

# City of Ferguson Environmental Impact Report

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**2011**



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## Introduction

As required by Ordinance #2009-3382 (more commonly referred to as the “Environmental Ordinance”, and attached to this report as Appendix A), the following pages contain the “annual report to the City Council reporting the energy consumption performance for [the] previous year and the plan of reduction or plan for continued maintenance.” The report is divided into three primary areas: Energy Conservation, Recycling and Solid Waste, and Building Codes/Construction. Each area consists of a review of 2011 consumption data, followed by a look at the policies or initiatives that were accomplished in the past year, and concludes with a look ahead at the plans for 2012 to help reduce or maintain levels of consumption.

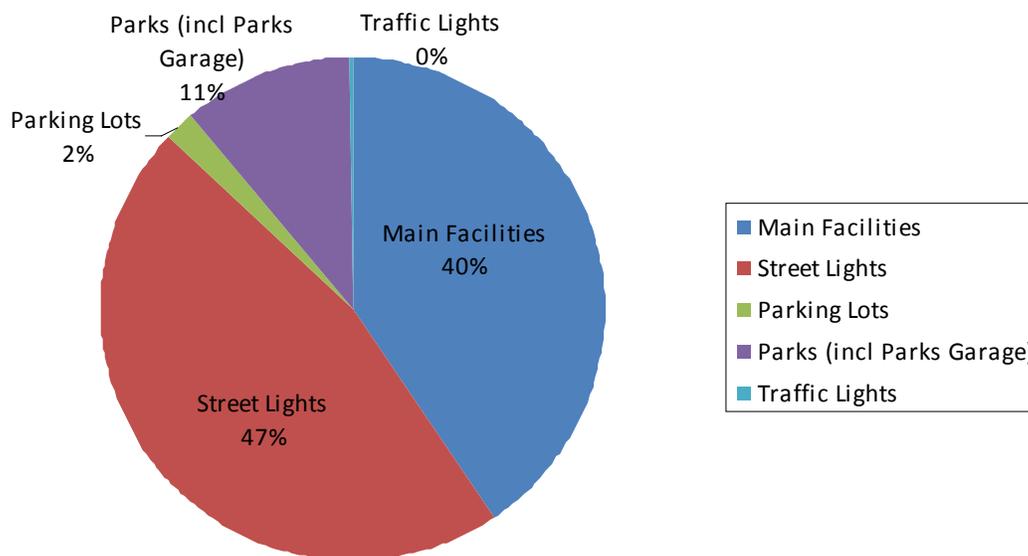
## Energy Conservation for City Operations

### Current Consumption Data

#### Electricity

Upon passage of the Environmental Ordinance, the City has set a goal of reducing energy consumption by 30% within five years from the date the ordinance was passed in 2009. To measure our progress, base rate data from 2008 was gathered and used to calculate the target levels of electricity and natural gas reduction. For 2011, electricity consumption citywide (including electricity used at city facilities, for street lights, parking lots, parks, and traffic lights) was up 1.1% compared to 2010, and up 3.5% from base levels in 2008. The two largest consumers of electricity are the primary city facilities (identified as City Hall, the Municipal Garage, Fire House #1, Fire House #2, the Recreation Office, and the Police Department), which represents 40% of all electricity consumed, and street lighting, which represents 47% of all electricity consumed (see chart below).

*Chart 1: Electricity Consumption Citywide, 2011*



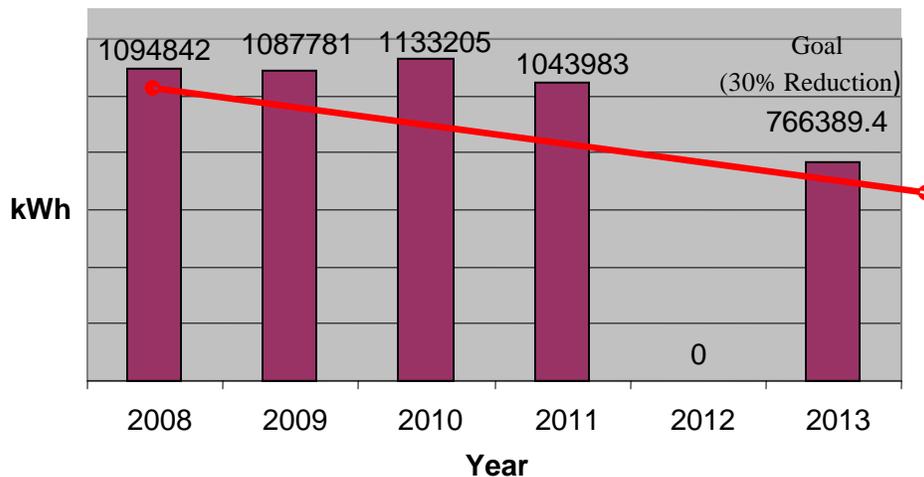
Two years ago, Ferguson and other municipalities approached AmerenMissouri about the possibility of retrofitting existing street lights with more energy-efficient bulbs to help reduce our street lighting bill; to date their studies have shown that retrofitting existing mast heads with LED or other energy-efficient bulbs will have a miniscule effect on consumption rates. While that claim is debatable, the portion of Ferguson’s monthly street lighting bill that actually consists of energy usage is miniscule compared to the amount the City pays in monthly pole rental charges and for maintenance of the lights. So, outside of shutting off streetlights, which other cities in the region and across the country have done to reduce expenditures in their budgets (while not necessarily to reduce consumption), there is not much the City can do to control the amount of electricity consumed by street lighting. The same can be said for lighting at parks, parking lots, or traffic signals. Thus, the main focus for the remainder of this report will be on the City’s primary municipal facilities and what the City has done, or plans to do in the future, to reduce consumption levels.

