

REPORT OF THE BOARD OF PUBLIC WORKS

The Board of Public Works oversees the Department of Public Works (DPW), which consists of the following programs: Engineering, Park & Highway, Recycling and Disposal, Management Services, Water and Sewer. All of these programs are funded from general tax revenues except for the Water Program and the Sewer Program which, as enterprise funds, are funded exclusively by users' fees.

In March 2012, David A.T. Donohue was reelected to a three-year term to the Board of Public Works. In April 2012 Board Member William E. Charlton announced his resignation from the Board. He was replaced by Owen H. Dugan, effective May 2012. Mr. Dugan's appointment will expire at the next Town election at which time there will be an election to fill the balance of Mr. Charlton's term. The Board reorganized, effective July 1, 2012, with David A.T. Donohue as Chairman of the Board of Public Works, Paul L. Criswell as Vice Chairman, and Owen H. Dugan as Secretary.

ENGINEERING DIVISION

The Engineering Division aims to provide the Town of Wellesley with the highest level of professional engineering services. It is involved with nearly every engineering related task in the Town including: preparation and review of engineering related reports and technical memoranda, preparation of detailed design plans and cost estimates, deed information and maintenance of record plans, computer-aided design and drafting, Geographic Information System (GIS) implementation and maintenance, surveying, contract administration and project representation services for construction projects, long-term planning and many other services. The Engineering Division uses state of the art technologies to perform these tasks, and to adjust to the ever-changing needs and priorities of the Department of Public Works and the Town of Wellesley. The following are highlights of the Division's work during Fiscal Year 2012.

DPW Operations Building

During FY12 this important and exciting project moved from plan into reality. The DPW selected Contractors Network Incorporated from East Providence, Rhode Island, as our general contractor. Work commenced in August, 2011, and took advantage of the extraordinarily mild winter. The work includes the construction of a 2-story, 8,640 square foot steel frame building. The Engineering Division worked actively with the Permanent Building Committee (PBC), the owner's representative Weston and Sampson, the project architect AECOM and our contractor. The Engineering Division completed construction survey services, reviewed all contract clarifications and responded to proposed field changes. A majority of the construction was completed during FY12 and the current substantial completion date is mid September of 2012. The Division looks forward to moving into the new handicap compliant and energy efficient building this fall where we will be consolidated with the remainder of the DPW.

RDF Wood Processing and Baled Storage Buildings

The Engineering Division worked as the surveyors and site engineers on this project designed to comply with current DEP requirements, to better protect the environment and to increase the market value of the recyclable material. The

Division prepared permit submissions to the Design Review Board, the Zoning Board of Appeals, as well as the Building Department, and worked closely with the Health Department and the Wetlands Protection Committee. We coordinated plans with the Town's architect Weston & Sampson and mechanical engineer to facilitate a public bid for the construction of these two steel framed, fabric covered buildings. The Engineering Division will serve in a construction administration and oversight role as these buildings are constructed during the first half of FY13.

Sprague Clock Tower Preservation

FY12 saw the completion of this unique project that included tuck pointing, door replacement and rehabilitation of several interior surfaces and exterior masonry surfaces at the Clock Tower. The Department of Public Works worked closely with the Community Preservation Committee and Wellesley Historical Commission on this project to complete the work within budget. Substantial completion was accomplished this fiscal year.

HVAC Study for DPW Park/Highway Building

During FY12, the DPW worked with the Permanent Building Committee (PBC) and Weston and Sampson Engineers for the heating, ventilating and air conditioning (HVAC) study for the DPW Park/Highway Building. There are a number of problems with the existing DPW Park/Highway Building HVAC systems including air quality, heat loss and air temperature controls.

The Engineering Division assisted in the evaluation of the existing facility and the development of recommendations for the HVAC system modifications including prioritized recommendations with cost estimates for various elements. The 2012 Annual Town Meeting approved funding for the engineering design services, including preparation of bid documents for construction, reconstruction, remodeling, rehabilitation and/or modernization of the HVAC systems. The final design and permitting for the DPW Park/Highway Building HVAC Systems Project is scheduled in FY13 and construction is scheduled in FY14.

Morses Pond Dredging Project

In the last quarter of FY12 it was decided that the conditions were favorable to re-bid this project, the largest and one of the most critical components of the long range Morses Pond management plan. The Engineering Division worked closely with our environmental consultant, Apex Companies, and the Natural Resources Commission to re-advertise the project in mid May resulting in a contract with Cashman Dredging and Marine Contracting Company, LLC from Quincy, MA, at a value that was \$448,280 less than the 2010 bid. The contract was initiated at the end of the FY and work is expected to be completed next year.

Washington Street at Lower Falls

Throughout FY12, the Engineering Division worked closely with the developers of the 27 Washington Street mixed use project, overseeing the installation of several critical public improvements. These include enhancements to the public parking lot and trail system, storm water system improvements, and the relocation of a sewer trunk line. The project included several traffic enhancements such as the new lights at Glen Road, several geometric and lane striping changes and the pedestrian crossing near Papa Razzi.

Infrastructure Projects

The Engineering Division was involved with several important drainage infrastructure projects during FY12 including Aberdeen Road, Hillside Road, and Laurel Avenue. Additionally survey, design and bidding documents were prepared for the replacement of a critical culvert on Cliff Road. Roadway improvement projects on Bacon Street, Kingsbury Street and section of Washington Street were also advanced during the year.

