

## **Department of Public Works Summary of Major Accomplishments 2004-2008**

### **DPW Projects**

#### **Consolidation various DPW facilities at the new DPW Field Headquarters**

In 2006, DPW staff from two water distribution facilities, water control center, street maintenance, sewer maintenance and facilities moved into a 24,000 square foot facility located at the former Tower Automotive site. The move, facilitate by freeing up land at the former Traser Yard site for a new Harley-Davidson museum, presented an opportunity to consolidate several DPW facilities at one location. The facility is home to approximately 450 DPW staff and incorporates energy saving technology and retention pond to capture the stormwater run off from the facility.

#### **Canal Street Reconstruction/Extension Menomonee Valley Infrastructure**

The primary objectives of the project included providing an effective traffic mitigation route during the reconstruction of the Marquette Interchange and providing access to the western Menomonee Valley to facilitate redevelopment. This project included reconstruction of West Canal Street between North 6<sup>th</sup> Street and North 25<sup>th</sup> Street on the existing alignment and extension of Canal Street and sewer and water utilities from North 25<sup>th</sup> Street to Miller Park through the western Menomonee Valley. The project incorporated many unique elements including relocation of an industrial rail spur outside the roadway, construction of a critical link in the Hank Aaron State Trail, construction of a modern roundabout at the intersection of West Canal Street and North 25<sup>th</sup> Street, construction of a stormwater lift station and bioretention facility to provide stormwater treatment, and installation of extensive traffic control equipment at Miller Park to allow efficient parking lot operations and two-way traffic operation on Canal Street during stadium events. Approximately 3.5 miles of new sanitary, storm and combined sewer were constructed to provide sewer services for the potential industrial and commercial development of West Canal Street from N 5th Street to Miller Park Way ( N 41st St extended).

Also included was the construction of local infrastructure including South 33<sup>rd</sup> Court, West Roundhouse Road, West Milwaukee Road, West Wheelhouse Road, and South 36<sup>th</sup> Street along with extension of necessary municipal utilities to support development of the Menomonee Valley Industrial Center.

A massive gas explosion late in 2006 at the Falk Corp. in the Menomonee Valley proved the value of continuous investment in infrastructure. Just over a year before the incident, the Department of Public Works began a \$1.05 million water main extension project to provide new and enhanced service to the redeveloping valley, using the Milwaukee Water Works' capital improvement program. One mile of 12" water main in the realigned W. Canal St. from S. 32nd St. to S. 44<sup>th</sup> St. was linked with a 12" main at 32<sup>nd</sup> Street and a 30" main in 44<sup>th</sup> Street. There had been no water main in that portion of Canal Street. The project allowed the Falk Corp. to feed its fire protection system from a 12" branch off the new main, rather than an 8" branch off of a 12" main with only one source of supply. The improved fire flow capabilities of the water mains in the Menomonee Valley provided the Milwaukee Fire Department with plentiful, pressurized water to control and suppress the Falk Corp. fire.

### **Milwaukee Water Works**

#### **Protection of Public Health and Safety**

The Milwaukee Water Works (MWW) provided safe, abundant drinking water to the City of Milwaukee and 15 communities in southeast Wisconsin without interruption.

### **Power Reliability Study**

Milwaukee Water Works completed an evaluation of electrical reliability and recommended in the 2008 capital improvement budget backup power solutions for five critical water infrastructure sites.

### **Fiscal accountability**

The Milwaukee Water Works is managed to serve as a reliable source of revenue for the City of Milwaukee and to meet customer requirements for safe water and low-cost service. In the period 2004 to 2008 the utility paid to the city an average \$7.75 million per year in the form of a payment in lieu of taxes (PILOT). The payment was used to directly offset the city tax levy. The Milwaukee Water Works pays other city departments for the municipal services it uses and for the payment of employee benefits.

Despite efforts to control costs and conserve resources, a decline in water sales, expenditures related to security at critical facilities, and escalating costs of electrical energy, natural gas, and water treatment chemicals forced a need for additional revenue. However, a two-step rate process in 2006 and 2007 resulted in an overall 9% rate increase, among the lowest granted in Wisconsin by the Public Service Commission.

