REGULAR MEETING
AGENDA
CITY OF CREVE COEUR
CITY COUNCIL
300 NORTH NEW BALLAS RD
JULY 25, 2016
7:00 PM

CALL TO ORDER

PLEDGE OF ALLEGIANCE

INVOCATION

ROLL CALL

COMMENTS FROM THE GENERAL PUBLIC

(Citizens are asked to limit comments to three minutes and to complete a speaker card)

ACCEPTANCE OF THE AGENDA

ANNOUNCEMENTS

The City Council meets the 2nd and 4th Monday of each month
6:00 p.m. - 7:00 p.m. - Work Session
7:00 p.m. - Regular Meeting of the City Council

1. **CONSENT AGENDA**

    a. **Council Minutes Dated July 11, 2016**

BILLS PAYABLE REPORT

For Information Only

Summary: Attached is a bills payable listing dated July 18, 2016 in the amount of $407,477.28 for Council review. No vote is required.

NEW BUSINESS

2. **Bill No. 5604 - an Ordinance Amending the Adopted Fy 2017 Capital Fund Budget of the City of Creve Coeur by Authorizing Additional Appropriations and Unappropriations. First Reading**
   Summary: An Ordinance amending the adopted FY 2017 Capital Fund Budget of the City of Creve Coeur.

3. **Bill No. 5605 - an Ordinance Amending Definitions in the Zoning Code of the Code of Ordinances of the City of Creve Coeur Regarding Sexually Oriented Businesses. First Reading**
   Summary: Section 405.120 of the City Code of Ordinances sets forth definitions used in the Zoning Code, including regarding sexually oriented businesses.

Changes in state law (2014 SB 491, HB 1371) revising sections 573.010 et seq RSMo, require parallel revisions to the City's ordinances.

4. **Bill No. 5606 - an Ordinance Amending Chapter 617 of the Code of Ordinances of the City of Creve Coeur Regarding Sexually Oriented Businesses. First Reading**
   Summary: Changes in state law (2014 SB 491, HB 1371) revising sections 573.010 et seq RSMo, require parallel revisions to the City's business license ordinance regarding sexually oriented businesses. Similar zoning definition changes are also proposed in another agenda item.

5. **Resolution No. 1234 - a Resolution of the City Council of the City of Creve Coeur, Missouri, Approving the Use of a Contract Established by the City of Kirkwood as the Basis for a Cooperative Purchasing Agreement for the Procurement of Microsurfacing Services.**
   Summary: The City of Kirkwood has recently received bids for microsurfacing and included a clause in its bid that allowed the bid to be extended to area municipalities like Creve Coeur. Given the competitive bid prices and the quality of the product that has been observed, staff recommends entering into a contract with Donelson Construction that extends the terms of the Kirkwood contract to the City of Creve Coeur.

6. **Resolution No. 1235 - a Resolution to Adopt a Phase 2 Climate Action Plan to Save Energy and Reduce Greenhouse Gas Emissions.**
   Summary: The Energy and Environment Committee has recommended to the City Council a Phase 2 Climate Action Plan to Save Energy and Reduce Greenhouse Gas Emissions.

7. **Resolution No. 1236 - a Resolution of the City Council of the City of Creve Coeur, Missouri, Authorizing the Engagement of Bond Counsel Regarding a New Police Station Project.**
   Summary: The Nominating Committee is recommending Gilmore and Bell to serve as Bond Counsel for the Police Station financing.

APPOINTMENTS

8. **Annual Appointments and Reappointments to Boards and Committees**

BUSINESS FROM MAYOR AND CITY COUNCIL

9. **Council Liaison Reports**

BUSINESS FROM CITY ADMINISTRATOR

10. **Review of IMS Pavement Report**

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Summary: Staff has reviewed the five-year pavement maintenance projections and budget scenarios from Infrastructure Management Systems (IMS) and will report its findings and recommendations to the City Council. A copy of this report and other supporting documentation can be found on the City's website at http://www.creve-coeur.org/index.aspx?nid=410.

Pursuant to Section 610.022 RSMo., the City Council could, at any time during the meeting, vote to close the public meeting and move to closed session to discuss matters relating to litigation, legal actions and/or communications from the City Attorney as provided under Section 610.021(1) RSMo. and/or personnel matters under Section 610.021(13) RSMo. And/or employee matters under Section 610.021(3) RSMo. and/or real estate matters under Section 610.021(2) or other matters as permitted by Chapter 610.

Posted: __________________________ posted 07/21/2016
Deborah Ryan, MPCC
City Clerk

City Council
300 North New Ballas Rd
Creve-Coeur, MO 63141

Debbie Ryan
City Clerk
(314) 872-2517
www.creve-coeur.org/

Meeting: 07/25/16 07:00 PM
DOC ID: 2024

COUNCIL MINUTES (ID # 2024)

Council Minutes Dated July 11, 2016

MINUTES
CITY OF CREVE COEUR
CITY COUNCIL
300 NORTH NEW BALLAS RD
JULY 11, 2016
7:00 PM

CALL TO ORDER

A regular meeting of the City Council of the City of Creve Coeur was called to order by Mayor Glantz at the Creve Coeur Government Center, 300 N. New Ballas Road on Monday, July 11, 2016 at 7:00 p.m.

PLEDGE OF ALLEGIANCE

Mayor Glantz led the Pledge of Allegiance.

INVOCATION

Mayor Glantz held a moment of silence for Ballwin Police Officer Mike Flamion and the Dallas Police Officers as this is a very difficult time to be in law enforcement.

ROLL CALL

Mr. Glantz	Mayor
Mr. Faron	Council Member Ward I
Ms. Kramer	Council Member Ward I
Mrs. Lawrence	Council Member Ward II
Mr. Ruzicka	Council Member Ward II
Mr. Hoffman	Council Member Ward III
Mr. Saunders	Council Member Ward IV
Mrs. Baseley	Council Member Ward IV

Absent: Council Member Charlotte D'Alfonso, Ward III

COMMENTS FROM THE GENERAL PUBLIC

(Citizens are asked to limit comments to three minutes and to complete a speaker card)
George Cibulka resident of 808 Fernview stated he is in favor of the new smoking ban on outdoor dining and public seating areas but is against the certification of the Police Department and stated he feels it is unnecessary and a waste of funding.

ACCEPTANCE OF THE AGENDA

Council Member Saunders moved, seconded by Council Member Faron to accept the agenda as presented.

Mark Perkins requested to add Item 11 – Strategic Planning under Business from City Administrator.

Council Member Saunders moved, seconded by Council Member Faron to accept the agenda as amended, with the vote upon such motion as follows, to-wit:

Council Member Faron – Aye
Council Member Ruzicka – Aye
Council Member Saunders – Aye
Council Member Lawrence – Aye
Council Member Hoffman – Aye

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Council Member Baseley – Aye
Council Member Kramer – Aye

The vote upon the motion being 7 ayes and 0 nays, motion carried.

ANNOUNCEMENTS

The City Council meets the 2nd and 4th Monday of each month
6:00 p.m. - 7:00 p.m. - Work Session
7:00 p.m. - Regular Meeting of the City Council

1. CONSENT AGENDA

Council Member Saunders moved, seconded by Council Member Kramer to approve the consent agenda as presented.

a. Council Minutes Dated June 27, 2016

Mayor Glantz called the question to approve the consent agenda as presented, with the vote upon such motion as follows, to-wit:

Council Member Kramer – Aye
Council Member Baseley – Aye
Council Member Hoffman – Aye
Council Member Lawrence – Aye
Council Member Saunders – Aye
Council Member Ruzicka – Aye
Council Member Faron – Aye

The vote on the motion being 7 ayes and 0 nays, motion carried.

BILLS PAYABLE REPORT

For Information Only

Summary: Attached is a bills payable listing dated July 7, 2016 in the amount of $85,844.39 for Council review. No vote is required.

UNFINISHED BUSINESS

2. Bill No. 5603 - An Ordinance Authorizing the Issuance of a New Conditional Use Permit for a 1,660 Square-Foot Eating and Drinking Establishment Located at 12305 Olive Boulevard Within the Woodcrest Shopping Center. Final Reading and Passage

City Clerk read Bill No. 5603 for the final time.

Council Member Saunders moved, seconded by Council Member Baseley to approve Bill No. 5603, with the vote upon such motion being as follows, to-wit:

Council Member Lawrence – Aye
Council Member Hoffman – Aye
Council Member Baseley – Aye
Council Member Kramer – Aye
Council Member Faron – Aye
Council Member Ruzicka – Aye
Council Member Saunders – Aye

The vote upon the motion being 7 ayes and 0 nays, motion carried. Bill No. 5603 becomes Ordinance No. 5482.

NEW BUSINESS

3. **Resolution No. 1230 - A Resolution of the City Council of the City of Creve Coeur, Missouri Authorizing the Execution of an Agreement with the City of Chesterfield, Under the Cooperative Salt Program, for Purchasing 1400 Tons of Salt for an Amount of $68,922.00.**

City Clerk read Resolution No. 1230.

Council Member Hoffman moved, seconded by Council Member Kramer to approve Resolution No. 1230, with the vote upon such motion being as follows, to-wit:

Council Member Saunders – Aye
Council Member Ruzicka – Aye
Council Member Faron – Aye
Council Member Kramer - Aye
Council Member Baseley – Aye
Council Member Hoffman – Aye
Council Member Lawrence – Aye

The vote on the motion being 7 ayes and 0 nays, motion carried.

4. **Resolution No. 1231 - A Resolution of the City Council of the City of Creve Coeur, Missouri, Authorizing the Execution of a Contract with Spencer Contracting Company, for Asphalt Pavement Resurfacing Related to the Street Repair Program for the 2017 Fiscal Year for $267,909.50.**

City Clerk read Resolution No. 1231.

Council Member Baseley moved, seconded by Council Member Kramer to approve Resolution No. 1231, with the vote upon such motion being as follows, to-wit:

Council Member Kramer – Aye
Council Member Baseley – Aye
Council Member Hoffman – Aye

Council Member Lawrence – Aye
Council Member Saunders – Aye
Council Member Ruzicka – Aye
Council Member Faron – Aye

The vote on the motion being 7 ayes and 0 nays, motion carried.

5. **Resolution No. 1232 - A Resolution Authorizing the City of Creve Coeur to Purchase Two New Ford Police Interceptor Utility AWD Vehicles from Lou Fusz Ford for the Total Amount of $57,436.00.**

City Clerk read Resolution No. 1232.

Council Member Baseley moved, seconded by Council Member Saunders to approve Resolution No. 1232, with the vote upon such motion being as follows, to-wit:

Council Member Saunders – Aye
Council Member Ruzicka – Aye
Council Member Faron – Aye
Council Member Lawrence – Aye
Council Member Hoffman – Aye
Council Member Baseley – Aye
Council Member Kramer – Aye

The vote on the motion being 7 ayes and 0 nays, motion carried.

6. **Resolution No. 1233 - A Resolution of the City Council of the City of Creve Coeur, Missouri, Authorizing the Execution of the First Amendment to PCS Site Agreement with STC Five LLC, Successor in Interest to Sprint Spectrum LP, Regarding the Wireless Communication Tower at the Dielmann Recreation Complex.**

City Clerk read Resolution No. 1233.

Council Member Faron moved, seconded by Council Member Kramer to approve Resolution No. 1233.

Dan Smith stated staff is recommending Crown Castle for the following reasons:

1. It has the highest present value of lease payments over the term of the lease.
2. It has the shortest time period for the lease which gives more flexibility.
3. It gives the city more control over the property than the other proposals.

The only downside of their proposal is that the four 5-year terms are based on the renewal at the end of each term. Therefore it is possible that the lease could not go the full 20-year time period. Since the other proposals provide their payments up front it is possible the city may receive less money from Crown Castle should they not renew the lease for all 5-year periods. However, staff believes the additional flexibility and control over the lease site offsets the risk of non-renewal in the Crown Castle proposal.

Council Member Lawrence asked if the contract includes responsibility for the lessee to make repairs to the tower in the event of structural damage.

Carl Lumley stated yes that is included in the contract.

Mayor Glantz called to question the approval of Resolution No. 1233, with the vote upon such motion being as follows, to-wit:

Council Member Saunders – Aye
Council Member Ruzicka – Aye
Council Member Faron – Aye
Council Member Kramer - Aye
Council Member Baseley – Aye
Council Member Hoffman – Aye
Council Member Lawrence – Aye

The vote on the motion being 7 ayes and 0 nays, motion carried.

BUSINESS FROM MAYOR AND CITY COUNCIL

7. Council Liaison Reports

Council Member Lawrence stated the Golf Task Force met and had the first meeting where the discussion focused on projects and programs. Very productive meeting.

Council Member Lawrence stated Parks and Historic Preservation Committee met also, Nancy Litzinger (whom has applied to be on the committee) shared her ideas regarding historic building signage in the parks. Free concert in the park is scheduled for this Thursday at 6:00 p.m. in Millennium Park.

BUSINESS FROM CITY ADMINISTRATOR

8. Suggestions for Improving Our Current Deer Mitigation Ordinance

Mark Perkins stated since the deer mitigation ordinance passed a few years ago, the city has continued to hear from residents that are concerned about the deer population and isn't diminishing to any significant degree and possibly moving to the east.

Chief Eidman stated the Department has held recent discussions with the Department of Conservation and compared our city with other cities that also allow bow hunting. The three changes that are on the table for consideration is to reduce the liability insurance from $1 million instead of $2 million, although a majority of the other cities have a $2 million dollar liability insurance carrier. The other option is to allow crossbows instead of restricting to just bows and the third issue would be to reduce the size of the hunting to less than an acre. The Dept of Conservation extremely discourages the city from reducing the acreage, but did have positive things to say about the crossbow which requires a smaller arrow and is more accurate. Chief Eidman stated those are the items on the table if we want to try and bring in more bow hunters to entice more mitigation under our current ordinance.

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Council Member Lawrence asked since bow hunting began in other cities, has anyone made a claim against the insurance due to bow hunting.

Chief Eidman stated no.

Council Member Ruzicka suggested the city hold a contest.

Chief Eidman stated the city has to follow the Dept of Conservation's rules. The city has looked at opening hunting up in the city parks, as other cities have controlled hunts in their parks. For the city to do that the parks would have to be closed to the public while hunting is in process.

Council Member Saunders stated the number of deer taken has reduced significantly over the past few years, but the number of tags and hunting permits sold has not. Any thoughts as to why.

Chief Eidman stated the big difference is that two years ago, on Ladue Road (Thompson Retreat Center) was wide open. Since the development of that subdivision there has virtually been no hunting in the area and there is a large deer population in that area.

Council Member Baseley stated in the ordinance it looks as if the hunters only had to give notice of approximate days of when a hunt would take place and asked why property owners couldn't know exact dates.

Chief Eidman stated that was addressed after the first season and hunters had to post signs in the front yards of the property to alert residents that there was an active hunt taking place.

Council Member Faron asked what the Dept of Conservation's exact concern on the decrease in acreage and asked about the concern with the crossbows.

Chief Eidman stated the crossbow is considered a firearm and has a lot more accuracy and would have to allow during rifle season. Chief Eidman stated as far as the acreage the city follows their recommendation and no city in the St. Louis area allows hunting on less than an acre.

Tina Borises resident of 12351 Woodline Drive asked if the city looked at any other mitigation procedures for reducing deer.

Chief Eidman stated a couple of years ago the city held a meeting to listen to the concerns of the residents regarding deer issues. Offering the ability to deer hunt doesn't do much to reduce the number of deer, it is a natural way of controlling it but doesn't do the same amount of population control. Town and Country actually has spent a large amount of money by bringing in a company to euthanize. Town and Country also tried relocating deer as well as catching them and neutering them and that didn't work very well and they have spent about a half a million dollars over the last couple of years. Town and Country also pays a company to come out and bait a site and will take out 10 to 12 deer at a time and that is another option.

Mayor Glantz stated when this was discussed a few years ago, allowing deer hunting was agreed upon as the most palatable way to try to thin the population.

Council Member Hoffman stated during those discussions the residents were very much against allowing high powered rifles in the city and so we ended up with bow hunting.

Council Member Baseley stated on the city's website there is information on plantings for residents to help keep deer out of their yard and suggested putting information in the next newsletter directing residents to information for assistance.

Council Member Lawrence stated when an officer has to take down a deer does the meat get donated.

Chief Eidman stated there is a company that the city calls that can come and pick up the deer and will harvest it.

Mayor Glantz asked what direction the Council would like to go regarding deer hunting.

Council Member Hoffman stated he would like to make it easier for the hunters to hunt in the city and educate residents on how to keep deer away from their property.

Mark Perkins stated there is openness to making some changes and focusing on safety but encouraging more participation. Staff will work on some legislation and bring back to Council.

9. Police Station Planning Update

Mark Perkins stated staff is targeting a November ballot issue and along those lines there are come activities that are currently underway. Currently there is an RFP out for an owner rep/construction manager and those are due back July 18th and hope to bring a contract to the Council by the first meeting in August.

Mark Perkins stated there is also an RFQ out for Bond Counsel for this project as well. Discussion with the City Attorney, staff felt it would be helpful to have this firm on early in the process so they can be involved in the ballot language and in preparation for that. Those are also due July 18th and look for the first meeting in August for Bond Counsel selection, which will go through the Nominating Committee.