Storm Water Management Program

During FY12, the Engineering Division continued its management of the Town's storm water management program and the federal permit known as NPDES. This work includes monitoring of all construction activities, permitting of new connections, responding to reports of potential contamination issues and some monitoring and sampling of flow. The NPDES permit is in its 9th year and it regulates the discharge of storm water to the waterways of the United States. Compliance with the permit has involved added activities for the Engineering Division including public education, public participation, active management and inspections, and development of site specific storm water cleaning technologies.

A revised NPDES permit, originally expected by this summer, has been postponed by the EPA until FY13; however, the Engineering Division closely monitored the advancement of the permit, including participation in the public comment hearing held in March 2010. The Engineering staff worked closely with neighboring and regional interested parties to make the DPW well positioned for this anticipated increased regulation. Clearly we are excited about the goals of improving water quality and maximizing opportunities to protect our environment, but remain concerned with the costs and the long-range effectiveness of the permits goals. In this regard the Engineering Division worked diligently to assess the overall system, analyzed some of emerging technologies, and increased tracking of specific pollutant concerns. We envision our ongoing investments in the Town's GIS system and other tracking systems to be beneficial to the anticipated permit requirements.

Additionally the Engineering Division completed a variety of tasks at the RDF to assure compliance with its Multi-Sector General Permit including quarterly monitoring and analytical testing of storm water.

GIS Implementation-Computerized Assessors Mapping

The Engineering Division continues to assist the GIS Department by providing as-built plans for new projects, GPS work, updating of the Town's utility infrastructure, and ongoing assistance with data development. In 2010, the Engineering Division, working with the GIS Department, began converting assessors' maps into computerized format. A significant portion of this work was completed in FY 12; this system will replace the hand drawn pen and ink maps that are currently utilized. The Engineering Division staff sees this work as essential for future effective management of the systems that we assist in operating.

VUEWorks Implementation

During FY12, the Department of Public Works implemented an asset management program called VUEWorks. VUEWorks utilizes GIS and databases to spatially show and manage the Town's assets. The Engineering Division is creating work orders and service calls in VUEWorks to help manage and maintain project information and

utility infrastructure. The Engineering Division continues to work with the Management Division to develop and implement a facilities module for the building inspection maintenance program. This system will increase the ability for all divisions and potential all town components to work more effectively and will greatly improve our ability to efficiently monitor public assets and resource allocation.

Utility Permit Program

The Engineering Division manages the Town's Street Occupancy and Trench Permit Program. This program regulates all utility and excavation work within the public way in accordance with the Rules and Specifications Regulating Street Excavations, Obstructions and Driveway Aprons, promulgated by the Board of Public Works. The comparative program statistics for FY10, FY11 and FY12 are:

<u>Utility Permits</u>	<u>FY10</u>	<u>FY11</u>	<u>FY12</u>
Number of permits issued:	861	808	852
Number of permits completed as of 6/30	497	486	445
Number of outstanding permits	363	322	407

The majority of outstanding permits are typically gas, telephone or water line repairs that have not yet been permanently patched. The number of outstanding permits at year's end also includes those streets that require cold planing, followed by an overlay of the pavement surface and those permits where the contractor is required to delay the final patch for a period of 60 days to account for settlement of the excavation.

HIGHWAY DIVISION

The Highway Division is responsible for the maintenance and repair of all Town roads, street signs, sidewalks, and all surface and subsurface drainage systems. Maintenance includes the cleaning of streets, drains, catch basins, brooks, and culverts. The resurfacing program maintains the structure of streets through trench and pothole repair, crack sealing, chipsealing, resurfacing and reconstruction. During the winter, roads and sidewalks are kept safe for travel through the winter maintenance program, which includes surface treatment, plowing and snow removal. The Sign Shop maintains all of the traffic control signs, street signs, street line painting, parking meters and parking lot ticket machines. This includes replacement of worn, damaged or missing signs and meters and the installation of new signs and meters. The Highway Division also provides a wide range of construction and maintenance services to all Town departments in both emergency and non-emergency situations.

Winter of 2011-2012

The winter of 2011-2012 started very early with a late October storm but this proved to be a fluke as the winter was a "non-winter". This winter was the one of the mildest and least snowy winters on record (ranked by the state as the 2nd mildest on record). Records for warmest overall winter and least amount of snow were broken throughout the state. November and December produced no snow accumulations. January was our most active month with the most storms and highest total accumulation. February and March were extremely warm along with the rest of the country with very little precipitation.

The total snow accumulation measured at the Highway Division facility for the winter of 2011-2012 was 15.0 inches. The DPW responded to a total of only 5 events and just one of these required the attention of snowplowing crews. The remainder of these storms was treated with a combination of sand, salt and liquid calcium chloride. Responding to storms this season resulted in the use of approximately 18 tons of sand, 1,022 tons of salt, 750 gallons of liquid calcium chloride and 5,500 pounds of calcium chloride pellets.

Given the very mild winter and lack of any large accumulation storm, snow removal was not needed.