### **Customer Information System project**

The Milwaukee Water Works' Customer Information System (CIS) was completely upgraded for convenience to customers and accountability. Customers are now able to use the new web page to view account balance and history and make address changes. Municipal Services Bill payments can now be made online with MasterCard or e-Check. The upgrades strengthened the accounting integrity of the non-water charges on the Municipal Services Bill and allowed for the billing of the Storm Water Management Charge starting in 2006.

### **Innovation and Sustainability**

The Milwaukee Water Works has developed several initiatives focusing on innovation and sustainability while others increase the reliability of facilities to provide sufficient quantities of high quality drinking water.

### **Water Quality**

Water quality testing and monitoring programs were put in place five years ahead of time in compliance with new federal regulations (Long Term 2 Enhanced Surface Water Treatment Rule, Disinfection By-Products Rule, and Unregulated Contaminant Monitoring Rule). Compliance will be achieved without changes to treatment processes, a benefit of the major plant improvement projects completed in the late 1990s.

The Milwaukee Water Works has been recognized by the U.S. Environmental Protection Agency (USEPA) for its interagency relationships with local and state health officials in a program of enteric disease surveillance and response.

2005 was the first full year using a Computerized Maintenance and Management System (CMMS) to schedule and document routine maintenance and quality control checks on over 175 pieces of online water quality monitoring instrumentation at the water treatment plants.

Most recently, the issue of Pharmaceuticals in drinking water has come to light. Milwaukee Water Works, on their own has been testing for these contaminants for two years and has documented the absence of such contaminants in the water supplied to our customers.

## **Infrastructure Innovations**

Second only to treatment and delivery of high quality drinking water is infrastructure maintenance, for which the Milwaukee Water Works has developed new techniques to conserve energy and resources, recycle materials, and prevent more costly repairs through regular maintenance.

Water main replacements strengthen the distribution system. Distribution system pumps and flow meters are being tested and calibrated for a system-wide hydraulic model. Scheduled preventive maintenance in the distribution system includes inspection and maintenance of fire hydrants, annual flushing of dead end water mains, and leak surveys to identify non-surfacing water leaks. Distribution personnel research and use new technologies for materials, repair parts, and equipment. The Milwaukee Water Works coordinates preventive maintenance with the paving programs of the City of Milwaukee and suburban communities to avoid digging up a street after new construction. Distribution system water quality monitoring was improved by adding five sites to those already under comprehensive analysis; microbiological methods were modified to achieve improved detection limits. A hydrant flushing program controls distribution-related turbidity episodes. The Department of Neighborhood Services is implementing a cross connection control program for commercial and industrial accounts.

Concrete and asphalt taken from construction and maintenance sites is now separated and reused.

## **Water Treatment Plants**

Every year, major projects are undertaken to maintain and improve the performance and reliability of the water treatment plants. Beginning in 2005, all water treatment filters were operated using extended run criteria that had been piloted in 2004. This resulted in a more efficient operation, reducing the amount of filter backwashing and wash water used while maintaining the high quality of treated water leaving the plants. For example, there were 246 fewer filter backwashes performed in 2005 than in 2004, avoiding 125 start/stop operations of the 40 million gallon per day (MGD) wash water pumps, saving electrical energy and 98 million gallons of treated water that would have been used for backwashing.

There is a long-term plan to replace existing windows at the two water treatment plants with energy efficient windows.

## **Infrastructure Services**

### **Advancing Bicycle and Pedestrian Initiatives**

The City of Milwaukee has made great progress in promoting bicycle and pedestrian initiatives. The Mayor's Bicycle and Pedestrian Task Force has continued to meet regularly and make recommendations to City decision makers as to ways to make Milwaukee a bicycle and pedestrian friendly community. The most significant advancement was the creation of a full-time Bicycle & Pedestrian Coordinator position in the Department of Public Works. This position works to advocate for facilities and programs which improve the quality of life of City residents. As a result of the Task Force and Bicycle & Pedestrian Coordinator's efforts, Milwaukee now has about 50 miles of striped bike lanes on City streets, new off-road trails such as the Hank Aaron State Trail in the Menomonee Valley, new bicycle and pedestrian infrastructure such as the Marsupial Bridge, approximately 2000 bike racks installed throughout the City, and several other bicycle related projects in the planning stages. Much of this work is undertaken using grant funds, such as Congestion Mitigation & Air Quality, Transportation Enhancements, and Safe Routes to School programs. As a result, the City of Milwaukee was recently recognized by

the League of American Bicyclists as a Bicycle Friendly Community at the bronze level. Other major accomplishments relating to bicycle and pedestrian initiatives include the creation of a Neighborhood Traffic Management Program that allows neighborhoods to request traffic calming improvements, implementing streetscape improvements along several commercial districts, and expanding the riverwalk system.

