations, Mechanical and Electrical worked together to develop a coordinated plan for the upgrade to minimize downtime and the duplication of effort while maximizing the use of a hired 75 ton crane and operator and taking advantage of mild late fall temperatures.

The plan was executed in four phases. The first phase was to dewire and unbolt any equipment that could be shut off before the crane arrived. Phase two involved mobilizing the CP Ward crane and moving the equipment that was moveable. This was a three day activity requiring all hands on deck and rewiring everything that was moved and returning it to service. Phase three included the dewiring and unbolting of any equipment that had to wait until phase one and phase two were complete, which again required the use of the crane. Phase four was the rewiring and rebolting of all equipment.

Phil McCann and **Rick Ellsmore** performed the electrical work while **Dan Smith, Mario Caletz, Tom Rossiter** and **Dan Cavallaro Jr.** were responsible for the rigging and millwrighting of the large motors and gearboxes. New couplings were installed on all motors and each piece of equipment that went back into service received a complete preventive maintenance (PM).

Prior to the project, the Preventive Maintenance efforts of **Dan Reider, Steve Lupia**, Dan Smith, **David Tuccio**, and **Jeff Helfer** contributed to keeping the majority of the mixers running and available for operations. Jeff's inspections and vibration analysis led to many motor and coupling changes. David Tuccio's oil analysis and inspection program on the gearboxes has greatly impacted their life expectancy. Oil analysis studies completed last summer indicated poor lubricant condition on a large percentage of the units, which signaled a major oil change project. Dan Reider, Dan Smith and **Mark Smith** from Operations worked for nearly two weeks changing gearbox oils.

After 35+ years of running nearly nonstop, over 90% of the units are still in service. Presently, 19 out of 20 basins are in service. Special recognition goes to Dan Reider as the supervisor of the preventative maintenance for this equipment for close to 30 years.



*Jeff Helfer, Steve Lupia & Dan Smith (in background)
performing vibration and oil analysis activities on the 150HP mixers*

NWQ

DES and contractors teamed up throughout 2010 on a number of smaller-scale jobs at NWQ. Taken together, the efforts end up being substantial.

The first project was to replace Aerator 3. This motor and gearbox were part of an antiquated system left over from the 1980s. While the unit still ran well, it became a candidate for replacement due to multiple impeller failures and the gearbox was due for an expensive rebuild. **Jeff Lawrence** worked with **Jim D'Amico**, **Kevin Blackburn**, **Frank Mahns**, **John Fiutko** and SPX Mixing Equipment to design and install a new mixer that would be a current design and similar to the other seven mixers, but have the flexibility to be used during high flow conditions. The solution was to install a larger, 100 HP motor with a variable frequency drive (VFD) and a more efficient, larger diameter impeller on a new gearbox. This design allows Operations to have the option to run the mixer during high flows and allows them the flexibility to slow the unit down and save energy when the DO (dissolved oxygen) levels don't require full speed operation.

Another piece of this project was to upgrade the mixer on Aerator 4 with a 100 HP motor and a new VFD. Jeff Lawrence put a lot of time and effort into this project, overseeing many details. Kevin Blackburn supported the project with electrical design, main power and control wiring installation and the programming to ensure correct operation and remote control with the assistance of **Ed Witzel**, **Bill Orbanek**, **Phil Lupia**, **Steve Richardson** and **Paul Sandle**.

During the takedown of the tanks, PM activities were scheduled, including a thorough inspection of supporting equipment by Paul Sandle, Jeff Lawrence, David Tuccio and Jim D'Amico. The weirs, gates, concrete, impellers and baffles were inspected in great detail. This inspection uncovered areas that would need repair while the tank was down, with the biggest undertaking major steel reconstruction work on all mixer baffles. Paul Sandle and Steve Lupia moved into action with grinders, welders, torches and raw materials to custom fabricate repair plates, new columns and more. Working for more than a week, Paul and Steve completed these repairs in a timely manner. Thanks to these efforts, the baffles in the east and west tanks should remain serviceable for another 20 years. While the tanks were out of service, David Tuccio, Dan Reider, Al Proia and Dan Cavallaro Jr. performed higher level Preventive Maintenance activities that are only done when the equipment is off-line.

Another effort at NWQ aeration in 2010 was the installation of flush lines into the east and west small aeration basins. Over 10 years ago, an 8" HDPE pipe was installed from the plant's secondary effluent to the upstream side of the large aeration basins. This line was tied into the existing RAS (return activated sludge) pumps so that they could serve a dual purpose: pumping RAS into aeration during the normal process and to pump cleaner secondary effluent into the aeration basins when a tank is taken out of service. In 2010, it was requested that the line be extended into the small basins of aeration. Paul Sandle took the lead on the project with help from **Steve Wood** and **Kyle Milne**. A new section of 8" HDPE pipe was installed up the tunnel and heat fused. One of the biggest challenges was getting the pipe and the fusion welder into the tunnel, which turned into a project in itself. The pipe was then split into two supply pipes, one for each tank. 14" holes were then cored through the 24" thick concrete walls of the tank from inside the tunnel, hitting their target location on the inside of the aeration tank. After completing the piping and tank penetrations, the system was tested and put into service without problems. This project will also benefit Operations for many years.

Thanks to all who contributed to these jobs. Teamwork is what makes it all happen.

*Contributing Employees: **Don Bell, Ken Kelsey, Mike Farace, Todd Terran, Frank Mahns, Dan Post, Jim Fairchild, Alex Kolody, Rob Maloney, Alan Oates, John Peckham, Mark Smith & George Flint***

Basic Operator Training Certification Course

John Fiutko

Throughout DES' Wastewater Treatment plants, the majority of Operational personnel were hired nearly 40 years ago, during the 1970s. Those hired during that time have been steadily reaching retirement age, taking with them the equivalent of over 700 years of Operator experience.

DEC regulations require treatment facilities to employ a sufficient number of certified Operators. To counter this loss of institutional knowledge, certified replacement Operators needed "fast-track" training.

A new Operator Trainee title - Pump & Process Operator Trainee (PPOT) - was created as the first step in filling the many vacancies. Next, employees (new trainees and assistant Operators) were required to enroll in the training to become a certified WWTP operator. Management soon realized that the cost and time required to send this number of employees to a training facility outside the area would be excessive and prohibitive.



Many years ago, DES had trained Operators in-house at NWQ with the assistance of Dwayne Day Engineering. Building on that successful history, **Mary Jo Healy** and **John Fiutko** gathered information on best practices for DES to organize certified and sanctioned training for its employees. The Department of Environmental Conservation was contacted for guidance and thought it possible to give the required coursework as long as a certified trainer was hired. The trainer had to work with and through an accredited educational institution to ensure the proper and professional handling of grading and paperwork.



*Front: Hunter Roberts, Steve Bland
Back: John Maloney, Mark Smith, John Hanscomb, Alan Oates & Frank Mahns*

After many meetings and detailed planning, an in-house Basic Operations Training class was developed. With the assistance of **Jane Naylor** and Sheryl Keegan from Monroe #1 BOCES (the training administrator), Bill Smith P.E., was hired to develop and present the training. Local professionals, including vendors, companies, and engineering firms volunteered their time and talents to instruct in their respective areas.

In all, 28 students (including seven from smaller area treatment plants) participated in two separate sessions of classes. The diversity of students from DES and the other plants enhanced the course discussion. Students commented on the high quality of the presentations and their gratitude for the opportunity to gain a better understanding of the wastewater treatment process.

Many of these students will continue to the next step – the activated sludge course (currently under development) while participating in training and gaining experience toward WWTP Operator Certification. The knowledge gained has given everyone – including those who may not become certified operators - a more complete understanding of how processes relate to improving the effluent quality of a wastewater plant. In the future, this knowledge will be used to better serve our communities and protect our local waterways.



*Left to Right: Jim Fairchild, Alex Kolody, Don Bell, Dan Post, Drew Smith & Tom Posella.
Trainer David Lukas of MRB Group*

Others: Sheryl Keegan of Monroe #1 BOCES, Bill Smith P.E., Mark Koester & Tom Whetham - Koester Associates, Kevin Ryan & Jerry Connaly - Siewert Equipment, Dave Lukas & Bill Davis - MRB group & Mike Manning of MPI

DES Students: **Mike Babij, Don Bell, Steve Bland, Gary Brown, Jim Fairchild, Mike Farace, Peter Foos, Scott Gabel, John Hanscomb, Alex Kolody, Frank Mahns, Rob Maloney, Alan Oates, Steve Peletz, Tom Posella, Dan Post, Hunter Roberts, Paul Siciliano, Drew Smith, Mark Smith & Sheila Wilbert**

Other Students: Bryan Bundschuh, Doug Covell, Don Havens, Tim Holtz, Justin Matusak, Eric Merkley & Roy Rosenberger

Contributing Employees: **John Fiutko, Mary Jo Healy, Tom Posella, Jane Naylor & Steven Peletz**

Berm Dirt Removal at Fleet Center

Pat Slattery

For many years, the Monroe County Fleet Center site has been the designated destination for excavation spoils from various projects throughout the County and the City of Rochester. The pile was continuously added to and the subsequent stockpile had no definitive plan developed for disposal or reuse.

One option presented involved the recycling of dirt spoils through a screener. Utilizing available grant funds, Monroe County purchased a material screener with the ability to process granulates according to size. The dirt spoils were fed into a hopper, and oversized material (concrete/asphalt) was removed via the



main conveyor belt. Remaining material then exited the screener box according to size. This processed or screened material was again stockpiled and saved for use on various County projects.

A second option presented a win / win opportunity for both Monroe County and a City of Rochester contractor. See Land Construction was in the process of filling the old subway tunnel on Broad Street and needed fill dirt to complete the job. Monroe County DES management realized this opportunity to dispose of the accumulating dirt at Fleet Center, while putting it to good use in the community.



Operating under a rotating schedule, Monroe County DES and DOT supplied an excavator operator to load DES, Airport and contractor 10 wheel dump trucks. DES also supplied a dozer operator to maximize the efficiency of the operation. At times, there were 10-12 dump trucks operational, hauling up to 1,500 yards of fill a day.

Both undertakings were a great opportunity for operators to gain training seat time while taking part in an aggressive operation which demanded productivity. During the summer of 2010, approximately 2,080 yards of spoils were either screened or hauled to projects requiring fill. This could not have been accomplished without the extraordinary relationship within the Physical Service Departments and the Fleet Mechanics, who were responsible for keeping the heavy equipment serviced and operational.



*Contributing Employees: **Bill Hanna, El Sierra, Jeff McCormick, Jerry McCullough, Mike Ward, Dave Butters, Phil Carris, Dave Quayle, Chris Tatar, Tony D’Onofrio, Fleet Mechanics & Physical Service Support***

Careers in Construction Day 2010

Pat Slattery

Over eleven hundred students in grades 8 through 12 participated in the 2010 Careers in Construction Day. Monroe County again acted as host for the 13th year at the Fleet Center. The day afforded students a hands-on chance to investigate career opportunities in the construction industry. County Executive **Maggie Brooks** and UNICON's Ken Warner kicked-off the event, alongside many exhibitors from the construction industry.



DES employee **Dave Butters** took the lead securing and coordinating the heavy equipment demonstration. Working with and through various vendors, Dave was able to secure millions of dollars worth of state-of-the-art excavators, dozers, loaders, bobcats and trucks to complement the Monroe County fleet. Physical Service employees from various Monroe County departments assisted in coaching the students on techniques of proper and safe operation. Employees also helped to organize volunteers from Alfred State, who assisted in instruction. No other event allows students to experience the hands-on operation of such a wide variety of equipment.

DES Fleet Manager **Melvin Rose** turned his Fleet Garage into an exhibition hall and was able to secure the Castle Chemical NASCAR race vehicle for viewing by students and teachers

Through this event and the support of Monroe County, hundreds of students were provided the opportunity to investigate a potential career path.

The efforts of Melvin Rose, Dave Butters, **Bill Hanna, El Sierra, Dan Cavallaro, Matt James, Jeff McCormick, Pam Warner, Tony D'Onofrio** and the Physical Service employees combined to make this a premier event in New York State.



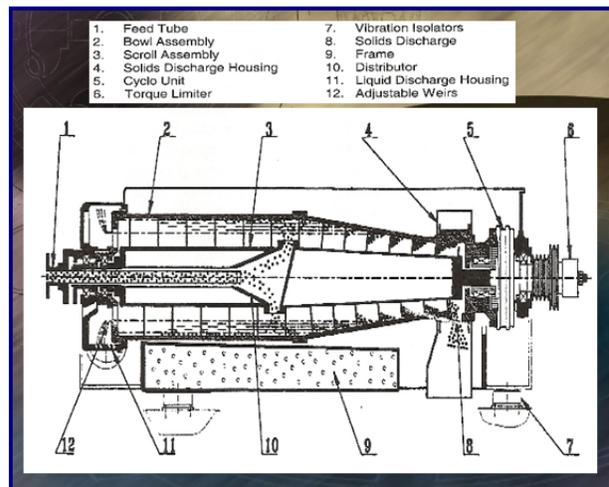
Centrifuge 25,000 Hour Rebuilds

David Tuccio

Preventive Maintenance is a schedule of planned maintenance actions aimed at the prevention of breakdowns and failures. The primary goal of preventive maintenance is to prevent the failure of equipment before it occurs. It is designed to preserve and enhance equipment reliability by replacing worn components before they fail.

In May 1999 the “wastewater solids handling process” at FEV was switched over from Belt Filter presses to three centrifuges. A centrifuge is a rotating assembly that uses centrifugal force to separate solids from liquids, and uses the principle of accelerated settling to separate suspended solids from a sludge or slurry.

In 2002, this type of process change came to life at Northwest Quadrant, joined by the centrifuge installation at FEV in 2004 and a second at NWQ in 2009. These machines, which cost about \$500,000 each, are key in the Waste to Watts process. Centrifuges play a vital role ensuring the proper percentage solids cake is sent to the landfills, where it is mixed with garbage to help in the production of methane gas.



To maintain high reliability, teamwork among the Operations, Maintenance and Instrumentation and Electrical departments have to follow a strict and detailed “PM” schedule during their 1,000 hr, 2,000 hr, 4,000 hr and 8,000 hr maintenance activities. These activities include equipment checks, partial or complete overhauls at specified periods, grease and oil lubrication and a proud oil and vibration analysis program. In addition, equipment deterioration is recorded so we know to replace or repair worn parts before they cause system failure. By maintaining accurate hourly based schedules during these time frames for inspection and diagnosis, the process has enabled the six centrifuges to operate with improved system reliability, decreased cost of replacement on major parts and decreased system downtime.

Part of equipment reliability for a centrifuge requires a 25,000 hour complete rebuild which was due for centrifuge #1 at NWQ. This entailed taking all of the many parts apart for inspection and replacement of some components. It was also decided to make this a special training session for new employees and a refresher for veteran staff taught by a skilled factory technician. Arrangements were made with Andritz, the centrifuge manufacturer, to bring in one of their

staff and conduct a step by step procedure on how to master this 25,000 hour rebuild.

Some of the major components inspected included:

Bowl: The sludge rotates in the bowl at the design speed of 2,200 RPM and forms a concentric layer around the inside of the bowl to begin the separation task. The solids are deposited against the bowl wall under the influence of centrifugal force. Weight: 2,140 lbs.



Scroll: The scroll is independently mounted within the bowl, and is utilized to transport the sediment solids out of the centrifuge. The relation of the scroll speed to the bowl speed dictates the residence time of the product in the centrifuge. Typical speed for the scroll is between 1,500-1,700 rpm's. Weight: 1,100 lbs.

Cyclo: A relative speed difference between the bowl and scroll is obtained through the speed (cyclo) reducer which determines the retention time of the sludge in the centrifuge. Weight: 600 lbs.



Redex: This unit helps in the aid of the speed of the Scroll.

A preliminary meeting was held to set team goals, review the itemized work plan, make sure the necessary parts for the rebuild were available and review staffing during this two week event. This rebuild also included some upgrades to improve our torque control system, or sludge conditioning status on the CITECT SCADA system and replace the mainframe vibration isolators to better absorb the shock in the centrifuge.

In each PM completed, employees never stop learning ways to work smarter and not harder by coming up with tools and structures to do the job safely and correctly. Some small stands were made by **Steve Cagnina** to work on some of the major equipment for easy maneuverability. **Steve Lupia** made up a special "bearing tool press" to properly and safely install the bearings in place.

Some of the repairs, replacements and upgrades included repair on the sludge discharge shoot and hosing cover by **Bob McAvoy**. Both the cyclo and redex were boxed and shipped for rebuild. New drive end and feed end bearings were installed by Steve Lupia. Small repairs were made on the scroll by Steve

Cagnina by replacing the worn “tiles” made of tungsten carbide that push the sludge to the end of the machine. The vibration isolators were installed by **Dan Smith** and **Dan Cavallaro Jr.**

After changing out 550 parts, including bearings, drive belts and scraper blades and 250 man hours, a vibration analysis was performed with the help of **Jeff Helfer** from our I&E Shop and Tony DeMatteo from 4x Diagnostics. This was successfully balanced and a vibration reduction by 82%. How awesome is that! It is something to be proud of when dealing with this many components. Precision is everything from start to finish when working on a centrifuge and this team did just that. If you set goals and have a well planned schedule of events prior to any job, long equipment reliability and personal satisfaction are the rewards.

Thanks to **Jim D’Amico** who scheduled their solids process during the night shift the first week of the rebuild so the staff could hear Dan Courtney from Andritz instruct as it is can be difficult to hear around the centrifuges.



What a centrifuge looks like apart.....to finish

Contributing Employees: **Steve Cagnina, Dan Cavallaro Jr., Steve Christensen, Jeff Helfer, Steve Lupia, Bob McAvoy, Paul Sandle, Dan Smith & David Tuccio**

2010 Certification of Collection Systems Operators

Mary Jo Healy & Bill Putt

DES' in-house training program for NYWEA/DEC Collection System Operator Certification received national recognition in the May, 2010 issue of **Municipal Sewer & Water** magazine. Showcased on the cover, the article was titled "Badge of the Professional".



For the past six years, this extensive program has educated collection system personnel on the operation and maintenance necessary to run a sewer collection system.

Monroe County DES employs a total of 56 certified operators, and is recognized throughout New York State and the nation as the leader in this training initiative.

The "Wall of Fame" at the ROC displays each operator's certificate and is updated when operators achieve the next certification grade.

In 2010, eligible personnel took exams in April and September. These employees now hold the following Collection System Operator certifications:

Grade 1	Grade 2	Grade 3	Grade 4
Bob Gessin	Ingrid Schubert	Erin Magee	Erin Magee
Alphonse Proia	Joe Bujak	Matt James	Mary Jo Healy
Keith Dyer	Keith Dyer	Ken Smith	Glenn Kaiser
Terry Kuchman	Terry Kuchman		
Bill Pierce	Bill Pierce		
David Quayle	Mike Quayle		
Mike Dugovic	Mike Dugovic		
Matt Fitch	Matt Fitch		
Phil Carris	Phil Carris		
Bill Hanna	Scott English		
Tom Sinclair	Mike Weber		

The 2010 class included: **Matt Fitch, Mike Dugovic, Alphonse Proia, Terry Kuchman, Bill Pierce, Janie McAllister, Bob Gessin, Phil Carris, Keith Dyer, David Quayle, Bill Hanna and Tom Sinclair.**



*Front: Bob Gessin, Alphonse Proia, Janie McAllister, Bill Hanna & Tom Sinclair
Back: Michael Dugovic, Matt Fitch, Phil Carris, Dave Quayle & Bill Pierce*

These employees completed the California State University at Sacramento Operations and Maintenance of Wastewater Collection Systems courses and Confined Space and Work Zone safety training to qualify for the April 2010 – Grade 1 Certification Exam.

This certification program would not be complete without our in-house trainers who share their knowledge and experience to supplement and enhance each chapter of the Sacramento manuals.

Thank you to all who have made this certification process a success!

Trainers Include: Dave Cross, Kevin Quinn, Bart LoFurno, John Palermo, Kevin Blackburn, Jeff Scheuch, Brian Gotham, Dale Adams, Pat Slattery, Bill Putt, Dan Cavallaro, Tom Birdsall, Dan Ross, Andy Sansone, Harry Reiter, Rob Tyndall, Mary Jo Healy, Joe Saurini & George McAvinney

County Public Safety Building AV Systems

Charles Diamond

Monroe County Sheriff's Department Mezzanine Conference Room

The Monroe County Sheriff's Department Mezzanine Conference room has three wall-mounted LCD displays designed as a standalone system. One of the LCD displays has interactive touch capability. Two 32" Samsung LCD monitors flank a 46" Samsung LCD monitor that includes an integrated Smart Technology touch overlay. A Smart Technology Go-Wire is connected to the Smart Touch Screen Overlay which will enable walk-up connectivity with a portable laptop.