**Electricity Consumption at Primary City Facilities**

Compared to the base rate data from 2008, 2011 saw a 4.6% decrease in the amount of kilowatt hours used at our primary municipal facilities. All of these facilities are cooled during the spring/summer/fall months using electricity provided by AmerenMissouri. Year-round lighting of these facilities is also provided by AmerenMissouri.

The chart below summarizes the total number of kilowatt hours used at Ferguson’s primary facilities since 2008. The red line indicates the City’s progress towards meeting the goal of reducing electricity consumption by 30% by the end of 2013. To keep pace with this goal, the City would hope to see a 6% reduction every year. With two years left to achieve this goal, it appears we may have trouble achieving this goal. The lighting retrofit project which was completed in city-owned facilities in late September 2011 should provide a reduction in electricity consumption although it is too early to gauge the full impact of the project.

*Chart 2: Electricity Consumption at Primary City Facilities*



### Cooling Degree Days

Due to the City's efforts and increased awareness, consumption went down in 2011 after an increase in 2010 (when we saw a 4.2% increase in # of kilowatt hours used). To explain what may be happening, City Staff examined the number of degree days in the St. Louis area for each of the past four years. In laymen's terms, degree days are a measure of the outside air temperature that takes into account by how much (in degrees) and for how long (measured in days, half-days, hours, etc.) the outside temperature was above or below a specific base temperature. For an explanation of how degree days are calculated, please visit <http://knol.google.com/k/degree-days#>.

Degree days are used to show the energy required to cool or heat a building if the temperature rises above or falls below the base temperature set for the building. The chart below shows the number of cooling degree days (CDDs) in the St. Louis Area from 2008-2011.

*Chart 3: Total Cooling Degree Days (temperature was above 65 degrees)*

Month	2008	2009	2010	2011
Jan	6	0	0	0
Feb	3	6	0	6
Mar	6	32	19	29
Apr	40	65	120	71
May	92	154	190	180
Jun	365	397	472	413
Jul	452	342	551	639
Aug	374	372	542	508
Sep	207	189	239	162
Oct	60	14	107	82
Nov	14	16	20	13
Dec	1	0	0	0
<b>Total Degree Days</b>	<b>1620</b>	<b>1587</b>	<b>2260</b>	<b>2103</b>

Source: [www.degree-days.net](http://www.degree-days.net), using data collected from the nearest weather station at Lambert Intl. Airport

65 degrees is a standard base temperature used by many organizations when calculating degree days, and is the base temperature used for the figures shown above. There was a substantial increase in the number of CDDs (nearly a 30% increase) from 2008 to 2011, so it would follow that more energy would be required to cool the buildings during those periods with a high number of CDDs.

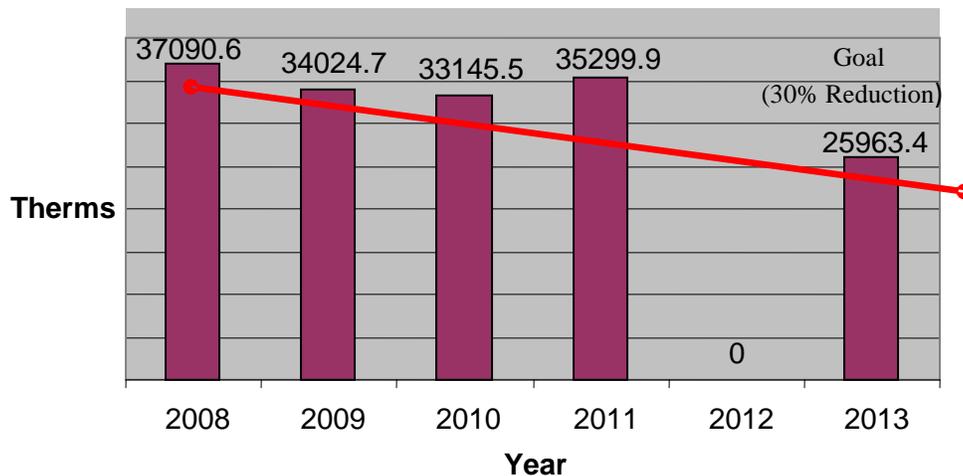
While 65 degrees is a good base rate to calculate the number of degree days, in reality, thermostats throughout the city's primary facilities are not always set to 65 degrees. Depending on the time of year and the comfort level of the employees working in each area controlled by a thermostat, the number of CDDs, and thus the amount of energy needed to cool the area, will vary from building to building. Regardless, this measure allows the City to more adequately and accurately compare and utilize year-over-year electrical consumption data for proper analysis.

Taking into consideration these degree days, the City has actually decreased consumption in its primary facilities by 23%, since 2008. Dividing the total number of kilowatt hours used at the City’s primary facilities by the number of peak CDDs during that year (April-September), reveals that in 2008 the City used 397.14 kWh/CDD. In 2009, that number went up to 404.80 kWh/CDD, and in 2010 the City used 309.22 kWh/CDD. However, in 2011, the kWh/CDDs were 305.66. This shows that regardless of how warm it is outside, the City is still decreasing its electricity consumption.

### Natural Gas

Compared to 2008, 2011 saw a reduction in natural gas consumption by 4.8%, which would indicate that even though overall natural gas consumption was up in 2011 compared to 2010, we’re still making progress towards the City’s goal of reducing consumption by 30% by the end of 2013 (see chart below). Heating of city facilities is provided by Laclede Gas.