Monthly Snow Accumulations-Winter 2011-2012

October	3.75"	January	8.25"
November	0"	February	1"
December	0"	March	2"

Fiscal Year 2012 Street Resurfacing

The resurfacing capital program for Fiscal Year 2012 was completed after review of Fiscal Year 2011's season surveys and analysis to provide the best value with the available funding. The program encompassed several different treatment options: simple overlay, grind and overlay, and asphalt rubber surface treatment. A total of 17 streets were identified for treatment this year, totaling 4.65 miles of roadway.

The following five streets were treated with a conventional pavement overlay: Boulder Road, Greylock Road, Hunting Street, Monadnock Road, Old Town Road, and Rutgers Road. Six roadways were identified for cold planning and overlay. These roads were: Dover Road, Grantland Street, Grove Street (from Kenilworth to Beard Way), Hampden Street, Wareland Road, and Weston Road (from Central Street to Washington Street). There were 5 streets that received an asphalt rubber surface treatment. They were: Bradford Road, Cushing Road, Gilson Road, Greenwood Road, and Washburn Ave.

To continue to improve the Pavement Management Program, another survey of all streets in the Town was performed by UMass Dartmouth. This information is used to determine the most cost effective maintenance, rehabilitation and construction strategy that provides the longest life for a roadway and at the same time, costs the least.

Stormwater Drainage Projects

Working in conjunction with the Engineering Division, several drainage projects were completed during the year to address storm water issues:

- Aberdeen Road - The Highway Division extended the drainage system to improve the capture of surface water. This work included four new catch basins and the installation of approximately 413 feet of 12" HDPE pipe. The finish work of restoring the pavement will be completed next fiscal year as National Grid made improvements to their natural gas main.
- Hillside Road– A total of four new catch basins were installed, all of which were double capacity to take on storm water. A total of approximately 155 feet of new 12" HDPE pipe was installed.

- Wareland Road - Work continued from the previous year to address numerous drainage issues. This work included a new 12" drain and installation of three new drainage structures. The street was then cold planed, received a leveling course of asphalt and subsequently the final course of asphalt. Noticeable improvements were observed during rain and snow/ice events.

Sidewalk Construction & Maintenance

- Waban Street- Highway crews resurfaced a portion on Waban Street sidewalk from the Municipal parking lot to Weston Road including several driveway aprons.
- Grove Street- Work was completed in the Fuller Brook area for ADA accessibility. The intersection of Grove Street at Hampden Street was reconstructed for ADA compliant wheelchair ramps.
- Weston Road - Highway crews reconstructed the ADA Wheelchair ramps at the intersection of Weston Road at Abbott Street.
- Highway provided services to the Park Division to rehabilitate and upgrade recreational areas and repair infrastructure damage from trees.
 - Assistance with the tree removal program required repair of sidewalks after tree removal and subsequent stump grinding. Those locations included Fiske Road, Beechwood Road, and Arden Road.
 - Highway constructed and/or paved sidewalks at Kelley Memorial Park and Perrin Park.

Other FY12 Highway Activities

- August 28th, 2011, brought Tropical Storm Irene to Wellesley. The Highway Division had crews in place for its arrival. With the given forecast and planning preceding the event, the flooding was minimized and road closures were easily addressed.
- The Highway Division began working in conjunction with the Engineering Division on a detailed inspection of catch basins (drainage structures) and storm drain lines. Work started in late December with the Fuller Brook Basin. The scope of the project is to update the Town mapping with newer structures, private drain connections, identifying utilities needing repair and upgrade, recording data for input into the Town's GIS database, and identifying storm water outfalls. Given the mild winter, the project had excellent results and will continue in the years to come. This will aid Engineering's efforts for meeting the EPA's NPDES permit requirements for stormwater.
- Highway crews supported the Engineering Division in site work for the new DPW Administration building. The work included utility connections and paving.
- Due to a mild winter, Highway crews were assigned the task of Brook and Culvert Maintenance. After Tropical Storm Irene, several areas were identified as needing attention and completed over the winter. A total of 3,950 feet of brooks were cleared resulting in approximately 171 cubic yards of debris removed.
- The Lexington Road culvert was cleaned during the winter resulting 14 cubic yards of material removed.

- The forebay at Reeds Pond was dredged by Highway personnel and a private contractor in December 2011. An estimated 49 cubic yards of dredgings were removed.
- Highway personnel installed a total of 60 feet of CORTEN guardrail at two locations. The first was on Boulder Brook at Martin Road, the second was Indians Springs Brook at Colburn Road.
- Assisted both Park and Engineering Divisions in the installation of under drains for the Fuller Brook Walking Path study. Highway crews installed a total of approximately 400 feet of pipe to assist in controlling ground water issues which presented difficulty in the walking path base.
- Highway crews were used in the installation of new granite curbing in the main parking lot of the Town Hall.