The three wall-mounted LCD displays, DVD/VCR and TV are sourced from an Extron matrix switcher, mounted in an AV Rack located in a nearby closet. There is also a wall-mounted Crestron TPS-4000L Isys 10.4" touch panel, which is used to direct sources to any (or all) of the wall mounted LCD monitors. Also, a network card was added in the control processor so the control system can be managed via a computer interface. The touch panel also has the capability to display video images from the DVD/VCR and TV Tuner.



Monroe County Sheriff's Department Rooms 6-031 & 6-032

Monroe County Sheriff's Department rooms 6-031 & 6-032 can be combined into one large room. Used independently, there is a warning light that will remind users that the other half of the room is *in use* and *not combinable*. These conference rooms each have multiple presentation displays and one display in each room features touch screen capability.

Similar to the Conference Room configuration, two 32" Samsung LCD monitors on the front wall in each room flank a larger 46" Samsung LCD monitor, which

features a Smart Technology touch overlay. A Smart Technology Go-Wire is also connected to the Smart Touch Screen Overlay to enable walk-up connectivity with a portable laptop. The room also includes wireless microphones.

All six wall-mounted LCD displays, DVD/VCR and TV Tuner are sourced from an Extron 128 Crosspoint matrix switcher which is rack mounted in an adjacent closet.

The AV systems are controlled from a Crestron TPS-4000L Isys 10.4" LCD touch panel in each room. Touch panels are programmed to operate the combined room. Also, they are capable of displaying the video image from the DVD/VCR and TV Tuner. Users can direct any source to any or all of the LCD Monitors. An extra addition is a network card added to the control processor to enable the control system to be managed via a computer interface.



Monroe County Sheriff's Department Room 6-024

Room 6-024 has an integrated mobile podium that includes a laptop interface, a VCR/DVD player, a podium microphone and a PC connected to a Smart Podium Interactive Pen Display. This pen enables touch screen control and annotation of the PC, which can be projected through a ceiling-mounted digital projector onto the back wall of the stage area. The surface-mounted screen is used to enhance the projected image. Since the wall surface is curved, an image warping device was incorporated into the design to insure that all displayed images are rectangular.

The mobile podium can be connected to the AV Rack via three independent podium connection locations. These connections also allow for walk-up

connectivity with a portable laptop. The system controls are managed via a Crestron 10.4" LCD control panel that resides on the front wall and a second wall-mounted Crestron 10.4" LCD control panel in the rear of the room. The touch panels also have the capability to display the video image from the DVD/VCR, TV Tuner and lighting control system. An added addition is a network card in the control processor so the system can be managed via a computer interface.



*Contributing Employees: **John Zavacki, Martin Veck, Al Campione & Charles Diamond** assisted **Gary Hettler** with the design, implementation & training on these A/V systems at the County Public Safety Building*

DEA National Take Back Day

Tom Sinclair

Since 2008, Monroe County has been recognized as the leader within New York State for the collection of unwanted pharmaceutical waste. In September, 2010 the federal Drug Enforcement Administration (DEA) sought to begin a collaborative nationwide effort working with local law enforcement agencies to remove controlled substances from medicine cabinets throughout the country. National Take-Back Initiative Day would provide an opportunity for the public to surrender expired, unused and unwanted controlled substances and other medications for proper destruction, while calling attention to the issues of pharmaceutical and controlled substance abuse. Further, the effort would provide law enforcement in individual municipalities the opportunity and experience in establishing safe collection sites within their respective jurisdictions.

Working within a tight timeline, Rochester-based DEA officials contacted DES to assist them in recruiting the participation of area law enforcement agencies. Over the past several years, DES has established relationships with law enforcement throughout Monroe County as a partner in pharmaceutical collections. DES' work plan for events such as these was state-approved and could readily be emulated by other agencies. Environmental Services experience in the state approval process, collection materials and handling procedures proved invaluable, as did the offer of free transportation & disposal of collected pharmaceutical wastes to incineration at Covanta Niagara in Niagara Falls.

On September 25, 2010, the first National DEA Take Back Day was held. Nineteen collection sites throughout the greater Rochester region (six within Monroe County) collected approximately 2,900 pounds of medications. Collection sites included the Rochester Operations Center (ROC) in cooperation with the Monroe County Sheriff's Office and these local Police Departments: Brighton, Greece, East Rochester, Fairport and the Webster WWTP.



Sean Keenan receives medications from a resident, supervised by a Monroe County Sheriff's deputy

The DEA has again asked for the assistance of Team DES with coordinating the next national collection event scheduled for April 30, 2011.

Contributing Employees: Tom Sinclair, Steve Stratton, Harry Reiter & Sean Keenan

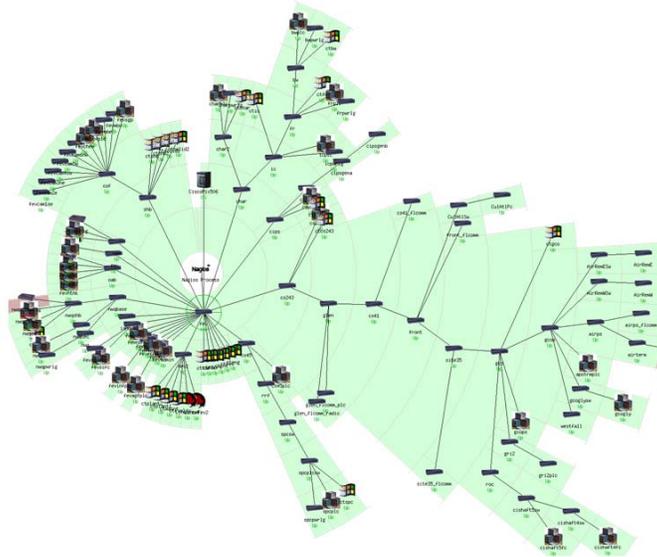
DES Process Network Extensions and Lease Line Elimination

Scott McEntee

In 2003, DES needed a more reliable network for its process control and monitoring system. A decision was made to have fiber be that main form of communication.

The Control Technology Group created a list of the different media that DES was using and presented a plan to consolidate the media and install as many sites on fiber as possible.

Lease lines were a high priority. Somewhat like a phone line to a home, DES pays the phone company several thousand dollars a year to maintain lease lines. Over the last seven years, the control group has been working to eliminate those lines and replace them with DES fiber. As of January 2011, only seven lease lines remain, with plans in place to upgrade those within the next two years.



Sample of present process network

The Control group has also been able to extend the process network as fiber continues to be installed. Several sites with poor radio communication have switched to fiber, providing DES with more reliable communications to pump stations and tunnel sites. Both treatment plants now have full fiber process networks in place.

Contributing Employees: Rich Hamblett, Joe Doyle, Jeff Helfer, Jim Costanza & Scott McEntee

Drop Shaft 3 - Grating Upgrade

Stephen Peletz

Drop Shaft 3 is an access shaft for the Tiger-Carlisle section of the CSOAP Tunnel System. Located in a Kodak Park parking lot off Eastman Avenue, the shaft acts as both an access point to the tunnel system and as an air release when the tunnel is providing relief for the surface sewer collection system. The shaft's air release set-up is designed to release the air which is displaced from the tunnel as the tunnel is filling with combined sewage (wastewater and stormwater) from the surface sewer collection system. The original cover for the shaft consisted of three concrete slabs at grade with the parking lot. Each slab weighed 12 tons or 24,000 pounds! The thought behind the concrete slabs was they were strong enough to support vehicle traffic above yet still be removed when needed via a crane to access the tunnel.



Amazingly, there were a few times when the air pressure was great enough to lift and reposition the concrete slabs! For safety reasons, concrete jersey barriers were placed around the cover. The cover's concrete slabs proved difficult to set back in place which ultimately resulted in one section being left off. A steel plate was used to cover this section. The use of the steel plate also provided better air relief than the concrete slab. A solution was needed to replace the existing cover with one that provided adequate support for traffic above, convenient access to the tunnel, withstand the elements (natural and wastewater related), air relief ability and address safety concerns.

Bergmann Associates was contracted to design the new cover. The new design is a large galvanized steel framed structure covered with galvanized steel grating; a design which fit the above mentioned criteria. The structure is fastened to the shaft at four points to ensure it can not be lifted out of place. Miller Metal was contracted to fabricate the new design. Once finished, the grating was hauled as a "Wide Load" to the site via an 18 wheel flat bed tractor and trailer truck. A CP Ward crane, coordinated by **Dale Adams**, lifted the new structure from the truck and staged it for placement once it arrived on-site.



The installation of the new grating, coordinated by **Dan Ross**, was a tricky one when it came to the removal of the two remaining concrete slabs which were lined with steel plating. The sidewalls of the ledge where the slabs sat were also lined with identical material. Over time, the two touching together combined with the weather and wastewater environment, resulted them rusting together. With a little manpower from Dan Ross' Crew, excavator assistance by **El Sierra** and crane assistance, the first of the two remaining slabs was removed. The second and final slab, however, would not cooperate. Even with all the coaxing, it would not budge. Reinforcement needed to be called in; a backhoe with a hoe ram.



At this point, it was late in the afternoon when **Jerry McCullough** volunteered to bring a backhoe to the site and hopefully break-free the final slab. Ultimately, a little jack hammering with the hoe ram freed the slab. Dan Ross and his crew rigged the grating for hoisting and guided it into place. It was a huge relief to see the new grating set into place with little fan fare. Miller Metal returned to install the stainless steel fasteners for the grating. After some final adjustments to the fasteners the installation of the new grating was complete. The grating was designed to be disconnected from the fasteners, rigged to a crane and

removed to allow convenient access to the tunnel when needed. The grating also eliminated some issues with the previous set-up including the congregating of local youth and the potential for serious injury.

Many thanks to Dan Ross' Crew: **Joe Saurini, Eric LaMendola, Brian Gotham, Mike Dugovic, Matt Fitch, Curt Young, Tony D'Onofrio, Chris Fiutko & Rob Tyndall.** Dan Ross and his crew had the site plowed out and ready for the crane to arrive first thing in the morning. Working around the 80 foot deep access shaft required people to be in safety harnesses following proper safety procedures. Throughout the day, Dan's crew professionally and safely handled the removal of the old cover and installation of the new grating. Great Job!



Earth Sunday - Jewish Federation

Tina Stevens

*“See my works, how fine and excellent they are.
All that I created I created for you.
Reflect on this and do not corrupt or desolate my world
For if you do, there will be no one to repair it after you.”
Midrash Ecclesiastes Rabbah 7:13*

Within each faith tradition there is an imperative to protect the environment.

Those are the basic tenets of the Jewish Federation’s Environmental Committee, who contacted Monroe County DES to explore ways of working together to put these basic principals into action.

The Jewish Federation is an “umbrella group” comprised of over 25,000 people who live in Jewish households in the Greater Rochester area. In December, 2009, their Environmental Committee met with DES to discuss ways to build upon and expand their outreach to their community and the greater Rochester region.

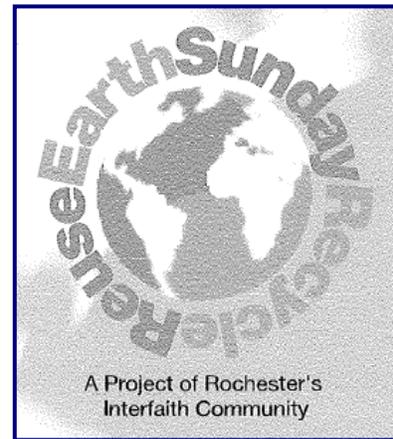
In the past, the Federation had undertaken initiatives within the Jewish community to think green, save energy and foster a sense of responsibility for protecting the environment. Previous successful projects had included “Holiday of Lights”, in which Compact Fluorescent Bulb use was encouraged in the lighting of the traditional Menorah to promote energy savings, a creative mailer that promoted energy conservation and could be reused as holiday wrapping and taking water quality into consideration by advocating the reuse or proper disposal of the oil made to fry latkes (a traditional meal) instead of pouring the grease into the sanitary sewer. Efforts also found the Federation teaming with DES to collect used sneakers in conjunction with Nike’s Reuse-a-Shoe Program.

In discussing how to expand upon the success of those initiatives, the questions arose - what else can be recycled - and how can we involve the entire community?

The ideas brainstormed by that small group of people would become one of the largest all-encompassing environmental interfaith volunteer initiatives undertaken in recent years in the greater Rochester area.

Electronics, pharmaceuticals and plastics not currently blue-box acceptable, clothing, textiles, boots and shoes - were just some of the areas where interest was expressed. Lots of ideas ... but how to manage them with this small group of volunteers became the question. The answer came via divine providence: ask other faith groups to help.

Together with the Greater Rochester Community of Churches, the Third Presbyterian Church, the Roman Catholic and Episcopal Dioceses of Rochester, the Islamic Center of Rochester and the Rochester Interfaith Forum, DES became a welcome partner in this endeavor to produce a one day event which encompassed a collection of the aforementioned recyclables.



Earth Sunday 2010 was scheduled for Sunday, April 25 of what has informally become known across the country as “Earth Week” and encompasses the annual recognition of Earth Day.

During the five months prior to the event, DES collaborated with this community of interfaith partners extensively, discussing planning, logistics, developing partnerships and in keeping with DES’ mission, making sure viable and sustainable markets were in place for everything collected that day.

Planning became a reality on a VERY rainy April Sunday, when nearly 60 volunteers (including 21 teenagers), joined with the seven faith groups to collect these items from the over 900 cars that made their way through two sites:

- 430 pounds of pharmaceuticals - (in cooperation with the Monroe County Sheriff’s Department)
- Nearly two truckloads of electronics (in cooperation with RCR&R)
- Eight 45-gallon bags of sneakers (recycled through the Nike program)
- Two carloads of serviceable boots and shoes (given to Migrant Worker outreach)
- Three-quarters of a truckload of clothing (recycled through St. Pauly Textile, with proceeds donated to Habitat for Humanity)
- 78-45 gallon bags of #5 plastics

Two minutes of local television coverage was also received in which MCDES was prominently featured in a positive light.

Director of Community Relations for the Jewish Federation, Isobel Goldman, commented on DES’ participation in her letter to County Executive **Maggie Brooks**: “**Tom Sinclair** and **Tina Stevens** were amazing partners in the project. Their knowledge, guidance and participation every step of the way gave our committee the confidence and expertise to watch the project grow and succeed.”

Planning is well underway for what will hopefully become an annual undertaking - Earth Sunday 2011, scheduled to be held on Sunday, June 12.

Energy Expo 2010

Daryl Maslanka

Continuing her commitment to energy conservation, environmental protection and economic growth, Monroe County Executive **Maggie Brooks** again charged DES to spearhead the fourth annual Monroe County Energy Expo.



Held on December 18, 2010, this free community event gave residents the opportunity to interact one-on-one with energy specialists. They received education about products and services designed to help in conserving energy and reducing utility bills in their homes. Free compact fluorescent light bulbs were given to the first 250 households in attendance.

In addition to the support traditionally provided for past Expos, DES was able to enhance this year's experience by introducing audio and video "snapshots" of participating vendors. These "snapshots" were played throughout the day and were well received by the vendors and the public. Over 200 residents passed through the doors to visit the 23 Exhibitors.

Twenty two local companies, representing the following, were on hand to offer information on their products and services:

- Energy suppliers providing energy as part of the Voice Your Choice Program
- Residential energy auditors and low/no cost financing information
- Lighting specialists
- Weatherization specialists
- Window replacement specialists
- Alternative residential heating options
- Insulation specialists
- Energy Star rated products including tankless water heaters, high efficiency furnaces and other assorted appliances
- Hybrid and flex fuel vehicles

Plans are already underway for the 2011 Energy Expo – stay tuned!

*Contributing Employees: **Tom Sinclair, Pat Collins, Mark Payne, Sheila Palmeroni & Rob Tyndall***

EPF Round 10 Grant Funding Announcement

Andy Sansone

Late in 2010, NYS DEC announced the awarding of millions of dollars in aid to local communities across New York to improve water quality, reduce pollution and restore vital habitat. The Environmental Protection Fund (EPF) Round 10 awards went to municipalities and Soil and Water Conservation districts to address major sources of water pollution and habitat degradation in dozens of urban, suburban and rural communities.

DEC received 300 applications totaling more than \$412 million for this competitive grant. 38 Counties across New York received funding for 101 projects, totaling \$61 million. Six of these projects, located within Monroe County received \$3.5 million, representing 11 percent of the total. In the past three years, a total of \$9.2 million has been awarded to various Monroe County stormwater projects.

Stormwater staff in Industrial Waste played a key role in securing this funding. **Todd Stevenson** led the charge by coordinating the application process. Todd's years of experience in writing and administering the EPF grants has proven critical to the funding and the success of the Monroe County Stormwater Coalition. **Andy Sansone, Paul Sawyko, Paula Smith and Erin Magee** all provided input for the various project submissions.

Applications provide for continued funding of the Coalition and green infrastructure projects such as porous pavement, green roofs and rain gardens. These projects provide the foundation for future efforts to develop sustainable stormwater practices.

A brief summary of the awards:

- Stormwater Coalition of Monroe County Collaborative MS4 Implementation
\$484,202
- Stormwater Coalition of Monroe County Collaborative MS4- Stormwater Retrofits using Green Infrastructure - **\$192,100**
- Durand Eastman Park Infiltration Basin - **\$450,000**
- East Rochester, Ivy Street, Park Drive and Edmund Lyon Park Stormwater Retrofit Project - **\$377,533**
- City of Rochester Green Infrastructure Initiative - **\$2.5 million**

Fiber in 2010

Tim Raymond

2010 was a very productive year. With grant funding provided by Public Safety, fiber was installed at the Gates Firehouse on Chili Avenue and the Public Safety tower behind the firehouse. Getting fiber to this site was a challenge and included directional drilling under a set of railroad tracks where two high pressure mains ran parallel to the tracks. The fiber was brought into the firehouse, which acted as a temporary 911 backup center and the tower, which expanded police and fire radio coverage.



Directional bore under the tracks on Fisher Rd

Using a combination of resources, 2010 also saw fiber installed at the Webster Department of Public Works. An abandoned water main was used to run fiber along Hard Road, with Webster's highway employees performing the digging and installation of the county-supplied 4" PVC. Fiber was able to be installed at the Public Safety tower, adjacent to the highway building. This fiber runs all the way up 590 to Cobbs Hill, then back downtown to CityPlace.



Lastly, the town of Spencerport is finally connected to the County's fiber network. In 2009, Ogden was connected and Spencerport was another goal. This project also saw a number of groups and parties working together and again used an abandoned water main. The Town of Spencerport's electric department helped with the fiber installation.

*Contributing Employees: **Bob Pollot, Tod Clements & Tim Raymond***

2010 Fleet Auction

Dave Butters

Again this year, the Monroe County Fleet Center hosted the Fleet auction. This annual event, which takes the first weekend of October, saw a record number of registered bidders and revenue. Large crowds bid on items ranging from construction equipment, passenger vehicles and lawn mowers to office supplies. The event was again managed by **Pat Slattery**, who has headed the event for the last two years to much success. Pat's role consists of managing parking, traffic control and all activities associated with the 1,500 people who visit Fleet on auction day. Working as a team helps to eliminate chaos and that is what this team did. A special thanks to all of the contributing employees that made this event a success.



Contributing Employees: Tony D'Onofrio, Joe Lupiani, Jeff McCormick, Darlene Coffaro, Pat Slattery, El Sierra, Bill Hanna, Glenn John, Tim Barkley, Steve Christensen, Keith Dyer, Bill Burgio, Jerry McCullough & Joe Bujak

Hall of Justice

Family Hearing Room Project

Serafino (Joe) Cardinali

While most people think of the Criminal Courts when they think of the Monroe County Hall of Justice, the Courts which people are most likely to be involved with are the Family Courts. Until recently, the Family Courts were lacking sufficient Hearing Rooms in which to conduct their business. Monroe County's Administration was aware of the need for Hearing Rooms and several years ago the Legislature funded a project to provide additional facilities for Family Court.

In September of 2009, the County began construction of three new Hearing Rooms for the Family Court. In addition to the Hearing Rooms, the project constructed three agency offices, two conference rooms, three restrooms, one weapon screening station and one Deputy's Station. Sprinklers were also installed in the remodeled area and surrounding spaces.