### **Traffic Signal Conversion to LED Lamps**

In 2005, the City of Milwaukee applied for and received funds to start the installation of Light Emitting Diodes (LEDs) in traffic signals in the City. LEDs replace the incandescent light bulbs in the vehicular and pedestrian indications of a traffic signal. LEDs appear brighter than incandescent bulbs and use significantly less energy. They also are warranted to last six years whereas an incandescent bulb is warranted to last one year.

Because an LED appears brighter, there is a safety benefit in using them. Even in the bright daylight, LED traffic signals are highly visible.

The warranty of an LED is six times as long as the warranty for an incandescent light bulb. This will reduce the number of outages at traffic signals, decreasing the number and frequency of repair calls. Repair personnel will be able to focus on other necessary tasks. Also, the safety benefit of fewer burned out bulbs at traffic signals on the streets of the City is significant.

LEDs use 6% to 20% of the electrical energy used in incandescent bulbs. If electrical energy for a typical intersection is estimated to cost \$900 a year using incandescent light bulbs, the same intersection using LEDs is estimated to cost \$70 a year for electrical energy. In addition to saving money, using less electrical energy means less pollution associated with energy production. LEDs also emit only very low levels of pollution at the source. The energy cost savings and pollution reduction are a huge benefit to using LEDs.

Because of the electrical energy savings, additional grant sources are available. WE Energies and Focus on Energies will pay to the City a portion of the cost of each LED installed at certain intersections.

The funding for the majority of the intersections in the City came from Hazard Elimination Safety (HES) grants administered by the Wisconsin Department of Transportation. The City was the first to receive such a grant after working with the Wisconsin Department of Transportation and the Federal Highway Administration to allow HES grant funds for this type of project. This paved the way for other municipalities in the state to receive such grants. The City received five HES grants to install LEDs at a total of 419 traffic signals out of nearly 750 traffic signals. All new traffic signals are being installed with LEDs.

## **Administrative Services/Parking**

### **Implementation of 286-CITY**

In late June 2006, the City implemented 286-CITY, the single access telephone number for all City services and information. This was one of Mayor Barrett's initiatives as outlined in his 2005 State of the City address to streamline public access to City government. By utilizing the City's state-of-the-art Avaya telephone system, which was installed in 2005, and expanding upon the existing capabilities of the DPW Call Center, 286-CITY was designed and implemented using existing City resources. The system is in both English and Spanish and is designed to be both static and dynamic in processing requests for services and information. The system receives

police and fire non-emergency calls but residents must still dial 911 for all emergency calls. As part of the implementation plan, 195,000 households received a mailing explaining the system, including a magnet that was designed to help residents navigate the system and to use it as efficiently and effectively as possible. On an annual basis, an estimated 80,000 to 85,000 calls are made to 286-CITY.

#### **Partnership with WiscNet and UW-Milwaukee**

In 2006, the City through the Department of Public Works worked with WiscNet, UW-Milwaukee and other parties to establish UW-Milwaukee as a node on the Broadband Optical Research Education and Sciences Network (BOREAS-Net). BOREAS-Net is a multi-state consortium of leading research institutions in the upper Midwest. The purpose of the project is to build and operate a Regional Optical Network to service the advance production and experimental network requirements of the research and educational institutions in the upper Midwest. The sponsoring institutions view this as critical not only to their ability to recruit and retain top research faculty, but also for the region's ability to lead and participate in high-technology and biotechnology research projects.

