

## Engineering

Agency Number: **53**  
 Budget Function: **Public Works and Transportation**

The Engineering Division is responsible for the design, supervision and inspection of all street, highway, sidewalk and bike path construction; all City surveying and mapping operations including maintenance of the City's Official Map, street and utility records; management of the Madison Storm Water and Sanitary Sewer Utilities including the design, operation and maintenance of sanitary sewer facilities and storm sewer systems; the review of land use changes for public works feasibility; the research and development services supporting the solid waste management program; and the preparation of various studies relating to Public Works. The City Engineer also serves as Team Leader of the Department of Public Works and Transportation.

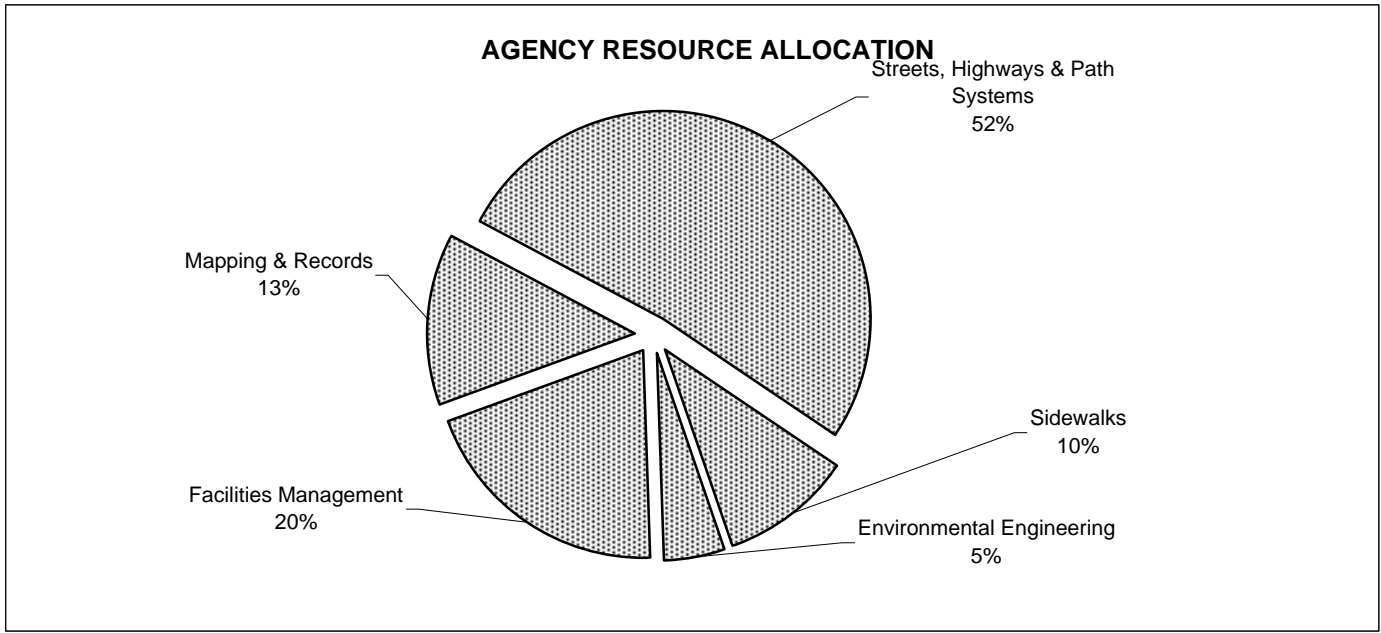
<u>Major Service</u>	<u>2007 Actual</u>	<u>2008 Budget</u>	<u>2008 Projected</u>	<u>2009 Request</u>	<u>2009 Executive</u>	<u>2009 Adopted</u>
Sanitary Sewers	\$ 0	\$ 129,305	\$ 129,305	\$ 0	\$ 0	\$ 116,101
Storm Water Management	0	73,478	73,478	0	0	79,125
Mapping & Records	502,343	550,896	550,896	487,094	487,094	501,766
Streets, Highways & Path Systems	1,643,477	1,915,496	1,915,496	1,965,963	1,889,716	1,955,898
Sidewalks	323,956	302,017	302,017	376,883	376,883	389,548
Environmental Engineering	260,042	201,833	201,833	160,526	160,526	175,561
Facilities Management	785,108	682,959	682,959	804,148	689,148	752,742
<b>Agency Total</b>	<u>\$ 3,514,926</u>	<u>\$ 3,855,984</u>	<u>\$ 3,855,984</u>	<u>\$ 3,794,614</u>	<u>\$ 3,603,367</u>	<u>\$ 3,970,741</u>