Mark Perkins stated in addition, staff will be bringing forward an ordinance to allow placing a bond issue on the ballot. The first meeting in August for approval and the second meeting in August there is a deadline for placing items on the November ballot.

Mark Perkins stated the public engagement effort is ongoing regarding the proposed Police Facility and mainly focusing on the newsletter and trying to highlight different aspects of this issue each month. There are also some upcoming Town Hall meetings that will assist in further discussions.

10. Artist-Designed Street Banner Art Opening and Show

Mark Perkins stated he wanted to pass along that the Art Committee is working on an upcoming art show to be able to provide a venue for the community to see these new artist designed banners that are going to be gracing out decorative light posts up and down Olive Blvd. This is an event planned for August 19th at the Government Center.

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Council Member Saunders stated the artists have done a spectacular job and came in under budget.

11. Strategic Planning

Mark Perkins stated the process began in 2013 and Shockey Consulting facilitated that process for the city. That plan has run its course for the city, for the most part. Staff and Elected Officials should revisit the goals and objectives to focus on issues within the city. This is a great time to do it since we have new Department Heads as well as new Council Members. This not only helps council focus on the priorities it also helps staff focus as well. Mark Perkins stated RFP's were sent out on Saturday to firms that handle these types of project. Previous process included three or four meetings over a two or three month period of time. Will look at Mondays that there are no meetings scheduled and these would be considered open meetings as they are essentially work sessions. There is funding budgeted for this process in this FY budget.

Council Member Hoffman moved, seconded by Council Member Lawrence to adjourn at 7:56 p.m., with the vote upon such motion being as follows, to-wit:

Council Member Faron – Aye
Council Member Ruzicka – Aye
Council Member Saunders – Aye
Council Member Lawrence – Aye
Council Member Hoffman – Aye
Council Member Baseley – Aye
Council Member Kramer – Aye

The vote on the motion being 7 ayes and 0 nays, motioned carried.

Submitted by:

Deborah Ryan City Clerk	Barry Glantz Mayor

City Council
300 North New Ballas Rd
Creve-Coeur, MO 63141

SCHEDULED

Meeting: 07/25/16 07:00 PM
Department: Finance Department
Category: Report
Prepared By: Sherry Hall
Initiator: Dan Smith
Sponsors:
DOC ID: 2022

BILLS LISTING (ID # 2022)

Bills Payable Listing

Attached is a bills payable listing dated July 18, 2016 in the amount of $407,477.28 for Council review. No vote is required.

City of Creve Coeur
300 N. New Ballas Road
Creve Coeur, Missouri 63141
(314) 432-6000
www.creve-coeur.org

DATE: July 18, 2016

TO: Mark Perkins, City Administrator

FROM: Daniel Smith, Director of Finance

SUBJECT: Bills Payable

For your information and transmittal to the City Council, is a list of bills payable dated July 18, 2016 in the amount of $407,477.28.

CITY OF CREVE COEUR
ACCOUNTS PAYABLE LISTING

7/18/16

NO DEPT - NO DIV

Vendor Number	Purchase Order	Invoice Number	Invoice Date	Vendor Name	Description	GL Account	Invoice Amount
00188		071316 225	13-Jul-16	HOULIHAN, TOM	SEWER LATERAL REPAIR REIMB	02-00-00-1901	4,091.28
00605	P002474	7163	29-Jun-16	POLICE LEGAL SCIENCES	RENEW MISSOURI LEGAL UPDATE	01-00-00-2414	6,000.00
00188		070516 224	05-Jul-16	SCHWARTZ, SUSAN	SEWER LATERAL REPAIR REIMB	02-00-00-1901	1,679.20
00188		070516 223	05-Jul-16	SULLIVAN, CHELSEY	SEWER LATERAL REPAIR REIMB	02-00-00-1901	1,696.00
00190		EXT0009935	03-Jun-16	UNIVERSITY OF MISSOURI	LAW ENFORCE TRAIN-2 OFFICERS	01-00-00-2411	200.00
00190		EXT0009919	24-May-16	UNIVERSITY OF MISSOURI	LAW ENFORCE TRAIN-1 OFFICERS	01-00-00-2411	100.00
						Sum of Invoices	13,766.48

CITY OF CREVE COEUR
ACCOUNTS PAYABLE LISTING

7/18/16

LEGISLATIVE

Vendor Number	Purchase Order	Invoice Number	Invoice Date	Vendor Name	Description	GL Account	Invoice Amount
00019	P002418	118723	06-Jul-16	CURTIS, HEINZ, GARRETT & O'KEEFE	ADDITIONAL LEGAL FEES FY16	01-11-12-6201	7,532.92
00019	P002418	118723	06-Jul-16	CURTIS, HEINZ, GARRETT & O'KEEFE	ADDITIONAL AMOUNT FOR LEGAL	01-11-12-6201	5,340.08
02689		070616	06-Jul-16	RICHARD C. BRESNAHAN, ATTY	PROSECUTING ATTY-JUNE 2016	01-11-12-6201	3,167.00
02406		1555	08-Jun-16	ST. LOUIS AREA INSURANCE TRUST	FY 17 WORKS COMP INS	01-11-12-5243	75.51
02406		1555	08-Jun-16	ST. LOUIS AREA INSURANCE TRUST	FY 17 WORKS COMP INS	01-11-13-5243	70.90
						Sum of Invoices	16,186.41

CITY OF CREVE COEUR
ACCOUNTS PAYABLE LISTING

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Administration

Vendor Number	Purchase Order	Invoice Number	Invoice Date	Vendor Name	Description	GL Account	Invoice Amount
01120		043014	30-Apr-14	ASI	FLEX PLAN ADMIN FEES-APR 2014	01-12-11-6203	178.50
01120		073114.	31-Jul-14	ASI	FLEX PLAN ADMIN FEE-JULY 2014	01-12-11-6203	171.50
01120		013115	31-Jan-15	ASI	FLEX PLAN ADMIN FEES-JAN 2015	01-12-11-6203	133.00
01120		083115	31-Aug-15	ASI	PLEX PLAN ADMIN FEES-AUG 2015	01-12-11-6203	141.00
01120		093015	30-Sep-15	ASI	FLEX PLAN ADMIN FEES-SEPT 2015	01-12-11-6203	146.00
01120		033116	31-Mar-16	ASI	FLEX PLAN ADMIN FEES-MAR 2016	01-12-11-6203	566.00
01120		063016	30-Jun-16	ASI	FLEX PLAN ADMIN FEES-JUNE 2016	01-12-11-6203	540.00
01120		070116	01-Jul-16	ASI	HRA FEES-JUNE 2016	01-12-11-6203	200.00
01997		9801603	30-Jun-16	EQUIFAX INFORMATION SERVICES	INFORMATION SERVICES	01-12-11-6202	33.44
00053		342304	05-Jul-16	MERCY CORPORATE HEALTH	PREPLACEMENT PHYSICAL	01-12-11-6271	140.00
00053		337592	05-Jul-16	MERCY CORPORATE HEALTH	PREPLACEMENT PHYSICAL	01-12-11-6271	142.00
00053		341448	05-Jul-16	MERCY CORPORATE HEALTH	PREPLACEMENT PHYSICAL	01-12-11-6271	85.00
00053		341859	05-Jul-16	MERCY CORPORATE HEALTH	PREPLACEMENT PHYSICAL	01-12-11-6271	55.00
00053		342259	05-Jul-16	MERCY CORPORATE HEALTH	PREPLACEMENT PHYSICAL	01-12-11-6271	137.00
00053		342270	05-Jul-16	MERCY CORPORATE HEALTH	PREPLACEMENT PHYSICAL	01-12-11-6271	140.00
02518		4068	11-Jul-16	PREFERRED RESOURCE NETWORK, INC.	EMPLOYEE TRAINING	01-12-11-6261	500.00
01262	P002339	37103	30-Jun-16	SPECIALTY MAILING	HANDLING/MAILING NEWSLETTERS	01-12-11-6203	222.22
02406		1555	08-Jun-16	ST. LOUIS AREA INSURANCE TRUST	FY 17 WORKS COMP INS	01-12-11-5243	339.50
01048		9767935983 GF	01-Jul-16	VERIZON WIRELESS	CELL PHONES - JUNE 2016	01-12-11-6253	52.34
						Sum of Invoices	3,922.50

CITY OF CREVE COEUR
ACCOUNTS PAYABLE LISTING

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IT

Vendor Number	Purchase Order	Invoice Number	Invoice Date	Vendor Name	Description	GL Account	Invoice Amount
01083	P002478	159553	01-Jul-16	CIVIC PLUS	REDESIGN CIVICSEND ANNUAL FEE	01-12-51-6213	995.00
01083	P002478	159553	01-Jul-16	CIVIC PLUS	ANNUAL FEE FOR MEDIA CENTER ST	01-12-51-6213	1,102.50
01083	P002478	159553	01-Jul-16	CIVIC PLUS	ANNUAL FEE FOR HOSTING AND SUP	01-12-51-6213	8,897.51
02554		41970	12-Jul-16	COMMUNICATIONS TECHNOLOGIES, INC.	NETWORK CONNECTION INTERFERENC	01-12-51-6213	125.00
00139	P002451	XJXWW4JF2	30-Jun-16	DELL	2 DELL OPTIPLEX 5040 SFF	01-12-51-7331	1,975.70
02406		1555	08-Jun-16	ST. LOUIS AREA INSURANCE TRUST	FY 17 WORKS COMP INS	01-12-51-5243	58.79
00070		I160629446	29-Jun-16	TECH ELECTRONICS	SHORT IN CREDIT CRD MACHINE LI	01-12-51-7331	210.00
02654	P002486	0012929	14-Jul-16	UMZUZU LLC	MONTHLY FEE-GOOGLE APPS FOR GO	01-12-51-6213	1,190.00
01048		9768188517	04-Jul-16	VERIZON WIRELESS	TABLET FOR GOLF MAINT JUNE 201	01-12-51-6213	50.00
01048		9767935983 GF	01-Jul-16	VERIZON WIRELESS	CELL PHONES - JUNE 2016	01-12-51-6253	62.34
						Sum of Invoices	14,666.84

CITY OF CREVE COEUR
ACCOUNTS PAYABLE LISTING

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FINANCE

Vendor Number	Purchase Order	Invoice Number	Invoice Date	Vendor Name	Description	GL Account	Invoice Amount
02406		1555	08-Jun-16	ST. LOUIS AREA INSURANCE TRUST	FY 17 WORKS COMP INS	01-13-11-5243	330.28
02493	P002485	185237	20-Jun-16	SCHOWALTER & JABOURI, P.C.	FY 16 AUDIT SERVICES THRU 6/20	01-13-11-6209	6,500.00
01048		9767935983 GF	01-Jul-16	VERIZON WIRELESS	CELL PHONES - JUNE 2016	01-13-11-6253	52.34
						Sum of Invoices	6,882.62

CITY OF CREVE COEUR
ACCOUNTS PAYABLE LISTING

7/18/16

MUNICIPAL COURT

Vendor Number	Purchase Order	Invoice Number	Invoice Date	Vendor Name	Description	GL Account	Invoice Amount
01374	P002189	060316	03-Jun-16	ENGELMEYER & PEZZANI LLC	JUDICIAL SVCS: MAR-JUN 2016	01-13-14-6201	10,000.04
02406		1555	08-Jun-16	ST. LOUIS AREA INSURANCE TRUST	FY 17 WORKS COMP INS	01-13-14-5243	180.99
						Sum of Invoices	10,181.03

CITY OF CREVE COEUR
ACCOUNTS PAYABLE LISTING

7/18/16

INTERDEPARTMENTAL

Vendor Number	Purchase Order	Invoice Number	Invoice Date	Vendor Name	Description	GL Account	Invoice Amount
00014		0215116 7/16	06-Jul-16	CHARTER COMMUNICATIONS	SVC AT SHOP 7/16 - 8/15/16	01-13-15-6255	512.28
00045		849316104001	07-Jul-16	OFFICE DEPOT-BUSINESS DIV	3x5 NOTEBOOKS FOR P.D.	01-13-15-7312	42.25
00045		849316088001	08-Jul-16	OFFICE DEPOT-BUSINESS DIV	PENS, TONER, RUBBERBANDS	01-13-15-7312	270.27
00045		845832378001	17-Jun-16	OFFICE DEPOT-BUSINESS DIV	MARKERS, STENO PADS, RPT COVR	01-13-15-7312	60.08
00045		847367164001	24-Jun-16	OFFICE DEPOT-BUSINESS DIV	CLOCK, SIGN HOLDERS	01-13-15-7312	24.43
00046		CIV0336246	27-Jun-16	OFFICE ESSENTIALS	TONER CARTRIDGES	01-13-15-7312	182.00
00046		CIV0335958	24-Jun-16	OFFICE ESSENTIALS	JUMBO CLIPS, FOLDERS	01-13-15-7312	59.72
00118		1445	15-Jun-16	OLD STYLE BODY COMPANY	REPAIRS-CAR 2405 2015 CHARGER	01-13-15-6220	7,428.65
00077		7205226	07-Jul-16	QUILL	BINDERS, LABELS, FILE JACKETS	01-13-15-7312	132.09
02406		1555 LIABILITY	08-Jun-16	ST. LOUIS AREA INSURANCE TRUST	FY 17 LIABILITY INSURANCE	01-13-15-6220	41,680.00
01169		3306560328	25-Jun-16	STAPLES ADVANTAGE	BATTERIES, INKJET CARTRIDGE	01-13-15-7312	100.67
01169		3306560327	25-Jun-16	STAPLES ADVANTAGE	TONER CARTRIDGES	01-13-15-7312	323.60
01169		3306560326	25-Jun-16	STAPLES ADVANTAGE	'AAA' BATTERIES	01-13-15-7312	10.57
01048		9767935983 GF	01-Jul-16	VERIZON WIRELESS	HOT SPOT-JUNE 2016	01-13-15-6253	40.01
						Sum of Invoices	50,866.62

CITY OF CREVE COEUR
ACCOUNTS PAYABLE LISTING

7/18/2016

COMMUNITY SERVICES

Vendor Number	Purchase Order	Invoice Number	Invoice Date	Vendor Name	Description	GL Account	Invoice Amount
02142	P002459	16333	27-Jun-16	CITY OF BRENTWOOD	SOUND STAGE RENTAL	01-14-11-6266	800.00
02406		1555	08-Jun-16	ST. LOUIS AREA INSURANCE TRUST	FY 17 WORKS COMP INS	01-14-11-5243	51.88
						Sum of Invoices	851.88

CITY OF CREVE COEUR
ACCOUNTS PAYABLE LISTING

7/18/16

ICE ARENA

Vendor Number	Purchase Order	Invoice Number	Invoice Date	Vendor Name	Description	GL Account	Invoice Amount
01550		311251009	28-Jun-16	ARAMARK UNIFORM SERVICES	MOB RENTAL (6/28/16)	06-14-31-7301	1.56
01550		311251009	28-Jun-16	ARAMARK UNIFORM SERVICES	UNIFORM RENTAL (6/28/16)	06-14-31-7308	4.35
00014		0136635 7/16	23-Jun-16	CHARTER COMMUNICATIONS	SERVICE-DIELMANN-JULY 2016	06-14-31-6255	172.28
00164		056350	24-Mar-16	NEW SYSTEM CARPET & BUILDING CARE LTD.	HAND TOWELS	06-14-31-7301	38.03
02406		1555 EF	08-Jun-16	ST. LOUIS AREA INSURANCE TRUST	FY 17 WORKERS COMP INS.	06-14-31-5243	3,284.32
00711		356245599	15-Jun-16	TERMINIX	PEST CONTROL SERVICE	06-14-31-6212	36.50
01048		9767935983 EF	01-Jul-16	VERIZON WIRELESS	CELL PHONE-JUNE 2016	06-14-31-6253	52.34
						Sum of Invoices	3,589.38

CITY OF CREVE COEUR
ACCOUNTS PAYABLE LISTING

7/18/16

GOLF MAINTENANCE

Vendor Number	Purchase Order	Invoice Number	Invoice Date	Vendor Name	Description	GL Account	Invoice Amount
01415		INV0019287	30-Jun-16	GREENSPRO, INC.	FERTILIZER	06-14-32-7303	440.00
02402		6219-287252	02-Jul-16	HANDY AUTOMOTIVE	PARTS TO REPAIR AIR HOSE	06-14-32-6210	10.19
00042		162861	05-Jul-16	MPR SUPPLY	IRRIGATION PARTS	06-14-32-6212	41.39
00927		901994168	27-Jun-16	NORTHERN SAFETY CO., INC.	WORK GLOVES, RAINSUITS, ETC	06-14-32-7308	250.17
00970		1388-194169	01-Jul-16	O'REILLY AUTO PARTS	BRAKE PARTS TRK 103	06-14-32-6210	7.49
00970		1388-193885	29-Jun-16	O'REILLY AUTO PARTS	BRAKE PARTS TRK 103	06-14-32-6210	26.64
02406		1555 EF	08-Jun-16	ST. LOUIS AREA INSURANCE TRUST	FY 17 WORKERS COMP INS.	06-14-32-5243	977.00
00173		IN135771	06-Jul-16	SUPREME TURF PRODUCTS	WETTING AGENT FOR GREENS	06-14-32-7303	585.00
00173		IN135822	06-Jul-16	SUPREME TURF PRODUCTS	DACONIL ACTING & PRIMO MAXX	06-14-32-7303	670.00
00173		IN131441	02-Dec-15	SUPREME TURF PRODUCTS	SECURE FUNGICIDE	06-14-32-7303	599.00
00173		IN131440	02-Dec-15	SUPREME TURF PRODUCTS	DACONIL ACTION FUNGICIDE	06-14-32-7303	380.00
						Sum of Invoices	3,986.88