#### **Installation of Automated Payment Centers in Police District Stations**

Over the last several years, the Department of Public Works purchased and installed nine automated payment centers in police district stations to disburse and sell night parking permits and to pay for parking citations. The machines also take payments for WE Energies. The payment centers are available 24 hours a day, seven days a week, are in both English and Spanish, take cash, check and credit/debit cards and the transactions are in real time. The purpose of the new equipment is to provide for greater customer convenience and allow police personnel who traditionally sell night parking permits to be reassigned to police-related matters. In addition, there are cost savings related to data entry and adjudication of night parking citations. In 2006, over 95,100 permits were sold through the Automated Payment Centers totaling over \$1.6 million and over 25,400 parking citations were paid totaling over \$621,000.

#### **Installation of Automated Revenue Control Equipment in City-Owned Parking Structures**

Late in 2004, automated revenue control equipment was installed in four City-owned parking structures. The purpose of this investment in technology was to enhance financial management and auditing capabilities and provide payment options for the public. The equipment has the ability to provide for credit card payment on entrance, exit, and at pay-on-foot machines. The pay-on-foot machines also take cash. The equipment operates 24 hours a day, seven days a week. By 2006, three of the four parking structures are fully automated, whereby no cashiers are present on a daily basis. In 2006, 51% of all revenue was processed through the automated equipment and 34% of all payments were made with credit card.

#### **Installation of Multi-Space Parking Meters**

To continue the City's investment in parking technology, the Parking Fund 2006 budget provided \$1.3 million to purchase and install multi-space parking meters. The purpose of this project was to replace the old single-spaced parking meters with multi-space parking meters that accept credit/debit cards. By the end of July 2007, 103 LUKE multi-space parking meters were installed in the central business district replacing over 1,100 single-spaced meters in the first phase of a three-phase project. The LUKE parking meter accepts coins and credit/debit cards and issues a receipt that contains the space number and the expiration time of the meter. The meters are networked so payment can be made at any meter as long as a space number is entered. All transactions are in real time with real time reporting on usage, revenue and meter status. The meter management system is fully automated and will enhance adjudication, financial auditing and meter maintenance capabilities. All parking spaces are numbered and signed to reflect the pedestrian way finding system. After a few months of operation, over

20,000 transactions are performed weekly, of which 37% of all revenue are generated through credit cards.

## **Operations Division**

### **SANITATION SECTION**

#### **Solid waste contract**

Environmental Services negotiated a solid waste contract with Waste Management effective July 1, 2004 that has saved \$2M. For the first time, the City shares in revenue generated from recycling. In addition to contract savings, Sanitation focused on improving the effectiveness of the residential program by changing the method of collection for bulky garbage.

#### **Combined collection**

Sanitation implemented an operational change focused on more effective waste management, greater efficiency and a higher level of service to Milwaukee residents.

Combined collection allows residents to place bulky items at the curb on their regularly scheduled day of collection. Bulky garbage up to the size of two sofas is picked up in conjunction with weekly garbage collection. Previously, a separate special collection crew required up to 10 work days for pickup, whereas combined collection provides same-day pickup for those items set-out on the regularly scheduled collection day. For bulky items set-out after the regularly scheduled garbage pickup, combined collection reduces pickup time to less than 5 work days until the next week's garbage collection. By reducing the time items sit at the curb, combined collection improves neighborhood cleanliness and reduces garbage scavenging. Items larger than two sofas require special collection for a fee and are scheduled appropriately.

Combined collection also limits the type of bulky items accepted. Sanitation crews no longer collect major appliances such as washers, dryers, refrigerators, stoves, water heaters and dehumidifiers. Alternative disposal methods include retailer disposal, private scrap dealers or the City's self-help disposal centers. In addition, brush is limited to 4 cubic yards and only collected from March through November. Larger brush piles must be properly disposed of by residents or taken to the City self-help centers. By implementing combined collection and setting limits on the type and amount of bulky items collected, Environmental Services has improved collection response while reducing costs.

#### **Project Clean & Green**

To foster neighborhood cleanliness and improve environmental quality of life, Environmental Services implemented Project Clean & Green as a citywide spring cleanup campaign. The new program combined several existing neighborhood cleanup activities with new initiatives to promote a clean, healthy environment. Residents are encouraged to do their spring cleanouts during the seven week program which runs from mid-April to the end of May. Residents place items at the collection point on their scheduled collection day during their targeted week. Project Clean & Green includes coordinated bulky collections, neighborhood cleanups, tree plantings and 15 Arbor Day events. Project Clean & Green has increased tonnage collection every year resulting in cleaner, greener neighborhoods.