Comparative Statistics	FY11	FY12
<u>Street Resurfacing & Cracksealing (public ways)</u>		
Hot Mix Asphalt (HMA) Overlay	2.1 mi	1.2 mi
Roadway cold planed & HMA Overlay	0.9 mi	2.1 mi
Stress absorbing membrane interlayer treatment (SAMI)	1.8 mi	0.0 mi
Asphalt rubber surface treatment	4.5 mi	1.3 mi
Streets cracksealed	14.3 mi	0.0 mi
<u>Curbing</u>		
Granite curbing	--	250 lf
HMA curbing	425 lf	1,335 lf
<u>Sidewalks</u>		
Sidewalks resurfaced	1,969 lf	1,720 lf
New sidewalk construction	--	417 lf
Sidewalks reconstructed	--	735 lf
<u>Guardrail fencing</u>		
Highway steel guardrail fencing installed	405 lf	60 lf
<u>Winter Maintenance</u>		
Winter weather events requiring DPW response	21	5
Total snowfall, inches	81.3	15
Salt used for ice control on roads and walks, tons	3,035	1,022
Calcium chloride (liquid) for ice control on roads, gallons	9,700	750
Sand used for ice control on roads and walks, tons	238	18
Calcium chloride (pellets) ice control in School Lots*, lbs	5,600	5,500
Sidewalks plowed each storm, miles	49	50

Highway Maintenance Inventory

Streets, miles	110	110
Sidewalk, miles	118	118
Curbing, miles	78	78
Fencing, miles	6	6
Culverts, miles	75	75
Brooks & streams, miles	15	15
Catch basins, each	3,657	3,657

Note*: Added to the snow responsibilities were more areas/driveways around the new high school constructed with porous pavement in wetland areas. This restricts the use of salt or sand on these areas which is the typical treatment. To accommodate these parking lots and driveway areas around the high school, a truck is dedicated to distribute ONLY calcium chloride pellets. While the number of treatments needed this winter was less, the amount of material needed for each storm increased.

PARK & TREE DIVISION

The Park & Tree Division of the Public Works Department is responsible for the year-round maintenance of the Town's parks, athletic fields, outdoor recreation facilities, conservation lands and public shade trees. Listed below is a breakdown of the town properties routinely maintained by the Park & Tree Division.

- The grounds of Wellesley's branch Libraries, Town Hall and Police Station
- The Recreation Department's Moses Pond Beach Facility
- 9 Playgrounds of Wellesley's Public Schools
- 13 Playing Field sites totaling 47 acres of the Natural Resource Commission and School Department properties.
- 4 Tennis Courts (Hunnewell, Sprague, Schofield, Kelley) totaling 17 courts.
- 6 Conservation Reservations and the Wellesley Town Forest
- 10 Municipal Parking Lots of the Board of Selectmen
- 18 Parks and 5 Playgrounds of the Natural Resources Commission
- 68 Traffic Islands
- 3 Linear Parks (Caroline Path, Cochituate Path and Fuller Brook)
- 8 Ponds including annual mechanical and manual harvesting of invasive weeds at Longfellow, Rockridge and Moses Ponds
- Over 6,000 inventoried Public shade trees and vegetation management along town roadways.

During the fiscal year **2012**, the Park & Tree Unit also completed the following tasks and capital improvement projects:

- **Hunnewell Field Capital:** During the fall of 2011 graded and installed new gravel and stone dust along 1,400 feet of the Cochituate Aqueduct Path that runs through Hunnewell Field. Replaced 30 feet of fencing along the Hunnewell football field along with removing old outdated barb wire along the entire perimeter fence.

- **Elementary School Capital:** Graded the southeast corner of the Perrin Park soccer field to increase the field size by 10%. Three new dry wells were installed to improve drainage. All disturbed areas were replaced with new sod along with the entire field being aerated and seeded.
- **Playground Capital:** During the 2011/2012 School year assisted the Sprague School PTO with the installation of a new donated Shade Structure. The division worked with the installer to relocate existing picnic tables to a new location, excavated the site and installed base material for paving of surface area along with installing a 24" retaining wall around three sides of the structure, and new sod around the grassed area. Site was open for use when the students returned from April Spring Vacation. Also, during the year all the town's 9 School playgrounds and 6 Parkland playgrounds had safety fiber added and renovated as needed to meet required ADA and safety standards, including bi-annual safety inspections.
- **Sprague Field Capital:** During December of 2011 a french drain was installed around the outside arc of the Sprague Field #5 baseball infield to improve drainage. The French drain also connected the fields existing storm water drains. Then in the spring of 2012 the outfield was aerated with a vertiquake machine to improve outfield drainage going to the newly installed French drainage. Since this project was completed drainage has appeared to improve.
- **Tennis & Basketball Court Capital:** In the fall of 2011 installed 3 new basketball backboards and rims along with painting new lines at the Perrin Park basketball court. During the winter of 2012 completed renovation of the fence enclosure for the Sprague Field Tennis Courts. In the spring of 2012 the Department awarded a contract to New England Sealcoating for the crack sealing and painting of the Hunnewell Tennis Court complex. It will be a two phase project allowing for four of the eights courts to remain open during the renovation. The project will start in August and be completed by early to mid September of 2012.
- **FY 12 Tree Planting Program:** During the fall of 2011 and spring of 2012 planted and maintained 137 new trees and 200 shrubs town-wide with funding provided by the Natural Resources Commission and various other capital project funds and donations.
- **A.D.A. Capital:** Purchased and installed two new A.D.A. accessible picnic tables for the new donated Sprague School Shade Structure.
- **Traffic Island Capital:** During the winter months of 2012 concluded extensive pruning, thinning and removal of dead trees and invasive plants in the large wooded Great Plain Traffic Islands located between Brook Street and Wellesley Avenue. Then in the spring of 2012 transplanted 25 White Pine saplings from Sawyer Park and two 2" size nursery trees (Elm & Amelanchier) in this area to establish native species in this wooded area.