CITY OF CREVE COEUR
ACCOUNTS PAYABLE LISTING

7/18/16

PRO SHOP

Vendor Number	Purchase Order	Invoice Number	Invoice Date	Vendor Name	Description	GL Account	Invoice Amount
00014		0136635 7/16	23-Jun-16	CHARTER COMMUNICATIONS	SERVICE-DIELMANN-JULY 2016	06-14-33-6255	73.84
02691		400008	01-Jul-16	LEGENDARY MARKETING	GOLF WEBSITE	06-14-33-6260	297.00
02695		2538	01-Jul-16	LOUISVILLE COMPUTER GUYS, INC.	TEE TIME SHEETS	06-14-33-6260	100.00
02666	P002487	CCGC 2016 7-CONS	01-Jul-16	SMITH & MITCHELL GOLF MANAGEMENT LLC	CONSULTING FEE-JULY 2016	06-14-33-6203	2,000.00
02666	P002487	CCGC 2016 8-CONS	01-Aug-16	SMITH & MITCHELL GOLF MANAGEMENT LLC	CONSULTING FEE-AUGUST 2016	06-14-33-6203	2,000.00
02406		1555 EF	08-Jun-16	ST. LOUIS AREA INSURANCE TRUST	FY 17 WORKERS COMP INS.	06-14-33-5243	87.04
00711		356245599	15-Jun-16	TERMINIX	PEST CONTROL SERVICE	06-14-33-6212	36.50
02697		IN1155290	22-Jun-16	U.S. KIDS GOLF	PGA FAMILY TEE BOXES	06-14-33-7304	321.80
						Sum of Invoices	4,916.18

CITY OF CREVE COEUR
ACCOUNTS PAYABLE LISTING

7/18/16

SNACK BAR

Vendor Number	Purchase Order	Invoice Number	Invoice Date	Vendor Name	Description	GL Account	Invoice Amount
02406		1555 EF	08-Jun-16	ST. LOUIS AREA INSURANCE TRUST	FY 17 WORKERS COMP INS.	06-14-34-5243	7.49
01550		311251009	28-Jun-16	ARAMARK UNIFORM SERVICES	WIPING TOWELS (6/2/16)	06-14-34-7301	3.63
02684		1020541021	24-Jun-16	TROVERCO, INC.	SANDWICHES FOR RESALE	06-14-34-8315	86.36
02685		1955	11-Jul-16	MJ BEVOLUTION	BEER FOR RESALE	06-14-34-8316	52.00
00080		1861-119-5	11-Jul-16	DIERBERGS	BEER FOR RESALE	06-14-34-8316	205.49
00080		1545-121-5	01-Jul-16	DIERBERGS	BEER FOR RESALE	06-14-34-8316	196.90
01491		64098805	12-Jul-16	FARMER BROS. COFFEE	COFFEE FOR RESALE	06-14-34-8317	123.70
00084		3868342236	30-Jun-16	COCA-COLA	SODA FOR RESALE	06-14-34-8317	487.92
01471		01040	11-Jul-16	RL MUELLER NATIONAL DIST., INC.	SHACKS FOR RESALE	06-14-34-8319	270.12
						Sum of Invoices	1,433.61

CITY OF CREVE COEUR
ACCOUNTS PAYABLE LISTING

7/18/16

BUILDING MAINTENANCE

Vendor Number	Purchase Order	Invoice Number	Invoice Date	Vendor Name	Description	GL Account	Invoice Amount
01550		311300640	12-Jul-16	ARAMARK UNIFORM SERVICES	UNIFORM RENTAL (7/12/16)	01-16-11-7308	4.38
01550		311275824	05-Jul-16	ARAMARK UNIFORM SERVICES	UNIFORM RENTAL (7/5/16)	01-16-11-7308	4.38
02056		907299012-165	01-Jul-16	CORVUS JANITORIAL SYSTEMS	CLEANING SERVICE-JULY 2016	01-16-11-6212	2,207.00
02056	P002194	606299012-164	01-Jun-16	CORVUS JANITORIAL SYSTEMS	CLEANING SERVICE-JUNE 2016	01-16-11-6212	2,207.00
00117		5020422	12-Jul-16	HOME DEPOT	SMALL TOOLS FOR MAINT.	01-16-11-7302	23.52
00496		3162609	12-Jul-16	O J LAUGHLIN PLUMBING COMPANY INC	REPAIR WATER PIPE NEAR GYM	01-16-11-6212	425.77
02406		1555	08-Jun-16	ST. LOUIS AREA INSURANCE TRUST	FY 17 WORKS COMP INS	01-16-11-5243	1,428.89
00087		58224	27-Jun-16	SYSTEMAIRE	REPAIRS TO HEAT PUMP #8	01-16-11-6212	220.00
01048		9767935983 GF	01-Jul-16	VERIZON WIRELESS	CELL PHONES - JUNE 2016	01-16-11-6253	32.47
00054		02353879	07-Jul-16	WALTER KNOLL FLORIST	ATRIUM FLORAL SVC-AUG 2016	01-16-11-6212	80.00
						Sum of Invoices	6,633.41

CITY OF CREVE COEUR
ACCOUNTS PAYABLE LISTING

7/18/16

POLICE-ADMIN

Vendor Number	Purchase Order	Invoice Number	Invoice Date	Vendor Name	Description	GL Account	Invoice Amount
01068		AR88488	29-Jun-16	DNT	QTRLY REC ROOM COPIER MAINTENA	01-21-11-6213	151.22
00234		450260	30-Jun-16	ED. ROEHR SAFETY PRODUCTS	CONSOLE, ARMREST, CUPHOLDER	01-21-11-6210	437.64
00234		450237	30-Jun-16	ED. ROEHR SAFETY PRODUCTS	ERERGENCY LIGHTS FOR CAR 2402	01-21-11-6210	264.75
00053		343071	05-Jul-16	MERCY CORPORATE HEALTH	PRE-EMPLOYMENT EXAM-LOWERY	01-21-11-6271	480.00
00053		344861	05-Jul-16	MERCY CORPORATE HEALTH	PRE-EMPLOYMENT EXAM-MOORE	01-21-11-6271	480.00
00053		343072	05-Jul-16	MERCY CORPORATE HEALTH	PRE-EMPLOYMENT EXAM-GRANDSTAFF	01-21-11-6271	530.00
02094		812HP027M52506	08-Jul-16	MISSOURI STATE HIGHWAY PATROL	(1) CRIMINAL RECORD SEARCH	01-21-11-6203	12.00
00045		845871936001	22-Jun-16	OFFICE DEPOT-BUSINESS DIV	CONF ROOM TABLE-CHIEF	01-21-11-9501	239.98
00116		2850	06-Jul-16	SAM'S CLUB	(3) 4-PKS DISINFECTANT WIPES	01-21-11-6271	26.94
00116		2850	06-Jul-16	SAM'S CLUB	WATER AND POWERADE DRINKS	01-21-11-7304	15.86
00116		2850	06-Jul-16	SAM'S CLUB	KLEENEX FOR PRISONER/WITNESS	01-21-11-7308	14.76
00332	P002464	012916	29-Jan-16	ST LOUIS COUNTY AND MUNICIPAL POLICE ACADEMY	3 COMMISSIONED OFFICER'S	01-21-11-6261	450.00
00092		87049	11-Jul-16	ST LOUIS COUNTY TREASURER	CARE CONTRACT FOR JULY	01-21-11-6202	23.91
02406		1555	08-Jun-16	ST. LOUIS AREA INSURANCE TRUST	FY 17 WORKS COMP INS	01-21-11-5243	6,145.57
01048		9768188517	04-Jul-16	VERIZON WIRELESS	MOBILE BROADBAND JUNE 2016	01-21-11-6253	40.01
01048		9767935983 GF	01-Jul-16	VERIZON WIRELESS	CELL PHONES - JUNE 2016	01-21-11-6253	104.68
						Sum of Invoices	9,417.32

CITY OF CREVE COEUR
ACCOUNTS PAYABLE LISTING

7/18/16

POLICE-INVESTIGATIONS

Vendor Number	Purchase Order	Invoice Number	Invoice Date	Vendor Name	Description	GL Account	Invoice Amount
02119		233719	13-Jul-16	DAVE SINCLAIR LINCOLN-MERCURY, INC.	CAR 2426 REPLACE LF ABS SENSOR	01-21-21-6210	411.14
01358	P002466	236111	01-May-16	LEADS ONLINE	ANNUAL LEADS ONLINE TOTAL TRAC	01-21-21-6202	792.00
00125		376885	20-May-16	LEON UNIFORM	UNIFORM ITEMS FOR NEW DETECT.	01-21-21-5107	282.99
01228		1432814-20160630	30-Jun-16	LEXISNEXIS	JUNE 2016 2 USER FEES	01-21-21-6202	180.84
00116		2850	06-Jul-16	SAM'S CLUB	(2) 100-PKS DVD'S	01-21-21-7304	39.94
00332	P002465	063016	30-Jun-16	ST LOUIS COUNTY AND MUNICIPAL POLICE ACADEMY	7 COMMISSIONED OFFICRE'S	01-21-21-6261	1,050.00
02406		1555	08-Jun-16	ST. LOUIS AREA INSURANCE TRUST	FY 17 WORKS COMP INS	01-21-21-5243	8,929.58
01048		9767935983 GF	01-Jul-16	VERIZON WIRELESS	CELL PHONES - JUNE 2016	01-21-21-6253	162.15
						Sum of Invoices	11,848.64

CITY OF CREVE COEUR
ACCOUNTS PAYABLE LISTING

7/18/16

POLICE-PATROL

Vendor Number	Purchase Order	Invoice Number	Invoice Date	Vendor Name	Description	GL Account	Invoice Amount
01821		6076810	12-Jul-16	ALL STAR DODGE CHRYSLER JEEP	CAR 2405 3000 MILE SVS	01-21-22-6210	39.86
00681	P002477	SI-106218	14-Jul-16	DATA911	EXTENDED WARRANTY-11 DISPLAYS	01-21-22-6211	1,749.00
00681	P002477	SI-106218	14-Jul-16	DATA911	EXTENDED WARRANTY-10 CPU'S	01-21-22-6211	1,192.50
00681		115690	06-Mar-15	DATA911	CREDITS ON ACCOUNT	01-21-22-6211	(530.40)
02119		233766	14-Jul-16	DAVE SINCLAIR LINCOLN-MERCURY, INC.	CAR 2408 3000 ML SVS, HEADLIGH	01-21-22-6210	104.48
02119		233752	14-Jul-16	DAVE SINCLAIR LINCOLN-MERCURY, INC.	CAR 2409 3000 ML SVS, BRAKES	01-21-22-6210	257.85
02119		233666	11-Jul-16	DAVE SINCLAIR LINCOLN-MERCURY, INC.	CAR 2406 3000 MILE SERVICE	01-21-22-6210	42.95
02119		233690	12-Jul-16	DAVE SINCLAIR LINCOLN-MERCURY, INC.	CAR 2424 3000 MILE SERVICE	01-21-22-6210	42.95
02119		233353	30-Jun-16	DAVE SINCLAIR LINCOLN-MERCURY, INC.	CAR 2412 3000 MILE SERVICE	01-21-22-6210	55.45
00095		306286	13-Jul-16	DOBBS TIRE & AUTO	(1) TIRE	01-21-22-6210	117.92
00095		306083	29-Jun-16	DOBBS TIRE & AUTO	(4) TIRES	01-21-22-6210	498.92
00234		450675	12-Jul-16	ED. ROEHR SAFETY PRODUCTS	UNIFORM ITEMS FOR BRYAN LOWERY	01-21-22-5107	194.72
00234		450218	30-Jun-16	ED. ROEHR SAFETY PRODUCTS	(3) PARTS FOR CHARGER CHANGEOV	01-21-22-6210	28.47
01664	P002461	20122	07-Jul-16	ELSAG NORTH AMERICA	2-YEAR SOFTWARE WARRANTY COVER	01-21-22-6211	1,890.50
00125		381100-01	01-Jul-16	LEON UNIFORM	RANGE UNIFORM FOR SCHNEIDER	01-21-22-5107	104.30
00125		382131	27-Jun-16	LEON UNIFORM	UNIFORM FOR RESERVE OFFICER	01-21-22-5107	104.00
00125		382135-90	30-Jun-16	LEON UNIFORM	UNIFORM ITEMS	01-21-22-5107	176.00
02664		IN220908	24-Jun-16	NORTH AMERICAN RESCUE, LLC	(7) CELOX GAUGE DRESSING	01-21-22-7302	195.50
00332	P002470	070116	30-Jun-16	ST LOUIS COUNTY AND MUNICIPAL POLICE ACADEMY	1 RESERV OFFICER'S MEMBERSHIP	01-21-22-6261	150.00
00332	P002470	070116	30-Jun-16	ST LOUIS COUNTY AND MUNICIPAL POLICE ACADEMY	41 COMMISSIONED OFFICRE'S	01-21-22-6261	6,150.00
02406		1555	08-Jun-16	ST. LOUIS AREA INSURANCE TRUST	FY 17 WORKS COMP INS	01-21-22-5243	49,539.81
01048		9767935983 GF	01-Jul-16	VERIZON WIRELESS	CELL PHONES - JUNE 2016	01-21-22-6253	186.55
						Sum of Invoices	62,291.33

CITY OF CREVE COEUR
ACCOUNTS PAYABLE LISTING

7/18/16

PUBLIC WORKS

Vendor Number	Purchase Order	Invoice Number	Invoice Date	Vendor Name	Description	GL Account	Invoice Amount
02406		1555	08-Jun-16	ST. LOUIS AREA INSURANCE TRUST	FY 17 WORKS COMP INS	01-31-11-5243	1,331.48
01048		9767935983 GF	01-Jul-16	VERIZON WIRELESS	CELL PHONES - JUNE 2016	01-31-11-6253	317.80
						Sum of Invoices	1,649.28