#### **Cans for Cash City Recycling Challenge**

The City participates in the annual Cans for Cash City Recycling Challenge sponsored by the US Conference of Mayors and Novelis Corporation. Cans for Cash is a national aluminum can recycling contest whereby cities compete for prizes. The City has won first prize for most aluminum cans collected in 2004, 2005, 2006 and 2007. In addition, Milwaukee won first prize for the most innovative idea in 2004 for setting a new Guinness Book of World Records longest

consecutive line of aluminum cans using 33,952 aluminum cans to build a line that extended 1.35 miles. To date, Environmental Services has won \$25,000 in prize money.

### **Household hazardous waste collection at city self-help center**

Through a cooperative effort between the City of Milwaukee and the Milwaukee Metropolitan Sewerage District, collection of household hazardous waste (HHW) at Lincoln Avenue Self-Help Center located at 3785 W. Lincoln Avenue was implemented in 2006. Milwaukee residents now have a convenient location to properly dispose of their hazardous products. The addition of HHW collection makes Lincoln Avenue a leading urban self-help center or "one-stop shop" that takes it all including garbage, recyclables, waste oil, car batteries, tires, appliances, furniture, electronics and HHW. MMSD operates the HHW collection at Lincoln Avenue which is open to all Milwaukee County residents. Non-city residents are only allowed to use the HHW facility, not the remaining drop-off services provided.

### **Recycling at festivals**

The City of Milwaukee partnered with Milwaukee World Festivals to "green" the festival grounds for the 2006 run of Summerfest and summer concerts at the Marcus Amphitheatre. Included as a Milwaukee Green Team recommendation, the pilot recycling program collected 4,920 pounds of plastic bottles. We continue to work with the large venue operators, including Miller Park on these types of recycling initiatives.

### **Reuse-a-Shoe Program**

Environmental Services in partnership with Nike and the National Recycling Coalition collects used athletic shoes to be recycled into play surfaces for children. Since the program's inception in 2004, the City has collected over 27,500 pairs of shoes saving over 200 cubic yards of landfill space. The Reuse-a-Shoe program is one way Environmental Services works to conserve resources, reduce waste and save landfill space.

### **Salt brine as an anti-icing agent became standard procedure**

As a result of a pilot project, Sanitation implemented the use of salt brine as standard operating procedure. Salt brine is an anti-icing agent produced by mixing rock salt and water. Salt brine is used on area bridges to prevent frost. The application of salt brine provides valuable lead time to prepare for general ice control measures. Because it is a wet application, salt brine dries directly on driving lanes and does not "bounce" to the curb as rock salt can. Sanitation uses salt brine to treat bridges and continues to examine expanded use.

### **Nuisance cleanups**

Environmental Services took over nuisance garbage cleanups on vacant lots from the Department of Neighborhood Services in 2007. In an improvement in service, Environmental Services removes litter and debris from vacant lots within 3 days following notification. In 2008, Environmental Services has taken over the management of vacant lot services including cleanups, weeds and snow & ice removal. Contracts have been restructured and should result in more reliable providing of year round services for these 3000 properties.

## **FORESTRY**

### **Professional Grounds Management Society Award**

In 2007, Environmental Services was awarded an Honor Award for the management of the city's 120 mile boulevard system presented by the Professional Grounds Management Society. The PGMS recognizes outstanding professional accomplishment and excellence in grounds management and promotes well managed landscapes throughout the country by challenging those responsible for the management of grounds to achieve a higher level of excellence.

### **Sustainable Boulevards**

Environmental Services developed *Sustainable Boulevards*-Milwaukee's Strategic Boulevard Plan to protect and preserve the City's 120 mile boulevard system. Environmental Services drafted a plan that provides for the long-term sustainability of resources. *Sustainable Boulevards* calls for an increase in tree canopy cover, creation of signature landscape beds at strategic locations throughout the city, removal of low-impact flower beds to be replaced with trees and turf and conversion to an automated irrigation system to save operating costs.