The renovated building space totaled about 9,000 square feet. Significant construction problems included an unexpected extensive demolition, required by substandard existing construction; a cramped construction site; no access for heavy equipment; restrictions on noise producing operations during daylight hours; and a massive roof leak which flooded parts of the Testlab Building.

Construction required 13 months. The project was completed by DES and occupied by the Family Courts in October of 2010. The total project cost was approximately \$1,800,000.

A number of persons were valuable contributors to the project's success: **John Nitti** (MCDES), **Mike Ryan** (MCDES retired), **Shawn Mosley** (MC Sheriff), **John Cringoli** (MC Sheriff) and **Dave Weller** (LaBella Associates).

*Contributing Employees: **John Nitti, Mike Ryan, Shawn Mosley & John Cringoli***

Industrial Waste Surcharges

Ken Smith

It is more expensive to treat industrial wastewater that contains large amounts of organics, nutrients and solids than it is to treat the same volume of residential sanitary sewage. Increased treatment costs are realized in higher energy charges for aeration and the generation of additional sludge and the associated costs for sludge disposal.

One of the responsibilities of the Industrial Waste Control office is to permit and sample industries that discharge treatable wastes in concentrations greater than that of “normal” sewage.

Wastewater sampling is performed to measure the concentration of biochemical oxygen demand, total phosphorous and total suspended solids. A surcharge fee is developed based on these concentrations. Typically, these samples are collected as a composite over the course of a normal operating day, with at least three samples being collected each year. Some industries supplement the sampling performed by Industrial Waste with sampling performed by a contract lab. Normally, sampling takes place over one week, but in some industries seasonal variation requires sampling at multiple times throughout the year. Industries that have multiple discharge locations must have each sample point properly flow-weighted to ensure a representative pollutant loading is calculated.

These sampling results are used to calculate a surcharge and recoup the costs to treat the high strength wastewater. This surcharge is in addition to any capital and operation & maintenance charges that would normally be incurred. Industries on the surcharge program include food & beverage manufacturers, chemical manufacturers, commercial laundries, rendering plants and soap manufacturers.

Approximately 30 industries are issued a surcharge each year. The table below shows the revenue generated by the surcharge program over recent years.

Year	Surcharge Revenue
2008	\$1,746,000
2009	\$1,424,000
2010	\$1,436,000

Special thanks to the Environmental Lab and Business Services for assistance with this project each year.

*Contributing Employees: **Joni Best, Ralph Condit, Sean Gibbons, Sean Keenan, Erin Magee, Harry Reiter, Mary Ellen Lupia, Ingrid Schubert, Darcy Sewar, Ken Smith & Steve Stratton***

Infiltration and Inflow Abatement Program (2010 Year in Review)

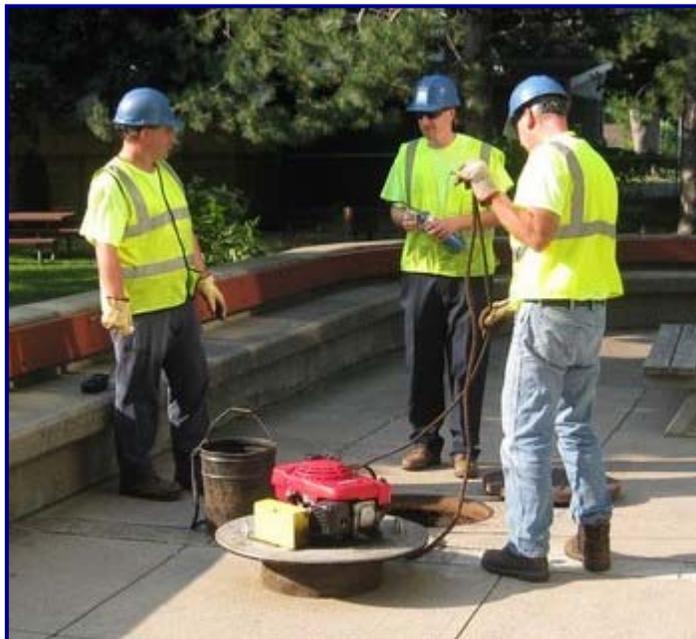
Rob Tyndall & Mark Delavak

Infiltration and Inflow (I&I) is loosely defined as the unwanted additional flow entering the sanitary collection system through direct (sump pumps, roof gutters, cross connections, etc.) or indirect (ground water seepage, cracked and broken pipe, etc.) means. This added flow can overwhelm or surcharge a sanitary sewer main causing backups in homes, needlessly overtax treatment plants and ultimately be a major contributor to Sanitary Sewer Overflows (SSO's). The costs associated with I&I in needless treatment and infrastructure degradation are very high. A primary function of the I&I Energy and Data Analysis Team is to locate, identify and correct sources of infiltration and inflow. Accurate flow measurement, visual and physical inspections are just a few of the tools used in I&I research.

Some of the projects and activities conducted by the Team in 2010 include:

Smoke Testing

Smoke testing is a simple and effective method to identify sources of infiltration and inflow into a sanitary sewer. Direct or immediate inflow sources can be catch basins or other stormwater lines connected to sanitary sewers. Indirect or secondary infiltration sources could be cracked or broken sanitary mains and laterals. Preparations for a smoke test include mapping of the basin identifying all main sewer, manhole and catch basin locations along with optimum manhole locations (burn sites) for efficiently injecting smoke into the sewer main. At each testing location, a smoke candle is lit and lowered into a



sanitary manhole. A fan made to fit over the manhole frame is turned on to force air (smoke) through the sewer. The crew then looks for smoke on the ventilation stack of each home (ideal). If smoke is not seen from the stack or is seen from the gutters, ground or catch basins those results are recorded for future investigation. Each smoke candle can produce enough smoke to test at least two or three stretches of sewer depending on the size of the pipe, length of the stretch and other factors.

Smoke, candle & fan

Riverdale Basins Smoke Test

A smoke test of the Riverdale basin was conducted over a two week period in May 2010. The Riverdale basin is comprised of six (6) individual pump stations located in the area of Scottsville and Ballantyne Roads. The smoke test was done in conjunction with flow metering of the sewer mains by the I&I Team and an engineering evaluation of the Riverdale pump stations and basin by Arcadis. The Riverdale smoke test consisted of 30 burn sites. There was smoke from one catch basin and one gutter downspout. Additionally, there were 43 buildings with no smoke and 26 lot line clean outs that had broken or missing caps. Follow up work in the Riverdale basin is continuing.

Charlotte Basin Smoke Test (Phase II)

In 2004, the I&I Team performed smoke testing in the Beach Avenue area to identify sources of inflow or infiltrations affecting the Charlotte pump station. It was decided in the summer of 2010 to expand the smoke testing in that area to the entire Charlotte pump station basin, which would be a large undertaking for the crew. The basin is within the City of Rochester and includes both sides of Lake Avenue from Beach Avenue to Boxart Street and Riverside Cemetery. Also included is Dewey Avenue from Langford Road to the north. Over 3,000 notification letters were mailed to residences and businesses. First responders such as RPD, RFD and the 911 center were notified of the testing in person as well as by letter. The smoke testing targeted approximately 144,000 feet of sanitary sewer (over 27 miles!) and required 210 burn sites during the month of August, 2010. Results included smoke from 62 catch basins, 26 gutter down spouts, 35 lot line clean outs and other miscellaneous results. Also, there were over 400 buildings listed as no smoke. There could be a number of reasons why a building doesn't have any smoke coming from its ventilation stack. Most of the reasons are not necessarily a problem; however, there is a small chance the lack of smoke is an indication that the building lateral is cross connected to the storm sewer. Industrial Waste is assisting with this investigation by sampling the storm sewers down stream from the no smoke locations. Follow up investigatory and corrective work is ongoing by the ROC I&I, Construction, Cleaning and Televising teams.



Smoke showing from roof vent stacks not gutter downspouts

Sanitary Manhole Rehabilitation

New products and technologies are entering Monroe County's battle against water infiltrating County infrastructure assets, which include manholes, wet wells, chambers, vaults and main sewers. Newly available products and technologies stop leaks at a fraction of the cost of traditional methods. It is vastly more efficient and cost effective to have an in-house crew of two performing this work instead of an outside contractor. The I&I Team is taking advantage of this ability to grout leaks when they are found with very good results. An example of this success was the Forest View pump station, where pumps were discovered to be almost constantly cycling versus a normal pump cycling rate of five cycles per hour. Two sanitary manholes directly upstream of the station were found to be infiltrating at a rate that robbed the 8" sanitary main of capacity and caused excessive pump cycling. This extraneous flow rate was determined to be in the 250 GPM range. Working in combination with the Field Mechanics, the two manholes were injected with SealGuard II Leak Sealing System to grout seal the infiltration. Repair of the two manholes was performed in a single morning with immediately positive results - leaks in the manholes were sealed and the pump station returned to normal cycling rates. Additional sanitary manholes throughout different drainage basins have been remediated using SealGuard II with similar success. A quick look at the math shows the cost savings of this form of rehabilitation:

If you have 12 manholes leaking at 5 GPM, or one manhole leaking at 60 GPM

60 gallons per min = 3,600 gallons per hour = 86,400 gallons per day =

31,536,000 gallons per year!

Using a conservative cost of \$1.70 per 1,000 gallons treated = **\$53,611.20 / yr**

Raise that treatment cost to \$2.00 per 1,000 gallons treated = **\$63,072.00 / yr**

I&I Master Plan

Another major I&I initiative in 2010 was the formation of a County wide I&I Master Plan. This comprehensive engineering study is a joint venture with CDM/CHA and Monroe County DES. Its mission is to develop a district wide master plan to address I&I contributed by separate sewer communities. Among the goals are to compile information into a central data base or "hub"; the comprehensive evaluation of infrastructure; maximizing the use of existing capacity; identifying and categorizing infrastructure O&M needs and major sources of I&I; reducing treatment and conveyance costs and educating the public.

*Contributing Employees: **Rob Tyndall, Mark Delavak, Mike Burkett, Matt Fitch, Curt Young, Paul DelVecchio, Steve Stratton, Erin Magee & Larry Steehler***

Lyncrest Drive Sewer Replacement

Dale Adams

Nestled in the northwest corner of the City of Rochester, near the border of the Town of Greece, lies a quiet and unassuming street. Lyncrest Drive has been on the Collections Sewer Matrix repair list for nearly ten years, waiting to have approximately 700' of 8" sanitary sewer replaced due to major dips in the sewer.

A gallant effort was put forth in 2001 by a DES construction crew to repair this sewer. Unfortunately, soil conditions proved to be very unstable and once the ground underneath the sewer pipe was excavated (11' +/- deep) groundwater of epic portions was encountered. Proving to be a greater challenge than expected, a term contractor was hired to make the repair. However, the contractor was unable to control the groundwater and quicksand-like soil, forcing a temporary repair to be made.

The sewer was maintained on a PM schedule and hydro-flushed every six months to help in controlling any possible surcharges. 2010 was designated the year to replace this sewer, as funding had become available. Engineers were hired to prepare drawings, including a special de-watering plan to aid in controlling groundwater.



An 8" header pipe is installed to control the groundwater from the 2" steel pipes which were water-jetted under the sewer



A total of 86 well points were jetted under the sewer to control the high groundwater table in the area.

The de-watering plan was designed to water-jet 2" steel pipes 16'-18' below the surface every three feet. Each well point would then be connected to an 8" header pipe connected to a 6" Godwin pump. A trench was excavated along the concrete gutter to bury the header pipe and allow residents access to their driveways.

A total of 86 well points were water-jetted under the sewer and the system operated 24-7 for the duration of the sanitary sewer replacement. Due to the

close proximity of the 15” storm sewer and the fact that it was at a shallow depth, it had to be replaced as well. However, the de-watering system was not needed for storm sewer repair since the storm sewer was above the groundwater table.

Godwin Pumps provided a super quiet pump for the project, which became necessary since the project started during the dry season and found residents with their windows open during the evening.

The de-watering system worked to perfection and after 72 hours of operation the contractor was able to start sewer construction. Nearly 700’ of 8” sanitary and 700’ of 15” storm sewer were replaced, along with four manholes where no groundwater was encountered.

To the delight of the residents on Lyncrest Drive and the City of Rochester, the street was repaved gutter-to-gutter due to the width of the excavation. Chatfield Engineers, P.C., provided the plans and on-site inspection for the project. The project was completed on time and budget by Morsch Pipeline Inc., for a total cost of \$308,000.

*Contributing Employees: **Kevin Quinn, Chris Fiutko & Jim Hetzer (Retired)***

Monroe County Kiosk Project

Russ Calcagno

The Construction Division of DES provides construction services for all of Monroe County - with no two jobs being alike. Many projects need minor design engineering, while some need major design plans. We were presented with a challenge that does not fall into any category we had ever experienced.

The Construction Division was approached by the Communications Department to design and build a kiosk for display in the Atrium of the County Office Building. The project's purpose was to help in the promotion of towns and villages throughout Monroe County by sharing their photos and stories.

Rough drawings were developed and many of the fine details needed to be worked out. The kiosk began with a three-sided frame:



Tony Rodriguez was the construction coordinator, **Russ Calcagno** acted as the project coordinator, and **Steve Mathis** did all of the construction and fabrication, and also designed many of the detailed items.

The kiosk needed to be open on two of the sides, have hidden wiring and a data player, while insuring accessibility for power and programming. Electric plugs and a line to an outlet were installed. A flat screen television was inserted and framed to appear that it blends into the kiosk. Once functional, a specially designed film was applied to the outside panels to complete the project. Because the kiosk is very heavy, a dolly was also constructed to aid in transport.

The kiosk was intended to be stationed at the County Office Building, but to get the program more exposure it has been moved to every town in Monroe County and the dolly has proven very useful.



*Contributing Employees: **Steve Mathis, Tony Rodriguez, Russ Calcagno & Pieter Smeenk***

Monroe County Leaf Composting Operations

Ed Harding

Monroe County has begun its third season of leaf composting operations, and now composts the majority of leaves collected from the City of Rochester and other municipalities at various sites throughout the County. The main area is located on Avion Drive, close to the County's Fleet Center at the southwestern end of the Greater Rochester International Airport, on property owned by Waste Management in the Town of Chili. This is a New York State Department of Environmental Conservation (NYSDEC) "Registered" site, which means it, can handle from 3,000 – 10,000 cubic yards (CY) of material. Leaves composted at other County and City facilities are considered "Exempt" sites and handle a much smaller volume of leaves (less than 3,000 CY).

As leaves are received, they are placed in rows 14' wide by 7' high with a loader. These rows are called windrows and can vary in length depending on site configurations. Currently, the longest windrows are 200' long and require a specialized machine - a windrow turner - to turn the leaves to hasten decomposition. The County's original windrow turner, a 1995 Scarab, was struggling to handle the increased volume of leaves and its ability to be transported between composting sites was cumbersome. It was decided that a new windrow turner was needed to handle the demand. A 50% matching grant from NYSDEC was secured to purchase a replacement. A number of different windrow turners were considered and tested, resulting in the selection of the Komptech X53 windrow turner.



The X53 allowed the ability to construct a wider and higher windrow, maximizing available space at the compost sites. A computer screen assists the operator with the machine's performance. It folds up in a manner similar to a child's transformer toy to easily load on a Lowboy trailer. The operators are pleased with its performance and ease of operation.

The goal of the composting operation is the breakdown of organic leaves by aerobic decomposition (oxygen dependant microorganisms/bacteria) in as short a period of time as possible. In order to speed up the process, the condition of the leaves for the heat-loving - or thermophilic - bacteria needs to be optimized. These bacteria function best within the range of 135° to 160° F and also require



oxygen and a certain amount of moisture. Oxygen is added by turning or mixing the windrowed leaves. Done properly, aerobic decomposition is a relatively odor free process.



As part of the decomposition process, heat is given off by the bacteria. The windrows temperatures are monitored with a 3' long temperature probe every 50' along the length of the windrow. This determines the bacterial activity of the windrow. Since the windrows are conical shaped, the temperature is taken in the middle of the windrow, just above the lower third of the pile. During active decomposition, temperatures at the top of the windrow are often twenty or more degrees higher than at the lower portion of the windrow. If temperatures get too high, bacterial activity decreases. Temperatures of 140° F or more are essential for the destruction of pathogenic organisms and undesirable weed seeds that may be present.

As the compost process begins, leaves experience a considerable amount of volume reduction. Windrows are then combined to free space for additional leaves. Turning of the windrows can begin upon formation and frequency is determined by temperature monitoring and moisture content. Prior to the turning process, wind direction and speed are taken into account to minimize potential odor receptors.

During the winter months, the composting process stays active. The outer 4" of leaves on the windrows freeze, forming a protective insulating shell which helps to retain heat. Outside temperatures can be in the teens while the windrows will be well over 100°. Winter turnings occur approximately every three weeks as weather and site conditions allow.

Windrows are monitored and turned as needed. When material is visually broken down (to appear dirt-like) and biological activity has reduced, the material is ready for the curing phase, where it will sit for approximately one to two months. When curing is complete and the compost is stabilized, it needs to be screened to remove physical contaminants such as paper, plastic and other debris that were picked up with the leaves from the streets. Due to the moisture content of the compost, a rotary trommel screen is used to effectively screen the material.



Finished compost is then given to municipalities for public give back programs and projects that can utilize compost as soil amendments or landscaping purposes.

The DES composting crew has recently been charged with composting elephant and rhino manure from the Seneca Park Zoo. A composting pad was constructed at the VanLare WWTP where leaves and “Zoo Doo” will be composted. The goal is to make a marketable product that can be sold to enthusiastic gardeners.



Leaf and Zoo Doo composting has provided many new challenges for DES staff. There is a demand to compost other organic materials and as operations progress, new opportunities are being considered. Thanks to the following DES employees for their hard work and support of this endeavor:

*Contributing Employees: **Dave Butters, Tony D’Onofrio, Bill Hanna, Ed Harding, Joe Lupiani, Jeff McCormick, Melvin Rose, Russ Rutkowski, El Sierra, Pat Slattery & Chris Tatar***

Monroe County Pediatrics and Visitation Center Project

Reinhard Gsellmeier



Completed in the fall of 2010, the Monroe County Pediatrics and Visitation Center, located on the southeast corner of the Monroe Community Hospital campus, is an \$8 million project that will improve outcomes for children and families through a coordinated and comprehensive approach to their health and well being. The 22,300 sf two-story facility is the first of its kind nationwide to provide the following coordinated services:

- Primary Health Care
- Evidence-Based Assessments and Evaluations
- On-Site Mental and Developmental Health Services
- Parenting Education Programs
- Supervised Visitation

This project was managed by **DES**, from the early stages of site selection and application for the grant, through final completion. Project end users included the Monroe County **Department of Health**, Monroe County **Department of Human Services**, and **Society for the Protection and Care of Children**. Funded in part by a \$3 million Health Care Efficiency and Affordability Law for New Yorkers (HEAL NY) Grant, grant



requirements dictated a schedule that was extremely aggressive for a project of this size and complexity. The overall project chronology was as follows:

- 02/03/09: Design (inc. Space Planning) Begins
- 07/01/09: Design Completed
- 07/10/09: Advertise for Bids
- 08/12/09: Neg. Dec.; SEQR is Completed
- 10/01/09: Notice to Proceed; Construction Begins
- 09/30/10: Substantial Completion
- 11/05/10: Project Completion & Move-In

The building consists of two main components, the pediatric clinic (7,600 sf) and the visitation center (14,700 sf). There are two visitor entrances located at opposite ends of the building, as it is necessary to maintain separation between custodial/foster parents and non-custodial parents. In addition to the various exam and visitation/counseling rooms, there is a small kitchen that can be used to provide meal preparation training, both indoor and outdoor play areas, medical records storage, immunization storage, two conference rooms that also serve as group training rooms, waiting rooms and reception areas and office/cubicle space for staff. The facility interior décor was designed to provide a pleasing environment for children. The building is fully sprinklered, is setup for wireless and has a full complement of building security systems (magnetometers, door access control, CCTV, panic buttons and personal communication devices). There are three stations for security guards within the building. The project also included an expansion and reconfiguration of the existing MCH parking lot, with a net increase of approximately 80 parking spaces (including spaces designated for fuel efficient vehicles and car poolers).



Training Kitchen



Typical Visitation Room

The firm of **Clark Patterson Lee** (CPL) was the project lead architect/engineer, with structural engineering subconsultant **Ravi Engineering**. These firms did excellent job dealing not only with the extremely aggressive schedule, but also working with the three separate end user groups that were now coming together for the first time in a shared facility. Coordination of the exterior façade design with the NYSOPRHP (aka SHPO) was also required, and SEQR had to be completed as part of the design effort. CPL also provided full resident inspection services during construction.

