A "GREEN" APPROACH TO STORMWATER MANAGEMENT

In 2010, the MDC initiated innovative green projects to demonstrate alternative methods of managing stormwater runoff. Traditional collection of stormwater, using pipes and catch basins, was supplemented with green strategies, including a rain garden, a green roof, pervious pavement and rain barrels to reduce the amount of stormwater runoff from entering the sewer system. These projects display how going green can be cost-effective as well as being an environmentally preferable alternative to how conventional methods convey stormwater to treatment plants.

THE GREEN CAPITOLS PROJECT

The MDC partnered with the CT DEP for the state Green Capitols Project, as part of the US EPA's national initiative designed to use public buildings across the country as demonstration areas for green infrastructure.

INSTALLATION OF THE GREEN ROOF AT THE CONNECTICUT STATE CAPITOL.

In Connecticut, improvements to our state capitol also include a rainwater harvesting system, designed to capture rain water from the roof into a cistern for use as needed to irrigate the grounds.

A NEW RAIN GARDEN IN WETHERSFIELD

Members of the MDC's Diversity Internship Program completed the design and installation of a rain garden at the Eleanor Buck Wolf Nature Center in Wethersfield. The 550 square foot rain garden is filled with over 100 native plants that will absorb rain water from roofs, parking lots and sidewalks before reaching storm drains. This diversion of stormwater runoff reduces the amount of water that reaches local streams and ponds, lowers the frequency of flash flooding, and helps to maintain natural water table levels.

INSTALLATION OF RAIN GARDEN IN WETHERSFIELD.

CONSTRUCTION WORK CONTINUES ON THE CLEAN WATER PROJECT IN 2011

The charts to the right highlight construction projects that will continue through 2011 in various Hartford neighborhoods and at the Hartford Water Pollution Control Facility. The total amount of rehabilitation work to date in the several MDC member towns is included.

Chart A features sanitary sewer separation projects or those that include portions of sanitary sewer separation work, in various Hartford neighborhoods that will reduce combined sewer overflows, eliminate basement backups, reduce street flooding and improve sewer function.

Chart B features construction and design projects at the Hartford Water Pollution Control Facility, that once complete, will reduce nitrogen discharge and increase wastewater treatment capacity.

Chart C features the total amount of rehabilitation work such as pipelining, manhole repairs and replacements to date on the Clean Water Project, which will prevent excess water from infiltrating the sewer system and reduce unnecessary flows to the treatment plant.

For more information on the Clean Water Project's activities and initiatives, please visit www.themdc.com.

Sewer Separation Construction Projects in Hartford (Chart A)

PROJECT	PROJECT STREETS	ESTIMATED COMPLETION DATE	ESTIMATED COST
Tower Avenue North	Rosemont Street, Ashford Street, Addison Street and Main Street from Montville Street to the Windsor town line	Summer 2011	$10 million
Granby Street 2 & 5	Granby Street, Westminster Street, Andover Street, Holcomb Street, Colebrook Street, Thomaston Street, Plainfield Street, Chatham Street and Garfield Street (not all full streets)	Summer 2012	$19,327,316 (as of January 31, 2011)
Edgewood Street	Edgewood Street from Homestead Avenue to Greenfield Street	Summer 2011	$8 million
Burton Street Drain Separation Project	Sigourney Street, Burton Street, Irving Street and Magnolia Street all between Homestead Avenue and Albany Avenue	Fall 2012	$11 million
Garden Street Relief Sewer Project	Garden Street between Albany Avenue and Homestead Avenue, Liberty Street between Garden Street and Williams Street	Summer 2012	$5.5 million
Homestead Avenue Interceptor Extension Project	Asylum Avenue, Church Street, Hoadley Place, Allyn Street, Walnut Street (not all full streets) and High Street, from Allyn Street to Asylum Avenue	Summer 2011	$22,988,431

Hartford Water Pollution Control Facility (Chart B)

PROJECTS IN CONSTRUCTION	ESTIMATED COMPLETION DATE	ESTIMATED COST
Ultraviolet Disinfection	Spring 2012	$14 million
Biological Nutrient Removal (BNR) Phase #1	Spring 2012	$34 million
Incineration/Electricity Production	Sumner 2012	$27 million

PROJECTS IN DESIGN	ESTIMATED COMPLETION DATE	ESTIMATED CONSTRUCTION START DATE
Biological Nutrient Removal (BNR) Phase #2	Spring 2011	Fall 2011
Solids Handling Improvements	Summer 2011	TBD

Rehabilitation Work in MDC Member Towns (Chart C)

TOWN	PIPE LINING WORK COMPLETED TO DATE (lin)	POINT REPAIRS WORK COMPLETED TO DATE (# OF SEGMENTS)	PIPE REPLACEMENT WORK COMPLETED TO DATE (lin)	MANHOLE REPLACEMENT OR REPAIR WORK COMPLETED TO DATE (#)	MANHOLE COVER REPLACEMENT WORK COMPLETED TO DATE (#)
Windsor	18.5	0	0	147	6
Rocky Hill	1.1	0	0.3	26	16
Wethersfield	19.2	1	0	233	9
Newington	19.6	0	0.2	0	663
West Hartford	50.6	68	1.5	61	1,580
Bloomfield	2	0	0	0	6
Hartford	1	0	0	11	11

CURVED MICRO-TUNNELING TECHNOLOGY: USED FOR THE FIRST TIME IN U.S.

