

Department of Public Works



Park Cemetery after cleaning organic debris



Snow Hauling on Champion St.



Lakeshore Boulevard Shoulder Reshaping



Police Interceptor receiving an engine overhaul



Jet Rodding



Storm Structure Rehabilitation



PUBLIC WORKS 2010-11 ANNUAL REPORT

In accordance with Section 2-80 of the City Code, listed below is a summary of activities for the Department of Public Works for the 2010-2011 fiscal year.

Water Transmission & Distribution

Major maintenance was required at Grove Pump Station this past year. Both bladders in the two hydro-pneumatic tanks that maintain the pumped pressure district had failed which required the removal and replacement of both bladders. After the bladders were replaced they operated for about two weeks before one failed again. When the failed bladder was removed, a tear was found at the connecting point at the top of the bladder. The manufacturer refused to warranty the bladder because the City had done the install, which was installed to their specifications and instructions. Reviewing the install procedure found nothing that should have damaged the bladder. Along with the replacement of the failed bladder staff performed some modifications to the plumbing on the tanks to facilitate replacement of the bladders in the future. Because of the system design, there will be a need to replace them again in the future. The system has been operating flawlessly since.

A capital outlay project to replace the existing hydrant meters was accomplished this past fiscal year. To better protect the integrity of the water distribution system for our customer we purchased hydrant meters that have a RPZ (reduced pressure zone) backflow device incorporated in the meter that attaches to the hydrant. We also instituted a modification to the hydrant meter request procedure. Because we are not at the locations during use it will now be impossible to have contaminants from tankers sucked back into the distribution network in the event of a loss of system pressure or a tank having more pressure than our system. We now require the request be made to a specific hydrant location and water distribution personnel install the hydrant and lock it at the requested location. This procedure will help us eliminate possible damage to hydrants because we now know the locations of use. Also we have eliminated the occurrence of our hydrant meters being used at other municipality's distribution systems.

The GIS equipment was updated to improve our information gathering and recording capability. This will increase the accuracy of the Geographical Information System and offer the crews that use them to look at the system in real time at locations throughout the city. The equipment also can receive Miss Dig requests in the field through e-mail and assist in the locating process, saving time spent traveling back and forth from the Service Center

- Water main repairs – 4
- Water service line repairs – 17
- Water service line replacements – 40
- Residential meter change-out – 125
- Total cross connection accounts – 652*

- High hazard accounts (reinspected every 36 months) – 536*
- Low hazard accounts (reinspected every 72 months) – 116*
- New cross connection accounts – 41*
- High hazard reinspections completed – 300*
- Low hazard reinspections completed – 57*
- Cross connections found to exist during inspection – 70*
- Cross connections corrected of the newly found connections – 48*
- Cross connections corrective action in progress – 630*
- Backflow prevention devices in system – 873*
- Backflow devices tested – 312*
- Large meters tested – 29
- Large meters not meeting AWWA specifications – 9

* Statistics are calendar year due to the time frame that is required by the Michigan Department of Natural Resources and Environment for the Water Supply Cross Connection Report that is due yearly.

Street Division

The street maintenance division of public works was especially busy with restorations from the large number of sewer lateral replacements done during the year. Most of these required not only bituminous street paving but concrete curbing, sidewalk and sometimes driveway replacement. Our brush, yard waste, leaf collections and the operation of the compost and rubbish site are still well liked by most residents. The volume of materials collected for disposal and recycled continues to increase.

Street Statistics

- Local Street Mileage – 58.27
- Major Street Mileage – 30.95
- Non-Motorized Mileage (Bikepath) – 13
- State Trunkline Mileage – 1.95

Routine Maintenance

- Gallons of paint for pavement marking (Local Streets) – 20
- Gallons of paint for pavement marking (Major Streets) – 390
- Tons of blacktop used for Sewer restorations (Local Streets) – 1,140
- Tons of blacktop used for Sewer restorations (Major Streets) – 60
- Tons of blacktop used for Water restorations (Local Streets) – 143
- Tons of blacktop used for Water restorations (Major Streets) – 7
- Tons of blacktop used for Stormwater restorations (Local Streets) – 100
- Tons of blacktop used for Stormwater restorations (Major Streets) – 5
- Tons of blacktop used for street repair (Local Streets) – 43
- Tons of blacktop used for street repair (Major Streets) – 2