*Chart 4: Natural Gas Consumption at Primary City Facilities*



### Heating Degree Days

As with electricity consumption, an explanation for the gas consumption can be provided by looking at the number of heating degree days (HDDs) from 2008-2011. As evidenced by the milder peak HDDs (January through March and October through December) in 2011, there was a decrease in the number of total HDDs compared to 2010, from 4,686 HDDs in 2010 to 4,392 HDDs in 2011. However, the months of March through May and September and October 2011, were harsher than compared to 2010 numbers. Thus, more natural gas was needed to heat the buildings during these periods. The chart below provides a monthly breakdown of HDDs.

*Chart 5: Total Heating Degree Days (temperature was below 65 degrees)*

Month	2008	2009	2010	2011
Jan	989	1111	1164	1152
Feb	944	730	960	795
Mar	651	515	510	585
Apr	356	330	146	208
May	145	91	90	138
Jun	6	11	0	1
Jul	2	4	2	0
Aug	6	13	2	0
Sep	43	43	44	91
Oct	262	357	200	231
Nov	614	402	499	445
Dec	1003	964	1069	746
<b>Total Degree Days</b>	<b>5021</b>	<b>4571</b>	<b>4686</b>	<b>4392</b>

Source: [www.degree-days.net](http://www.degree-days.net), using data collected from the nearest weather station at Lambert Intl. Airport

Taking into consideration these degree days, the City has actually decreased natural gas consumption by 9% since 2008. Dividing the total number of therms used by the number of peak HDDs (January – March and October – November) yields the following results: 2008: 8.31 therms/HDD; 2009: 8.34 therms/HDD; 2010: 7.53/HDD; 2011: 7.51 therms/HDD. While the natural gas consumption per peak HDDs declined slightly in 2011 from 2010, there is still a trend of declining natural gas consumption per peak HDDs every year since 2008.

### Looking Back at 2011

A number of new initiatives were started in 2011 to facilitate stricter adherence to the Environmental Ordinance and assist management in collecting and analyzing appropriate data. The following examines those initiatives directly related to energy consumption.

#### *Efforts of Ferguson Environmental Committee*

The Ferguson Environmental Committee met on a regular basis for the last half of 2011. The Committee consists of Council Member Dwayne James, residents Molly Rockamann and Ken Hogshead, Mark Jorden from Emerson Electric, and Nancy Schnell and Joe Mantoan, both representatives from the Ferguson-Florissant School district and City staff members Rosalind Williams, Director of Planning & Development; Terry O’Neil, Director of Public Works; and Pam Hylton, Assistant to the City Manager. The purpose of the Committee is to help achieve the goals expressed in the Environmental Ordinance, by bringing new ideas to the table and recommending changes to the City Council and staff for consideration. The input provided by the Committee in 2011 has already proven invaluable.

#### *Lighting Retrofit*

One of the main projects city staff implemented in 2011 was the retrofit of existing lighting at several city-owned facilities, as well as the Ferguson Library. Through grant funding provided by the Energy Efficiency and Conservation Block Grant (EECBG), Ferguson and 14 other municipalities in St. Louis County applied as a group to secure funding to retrofit existing lighting and replace it with more energy-efficient, environmentally-friendly lighting and

controls. The installation of the new lighting was completed by in-house staff beginning in July and was completed in late September. During the grant application process it was estimated the City would save \$6,000-\$9,000 per year as a result of this project. Due to the installation being completed so late in the year it will be difficult to determine the savings generated by this project until more data can be collected in 2012.

#### ***Information Technology Improvements***

Over the past year the Information Technology division has continued virtualizing servers using VMware software, which divides a single server into separate virtual private servers that can perform different tasks on the same machine. In several cases, the City has been able to replace two or more old servers with a single new server using this approach, which results in less energy consumption and cooler temperatures in the server room, because less physical hardware is now actually required to run and cool these systems. Despite these efforts the equipment, which is housed in the basement of City Hall, still needs to be relocated to a more appropriate area with a climate controlled environment to allow for maximum efficiency.

#### ***Property Assessed Clean Energy (PACE) District***

In January 2012, the Ferguson City Council passed a resolution to join the Missouri Clean Energy District which allows owners of commercial facilities to secure loans to retrofit their buildings for energy efficiency, saving them money, adding value to their properties, and creating new jobs. This new loan referred to as the Property Assessed Clean Energy (PACE) program would allow business owners to pay for their efficiency-related upgrades (like more insulation, better windows, and improved HVAC systems) and renewable energy (like geothermal heat pumps, wind & solar system) improvements to their buildings and repay project costs over a period up to 10 years through a special assessment on their property taxes that passes to the next owner, if the property is sold. Missouri Clean Energy Funding (MCEF) is a political subdivision that administers the Property Assessed Clean Energy program and provides loans to commercial property owners to help pay for the costs associated with making a property energy-efficient. The Missouri General Assembly passed the PACE Act in 2010 authorizing a municipality or multiple municipalities to create Clean Energy Development Boards. The Mid-Missouri Clean Energy Development Board is such an entity. The MCEF is funded with \$5 million in loans from private banks and there is no cost for municipal and county governments to join the board.