### **Gateway Signage Program**

The *Gateway Signage Program*, a unique public-private partnership that celebrates Milwaukee's boulevards, Milwaukee's hometown companies and the Spirit of Milwaukee is an opportunity for Milwaukee's leading corporations to sponsor architectural signs on major boulevards and greenspaces that mark entrances or "gateways" into the city. The signs serve to welcome residents and visitors alike into the city. Corporate sponsors receive highly visible marketing and brand promotion while the City receives funds for boulevard maintenance. Sponsorship includes the cost of sign production with one-third of the revenue earmarked for boulevard maintenance and greening. Initial sponsors include the Milwaukee Brewers, WE Energies, and Mark Travel/FunJet.

### **Protecting the urban forest**

The City of Milwaukee, as well as the rest of the state faces the threat of Emerald Ash Borer (EAB), an invasive insect infestation that can devastate the city's ash tree population. EAB has been detected in Michigan, Indiana, Ohio, Pennsylvania and Illinois. To date, EAB has not been detected in Wisconsin. To mitigate the impact of EAB, Environmental Services is developing a readiness and response plan that assesses the city's vulnerability and corrective actions necessary to minimize damage. Staff has increased training on identification and is coordinating monitoring activities with the Wisconsin Department of Agriculture, Trade and Consumer Protection.

### **INNOVATIONS**

#### Earn & Learn Summer Youth Internship Program Video

In 2006, Environmental Services employed 30 high school interns as part of Mayor Barrett's Earn & Learn Summer Youth Internship Program. Interns joined the Environmental Services Team and assisted Forestry and Sanitation staff with boulevard maintenance, recycling education and assisted at city self-help centers. Environmental Services in partnership with Strive Media Institute produced a documentary film capturing the internship experience and shares lessons from the students. The film is used to introduce new interns to Environmental Services. In 2007, Environmental Services provided expanded the number of interns to approximately 60 high school students.

#### Stormwater Parking

Environmental Services retrofitted a city-owned parking lot located at 371 E. Ward Street with stormwater best management practices including pervious asphalt and a rain garden in fall 2006. Stormwater Parking was the result of a Great Cities Partnership Grant from the US Environmental Protection Agency. In addition, the assistance of Parking Services and Environmental Engineering contributed to the success of the project. Stormwater runoff from the parking lot is significantly reduced as it infiltrates into the ground or drains into the rain garden. During the 3-month monitoring period, no runoff was release into the combined sewer system.



### Green Schools

Environmental Services received a federal appropriation in the amount of \$345,000 for *Green Schools* to retrofit Milwaukee Public Schools playgrounds replacing asphalt with trees and turf. This project will reduce stormwater runoff from selected MPS sites, transform hardscape into playable surfaces and provide valuable shade and cooler temperatures for children to play. We continue to seek additional funding and work with MPS on expanding this program.

### Environmental Services University

Environmental Services University (ESU) is a commitment to the professional growth of Environmental Services employees through a customized training and development program. In an analysis of tuition reimbursement usage, Environmental Services found that typically 10% or less of available funds are used for continued education and training. ESU was developed as a training solution to meet the needs of Environmental Services employees by eliminating the inconvenience associated with continuing education. ESU consists of two training tracks: Professional Management Development and Executive Leadership Development. The management track consists of an 11-course curriculum designed to provide professional enrichment, supervisory skills enhancement and management training for Environmental Services managers. The leadership track builds skills in innovation, vision, emotional intelligence, strategic planning, communication and motivation.

ESU is our approach to:

- o Preparing Environmental Services employees for career advancement
- o Creating a positive work environment for employees
- o Providing staff with a broader understanding of all areas of Environmental Services management and operations
- o Facilitating a culture of respect, cooperation and trust among employees
- o Empowering staff to strategically plan for the future

ESU will be expanded to offer Introductory Supervisory Training to encourage all employees to value education and training.

### Milwaukee Green Team

Environmental Services participated and staffed Mayor Tom Barrett's sustainability initiative, the Milwaukee Green Team. The Milwaukee Green Team comprised of a mayoral appointed Steering Committee and three community member work groups produced a list of recommendations on how to improve Milwaukee's economy, environment and quality of life for all residents. The recommendation report emphasized the need for leadership by the Mayor and the City to establish Milwaukee as a leading green city.