Construction contractors included **Building Innovation Group** (General Contractor), **Landry Mechanical** (both Mechanical and Plumbing Contractor) and **Hewitt-Young Electric** (Electrical Contractor). In addition, there were several County vendors that also contributed to the success of the project. One challenging aspect of the project involved the re-routing of an existing 15", 20' deep sanitary sewer that ran under the footprint of the new building. Unsuitable existing fill was also encountered under the building, which had to be removed and replaced with suitable material. With construction starting in October 2009, much of the site/utility work was completed in the fall. Winter construction practices were followed for the concrete foundations and masonry stair towers, steel was erected during the winter and the building was fully enclosed and weathertight by May, 2010.



Winter 2009-2010, steel going up



Completed Building

The Pediatrics and Visitation Center Project is a sustainably-designed building and is pursuing LEED-Gold Certification through the U.S. Green Building Council (USGBC). The USGBC's mission is to transform the way buildings and communities are designed, built and operated, enabling an environmentally and socially responsible, healthy and prosperous environment that improves the quality of life. LEED, which stands for Leadership in Energy and Environmental Design, is a third-party Green Building Rating System and is the nationally accepted benchmark for the design, construction and operation of high performance green buildings.



U.S. Green Building Council LEED® *GOLD* Certified (Pending)

Key LEED measures/results included:

- Highly reflective roof to minimize the heat island effect.
- Facilities (bicycle racks and showers) to promote bicycle ridership.

- Lighting design that minimizes night light trespass from the building and site.
- Water usage: 30% reduction in potable water usage from Energy Policy Act of 1992 Fixture Performance requirements through the installation of low-flow fixtures (showerheads, toilets, urinals & sink fixtures).
- Energy usage: 18.6% reduction in energy cost from a baseline building as defined by ASHRAE Standard 90.1, 2004 Edition through the incorporation of a thermally efficient building envelope, highly efficient HVAC system with energy recovery, occupancy sensor controls with demand control ventilation, energy efficient lighting and a reflective roof to minimize solar heat gain.
- Over 75% of the construction waste generated by the project was diverted from a landfill and recycled.
- Construction materials purchased for this project contain 20% recycled content (exclusive of M/E/P equipment and specialty systems), reducing the demand and impacts from extracting and processing new materials.
- Construction materials purchased for this project contain regionally harvested and manufactured materials (exclusive of M/E/P equipment and specialty systems), supporting indigenous resources and reducing the environmental impacts resulting from transportation.
- Indoor Air Quality Management Plans and the specification of Low-VOC products - including paints, adhesives and carpet products - reduced air quality problems common to new construction in order to help sustain the comfort and well-being of construction workers and building occupants.
- Purchase of Green (Wind) Power totaling 35% of the buildings electric usage for four years, promoting the development of renewable energy.
- Implementation of a Green Housekeeping program that uses Green Seal certified cleaning products with no, or reduced toxins.

The project was also recently recognized by the Monroe County-Genesee Valley Branch of the **American Public Works Association (APWA)** and was awarded the **Structural Project of the Year in 2010**.

*Contributing Employees: A project of this size could not be successful without the contribution of many individuals. DES employees that made valuable contributions to this project include: **Rick Benway, Kevin Blackburn, Russ Calcagno, Al Campione, Bob Carroll, Jim Costanza, Charles Diamond, Art English, Bob Goodrich, Rich Hamblett, Daryl Maslanka, Don Millar, Kevin Muhs, Irving Murph, Kevin Quinn, Tim Raymond, Tony Rodriguez, Bryan Samowitz, Andy Sansone, Dennis Scibetta, Jesse Shaw, Pieter Smeenk, Martin Veck & John Zavacki** (My apologies if someone was missed)*

Monroe County Public Safety Building

Gary Hettler

The Monroe County Public Safety Building (County PSB) was originally constructed in the early 1960s as part of the Civic Center Complex.

DeWolff Partnership Architects was retained as the design firm to develop a new, consolidated headquarters for the Monroe County Sheriff's Department. The building is approximately 230,000 square feet, spread over six floors, with the project constructed in phases.

Phase I was completed in January, 2006. During Phase I, the plaza level was renovated to provide a new court entrance for city court and office and storage space for Sheriff's records.

Phase II, completed in July, 2008, involved the renovation of the north basement area for property and evidence and the fourth floor for jail administration and police operations.

Phase III was completed in 2010. This phase provided for renovation of the sixth floor and mezzanine level for Sheriff's administrative staff and basement and street levels for Sheriff's locker and exercise rooms. Phase III was designed to meet the LEED-CI v2.0 Commercial Interior standards.

Phase IV construction is scheduled to start in July, 2011, when the present fifth floor occupant, the Monroe County Crime Lab, moves into their newly constructed home on the corner of Plymouth and Broad Streets. The Public Safety Building fifth floor will then house the Sheriff's civil bureau and staff services.

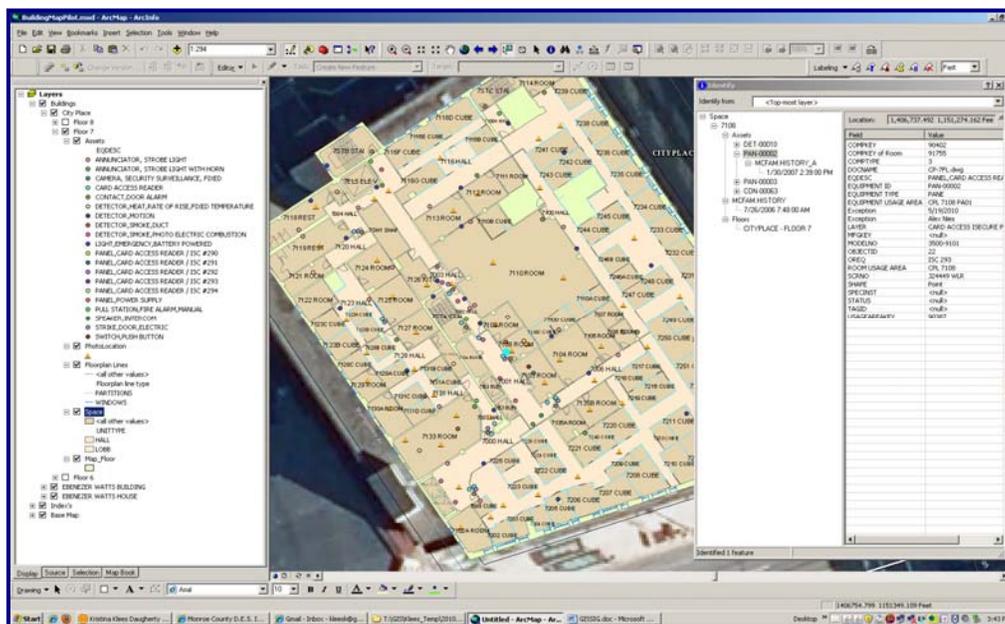
*Contributing Employees: **Dennis McDonald, Mike Ryan, Kevin Muhs, Pete Kostraba, Dick Healy & Charles Diamond***

Monroe County's Facility and Asset Mapping Project

Kristina Daugherty

Monroe County's GIS Services Division is paving the way to integrate GIS, Business Services and Enterprise Asset Management (EAM) into a seamless, transparent process. The goal is to merge the functional attributes of each individual software program used for the management of assets into a new, fresh and efficient workflow. The current state of the disparate systems often lends itself to duplication of efforts, thus increasing both frustration and the unnecessary use of our limited resources. These efforts will provide Monroe County DES with a combined work order system that is able to track, inventory and evaluate all aspects of how we do business.

Based on ESRI's Building Interior Space Data Model (BISDM; developed by representatives of standards organizations, GIS users and software vendors) and using the County's City Place building as a test subject, we started to devise logical workflows for the development, execution and maintenance of interior space/asset tracking and mapping. While interior space (or usage area) planning is the primary focus of BISDM, the model was developed to provide a foundation for additional data related to buildings and structures (i.e. assets) and to support a variety of applications (i.e. asset management programs). In brief, the BISDM utilizes available enterprise-scale geographic data to leverage existing applications through the use of links to logical identifiers.

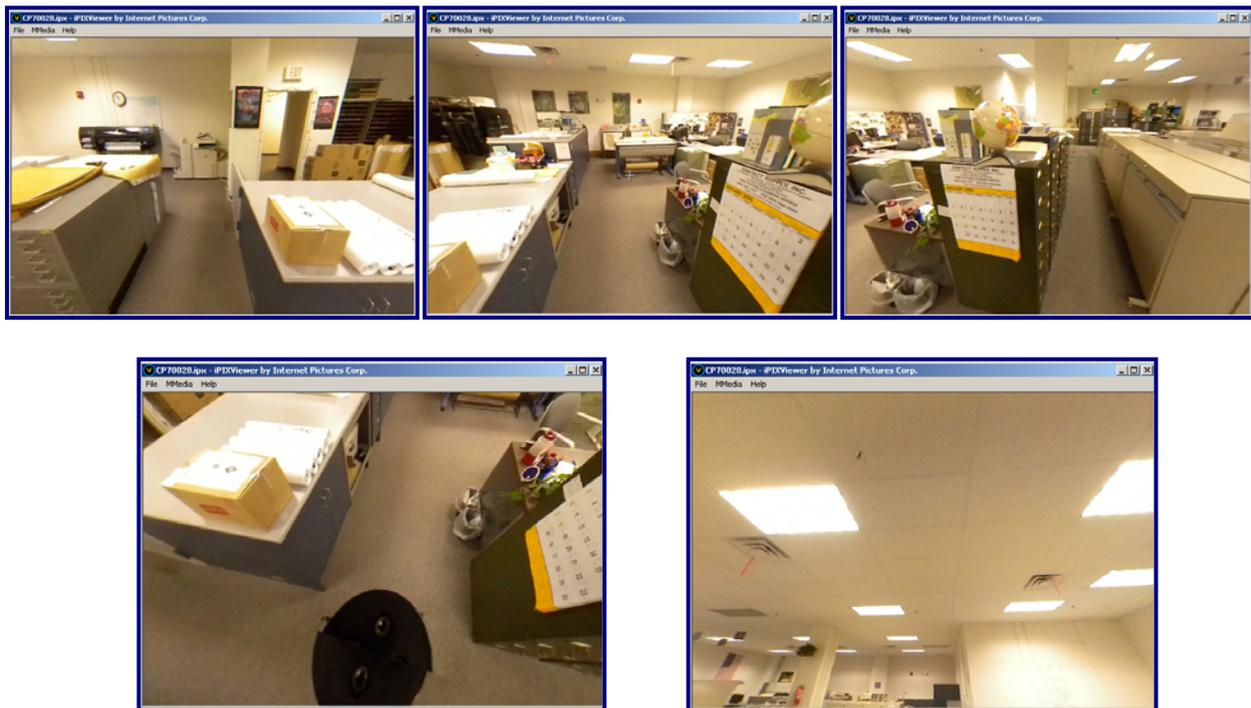


ArcInfo (GIS) Mapping application displaying Hansen (EAM) asset information

The Facility and Asset Mapping (FAM) working group (created from the GIS Services Division) has split the BISDM up into two unique processes. The first is the acquisition and maintenance of usage area and asset data (Communication Workflow). The second process (Application Workflow) is focused on the implementation and practical usage of the model.

Although we encountered our fair share of challenges, the pilot project was deemed a success and over the past year both processes have been well integrated into our daily operational tasks. By “piggy-backing” on a work schedule that was developed for the Monroe Safety and Security Systems Inc. (M3Si) LDC project, the FAM group has been able to acquire detailed information pertaining to Fire, Video, Security, HVAC and Usage Areas in approximately five County facilities, with many more to follow.

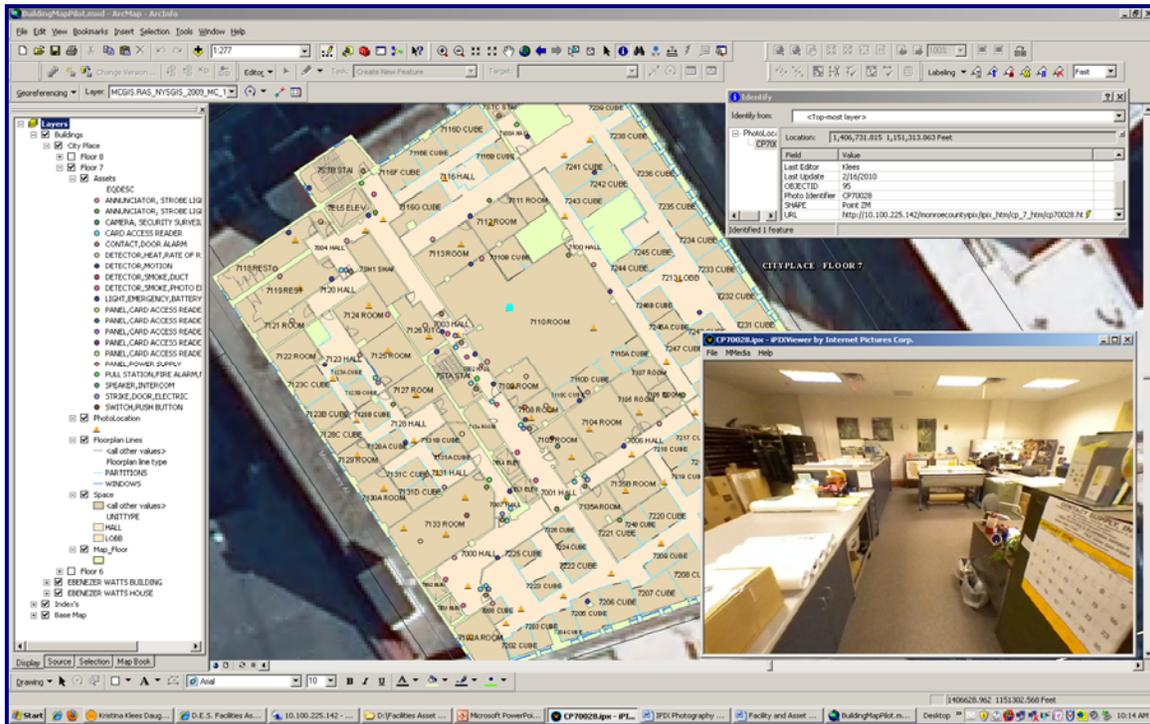
In addition to County asset data acquisition, the FAM group has been taking 360° photography of each building using a Nikon IPIX camera alongside Pictometry’s Critical 360 technology. These tools allow us to capture spatially accurate, interactive, 360° photographs, which can be viewed through either a desktop mapping or online application. Hyperlinks can be created within each photograph to give both a virtual walk-thru of each facility, as well as documented information pertaining to various assets.



IPIX Critical 360° photography of the DES Records Room, 7th Floor, CityPlace

GIS provides the necessary tools needed to view and analyze spatially correct data, whereas an EAM program acts as a repository for real-time, organizational business data. The ultimate goal of the FAM group is to integrate the flexible and reusable components of the BISDM model, coupled with the composite applications of EAM and GIS, pervasively across the DES

enterprise. This will result in shared enterprise services that can be used to create integrated applications beneficial for both business and operational processes.



Integration of GIS, EAM & Critical 360° Photography

Contributing Employees: Russ Calcagno, Charles Diamond, Tran Dinh, Dave Griffin, John Hale, Scott McCarty, Don Millar, Kevin Muhs, Alex Nies, Dennis Scibetta & Jesse Shaw

Monroe County's Pharmaceutical Waste Collection Program

Tom Sinclair

According to the United States Geological Survey (USGS), trace amounts of medications have been found in U.S. drinking waters and waterways. These studies validate that the past practice of flushing medications down the drain was no longer the safest or the most desirable method of disposal.



Pills collected for proper disposal

On the Public Health side of this issue, studies show that seniors tend to let old medications accumulate - creating a risk of accidental overdose. Medications left lying around are a hazard for toddlers and teenagers may see them as an invitation to recreational use.

In 2008, Monroe County DES hosted the region's first pharmaceutical waste collection program which offered residents an opportunity to dispose of their unused, unwanted or expired medications free of charge. Since that time Team DES has advanced the program to new heights. Incorporating the assistance of the Monroe County Sheriff's Office (MCSO), local law enforcement agencies, Wegmans Food Markets, the Jewish Federation of Rochester and the Drug Enforcement Agency (DEA) - Team DES has expanded this valuable service throughout Monroe County.

In 2010, 69 pharmaceutical waste collections were held in Monroe County, collecting over four tons of pharmaceutical wastes and servicing 3,497 residents with proper disposal.

DES continues to expand the pharmaceutical waste collection program by including additional local law enforcement agencies. Most recently, monthly collections are taking place at three MCSO substations, the East Rochester and Fairport Police Departments. Beginning in January, monthly collections were also added at the Greece and Ogden Police Departments. Selected Wegmans Food Markets are also slated to hold three collections in 2011.



Greece PD participates in DEA's first nationwide pharmaceutical waste collection day

All pharmaceutical wastes, once collected, are disposed of by incineration as a free community service provided by Covanta Niagara (a mixed solid waste incinerator located in Niagara Falls), under the direct supervision of law enforcement.

Monroe County's program was recognized in 2009 by the USEPA Region II with its Environmental Quality Award and by the NYSDEC with its 2009 Environmental Excellence Award.

*Contributing Employees: **Tom Sinclair, Harry Reiter, Steve Stratton, Sean Keenan & Andy Sansone***

Names Road House Demo

Dave Butters

A delinquent house in the Town of Chili was requested for demolition by Chili officials and again the skilled staff of DES was asked to perform this unique task. **Bill Hanna** and **Pat Slattery** organized the task in cooperation with town officials to assure a safe and efficient operation. **Bill Hanna** operated the County excavator during the demo, loaded the Town of Chili trucks for disposal at the Mill Seat Landfill and backfilled and graded the site to perfection. Initially, the job was projected to take a minimum of four days to complete; however, the job was finished in half the time – just two days!



Neighbors Visit FEV

John Fiutko & Tina Stevens

October 30th was a warm fall day, matching perfectly the welcome that more than 60 Town of Irondequoit residents received from our Wastewater Operators of the Monroe County Department of Environmental Services. Guests included Irondequoit Town Supervisor Mary Joyce D'Aurizio.

The FEV Open House “Come see what we do at the WWTP” returned in the fall of 2010 following a year’s hiatus. A new venue in the renovated Irondequoit Bay Pump Station training center hosted the plant’s neighbors.



In all, 618 households encompassing a $\frac{3}{4}$ mile radius of VanLare were invited and 61 families accepted. They spent a better part of a Saturday learning the “*who, why and how*” of wastewater treatment and the positive influence Monroe County WWTP’s have on local waterways.

Neighbors were greeted by Senior Operator **Tom Tieppo** at the entrance gate and by Environmental Educator **Tina Stevens** at the IBPS registration table. Then, they strolled through the training center hall viewing plant process posters and met with Operators for morning refreshments.

Chief Operator **John Fiutko**, serving as MC for the day’s events, introduced DES Director **Mike Garland** who presented a power point overview of the Department and its functions. Fiutko then gave a short presentation on the wastewater treatment plant, its functions and the importance of the work that is done through the 24/7 protection of local waterways.



There was no shortage of Operators and assistant Operators who volunteered their Saturday to participate in the event. Using a combination of walking tours and shuttle buses, Operators proudly showed the neighbors the treatment plant and explained internal processes. Neighbors were mesmerized by the technology and gained a positive understanding of what a wastewater plant is, its importance to the quality of life in Monroe County and the integral part played in wastewater treatment by FEV employees.

Following plant tours all returned to the Training Center for lunch and additional presentations from laboratory professional **Steve Bland**, who gave a short presentation on the Activated sludge system and explained plans for upgrades to a new diffused air system.



This was the first year that an outside speaker was brought in to add additional perspective. **Charlie Knauf**, from the Monroe County Health Department and environmental activist, was an outstanding addition. Charlie's experience and knowledge qualified him to speak to and answer questions related to local water quality improvements, many of which are attributed to the Pure Waters Program.

At the conclusion of the meeting, several residents came forward to thank employees for the Open House. They verbally affirmed their delight with the hospitality and had nothing but admiration for the good work done at Monroe County's WWTP's. In the days that followed, many neighbors called and emailed overwhelmingly affirmative comments.

Neighbors and Operators all left with an upbeat feeling about the important and beneficial work that is done at the WWTP and with an improved relationship between plant personnel and neighboring residents.