### Adopted Budget Highlights

The Budget includes:

1. Savings of \$30,000 related to the implementation of a new Day Cleaning Program. Performing cleaning tasks during the daytime hours will yield savings in utilities and differential pay.
2. Savings of \$85,000 from the reassignment of the Facilities Services Manager. This position will be restructured to perform mechanical design duties for capital projects. Salaries and benefits will be billed to the Capital Budget from the Operating Budget, resulting in operating savings. Billings of staff time to the Capital Budget will be more than offset by savings in payments to contractors. Modest savings in the Capital Budget should therefore also result.
3. Savings of \$76,247 to be derived from leaving an Engineer 3 position unfilled for the year 2009. This position is responsible for the design of traffic calming and street projects. Slowdowns in the housing market have decreased demand for this work.
4. Addition of one Street and Sewer Machine Operator 1, to be funded by the Stormwater Utility.
5. Addition of one Engineer 2 to serve as a Stormwater Modeling Engineer. This engineer will be in charge of designing a new lake level and water quality model for the Yahara Lakes. Salary and benefits (\$69,982), consulting (\$17,665), and equipment (\$21,000) costs will be supported by billings to the Stormwater Utility (\$98,647) and a DNR grant (\$10,000).

## Engineering



### Budget Service Descriptions:

#### **Sanitary Sewers**

Sanitary Sewer service manages, operates, constructs and maintains the Madison Sewer Utility. The Sewer Utility directs the planning, design, construction and repair of public sanitary sewer facilities. All proposed land use changes are reviewed for sanitary sewer impact prior to approval. Extensions to the public sewerage system are financed by the owners of lands directly benefiting from the improvements, or through construction by private developers. Developers construct sewers at their own expense in accordance with City design standards and specifications. The Sewer Utility assumes ownership and responsibility for maintenance and operation of these sewers upon acceptance of the improvements by the Common Council. Maintenance efforts include the repair, cleaning, televising and removal of blockages in over 752 miles of sewer main managed by the Sewer Utility. In recent years, an emphasis has been given to the replacement of old, substandard sewer facilities and elimination of sources of infiltration and inflow, and reducing the number of sewer main backups. The Sewer Utility is aggressively pursuing new technology for extending the life of existing sewers, in the most cost efficient manner.

<b>Service Summary</b>			
	<b>2007 Actual</b>	<b>2008 Budget</b>	<b>2009 Adopted</b>
Total Expenditures	\$ 3,885,808	\$ 4,019,625	\$ 4,026,919
Less Inter-Agency Billings	3,885,808	3,890,320	3,910,818
<b>Net Total</b>	<b>\$ 0</b>	<b>\$ 129,305</b>	<b>\$ 116,101</b>

## Storm Water Management

The Storm Water Management function provides services for design, review, construction and maintenance of a storm water management system consisting of about 407 miles of pipe and over 1,103 acres of greenways and ponds for flood control and runoff water quality improvement. The City's Wisconsin Pollutant Discharge Elimination System permit requires the system to reduce non-point source pollution to area lakes and streams. This is done using an expanding system of more than 50 wet ponds and other best management practices, including street sweeping, erosion control, illicit discharge investigation and control, and catch basin cleaning. Maintenance of this system is an increasingly important and costly component of this service as the average age of the system increases and rehabilitation of parts of the system becomes necessary. This function also provides City residents access to professional review of drainage problems which occur on or adjacent to their property. Engineering staff review the existing conditions, act as a mediator for multiple party problems, and provide possible solutions. In recent years, storm water runoff has become increasingly regulated, which shall lead to increasing costs to the City. Engineering staff administer and enforce erosion control and stormwater management requirements for all development in the City. Additionally, Engineering staff report annually to the Common Council on the status of our receiving waters, current efforts to improve water quality, and possible future activities. The report is titled "Clean Lakes Water Quality Plan."