CITY OF CREVE COEUR
ACCOUNTS PAYABLE LISTING

7/18/16

STREETS

Vendor Number	Purchase Order	Invoice Number	Invoice Date	Vendor Name	Description	GL Account	Invoice Amount
00647		363499-1	11-Jul-16	ANGO KERNAN RENTALS & SALES	TIPPER RENTAL FOR LADUE SDEWLK	01-31-41-6266	17.00
00647		363499-1	11-Jul-16	ANGO KERNAN RENTALS & SALES	TIPPER RENTAL FOR LADUE SDEWLK	01-31-41-7305	129.00
01550		311300638	12-Jul-16	ARAMARK UNIFORM SERVICES	MOP RENTAL (7/12/16)	01-31-41-6212	4.19
01550		311275822	05-Jul-16	ARAMARK UNIFORM SERVICES	MOP RENTAL (7/5/16)	01-31-41-6212	4.19
01550		311300638	12-Jul-16	ARAMARK UNIFORM SERVICES	UNIFORM RENTAL (7/12/16)	01-31-41-7308	72.55
01550		311275822	05-Jul-16	ARAMARK UNIFORM SERVICES	UNIFORM RENTAL (7/5/16)	01-31-41-7308	65.41
00102		116533	29-Jun-16	BEYERS LUMBER	CONCRETE FOR SHOP STOCK	01-31-41-7305	99.80
00712		P57824	23-Jun-16	BOBCAT COMPANY	NEW BRUSHES FOR BROOM	01-31-41-6211	273.34
00010		0985827	01-Jul-16	BRANNEKY HARDWARE	PARTS FOR BRIDGE DECK IRRIGAT	01-31-41-6211	57.36
00010		0985968	08-Jul-16	BRANNEKY HARDWARE	SAFETY CHAIN FOR VERMEER CHIPP	01-31-41-6211	14.97
00010		0986111	08-Jul-16	BRANNEKY HARDWARE	THERMOSTATE FOR PW GARAGE OFF.	01-31-41-6212	47.99
00295		3302111	29-Jun-16	CARDIAC SCIENCE	0131416271	01-31-41-6271	186.75
02646	P002356	00001	22-Jun-16	CBB	1 YEAR TRAFFIC SIGNAL SERVICE	01-31-41-6251	3,370.80
00099		1417840	30-Jun-16	CEEKAY SUPPLY	WELDING GAS/TANKS	01-31-41-7307	52.01
00843		1027650	17-Jun-16	CHART DISTRIBUTION GROUP	5W30 ULTIM DURA SYN OIL	01-31-41-6211	196.37
00826		2321444	24-Jun-16	CREST INDUSTRIES, INC.	VEHICLE REPAIR PARTS	01-31-41-6210	49.07
00826		2320192	17-Jun-16	CREST INDUSTRIES, INC.	VALVE STEM, GREASE FITTING	01-31-41-6210	23.81
00826		2324070	12-Jul-16	CREST INDUSTRIES, INC.	MECHANICS TOOLS	01-31-41-7302	447.40
00049		0000038953	01-Jul-16	EMPLOYEE STAFFING GROUP	TEMP PERSONNEL W/E 6/26/16	01-31-41-6207	1,915.39
00127		162542	14-Jul-16	ERB EQUIPMENT COMPANY	BUCKET BLADE BOLTS/NUTS	01-31-41-6211	22.41
00023		562341	06-Jul-16	FRED WEBER	MICRO PREP-MARTIN GROVE	01-31-41-7305	276.65
00023		561791	01-Jul-16	FRED WEBER	ASPHALT-PATCH MARTIN GROVE	01-31-41-7305	165.55
00023		561160	29-Jun-16	FRED WEBER	ASPHALT FOR BALCON ESTATES	01-31-41-7305	218.90
02402		6219-288178	11-Jul-16	HANDY AUTOMOTIVE	AIR FILTERS FOR TRK 210	01-31-41-6210	43.06
02402		6219-288180	11-Jul-16	HANDY AUTOMOTIVE	FILTERS/FLUIDS FOR TRK 105	01-31-41-6210	63.43
02402		6219-287730	07-Jul-16	HANDY AUTOMOTIVE	BOLTS FOR TRK 312	01-31-41-6210	5.13
02402		6219-287891	08-Jul-16	HANDY AUTOMOTIVE	PARTS FOR CHIPPER 605	01-31-41-6211	37.68
00117		3023302	24-Jun-16	HOME DEPOT	WEED KILLER FOR TAPPMEYER	01-31-41-6212	66.75
02659		0347-000191498	30-Jun-16	JOHNNY ON THE SPOT #347	2 EA RENTAL UNITS	01-31-41-6266	82.11
00789		26857	01-Jul-16	K&K SUPPLY	POISON IVY SKIN TOWELS	01-31-41-6271	94.46
00789		24829	17-Jun-16	K&K SUPPLY	SKIN TOWELS FOR POISON IVY	01-31-41-7301	42.50
01080		61474	21-Jun-16	KUT-RITE	PARTS FOR SIDEWALK GRINDER	01-31-41-6211	50.29
00215	P002452	12173.	30-Jun-16	LANDESIGN, LLC/MULCH-TECH	170 CY MULCH	01-31-41-6212	6,345.00
00042		163090	07-Jul-16	MPR SUPPLY	IRR. PARTS-270 BRIDGE DECK	01-31-41-6212	77.77
00411		106926	01-Jul-16	N.B. WEST CONTRACTING CO.	COLD MIX FOR PATCHING	01-31-41-7305	330.05

CITY OF CREVE COEUR
ACCOUNTS PAYABLE LISTING

STREETS

Vendor Number	Purchase Order	Invoice Number	Invoice Date	Vendor Name	Description	GL Account	Invoice Amount
00165		TI-0299333	28-Jun-16	NEWMAN TRAFFIC SIGNS	SIGN PARTS	01-31-41-7311	106.80
00355		98426	02-Jul-16	ONTIME EXPRESS, INC.	COURIER SVC-TERMINATION LTR	01-31-41-6207	18.69
00970		1852-429839	05-Aug-14	O'REILLY AUTO PARTS	EQUIPMENT GREASE	01-31-41-6211	23.23
00970		6601947	05-Aug-14	O'REILLY AUTO PARTS	CREDIT MEMO-PART RETURN	01-31-41-6211	(9.74)
00970		1388-194167	01-Jul-16	O'REILLY AUTO PARTS	SPINDLE NUT SOCKETS	01-31-41-7302	89.99
00047		P25646	30-Jun-16	PAT KELLY EQUIPMENT	2" HOSE WASHERS	01-31-41-6211	5.17
00047		E07843	06-Jul-16	PAT KELLY EQUIPMENT	KOSHIN KTG-50X 2" TRASH PUMP	01-31-41-6211	770.25
00092		86980	07-Jul-16	ST LOUIS COUNTY TREASURER	CONCRETE TESTING	01-31-41-6202	66.00
00692		555265	17-Jun-16	ST LOUIS SAFETY, INC.	GLOVES	01-31-41-7308	94.50
00692		555218	16-Jun-16	ST LOUIS SAFETY, INC.	SAFETY GLASSES, GLOVES	01-31-41-7308	32.61
00692		555800	08-Jul-16	ST LOUIS SAFETY, INC.	SAFETY VESTS/GLOVES	01-31-41-7308	95.17
02406		1555	08-Jun-16	ST. LOUIS AREA INSURANCE TRUST	FY 17 WORKS COMP INS	01-31-41-5243	17,561.74
00270		30955-00	22-Jun-16	TERMINAL SUPPLY CO.	MOUNTING BRACKET FOR TRK 106	01-31-41-6210	17.16
02459	P002442	60642	01-Jul-16	THE DESIGN LOFT COMPANY	BANNERS FOR STREET POLES	01-31-41-6212	2,268.00
00593	P002365	10994	25-Jun-16	THE GREENWOOD GROUP LLC	R.O.W. SVC-JUNE 2016-OVER PO A	01-31-41-6212	320.00
00593	P002365	10994	25-Jun-16	THE GREENWOOD GROUP LLC	R.O.W. SERVICE-JUNE 2016	01-31-41-6212	1,260.00
00593	P002369	10992	25-Jun-16	THE GREENWOOD GROUP LLC	GROUNDS MAINT-JUNE 2016	01-31-41-6212	2,455.00
01882		814506	08-Jul-16	VANGUARD TRUCK CENTER OF ST. LOUIS	HOSE FOR TRK 312	01-31-41-6210	88.98
01882		CM800536	19-Feb-16	VANGUARD TRUCK CENTER OF ST. LOUIS	CREDIT MEMO	01-31-41-6210	(152.76)
01882		814641	12-Jul-16	VANGUARD TRUCK CENTER OF ST. LOUIS	EXHAUST PIPE/GASKET TRK 312	01-31-41-6210	135.53
01882		814414	07-Jul-16	VANGUARD TRUCK CENTER OF ST. LOUIS	PARTS FOR TRK 312	01-31-41-6210	18.31
01048		9767935983 GF	01-Jul-16	VERIZON WIRELESS	CELL PHONES - JUNE 2016	01-31-41-6253	84.77
						Sum of Invoices	40,298.54

CITY OF CREVE COEUR
ACCOUNTS PAYABLE LISTING

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HEALTH & WELFARE

Vendor Number	Purchase Order	Invoice Number	Invoice Date	Vendor Name	Description	GL Account	Invoice Amount
00105	P002299	346018220403	20-Jun-16	REPUBLIC SERVICES	CONDO SERVICE-JUNE 2016	01-31-42-6214	1,842.50
00105	P002299	0346-018201404	15-Jun-16	REPUBLIC SERVICES	RESIDENTIAL SERVICE-JUNE 2016	01-31-42-6214	71,314.85
01048		9767935983 GF	01-Jul-16	VERIZON WIRELESS	CELL PHONES - JUNE 2016	01-31-42-6253	32.43
						Sum of Invoices	73,189.78

CITY OF CREVE COEUR
ACCOUNTS PAYABLE LISTING

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PARKS

Vendor Number	Purchase Order	Invoice Number	Invoice Date	Vendor Name	Description	GL Account	Invoice Amount
01550		311300638	12-Jul-16	ARAMARK UNIFORM SERVICES	UNIFORM RENTAL (7/12/16)	01-31-43-7308	24.18
01550		311275822	05-Jul-16	ARAMARK UNIFORM SERVICES	UNIFORM RENTAL (7/5/16)	01-31-43-7308	21.80
00712		P57824	23-Jun-16	BOBCAT COMPANY	NEW BRUSHES FOR BROOM	01-31-43-6211	91.12
00010		0985827	01-Jul-16	BRANNEKY HARDWARE	PARTS FOR BRIDGE DECK IRRIGAT	01-31-43-6211	19.12
00010		0985968	08-Jul-16	BRANNEKY HARDWARE	SAFETY CHAIN FOR VERMEER CHIPP	01-31-43-6211	4.99
00010		0986159	13-Jul-16	BRANNEKY HARDWARE	PARKS SUPPLIES	01-31-43-6212	71.95
00295		3302111	29-Jun-16	CARDIAC SCIENCE	0131436271	01-31-43-6271	62.25
00099		1417840	30-Jun-16	CEEKAY SUPPLY	WELDING GAS/TANKS	01-31-43-7307	17.34
00843		1027650	17-Jun-16	CHART DISTRIBUTION GROUP	5W30 ULTIM DURA SYN OIL	01-31-43-6211	65.46
00826		2321444	24-Jun-16	CREST INDUSTRIES, INC.	VEHICLE REPAIR PARTS	01-31-43-6210	16.38
00826		2320192	17-Jun-16	CREST INDUSTRIES, INC.	VALVE STEM, GREASE FITTING	01-31-43-6210	7.94
00826		2320737	21-Jun-16	CREST INDUSTRIES, INC.	CAN LINERS, DEODORIZERS	01-31-43-6212	368.28
00049		0000038953	01-Jul-16	EMPLOYEE STAFFING GROUP	TEMP PERSONNEL W/E 6/26/16	01-31-43-6207	638.47
00127		162542	14-Jul-16	ERB EQUIPMENT COMPANY	BUCKET BLADE BOLTS/NUTS	01-31-43-6211	7.47
02402		6219-288178	11-Jul-16	HANDY AUTOMOTIVE	AIR FILTERS FOR TRK 210	01-31-43-6210	14.36
02402		6219-288180	11-Jul-16	HANDY AUTOMOTIVE	FILTERS/FLUIDS FOR TRK 105	01-31-43-6210	21.15
02402		6219-287730	07-Jul-16	HANDY AUTOMOTIVE	BOLTS FOR TRK 312	01-31-43-6210	1.71
02402		6219-287891	08-Jul-16	HANDY AUTOMOTIVE	PARTS FOR CHIPPER 605	01-31-43-6211	12.56
00117		3023302	24-Jun-16	HOME DEPOT	FENCE REPAIR-BEIRNE PARK	01-31-43-6224	34.97
00117		5051695	26-Jun-16	HOME DEPOT	SMALL TOOLS	01-31-43-7302	10.52
02659		0347-000191498	30-Jun-16	JOHNNY ON THE SPOT #347	2 EA RENTAL UNITS	01-31-43-6266	82.11
00789		24829	17-Jun-16	K&K SUPPLY	SKIN TOWELS FOR POISON IVY	01-31-43-7301	42.51
01080		61474	21-Jun-16	KUT-RITE	PARTS FOR SIDEWALK GRINDER	01-31-43-6211	16.76
00215	P002453	12173	30-Jun-16	LANDESIGN, LLC/MULCH-TECH	75 CY MULCH	01-31-43-6212	3,525.00
00042		I161576	20-Jun-16	MPR SUPPLY	PARTS FOR SPLASH PAD	01-31-43-6212	111.63
00970		1852-429839	05-Aug-14	O'REILLY AUTO PARTS	EQUIPMENT GREASE	01-31-43-6211	7.75
00970		6601947	05-Aug-14	O'REILLY AUTO PARTS	CREDIT MEMO-PART RETURN	01-31-43-6211	(3.25)
00047		P25646	30-Jun-16	PAT KELLY EQUIPMENT	2" HOSE WASHERS	01-31-43-6211	1.73
00047		E07843	06-Jul-16	PAT KELLY EQUIPMENT	KOSHIN KTG-50X 2" TRASH PUMP	01-31-43-6211	256.75
00692		555265	17-Jun-16	ST LOUIS SAFETY, INC.	GLOVES	01-31-43-7308	31.50
00692		555218	16-Jun-16	ST LOUIS SAFETY, INC.	SAFETY GLASSES, GLOVES	01-31-43-7308	10.87
00692		555800	08-Jul-16	ST LOUIS SAFETY, INC.	SAFETY VESTS/GLOVES	01-31-43-7308	31.73
02406		1555	08-Jun-16	ST. LOUIS AREA INSURANCE TRUST	FY 17 WORKS COMP INS	01-31-43-5243	2,661.81
00173		IN135587	28-Jun-16	SUPREME TURF PRODUCTS	CHEMICALS FOR PARKS	01-31-43-7301	395.00
00173		IN135347	17-Jun-16	SUPREME TURF PRODUCTS	CHEMICALS FOR CONWAY LAKE	01-31-43-7301	205.00

CITY OF CREVE COEUR
ACCOUNTS PAYABLE LISTING

7/18/16

PARKS

Vendor Number	Purchase Order	Invoice Number	Invoice Date	Vendor Name	Description	GL Account	Invoice Amount
00270		30955-00	22-Jun-16	TERMINAL SUPPLY CO.	MOUNTING BRACKET FOR TRK 106	01-31-43-6210	5.72
00593	P002370	10993	25-Jun-16	THE GREENWOOD GROUP LLC	PARKS MAINT-JUNE 2016	01-31-43-6212	5,152.00
01882		814506	08-Jul-16	VANGUARD TRUCK CENTER OF ST. LOUIS	HOSE FOR TRK 312	01-31-43-6210	29.66
01882		CM800536	19-Feb-16	VANGUARD TRUCK CENTER OF ST. LOUIS	CREDIT MEMO	01-31-43-6210	(50.92)
01882		814641	12-Jul-16	VANGUARD TRUCK CENTER OF ST. LOUIS	EXHAUST PIPE/GASKET TRK 312	01-31-43-6210	45.18
01882		814414	07-Jul-16	VANGUARD TRUCK CENTER OF ST. LOUIS	PARTS FOR TRK 312	01-31-43-6210	6.11
01394		7407	22-Jun-16	WATERWORKS INTERNATIONAL	KELLY NOZZLE FOR SPLASH PAD	01-31-43-6212	220.00
						Sum of Invoices	14,296.67

CITY OF CREVE COEUR
ACCOUNTS PAYABLE LISTING

7/18/16

COMMUNITY DEVELOPMENT - PLANNING

Vendor Number	Purchase Order	Invoice Number	Invoice Date	Vendor Name	Description	GL Account	Invoice Amount
00045		847362622001	29-Jun-16	OFFICE DEPOT-BUSINESS DIV	NAME PLATES-NEW COMM. MEMBERS	01-32-11-7304	21.58
02406		1555	08-Jun-16	ST. LOUIS AREA INSURANCE TRUST	FY 17 WORKS COMP INS	01-32-11-5243	255.92
01048		9767935983 GF	01-Jul-16	VERIZON WIRELESS	CELL PHONES - JUNE 2016	01-32-11-6253	144.69
						Sum of Invoices	422.19

CITY OF CREVE COEUR
ACCOUNTS PAYABLE LISTING

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COMMUNITY DEVELOPMENT - BUILDING

Vendor Number	Purchase Order	Invoice Number	Invoice Date	Vendor Name	Description	GL Account	Invoice Amount
02547		205563	06-Jul-16	NJC PRINTING	INSPECTION REQUEST FORMS	01-32-61-7304	444.15
02406		1555	08-Jun-16	ST. LOUIS AREA INSURANCE TRUST	FY 17 WORKS COMP INS	01-32-61-5243	10,011.48
01048		9768188517	04-Jul-16	VERIZON WIRELESS	INSPECTOR TABLETS JUNE 2016	01-32-61-6253	240.06
01048		9767935983 GF	01-Jul-16	VERIZON WIRELESS	CELL PHONES - JUNE 2016	01-32-61-6253	272.37
						Sum of Invoices	10,968.06

CITY OF CREVE COEUR
ACCOUNTS PAYABLE LISTING

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CAPITAL IMPROVEMENTS

Vendor Number	Purchase Order	Invoice Number	Invoice Date	Vendor Name	Description	GL Account	Invoice Amount
00880	P002457	PAY #1 GOLF DAM	30-Jun-16	INTUITION & LOGIC	ENGINEERING SVCS-GOLF DAM	02-61-71-9509-15525	3,056.25
00880	P002457	PAY #2 GOLF	15-Jul-16	INTUITION & LOGIC	DAM STAB. ENGINEERING SVC	02-61-71-9509-15525	5,007.50
01860	P002455	PAY #1 ALDEN	30-Jun-16	REITZ & JENS, INC.	ENGINEERING DESIGN SVC ALDEN C	02-61-71-9509-16525	8,644.72
01860	P002455	PAY #2 ALDEN	15-Jul-16	REITZ & JENS, INC.	LANE CULVERT DESIGN THRU 6/30/	02-61-71-9509-16525	21,766.99
02148	P002333	PAY #9 CDV	30-Jun-16	THOUVENOT, WADE & MOERCHEN, INC.	COEUR DE VILLE REHAP PROJ	02-61-71-9510-14720	6,736.17
						Sum of Invoices	45,211.63

Grand Total All Invoices 407,477.28

City Council
300 North New Ballas Rd
Creve-Coeur, MO 63141

SCHEDULED

ORDINANCE

Meeting: 07/25/16 07:00 PM
Department: Finance Department
Category: New Business
Prepared By: Sherry Hall
Department Head: Dan Smith

Bill No. 5604 - an Ordinance Amending the Adopted Fy 2017 Capital Fund Budget of the City of Creve Coeur by Authorizing Additional Appropriations and Unappropriations. First Reading

An Ordinance amending the adopted FY 2017 Capital Fund Budget of the City of Creve Coeur.