CURVED TUNNEL INTERNAL VIEW.

Using a state-of-the-art construction method known as tunnel boring, the MDC and their contractor Northeast Remsco Construction completed a curved portion of the Homestead Avenue Interceptor Extension (HAIE) project this year. The innovative "trenchless" construction method allows work to progress on a 24/7 schedule, which reduces the time traditional "open cut" construction would take. Added benefits to this technique of pipe installation include avoiding underground utilities, less disruption to local businesses and commuters and a savings in time and money. While micro-tunneling along a straight path has become more common, the MDC project marked the first time this technology was used in the United States to micro-tunnel along a curved path. The HAIE is estimated to be complete by the summer of 2011.

RENOVATIONS—IMPROVEMENTS UNDERWAY AT THE HARTFORD TREATMENT PLANT

The MDC's Clean Water Project is investing almost $400 million in cutting-edge technology and energy- efficient projects to upgrade the Hartford Water Pollution Control Facility (HWPCF). Many milestone accomplishments were achieved in 2010, meeting several goals of the decade-long improvement project at the state's largest wastewater treatment plant.

A key project in the facility upgrade will add two clarifiers and two aeration tanks, with a total volume of approximately 6 million gallons, to allow the facility to remove additional nitrogen from the wastewater, a requirement for the CT DEP's Long Island Sound improvement commitment. In 2010, excavation was completed for the tanks; piles to support the tanks were driven deep into the earth; and reinforcing metal supports were installed and portions of the concrete floors were poured. The picture above shows current construction activity at the HWPCF.

Treating wastewater is very energy intensive, and the HWPCF is no exception to that rule. On a daily basis the facility uses enough energy to light 35,000 100-watt bulbs! In 2010 great progress was made in building a facility that will use the excess heat from the incineration of solids removed from the wastewater treatment process to generate nearly 40% of the plant's total electricity needs. This "green" solution for energy is sustainable (by using a renewable, free fuel source), will lower the carbon footprint of the facility and directly save District ratepayers. Progress made in 2010 included excavation and installation of underground utilities for the electricity production building, and many upgrades within the incineration complex (the facility that provides the heat used to generate electricity).

Disinfecting treated wastewater to ensure it is safe for discharge to the Connecticut River is one of the most important public safety and health tasks at the HWPCF. In 2010 a contract was awarded to replace an aging chlorine disinfection system with a state-of-the-art ultraviolet disinfection system. Ultraviolet disinfection occurs through the use of light without any chemicals. This new unit process is planned to be fully operational in 2012.

ENVIRONMENTAL JUSTICE PLAN

As part of MDC's ongoing effort to ensure transparency in all aspects of the Clean Water Project, the District has developed an Environmental Justice Plan for the improvements at the Hartford Water Pollution Control Facility (HWPCF).

The plan is required by state statute to assure that no segment of the population, due to racial or economic makeup, bears a disproportionate share of the risks of environmental pollution. A public hearing was held in February 2010 to inform the public about the planned improvements at the HWPCF. At the public hearing, District officials explained the purpose of the Clean Water Project, the planned upgrades at the treatment plant, and how those upgrades will reduce impacts to the environment. An additional public hearing is being planned for 2011.

MDC RECEIVES 2010 EAGLE AWARD FROM THE U.S. SMALL BUSINESS ADMINISTRATION

PHOTO CAPTION: L TO R: BERNARD M. SWEENEY, DISTRICT DIRECTOR OF THE U.S. SMALL BUSINESS ADMINISTRATION'S CONNECTICUT DISTRICT OFFICE, SCOTT JELLISON, DEPUTY CHIEF EXECUTIVE OFFICER OF THE MDC, JEANNE A. HOUT, U.S. SMALL BUSINESS ADMINISTRATION'S REGIONAL ADMINISTRATOR FOR REGION I.

The MDC was awarded the 2010 Eagle Award by the U.S. Small Business Administration (SBA) this past year. It was one of eight SBA lending partners recognized for its commitment to aiding, counseling, assisting and protecting the interest of small businesses and for providing financial, contractual and business development assistance, and advocating on behalf of small business.