### Sustainlane's 2006 US City Sustainability Ranking – Milwaukee ranked 16!

The City of Milwaukee was invited to participate in Sustainlane's survey which ranked the top 50 US cities on sustainability. Milwaukee ranked 16<sup>th</sup> with the likes of Portland, San Francisco, Seattle, Chicago, Denver, Minneapolis and other leading US cities. Sustainlane Government compiles a report card on urban sustainability. Rankings score city's based on air & water quality, solid waste diversion, energy & climate change policy, land use planning, housing, local food sources, green economy and knowledgebase among others.

### Fleet Services

#### **Fleet Reduction**

Fleet has reduced the number of rear load refuse trucks from 139 to 121. We have also reduced the number of Street Sweepers from 27 to 21; Endloaders were reduced from 21 to 12, small

multi-purpose tractors from 52 to 42. We have reduced the number of Backhoes by 2. These reductions will allow Fleet to reduce the overall fleet value replacement funding by \$6,933,570.

### **Bio-Diesel**

The City Of Milwaukee switched to 2% Bio-Diesel for its 875+ diesel powered vehicles in July of 2006. In April of 2007 we switched to 5% and in July of 2007 we increased our use of Bio-Diesel to 10%. By making this switch the City Of Milwaukee will reduce the need for foreign oil for the next year by approximately 90,000 gallons by using soy based bio fuel. Soy Diesel is a renewable resource.

### **Brine Units**

Fleet Services installed 900 gallon liquid brine tanks on two dump trucks. These two are in addition to one large truck carrying 1800 gallons of brine. These units are used to proactively spread salt brine on the streets and bridge decks, where it dries and is reactivated by frost or snow, to prevent ice from bonding to the roadway and keep streets open.

**New Field Operations Headquarters Building:** Fleet Services personnel now perform vehicle preventive maintenance in the new Operations Field Headquarters building. The repairs section of this building is partially heated by a waste oil burner, fueled by oil removed from vehicles during preventive maintenance. 500 vehicles are parked at the facility which means that no travel is needed to bring the equipment in for Preventive Maintenance.

**Tires Filled With Nitrogen.** In 2006 Fleet started a pilot program testing nitrogen in tires on parking checker Jeeps. The test indicated that the use of nitrogen would reduce tire wear by keeping the tires filled to the proper amount because Nitrogen permeates through the tire at a much slower rate the air. Increased fuel economy is another benefit of properly inflated tires.

**Upgrade Fuel Management System** Fleet has started the upgrade to the fuel management system. The system we are replacing was installed in 1984 with a minor upgrade in 1999. The new system when completed in the first half of 2008, will assist Fleet in performing Preventive Maintenance on time, by having accurate odometer readings. The new system will automatically update the mileage/hours in the computerized system by taking the human element out of the equation.

**Automated lubrication system.** Continued conversion of street sweepers to automated lubrication system. These systems insert lubricants through lines into the daily lube points; thus reducing the labor needed for lubrication after each use. This allows Fleet to double shift some of the street sweepers which was an important part of the sweeper reductions.

**Diesel Oxidation Catalyst** The City has received a \$90,000 grant from the US EPA to retrofit diesel oxidation catalyst (DOC) mufflers onto existing refuse equipment. We have completed 54 of the retrofits. We have also purchased 51 new trucks that are outfitted with the DOC install from the factory. Each DOC muffler will substantially reduce particulate matter emissions by up to 50%, carbon monoxide by up to 90%, and toxic hydrocarbons by up to 70%. With the 2007 models all new diesel equipment purchased is required to have either the diesel oxidation catalyst or a diesel particulate trap.

## Facilities

### **Milwaukee City Hall Historic Building Restoration**

When this beautiful City of Milwaukee icon was first built in 1895, it symbolized economic growth and opportunity for the people of Milwaukee. This 70 million-dollar restoration project exemplifies City government's renewed commitment of economic growth and opportunity to the people of Milwaukee. This project will offer many job opportunities for people of diverse backgrounds from within our City to learn new trade skills, help minority contractors and contribute to the general economic growth of our community. The currently projected EBE Participation represents an increase over the \$13,889,427 projected at bid award, and yields an EBE Participation Rate of approximately 25%, which is 35% greater than the Project's 18% requirement.