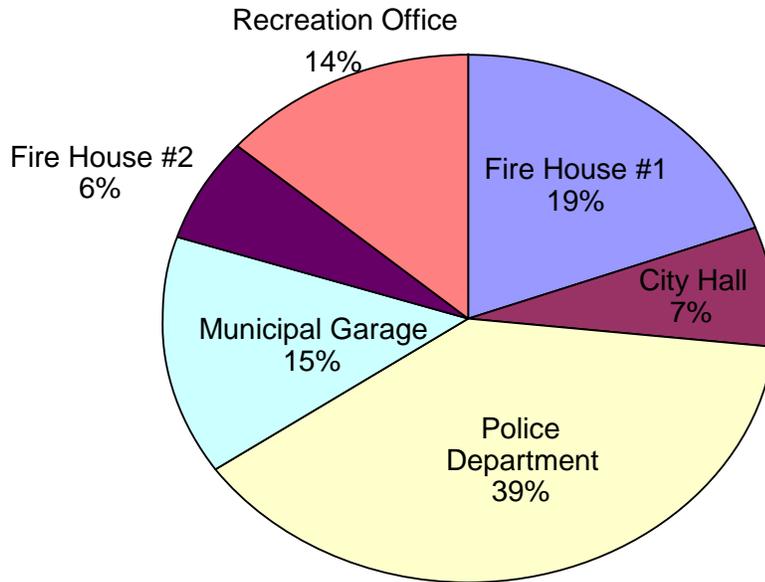
### **2012 Goals and Initiatives**

#### ***Focus on High Utilizers of Electricity and Natural Gas***

Analysis of 2011 usage reports indicates that the Police Department and the Public Works Garage are the biggest consumers of electricity and natural gas, respectively. The following charts indicate the percentage of energy used at each facility compared to the overall total. In 2012, each facility will also be evaluated based upon usage per square footage which should allow for a more accurate comparison.

Chart 6: Electricity Consumption by Facility, 2011

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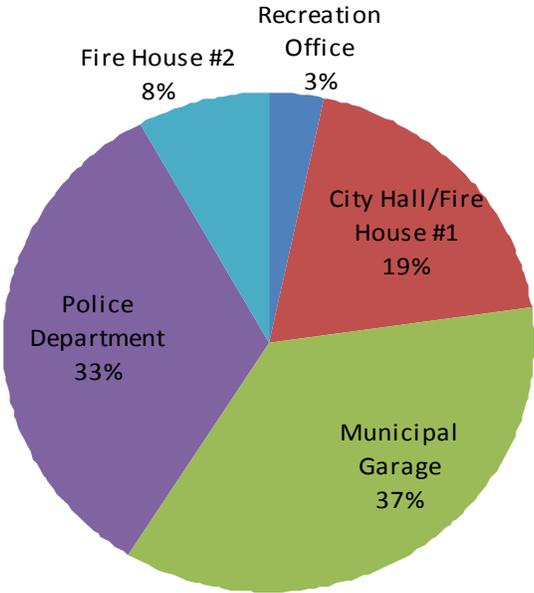
The Police Department and both fire houses combined account for 64% of the electricity consumed among all facilities. Of course, police and fire are 24-hour operations that require constant temperatures and adequate lighting during all hours of the day, so it would be expected that they would be the City's largest consumers of electricity. However, because they are the largest consumers, they also present the biggest opportunity to reduce consumption levels. The lighting retrofit project will help, as motion-sensing detectors have been installed at the Police Department that will automatically turn off the lights after someone has left the room and it is unattended for a pre-determined amount of time. Staff will explore the cost of installing these same sensors in offices in City Hall. The new fire station #1 when completed will be equipped with new energy efficient lighting and sensors as well.

Staff will also explore conducting an energy audit to identify potential savings that could be realized by upgrading HVAC and other equipment at City facilities. The City's goal of reducing energy consumption by 30% by 2013 does not appear feasible unless more extensive and costly improvements are made to City facilities in the way of upgrading HVAC equipment; replacing windows; improving the insulation in City buildings; and re-evaluating how we operate our buildings.

To further reduce electric consumption, the City is purchasing LED lights for Victorian Plaza. Efforts will be made to replace more street lights in the City with LED lights as funding becomes available. The cost to upgrade all Victorian lights to LED is approximately \$105,000.

*Chart 7: Natural Gas Consumption by Facility, 2011*

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As evidenced from the chart above, the Public Works Garage is the single-largest consumer of natural gas throughout all of the facilities in the City. This 15,000 square-foot building has several garage door bays that open and close throughout the day as staff performs maintenance on city-owned vehicles and equipment. During winter months, this allows the heat to escape quickly, forcing the furnace to produce even more heat.

During the past year, several steps have been taken to reduce natural gas consumption at the garage. In January 2012, the City worked with Laclede Gas to review the equipment at the garage to ensure the City was being billed correctly and that all equipment was functioning properly. This review has resulted in the discovery of multiple leaks in various pipes throughout the garage. The repair of these problems should result in significant savings. A new high efficiency heating system was also installed in the garage during 2011.

***Focus on Employee Education***

Efforts will be focused in the coming year to educate employees on how they can reduce energy usage in our facilities and other operations. Employees will be reminded to turn off lights in offices when they will be vacant for a period of time. The cost of installing motion detector switches in offices will be explored. Employees who drive City vehicles will be directed to limit idling of vehicles in order to conserve fuel.

### Promote PACE and SAVES Programs

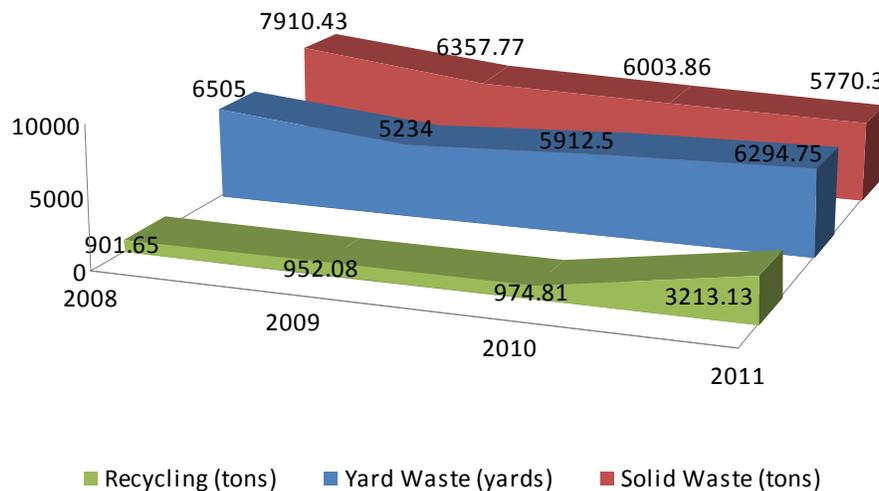
Efforts will be focused in the coming year to promote the PACE program mentioned above to businesses in the City. Staff will also work to promote the residential SAVES program, which is similar to PACE but designed to assist homeowners with improving energy efficiency.