Contributing Employees: John Wurzbacher, Ken Kelsey, Jeff Schultz, Mike Barrile, David Tuccio, Jim Fairchild, John Hanscomb, Manny Burgio, Steve Peletz, Steve Bland, Tom Tieppo, Mike Garland, Tina Stevens, John Fiutko, Josephine Guarino, Bill Putt & Dan Ross

New Code Enforcement/Compliance Software

Dennis Scibetta

In 2009, DES approached Town of Chili Information Services Director Chris Levey about the design of software to be used by Monroe County Code Enforcement Officials. This software would issue and track building permits, certificates of occupancy/compliance, required life safety and building inspections and vital property information. The result was a program called CoMESIS (County of Monroe Environmental Services Information Systems).

CoMESIS Dashboard

Open Permits: 28

Permit #	Issue Date	Permit Type	Description
B-28-2007	12/21/2007	Fuel Station Permit	Relocation of Rochester Operations Center Fueling Pumps

Open Projects: 43

Project ID	Manager	Project Title	Description
10	Johnston	GRIA Terminal Improvements Phase III	Terminal Improvements Phase III
13	G. Hettler	Pattonwood Pump Station Improv	Pump Station Improvements
20	G. Hettler	Jail Sprinkler	Sprinkler Improvement
21	Johnston	GRIA Security Screening System	Security Screening System
22	Kennedy	Trolley Pump Station Improvement	Pump Station Improvements

Life Safety Inspections Due: 520

Due Date	Property	Structure	Description
	WVO Treatment Facility	Cell Tower	
	Ames Building	Ames Building	
	IOLA	Household Hazardous Waste Buildi	
	691 St. Paul	Bausch Building	
	Abraham Lincoln Park	Abraham Lincoln Park Pavilion	

Building Inspections Due: 2

Date	Time	Permit #	Prop. ID	Prot. ID	Address	Project
10/19/2010	10:00 AM	B-12-2009				
10/19/2010	1:00 PM	B-6-2010	164	83	Elmgrove Rd	Greece Canal Park Improvements

This Microsoft Access-driven program incorporates information that was previously stored in four separate spreadsheets and many hard copy files. Now, all property and code information is in one place accessible from staff computers. Reports can be printed that reveal information such as inspections that are due, open permits, certificates of occupancy and comprehensive contact information. The program features built-in GIS and document management capabilities to create e-files for properties that may include forms, photos and drawings. These documents would normally be stored in hard files in many different locations. County Code Officials are now performing final debugging before using the software. Special thanks go to our former DES Interns **Nathan Dewey** and **Evan Harding** for trials and data entry and current DES Intern **Mark Ellison** who has entered data, project information and

permits dating back to 1990. Also, special thanks are in order for **Ron Sansone** and **Justin Cole** for helping with tweaks and tricks!

*Contributing Employees: **Joe Cardinali, Irv Murph, John Nitti, Mike Garland, Daryl Maslanka, Jason Kennedy, Ron Sansone, Justin Cole & Bob Goodrich***

New Fleet Vehicles

Dave Butters

2010 was targeted as the year for vehicle replacement for the DES Pure Waters fleet. Fleet Manager **Melvin Rose** worked with supervisors from the ROC to target vehicles which had served their purpose, with the main areas of focus 10 wheel dump and heavy duty crew trucks. The Fleet team met with local truck vendors to obtain specifications. After researching numerous options, vehicles were reviewed by the operator accountability group and selections made. Operator and driver feedback has been overwhelmingly positive since these vehicles were placed into service.



New Sewer Televising System

Jeff Scheuch

In 2010, the Investigation Team at the ROC received a major upgrade in technology and equipment. Enter Envirosight Rover 125 - the answer we were searching for. This new technology brings Pure Waters to the forefront and beyond of collection system televising. From a user/operator standpoint it is smaller, lighter, more efficient, maneuverable and will save time in the field. Through the ease of pipe size changes to different wheel types, this will make the camera faster than previous systems. Digital images are crystal clear helping to better view pipeline defects. The entire system can be easily upgraded and has the ability to automatically scan a pipeline without stopping to scan each defect. After the scanned images are downloaded, the computer generates HD video and a 3D profile, which can be viewed in-office to identify system defects. Another major advantage is having local parts and service, which reduces down time if need for repairs arise.



WinCan v8. Pipeline Management Software is the reporting program used by Envirosight Rover. Using a software-driven system means better efficiency and less paperwork. Digital images, HD video and televising reports are stored on hard drives and servers can be viewed over the County network. WinCan is National Association of Sewer Service Companies (NASSCO)/Pipeline Assessment Certification Program (PACP) certified. PACP rates the pipeline in two different groups:

- Structural features/defects – cracks, fractures, breaks, holes, collapses, deformations, joints and surface damage (corrosion).

- O&M features/defects – grease, rags, debris, deposits, roots, infiltration, obstacles/obstructions, vermin, taps, intrusions, sags and material changes.

With each defect code there is automatically a severity grade, which ranges from one to five. These grades are a national standard. Example: a grade five defect in New York would be the same in Texas.

The comprehensive PACP database will also prove useful during implementation of new initiatives such as C-MOM and GASB-34.

ROC crews specified the televising unit vehicle that would meet the criteria for the new system. Investigation team members designed and built all of the custom cabinetry for the vehicle's interior, including the command station and work bench area. The crews then installed and wired the camera controller, computer system, cable reel and three 19 inch monitors. Completing this work in-house was an enormous savings to the County. With the actual televising equipment, we were able to stay thousands under budget, and by building the truck ourselves saved over \$80,000 vs. a vendor built truck.



Contributing Employees: Dan Cavallaro, Matt James, Jeff Scheuch, Mike Quayle, Scott English, Chris Maier & Steve Reiter

'No Dig' Pipe Patch Technology

Rob Tyndall & Dan Cavallaro

For more than three years, Monroe County DES at the ROC has been utilizing **No Dig** technology to help to eliminate the need for costly, disruptive and time consuming surface excavation work. Pipe patch technology provides the ability to perform small spot repairs and I&I leaks in main sewers and lateral pipes. Using this technology, it has shown to take less time and manpower to repair pipes, while leaving the ground undisturbed with no need for additional - and potentially costly - restoration work.

An estimate of repair for 8" sewer main, utilizing traditional excavation methods would be from \$8,000 to \$10,000. The same repair, utilizing Pipe Patch technology, would be much less expensive, and range from \$2,500 to \$3,500. This pipe patch repair system helps DES repair 4" and 6" diameter house laterals and six- to 15" diameter main sewer lines. In 2009, a custom box trailer was outfitted to hold the equipment and materials used during pipe patching. This trailer has greatly reduced job time and improved work efficiency.

Atwood Drive Cross Lot

The 10" sanitary main that runs cross lots from Atwood Drive to MarcMar Trail in Gates is a vital conduit for flow from Lyell Avenue and the Twin Oaks neighborhood and to the Deming metering site and the North South Interceptor sewer. This cross lot 10" main is located in a wooded area that runs parallel to a creek bed, is pitched steeply and has high daily flow rates.

During routine follow up televising of the 10" sanitary following cleaning, a number of breaks and cracks in the pipe revealed significant infiltration. These deficiencies were found over the entire length of the cross lot section and made for a complicated repair. Using traditional methods of excavation and replacement the repair would be very costly, time consuming and disruptive.

Enter pipe patch technology! While there was still plugging of the main sewer and bypass pumping of the flow, no excavation was required to repair breaks and cracks. A total of five pipe patches were used to make repairs, with each kit repairing approximately 4' of 10" sanitary sewer. The project was carefully planned before execution, with notifications to homeowners and staging of equipment all done prior to beginning work. All five repairs were made in just two days - with no disruption of service, excavations or restorations!

Other "No Dig" Repair Projects in 2010

Location

Elmcroft Road
Mt. Hope Ave

Repair

8" sanitary main, one 48" patch repair
8" sanitary main, one 24" patch repair

Beach Ave
Pollard Ave
Sherman St
Kayin Dr
Morncrest Dr
Burben Way
Toni Ter
Seneca Ave
Hampden Rd

12" sanitary main, one 24" patch repair
8" sanitary main, one 24" patch repair
8" sanitary main, one 24" patch repair
8" main, one 24" and one 48" patch repair
8" sanitary main, two 24" patch repairs
8" sanitary main, one 48" patch repair
8" sanitary main, two 24" patch repairs
8" sanitary main, one 48" patch repair
8" sanitary main, one 48" patch repair



Wrap of 4" lateral Pipe Patch material on inflatable packer



Insertion of packer into lot line clean out to repair 4" lateral

Contributing Employees: Rob Tyndall, Dan Cavallaro, Mark Delavak, Jeff Scheuch, Mike Quayle, Scott English, Chris Maier, Bob Cialini, Larry Steehler, Eddie Mackey, Mike Burkett & Matt Fitch

NWQ Material Handling Conveyor Upgrades

Steve Christensen

Many pieces of equipment at DES' treatment plants move solid type material, at the plant headworks for preliminary treatment screenings or at the end for trucking bio-solids. From conveyors with belts to conveyors in the shape of an Archimedes screw, both plants have many types of this crucial equipment that must be in service at all times.

Screw conveyor 4 at NWQ is the main transport for bio-solids out of the centrifuge process area. This conveyor, which measures 80', 18" in diameter and made of stainless steel, was in service at the VanLare plant during the 1980s and 1990s. It was used to move "cake" from the Parkson and Ashbrook filter presses to the incinerators. When FEV converted to centrifuges in 1999, this conveyor was re-purposed and put into use at NWQ as part of a temporary bio-solids offload system. In 2001, when the NWQ bio-solids building was designed and constructed, this conveyor was again re-purposed and put into the project. The project received a total of nine conveyors, with this being the main.

Reliability with this conveyor would become a concern as small problems began to turn into large ones. Each problem would interrupt the operation, resulting in unscheduled downtime. While the quick responses of the Mechanical and Electrical groups kept downtime to a minimum, it became clear that a major rebuild was required. Because this conveyor needed to be available for service at all times, **Jeff Lawrence**, **Jim D'Amico** and **Paul Sandle** strategically planned a two-day shutdown to perform the work.

The scope of the work was to totally gut and rebuild the conveyor. Materials to rebuild the screw were procured ahead of time. However, modifications that had been made on the conveyor over the years were not documented, resulting in parts that did not fit.

The group of guys that were assigned to this project has to be given credit for a job well done. They were not deterred by the fact that parts did not fit and the deadline for startup could not be changed. They machined parts; they fabricated new parts from raw materials, and built, welded and re-configured anything they needed to complete the job.

In the end, the conveyor was rebuilt over two 12-hour days and included all new screw sections, bearings and shafts and hardware.

Hats off to: Jeff Lawrence, Paul Sandle, **Dan Smith**, **Steve Lupia**, **Mario Caletz**, **Brian Falk**, **Dan Cavallaro Jr.** and **Mike Babij** for their creativity,

resourcefulness and commitment to this project to get it done correctly and on time.

Grit removal - the removal of rocks, grit, sand and other inorganic materials which ultimately get into the main flowstream of a plant's processes - is a key step in any treatment facility. This material wreaks havoc on pumps, pipes, conveyors, tanks and most importantly, million dollar centrifuges. It is of the utmost importance to have grit removal systems in top running condition to minimize the potential negative impact downstream.

At the end of 2009, grit tank 1 at NWQ - a 20' deep, 25 MGD tank - was beginning to show excessive signs of wear on the main bucket elevator chain (a vertical conveyor). To prevent major failure, Jeff Lawrence and Paul Sandle decided to take the tank off-line and replace the chain. A thorough inspection of the entire submerged conveyor demonstrated that the entire screw conveyor system needed replacement. While bearings, shafts and chains had been replaced on an as-needed basis many times, 2010 would be the year that this equipment received a total system overhaul. After an inspection of tank 2, which had approximately the same amount of hours, Jeff, Paul and Jim D'Amico decided that tank 2 would also get an upgrade. Planning began by writing a specification for \$40,000 worth of parts, which were bid out through the purchasing process.

When the parts arrived, the first tank was taken out of service for the rebuild. Paul, Dan Smith, Brian Falk and Dan Cavallaro Jr. replaced all the screw sections, bearings, shafts, and 120' of chain, tensioning devices, sprockets, hardware and more. Some of the high wear parts were coated with a ceramic coating to lengthen their life. After a week of solid run time, the second tank was removed from service and afforded the same VIP treatment. The attention to detail that these guys put into every part of this project was exceptional.

The initial concern which initiated this repair was a worn chain. These employees took this opportunity to evaluate the entire system for long term reliability, which in turn benefitted the Operators, mechanics, centrifuges and the rest of the plant. This team's desire to instill quality into their workmanship, attention to every detail and their insistence that the system be rebuilt to perfection is where this job warrants recognition. Special Thanks to Operations for all the help they gave on this project.

Contributing Employees: Mike Barlow, Jim Fairchild, Ken Kelsey, Robert Maloney, Dwayne Reed, Todd Terran, Bill Waghorn, Dave Schuth, John Peckham, Don Bell, Jim D'Amico, Jeff Lawrence, Paul Sandle, Dan Smith, Steve Lupia, Mario Caletz, Brian Falk, Dan Cavallaro Jr. & Mike Babij

NYSDOH Rapid Test Proposal

Mary Merner & Gary B. Brown

The Monroe County Environmental Laboratory provides *E. coli* data to the Health Department. This data is used to determine whether or not a beach should open.

One of the drawbacks to the current system is that results of the testing are not known until the day following sampling. This drawback resulted in the development of a model that uses rainfall, river flow, wave height, algal mass and river plume to predict what the *E. coli* count will be for a given day. In some cases, this results in the beach opening when it should have been closed and closing when it should have been opened.

Due to this limitation, research has been conducted by institutions to develop Rapid Indicator tests that would give results on the day of collection. Two of these tests are quantitative Polymerase Chain Reaction (qPCR) and Immunomagnetic Separation/Adenosine Triphosphate (IMS/ATP). Recent research on these tests has shown a correlation between detection of bacterial indicators of fecal pollution and waterborne illness in Great Lakes waters.

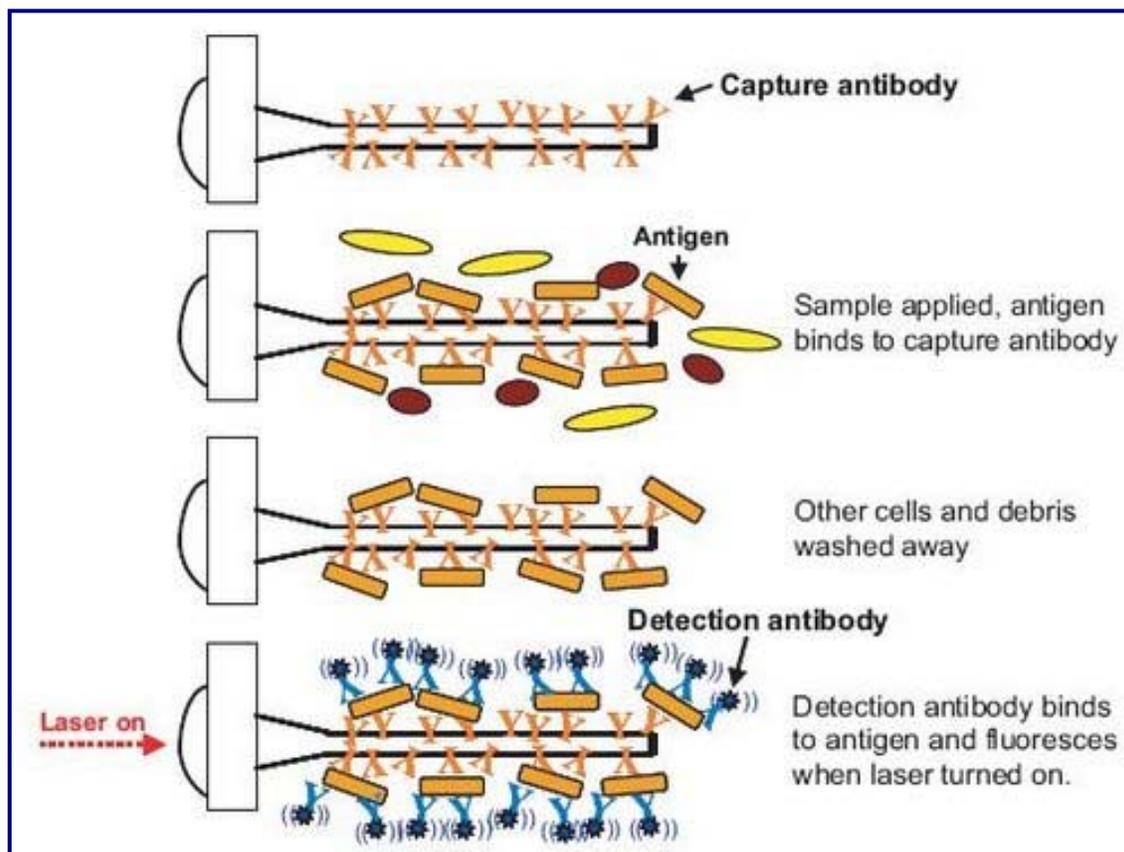


Illustration of an immunoassay technique that utilizes a fluorogenic detection antibody to quantify the target pathogen (Nobel and Weisburg 2005)

This past summer, the Monroe County and New York State Health Departments submitted a grant proposal to study the use of the qPCR and IMS/ATP tests. The overall goal is to improve the effectiveness of monitoring the traditional bacterial indicators of fecal pollution. The long term goal is to expand lab capacity to provide rapid detection testing to local Health Departments.

This study will span two years (2011-2012) and will assess both the Ontario and Durand beaches. The New York State Health Department will provide equipment, supplies and training. The qPCR test will be conducted during both the 2011 and 2012 seasons while the IMS/ATP test will occur during 2012.

The implementation of these rapid detection methods will provide managers with the data needed to accurately open or close beaches.

Dehm, T.A. 2010. Implementation of Rapid Test Methods at Lake Ontario Beaches, New York State Department of Health.

Nobel, R.T. and S.B. Weisburg. 2005. A Review of Technologies for Rapid Detection of Bacteria in Recreational Waters. Journal of Water and Health 03. 4:381-392.

*Contributing Employees: **Scott Gabel, Drew Smith, Mary Merner & Gary B. Brown***

Operations Challenge Team Genesee Valley Chapter – NYWEA

Stephen Peletz

The 2010 New York Water Environment Association (NYWEA) Annual Spring Technical Conference was held in Rochester. Hosted by the Genesee Valley Chapter, a major part of the conference continues to be the Operations Challenge; a combination of five timed events all related to wastewater



Collections Event-Ken Smith cutting out broken section of pipe

treatment operations (Process Control, Laboratory, Maintenance, Safety and Collections). Each chapter within NYWEA is allowed to sponsor a team of four members to compete in the challenge with the Metropolitan Chapter (New York City Area) allowed to sponsor two teams. This year, four teams competed in the Operations Challenge: the Genesee Valley Water Recyclers, a team from the Long Island Chapter and two teams from the Metropolitan Chapter.

The Genesee Valley Water Recyclers' team members were: **Steve Reiter (Captain), Alan Oates, Frank Mahns, Ken Smith, Ken "Corky" Kelsey (Alternate) and Stephen Peletz (Coach)**. All team members are DES

employees. The team had four new members this year: Alan, Frank, Ken and Corky. Practice started in January and many hours were spent preparing for each event. Their hard work paid off as the team won the Laboratory Event and placed a respectable third overall. Most importantly, all team members enjoyed the time practicing and preparing for the challenge and walked away with many new skills and expanded knowledge related to wastewater treatment operations.



Collections Event-Replacing broken 8" pipe with new

A special thanks to Corky for providing his time and knowledge in assisting the other team members to prepare. The team members would also like to thank their supervisors (**Bill Putt, John Fiutko, Tom Tieppo, Manny Burgio, Jim D'Amico, Tom Posella, Harry Reiter, Drew Smith** and **Mike Garland**) and **DES** for their assistance and support! (Frank has since left DES for a position in the private sector; we wish him well!)

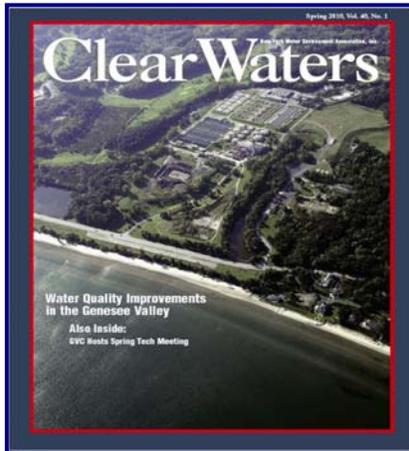
Thanks to **George McAvinney, Rich Bianchi** and **Terry Kuchman** who volunteered to judge various events at the 2010 competition. Also, **Charlie Smith** saved the day for the Collections Event by tracking down a replacement pressure gauge from a vendor at the conference after one failed during competition. **Michael Burkett**, who showed an interest in the team last year, has joined the team to fill Frank's spot. The team looks forward to competing again at the 2011 Operations Challenge. Congratulations to the Water Recyclers on a job well done in 2010 and GOOD LUCK at the upcoming competition in June!