- **Winter Moth Spraying Program:** In the spring of 2012 successfully sprayed 1,096 public shade trees to control damage from invasive Winter Moth caterpillars. Also, in cooperation with the Natural Resources Commission provide public information to town residents on how they can best protect their private trees against this destructive pest.
- **Mosquito Control:** In response to the West Nile Virus, assisted the Middlesex Mosquito Control and the Wellesley Heath Department with treating over 3,200 catch basins with larvicide to help reduce the mosquito population in the town during the summer of 2011.
- **Aquatic Weed Harvesting:** In July of 2011 continued annual mechanical weed harvesting of invasive aquatic plants at Longfellow and Rockridge Ponds. Then during the months of August and September of 2011 and May and June 2012 continued annual mechanical weed harvesting of invasive aquatic plants at Morses Pond. Also, provided support to the Phosphorus Activation System at Morses Pond during April, May and June of 2012.
- **Gift Account:** The division installed 5 new donated benches and planted three traffic islands with flowers, thanks to the generosity of town residents.
- **Fuller Brook Park Demo Path:** In cooperation with the Highway Division and funding from the Natural Resource Commission, installed two 50 ft. demonstration paths on Fuller Brook Park just west of State Street. Each section was design to a different specification for the public and Fuller Brook Park Task Force to review and help create the desired pathway specification for the complete renovation of the Fuller Brook Park pathway.
- **Fuller Brook Park Tree Maintenance Program:** With funding and a Tree Preservation Plan from the Natural Resource Commission the division removed 58 hazardous and/or invasive trees during FY12. Starting in June the division was able to start maintenance pruning of priority #1 trees identified in the plan. All the work completed came in under budget of the plan's project costs.
- **Wellesley High School & Middle School:** As part of maintaining the town's Green and Sustainable Energy goals the division relocated 6 bike racks during the High School construction project to maintain the High School's 66 bike parking locations. At the Middle School two new bike racks were installed at the Calvin Road parking lot to allow for an additional 22 bike parking spaces. These two bike racks were part of a \$995 Massachusetts Area Planning Council Grant, along with funding from the DPW for installation.
- **Town Hall Grounds:** During the open winter of FY12 the division was able to conduct an extensive pruning and removal of invasive trees and shrubs around the Duck Pond and rear area of the Town Hall.

- **The Elm Park / Sprague Clock Tower Renovation Project:** the division's Landscape Planner and maintenance staff assisted the Engineer Division with the renovation of the Sprague Clock Tower. Work consisted of landscape protection before construction and renovation work after construction. The other work included repair to the clock tower bell, replacement of a stolen plaque and installation of the building's new National Historic Site Registry plaque.
- **Turf Management:** With the assistance of written recommendations for an organic turf management plan and some new equipment provided by the Natural Resource Commission, the division has been able to complete the transition to a completed organic turf management program. This includes a targeted plan for proper cultural practices that include recommended cutting heights, multiple types of aeration techniques, proper irrigation scheduling and regular seeding with high quality grass seed with the best species for the site. Soil tests are conducted every other year to make sure proper soil pH and fertilization requirements are maintained. To help reduce packaging waste and increase efficiency the department purchase 1,000 lbs bulk bags of organic fertilizer. High use fields also receive additional liquid soil amenity made of fish emulsion and seed weed extract that is produced locally in Gloucester Massachusetts. For biological control of white grubs the division applies nematodes, a parasitic soil microbe that kills off white grubs. The cost of this program is supported by player use fees collected for the permitted use of the town's athletic fields.

RECYCLING DISPOSAL FACILITY

The Recycling and Disposal Facility (RDF) is located at 169 Great Plain Avenue (Route 135). This 88-acre facility is open 6 days a week. The hours of operation are: Monday, Tuesday and Wednesday 7:00 AM to 12:00 PM. Thursday and Friday, 7:00 AM to 3:45 PM and Saturday, 7:00 AM to 4:45 PM. The facility is closed on Sundays except for six Sundays in the fall during the busy leaf season.

The solid waste management strategy utilized by the RDF is the "3 R's" diversion method. Waste that cannot be diverted from the waste stream via **Reduction, Reuse, or Recycling** is transported to a State-approved disposal facility. All materials are processed in an environmentally, operationally and financially sound method.

Recycling

Recycling eliminates the financial and environmental costs of land filling waste and can generate revenues that are deposited into the Town's General Fund. A major component to the success of the RDF operation is the Lindeman Baler. This is a high-density baler that produces an export quality bale, thus enabling the RDF to market to upper level worldwide markets that are typically accessible only to high volume private companies. In order to achieve the highest economic benefit for the Town, recyclable material is inspected and/or sorted on a quality control conveyor. Contaminates are removed to ensure mill acceptance at a premium grade classification. The most important aspect of our marketing strategy is to eliminate the profit making middle companies or brokers. This enhances the Town's position

to capitalize on the constantly changing market conditions to maximize revenue. Another benefit of this strategy is that it allows the RDF to have more control over the operation by developing long-term relations with mill buyers.

Reduction

Source reduction is the first step in managing the Town's waste. Home-composters and recycling containers for are available for purchase at the RDF and can significantly reduce each household's waste. Additionally, the Massachusetts' Department of Environmental Protection provided the RDF with "Junk Mail Reduction Kits", which includes information on how to remove oneself from mailing lists and a "Non-Toxic Products" brochure with a listing of environmentally friendly products that can be used at home.