<b>Service Summary</b>			
	<b>2007</b>	<b>2008</b>	<b>2009</b>
	<b>Actual</b>	<b>Budget</b>	<b>Adopted</b>
Total Expenditures	\$ 2,338,580	\$ 2,466,772	\$ 2,839,795
Less Inter-Agency Billings	<u>2,338,580</u>	<u>2,393,294</u>	<u>2,760,670</u>
Net Total	<u>\$ 0</u>	<u>\$ 73,478</u>	<u>\$ 79,125</u>

## Mapping & Records

Mapping and Records service reviews new subdivisions, land divisions, conditional use permits, parking lot plans, applications for building permits and applications for new public land in general. This service also prepares legal descriptions for acquisition, street rights-of-way and street vacations. It also maintains the City's Official Maps, Assessors' Parcel Maps, Fire Department Run Maps, Police Sector Maps, storm sewer records, sanitary sewer records, and assigns street names and addresses. The map records are in digital form and are available from the Mapping/GIS system. This service also provides all hardware and software support for the Mapping/GIS system network. The next phase of GIS is to develop a data base to maintain City buildings. This service provides geospatial analysis, using "intelligent" maps for the Engineering Division and various other City agencies.

<b>Service Summary</b>			
	<b>2007</b>	<b>2008</b>	<b>2009</b>
	<b>Actual</b>	<b>Budget</b>	<b>Adopted</b>
Total Expenditures	\$ 581,244	\$ 629,589	\$ 580,727
Less Inter-Agency Billings	<u>78,901</u>	<u>78,693</u>	<u>78,961</u>
Net Total	<u>\$ 502,343</u>	<u>\$ 550,896</u>	<u>\$ 501,766</u>

## Streets, Highways & Path Systems

Streets, Highways and Path Systems service provides for the review and design of streets, bridges, and bikeways and the review of design work by consultants. Citizen involvement in projects undertaken is a high priority as is quality design of Streets, Highways and Path Systems. Maintaining the safety of the City's bridges through biannual inspections, routine maintenance and scheduled rehabilitation and replacement is part of this program. This program involves local streets, collector streets, arterial streets, bikeways, and other path systems. Other services provided include review of Plats and Certified Survey Maps, conditional use applications, and planned unit developments to ensure that they are compatible with future transportation needs. The City now maintains approximately 764 miles of streets and 54 bridges greater than 20 feet in length.

<b>Service Summary</b>			
	<b>2007 Actual</b>	<b>2008 Budget</b>	<b>2009 Adopted</b>
Total Expenditures	\$ 2,204,572	\$ 2,386,262	\$ 2,535,647
Less Inter-Agency Billings	<u>561,095</u>	<u>470,766</u>	<u>579,749</u>
Net Total	<u>\$ 1,643,477</u>	<u>\$ 1,915,496</u>	<u>\$ 1,955,898</u>

## Sidewalks

The responsibility of this service is to maintain sidewalks through the general sidewalk repair and rehabilitation program; construct accessible ramps in the designated repair areas or in specific locations as requested; inspect sidewalk and drive apron construction by private contractors who must be licensed by the City and must obtain permits before doing the work; inform the public and other governmental agencies about sidewalks damaged by private contractors, illegal street encroachments, underground vaults in the streets, injury claims resulting from unsafe sidewalks, and legislation for accessible facilities on construction projects; administer a rebate program where the City will reimburse a property owner \$2.50/ sq. ft. of sidewalk repaired; and repair sidewalk, curb and gutter as requested by property owners. The work is prioritized using a 10 year sidewalk replacement plan.