Notwithstanding the challenges, DPW, the contractor and others are all committed to meeting or exceeding the Project's 25% RPP requirement. With total onsite hours projected at 424,188, achievement of 25% participation translates to more than 106,000 man-hours -- The City Hall Restoration Project could therefore create 70 man-years of work for RPP worker. Work on this beautiful structure will be completed in late 2008

### **Energy Efficiency & Operating Costs**

Facilities Development Section of the Department of Public Works completed the installation of a dual purpose emergency generator. This generator serves the purpose of providing power to the essential functions of city hall complex during a power outage and also has the capacity to generate power to offset peak demands charges the city would have to pay for energy usage during the day. This innovative design also reclaims the heat generated by the exhaust of the engines that provide the power.

### ***Enderis Park***

Recreation and quality of life are essential for Milwaukee to grow and prosper. The citizenry's confidence in government to achieve a high quality of life is measured by the service it can provide. To assist in achieving this mission, the Department of Public Works Recreation Facilities Development & Management staff was instrumental in assisting the reconstruction of the Enderis Playfield. This reconstruction was a collaborative effort and highly community based project that combined city and private funding (\$26,000) and grant money (\$10,000) to accomplish the work. The project over-all reduced the old asphalt area by 60%. The new design included a running track, volley ball, and shuffle board courts and other park amenities. The field house was also upgraded to provide for handicap accessibility.

### ***Storm Water Prevention***

#### ***Roof Drain Flow Restrictor Pilot Program***

As one of Mayor Barrett's four initiatives to control storm water runoff in 2005, patented roof drain flow restrictors were installed at eight city facilities

The Department of Public Works worked with Plumbing Innovations who had designed these unique devices which are a part of a pilot program in the City of Milwaukee to reduce the peak levels of storm water run-off during heavy rains. The restrictors were manufactured in conjunction with Ocean Manufacturing; a community-based training organization. These restrictors allow rain water to temporarily form pools on the roof and allow a slower rate of draining over an extended period of time.

The sites include Milwaukee Police Department district stations, Milwaukee Fire Department engine houses and Department of Public Works buildings. A total of 55 roof drain flow restrictors were installed.

### ***Sustainable Design***

#### **809 Building Green Roof Installation**

In July 2007 Facilities installed a green roof on the 809 Office Building. This green roof is designed to reduce storm water runoff and reduce energy costs.

### ***Sustainable Design***

#### **Energy Efficiency & Operating Costs**

In October, 2005 Mayor Barrett introduce his initiatives to map the future course Milwaukee's efforts to be "Green" The facilities Development & Managements role in these efforts are to incorporate sustainable design and engineering concepts in our projects. Our goal is to have our Zeidler Municipal Building be "LEED EB" certified which will be recognized as energy efficient and sustainable designed and retrofitted existing building. Additionally, we recently received recognition from the Sierra club on the retrofit of our Keeping Greater Milwaukee Beautiful center at 13<sup>th</sup> & Mt Vernon with a photo-voltaic power generation system and a Thermal heat exchanger to aid in electrical energy usage and heating & cooling capabilities, respectively. This work was aided by a \$50,000 Focus on Energy grant from WE Energies. Our efforts extend in the use of green products making this a priority objective for in-house and contracted custodial services.

### **Home land Security**

#### **Fire Department Emergency Generators**

The Fire Department has embarked on a master plan to install emergency generators at each of its engine houses and headquarters. The facilities Development and Management staff has been instrumental in the design and installation of these generators.

#### **2<sup>nd</sup> District Police Station Remodeling**

2<sup>nd</sup> District Police Station originally constructed in 1952 is being remodeled. The interior is getting a complete make-over to make the office more operationally efficient and user friendly. The structure is receiving a new roof, more energy efficient windows and HVAC equipment.

#### **Central Repair Garage**

The emphasis of this project will address the replacement of major operational systems that have been taken out of service, require rebuilding, or replacement. Hydraulic lifts, pneumatic systems, and other systems do not comply with current safety codes. Proper working environments for the repairs of equipment and related operations of our large fleet are scheduled to be improved. The work also includes the replacement of HVAC equipment that has exceeded its useful service life with more energy efficient equipment.