AN ORDINANCE AMENDING THE ADOPTED FY 2017 CAPITAL FUND BUDGET OF THECITY OF CREVE COEUR BY AUTHORIZING ADDITIONAL APPROPRIATIONS AND UNAPPROPRIATIONS

WHEREAS, REVENUES WERE ESTIMATED AND APPROPRIATIONS WERE AUTHORIZED IN THE FY 2017 CITY BUDGET ADOPTED ON JUNE 27, 2016 BY ORDINANCE NO. 5479 AND,

WHEREAS, IT IS IN THE INTEREST OF THE CITY OF CREVE COEUR TO AUTHORIZE ADDITIONAL APPROPRIATIONS TO PAY FOR UNBUDGETED AND UNANTICIPATED EXPENDITURES AND TO UNAPPROPRIATE ITEMS BUDGETED BUT NOT COMPLETED IN VARIOUS CATEGORIES AS PROVIDED IN THE CITY CHARTER AND THE CITY CODE AND,

WHEREAS, CERTAIN CAPITAL PROJECTS TOTALING $250,000 WERE DEFERRED FROM FY 2016 TO FY 2017.

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF CREVE COEUR AS FOLLOWS:

SECTION 1. THAT THE ANNUAL OPERATING BUDGET FOR THE CAPITAL FUND FY 2017 AS ADOPTED, IS HEREBY AMENDED BY AUTHORIZING ADDITIONAL APPROPRIATIONS IN THE AMOUNT OF $337,000 IN THE FOLLOWING PROJECTS.:

CAPITAL FUND	
CONCRETE STREET IMPROVEMENTS	$ 50,000
SIDEWALK IMPROVEMENTS	77,000
MICRO SURFACING IMPROVEMENTS	195,000
ROADWAY CONSTRUCTION	15,000
TOTAL ADDITIONAL APPROPRIATIONS-CAPITAL FUND	$ 337,000

SECTION 2. THAT THE ANNUAL OPERATING BUDGET FOR THE CAPITAL FUND FOR FY 2017 AS ADOPTED, IS HEREBY AMENDED BY AUTHORIZING ADDITIONAL UNAPPROPRIATIONS IN THE AMOUNT OF $87,000.

CAPITAL FUND		
ASPHALT IMPROVEMENTS$	87,000	
TOTAL ADDITIONAL UNAPPROPRIATIONS-CAPITAL FUND		$ 87,000

SECTION 3. THIS ORDINANCE SHALL BECOME EFFECTIVE PURSUANT TO PROVISIONS OF SECTION 3.11(G) OF THE CHARTER.

ADOPTED THIS ____________DAY OF ___________________2016.

____
ELLEN LAWRENCE
PRESIDENT OF CITY COUNCIL

APPROVED THIS ___________DAY OF ___________________2016.

BARRY GLANTZ
MAYOR

DEBORAH RYAN, CITY CLERK

DEPARTMENT OF PUBLIC WORKS
STAFF MEMORANDUM

DATE: July 20, 2016

TO: Dan Smith, Director of Finance

CC: Jim Heines, Director of Public Works

FROM: Matt Wohlberg, P.E., City Engineer

SUBJECT: Account Allocation and Adjustments *(Revised from 07/11/2016)*
FY2017 Capital Improvement Fund

Staff recommends a budget adjustment to modify the amount and allocation of a portion of the capital improvement fund related to street and sidewalk improvements to reflect the development of the Capital Improvement Plan (CIP) and to further refine the project listing.

Preliminary Budget Allocation
Staff provided an estimated allocation of the City's FY2017 pavement maintenance program budget in February as part of the development of the Capital Improvement Plan (CIP). This estimate was based upon the four typical accounts and was as follows:

Project	Preliminary Budget
17601 Asphalt Improvements	$ 450,000
17602 Concrete Improvements	$ 550,000
17603 Sidewalk Improvements	$ 133,000
17709 Roadway Reconstruction	$ 350,000
Total Pavement Maintenance Program	**$ 1,483,000**

Revised Budget Allocation Recommendation
Several developments have occurred since staff provided this estimate:

- Two projects from FY2016 were deferred to FY2017: Sidewalk improvements ($100,000) and Microsurfacing ($150,000).
- The pavement maintenance program recommendations for FY2017 were finalized in April. The staff memorandum to the City Administrator, dated April 7, 2016, detailing these recommendations is attached.
- Most of the pavement programs have been bid and awarded.
- There is a new desire to create a separate account for microsurfacing.

Staff recommends a revised allocation of the CIP to reflect and accommodate these developments. The various projects involved with each budget item are included below the main account.

Account 17601 – Asphalt Improvements

Asphalt Pavement Resurfacing Project	$	275,000
Pavement Striping	$	60,000
Materials for Public Works Staff Asphalt Work	$	23,000
Materials Testing	$	5,000
Total for 17601 Asphalt Improvements	$	363,000

Account 17602 – Concrete Roadway Improvements

Concrete Pavement Replacement Project	$	470,000
Concrete Replacement in Support of Asphalt Resurfacing	$	120,000
Materials for Public Works Staff Concrete Work	$	10,000
Total for 17602 Concrete Roadway Improvements	$	600,000

Account 17603 – Sidewalk Improvements

FY2016 Sidewalk Project	$	100,000
FY2017 Sidewalk Project	$	110,000
Total for 17603 Sidewalk Improvements	$	210,000

Account 17XXX – Microsurfacing **

FY2016 Microsurfacing Project	$	150,000
FY2017 Microsurfacing Project	$	45,000
Total for 17XXX Microsurfacing	$	195,000

** Account number to be determined.

Account 17709 – Roadway Reconstruction

FY2017 Reconstruction Project	$	340,000
Reconstruction Candidate Review	$	25,000
Total for 17709 Roadway Reconstruction	$	365,000

The total pavement maintenance budget is recommended to be $1,733,000, which is the original $1,483,000 plus the $250,000 budgeted for the two projects deferred from FY2016.

Details regarding the proposed projects are included in the attached staff memorandum.

Attachments: Staff memorandum, dated April 7, 2016, regarding Repair Location Recommendations – FY2017 Roadway Maintenance Program.

DEPARTMENT OF PUBLIC WORKS
STAFF MEMORANDUM

DATE: April 7, 2016

TO: Mark Perkins, City Administrator

CC: Jim Heines, Director of Public Works

FROM: Matt Wohlberg, P.E., City Engineer
Rich Beran, P.E., Civil Engineer

SUBJECT: Repair Location Recommendations
FY2017 Roadway Maintenance Program

The Department of Public Works proposes the roadway maintenance program outlined below for the 2017 fiscal year, much of which will be completed during the 2016 construction season. The proposed roadway maintenance program continues the City's typical concrete pavement replacement, roadway reconstruction, asphalt resurfacing, microsurfacing, and sidewalk programs. Two program from the 2016 fiscal year (sidewalk improvements and microsurfacing) are proposed to be moved into the 2017 fiscal year, along with the unused 2016 funding associated with these projects.

Pavement Condition Update

The City hired Infrastructure Management Services (IMS) to evaluate the pavement conditions for every City-maintained street. IMS completed its evaluation in January 2016. Although the final report for this evaluation is not yet available, IMS was able to provide preliminary data so that the updated condition information could be referenced during the development of the recommendations for FY2017.

Two aspects of the pavement data that are used in this report require some explanation:

1. PCI. The pavement condition index (PCI) for each street is developed based upon the number of cracks, potholes, and other defects that be seen. This index is on a scale of 0-100, where 100 represents perfect pavement with no problems.

2. Roughness Index. The amount of vertical change in the street is measured along its length, and this is converted into an index that reflects the level of discomfort a driver might experience by using that street. This index is on a scale of 0-100, where 100 represents a perfectly smooth street.

Roadway Selection

The City invests a significant portion of its annual budget on street and sidewalk maintenance and improvements. However, road and sidewalk work is expensive, and it would be impossible to make all needed repairs immediately. Therefore, this work must be prioritized. To this end, repair recommendations are based upon two goals:

1) to find the most impact for the money spent to perform the maintenance, and 2) to make repairs that improve the lives of the citizens of Creve Coeur.

To achieve the first goal, the number of motorists using the roadway, the cost of the repair, and the condition of the street are weighed for each street. The opportunity cost of not doing a repair should also be considered, and this is an important decision factor for roads that are on the verge of deteriorating to a point where a particular repair can no longer be effective, and thus becoming much more expensive to fix. The goal, therefore, is to perform the right repair on the right street at the right time.

The City has adopted a "neighborhood approach" for street repairs in an attempt to achieve the second goal. Where possible, streets within a subdivision are targeted so to improve as much of the pavement in that subdivision as possible within a span of one or several years. While this will mean that some of the streets addressed each year might be in better condition than a few others in the City, it will also mean that repairs are concentrated in an area for a short time rather than having these repairs performed piecemeal each (and perhaps every) year. The intent is to create a condition in which future repair needs are similar throughout each neighborhood, which has made planning easier and should continue to inconvenience the residents in each area for the least amount of time possible.

Concrete Pavement Replacement

Work involved in this program will include the removal and replacement of failed concrete pavement slabs, curbs, gutters, and sidewalks. New accessible pedestrian curb ramps will also be installed as needed near street repair locations.

The proposed concrete pavement replacement program is listed below, along with the current pavement condition index (PCI) and roughness index for each street with pavement replacement:

Pavement Slab Replacement

Street Name	PCI	Roughness Index
Conway Aire Drive	58	31
Camfield Square	46	39
Haverton Drive	67 *	42 *
Laduemont Drive	64 *	39 *
Mariners Pointe	72 *	51 *
Old Ballas Road	71	60
Royal Gate Drive	69	45
Royal Manor Drive	71 *	52 *
Royalwood Court	66	39
Sackston Woods Lane	70	74
Turrentine Trail	73	52

** Indicates an average condition rating for multiple street segments.*

Curbing Replacement

Balcon Estates Subdivision (cul de sac islands)
Chilton Lane
Beaver Drive at Havenview Court
Winfield Pointe Drive

These streets are proposed for one or several of the following reasons: pavement conditions, previous commitments, support of other projects, and future planning.

Pavement Conditions. City staff reviews the concrete pavement network at the end of each winter to prioritize the repair needs for concrete pavement and curbing. This year, the staff review was augmented by the IMS condition review. Aging, cracked, and broken pavement and curbing exists throughout the City in quantities that exceed what the City could afford to replace in any given year. Hazardous and potentially hazardous pavement and curbing failures have been given the highest priority in replacement, and all pavement identified as such is included in the proposed program.

- Local Failures and PCI. The pavement condition index (PCI) shown for each street represents the average condition for the entire street. One localized failure will lower the street's condition, but it might not make a big impact to the street's PCI. This is most true for longer streets. Local failures are most common on concrete streets where the conditions can vary from one slab to the next.

  Failed and potentially hazardous slabs have developed on Sackston Woods Lane, Turrentine Trail, and Royalwood Court. The proposed program expands beyond these few hazardous slabs to address other priority replacement needs for both of these streets. The proposed pavement replacement will significantly improve the condition of these streets and should eliminate the need for further repairs in the foreseeable future.

- Joint Deterioration. Spalling (i.e. deteriorating) joints present another problem for PCI. When patched, joint spalling is a relatively low-severity problem which will not significantly lower a street's PCI, particularly if the rest of the concrete slab is in good condition. Joint spalling along many of the concrete joints on a street can become a problem, not just for the number of slabs that are affected, but because the failure of one or two joint patches can change the pavement conditions overnight.

  Concrete slabs can be in very good condition except for their joints. Joint issues often impact adjacent slabs, spreading out the problem. Spalling can be addressed in several ways, but badly spalled joints should be cut out and replaced. If many of the street's joints have this problem, then the best long-term solution becomes full slab replacement. Unfortunately, the cost to replace much of the street is expensive and will seem disproportionate to the street's PCI.

- Roughness Index. The IMS investigation into the roughness of the City's streets offers an insight into the level of joint deterioration on concrete streets. A low (poor) roughness index on a street with a good PCI could indicate that the street has significant joint deterioration. Laduemont Drive is a good example of a street that is in this situation, and the repair recommendations for Laduemont Drive aim to make the street smoother, not just structurally sound.

Previous Commitments. The City began pavement replacements in the Royal Manor subdivision in 2014 following several years during which the City addressed only emergency concerns in that neighborhood to avoid conflicting with a sanitary sewer project by the Metropolitan St. Louis Sewer District (MSD). The proposed slab replacement along Royal Gate Drive and Royal Manor Drive will address the remaining issues in this neighborhood, which will conclude the four-year effort to improve streets in that subdivision.

Support for Other Projects and Future Planning. It is common that more than one type of project or approach is required or recommended to address the needs of a street or sidewalk.

This tends to occur with sidewalk projects that require street work (or vice versa) and with composite streets (i.e. concrete streets with an asphalt overlay).

- Sidewalk projects. Work is proposed on Laduemont Drive and Old Ballas Road, in part, to support sidewalk improvements along those streets.

- Asphalt resurfacing projects. Several composite streets are recommended for resurfacing in FY2017. These include Clarissa Drive, Sona Lane, and others, as listed above. Significant concrete pavement replacement is expected for these streets, based upon past experience, but it is rather difficult to know how much of the concrete base will need to be replaced for these streets until it is exposed during construction.

  The IMS investigation included measurement of the soundness of the concrete base for all of the City's composite streets. The concrete base of Sona Lane rated the worst among those proposed for resurfacing in FY2017, and staff expects to replace at least one third of the street's concrete in order to resurface it. However, the measurements of the base for the remaining composite streets (Clarissa, Phyllis, Renee, and Saucier) were consistent with quality concrete pavement. Staff has planned for extensive concrete replacement on these streets, but is hopeful that the concrete base for these streets will be in relatively good condition, as suggested by the IMS data.

  Curbing replacement along Winfield Point Drive is recommended in order to facilitate asphalt resurfacing for that street in FY2018.

- Microsurfacing projects. Staff proposes to replace the existing asphalt curb in the islands of the Balcon Estates subdivision and the island at the Chilton Lane cul de sac with concrete curb that will better withstand tires running it over. This work will help prepare these areas for upcoming microsurfacing projects.

Sidewalk Improvements

The City is obligated to continue improve the accessibility of its sidewalks. Accessibility improvements are typically made in conjunction with adjacent roadway projects.

Sidewalk improvements are proposed along Laduemont Drive, North New Ballas Road, Winfield Pointe Drive, and Old Ballas Road.

Laduemont Drive. The sidewalks along Laduemont Drive are the only continuous and publicly maintained sidewalks between Ladue Road and Conway Road in Creve Coeur west of New Ballas Road, making this sidewalk a priority to improve. The amount of sidewalk work required along Laduemont is too great to be included as one annual program, so staff recommends that this work gets divided and continued in FY2018.

North New Ballas Road. The public right of way and sidewalk easements that typically extend over the sidewalks along North New Ballas Road do not cover the entrance to the Carlyle Lake subdivision. City staff is working with the trustees and management of this private subdivision to extend the public right of way to include the pedestrian crossing here. In exchange for the right of way, staff recommends reconstructing the pedestrian crossing to be accessible.

The right of way at this entrance will be beneficial to the City the next time the City uses a federal grant to improve the adjacent portion of North New Ballas Road, as is anticipated in the next five years. The City would be required to obtain this right of way or a sidewalk easement for the pedestrian crossing as part of that project. Obtaining the right of way now allows this process to take place on the City's schedule.

Winfield Point Drive. This asphalt street was found to be in poor condition and should be resurfaced soon. Sidewalk and curbing improvements are proposed for FY2017 in order to prepare the street for resurfacing in FY2018.

Old Ballas Road. The sidewalks along Old Ballas Road from New Ballas Road to Emerson Road have numerous deficiencies and are not technically accessible. Staff proposed to improve these sidewalks as part of the FY2016 pavement maintenance program, but the City had inadequate bid participation for the project. Staff recommends to complete the project in FY2017, along with the sidewalk improvements to Laduemont Drive and North New Ballas Road.

Sidewalks Improvements through Federal Grants. Significant sidewalk improvements are included in two federal grant projects by the City and are expected to be constructed in FY2017.

- Coeur de Ville Rehabilitation Project. The City has been awarded a federal grant to improve the pavement and sidewalks along Coeur de Ville Drive. The project will include accessibility improvements for the length of Coeur de Ville Drive, from Ladue Road to Olive Boulevard. One of these improvements will be to add a crosswalk across Coeur de Ville at Olive Boulevard. Currently, this crosswalk is located approximately 200 feet south of Olive Boulevard.

  The Coeur de Ville project is expected to begin in late summer or early fall of 2016 and should take several months to complete.

- Emerson Sidewalk Improvement Project. The City has been awarded a federal grant to add a sidewalk along the east side of Emerson Road. This new sidewalk will extend from Ladue Road to Old Ballas Road. This project may begin as early as fall of 2016, but coordination and approvals for the project may require that it begin in the spring of 2017.