## Solid Waste and Recycling

The second area addressed in the Environmental Ordinance is solid waste and recycling. The Three R's of sustainability are Reduce, Reuse, and Recycle. Efforts have been positive citywide in this area, as the following chart illustrates.

### Current Data

Chart 8: Recycling, Yard Waste and Solid Waste Consumption, Citywide



As the chart shows, citywide, Ferguson is moving in the right direction with respect to both the amount of solid waste being generated in the City (down 27% from 2008) and the amount of materials being recycled (up 256% from 2008). Residents should be extremely proud of these efforts.

The amount of yard waste generated did rise in 2011 by 6% from 2010, but this can largely be attributed to the tornado which struck Ferguson on April 22, 2011. Even with the slight increase in yard waste from last year, overall yard waste still declined by 3% from 2008.

### Looking Back at 2011

#### Recycling Efforts

Through cooperation with the Special School District of St. Louis County, the recycling program implemented with students from McCluer North High School in 2010 continues to be successful.

The City has also continued to promote recycling in City facilities by locating recycling bins in prominent locations to encourage use by employees and visitors.

#### ***Recycling Grant to promote Residential Recycling***

In 2011, the City successfully applied for a grant from the St. Louis County Department of Health to participate in a county-wide program to promote residential recycling. The program, which began in August and will continue until October 2012, partners the City with St. Louis County and the non-profit Curbside Value Partnership to promote RecyclingBecomesMe.com. This grant provides the City with \$7,148 to improve the recycling set out rate in the City over the next year. The City's current set out rate is 29%. St. Louis County is promoting the program through an extensive media campaign including print and radio advertisements as well as special events throughout the county. To further promote this program, the City has already begun to educate the public through articles and advertisements in the Ferguson Times.

#### ***Paperless Council Meetings***

In October 2011, Council Members were issued iPads as part of the process to implement a paperless agenda for Council Meetings. The elimination of printing and distributing Council packets in printed form will result in a savings of \$4,000 annually which pays for the iPad purchases in just under a year and a half.

#### ***Elimination of Bottled Water***

This was a goal listed in the last two year's reports. While most of the bottled water is consumed and distributed to residents by our police and fire department personnel, and is donated to the City by Missouri American Water and Sam's Club. The duties and demands of police officers and firefighters make it impractical to completely replace bottled water with tap water, especially during the summer months. However, last year this goal was refined to focus on providing office staff within City Hall and Parks and Recreation with the option to drink tap water or use refillable water containers. All City Hall staff and the City Council have been provided with refillable water containers and water filters have been installed on the taps in City Hall. This allowed for the elimination of providing plastic water bottles for City Hall staff and the City Council at meetings.

#### ***Paychex***

In January 2011, the Paychex system was implemented for providing employee paychecks. All employees are required to be paid through direct deposit with their check stub being available on-line through a secure portal. The system also allows for employees to go online to make changes to their health or dental benefits, instead of printing off and filling out a form(s) to be submitted to Human Resources or Finance.

#### **2012 Goals & Initiatives**

Staff efforts will continue to focus on recycling while working toward the ideal solution of working in an environment that doesn't produce paper to begin with. On that note, the City will strive to make significant progress towards that goal in 2012.

#### ***Recycling Grant to promote Residential Recycling***

As mentioned earlier, the City successfully applied for a grant from the St. Louis County Department of Health to participate in a county-wide program to promote residential recycling.

The program, which began in August 2011, will continue until October 2012. This grant provides the City with \$7,148 to improve the recycling set out rate in the City over the next year. The City's current set out rate is 29%. St. Louis County is promoting the program through an extensive media campaign including print and radio advertisements as well as special events throughout the county. To further promote this program, the City has already begun to educate the public through articles and advertisements in the Ferguson Times. The goal is to improve our set out rate by 5% in 2012.

#### ***Recycling Grant to promote Commercial Recycling***

The City intends to apply for a grant through St. Louis County Solid Waste for a Recycling and Waste Reduction Grant. The purpose of the grant is to encourage commercial businesses to participate in commercial single-stream recycling programs. The City will seek grant assistance to construct dumpster enclosures to meet the City's code requirements and subsidize the cost of recycling service.

#### ***Document Management System***

One way the City is looking to reduce the amount of paper we generate is through a new document management system that will result in no longer needing to print checks to vendors. In addition, The information on vouchers and supporting documentation needed to issue vendor checks will also be captured and stored electronically, instead of in hard copy form, which will also result in less physical storage space required to hold these documents. The DMS system provided by Loris was approved by the City Council in December 2011. Implementation is scheduled to begin in February 2012. It is estimated that within 2-3 years, the City could cut overall paper consumption by 50-75% using these tools.

#### ***iPads for Department Heads***

Building on the success of the paperless agenda for Council Meetings, the next step is to expand iPad usage to Department Heads. The iPads will be especially important during budget discussions as they will eliminate the need for the production of a large binder with the draft budget. The estimated savings of in paper and copier supplies is \$3,200 annually which pays for the iPad purchases in just over a year and a half.