Winter Maintenance

- Cubic yards of snow removed (Local Streets) – 6000
- Cubic yards of snow removed (Major Streets) – 9000
- Tons of salt used for ice control (Local Streets) – 644
- Tons of salt used for ice control (Major Streets) – 966
- Tons of salt used for ice control (State Trunkline) - 132
- Cubic yards of sand used for ice control (Local Streets) – 1684
- Cubic yards of sand used for ice control (Major Streets) – 2526
- Gallons of liquid calcium chloride used for ice control (Local Streets) – 400
- Gallons of liquid calcium chloride used for ice control (Major Streets) – 600

Sanitation

- Collection from approximately 6,100 residential units, 100 small commercial and one dozen litter barrels throughout the City.
- Curbside contract service collection fee - \$7.76
- Other contract service collection fee - \$1.10
- City service collection fee - \$4.69
- Vehicles at Compost Site – Leaves/Grass – 5,703
- Vehicles at Compost Site – Brush – 2,010
- Vehicles at Rubbish Drop-Off Site – 4,873
- Tons of Rubbish Collected – 820
- Tons of Metal Collected – 145.33
- Cubic yards of leaves collected curbside – 9000
- Cubic yards of brush collected curbside – 800
- Cubic yards of yard waste collected curbside – 5000
- Estimated tons hauled directly to the Marquette County Landfill – 14,789*
 - * Includes the one time haul from Blondeau Trucking of 6,600 tons

Sewer Division

The sewer maintenance department focuses largely on sewer system cleaning and repairs for the sanitary and storm sewer systems.

The total replacement of sanitary sewer laterals for houses and businesses from the right of way to the sewer main is a large part of the department excavations due to the orangeburg sewer pipe that is failing at a rapid rate. Partial replacement of sewer main pipes and structures such as manholes and catch basins on the sanitary and storm systems rounds out the excavation portion of the departments maintenance work.

Routine cleaning work that is scheduled annually in the department includes sanitary and storm main cleaning including the removal of roots and grease, manhole and drainage structure cleaning, removing sediment and trash from ditches and retention basins.

Inspecting and locating services performed by the department are as follows: televising of sanitary sewer laterals for residents as well as for engineering SIMP projects to determine condition and location of pipes, locating of utilities such as water distribution pipes, sanitary sewer pipes, storm sewer pipes and electrical lines for the Miss Dig system.

Preventative maintenance includes identifying locations in the sanitary sewer system with repeated problems for root control treatment contract, televising contract to check condition of sewer mains and the slip line contract to replace severely damaged pipe. Working with residents with sanitary sewer back-up problems to find the cause and location of problem and assist them with the proper solution.

Training consists of confined space training and atmosphere testing along with rescue training in conjunction with the fire department, trenching and shoring, proper lifting procedures, working around electrical and utilities, working around heavy equipment, personal protection equipment, MSDS, Hazwoper training, blood borne pathogens, etc.

Sewer Operations Maintenance

- Sewer backups responded to – 62
- Sewer laterals televised – 419
- Sewer main repairs – 25
- Jet rodding (linear feet of sewer) – 111,271
- Root cutting (linear feet of sewer) – 266,793
- Sanitary Sewer Overflows (SSO) – 0
- Grease trap inspections – 110

Sewer Capital Outlay

- Sewer lateral taps – 2
- Sewer lateral replacements – 74
- Manhole repairs – 55

Stormwater Routine Maintenance

- Catch basin repair – 41
- Catch basin replacement – 2
- Storm point repairs – 2
- Storm line thawing – 1

Forestry Division

A \$2,500.00 MDNR Community Forestry Grant helped fund a reclamation tree planting project on an unimproved triangular lot at Lakeshore and E. Michigan. Twenty (20) large-caliper trees were individually tagged at a Wisconsin wholesale nursery and planted as part of the project once the site was cleaned and leveled with topsoil.