In 2008, the SBA and the MDC entered into a partnership- the Strategic Alliance Memorandum (SAM) - to develop and foster mutual understanding and a working relationship to strengthen and expand small business development in the local area. As a result of this partnership, contracting opportunities and bonding capacities for small, minority and woman-owned businesses have increased.

The MDC provided training sessions for minority contractors interested in working on the Clean Water Project. In addition, the MDC established a consortium of experienced business development organizations to implement a "Business Resource and Opportunity Initiative," to offer assistance to minority-owned, woman-owned and disadvantaged business enterprises for participation on the MDC's Clean Water Project Construction Program.

MAKING SURE THE REGION'S CITIZENS ARE PARTNERS IN THE CWP

CAC MEMBERS ON TOUR AT THE HARTFORD WATER POLLUTION CONTROL FACILITY WITH TOM TYLER, ASSISTANT MANAGER OF WATER TREATMENT.

MDC'S CITIZENS' ADVISORY COMMITTEE: A MODEL FOR PUBLIC PARTICIPATION

In 2004, when the MDC began its initial planning for the multi-year Clean Water Project, community collaboration was set as a top priority. With a strong desire to go beyond the limits of the typical public hearing, the MDC created the Citizens' Advisory Committee (CAC) with a goal of making the region's citizens partners in the Long Term Control Plan to abate pollution for combined sewer overflows.

The CAC is composed of representatives from the MDC's eight member towns, as well as environmental groups, who serve as liaisons between local communities, constituents, and the MDC.

Through the years, the CAC has had a significant impact on some of the Clean Water Project engineering and legacy decisions, and played a pivotal role in the 2006 referendum, which voters in the MDC towns overwhelmingly approved. Members of the CAC educated their communities on the importance of the Clean Water Project, its impact on the environment, and the quality of life in the region.

Today, CAC members continue in their role as liaisons between local residents, businesses and the MDC by monitoring the project's progress, including how public funds are being spent and allocated.

The CAC's role is a model for public participation in government projects.

MDC: OUTREACH LIAISONS KEEP COMMUNITY INFORMED

In 2008, the MDC contracted with four Hartford community-based organizations to establish and maintain two-way communication with residents and businesses impacted by construction work under the Clean Water Project. Today, this Outreach Liaison Program is still going strong and has proven to be a great success.

Outreach staff provides regular project updates and schedules to residents and business owners to keep them informed during each phase of the projects. Outreach teams get to know the neighborhoods and work with individual property owners, which eases the impact of construction. Anyone with project questions is encouraged to call or stop by one of the two Outreach Office locations in Hartford: 863 Albany Avenue or 499 Franklin Avenue. Both offices are staffed Monday through Friday.

Clean Water Project
the choice is clear

MDC LAUNCHES TRAFFIC CONTROL AND INFORMATION PLAN

MDC's Clean Water Project (CWP) launched a comprehensive traffic control plan this year to support current community outreach services and proactively manage traffic impacts resulting from multiple construction projects throughout Hartford. The goal is to ensure that residents, business owners, emergency services providers and commuters affected by CWP traffic delays, lane closures, and other traffic disruptions are kept informed.

Key components to this plan include traffic safety, flow, and accessibility to homes and businesses, which will remain open during construction.

An interactive Google map highlights current traffic flow restrictions and can be seen at www.themdc.com.

For more Information on traffic delays, detours and closures, contact the MDC Command Center at (860) 278-7850, ext. 3600.

WHAT'S AHEAD IN 2011

At the Hartford Water Pollution Control Facility (HWPCF), construction of two clarifiers, two aeration tanks, an ultraviolet (UV) disinfection system, a heat recovery system and a general expansion of the plant will continue through the year and meet the requirements of the Consent Order and the CT DEP's nitrogen reduction requirements. Design of the wet weather treatment system will start in 2011 to provide treatment for up to 200 million gallons per day (MGD).

In Hartford, the MDC will complete the design of portions of the Franklin Avenue, Farmington Avenue, Granby Street and Park River sewer separation areas and begin the construction of sewer separation projects in the south Maple and Upper Franklin Avenue areas. These projects will significantly alleviate sewage backups into basements, reduce street flooding and combined sewer overflows.

In the MDC's member towns, the relining of sewer pipes to prevent leaks, the repairs of pipes where segments have failed and the replacement of manhole covers will continue, all of which will reduce the amount of inflow and infiltration from entering into the sanitary sewer system.

Construction of the Airport Road Pump Station and Force Main and sewer separation projects in West Hartford, along the Farmington Avenue separation area will begin; and construction on Tower Avenue, Edgewood Street, Homestead Avenue, Garden Street, Burton Street and Granby Street will continue through 2011.