## **Building Codes and Construction**

### **Looking Back at 2011**

In April 2011, voters approved an \$8 million bond issue to fund the construction of a new fire house. Several environmentally-friendly features have been incorporated into the design, including the following:

- using urban infill and/or renovation of existing sites as opposed to greenfield site development is a fundamentally eco-friendly practice - when a city chooses to redevelop in an existing urban area or renovate an existing structure, there are tremendous environmental and energy benefits because creating new vehicular roadways, new utilities and infrastructure and at the same time disturbing "green" sites are all avoided through redevelopment or renovation

- the fire station will have highly-efficient HVAC systems that will use less electricity/gas and cost less to operate
  - fresh air: the new HVAC systems will provide a higher ratio of fresh air return inside the building, creating a healthier indoor air environment
- the use of high efficiency light fixtures will reduce the amount of electricity needed and cost less to operate and maintain
- materials within the building will be green as specifications for these materials will require a high degree of recycled materials and low-VOC/toxicity in all interior finishes
- the new fire station will be more effectively insulated and the glass will be high performance glazing, again reducing the overall energy consumption of the buildings
- using low flow water closets and urinals to reduce water consumption
- using native plantings for our landscape design to reduce their water dependence and maintenance issues
- using a masonry exterior for the fire house, which provides for longevity and low maintenance of the building over the long term

### **2012 Goals & Initiatives**

In February 2012, ground was broken for the new fire station. The project will be the focus for nearly all of this year. The project as stated above will include numerous environmentally friendly elements and will closely adhere to LEED standards.

### **Conclusion**

In conclusion, this report demonstrates the City has made significant progress towards reaching the goals outlined in the Environmental Ordinance. Although Ferguson did not comparatively see a dramatic reduction in energy consumption in any one area, the results of the lighting retrofit project will be monitored closely in 2012. Increased focus on educating employees on the ways they can contribute to reducing our energy consumption will also be a focus of our efforts in 2012.

The City continues to reap the benefit from the creation of the Environmental Committee. By assembling a group of staff and elected officials, residents, and representatives from other area institutions and companies who are knowledgeable on such issues, the City has been able to expand and diversify our level of expertise and bring about a much more thorough review of City policies and practices. This group has been able to provide quality recommendations to not only reconstruct the report to provide more valuable and pertinent information, but continues to act as the driving force behind any recommendations to the City Council.

With respect to our established goals for reducing the City's waste reduction and recycling efforts, we are continuing to improve much more rapidly. In terms of City wide efforts, the City's participation in the RecyclingBecomesMe.Com campaign will help to bring the importance of recycling to the forefront in the minds of our residents. At the City level, we will continue to look for ways to reduce our paper consumption by improving our technology in terms of document storage and through the expanded use of iPads.

The Ferguson City Council will recognize the improvement of this year's report and the data that was collected and analyzed. The City would like to thank the members of the Environmental Committee for their assistance in improving the quality of the data included in this year's report. The City also extends its gratitude to members of the City Manager's Office, Planning and Development, and the Department of Public Works for their contributions to this report.

## Appendix

### Ordinance 2009-3382

(AMENDED) BILL NO. 6869

ORDINANCE NO. 2009-3382

INTRODUCED BY COUNCIL MEMBER DWAYNE T. JAMES

**AN ORDINANCE OF THE CITY OF FERGUSON IMPOSING NEW ENERGY-CONSERVATION REQUIREMENTS ON CITY OPERATIONS; AMENDING CHAPTER 37 ("SOLID WASTE") OF THE MUNICIPAL CODE RELATING TO RECYCLING; AND AMENDING CHAPTER 7 ("BUILDING AND BUILDING REGULATIONS" RELATING TO DESIGN AND CONSTRUCTION OF NEW AND REMODELED HOMES AND BUILDINGS**

*Whereas*, the City of Ferguson (hereinafter referred to as the "City") has recognized the importance of implementing programs in the City that promote sustainable energy and environmental awareness; and

*Whereas*, the City has been named Tree City USA for the past several years and is committed to the benefits and importance of our tree population from new trees being introduced into our City through the Tree Dedication program to the trees providing shade for our parks and streets to the City trimming and cutting down trees after they have served their life course only to be used as mulch and firewood for our neighbors; and

*Whereas*, the City promotes the use alternative modes of travel through its Jolly Trolley for Seniors and the lunch-time trolley service to neighboring employers and schools through its Ferguson Station Business District; and

*Whereas*, the City, in partnership with Trailnet, is currently engaged in a Live Well Ferguson initiative aimed at improving resident health through physical activity and healthy eating; and

*Whereas*, the City is seeking to further encourage the voluntary *diversion* of residential, commercial, and special event waste through recycling to decrease the amount of waste in landfills helping the environment and reducing the need for new landfills; and

*Whereas*, it is the intent of Council to ensure that buildings built or substantially renovated by the City are built in the most environmentally sound way; and

*Whereas*, the City shall encourage site planning, landscaping, and structure design which maximizes the potential for energy conservation by reducing the demand for artificial heating, cooling , ventilation and lighting, and facilitating the use of solar and other energy resources; and

*Whereas*, it is the intent of the Council to provide the citizens and employees of the City of Ferguson with new and renovated buildings which will give the optimum comfort, ensure the durability of investments for the taxpayer, consider the health of building occupants and provide the greatest awareness possible of environmental impacts of what we do.

**NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF FERGUSON, MISSOURI, AS FOLLOWS:**

**Section 1.** Chapter 2 is hereby amended by the addition of a new Section 2-4 which shall read as follows:

CHAPTER 2                   ADMINISTRATION  
  
ARTICLE I                   IN GENERAL  
  
SECTION 2-4               ENERGYCONSERVATIONREQUIREMENTSforcity  
   OPERATIONS

In order to reduce paper usage and waste and increase efficiency, the City Manager shall develop, implement and maintain a plan to reduce at least 30% less energy of its 2008 usage and 20% of the 2008 waste generated *by* the City. Such reduction shall occur within the next five years. As part of the budget process, the City Manager shall include an annual report to the City Council reporting the energy consumption performance for that previous year and the plan of reduction or plan for continued maintenance. Possible environmental-friendly avenues and processes for the City to consider in its plan include:

1. Utilizing the Council Intranet site on the City website as web-based portal to house Council documents, such as meeting agendas, minutes, ordinances, supporting documents. Council and City staff will have access to these documents from any PC, home or office and can view all necessary documents online during Council meetings, eliminating the need for hard-copies in most circumstances;
2. Acquiring products and services that have a lesser or reduced effect on human health and the environment when compared with competing products or services that serve the same purpose in all purchases;
3. Incorporating energy efficient pulse type heating systems in City-owned buildings;

4. Using environmentally safe light bulbs to reduce energy waste;
5. Replacing a portion of City-owned vehicles with hybrids, or using bio-diesel in the fleet vehicles;
6. Requiring solicitors to include instructions asking bidders to identify any environmental benefits over the life cycle of their products and/or services in bid procurement services;
7. Adding information on to the City's Website that contains environment education on topics like landscaping, recycling and energy efficiency; and
8. Promoting the use of Neighborhood Gardens.

**Section 2.** Section 37-1 of Chapter 37 is hereby amended by the addition of the following definitions:

[all other definitions are not altered or amended and remain in full force and effect]

CHAPTER 37            SOLID WASTE  
ARTICLE I             IN GENERAL  
SECTION 37-1         DEFINITIONS

*Certified Recyclable Materials Collector* means a Recyclable Materials Collector which has been issued a certificate by the City pursuant to this Division.

*Collect or Collection* shall mean to take physical possession of and remove solid waste or recyclable materials at the place of generation.

*Commercial facilities* means any facilities that are not residential facilities or mixed use facilities.

*Disposal* means the final deposition of waste at a permitted landfill or other permitted waste facility.

*Diversion or Divert* means the reduction or elimination of solid waste from landfill disposal.

*Recycling facility* means a recycling, composting, or materials recovery or reuse facility.

*Self-haul* means the process of personally, or through one's own full-time employees, collecting, transporting, and delivering one's own solid waste or recyclable materials.

**Section 3.** Chapter 37 of the Municipal Code is hereby amended by a new Section 37-5 which shall read as follows:

CHAPTER 37            SOLID WASTE

ARTICLE I            IN GENERAL

SECTION 37-5        RECYCLING REQUIREMENTS

A.     *Purpose.* The purpose of this Division is to establish requirements for recycling of recyclable materials generated from residential facilities (both single family and multi-family), commercial facilities (including City buildings), and special events. These requirements are intended to increase the diversion of recyclable materials from landfill disposal, reduce greenhouse gas emissions, and defer potential financial obligations associated with waste to the City.

B.     *Service Requirements.* Those who are provided with curbside recycling collection services (i.e., single-family residential) within the City of Ferguson shall be encouraged to utilize such services by separating recyclable materials from other solid waste and depositing the recyclable materials in the approved container. All owners of residential facilities containing more than three (3) separate dwelling units shall provide, in addition to typical trash hauling services, for removal of recyclable material from such property. The owners shall provide approved recyclable material containers that are clearly identified within two (2) years of the effective date of this ordinance. Furthermore, all owners of commercial facilities within the City of Ferguson shall be encouraged to utilize recycling collection services.

The recyclable material removal services required by this Section shall include, at a minimum, all of the following:

1. collection of recyclable materials as frequently as necessary to meet demand;
2. collection of plastic bottles and jars, paper, newspaper, metal containers, cardboard, and glass containers;
3. collection of other recyclable materials for which markets exist;
4. designated recycling collection and storage areas; and
5. signage on all recycling receptacles, containers, chutes, and/or enclosures.

C.     *Recycling at Special Events Required.* For any community special event held after May 1, 2009, which requires any type of license or permit from the City of Ferguson, the person or entity responsible for such event shall provide recycling receptacles throughout the event venue.

1.     The number of recycling receptacles shall equal the number of solid waste receptacles.
2.     The solid waste and recycling receptacles shall be placed next to one another throughout the event venue.
3.     The types of recyclable materials suitable for deposit into each recycling receptacle shall include, at a minimum, aluminum and metal cans, and glass and plastic bottles and jars.

4. Each recycling receptacle shall be clearly identified as a recycling receptacle and shall display a list of the types of recyclable materials which may be deposited into the recycling receptacle.

5. The responsible person shall ensure that the recyclable materials deposited into the recycling receptacles are as identified above.

D. *Exemptions.* Exemptions to some or all of the requirements of this Section may be granted at the discretion of the City Manager's designee. Applications for exemptions may be granted upon consideration of the following factors: available markets for recyclable materials, available space for recycling containers, alternative recycling efforts, and the amount and type of solid waste or recyclable materials generated. To be effective, an exemption must be in writing and signed by the City Manager. An exemption may be revoked at any time at the discretion of the City Manager if one or more of the factors justifying the exemption no longer exist, or other change in circumstances warrant revocation. Unless earlier revoked, an exemption shall be effective for a period of one year from the date it was granted. Subsequent applications for exemptions may be granted at the discretion of the City Manager's designee upon consideration of the factors listed in this section.