These projects are included as separate line items in FY2017 of the proposed capital improvement plan. This funding is separate from the annual roadway maintenance program.

Asphalt Resurfacing

The asphalt resurfacing program proposed for FY2017 involves several asphalt and composite streets along Olive Boulevard:

Street Name	PCI	Roughness Index
Bal Harbour Drive	57	42
Clarissa Drive	68	46
Deaver Avenue	51	58
Larkin Avenue	38	55
Park West Drive	45	47
Phyllis Lane	71	49
Renee Drive	51 *	61 *
Saucier Drive	64	36
Sona Lane	50	49
Tempo Drive (north of Olive)	62	55

** Indicates an average condition rating for multiple street segments.*

As discussed above for the concrete pavement replacement program, significant concrete repairs are expected to accommodate resurfacing the composite streets in the recommended program (i.e. Clarissa Drive, Phyllis Lane, Renee Lane, Saucier Drive, and Sona Lane). Sona Lane is the largest concern among these composite streets, as it is in the poorest condition among them.

The City maintains only a portion of Bal Harbour Drive, Park West Drive, and Tempo Drive, as these are located between Olive Boulevard and the north boundary of the City. Each of these sections is approximately 200 feet in length.

Olive Boulevard Resurfacing and Sidewalks (MoDOT). This resurfacing recommendation was delayed from last year to accommodate the current roadway and sidewalk improvements by the Missouri Department of Transportation along Olive Boulevard. Unfortunately, the MoDOT project was delayed by nearly one year, and now the projects will run concurrently. Staff expects that there will be minimal conflict between the two projects, because the MoDOT project will likely be finished in the area of the City's project by July, and the MoDOT project occurs almost exclusively at night. Therefore, staff does not feel that it will be necessary to continue to delay the recommended asphalt resurfacing to accommodate MoDOT's project on Olive.

Asphalt resurfacing through federal grants. The City maintains a section of Coeur de Ville Drive between Royal Valley Drive and the Parc Provence retirement community. Much of the pavement in this area has failed and will be replaced through a reconstruction and resurfacing project that is expected to begin in the summer or fall of 2016. Much of the funding for the Coeur de Ville project will be from a federal grant.

Roadway Reconstruction

The proposed roadway reconstruction for FY2017 involves finishing the reconstruction of New London Drive and reconstructing the composite portion of Lakeshore Drive. Lakeshore Drive, New London Drive, and New Salem Drive form one, continuous street and serve as the primary roadway in the Westchester Estates Subdivision. The reconstruction work that is proposed will complete the replacement of one of the longest composite streets in the City with new concrete pavement, eliminating one of the most significant pavement maintenance liabilities in the City.

Street Name	PCI	Roughness Index
Lakeshore Drive	45 *	53 *
New London Drive	60	53

** Indicates an average condition rating for multiple street segments.*

This street was originally recommended for reconstruction, because previous attempts to make repairs to these streets had been counterproductive: fixing one area led to failures in other areas. Construction along New Salem Drive in the spring of 2016 again found this to be true, as the street failed beneath the equipment replacing the other side.

Schedule. The reconstruction work in the Westchester Estates subdivision was originally expected to require three years to complete. Lower-than-expected project costs and additional funding for the project have made it likely that this project will now be completed in two years. The implications could be important (and presumably welcome) for other failing streets in the City.

Micro-Surfacing

The proposed micro-surfacing project will include minor street repairs and the application of a thin asphaltic surface treatment to the entire roadway surface. This surface treatment is typically aimed at roads that are in good condition, and its purpose is to help seal the pavement from water infiltration while providing an improved driving surface.

The proposed micro-surfacing project will focus on the Ridgemoor Forest, Broadview Farms, Mason Forest, and Balcon Estates neighborhoods. Concrete curb replacement was completed in these neighborhoods in 2013 as preparation for the proposed micro-surfacing, and the intent was to include these streets in the FY2015 and FY2016 program. Unfortunately, material costs for the other pavement programs reduced the budget available for the FY2015 program, and this work was postponed.

Some preparation work in the Mason Forest Subdivision will be required to reduce the size of the subdivision's two cul-de-sac islands. Reduction in the size of these islands will provide more space for vehicles to navigate each cul de sac and should reduce the amount of damage to the islands from vehicle tires.

The roadways proposed for this project are:

Villa Hill Subdivision

Street Name	PCI	Roughness Index
Angleterre Drive	67	60
Carillon Court	78	59
Rugby Court	72	51
Trammel Court	58	54
Villa Hill Lane	49 *	58 *

Mason Forest Subdivision

Street Name	PCI	Roughness Index
Hibler Woods Court	60	37
Hibler Woods Drive	74 *	53 *
Mason Forest Drive	70 *	55 *

Broadview Farm Subdivision

Street Name	PCI	Roughness Index
Broadview Farm Road	66 *	49 *

Balcon Estates Subdivision

Street Name	PCI	Roughness Index
Balcon Estates Drive	64 *	52 *

Additional Streets

Street Name	PCI	Roughness Index
Corporate Square Drive	55 *	68 *
Martin Grove Lane	81	63
Rolling View Drive	65	41
Will Avenue	19	55

** Indicates an average condition rating for multiple street segments.*

Work along Will Avenue is proposed to provide some improvement, but it microsurfacing cannot fix what IMS found to be the City's worst street. This street receives little traffic and serves as something of an alley. Staff feels that it is appropriate to patch and microsurface this street so to postpone its resurfacing or reconstruction for several years.

As with previous years, the City's Public Works staff will correct many of the deficiencies in the pavement surface to prepare these roads for the microsurface application. By having City crews prepare the pavement, the potential cost of this program is typically reduced.

Project Postponements from Previous Fiscal Years. The proposed micro-surfacing project involves the Villa Hill, Broadview Farms, and Mason Forest neighborhoods. The intent was to include these streets in the FY2015 program, and then in the FY2016 program. Unfortunately, material costs for the other pavement programs reduced the budget available for the FY2015 program, and this work was postponed until FY2016.

Staff recently learned that at least one of the few contractors who can complete this type of work will have no availability until late in the summer due to major commitments to other projects. Staff recommends moving the work in the Ridgmoor Forrest, Broadview Farms, and Mason Forest subdivisions to FY2017 to improve the bidding situation for this project.

Projected Costs

City staff estimates that completion of the proposed FY2017 Roadway Maintenance Program will cost approximately $ 1,733,000.

FY2016 transfer to FY2017

The recommended pavement maintenance program for FY2017 incorporates the microsurfacing project and the sidewalk improvement project from FY2016. Funding this work will require moving unused funds from the FY2016 sidewalk and microsurfacing programs into FY2017.

The adjusted budget would be as follows:

FY2016 Microsurfacing	$	150,000
FY2016 Sidewalk Improvements	$	100,000
Total FY2016 Transfer	**$**	**250,000**

Original FY2017 Roadway Maintenance	$	1,133,000
FY2016 Transfer	$	250,000
FY2017 Reconstruction	$	350,000
Total FY2017 Budget	**$**	**1,733,000**

The project breakdown for the adjusted FY2017 roadway program is proposed to be:

Concrete Pavement Replacement	$	500,000
Sidewalk Replacement	$	200,000
Asphalt Resurfacing	$	420,000
Microsurfacing	$	230,000
Reconstruction	$	350,000
City Work (Patching for Micro-Surfacing, etc.)	$	33,000
Total	**$**	**1,733,000**

City Council
300 North New Ballas Rd
Creve-Coeur, MO 63141

SCHEDULED

Meeting: 07/25/16 07:00 PM
Department: Planning and Zoning Commission
Category: New Business
Prepared By: Whitney Kelly
Department Head: Jason Jaggi

STAFF REPORT

Bill No. 5605 - an Ordinance Amending Definitions in the Zoning Code of the Code of Ordinances of the City of Creve Coeur Regarding Sexually Oriented Businesses. First Reading

Section 405.120 of the City Code of Ordinances sets forth definitions used in the Zoning Code, including regarding sexually oriented businesses. Changes in state law (2014 SB 491, HB 1371) revising sections 573.010 et seq RSMo, require parallel revisions to the City's ordinances.

BILL NO. __5605______ **ORDINANCE NO.** ________

AN ORDINANCE AMENDING DEFINITIONS IN THE ZONING CODE OF THE CODE OF ORDINANCES OF THE CITY OF CREVE COEUR REGARDING SEXUALLY ORIENTED BUSINESSES.

WHEREAS, Section 405.120 of the City Code of Ordinances sets forth definitions used in the Zoning Code, including regarding sexually oriented businesses; and

WHEREAS, changes in state law (2014 SB 491, HB 1371) revising sections 573.010 et seq RSMo, require parallel revisions to the City's ordinances;

NOW, THEREFORE, be it ordained by the City Council of the City of Creve Coeur, Missouri, as follows:

Section 1. The definitions set forth below are hereby added to Section 405.120 the City Code of Ordinances, including in place of prior definitions of the same or similar words and phrases (which prior definitions are accordingly repealed) as indicated by parenthetical annotations (which annotations are not to be codified):

ADULT ARCADE (new)

Any place to which the public is permitted or invited wherein money-operated or slug-operated or electronically, electrically, or mechanically controlled still or motion picture machines, projectors, or other image-producing devices are regularly maintained to show images to five or fewer persons per machine at any one time, and where the images so displayed are characterized by their emphasis upon matter exhibiting specified sexual activities or specified anatomical areas**.**

ADULT CABARET (replacement)

A nightclub, bar, juice bar, restaurant, bottle club, or other commercial establishment which regularly features persons who appear semi-nude.

ADULT BOOK STORE, ADULT VIDEO STORE (replaces definition of Adult Media Store)

A commercial establishment which as one of its principal business activities, offers for sale or rental for any form of consideration any one or more of the following: books, magazines, periodicals, or other printed matter, or photographs, films, motion pictures, video cassettes, compact discs, digital video discs, slides, or other visual representations which are characterized by their emphasis upon the display of specified sexual activities or specified anatomical areas.

ADULT THEATER (replacement)

A commercial establishment where films, motion pictures, video cassettes, slides, or similar photographic reproductions, which are characterized by their emphasis upon the display of specified sexual activities or specified anatomical areas are regularly shown to more than five persons for any form of consideration.

CHARACTERIZED BY (new)

Describing the essential character or dominant theme of an item.

NUDITY OR STATE OF NUDITY (new)

The showing of the human genitals, pubic area, vulva, anus, anal cleft or the female breast with less than a fully opaque fabric covering of any part of the nipple or areola. Body paint shall not qualify as fabric.

PRINCIPAL BUSINESS ACTIVITY (new)

Applies to Sexually Oriented Businesses and exists where the establishment:

a. Has a substantial (as used in this definition, at least 30%) portion of its displayed merchandise which consists of the pertinent items; or
b. Has a substantial portion of the wholesale value of its displayed merchandise which consists of the pertinent items; or
c. Has a substantial portion of the retail value of its displayed merchandise which consists of the pertinent items; or
d. Derives a substantial portion of its revenues from the sale or rental of the pertinent items; or
e. Maintains a substantial section of its interior business space for the sale or rental of the pertinent items; or
f. Maintains an adult arcade.

REGULARLY (new)

Consistent and repeated.

SADOMASOCHISTIC PRACTICES OR ABUSE (replaces Sadomasochistic Practices)

Flagellation or torture by or upon a person, or the conditions of being fettered, bound, or otherwise physically restrained, as an act of sexual stimulation or gratification.

SEMI-NUDE OR STATE OF SEMI-NUDITY (new)

The showing of the human female breast below a horizontal line across the top of the areola and extending across the width of the breast at such point, or the showing of the human male or female buttocks. Such definition includes the lower portion of the human female breast, but shall not include any portion of the cleavage of the human female breasts exhibited by a bikini, dress, blouse, skirt, leotard, or similar wearing apparel provided the areola is not exposed in whole or in part. Coverage by other than opaque fabric shall still constitute "showing" for purposes hereof, and body paint shall not qualify as fabric.

SEMI-NUDE MODEL STUDIO (new)

A place where persons regularly appear in a state of semi-nudity for money or any form of consideration in order to be observed, sketched, drawn, painted, sculptured, photographed, or similarly depicted by other persons, but excluding a modeling class operated by a college, junior college, or university supported entirely or partially by taxation, by a private college or university which maintains and operates educational programs in which credits are transferable to a college, junior college or university supported entirely or partially by taxation, or in a structure which has no sign visible from the exterior of the structure or other advertising that indicates a semi-nude person is available for viewing and students must enroll at least three days in advance to participate in the class.

SEX SHOP (replacement)

A commercial establishment offering goods for sale or rent that meets any of the following tests:

1. The establishment offers for sale items from any two (2) of the following categories:

   a. Adult media,

   b. Lingerie, or

   c. Leather goods marketed or presented in a context to suggest their use for sadomasochistic practices or abuse; and the combination of such items constitutes more than ten percent (10%) of its stock in trade or occupies more than ten percent (10%) of its gross public floor area.

2. More than ten percent (10%) of its stock in trade consists of sexually oriented toys or novelties.

3. More than ten percent (10%) of its gross public floor area is devoted to the display of sexually oriented toys or novelties.

SEXUAL ENCOUNTER CENTER (new)
A commercial establishment that, as one of its principal business activities, offers for any form of consideration physical contact in the form of wrestling or tumbling between two or more persons where one or more of the persons is semi-nude.

SEXUALLY ORIENTED BUSINESS (replacement)
An inclusive term used to describe individually and collectively: adult cabaret; adult book store; adult video store, adult theater, semi-nude model studio, sexual encounter center, and/or sex shop as defined by City ordinance as well as any sexually oriented business as defined by State law including Section 573.010 RSMo.

SEXUALLY ORIENTED TOYS OR NOVELTIES (replacement)
Instruments, devices, or paraphernalia either designed as representations of human genital organs or female breast, or designed or marketed primarily for use to stimulate human genital organs, or for sadomasochistic practices or abuse.

SPECIFIED ANATOMICAL AREAS (replacement)

1. Less than completely and opaquely covered (by fabric, not body paint): human genitals, pubic region, buttock, and female breast below a point immediately above the top of the areola; and

2. Human male genitals in a discernibly turgid state, even if completely and opaquely covered.

SPECIFIED SEXUAL ACTIVITIES (replacement)
Intercourse, oral copulation, masturbation, sodomy, or excretory functions as a part of or in connection with any of the foregoing. Human genitals in a state of sexual stimulation or arousal or acts of human masturbation, sexual intercourse, oral copulation, sodomy, or fondling or other erotic touching of human genitals, pubic region, buttock, or female breast, and any related excretory functions, or any sadomasochistic practices or abuse, or bestiality.

BILL NO. __5605______ **ORDINANCE NO. ________**

Section 2. This ordinance shall become effective in accordance with Section 3.11 (g) of the City Charter.

ADOPTED THIS _____DAY OF _____________, 2016.

ELLEN LAWRENCE
PRESIDENT OF CITY COUNCIL

APPROVED THIS ___ DAY OF _____________, 2016

BARRY GLANTZ, MAYOR

ATTEST:

DEBORAH RYAN, CITY CLERK

city of CREVE COEUR

300 North New Ballas Road • Creve Coeur, Missouri 63141
(314) 432-6000 • Fax (314) 872-2539 • Relay MO 1-800-735-2966
www.creve-coeur.org

APPLICATION TO PLANNING AND ZONING COMMISSION #16-020: TEXT AMENDMENT TO THE ZONING ORDINANCE REGARDING THE DEFINITIONS FOR SEXUALLY ORIENTED BUSINESSES

FOR THE PLANNING AND ZONING COMMISSION MEETING OF: Monday, July 18, 2016

LOCATION: City-wide

REQUEST: The Director of Community Development, on behalf of the City of Creve Coeur, has submitted a text amendment application regarding Section 405.120 Definition of Terms to revise the definitions regarding sexually oriented businesses to reflect recently revised state law. Amendments to Chapter 617 which addresses Sexually Oriented Businesses will also be presented to City Council for consistency.

ADDITIONAL INFORMATION: Attached hereto is the revised proposed ordinance for various definitions under Section 405.120 of the zoning ordinance regarding revised definitions of terminology regarding the regulations on eligibility for a sexually oriented business license and standards of conduct for such businesses. The substantive changes will be incorporated into the City's licensing ordinance. However, the changes in definitions apply to both the zoning ordinance and the licensing ordinance. In addition to addressing statutory changes, in response to recent disputes in the St. Louis area, the definitions have been further refined to confirm that fully opaque fabric covering is required and body paint is not a sufficient covering.

The Planning and Zoning Commission reviews those changes to the Zoning Code under Section 405.1060 for recommendation to the City Council. The changes proposed for Chapter 617 of Article VI Business and Occupation of the Code of Ordinances are included for cross reference purposes only.

Key Issues:

- Are the changes consistent with the purposes of the Zoning Code?
- Are the changes consistent with the purposes of the Comprehensive Plan?