A second high profile planting was also undertaken at the new S. Front round-about. The arborist worked with the beautification committee on a partnered project where three (3) trees, sixty one (61) shrubs, along with several perennial and annual flower beds were established at the site following its cleaning and reshaping.

A large scale tree removal, stump grinding and clean up of accumulated downed trees was accomplished with parks division personnel along the Peter White “rights-of-way” around Presque Isle Park: seventy five (75) dead trees (mostly poplar species) were removed in this effort.

Forestry Statistics

- In-house tree planting – 8
- In-house transplanting – 9
- Contractual – 90
- 61 shrubs were planted at the center of the MDOT round-a-bout
- 23 shrubs were planted as a replacement hedge following the Champion St. reconstruction
- Small tree pruning – 212
- Large tree pruning – 211
- Tree removal – 169
- Stump grinding – 93

Park Cemetery

The arborist/sexton and forestry division personnel undertook the following above and beyond the typical facility maintenance and burial work.

The Memorial Day observance site was upgraded and formalized, with the transplanting of several large shrubs, tree pruning, construction of a permanent flag holding structure and “tomb of the unknown,” landscaping and resodding. In conjunction with this upgrade and in a cooperative effort with the American Legion, a reclaimed granite structure was moved from the Memorial Day site to the Potter’s Field area where it was used as the focal point of a new memorial honoring veteran’s buried in the field.

The cemetery’s “first pond” at the Seventh Street entrance was drained and cleaned of accumulated organic debris. Water quality in the facility’s three ponds is typically quite low, with associated odor and unsightliness issues. Routine pond draining and cleaning is now scheduled, and efforts are underway to pursue aeration devices for the two most visible ponds.

With the assistance of street and park division personnel, a cemetery office, complete with vault and restroom, was established in a bay of the facility’s garage.

Cemetery Statistics

- Traditional Burial – 35
- Cremains Burial – 33
- Columbarium Burial – 4
- Grave Space Sale – 32
- Cremains Space Sale – 2
- Columbarium Sale – 5
- Infant Space Sale – 0
- Infant Burial – 0
- Vault Storage – 0
- Foundations – 57
- Perpetual Care Collection – 2

Motor Vehicle Equipment Division

Using our current software program GEMS and our fueling software program Phoenix, we have developed a weekly maintenance due report. This report determines any future service needed. At the end of every shift, vehicles fuel tanks are filled at the Municipal Service Center fuel depot. The operator enters the mileage or hours used. Every Monday, a file is converted from Phoenix to GEMS. From this data, a report is generated that indicates which vehicles are due for service. Maintenance work is then scheduled accordingly. This process has had a positive effect on the department. It saves on labor cost by eliminating the need for an employee to manually look at each piece of equipment. It also prevents equipment from going into an “over due” maintenance status. Timely vehicle maintenance is crucial, as it prolongs the life of expensive equipment. By being proactive in vehicle repair & maintenance, there has been a substantial decrease in equipment failure, thus decreasing vehicle downtime.

Equipment

- Small Equipment – 204
- Sedan/Pickups – 87
- Large Equipment – 80

Maintenance

- Tune up – 72
- Brakes – 35
- Suspension work – 40
- Drive Train – 5
- Engine work – 4
- Oil changes – 334
- Restoration work (average restoration takes 120 hrs) – 5
- Equipment Painting – 2
- Snow Plow under body changes – 72
- Schedule Maint.(above and beyond just oil change) – 150
- New Equipment Outfitted – 6

Fuel Usage

- Waste Water Treatment Plant – 1,929 gallons
- Marquette Housing – 1,403 gallons
- Downtown Development Authority (DDA) – 1,702 gallons
- Lakeview Arena – 1,625 gallons
- Motor Pool – 107,798 gallons
- Marquette Area Public Schools (MAPS) – 48,547
- AMCAB – 5,728 gallons
- Powell Township – 4,818 gallons
- Peter White Public Library (PWPL) – 32 gallons

Facility Maintenance Division

The main goal for the department during the FY 10-11 was to complete all remaining capital improvement projects that had been approved in the previous two fiscal years. All remaining work was either completed or is in process to be completed within two months of the end of the fiscal year.