Reuse

Reuse is the next component in the Town's solid waste management strategy and the RDF has a few areas for residents to take or leave items that still have value.

The most visible and popular of these areas is the Reusables Area (Take-It-Or-Leave-It). The area was closed July 1, 2005 because of budget cuts. Friends of Recycling Inc. (FOR), a community based non-profit organization, made up of Wellesley residents dedicated to helping the Town's recycling program, organized a volunteer effort to operate and manage the area. The area has since reopened with a volunteer force of approximately 50 volunteers. The RDF staff and volunteers have successfully worked together to keep the area open.

A fabric structure building was erected at the Reusables Area to protect good used items that can be reused from inclement weather. In previous years, items placed at the Reusables Area were often damaged by rain and had to be thrown away. The roof structure helps extend the useful life of the recycled items and the benefit to the Town is it keeps the items out of the waste stream. With the total cost of solid waste disposal at approximately \$100 per ton, this amounts to real savings for Wellesley!

The Book Exchange is also a very popular area in the facility. It is not uncommon to see residents relaxing and enjoying a good book, or just browsing through the many different types of books. Surplus books that are not taken are shipped free of charge to third world countries for reuse at libraries and schools. The Town's benefit is the avoided disposal costs (estimated at \$1,500 a year) and the fact that we are doing our part in helping to improve the world's literacy rate.

The Earth Products Area gives residents an opportunity to take screened compost back home with them. Brush is ground into woodchips and leaves and grass clippings are put into windrows and eventually screened and are sold as a finished product. This compost is available by the shovel full to Wellesley residents at no charge or larger quantities are available for purchase for residents and local businesses.

Recycling Revenue and Cost Avoidance

The following is compilation of all relevant recycling statistics:

Product Sales Revenue:	543,623
Compost Sales:	5,712
Appliance Fees:	16,050
Commercial Yard Waste Fees*:	18,765

Commercial Recycling Fees**:	4,267
Recycling Container Sales:	<u>895</u>
Sub Total:	589,312
Cost Avoidance Benefits***:	1,095,588
Total Recycling Benefit:	1,684,900

*Fees collected from commercial customers for the disposal of leaves, grass, clippings, brush and woodchips that ultimately decomposes and is moved off site as compost

**Includes fees collected from commercial customers for RDF labor reimbursement to separate out commercial wood from the waste stream.

***Avoided landfill disposal costs by diverting material out of the waste stream.

Municipal Solid Waste

In FY12, a total of 8740 tons of municipal solid waste (MSW) was processed and hauled off-site to a disposal facility in Seneca Falls, New York. The DPW currently contracts with Seneca Meadows Incorporated for the disposal of solid waste.

The Department of Environmental Protection has included Commercial Construction and Demolition Material (C&D) on their waste ban list. This means that the RDF had to develop a plan to accept commercial C&D material and divert it from the waste stream and process and ship C&D material to a recycling company. C&D material as defined in the Waste Ban Laws is the following material: asphalt pavement, bricks, concrete, metal and wood (treated and untreated wood). The RDF has implemented a program to divert residential wood products, brick and concrete. Residents separate these products at a disposal cost to the Town that's lower than the cost of solid waste disposal.

The Executive Office of Environmental Affairs (EOEA) and the Department of Environmental Protection (DEP) have issued a Solid Waste Master Plan, which describes strategies and policies for working toward the State's goals in the coming decade. These goals are to: 1) Reduce the quantity and toxicity of our waste to the irreducible minimum, leaving as little waste as possible to be disposed; 2) Dispose only residuals from recycling and other waste reduction efforts; and 3) Ensure that waste handling facilities are environmentally sound.

The DEP expanded its regulatory requirements on all municipal and private waste disposal operations. We must inspect and conduct daily monitoring of all incoming commercial waste and also perform random comprehensive inspections on commercial loads. The RDF has been visited by State Inspectors and it has been determined that the RDF is in compliance with all pertinent laws.

Household Hazardous Products Collection Day

A fundamental component in Wellesley's environmentally responsible approach to integrated solid waste management is the annual Household Hazardous Products Collection Day. This year the event was held on Sunday, May 6, 2012. A total of 336 residents participated in bringing in a total of 6.84 tons of hazardous material.

Step Up Program

Step Up! You should have heard a lot by now about the RDF's recycling initiative called the Step Up! Program. This is an effort to encourage **all** residents to increase their participation in waste reduction, regardless of where they are today, in terms of how much and what they recycle. Envision a staircase of recyclable materials; a non-recycler would be at the bottom step and veteran recyclers that recycle certain items occupy the next few steps. If the non-recycler started to recycle just paper, he would take a step up. If a resident who now only recycles paper started to also recycle bottles and cans, which would be a step up. The top step is community education and outreach. If every household took a step up and started to recycle one more product line, we would reach our overall goal of five percent more recycling over the next five years. Every resident can nudge us towards our goal by looking for one or two more items to recycle or remove from their trash. Recycling saves natural resources and makes the Town a lot of money.

The RDF picks up municipal recyclables and trash at most municipal buildings as well as the trash barrels on the sidewalk in the commercial areas in town. These routes include the pickup of trash and recyclables at town hall and the main library, saving considerable money for the Town.