Zoning Code References

- Section 405.120 Definition of Terms
- Zoning 405.1000 Sexually Oriented Businesses
- Section 405.1060 Zoning Changes and Text Amendments

Business and Occupation Code References

- Chapter 617: Sexually Oriented Businesses

APPLICANT: Jason W. Jaggi
Director of Community Development
City of Creve Coeur
300 N. New Ballas Road
Creve Coeur, MO 63141

REPORT PREPARED BY: Jason W. Jaggi, AICP, Director of Community Development
DATE: 7/13/16
ATTACHMENTS: Revised Draft Ordinances

BACKGROUND

Sexually oriented businesses are regulated by the City for land use purposes through the Zoning Ordinance (Section 405.1000) and for operational and licensing purposes through Chapter 617. Specifically, the Zoning Code regulates the location, access, siting, parking, landscaping, signage and lighting requirements for these types of businesses. Proposed businesses that would meet this category of use include sexually oriented adult bookstores, theaters, video stores, cabarets, and retail stores. The Zoning Ordinance allows a sexually oriented business to be located only in the Light Industrial District as a permitted (by-right) use if it meets the requirements of Section 405.1000.

Chapter 617, Sexually Oriented Businesses, lists the licensing and standards of conduct for such businesses. An operator of a sexually oriented business must obtain a yearly license by the City and all individuals associated with the business must meet specific background standards which are reviewed by the Police Department. Chapter 617 also specifically prohibits the sale, serving, or consuming of alcohol on the premises of a sexually oriented business.

SUMMARY OF PROPOSED TEXT AMENDMENT

This text amendment application involves amending the definitions section of the Zoning Ordinance (Section 405.120) regarding terms related to sexually oriented businesses for consistency with changes to state statutes. In the context of revising various regulations on eligibility for a sexually oriented business license and standards of conduct for such businesses, the legislature revised various definitions of terminology. The proposed changes will also be incorporated into the City's licensing ordinance. However, the changes in definitions apply to both the Zoning Ordinance and the licensing ordinance.

The attached draft ordinance lists the new and replacement terminology in Section 405.120 to be consistent with recent changes in state law. In addition to addressing statutory changes, in response to recent disputes in the St. Louis area, the definitions have been further refined to confirm that body paint is not sufficient cover and that covering requires fully opaque fabric material.

While both Chapter 405 and Chapter 617 are being amended concurrently, the Planning and Zoning Commission only has authority to review and provide a recommendation on affected sections within the Zoning Ordinance. Upon receipt of a recommendation from the Commission involving Chapter 405, the City Council will review and act upon both ordinances concurrently.

MOTION

If the members of the Planning and Zoning Commission are satisfied that the proposed amendments are justified and appropriately worded, the following is an example of an appropriate motion for this application:

> "I move to recommend approval of the draft ordinance attached to the staff report on Application #16-020, for the text amendment to various definition of terns regarding sexually oriented businesses of Chapter 405 of the Code of Ordinances of the City of Creve Coeur, Missouri, to address changes to the State statutes, correct outdated terminology, as presented on July 18, 2016."

APPENDIX 1: COMPREHENSIVE PLAN

Included and attached by reference. See body of report for specific excerpts.

APPENDIX 2: ZONING CODE

Included and attached by reference. See body of report for specific excerpts.

APPENDIX 3: BUSINESS AND OCCUPATION

Included and attached by reference. See body of report for specific excerpts.

PLANNING AND ZONING COMMISSION PUBLIC HEARING

CITY OF CREVE COEUR, MISSOURI

300 NORTH NEW BALLAS ROAD

MONDAY, JULY 18, 2016

6:30 P.M.

PUBLIC HEARING APPLICATION NO. 16-020

THOSE IN ATTENDANCE:

Ms. Beth Kistner, Chair
Mr. Tim Carney
Mr. Don Magruder
Mr. Gene Rovak
Ms. Heather Silverman
Mr. Matthew Schuh
Mr. Carl Lumley, City Attorney
Mr. Jason Jaggi, Director of Community Development
Ms. Whitney Kelly, City Planner
Ms. Jessica Stutte, Planning Assistant/Recording Secretary

McLaughlin Court Reporting Services, Inc.

Deborah K. McLaughlin, RPR, MO-CCR #314, IL-CSR, KS-CCR
4772 Gatesbury Drive
St. Louis, MO 63128
(314)487-2259

CHAIRMAN KISTNER: Call the meeting of the July 18, 2016 Planning and Zoning Commission to order.

Before we start our roll call, two things.

I've been in touch with Muriel Hall. She's been sitting on a runway for many, many hours in New York. Thunderstorms somewhere between New York and here. She might make it in. If she does -- she'll -- she'll come in, if it's not too late, and join us here at the meeting, but she has tried valiantly to get here.

Also want to welcome Matt Schuh for his first meeting, and we're glad that you're being appointed.

MR. SCHUH: Thank you.

CHAIRMAN KISTNER: My microphone. Better?

VOICE: Yes.

CHAIRMAN KISTNER: All right. Sorry.

Okay. With that, we'll start with our roll call.

Mr. Carney?

MR. CARNEY: Present.

CHAIRMAN KISTNER: Ms. Hall is absent.

Mr. Magruder?

MR. MAGRUDER: Present.

CHAIRMAN KISTNER: Mr. Rovak?

MR. ROVAK: Present.

CHAIRMAN KISTNER: Ms. Silverman?

MS. SILVERMAN: Present.
CHAIRMAN KISTNER: Mr. Schuh?
MR. SCHUH: Present.
CHAIRMAN KISTNER: Our City Attorney, Carl Lumley?
MR. LUMLEY: Present.
CHAIRMAN KISTNER: Director of Community Development, Mr. Jaggi?
MR. JAGGI: Present.
CHAIRMAN KISTNER: City Planner, Ms. Kelly?
MS. KELLY: Present.
CHAIRMAN KISTNER: And Planning Assistant, Ms. Stutte?
MS. STUTTE: Present.
CHAIRMAN KISTNER: And the Chair is present.
We'll go to New Business.
We have Public Hearing No. 16-020: Text amendment to the zoning ordinance regarding the definitions for sexually oriented businesses.
We have just one person to swear in.
(The speaker was sworn in by the court reporter.)
MR. JAGGI: Good evening, Members of the Commission. Jason Jaggi, Director of Community Development, City of Creve Coeur.

This is a text amendment involving the zoning ordinance definitions for sexually oriented businesses, which is codified in Section 405.120 of the City's Code of Ordinances in the Zoning District.

The changes that are brought before you this evening are as a result of the changes to state statute in which the City needs to be compliant with changes of state statute, so that our ordinance can mirror the state definitions.

Just for background purposes, sexually oriented businesses are regulated in the City of Creve Coeur under Chapter 405, the Zoning Ordinance, as well as Chapter 617, which is specific for sexually oriented businesses.

That chapter deals with the code of conduct on operational aspects of these types of businesses, whereas, the land use section in the zoning code outline specific land use standards for those types of businesses.

So in the zoning world we look at location, access, siting, parking, landscaping, signage and lighting aspects of these types of business, and then a licensing element, which is covered in Section 617. That section of the code deals with the licensing requirements, extensive background checks for those operators. And then I would also note that the sale of alcohol is also a prohibited use for a sexually oriented business as a licensing requirement.

So with that being said, the ordinance tonight, again, seeks to amend both sections of the zoning code and Chapter 617, although this Commission is really focused on the zoning ordinance because you don't have a purview of code sections outside of the zoning ordinance.

All of the terms are attached in your supplement tonight as part of the agenda packet. I won't go into all those terms, and, of course, they're very graphic in nature, but if you have certain questions, I'd be happy to answer those as best as I can.

I would draw to your attention one consideration that City staff and the City Attorney also did is, given the different sexually oriented business use considerations that occurred in another St. Louis County municipality involving a restaurant use, we did take this opportunity to confirm and, basically, re-affirm that that type of business would be considered a sexually oriented business, and we did address that to require that -- or to state that body paint is not an acceptable covering, and that to be -- to have an acceptable covering would require fully opaque fabric material.

So, again, just try to emphasize what's acceptable and what's not. And so we did take that opportunity.

You can see there's a couple definitions that speak to that within your agenda packet this evening so.

We would anticipate that both of these amendments will be forwarded after your recommendation on the zoning code changes to City Council on July 25th.

Otherwise, if there's any questions, I'd be happy to answer those at this time.

CHAIRMAN KISTNER: Thank you.

Do you have any questions?

I appreciate that you are bringing this to the Planning & Zoning Commission and to the City Council. I think our -- our community would endorse these changes, both to be in compliance with the State, and also to make sure that we're out in front of, you know, future potential requests that the community would find unacceptable.

MR. JAGGI: Thank you.

We think pretty well covered at the moment, but certainly re-enforcing these that, you know, some of these requirements are in place is a good thing, so we think this amendment fully takes the issue out of any subjectivity and makes it very clear what's allowed and what's not allowed.

CHAIRMAN KISTNER: Mr. Lumley, I'm sure you were fairly involved in this. You're satisfied with the contents and everything else, that you'd recommend be considered.

Okay. Is there any other discussion?

Is there anybody in the audience that would like to speak to this issue?

Okay. If not, let Mr. Lumley add exhibits.

MR. LUMLEY: Offer the following exhibits into the record of this public hearing: Documentation in possession of the City Clerk reflecting the public notice, the staff's report, City Code of Ordinances and Charter, the City's Comprehensive Plan, the public file regarding this application, including the draft ordinance.

CHAIRMAN KISTNER: Okay.

With that, we will close the public hearing.

(The public hearing was closed at 6:37 p.m.)

(This concludes the transcript.)

STATE OF MISSOURI)
) SS
COUNTY OF ST. LOUIS)

I, Deborah K. McLaughlin, Registered Professional Reporter, Missouri Certified Court Reporter, Illinois Certified Shorthand Reporter and Kansas Certified Court Reporter, do hereby certify that I reported the Planning and Zoning public hearing stenographically and later reduced to typewriting; and that this is a true and accurate transcript of the public hearing.

Deborah K. McLaughlin, RPR, MO-CCR, IL-CSR, KS-CCR

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City Council
300 North New Ballas Rd
Creve-Coeur, MO 63141

SCHEDULED

ORDINANCE

Meeting: 07/25/16 07:00 PM
Department: Legislative /City Clerk
Category: Amendment
Prepared By: Debbie Ryan
Department Head: Debbie Ryan

Bill No. 5606 - an Ordinance Amending Chapter 617 of the Code of Ordinances of the City of Creve Coeur Regarding Sexually Oriented Businesses. First Reading

Changes in state law (2014 SB 491, HB 1371) revising sections 573.010 et seq RSMo, require parallel revisions to the City's business license ordinance regarding sexually oriented businesses. Similar zoning definition changes are also proposed in another agenda item.

BILL NO. __5606______ ORDINANCE NO. ________

AN ORDINANCE AMENDING CHAPTER 617 OF THE CODE OF ORDINANCES OF THE CITY OF CREVE COEUR REGARDING SEXUALLY ORIENTED BUSINESSES.

WHEREAS, Chapter 617 of the City Code of Ordinances addresses sexually oriented businesses; and

WHEREAS, changes in state law (2014 SB 491, HB 1371) revising sections 573.010 et seq RSMo, require parallel revisions to the City's ordinances;

NOW, THEREFORE, be it ordained by the City Council of the City of Creve Coeur, Missouri, as follows:

Section 1. Chapter 617 of the City Code of Ordinances is hereby amended to read as follows:

Section 617.010. Definitions.

[Ord. No. 5132 §1, 4-26-2010; Ord. No. 5167 §1, 12-13-2010]
For the purposes of this Chapter, the following words and phrases shall have the meanings ascribed to them by this Section:

ADULT ARCADE

Any place to which the public is permitted or invited wherein money-operated, or slug-operated or electronically, electrically, or mechanically controlled still or motion picture machines, projectors, or other image-producing devices are regularly maintained to show images to five or fewer persons per machine at any one time, and where the images so displayed are characterized by their emphasis upon matter exhibiting specified sexual activities or specified anatomical areas.

ADULT CABARET

A nightclub, bar, juice bar, restaurant, bottle club, or other commercial establishment which regularly features persons who appear semi-nude. ~~A business featuring dancing or other live entertainment if the dancing or entertainment that constitutes the primary live entertainment is distinguished or characterized by an emphasis on the exhibiting of specific sexual activities or specified anatomical areas for observation by patrons therein.~~

ADULT ENTERTAINER

Any person who provides entertainment distinguished or characterized by an emphasis on the exhibiting of specific sexual activities or specified anatomical areas, or who appears in a semi-nude condition, whether or not a fee is charged or accepted.

ADULT BOOK~~MEDIA~~ STORE, ADULT VIDEO STORE

A commercial establishment which as one of its principal business activities, offers for sale or rental for any form of consideration any one or more of the following: books, magazines, periodicals, or other printed matter, or photographs, films, motion pictures, video cassettes, compact discs, digital video discs, slides, or other visual representations which are characterized by their emphasis upon the display of specified sexual activities or specified anatomical areas.~~business that rents and/or sells media, and that meets any of the following three (3) tests:~~

ADULT MEDIA

Magazines, books, videotapes, movies, slides, compact discs or other devices used to record computer images, or other media that are distinguished or characterized by their emphasis on matter depicting, describing, or relating to hard-core material.

ADULT THEATER

A commercial establishment where films, motion pictures, video cassettes, slides, or similar photographic reproductions, which are characterized by their emphasis upon the display of specified sexual activities or specified anatomical areas are regularly shown to more than five persons for any form of consideration.~~business showing pictures or videos that are adult media.~~

CHARACTERIZED BY

Describing the essential character or dominant theme of an item.

EMPLOY, EMPLOYEE, EMPLOYMENT

Refers to performance of services on the premises of a sexually oriented business, on a full-time, part-time, or contract basis, whether or not the person involved is denominated an employee, independent contractor, agent or otherwise, but excluding a person exclusively on the premises for repair or maintenance of the premises of for the delivery of goods to the premises.

GROSS PUBLIC FLOOR AREA

The total interior area accessible or visible to the public, including showrooms, motion picture theaters, motion picture arcades, service areas, behind-counter areas, storage areas visible from such other areas, restrooms (whether or not labeled "public"), areas used for cabaret or similar shows (including stage areas), plus aisles, hallways, and entryways serving such areas.

HARD-CORE MATERIAL

Media characterized by sexual activity that includes one (1) or more of the following: erect male organ; contact of the mouth of one person with the genitals of another; penetration with a finger or male organ into any orifice in another person; open female labia; penetration of a sexually oriented toy or novelty into an orifice, male ejaculation; or the aftermath of male ejaculation.

INFLUENTIAL INTEREST

Any of the following:

1.

The actual power to operate a business or legal entity or control the operation, management, or policies of a business or legal entity;

2.

Ownership of a financial interest of thirty percent (30%) or more of a business or any class of voting securities of a business; or

3.

Holding an office such as president, vice president, secretary, treasurer, managing member, or managing director of a business or legal entity.

MEDIA

Anything printed or written, or any picture, drawing, photograph, motion picture, film, videotape or videotape production, or pictorial representation, or any electrical or electronic reproduction of anything that is or may be used as a means of communication. Media includes but shall not necessarily be limited to books, newspapers, magazines, movies, videos, sound recordings, compact discs, other magnetic media, and undeveloped pictures.

NUDITY OR STATE OF NUDITY

The showing of the human ~~male or female~~ genitals, pubic area, vulva, anus, anal cleft or ~~cleavage with less than a fully opaque covering, or the showing of~~ the human female breast with less than a fully opaque fabric covering of any part of the nipple or areola. Body paint shall not qualify as fabric.

OPERATOR

Any person on the premises of a sexually oriented business who causes the business to function, puts or keeps the business in operation, or is authorized to manage the business or exercise overall operational control of the business premises, whether or not an owner or licensee of the business.

PREMISES

The real property upon which a sexually oriented business is located, and all appurtenances thereto and buildings thereon, including but not limited to the sexually oriented business, the grounds, private walkways, parking lots, and parking garages.

~~**PRIMARY LIVE ENTERTAINMENT**~~

PRINCIPAL BUSINESS ACTIVITY

Exists where the commercial establishment:

a. Has a substantial portion (as used in this definition, at least 30%) of its displayed merchandise which consists of the pertinent items; or

b. Has a substantial portion of the wholesale value of its displayed merchandise which consists of the pertinent items; or

c. Has a substantial portion of the retail value of its displayed merchandise which consists of the pertinent items; or

d. Derives a substantial portion of its revenues from the sale or rental of the pertinent items; or

e. Maintains a substantial section of its interior business space for the sale or rental of the pertinent items; or

f. Maintains an adult arcade.

REGULARLY

Consistent and repeated.

SADOMASOCHISTIC PRACTICES OR ABUSE

Flagellation or torture by or upon a person, or the conditions of being fettered, bound, or otherwise physically restrained, as an act of sexual stimulation or gratification.

SEMI-NUDE OR STATE OF SEMI-NUDITY

The showing of the human female breast below a horizontal line across the top of the areola and extending across the width of the breast at such point, or the showing of the human male or female buttocks. Such definition includes the lower portion of the human female breast, but shall not include any portion of the cleavage of the human female breasts exhibited by a bikini, dress, blouse, skirt, leotard, or similar wearing apparel provide the areola is not exposed in whole or in part. Coverage by other than opaque fabric shall still constitute "showing" for purposes hereof, and body paint shall not qualify as fabric.