<b>Service Summary</b>			
	<b>2007 Actual</b>	<b>2008 Budget</b>	<b>2009 Adopted</b>
Total Expenditures	\$ 367,495	\$ 387,990	\$ 435,994
Less Inter-Agency Billings	<u>43,539</u>	<u>85,973</u>	<u>46,446</u>
Net Total	<u>\$ 323,956</u>	<u>\$ 302,017</u>	<u>\$ 389,548</u>

## Environmental Engineering

This service provides all of the environmental engineering and planning for the City. Responsibilities include management of closed landfills and fuel tanks, environmental audits, siting of new landfills and long range waste management plans. Most work is required by State law. Operation and maintenance of large landfill gas and leachate collection systems are significant tasks and require engineers to be available 24 hours per day.

<b>Service Summary</b>			
	<b>2007 Actual</b>	<b>2008 Budget</b>	<b>2009 Adopted</b>
Total Expenditures	\$ 569,307	\$ 501,735	\$ 550,138
Less Inter-Agency Billings	<u>309,265</u>	<u>299,902</u>	<u>374,577</u>
Net Total	<u>\$ 260,042</u>	<u>\$ 201,833</u>	<u>\$ 175,561</u>

## Facilities Management

This section is responsible for development and maintenance of a large portion of the City's physical plant. Staff perform architectural services and supervise construction projects, including building retrofits to meet energy and accessibility standards and goals. Several City agency facilities (Fire, Police district stations, Fairchild Building, South Madison Health and Family Center, First Street Garage and the Engineering Services Building) are maintained by this section. The Madison Municipal Building is also managed and funded by this section. Staff also coordinate State boiler inspections in cooperation with insurance underwriters and supervise contracted maintenance work. The management emphasis for this service has been on "green cleaning," energy efficiency and increased quality for custodial services.

<b>Service Summary</b>			
	<b>2007 Actual</b>	<b>2008 Budget</b>	<b>2009 Adopted</b>
Total Expenditures	\$ 2,185,820	\$ 2,138,985	\$ 2,518,245
Less Inter-Agency Billings	<u>1,400,712</u>	<u>1,456,026</u>	<u>1,765,503</u>
Net Total	<u>\$ 785,108</u>	<u>\$ 682,959</u>	<u>\$ 752,742</u>

**Engineering**  
**Summary by Major Object of Expenditure**

	<u>2007</u> <u>Actual</u>	<u>2008</u> <u>Budget</u>	<u>2008</u> <u>Projected</u>	<u>2009</u> <u>Request</u>	<u>2009</u> <u>Executive</u>	<u>2009</u> <u>Adopted</u>
Permanent Salaries	\$ 6,694,113	\$ 7,089,029	\$ 7,089,029	\$ 7,162,669	\$ 7,150,866	\$ 7,365,393
Hourly Employee Pay	411,080	337,386	337,386	407,620	407,620	419,849
Overtime Pay	610,457	402,852	402,852	619,140	619,140	637,714
Fringe Benefits	2,648,653	2,791,095	2,791,095	2,866,233	2,861,771	2,983,815
Purchased Services	830,259	1,003,266	1,003,266	1,085,113	1,081,812	1,081,812
Supplies	351,251	266,258	266,258	285,475	306,475	306,475
Inter-Departmental Charges	578,606	629,072	629,072	636,157	636,157	636,157
Debt/Other Financing Uses	0	0	0	0	0	0
Capital Assets	<u>8,409</u>	<u>12,000</u>	<u>12,000</u>	<u>56,250</u>	<u>56,250</u>	<u>56,250</u>
Total Expenditures	\$ 12,132,827	\$ 12,530,958	\$ 12,530,958	\$ 13,118,657	\$ 13,120,091	\$ 13,487,465
Inter-Agency Billings	<u>8,617,900</u>	<u>8,674,974</u>	<u>8,674,974</u>	<u>9,324,043</u>	<u>9,516,724</u>	<u>9,516,724</u>
Net Budget	\$ 3,514,926	\$ 3,855,984	\$ 3,855,984	\$ 3,794,614	\$ 3,603,367	\$ 3,970,741