City Hall and the Lakeview Arena benefited from a majority of this year’s work through the completion of several capital improvement projects. Many of these projects were driven by the

need to reduce the City's energy consumption. The most notable energy reduction projects involve the replacement of Metal Halide lighting with energy efficient T8 fluorescent lighting. City personnel continue to look for ways to reduce the City's electrical and gas consumption through the use of preventative maintenance and monthly energy audits.

The following list highlights some of the major projects and accomplishments that were either completed in the fiscal year or are near completion.

- Lakeview Lighting Upgrade – completed June. One hundred and ninety two Metal Halide fixtures were replaced with high bay fluorescents. We anticipate 25% reduction in electrical usage.
- Cemetery Office – completed April. New HVAC, electrical and plumbing systems were installed.
- MSC Fuel Pumps – completed December. Fuel pumping area updated to meet the latest DEQ fuel depot requirements.
- City Hall Security System – Completed December. A 24 hour motion activated security system was installed to protect City Hall artwork.
- City Hall Elevator – Completed December. An upgraded electrical disconnect and new hydraulic pump were installed.
- City Hall Fire Alarm Project – Ongoing. A new modern ADA compliant fire alarm system is being deployed. Expected completion date of August 2011.
- Lakeview Scoreboard – Ongoing. New LED scoreboard to be installed in Russell Arena in August 2011.
- Parking Lot sealing – Ongoing. City Hall and the MSC to receive much needed parking lot maintenance. Expected completion date of August 2011.
- Gym Lighting Project – Ongoing. 18 Metal Halide fixtures to be replaced with high bay fluorescents. System to include occupancy sensors and a programmable lighting control panel. Expected completion date of August 2011.
- Lakeview entry doors – Completed February. North entry doors were replaced due to arena vandalism in 2009. Doors were upgraded from steel to aluminum.
- City Hall Office Renovations – Completed December. The City Manager's office and the Police Captain's office were updated with new carpeting and paint.
- Lakeview Arena Munters Unit - Completed May. Dehumidification unit at Lakeview Arena was configured incorrectly since installation. Controller, motor overloads, and sensor errors were corrected and unit now functions 100%.
- MIOSHA Pre-assessment – Completed February. A MIOSHA hazard survey was completed at the MSC, City Hall, Fire Departments, Lakeview Arena, Wastewater, Water Filtration, and Water Distribution Stations. Many hazards were identified and corrected. Staff continues to prepare for the unannounced inspection that will occur anytime after October 2011.
- City Hall HVAC System – Ongoing. New circulation pumps were purchased and are to be installed before heating season begins in fall 2011.
- Lakeview ice compressor Repairs and Improvements – Ongoing. Repairs are being made to two of the four reciprocating chillers. Several energy saving ideas were generated regarding chiller operation and maintenance. Expected completion of energy projects is August 2012 if funded.

Parks and Recreation Maintenance Division

Replacement of William's Park playground equipment and layout modification was completed. Fitting proper toy location and surface improvements helped kid traffic pattern flow smoothly. The sand fall zones were replaced with woodchips to improve safety.

City Hall also received a fair share of attention with remodeling of the assistant manager's office with ceiling tiles, power needs, wall work, trim, carpet, furniture and shades. Captain Riebolt's office was also remodeled with ceiling tiles, wall work, trim, carpet, and power needs.

Kaufman pavilion was added to the routine maintenance plan.

Hurley Ball Field received a new A.D.A. drinking fountain with updated water and sewer lines. This also gave us an opportunity to do maintenance on restrooms with out effecting the water fountain operation.

Tourist Park received a new sign for hours and dates of operation. This sign provides information for travelers as well as park guests.

- Miles of trail plowed – 182
- Dog boxes serviced – 2,912
- Toy repairs – 48
- Irrigation repairs – 24
- Drinking fountain repairs – 29
- Trash cans serviced – 21,890
- Beach maintenance – 120
- Cook stove cleaning – 3,000
- Gravel parking lot repair – 29
- Flag pole/flag maintenance – 56
- Outdoor ice rink flooding – 36
- Parking lot plowing – 600
- City Hall maintenance – 300