*Stephen Peletz (Coach), Ken Smith, Frank Mahns,
Steve Reiter (Captain), Alan Oates & Ken "Corky" Kelsey (Alternate)*

Outstanding Operational Permit Compliance Continues

John Fiutko

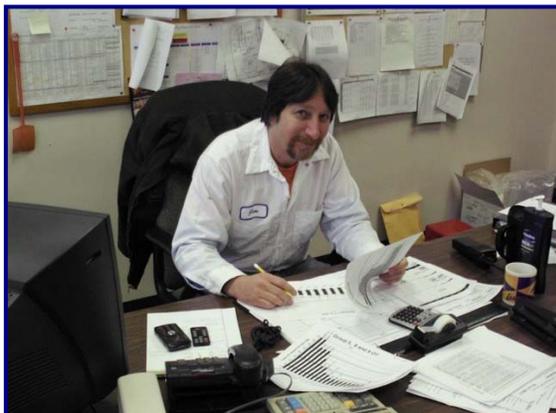


Our Operators and assistant Operators protected local waterways with fierce persistence during 2010. Once again, both of our Waste Water Treatment Plants - NWQ and FEV - stringently adhered to regulatory Permit requirements. A total of 39 billion gallons of wastewater was successfully treated well beyond required standards before being discharged into our receiving water body – the great Lake Ontario.

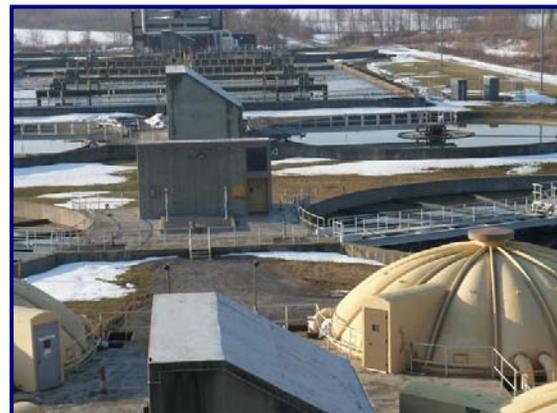
The primary directive of DES Pure Waters is to convey and treat wastewater generated by the Monroe County community. It is a directive that is taken very seriously and followed very well. Month after month, incoming wastewater is professionally managed and conveyed to our treatment plants, where it is transformed into clean water. 24 hours a day, each and every day, we operate 1,000 miles of complex sewer systems, 35 miles of a 175 million gallon underground deep rock storm tunnel system, 54 pump stations and two very large wastewater treatment plants with unarguably outstanding results.

Both plants once again met more than 99% of all required removal standards with removals of pollutants well beyond the minimum requirements. This was the fourth consecutive year of unprecedented outstanding Permit compliance.

The Operators at the NWQ plant once again met all removal regulatory Permit standards with the exception of elevated flow received in March – 23 MGD average for the month. This was due to an inordinate amount of rain and snow melt.



Jim D'Amico-NWQ PCO



NWQ Wastewater Treatment Plant

Technically, the flow slightly exceeded the NWQ permitted limit of 22 MGD. This high flow was successfully treated with all removal requirements met in spite of the high hydraulic loading. With the exception of the March flow, ***all Permit parameters were met at the plant that month and each and every month for the entire year.*** During 2010, **Pollution Control Operator Jim D'Amico** was the primary Operator at NWQ and he deserves much praise and recognition for his efforts.

Their larger sister plant – FEV - also had a banner year. There was a fleeting Aeration upset in February after high loading combined with colder water temperatures and elevated road salt, temporarily upset the aeration microorganisms. During the upset period, our Operators gave the system the required extra attention needed, along with numerous adjustments necessary to nurse the system back to health. This short lived upset resulted in three minor settleable solids violations (out of 365 samples taken). Those three minor exceedances ended up being the only non-compliances of the year at the FEV facility. The Operators did their best to satisfactorily treat every drop of wastewater to the best degree possible. Special acknowledgements go to **Senior Operator Tom Tieppo, Pollution Control Operator Manny Burgio** and **Laboratory Biologist Steve Bland**, all of whom were responsible for the Aeration process adjustments.



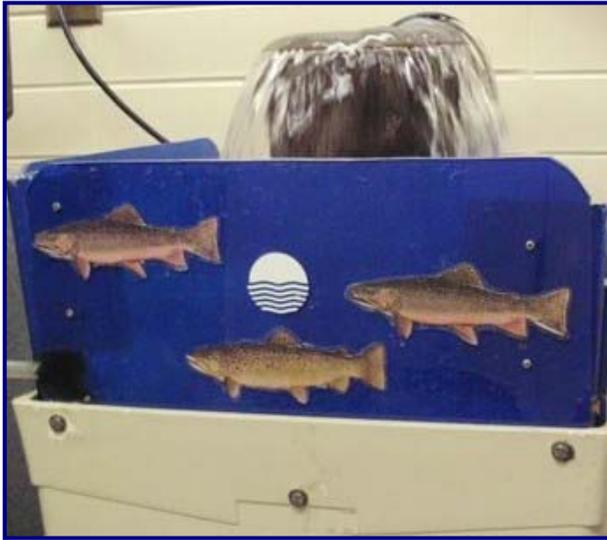
FEV Wastewater Treatment Plant



Manny Burgio-FEV PCO

FEV managed to limit overflows in the deep rock tunnel system to three short diluted overflows on the west side and one 30-minute event on the east side. Pollution Control Operators manage the tunnel gate adjustments and once again they demonstrated very good judgment with their adjustment decisions – thanks to **Doug Kircher, John O'Brien, Manny Burgio, Jim D'Amico, Tim Lemcke, and Mike Barrile**. During the past four years, overflows and Permit violations have been negligible, with only a handful recorded in that 48 month period. Again, there were no dry weather overflows in the sewer system in 2010. 99% of all wastewater that entered our sewer systems received full secondary treatment. By Permit, each plant is required to remove 85% of BOD (Biochemical Oxygen Demand) and TSS (Total Suspended Solids). The Operators at FEV managed to surpass those requirements, removing 93% of

each pollutant. The NWQ Operator report card came in at 96 and 95% - a most impressive removal rate, well beyond requirements and expectations.



FEV sparkling effluent in sample room

These past four years have seen remarkable compliance to State and Federal standards at DES' treatment facilities. A new "high bar" has been set for future Operators to follow. Many experienced operators continue to be lost through retirement, yet the Operator spirit lives on as is evidenced by the continued superlative treatment of incoming wastewater to the highest standards, the end result being invaluable protection of our pristine local waterways.

Contributing Employees: Jim D'Amico, Manny Burgio, Tom Tieppo, Steve Bland, all of Operations, Collections, Mechanical, I&E, Industrial Waste, Laboratory personnel & others in DES

Pattonwood Pump Station Upgrade

Daniel J. Ross

The Pattonwood Pump Station has been in service since 1976. After many years of faithful service, the original equipment had reached the end of useful life. The station was built as a wet well/dry well configuration, with the wet well located below the control building. The dry well was found partially beneath the control building, with a portion outside of the building footprint. This additional piece was used for the removal and installation of pumps.

The original centrifugal pumps, which were oversized for possible future build-out, were replaced with vacuum primed centrifugal pumps. These pumps are a better size to handle station flow. The pumps were relocated to the control room and new piping was installed. This allowed for elimination of the dry well, which was difficult to access safely for maintenance.

Due to limitations of the original design, cleaning of the wet well was a labor intensive and potentially unsafe project. After much planning and discussion, DES and design engineers Barton and Loguidice settled on a combined by-pass suction and wet well cleaning pipe. The pipe can be connected to a by-pass pump or a Vactor suction tube. Although a fixed Vactor connection is less than desirable, it was the best option available.

Other additions and improvements incorporated into the project include:

- Installation of two mechanical mixers in the wet well, which prevent formation of a grease “blanket” on the water surface. These mixers also keep solids suspended which reduce grit build-up.
- By-pass pump piping system.
- New heating and ventilation system.
- New hip roof, new doors and various aesthetic improvements.
- New magnetic flow meter.
- New portable generator which replaced the former fixed unit.



Control room prior to upgrade



Control room after upgrade

Except for a few start-up glitches, the station is operating smoothly and should provide many years of dependable and efficient service.

This upgrade has been presented in nomination to the American Public Works Association for recognition within its Environmental category, which recognizes the use of energy efficient products, such as lighting and variable frequency drives and green initiatives in design and construction.

The cost for design and construction of this project totaled \$1.1 million.

*Contributing Employees: **Because of the scope of this project, the list of contributing employees would include most of Pure Waters personnel. Suffice it to say that the coordination between I&E, Mechanical, Engineering, Collection Operations & Plant Operations was key in the planning and execution of this upgrade.***

Pediatric Visitation Center Wireless Communication Badges

Charles Diamond

In the development of the Pediatric Visitation Center project, a more cost effective solution for the proposed wireless peer-to-peer communication system became readily apparent. The main purpose of this system is for inter-employee communication, such as a conversation between individuals or a broadcast message to all staff. At the same time, the Children's Detention Center (CDC) was searching for a more reliable system. The one they were currently working with was having reliability issues and existing badges were not holding up well under daily wear and tear. All – if not most – of the badges had been returned for repairs, many of them several times.

Motorola had recently released the EWB100 badge, which talks peer-to-peer and requires no central servers or other software, licenses, etc. For those reasons they are much less expensive and enabled a savings of over \$50,000.00 on the Pediatric Visitation Center project. As demonstrated in reliability testing, the Motorola badges have proven to be much more reliable and more likely to stand up to rigorous day to day use. Less initial costs and less downtime and repair will translate into significant savings for the County. The Motorola badges seem like a better fit for the person-to-person communication that occurs at CDC and at the new Pediatric Visitation Center.

The miniature TEAM badge (EWB100) brings a new level of portability and affordability to mobile voice, enabling easy deployment of cost-effective basic Push-to-talk (PTT) voice communications to task workers inside the enterprise walls, within a single subnet, over virtually any 802.11b/g wireless LAN (WLAN). Weighing in at just over an

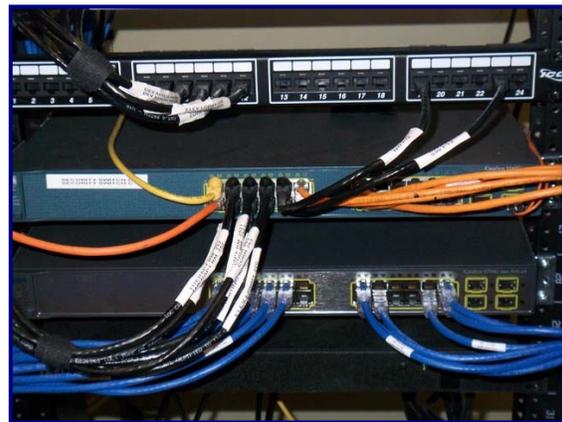


ounce and a half, the tiny TEAM badge integrates a Wi-Fi radio, microphone, speaker and headset jack — yet is only 2.5 in. x 1.5 in. / 6.35cm x 3.8cm. Now, employees can receive, place and respond to PTT broadcast calls as well as privately respond to a caller. As result, annoying overhead paging systems can be eliminated and task management and employee productivity are improved.

Push-to-talk communications between the TEAM badge and existing Motorola mobile computers, TEAM Vow LAN smart phones and two-way radios, all allow workers with different devices to reach each other easily and instantly. The resulting ability to create integrated cross-functional workgroups helps ensure supervisors and employees can easily reach each other with the press of a

button, improving overall operational efficiency and the effectiveness of the workforce.

The unobtrusive and lightweight TEAM badge (EWB100) can be clipped on a shirt or worn around the neck or wrist with an optional lanyard. Intuitive walkie-talkie style communications and the simple five button interface are easy to use, virtually eliminating user training. For outbound group communications, the press of a button allows workers to scroll through and select the desired talk group (up to 32 available). The battery can provide power for a full 10 hour shift, further simplifying operation. Workers simply place the TEAM badge in the charger at the end of a shift — no battery management required at the user level.



*Contributing Employees: **Al Campione, John Zavacki, Marty Veck & Charles Diamond***

Pilot Plant Aeration Study

Stephen Bland

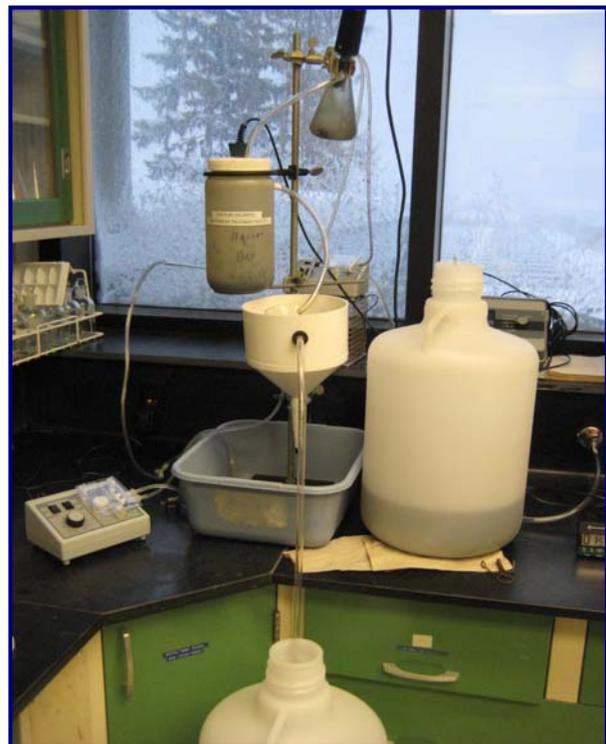
Documented in detail elsewhere in this Yearbook, the Frank E. VanLare Wastewater Treatment Facility (FEV) is undergoing an upgrade of the aeration system. This is a major project, requiring millions of dollars and several years to complete. Included in the design of the new system is something called an anaerobic selector.

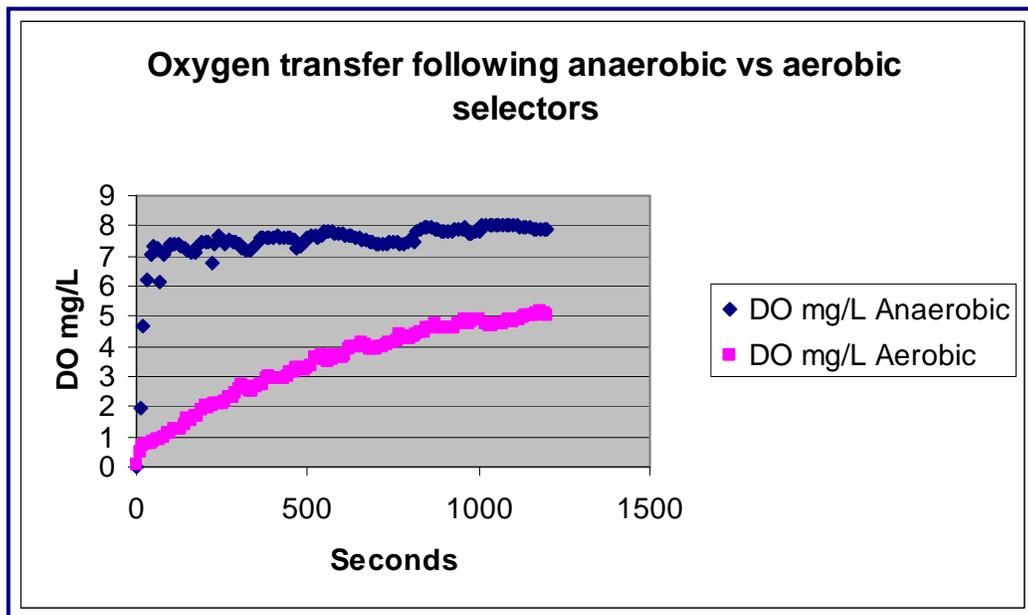
The selector was detailed in the 2009 Yearbook, but here is a brief refresher: an anaerobic selector is a compartment where microbes are introduced to wastewater for a brief period in the absence of oxygen before entering an aeration basin. The selector is designed to improve the rate at which oxygen is transferred to water in the aeration basin. This results in significant energy savings.

The aeration improvement team, led by **Gary Hettler**, had a problem – an anaerobic selector has never been tried before in a plant with the characteristics of FEV, which is a high-rate return activated sludge plant. Furthermore, it's not well understood how these selectors work. The team was also concerned that the anaerobic selector might be a source of odors – regardless of whether it worked.

With a lot of money at stake and little data to act on, the team needed to reach a decision. Simple bench tests were not appropriate because the system required bacteria that had evolved over several generations to work properly. A scale model of FEV was constructed largely out of spare parts from the basement where old laboratory equipment is stored. The result was an unlikely combination of tubes, flasks, bottles and pumps that was called the Rube Goldberg Wastewater Treatment Facility (RGWWTF) for obvious reasons.

After a month or so, RGWWTF produced some positive results (see chart) and allayed fears about odor control. This model allows investigators to see the entire return activated sludge process. Watching a system demonstrated in this manner helps to understand mechanisms and constraints.





Based on these results **Drew Smith, Tom Tieppo**, Gary Hettler and I decided to forge ahead with the selector. The model continued in use to investigate the biological mechanism behind anaerobic selectors and led to interesting hypotheses which are still being tested.

Occasionally, some plant operators will stop by the lab – some to deliver samples and some just to talk. One in particular, **Frank Mahns**, took an interest in the RGWWTF.

The RGWWTF is now included on tours of FEV. It has proven to be a good educational tool and an excellent research tool. Plans are in the works to make RGWWTF portable to demonstrate it at the 2011 E³ Engineering and Technology Fair at the Rochester Institute of Technology in April.

Contributing Employees: **Gary Hettler, Frank Mahns, David Cross, Drew Smith & Tom Tieppo**

Pump Station Upgrades Done In-House

John Palermo

In 2010, it was decided to upgrade two-category three pump stations in the GCO District, Forestview and Vantage Point. Also, one pump and base required replacement at Riverdale 1 & 3.

Forestview Pump Station

The Forestview pump station is located at 113 Snowberry Crescent in the Town of Gates. The old pumps were single phase 1.5 horsepower submersible pumps which pumped approximately 120 gallons per minute. Upgrading was done to a larger horsepower so they could be used to pump down the wet well and remove debris. In order to install larger pumps, collaboration with I&E was required to upgrade the drives to three phase. **Phil Lupia** and I worked together to size the pumps. **Chris Ross, Bob Borelli** and **Frank Powlowski**, the collection system mechanics, bypassed the station for four days with the help of **Matt Fitch** and **Mike Dugovic**, the collection system operators. They plugged the incoming line and set up two 4" Godwin pumps to keep the system operational. Mechanics replaced the old pumps with two KSB five horsepower vortex impeller submersible pumps. The increased size allows the station to be pumped down completely for cleaning and adds to the amount that can be pumped, approximately 190 gallons per minute. Mechanics also replaced the old discharge valves, check valves, slide rails and discharge piping. Thanks to these upgrades and repairs, reliability at the station has been greatly increased.



*Bob Borelli welding part of the discharge line
Bypass pumping in the background*

Vantage Point Pump Station

The Vantage Point pump station is located on Vantage Point Drive, off Manitou Road in Gates.

This pump station had two-two horsepower submersible pumps with a shredder type impeller. These pumps would often plug with the slightest amount of debris in them. It was decided to increase the horsepower and also the amount of volume that could be pumped, as well as increasing the reliability of the station. The collection system mechanics, **Mario Caletz**, Bob Borelli and Frank Powlowski installed two-five horsepower vortex impeller submersible pumps, new discharge piping and slide rails. The collection system operators, **Brian Gotham** and Mike Dugovic, assisted the mechanics in setting up the bypass pumping and plugging the incoming line. With the new pumps the flow was able to be increased from 110 gallons per minute to 225 gallons per minute.



Collection system mechanics assisting mechanic who is inside the wet well

Riverdale 3

Riverdale 3 is located at 29 Charles Avenue, off Scottsville Road. The station has two-10 horsepower pumps which pump approximately 650 gallons per minute. Pump number 2 was an old Enpo-Cornell brand which was starting to fail. Parts were no longer available for rebuild and it was decided to replace the pump with a new ITT Flygt model 3127, which was identical to pump number 1. Chris Ross and Frank Powlowski removed the old pump, fabricated a new pump base and installed the new pump. The station has a metal floor and it was in disrepair around the pumps. Chris and Frank had to modify the pump bases to help to reinforce the floor and support the pumps.