The RDF strives to be innovative and come up with ideas that will maximize the recycling diversion rate. Every ton of recyclables that is diverted from the waste stream saves over \$100 per ton for the Town.

Business Initiative Program

The goal of the RDF is to continue with the growth and continued success of the Business Initiative Program. The RDF accepted 1,654 tons of recycled products from neighboring communities and recycling haulers. The gross revenue from the Business Initiative Program in FY12 was \$201,237. The cost of doing business was \$77,985 for a net benefit of \$123,252. The four-year net benefit to the Town is \$529,404. All revenues generated were deposited into the Town's General Fund.

RDF Comparative Statistics

All figures in tons unless otherwise noted

(A) Recyclables*	FY11	FY12	FY12 (\$Sales)**
Paper	2,159	2,051	191,150
Cardboard	1,406	1,304	192,319
Glass: Clear	141	148	3,122
Brown	63	67	1,011
Green	215	191	N/A
Ferrous Metal	378	363	78,468
Non-Ferrous Metal	57	55	2,019
Aluminum Foil and Plates	2	4	1,194
Steel Cans	37	31	7,650
Refundable Containers	13	12	11,154
Plastics	552	357	51,655
Books	11	18	1,480
Wood Products	620	621	N/A

Stone/Brick/Concrete	201	951	N/A
Batteries (Automotive)	4	2	1,240
Waste Oil	15	12	246
Tires	14	16	N/A
Textiles (Used Clothing)	169	171	N/A
Paint	9	11	N/A
Hazardous Products	110	118	N/A
Miscellaneous	108	110	N/A
Recycling Containers	109 units	46 units	895
Used Medical Equipment	252 units	261 units	N/A
Ink Jet Cartridges	60 units	121 units	N/A
Mobile Phones	245 units	305 units	N/A
Eye Glasses	302 units	288 units	N/A
(A) Total Recyclables	6,285	6,614	\$543,603
Subtotal by source (estimated)			
Residential	3,465	4,293	296,314
Municipal	156	120	8,283
Commercial	946	547	37,769
Business Initiatives	1,718	1,654	201,237

(B) Solid Waste	FY10	FY011	FY12
Residential	7,207	7,188	6,868
Municipal	279	298	244
Commercial	825	1,295	1,372
(B) Total Solid Waste	8,329	8,781	8,484

*Unsold tonnage in inventory is not included in the above figures; actual tonnage may be slightly higher

** Recycling Sales Revenue indicates the amount of all recycled products sold, however, some of these monies may be received in FY13

(C) Yard Waste (tons)	FY10	FY11	FY12
Residential	5,941	2,669	4,475
Municipal	1,419	1,507	1,816
Commercial	1,140	2,624	329
(C) Total Yard Waste	8,500	6,800	6,620

All Waste Materials	FY10	FY11	FY12
Total Weight (A+B+C)	23,307	21,866	21,718

Recycling Percentages

Excluding Yardwaste	FY10	FY11	FY12
Residential	31.3%	32.4%	38.5%
Municipal	44.9%	34.4%	33.0%
Commercial	75.3%	67.5%	61.6%
(C) Total Excluding Yardwaste	43.7%	41.7%	43.8%

Including Yardwaste	FY10	FY11	FY12
Residential	56.8%	46.5%	56.1%
Municipal	85.5%	84.8%	88.8%
Commercial	80.7%	84.7%	64.8%
(C) Total including Yardwaste	64.3%	59.8%	60.9%

Per Capita Recycling

Per Capita Recycling (tons) ***	FY10	FY11	FY12
Residential	242	246	307
Municipal	17	11	9
Commercial	228	192	157
Total Per Capita Recycling	487	449	473

*** does not include yard waste

Total Sales Revenue (\$)

Sales Revenue	FY10	FY11	FY12
Recycling Sales and Fees	479,651	617,312	543,603
Commercial Trash Tipping Fees	165,715	172,140	167,082
Earth Product Sales and Fees	52,107	56,426	23,683
Commercial Snow Permits	14,900	11,250	2,875
Total Sales Revenue****	\$712,373	\$857,128	\$737,243
Total Deposits into General Fund*****	\$655,759	\$851,101	\$794,845

**** Some sales revenue may be deposited in the next fiscal year

***** Some deposits may be from sales from the previous fiscal year

WATER & SEWER DIVISION

The Water and Sewer Division is responsible for the operation and maintenance of the Town's water and sanitary sewer systems. Described herein are the Division's FY12 accomplishments.

Water Program

The Water Program is responsible for the operation and maintenance of the Town's wells, pump stations, water treatment facilities, water distribution and storage systems. The program provides a potable and reliable water supply for its users and for fire protection. Water conservation and water resource protection are important components of the program.

Wellesley's water system consists of nine wells, five well pump stations, three water treatment facilities, two booster pump stations, two storage facilities with a combined capacity of about six million gallons, and 149 miles of distribution main. Wellesley's water is supplied from nine local wells and from the Massachusetts Water Resources Authority (MWRA). All water users connected to the system are metered.

We are pleased to report that the water quality of our supplies was in compliance with the Federal Safe Drinking Water Act throughout FY12.