The MDC will begin final design for the South Hartford Conveyance and Storage Tunnel, the effluent pump station at the launch shaft, odor control at the two drop shafts and consolidation conduits to convey combined sewer and sanitary sewer overflows into the tunnel.

STAY INFORMED WITH THE MDC

- **Sign up for the eNewsletter. Send your email address to newsletter@themdc.com.**
- **Watch Newsline on your local Public Access Channels in all District member towns.**
- **Make sure to read your bill insert for Clean Water Project information.**

A LOOK AT 2010 FUNDING

During 2010 the Clean Water Project applied for and was awarded $94.9 million in grants and loans from the Connecticut Department of Environmental Protection and the Connecticut Clean Water Fund. Grants in the amount of $31.07 million were received with the balance in loans at 2%.

Funds were received to support the construction of combined sewer separation projects in Hartford and West Hartford, the design of the South Hartford Conveyance and Storage Tunnel and design for several sewer separation projects in the Franklin Avenue, Farmington Avenue and Albany Avenue areas, and the Green Capitols construction project designed to showcase alternatives to pipes for handling stormwater flow.

Grants and loans were also received in support of the design and construction of two new aeration and final settling tanks at the Hartford Wastewater Treatment Facility as well as the Ultraviolet (UV) Disinfection project. The completion of the UV project will allow the District to discontinue the use of chlorine gas at the treatment plant.

Finally, additional loans in the amount of $7.5 million were awarded to support pipe lining and point repair projects in Newington, Rocky Hill, West Hartford, Wethersfield and Windsor.

The Clean Water Project will continue to actively seek grants and loans available to support the construction projects associated with the Consent Order and Consent Decree.

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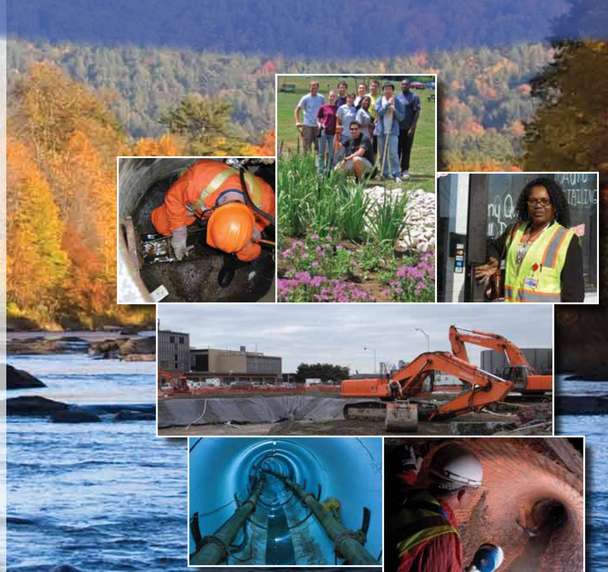

MDC

2010: A YEAR OF PROGRESS AND RESULTS

Clean Water Project
the choice is clear

2010 YEAR IN REVIEW

LETTER FROM THE CAO

By the close of 2010, the Metropolitan District had committed almost $400 million for the design and construction of the various components of the Clean Water Project.

Major construction at the Hartford Water Pollution Control Facility has started including; new aeration tanks and clarifiers to treat increased flow and reduce nitrogen, a heat recovery facility at the incinerators to generate electricity to reduce electrical demand, and ultraviolet light disinfection facility to eliminate the chlorine gas system. Sewer separation projects in Tower Avenue, Edgewood Street and Homestead Avenue are nearing completion and the Garden Street, Burton Street, and Granby Street sewer separation projects have begun. The first curved micro-tunnel in the United States was constructed as part of the Homestead Avenue project. The Green Capitol project, installing rain gardens, a green roof and pervious pavements was started in a joint project with the CT DEP to focus attention on green solutions to stormwater management.

The preliminary design of the South Hartford Tunnel, the development of a plan for the "Real Time Control" of the sewage system and the Inflow and Infiltration control plans for West Hartford, Newington, Wethersfield, Windsor and Rocky Hill were all completed. In addition the design of the sewer separation projects in the Franklin Avenue, Park River, Farmington Avenue, and Granby Street Separation Areas are underway.

The year has been one of great accomplishment towards our goals to reduce Combined Sewer Overflows (CSO), eliminate Sanitary Sewer Overflows (SSO) and reduce Nitrogen from the discharge at the Hartford Wastewater Treatment Facility. The projects planned for design and construction for 2011 and 2012 will commit all of the initial referendum authorization and our Citizens Advisory Committee will challenge our great citizens to support the next phase of the Clean Water Project.

Robert E. Moore
Chief Administrative Officer • The Metropolitan District