Chris & Frank installing base plate for new pump

Riverdale 1

Riverdale 1 is located at 2073 Scottsville Road. Much like Riverdale 3, Riverdale 1 had an old 10 horsepower Enpo-Cornell pump which pumped approximately 500 gallons per minute. The pump was in need of replacement so Chris Ross and **Steve Lupia** removed the old pump, fabricated a new pump base and reinforced the floor. The station is much more reliable with the new ITT Flygt model 3127 pump.

Removal of Underground Storage Tanks at FEV

Stephen Peletz

In the mid 1980s, the Frank E. VanLare Wastewater Treatment Plant (FEV) installed a dual fuel boiler for heating the Administration, Electrical and Instrumentation and Maintenance Buildings. The boiler is capable of running on natural gas or heating fuel oil. Costs for the two fuel sources vary and the thought was the boiler could run off whichever the cheaper fuel source was at the time. A 10,000 gallon underground storage tank (UST) was installed in the parking lot north of the old Classifier Building to store the fuel oil. A decision was also made to install an 8,000 gallon UST next to the fuel oil tank for storage of waste oil.

FEV is required to comply with New York State Department of Environmental Conservation (NYSDEC) Petroleum Bulk Storage (PBS) Regulations because the facility has the capacity to store more than 1,100 gallons of petroleum products. Any bulk storage tanks on-site, above or below ground, are required to be in compliance with these regulations. This includes registering the tanks with the NYSDEC, interstitial monitoring of USTs, inspecting the tanks on a periodic basis and labeling the tanks with required information.

A NYSDEC PBS Inspection conducted at FEV in June 2010 identified several deficiencies with the USTs. These deficiencies resulted in the USTs being out of compliance with NYSDEC PBS regulations. This meant correct the deficiencies or potentially risk heavy fines. After discussion, the decision was made to remove the USTs. With natural gas still being cheaper than fuel oil the tank would probably never be needed (the tank never stored any fuel oil). FEV does not generate enough waste oil to warrant a storage tank of such size. These two points combined with what it would take to get the tanks in compliance with NYSDEC PBS regulations, if they were to be kept, did not justify the need to keep the tanks.

The removal of the USTs took place over multiple days starting with the removal of the concrete, asphalt and pea stone covering the tanks. **Mike Read** was responsible for coordinating this work with DES contractor, CP Ward. One of DES' Hazardous Materials Contractors, Royal Environmental, was responsible for removing the remaining waste oil and sludge at the bottom of the waste oil tank. Once this was complete, the other DES





Hazardous Material contractor, NYETech, handled the cleaning of both tanks, confirmed the tanks were void of all waste materials and vapors, assisted with removal and disposal of the tanks, and sampled the soil around the tanks. Soil sampling and analysis of sidewalls and bottom of the tank excavation is required by NYSDEC PBS regulations to confirm the tanks did not leak.

Mike was also responsible for coordinating the work done by NYETech, the filling of the excavation and new pavement. Thanks to Mike for all his assistance! **Bill Hanna** operated the excavator during the tank removals. This involved removing material from around the tanks without damaging them, removing the tanks from the ground and loading them on a flatbed 18 wheel tractor and trailer truck for transport and ultimate disposal off-site. This was no easy task but Bill handled it with ease! Thanks also to **FEV Operations** who provided equipment and assistance during the removal. **FEV Mechanics** are in the process of procuring a new 1,000 gallon aboveground storage tank for storage of waste oil. This new tank will help make it easier and safer to manage waste oil generated and stay in compliance with NYSDEC PBS regulations.



*Contributing Employees: **Mike Read, Bill Hanna, Stephen Peletz, Operations & Mechanical***

RPWD Sewer Asset Transfer

Jason Kennedy

History in the making! On December 28, 2010, nearly 40 years after the formation of the Rochester Pure Waters District, the City of Rochester officially transferred ownership of all remaining City-owned sewer assets to the District. This historic occasion marked the culmination of years of proven Pure Waters performance and accountability to District ratepayers.

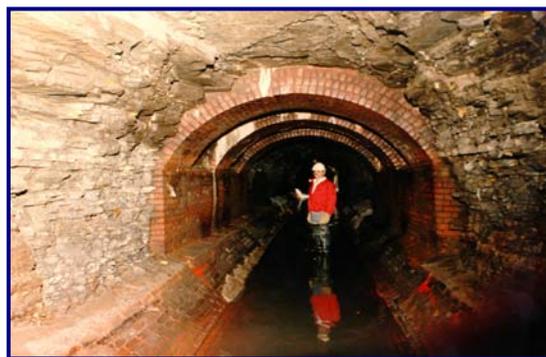
The City-District relationship began in 1971, when the newly created District signed a 40-year lease agreement to operate and maintain the City's sewerage system. At that time, the system was comprised of an aging collection system and the Frank E. VanLare treatment plant.



Pure Waters would spend the next several decades (and nearly $\frac{3}{4}$ of a billion dollars!) upgrading the District, which included numerous improvements to the collection system's sewer mains, manholes and catch basins; construction of the regional suburban interceptors and the Combined Sewer Overflow Abatement Program (CSOAP) Tunnel System; and upgrades to the secondary treatment and

solids handling processes at VanLare. VanLare quickly became the "jewel in the crown" of Pure Waters County-wide system, providing industry leading collection, conveyance and treatment services with stable rates through innovation and state-of-the-art technology.

In the 1990s, the City and District began discussions regarding the eventual expiration of the lease agreement in 2011 and how to address the fact that the City still owned a 95% majority share of the original collection system, while the District owned 100% of the CSOAP System and nearly 95% of VanLare. After on-again, off-again discussions, negotiations on a long-term solution began in earnest in 2008.



Based on the proven track record of the District and thanks to strong leadership from both sides, the solution became obvious: transfer any remaining City-owned properties (at no cost) to the District and complete the vision of the "founding fathers" all those years ago.



In December, 2010 the Rochester City Council and the Monroe County Legislature/Pure Waters Administrative Board voted to unanimously approve the asset transfer, which included the 100 acres of property in Durand-Eastman Park where VanLare resides. ***This momentous occasion was truly a team effort that spanned nearly four decades and involved the hard work and perseverance of everyone in Pure Waters.*** A debt of gratitude for a job extremely well done, indeed!

Safety Teams

Mary Jo Healy

When reflecting on the yearly accomplishments of Safety Teams, I am continually amazed.

Every member is committed to improving conditions to enhance employee safety.

Representing their functional groups in 2010 were: **Sheila Wilbert** and **George McAvinney** (Chairpersons), **Brian Gotham** (Scribe), **Doug Dumbleton**, **Erin Magee**, **Scott English**, **Mike Burkett**, **Jo Guarino**, **Jim Guerra**, **Bill Burgio**, **Chris Tatar**, **Bill Hanna**, **Phil Lupia**, **John Houston**, **Paul DelVecchio**, **Frank Powlowski**, **Glenn John**, and **Ken Van Duzer** (Sheriff's Fleet).

In their monthly, one-hour meetings, they have worked hard to:

Increase **YOUR** knowledge to work safely:

- Employees attended the UFPO's Dig Safety seminar and the DiVal Safety Expo.
- Tabletop exercise for ROC work zone training, which used existing maps and miniature cones and signs to evaluate set ups.

Evaluate equipment design to enhance **YOUR** safety:

- Mechanics purchased portable guardrails to place around open bilco doors to protect against falls.
- Installed guardrails on FEV P-Sed tanks walkways so the Confined Space standby person can see entrants anywhere in the tank.
- Facilitated the purchase of the MSA Sirtus Gas detectors and scheduled training for use and calibration.
- Assured the preferred style of full body harness – with the tongue buckle straps – will be ordered.

Respond to conditions that contributed to **YOUR** safety incidents:

- ROC and mechanics re-evaluated tasks to determine when an employee should not be working alone.
- Fleet Maintenance instituted a safety eyewear program. Employees and visitors must now wear eye protection when on the shop floor.

Provide information to increase **YOUR** awareness:

- In response to an incident in Middletown, Ohio, **Erin Magee** and the Industrial Waste section identified the locations of underground chemical bulk storage tanks. Knowing the locations of these tanks will enhance the safety of confined space entrants in these areas.

Facilitate improvements to **YOUR** working environment:

- Grating re-installed at Island Cottage and Flynn Road pump stations. This grating was removed over the wet wells to allow better operation of the level transducer signal.
- A broken railing fixed at NWQ Screen & Grit.
- “Bed Up” lights will be installed on new vehicles that need them.
- A manhole cover replaced across the road from FEV’s Administration building.
- Potholes repaired near FEV maintenance shop areas.

Assure solutions from the past continue to be implemented to maintain **YOUR** safety:

- The lenses of the Uvex safety glasses kept falling out. They have been taken out of stock.
- Assured Vibration gloves for jack hammering were available and used.
- Reflective tape applied to hard hats.
- Reviewed the locations of FEV fire hydrants to identify potable and non-potable water hydrants.

Through the support of all DES employees, safety concerns are resolved and solutions implemented and a safer workplace has been created for all

Stormwater Education

Paul M. Sawyko

Stormwater education, outreach and participation are ongoing priorities for Monroe County in partnership with the Stormwater Coalition. In addition to TV, radio, and newspaper ads, and the many public and school events for education during 2010, Coalition staff was able to take advantage of two unique opportunities to place the H2O Hero message into the community.

The first is a permanent stormwater exhibit, which opened in spring, 2010 at the Rochester Museum and Science Center. Developed and funded by the Stormwater Coalition, the exhibit strives to educate residents about stormwater issues and steps they can take to reduce stormwater impact around their homes. DES employees **Todd Stevenson**, **Harry Reiter** and **Paul Sawyko** worked closely with RMSC exhibit designers to develop a three-part interactive display which:



1. Educates visitors about watersheds and identifies which of the three major local watersheds they live in.
2. Quizzes and educates visitors about common household activities or items that might contribute to stormwater pollution.
3. Designates successful participants as H2O Heroes. This achievement is recognized through an e-mailed picture featuring them as the H2O Hero.

With the RMSC reaching nearly half a million visitors annually, it is a prime vehicle for stormwater education.

Visit the RMSC and become an H2O Hero soon!



Late in 2010, **Larry the H2O Hero** (for this event, aka - former DES intern **Will Batiste**) joined other superheroes at The Strong's Comic Book Heroes Weekend. In addition to personal appearances and photo ops, the first issue of the **H2O Hero** comic book was released at this event. Created by artist David Cowles, and assisted by DES employees **Erin Magee**, **Karen Paris Tuori** and Todd Stevenson, David was on hand to autograph copies. During this two day event, the H2O Hero stormwater runoff message was also demonstrated at the Water Education Collaborative's display staffed by Erin Magee and former DES intern **Carlos Bu Wu**. Comic Book Heroes Weekend was attended

by nearly 6,000 visitors. If you'd like a copy of the **H2O Hero** comic book (soon to become a collector's item), e-mail psawyko@monroecounty.gov.

Summer Environmental Education

Tina Stevens & Lauren Payne

On my summer vacationI learned about the Environment!

Think of summer and kids – and you imagine lazy days lounging poolside, playing outside, warm sunshine, beaches – anything but learning.

Nearly 200 children from areas across Monroe County bucked that trend during the summer of 2010 to participate in Monroe County DES' Summer Environmental Education Program.

In 2008, co-op **Lauren Payne** developed a four-module Environmental Education program called *Steps to a Healthy Planet*. The lessons, targeted at elementary school-age children, revolve around caring for the world we live in, solid waste-reduce / reuse / recycle, the water cycle / conservation / pollution, and energy.

Prior to 2010, the program had been offered through the City of Rochester at their Recreation Sites, where it met with mixed reviews and audience reception. Summer 2010 opened a new avenue – the Monroe County Library System. These community centers welcomed the opportunity to add DES' offerings to their summer programming.

The option was presented to libraries to offer modules separately and two (Maplewood and Charlotte) selected the water module only as it was the best complement to the library-wide summer theme of *"Make a Splash – Read!"* Four libraries (Mendon, Brockport, Arnett and Winton) booked all four modules.

17 classes were held over four weeks and a total of 183 students of all age groups participated. Children and adults alike were receptive to the concepts. Sessions fostered lots of good discussion, questions asked, and conversation among children, their parents and librarians.

The program also provided cross-promotion for other County initiatives. Recycling education is always relevant and generates a lot of discussion and questions and the annual tours of the landfills on both sides of town were able to be incorporated into lessons. Several families took the initiative to attend.

Also, DES' offering paralleled and complemented County Executive Brooks' Summer Reading Program, in which children throughout the County were encouraged to continue reading during their vacation. Communications was also an integral part of the DES effort, adding support to the promotion of the program through the County website.

Currently, it is envisioned the program will continue through libraries during the summer of 2011. The national theme is: “*One World, Many Stories*” ... where the continuing story of our environment is right at home!

*Contributing Employees: **Lauren Payne & Tina Stevens***

Take Your Kid to Work Day 2010

Tina Stevens

How many times have parents heard from their children: “Take me to work with you!” The fourth Thursday in April every year is a special day set aside in the workplace so kids can do just that.

Founded in 1990 as “Take Your Daughter to Work Day”, this national effort was subsequently expanded to include boys and aimed at school age children ages 9-18. Monroe County leads a full-fledged effort and many tours of various county facilities and programs are offered every year.

DES is fortunate to have many opportunities for kid-friendly places to visit. Past years have included tours of the Monroe County’s Recycling Center on Lee Road, the VanLare Wastewater Treatment Plant and the Fleet Center, among others.

In 2010, the format was changed to accommodate children and parents who had attended in prior years. Through the hospitality of Rochester Regional Transit Authority, a bus was procured to transport DES parents and kids at no charge.

Attendees met at the ROC for the 40-minute journey to the Mill Seat Landfill, where they listened attentively to why it is important to reduce, reuse and recycle. Hosts, Waste Management, treated the children to a vantage that most people never get to see – the top of the working face of the landfill. Children and adults alike were in awe at the sheer amount of trash that is disposed of at Mill Seat every day.

The group then ventured to Ellison Park and a cabin complete with roaring fireplace, thanks to the Monroe County Parks Department. Then, they transformed into a drop of water as part of the *Steps to a Healthy Planet Environmental Education* series, in a lesson about water quality and conservation.





Kids and adults were split into two groups and spent the rest of their “workday” in hands-on activities. The first was inside the new GIS Mobile Vehicle, learning about Geographic Information Systems and the role they play in the community. Participants were then able to follow previously plotted GPS coordinates using handheld receivers.

The second group donned waders and got wet – literally. They were able to walk in the spring-cold waters of Irondequoit Creek to hunt for, capture, evaluate and release aquatic life that give valuable clues to the quality of the creek water.



Stay tuned and watch your email for plans for an equally exciting Take Your Kid to Work Day 2011 – on April 28!

*Contributing Employees: **Tina Stevens, Lauren Payne, Kristina Daugherty, Justine Cole, Ron Sansone, Erin Magee & Alex Nies***

Team DES Rises to the “Challenge”

David Cross



The Chase Corporate Challenge is a 3.5 mile race/walk that takes place in twelve cities around the world. On June 3, 2010, Team DES joined over 9,100 participants from 424 area companies at the Rochester Institute of Technology for fun and friendly competition. Team DES did not go unnoticed with their high visibility T-shirts and high spirited team members! Every year, proceeds from the race benefit local charities and organizations. The 2010 donation was made to the Rochester Urban Fellows Program.

From just twelve runners in the 2009 event, twenty DES employees - joined by a few friends and family members - took part in the 2010 Challenge. A calm pre-race featured light breezes and mild temperatures. The 7 PM race hour brought a half-hour of steady rain, enough to cool the race course and contribute to impressive race times. The top six Team DES runners completed the race in 25:00 or less! When the rain cleared, a rainbow appeared and the post-race party started.

The race offered an opportunity for employees from the different divisions of DES to merge for fitness and fun. Building off this success, it is hoped that Team DES will take on the Challenge in subsequent years. Plans are already underway for the 2011 Challenge on May 24. Join us to help make this team bigger and better! All are welcome!



Team DES 2010: Lauren Payne (Team Captain), Manny & Louise Burgio, Tod Clements, Justin Cole, Dave Cross, Scott McCarty, Kevin & Michael Muhs, Bill & Justin Putt, Mike Burkett, Connor Burnes, Evan Harding, Josie Caceci, Chris Fiutko, Jason Kennedy, Kristina Daugherty, Jane Naylor, Steve Peletz, Andy Sansone, Paula Smith & Ken Smith

Trench Rescue Training

Pat Slattery

Unfortunately, every week of every year there is a trench collapse somewhere in the world that causes injuries – that can be fatal. Several years ago, the City of Rochester Fire Department recognized the need to develop a trench rescue plan which included specialized classroom and field training. In 2007, RFD and DES combined efforts to provide an area at the Frank E. VanLare Wastewater Treatment Plant where field training could take place with an actual trench, allowing firefighters to train without interruption.

The program was such a success that Team DES was approached by the Rochester Fire Department early in the spring and asked if there was a more “realistic” area that could be used for trench rescue training. In the past, open cut excavations were made at the Frank E. VanLare Wastewater Treatment Plant. Although these cuts served the purpose, they were not as challenging.

A training area was planned and developed at the Monroe County Fleet Center. The area is a section of the Fleet Center yard that is cordoned off by concrete barriers and contains a section of eight-inch PVC main sewer pipe with a manhole at each end. There is also a catch basin with a lateral and a property lateral with a cleanout. It is anticipated these assets will also be used for department training in such areas as confined space entry and shoring installation.



Objectively, the trench excavation and training evolution was of benefit to DES as well. Excavating the trench gave personnel the opportunity to practice lessons learned using an excavator. The fire department training evolutions also allowed DES personnel to observe first hand what is involved and the fact that a trench rescue can be a slow and tedious process.

*Contributing Employees: **El Sierra & Bill Hanna***

Using LiDAR to Aid Traditional Survey

Justin Cole

In 2006, Monroe County flew a LiDAR elevation model for various utility or transportation improvement projects. LiDAR stands for Light Detection and Ranging and allows for detailed analysis of the earth's surface using an aircraft.



Much of the LiDAR data was only initially used as a backdrop or contours for projects where the detailed information was not needed. Some projects required the detail of the full LiDAR but this was not possible because of the sheer size of the data. LiDAR has about 12 million points for a mile and half square area on the earth. The GIS system can use up to nine of

these sections at a time. Most of the County's consultants are not able to handle even one of these sections. A digital elevation raster was created for the entire County, which was six times the standard resolution of any existing digital elevation model. This is a great model for any type of analysis such as runoff, flow, flooding, or Viewsheds. However, a raster cannot be converted by the CAD software, which is used by several consultants. A new workflow and tools needed to be developed.

Working with land surveyors from Ravi Engineering, two workflows were developed. One extracts the elevations and contours for a region and the other fills in the elevation information to a table. From both workflows, a tool was created to reduce the number of steps and improve the time it takes for the analysis. Using these tools, a preliminary study that would have taken a survey crew days or weeks to do now takes from a few minutes to a few hours. A traditional survey crew can then focus on spot checking the data and correcting problem areas inherent with LiDAR, such as tree cover and under water.

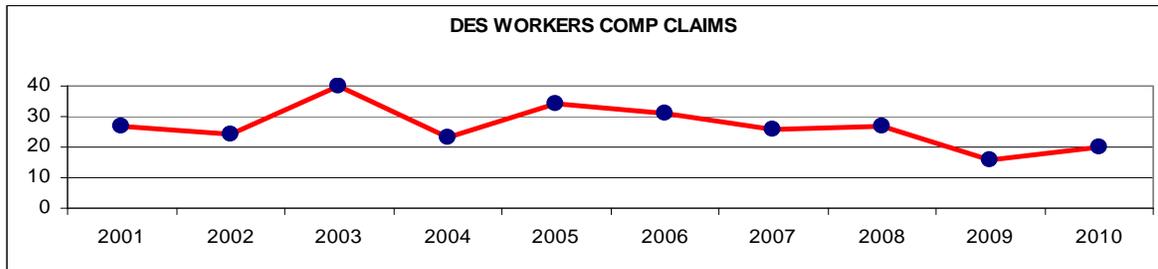
This process can be used for *any* project where land elevation is important. Future types of projects where this is seen to be beneficial are force main and sewer repairs, County Park master plans and improvements and the Infiltration and Inflow master plan.