E. *Scavenging of Recyclable Materials Prohibited.* No person other than an appropriate waste hauler permitted by the City of Ferguson to collect the recyclable materials, shall remove or otherwise interfere with recyclable materials which have been placed at a designated recycling or recyclable materials collection location.

**Section 4.** Chapter 7 of the Municipal Code is hereby amended by the addition of a new Section 7-44 which shall read as follows:

CHAPTER 7	BUILDING AND BUILDING REGULATIONS
ARTICLE III	BUILDING CODE
SECTION 7-44	ADDITIONAL REQUIREMENTS FOR THE DESIGN AND CONSTRUCTION OF NEW AND REMODELED HOMES AND BUILDINGS

A. *Purpose.* The purpose of the requirements set forth herein is to provide for the enhancement of sustainable energy and environmentally friendly efforts during building construction. It is further the intent of the City Council to ensure that the development of public buildings is done in an environmentally friendly manner as well as to encourage environmentally conscious private commercial, industrial and residential development. The Program shall be mandatory for the development of all City-Owned construction projects, and is encouraged for all private commercial, industrial and residential development projects.

B. *Definitions.* For purposes of this Section, the following terms shall mean:

*Construction* means any project associated with the creation, development, or erection of any building or facility that is 5,000 square feet of floor area or greater.

*Green building* means generally the resource efficient design, construction, and operation of buildings by employing environmentally sensible construction practices, systems, and materials.

*LEED* means the Leadership in Energy and Environmental Design Rating System of the U.S. Green Building Council.

*LEED for Existing Buildings* means the USGBC rating system that applies to existing buildings and addresses whole-building cleaning and maintenance issues (including chemical use), recycling programs, exterior maintenance programs, and systems upgrades.

*Project* means any construction associated with the creation, development, or erection of any building or facility.

*Remodeling* means any renovation or remodeling project (commercial or residential) that includes a total cost greater than fifty-one percent (51%) of the appraised value of the property.

*USGBC* means the U.S. Green Building Council.

C. *City-Owned Construction Projects.*

1. Any buildings built or remodeled with City funds shall be developed in accordance with, at a minimum, the LEED “silver” certification designation or another nationally-recognized certification program., as long as the estimated energy savings exceed the marginal cost of the energy saving features over the expected life of the building and subject to fiscal constraints established by the City Manager. On a project-by-project basis, the City Manager may determine that the costs or requirements associated with participating in the Program substantially outweigh the benefits of such participation. Such a determination shall amount to a waiver of the requirement that City comply with the provisions of this Chapter. In order to avoid increased cost of operation, care shall be taken to avoid complex systems that would require extensive technical training of personnel.

2. Design documents shall include an explanation of how the features listed below are incorporated into the design or, for those features not incorporated, an explanation of the financial or operational reasons why the feature was omitted from the design. Energy saving features, including but not limited to the following:

- (a) Solar orientation, with the long axis facing south
- (b) Use of daylighting
- (c) Use of appropriate glass for minimizing heating and cooling loads

- (d) Insulation beyond minimum standards
- (e) Use of renewable energy for heating and cooling
- (f) Use of renewable energy for heating and swimming pools
- (g) Use of water conservation measures including dual water systems if available
- (h) Landscaping for summer cooling effect and for blocking winter winds
- (i) Use of energy efficient motors
- (j) Use of energy efficient lighting
- (k) Use of energy management systems
- (l) Parking areas designed to limit heat absorption
- (m) Use of building materials and color to decrease cooling load

D. *Private Construction Projects.*

1. New Residentially Permitted Projects: The permit applicant for new residential construction, shall be encouraged to satisfy the requirements associated with the current USGBC LEED for Homes program, as may be amended from time to time; or a nationally-recognized equivalent ratings system.
2. Remodeling of Existing Homes: The permit applicant for remodeling of existing homes shall be encouraged to satisfy the requirements of remodeling certification for the current LEED for Homes program, as may be amended from time to time; or a nationally-recognized equivalent ratings system.
3. New Commercial or Industrial Buildings: The permit applicant for new commercial or industrial buildings construction shall be encouraged to satisfy the requirements associated with the current LEED for New Construction or derived USGBC LEED rating system (e.g., LEED for Schools, LEED for Health Care) program, as may be amended from time to time; or a nationally-recognized equivalent ratings system.
4. Remodeling of Existing Commercial and Industrial Buildings: The permit applicant for the remodeling of existing commercial and industrial buildings shall be encouraged to satisfy the requirements associated with the current LEED for existing buildings or derived USGBC LEED rating system (e.g., LEED for Schools, LEED for Health Care) program, as may be amended from time to time; or a nationally-recognized equivalent ratings system.

5. Incentives: Permit applications submitted pursuant to this Section shall be given priority over other permit applications. The City shall use its best efforts to ensure that building permit applications for residential and commercial green buildings shall be processed within 30 business days. All such applications shall be accompanied by an appropriate green building program application form.

6. Certification: The verification of the green building designation shall be subject to certification by a qualified third party who has been trained and certified as a green building certifying agent. Applicants shall be responsible for all costs associated with certification.

**Section 5.** This Ordinance shall be in full force and effect from and after the date of its passage by the City Council.

FIRST READING: February 10, 2009 SECOND READING: February 24, 2009

PASSED AND APPROVED BY THE CITY COUNCIL OF THE CITY OF FERGUSON,  
MISSOURI, THIS 24<sup>th</sup> DAY OF FEBRUARY 2009.

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Brian P. Fletcher, Mayor

ATTEST:

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City Clerk