Water Distribution

The four water distribution storage tanks were inspected by Liquid Engineering. The tanks were found to be structurally sound and the circulatory piping and fittings in good condition. The Naughton Company completed the installation of about 740 feet of 10-inch diameter water main in Worcester Street. N. Cibotti Company directionally drilled and installed 560 linear feet of 8 inch polyethylene water main from the RDF to Eisenhower Circle and 310 linear feet of 8 inch ductile iron water main at the RDF.

Water Supply

In FY12 the bid documents were completed for the Morses Pond Pump station and Yard Piping. The Town Meeting approved the project and bids were received in June.

The bid documents were completed for the upgraded Morses Pond well field and filtration media upgrade. The design includes individual pumping of four wells, three new and one existing. The existing wellfield includes three wells pumped from a single manifold system. The Town Meeting approved the project and bids were received in June.

The seven raw water well meters were calibrated.

Water Conservation

A primary component of our water conservation program is leakage detection. A comprehensive leak detection survey of our entire distribution system which began in FY11 was completed in FY12. This comprehensive survey includes acoustic testing of the 149 miles of pipe. In addition to the comprehensive survey another technology, using digital correlating logging equipment is being employed to locate leaks where leaks will not surface and are difficult to detect using other acoustic devices. About 983 hydrants were surveyed with the digital leak detector to identify leaks and / or hydrants for repair.

Water Meter Upgrade

Customer meters have been read by radio since 1999; the devices that accompany the meters, which encode, receive, and transmit the data by radio signal, are powered by batteries. The expected lives of these batteries are about half that of the meters. In FY07 we began replacing the batteries on these meters. At the end of FY12 a total of 90 batteries remain to be replaced, which represents about 0.78% of the entire system.

Sewer Program

The Sewer Program is responsible for the operation and maintenance of Wellesley's sanitary sewer system, which includes 134 miles of collection lines and twenty-one (21) lift stations. Sewage is delivered into the MWRA's regional sewerage collection system and is treated at the MWRA Wastewater Treatment Facilities at Deer Island near Boston Harbor.

Sewer Collection System Rehabilitation

In FY12 the Division contracted with National Water Main Company of Canton, MA to continue our annual program of joint testing and sealing and manhole sealing. During FY12 a total of 2,825 sewer pipe joints were tested and of that total 1,155 joints were sealed. In addition, a total of 51 sanitary sewer manholes were sealed at a total of 404 vertical feet.

The Division constructed 515 feet of 8 inch diameter sewer service pipe for the new DPW Administration Building. N. Cibotti Company directionally drilled and installed 560 linear feet of 6 inch polyethylene sewer force main from the RDF to Eisenhower Circle, and installed 580 linear feet of 6 inch ductile iron force main located in Eisenhower Circle and the RDF.

Two new centrifugal pumps were installed at the Dale Street Pump Station.

MWRA Sewer Metering Program

A large portion of Wellesley’s MWRA sewer assessment (cost) is based on the metered wastewater flows leaving the Town and entering the MWRA system. These measured flows are reported on a calendar basis, and are used to formulate the following fiscal year’s assessment. The following is a comparison of the five most recent calendar-year wastewater flow statistics:

Calendar Year	MWRA Wastewater Flow Measurements(MGD)	
	Average (Daily)	Peak (Monthly)
2007	3.67 (1.19%)	7.80 (1.54%)
2008	4.34 (1.23%)	6.91 (1.37%)
2009	3.55 (1.09%)	4.62 (1.16%)
2010	3.85 (1.15%)	10.43 (1.50%)
2011	4.10 (1.15%)	6.58 (1.34%)

The percentage of Wellesley’s contribution to the total MWRA system flow is noted within the parentheses. It is the goal of our Sewer Collection System Rehabilitation Program to reduce Wellesley’s share of the total MWRA system flow (the numbers in the parentheses). By so doing our costs to the MWRA would be reduced. It can be noted that during wet conditions (i.e. peak month versus average day) Wellesley’s proportionate share is increased. Such conditions are a reminder that it is illegal for sump pumps to be connected to the household sanitary plumbing. The discharging of sump pumps into basement set tubs, or directly to the plumbing, may result in surcharging of the public sewers and may cause overflows from down gradient sewers into house basements or onto streets as well as increases in our MWRA costs.

Water & Sewer Funds Audit Reports

The certified public accounting firm of Powers and Sullivan, L.L.P has prepared the FY2012 Financial Reports of the Water and Sewer Funds. The audited financial statements for the Water and Sewer Funds are included at the back of this Annual Town Report.

<u>Division Statistics</u>	<u>FY10</u>	<u>FY11</u>	<u>FY12</u>
Number of Water Accounts	12,016	12,006	12,041
Water Pumped from Local Wells, MG	662.26	639.20	675.05
Water Pumped from MWRA, MG	313.63	414.78	307.90

Total Water Pumped, MG	975.89	1,053.98	982.94
Peak-to-Average Day Water Demand	1.70	2.03	2.21
Total Water Billed, MG	781.01	871.16	846.79
Unaccounted Water, %	20.4	17.3	13.9
New Meters Installed/Replaced	184	213	232
New Hydrants Installed/Replaced	11	14	19
Number of Sewer Accounts	8,190	8,124	8,126
Number of House Services Rodded	329	319	332
Feet of Sewer Main Rodded/Flushed	297,780	305,337	398,951