Contributing Employees: Justin Cole, Art English, DOT Engineers Karen Cox & Henry Herdzyk & their consultants who were the guinea pigs

Worker's Compensation Summary 2010

Mary Jo Healy

In 2010, the DES Worker's Compensation claims rose slightly from 2009. Continued hazard awareness and safe work practices by individuals, co-workers, supervisors and management will continue to keep these claims to a minimum.



SECTION	YEAR	2010	2009	2008	2007	2006	2005	2004	2003	2002	2001
ADMINISTRATION		0	0	0	0	0	0	0	0	0	0
DATA SYSTEMS		0	0	0	0	1	0	0	0	0	0
BUSINESS SERVICES		1	0	1	0	0	0	0	1	(1)	0
REGULATORY COMPLIANCE											
Lab & Industrial Waste		0	1	(0)	(1)	(1)	(0)	(1)	(2)	(0)	(0)
ENGINEERING											
Engineering		0	0	0	0	0	0	0	0	0	0
Facilities		4	0	5	2	1	5	3	3		
Development & Review		1	1	(0)	(1)	(1)	(1)	(1)	(1)	(0)	(1)
HVAC		1	3	(3)	(3)	(1)	6	2	2		
Total:		6	4	8	6	3	12	5	5	0	0
FLEET MAINTENANCE											
Fleet Maintenance		1	1	4	3	2	2	4	4	4	
Heavy Equip Train		1	(1)	(0)	(1)	(0)					
Total:		2	1	4	3	0	2	4	4	4	
PLANT OPERATIONS											
Operations - Plant		0	2	2	3	4	2	2	3	3	8
DES MAINTENANCE											
Mechanical		4	5	2	4	5	11	4	5	7	7
I & E		1	0	3	3	0	1	0	2	0	1
Total:		5	5	5	7	5	12	4	7	7	8
FIELD OPERATIONS											
Former Team Tallies							6	6	16	8	9
Construction		4	1	4	4	13					
Cleaning		0	1	2	2	1					
Investigate/Televised		2	0	1	0	1					
I&I/Data/Energy		0	0	0	0	0					
Operations		0	0	0	0	0					
Dispatch & Clerical		0	0	0	0	0	0	0	1	1	0
Total:		6	2	7	6	15	6	6	17	9	9
-Landfill											1
Totals:		20	16	27	26	31	34	23	40	24	27



Lee Woodruff

January 23, 2010
Pump Station Mechanic (ROC)

Bob Spencer

May 24, 2010
IBPS Operator & Mechanic (FEV)

Continued...

James C. Twilliger “Twiggy”

12/29/1949 – 4/2/2010

Bob Goodrich



Jim Twilliger worked for Pure Waters and Environmental Services from October, 1974 to December, 2002.

He was a life long resident of Greece and grew up in a family of five boys near Ling Road. Jim attended the University of Dayton in the early 1970s, pursuing a degree in computer science. Between high school and working for the county, he spent his summers working at the Genesee Brewery alongside his father and brothers. After college, he worked for the

Monroe County Water Authority before Pure Waters, where he joined Fred Aumach in the Instrumentation shop. With his background in computer science, Jim was a perfect fit for administering the first computers at the VanLare Wastewater Treatment Plant and led the rest of the county into the information age. He was instrumental in the county's move to a PC-based computer system and his knowledge of programming and networking experience was critical in its successful implementation. Jim continued to develop his knowledge of the plant and supported operations by developing and reviewing reports that looked for significant trends in the data.

Jim was never short of things to do in his spare time. Throughout the 1970s and 1980s he worked with his good friend Dick Scorse at the California Brew Haus. He'd help Dick whenever he could and considered his friends extended family. He would join them at Amerks games, where he was a season ticketholder. Occasionally, they would travel to a weekend trip for a hockey game, or a skiing or white water rafting trip to New England. In the mid 1990s, Jim took up golf, saying "he was finally old enough to play." He managed and played in a league at Lake Shore Country Club for several years where he partnered with Glenn Curtis. He was an avid Giants fan and a diehard Amerks fan. He loved to ride his motorcycle, a 1983 Honda 750. Above all else, he was a renowned story teller and wouldn't pass up the opportunity to spin a yarn. He was never one to hold back his opinion - or his volume. Everyone knew when he was around. You wouldn't have to look very hard to find him, anyone you asked could tell you where he was. His "discussions" with Mike Schifano were legendary and although they might get a little heated, the end result would probably be beneficial. Jim could hold his own with the best of them and he wasn't intimidated - attributes that served him well throughout his life.

Everyone that knew him will have some story that stands out, as he was the kind of guy that left a lasting impression. You may have - no, I'm sure you probably heard - some of his stories more than once and rolled your eyes as he started again, but you have to admit he was an unforgettable guy. Jim succumbed to leukemia on April 2, 2010.

Don Alt

10/13/1954 – 8/26/2010

Tom Birdsall

Don started with the county as a laborer in 1977 and worked his way up to a group 10 while working at Mill Seat Landfill as a Mechanic. He retired in 2002. I had the pleasure of working under Don's direction during my early years.



Don was assigned Vactor 477. He took great pride in it and didn't want anyone else operating it. In 1992, there was a heavy equipment rodeo in the ROC parking lot. Participants were judged on how well they manipulated different driving scenarios. One of them was to back up and around four to five construction barrels. The third barrel Don went around got hung up on his bumper and he dragged it around the remainder of the course. Needless to

say, he still took **FIRST PLACE** away from me!

Don was a United States Army Veteran who was given full military honors at his well attended service.

He was a gentle giant who would verbally beat you up - then give you the shirt off his back or lunch money. He was outspoken and very passionate about his "Ole Lady" Lyn, his daughter Kim, his dog Rocky and his brothers in the New Breed Motorcycle Club.

Don was a man who worked hard and played harder. He will be missed by many.

Dr. Gerald C. McDonald, PhD, PE

12/28/1939-7/16/2010

Phil Steinfeldt

Dr. McDonald passed away suddenly and peacefully on Friday, July 16, while on vacation in New York City. He was born in Bronx, NY, on December 28, 1939, to Charles and Helen (Corbett). He is survived by his loving wife of 28 years, Marianne; his brother, Robert (Joey); his former wife, Sarah Kirwin McDonald; his children, Mary Ellen Holvey, Tracy McDonald, Eileen McDonald, Christina (Sergio) Rucci, Gregory (Lee Ann), Melissa (Gerardo) Rodriguez, Gerald William (Amy), and Daniele (Charles) D'Onofrio-Eber; former son-in-law, Anthony D'Onofrio; sister-in-law, Cheryl (Thomas) Mortillaro; his 13 grandchildren, Joseph D'Onofrio; Michael, Bridget, Brendan and Aidan Holvey; Liliana, Felice, and Iselle Rucci; Henry and Owen McDonald; Electa and Emeline Rodriguez; C.J. Eber; and many nieces and nephews.



Dr. McDonald graduated from Manhattan College (BS) and Rensselaer Polytechnic Institute (MS & PhD). He worked for the New York State Department of Health and was then the first executive director of the Albany County Sewer District. He left Albany to come to Rochester where he worked for Monroe County as Director of Pure Waters, Director of Engineering, and Commissioner of Physical Services. After he left Monroe County, he worked for Ecology and Environment, Inc., for whom he did extensive work in China.

When he became Director of Pure Waters in 1975, construction of sewerage for the suburban Pure Waters Districts was well underway. The main elements of the system for the Northwest Quadrant Pure Waters District began operation in 1973 but construction of the interceptor system for the Irondequoit Bay Pure Waters District was still underway. Wastewater treatment facility upgrades by the Gates-Chili-Ogden Sewer District and the Rochester Pure Waters District were being constructed. The RPWD was also evaluating solutions to the combined sewer overflows. The South Central PWD had just been created and evaluation of existing and proposed sewerage was underway.

There were many real, as well as perceived, problems with the Pure Waters program at that time. All three wastewater treatment facilities were having difficulties with sludge processing and handling, resulting in odors around the facilities. Rate increases in the RPWD caused concerns from both political and social viewpoints. Additionally there were lingering problems from the collapse of the Barge Canal during the construction of an interceptor by a contractor working for the IBPWD.

It was during this exciting period in the Pure Waters program that the RPWD

was actively working with NYSDEC and USEPA to apply for grants for the Combined Sewer Overflow Abatement Program. The first project in the program, the Cross-Irondequoit Tunnel, was being successfully completed and a second project, the Genesee River Interceptor Southwest, had received state and federal aid. The third project in the program, the Culver-Goodman Tunnel, along with the entire second phase of the project, was stalled awaiting USEPA approval and award of grants. Dr. McDonald led the negotiating team consisting of other Pure Waters staff and consulting engineers through seemingly endless meetings in Albany, New York City, and Washington. Numerous special reports were produced to supplement the CSOAP Facility Plans that had already been submitted to answer the questions raised by USEPA. Finally, the Culver-Goodman Tunnel received both state and federal construction grants after a two year delay.

As USEPA sensed that the end of construction grants program was near, they warned the District that it must proceed quickly with the second phase of the project for grants to be available. Dr. McDonald led the team of Pure Waters staff and consulting engineers that designed the entire second phase of the system, consisting of eight separate tunnel projects, in approximately two years and secured state and federal aid for the CSOAP program before the grant programs ended. Although the negotiations for the necessary approvals by NYSDEC and USEPA were extremely frustrating, Dr. McDonald inspired a team that achieved the goal of eliminating regular combined sewer overflows to the Genesee River, Irondequoit Bay and the Erie Canal. Rochester, through the RPWD, solved a major water quality problem that continues to be a problem for most communities in the nation.

Dr. McDonald made many contributions to Monroe County and the Pure Waters program. His efforts on the CSOAP program, as well as the associated Additional Treatment Facilities and Best Management Practices projects, helped Rochester to become a leader in abatement of combined sewer overflows.

Wade W. Hampton

11/11/1955 – 09/20/2010

Pieter Smeenk

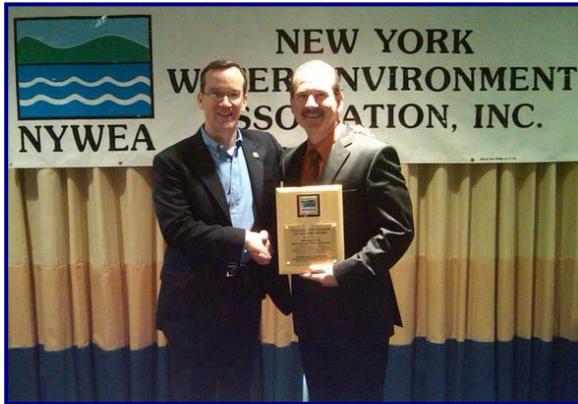
Wade Hampton, a DES facilities employee for more than 20 years, died on September 20, 2010, following a year-long battle with cancer. Wade is survived by his wife Helen (Lenhart); son, Timothy; daughter, Tamatha (Jeremy Rodriguez); grandson, Jeremy Jr.; one brother; two sisters; mother, Delores (Peter) Morphet; mother-in-law, Jean Northrup; nieces, nephews and fellow DES co-worker and friend Jack Freville.

Wade was devoted to his grandkids. He enjoyed watching movies and reading to them.

Wade spent most of his County career working the B-shift at Westfall Rd. The occupants and fellow co-workers will miss Wade and his stories.

A memorial service was held on Saturday, October 2, 2010 at 1:30 PM at the Heart & Soul Church. Internment was private.

AWARDS



Bill Putt - New York Water Environment Association 2010 Uhl T. Mann Award Collection System Operator of the Year Award



Monroe County Pediatrics & Visitation Ctr
APWA/GVC 2010
Structural Project of the Year



Tom Sinclair – American Public Works Association – Genesee Valley Chapter 2010 Charles Walter Nichols Award



Ann Kupferschmid (retiree) – New York Water Environment Association 2010 Arthur Sidney Bedell Award



Monroe County Fleet Center – Government Fleet Magazine 2010
17th Greenest Fleet in the Nation Ranking



At Play





DES Employees 2010

Adams, Dale C
Anderson, Willie J
Babij, Michael R
Baker III, William
Barkley, Timothy E
Barlow, Michael J
Barrile, Michael J
Barton, Daniel J
Bastian, Randall H
Bell, Donald S
Benitez, Cresencio
Benjamin, Henry L
Benway, Frederick J
Best, Joni L
Bianchi, Richard J
Birdsall, Thomas W
Blackburn, Kevin P
Bland, Stephen N
Bodine, Gregory
Boekhout, Alan
Bohrer, William J
Bond, Patrick C
Borelli, Robert A
Boss, Regina M
Bouboutou, Bintou K
Bradt, Ronald D
Breedlove, Patricia A
Brimacomb, Raymond A
Brown, Gary B
Bu Wu, Carlos
Bujak, Joseph F
Burgio, William F
Burgio Jr, Emanuel
Burkett, Michael B
Burnes, Connor T
Butters, David K
Caceci, Josephine N
Cagnina, Stephen M
Calcagno, Russell
Calderon, Elba D
Caletz, Mario A
Campione, Albert
Cardinali, Serafino
Carris, Phillip L
Carroll, Robert P
Cavallaro, Daniel M
Cavallaro Jr, Daniel M
Chasman, Michael A
Chiles, Jeffrey A
Christensen, Stephen A
Christensen, Steven P
Cialini, Robert
Clements, Tod S
Coffaro, Darlene A
Cole, Justin D
Collins, Daniel
Collins, Patrick R
Comstock, William E
Condit II, Ralph C
Costanza, James
Couch, Diane M
Cross, David J
Cruz, Zoraida
D'Amico, James R
D'Onofrio, Anthony M
Daniels, Vern W
Dano Jr, Kenneth L
Daugherty, Kristina K
Davis, Willie R
DeBellis, John
Delavak, Mark L
DelMonte, David
Delvecchio, Paul
Delvecchio Jr, Guy F
Dent, Krista J
DeValder, Rex W
Dewey, Nathan L
Diamond, Charles E
Dilucia, John V
Dinh, Tran H
Dipasquale, Anthony
Donovan, Michael J
Doyle, Joseph E
Doyle, Laurie A
Drennon, Darl J
Dugovic, Michael B
Dumbleton, Douglas B
Dyer, Keith A
Dzialo, Barbara A
Dzialo, Donald C
Ehmann, Chris P
Ehmann, Keith
Ellerbe, Byron
Ellison, Mark W
Ellsmore, Richard
English, Arthur M
English, Scott E
Ercoli, Karen
Fairchild, James A
Falk, Brian D
Farace, Michael
Farrell, Karen M
Fitch, Matthew S
Fiutko, Christopher J
Fiutko, John J
Flint, George C
Foos, Peter
Freville, John F
Gabel, Scott A
Garland, Michael J
Gessin, Robert A
Gibbons, Sean
Gleichauf, Albert J
Glover, William
Gonzalez, Providenci
Goodrich, Christi L
Goodrich, Robert G
Gotham, Brian M
Greer, Ray A
Griffin, David J
Gsellmeier, Reinhard L
Guarino, Josephine A
Guerra, James L
Gulnick, Russell J
Hale, John
Hamblett, Richard
Hampton, Wade W
Hann, Kara M
Hanna, William D
Hanscomb, John E
Harding, Edward J
Harding, Evan J
Harewood, Allister D
Healy, Mary Jo
Healy Jr, Richard C
Helfer, Jeffrey
Herring, Lauren N
Hettler, Gary A
Hitesman, Derek J
Hogan, George R
Housman, Susan
Houston, John F
Infantino, Michael P
Irvine, Donald T
Irwin, Christopher M
Jackson, Billy C
James, Matthew
John, Glenn D
Joyner Jr, Jerry
Kaiser, Glenn A
Keenan, Sean P
Kelly, Elizabeth A
Kelsey, Kenneth L
Kendall, Elliot A
Kennedy, Jason R
Kennell Jr, David
Kinch, Thomas
Kircher, Douglas J
Kohlmeier, John P
Kolaski, John
Kolody, Alex J
Kostiw, John P
Kostraba, Peter A
Kuchman, Terence S
Kunow, Robin A
LaMendola, Eric T
Lawrence, Jeff
Lemcke, Timothy
Letts, Neslyn
Levandoski, Tim J
Levandoski, John K
Lewis, Scott
Lo Furno Jr, Bart F
Logel, Peter C
Lombardi, Rebecca M
Lupia, Phillip J
Lupia, Steven J

DES Employees 2010

Lupia, Mary Ellen
Lupiani, Joseph J
Mackey, Eddie J
Maddock, John R
Magee, Erin A
Mahns, Frank M
Mahns, Michael P
Maier, Christian C
Maira, Jon
Maloney, John
Maloney, Robert S
Maneiro, Mary A
Marshall, Tom
Martinez, Candido
Martinez, Luis
Maslanka, Daryl K
Masters, Richard F
Mathis, Stephen
Mc Carty, Scott
Mc Entee, Scott M
McAfee, Kane J
McAllister, Jane Ann A
McAvinney, George D
McAvoy, Robert C
McCann, Phillip J
McCormick, Jeffrey M
McCullough, Jerry
McDonald, Dennis J
McDowell, Todd
Mercado, Carmen I
Merner, Mary E
Millar, Donald J
Miller, James M
Miller, Joseph D
Miller, Roger
Milne, Kyle G
Monroe, Debbie L
Morelli, Anthony M
Morse, Steven R
Morthorst, Robert P
Muhs, Kevin M
Murph, Irving G
Nacca, Audrey M
Naylon, Jane P
Nemerson, Dana E
Newkirk, Keith C
Nies, Alexander J
Nitti, John C
O'Brien, John P
O'Brien, Thomas W
O'Hearn, Ryan P
Oates, Alan
Oliver, Anthony
Orbanek, William J
Ortolaza, Irving
Palermo, John K
Palmeroni, Sheila M
Papaleo, Julia A
Paris Tuori, Karen
Patanella, Michael
Payne, Lauren
Payne, Mark J
Peckham, John S
Peletz, Stephen L
Pham, Bang C
Pierce, Daryl
Pierce, William J
Pitts, Satchral
Posella Jr, Thomas J
Post, Daniel S
Powlowski, Frank M
Proia, Alphonse N
Prusak, David
Przyklek, Rosemary
Putt, William J
Quayle, David
Quayle, Michael J
Quinn, Kevin T
Raghunathan, Shravan
Kumar
Raymond, Timothy J
Read, Michael J
Reed, Dwayne L
Reider, Daniel C
Reilich, David W
Reilich, Gary R
Reiter, Harry M
Reiter, Steven M
Reyes, Ennett
Richardson, Steven C
Roberson, Olympia Y
Roberts, Curtis G
Roberts, Hunter C
Robinson, Oscar
Rodriguez, Jesus A
Roj, Justin C
Romei, Andrei L
Rose, Melvin J
Rose Jr, Melvin J
Ross, Christopher M
Ross, Daniel J
Rossiter, Tom
Rutkowski, Russell P
Ryan, Mike
Sadler, William A
Saeva, Frank A
Samowitz, Bryan N
Sandle, Paul E
Sansone, Andrew J
Sansone, Ronald
Santwani, Hardevi M
Sapienza, Paul
Saurini, Joseph A
Sawyko, Paul M
Scheuch, Jeffrey J
Scheuch, Sue
Schubert, Ingrid E
Schuth, David L
Schwartzmeier, Stephen A
Scibetta, Dennis K
Scriven, Harry L
Sewar, Darcy A
Shaw, Jesse
Sheppard Jr, Kevan B
Siciliano, Paul L
Sierra, Elias
Sinclair, Thomas M
Slattery, Patrick R
Sled, Katherine M
Smeenk, Pieter
Smith, Charles E
Smith, Daniel W
Smith, Fenton A
Smith, Kenneth D
Smith, Mark
Spaganberg, Dave
Spinelli, Paul
Staub, Joseph J
Steehler, Larry
Stetzal, Laura C
Stevenson, Todd R
Stratton, Stephen M
Sutton, Charlie
Tang, James H
Tarricone, Joseph R
Tatar, Christopher M
Terran, Todd M
Thazhathu, Bharat M
Thesing, Daniel M
Thomas, David J
Tieppo, Thomas
Tirado, Maria E
Tran, Dong V
Tuccio, David S
Tyndall, Robert
Vasileva MacConnell,
Radostina T
Veck, Martin W
Verno Stevens, Tina
Waghorn, William J
Wallace, Steven L
Ward, Michael B
Warner, Pamela A
Washington, Willie C
Weathers, Petrina Ann
Weber, Michael J
Werner, Michael D
Werner, Robert W
Wilbert, Sheila A
Williams, Eliza A
Witzel Jr, Edward P
Wurzbacher, John K
Young, Curtis E
Zavacki, John H