SEMI-NUDE MODEL STUDIO

A place where persons regularly appear in a state of semi-nudity for money or any form of consideration in order to be observed, sketched, drawn, painted, sculptured, photographed, or similarly depicted by other persons, but excluding a modeling class operated by a college, junior college, or university supported entirely or partially by taxation, by a private college or university which maintains and operates educational programs in which credits are transferable to a college, junior college or university supported entirely or partially by taxation, or in a structure which has no sign visible from the exterior of the structure or other advertising that indicates a semi-nude person is available for viewing and students must enroll at least three days in advance to participate in the class.

SERVER

Any person who serves food or drink at a sexually oriented business.

SEX SHOP

A commercial establishment offering goods for sale or rent that meets any of the following tests:

1.

The establishment offers for sale items from any two (2) of the following categories:

a.

Adult media,

b.

Lingerie, or

c.

Leather goods marketed or presented in a context to suggest their use for sadomasochistic practices or abuse; and the combination of such items constitutes more than ten percent (10%) of its stock in trade or occupies more than ten percent (10%) of its gross public floor area.

2.

More than ten percent (10%) of its stock in trade consists of sexually oriented toys or novelties.

3.

More than ten percent (10%) of its gross public floor area is devoted to the display of sexually oriented toys or novelties.

SEXUAL ENCOUNTER CENTER

A commercial establishment that, as one of its principal business activities, offers for any form of consideration physical contact in the form of wrestling or tumbling between two or more persons where one or more of the persons is semi-nude.

SEXUALLY ORIENTED BUSINESS

An inclusive term used to describe individually and collectively: adult cabaret; adult book~~media~~ store; adult video store, adult theater, semi-nude model studio, sexual encounter center, and/or sex shop as defined by City ordinance as well as any sexually oriented business as defined by State law including Section 573.010~~528~~ RSMo.

SEXUALLY ORIENTED TOYS OR NOVELTIES

Instruments, devices, or paraphernalia either designed as representations of human genital organs or female breast, or designed or marketed primarily for use to stimulate human genital organs, or for sadomasochistic practices or abuse.

SPECIFIED ANATOMICAL AREAS

1.

Less than completely and opaquely covered (by fabric, not body paint): human genitals, pubic region, buttock, and female breast below a point immediately above the top of the areola; and

2.

Human male genitals in a discernibly turgid state, even if completely and opaquely covered.

~~**SPECIFIED CRIMINAL ACT**~~

SPECIFIED SEXUAL ACTIVITIES

Intercourse, oral copulation, masturbation, sodomy, or excretory functions as a part of or in connection with any of the foregoing. Human genitals in a state of sexual stimulation or arousal or acts of human masturbation, sexual intercourse, oral copulation, sodomy, or fondling or other erotic touching of human genitals, pubic region, buttock, or female breast, and any related excretory functions, or any sadomasochistic practices or abuse, or bestiality.

Section 617.020. License Required For Sexually Oriented Businesses, No Alcohol.

[Ord. No. 5132 §1, 4-26-2010; Ord. No. 5167 §1, 12-13-2010]

A.

It is unlawful for any person to operate a sexually oriented business at any location in the City at any time without a sexually oriented business license issued by the City in effect for such business at such location.
B.
It is unlawful for any adult entertainer, employee or manager to knowingly perform any work, service or entertainment at an unlicensed sexually oriented business within the City.
C.
If a sexually oriented business within the City fails at any time to have posted on its premises, in the manner required by ordinance, an effective sexually oriented business license, such failure shall be prima facie evidence that the business does not have such a license in effect for such location. In addition, the absence of such a properly posted effective license shall be prima facie evidence that an adult entertainer, employee or manager who performs any work, service or entertainment at the sexually oriented business had knowledge that such business was not licensed.
D.
All required zoning, building and occupancy permits must be separately applied for and obtained, in addition to the license required by this Section.
E.
No license may be issued under Chapter **600** to a sexually oriented business and no intoxicating liquor shall be sold, served or consumed on the premises of a sexually oriented business.

Section 617.030. License Required For Managers, Servers and Adult Entertainers.

[Ord. No. 5132 §1, 4-26-2010; Ord. No. 5167 §1, 12-13-2010]
It is unlawful for any person to work as an adult entertainer, server or manager at a sexually oriented business within the City at any time without an effective license issued by the City.

Section 617.040. License Year, Location and Fees.

[Ord. No. 5132 §1, 4-26-2010; Ord. No. 5167 §1, 12-13-2010]
A.
The license year for licenses required under this Chapter shall run from each March sixteenth (16th) to the subsequent March fifteenth (15).
B.
An application for a license under this Chapter shall be accompanied by payment in full of the license tax due under Chapter **605** of the Code of Ordinances and annual inspection fees of three hundred sixty dollars ($360.00) and no application shall be considered complete until such fees have been paid.
C.
All licenses under this Chapter shall be issued solely for a specific person or entity at a specific location and shall be non-refundable and non-transferable.

Section 617.050. License Application.

[Ord. No. 5132 §1, 4-26-2010; Ord. No. 5167 §1, 12-13-2010]
A.
Sexually Oriented Business License Application. Any person desiring to secure a license to operate a sexually oriented business within the City shall submit a notarized application to the Chief of

Police. Such application shall be submitted in the name of the person proposing to conduct or operate the sexually oriented business. Incomplete applications shall not be processed. All applications shall be submitted on a form supplied by the City and shall require the following information:

1.
The name, residence address, home telephone number, occupation, date and place of birth and social security number of the applicant.

2.
The name of the business, a description of the activities to be performed on the licensed premises and the name of the owner of the premises to be licensed.

3.
The names, residence addresses, social security numbers and dates of birth of all partners, if the applicant is a partnership; and if the applicant is a corporation or limited liability company, the same information for all corporate officers and directors, stockholders, managers or members who own more than ten percent (10%) or greater interest in the corporation or limited liability company, and for any other person with an influential interest in the business.

4.
The addresses of the applicant and of all partners or of all corporate officers, directors, managers, and members and other persons with an influential interest for the five (5) years immediately prior to the date of application.

5.
A description of the sexually oriented business history of the applicant and of all partners or of all corporate officers, directors, managers, and members and other persons with an influential interest; and whether any such person or entity, in previously operating such a business in this City or elsewhere, has had a business license revoked or suspended, the reason therefor and the activity or occupation subjected to such action, suspension or revocation.

6.
A statement of the business, occupation or employment history of the applicant and of all partners, or of all corporate officers and directors, managers and members and other persons with an influential interest, for the three (3) years immediately preceding the date of the application.

7.
A statement from the applicant and from each partner, corporate officer and director, manager and member, and any other person with an influential interest in the business that each such person has not been found guilty of any of the following specified offenses for which less than eight years has elapsed since the date of conviction or the date of release from confinement for the conviction, whichever is later:

(1) rape and sexual offenses;
(2) sexual offenses involving minors;
(3) offenses involving prostitution;
(4) obscenity offenses:
(5) offenses involving money laundering;
(6) offenses involving tax evasion;
(7) any attempt, solicitation, or conspiracy to commit one of the offenses listed in items (1)-(6); or
(8) any offense committed in another jurisdiction which if committed in Missouri would have constituted an offense listed in items (1)-(7).

~~convicted of, released from confinement for conviction of, pled guilty or nolo contendere to or been diverted from prosecution on any specified criminal act or on:~~

8.
A full set of fingerprints and a photograph, to be taken by the Police Department, of the applicant or of all partners if the applicant is a partnership or of all corporate officers, directors, managers or members if the applicant is a corporation or other entity and all other persons with an influential interest.
9.
A certificate of good standing issued by the Missouri Secretary of State, if applicable.
10.
A statement signed under oath that the applicant has personal knowledge of the information contained in the application and that the information contained therein is true and correct and that the applicant has read the provisions of this Chapter regulating sexually oriented businesses.

~~Incomplete applications shall not be processed.~~

B.
Adult Entertainment Manager, Server Or Entertainer License. All persons desiring to secure a license under the provisions of this Chapter to be a manager, server or adult entertainer at a sexually oriented business shall submit a notarized application to the Chief of Police. All applicants shall be submitted in the name of the person proposing to be a manager, server or adult entertainer. Incomplete applications shall not be processed. All applications shall be submitted on a form supplied by the City and shall require the following information:
1.
The applicant's name, home address, home telephone number, date and place of birth, social security number and any stage names or nicknames used in entertaining.
2.
The name and address of each sexually oriented business within the City where the applicant intends to work as a manager, server or adult entertainer and an "intent to hire" statement from a sexually oriented business that is licensed or that has applied for a license, under the provisions of this Chapter, indicating the sexually oriented business intends to hire the applicant to manage, serve or entertain on its premises.
3.
A statement from the applicant that the applicant has not been found guilty of any of the following specified offenses for which less than eight years has elapsed since the date of conviction or the date of release from confinement for the conviction, whichever is later:

(1) rape and sexual offenses;
(2) sexual offenses involving minors;
(3) offenses involving prostitution;
(4) obscenity offenses:
(5) offenses involving money laundering;
(6) offenses involving tax evasion;
(7) any attempt, solicitation, or conspiracy to commit one of the offenses listed in items (1)-(6); or
(8) any offense committed in another jurisdiction which if committed in Missouri would have constituted an offense listed in items (1)-(7).
~~convicted of, released from confinement for conviction of, pled guilty or nolo contendere to or has been diverted from prosecution on any specified criminal act or on:~~
~~a.~~
~~A felony criminal act within five (5) years immediately preceding the application; or~~
~~b.~~
~~A misdemeanor criminal act within two (2) years immediately preceding the application, where such felony or misdemeanor criminal act involved sexual offenses, prostitution, promotion of prostitution, sexual abuse of a child, pornography or related offenses as~~

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~~defined in the Missouri Criminal Code or involved controlled substances or illegal drugs or narcotics offenses as defined in the Missouri Controlled Substance Act or other Statutes or ordinances.~~

4.

A full set of fingerprints and a photograph, to be taken by the Police Department, of the applicant.

5.

The applicant shall present to the Police Department which shall thereupon copy documentation that the applicant has attained the age of eighteen (18) years at the time the application is submitted. Any of the following shall be accepted as documentation of age:

a.

A motor vehicle operator's license issued by any State bearing the applicant's photograph and date of birth;

b.

A State-issued identification card bearing the applicant's photograph and date of birth;

c.

An official and valid passport issued by the United States of America;

d.

An immigration card issued by the United States of America; or

e.

Any other form of identification deemed reliable by the Police Department.

~~Incomplete applications shall not be processed.~~

Section 617.060. Examination of Application — Issuance of License — Disapproval.

[Ord. No. 5132 §1, 4-26-2010; Ord. No. 5167 §1, 12-13-2010]

A.

Upon receipt of a complete application for a sexually oriented business license or a manager, server or adult entertainer license, it shall be the duty of the Chief of Police or his designee to investigate such application to determine whether the information contained in the application is accurate and whether the applicant is qualified to receive the license. The Chief of Police shall report the results of the investigation to the Finance Director not later than thirty (30) days from the date the complete application is received. If an application for a sexually oriented business license or a manager, server or adult entertainer license is in proper form and accompanied by the appropriate license fee, and if the applicant is qualified, the Chief of Police shall recommend issuance of a license by the Finance Director, who shall then issue the license.

B.

The license shall state that it is not transferable and is only in effect for the period for which it is issued. The license shall be kept posted in a conspicuous place in the place of business that is licensed or where the licensee is working, publicly visible upon entry by means of the main entrance to the premises.

C.

If an application for a license is disapproved, the applicant shall be immediately notified by the Police Chief by certified mail to the applicant's last known address and the notification shall state the basis for such disapproval.

Section 617.070. License Ineligibility and Disqualification.

[Ord. No. 5132 §1, 4-26-2010; Ord. No. 5167 §1, 12-13-2010]
A.
No person is eligible nor shall a license be issued to:
1.
A sexually oriented business applicant if one (1) or more of the following conditions exist:
a.
The applicant failed to supply all of the information requested on the application.
b.
The applicant gave materially false, fraudulent or untruthful information on the application.
c.
The applicant or any partner, corporate officer, director, manager, and member or person with an influential interest has been found guilty of any of offenses specified in Section **617.050** for which less than eight years has elapsed since the date of conviction or the date of release from confinement for the conviction, whichever is later~~convicted of or pled guilty or nolo contendere to any specified criminal act or any felony or a misdemeanor described in Section **617.050**~~.
d.
The applicant has had a similar license revoked or suspended in this or any other political subdivision during the past five (5) years.
2.
An applicant for a manager, server or adult entertainer license if one (1) or more of the following conditions exists:
a.
The employer for whom the applicant intends to work does not have or is ineligible to receive a sexually oriented business license for any of the reasons stated in Subsection **(1)** above.
b.
The applicant has been found guilty of any of offenses specified in Section **617.050** for which less than eight years has elapsed since the date of conviction or the date of release from confinement for the conviction, whichever is later~~convicted of or pled guilty or nolo contendere to any specified criminal act or any felony or a misdemeanor described in Section **617.050**~~.
c.
The applicant failed to provide all of the information required on the application.
d.
The applicant gave materially false, fraudulent or untruthful information on the application.
e.
The applicant has had a similar license revoked or suspended in this or any other political subdivision during the past five (5) years.

Section 617.080. Standards of Conduct.

[Ord. No. 5132 §1, 4-26-2010; Ord. No. 5167 §1, 12-13-2010]
A.
The following standards of conduct shall apply to all sexually oriented businesses, their employees, operators, and all managers, servers and adult entertainers and the patrons of sexually oriented businesses, while on or about the premises of the business:
1.
Interior restrictions.
a.
Adult entertainers shall perform at a distance of at least ten (10) feet away from any patron and shall not touch or be touched (directly or through clothing) by any patron while performing.
b.

Adult entertainers shall only perform on a fixed stage that is raised at least two (2) feet above the area on which the patron or patrons sit or stand, in a room of at least six hundred (600) square feet of floor area.
c.
No one shall be allowed on a stage during business hours besides a licensed adult entertainer, nor shall any employee other than a licensed adult entertainer appear in a semi-nude condition.
2.
Age restriction. Only persons eighteen (18) years of age or older shall be permitted on the premises of any sexually oriented business.
3.
Exterior observation. The premises of a sexually oriented business will be so constructed as to include an anteroom, foyer, partition or other physical barrier on all customer entrances and other doors that will assure that the remainder of the interior of the premises is not observable from the exterior of the building when doors are opened. In addition, all windows will be covered to prevent viewing of the interior of the building from the exterior of the building.
4.
Exterior display. No sexually oriented business will be conducted in any manner that permits the observation of live performers engaged in an erotic depiction or dance or any material or persons depicting, describing or relating to "specified sexual activities" or "specified anatomical areas", as defined in this Chapter~~herein~~, from any exterior source by display, decoration, sign, show window or other opening.
5.
Nudity prohibited. No employee, server or adult entertainer or other person at a sexually oriented business shall appear nude, unclothed, in less than opaque attire (consisting of fabric, not body paint) or in any fashion that exposes to view any "specified anatomical area" as defined in this Chapter~~herein~~.
6.
Certain acts prohibited.
a.
No employee, manager, server or adult entertainer shall perform any "specified sexual activities" as defined in this Chapter~~herein~~, wear or use any device or covering exposed to view which simulates any "specified anatomical area" as defined in this Chapter~~herein~~, use artificial devices or inanimate objects to perform or depict any of the "specified sexual activities" as defined in this Chapter~~herein~~ or participate in any act of prostitution.
b.
No employee, manager, server, adult entertainer or patron of a sexually oriented business shall knowingly touch, fondle or caress any "specified anatomical area" as defined in this Chapter~~herein~~ of another person or knowingly permit another person to touch, fondle or caress any "specified anatomical area" as defined in this Chapter~~herein~~ of such employee, server, adult entertainer or patron, whether such "specified anatomical areas" are clothed, unclothed, covered or exposed. No one in a semi-nude condition shall touch any other person or the clothing of any other person.
c.
No employee, manager, server or adult entertainer of a sexually oriented business shall be visible from the exterior of the business premises while such person is unclothed or in such attire, costume or clothing as to expose to view any "specified anatomical area" as defined in this Chapter~~herein~~.
d.
No adult entertainer shall solicit, demand or receive any payment or gratuity from any patron or customer for any act prohibited by this Chapter or other law and no adult entertainer shall receive any payment or gratuity from any customer for any entertainment except as follows:
(1)

While such adult entertainer is on a stage or platform, a customer or patron may place such payment or gratuity into a box affixed to the stage or platform; or

(2)

While such adult entertainer is not on a stage or platform and is clothed so as to not expose to view any "specified anatomical area" as defined in this Chapter~~herein~~, a customer or patron may place such payment or gratuity into the adult entertainer's hand.

e.

No owner, operator, manager or other person in charge of the premises of a sexually oriented business premises shall:

(1)

Knowingly permit intoxicating liquor of any type to be brought upon, sold or consumed on the premises;

(2)

Knowingly allow or permit the sale, distribution, delivery or consumption of any controlled substance or illegal drug or narcotic on the premises;

(3)

Knowingly allow or permit any person under the age of eighteen (18) years of age to be in or upon the premises;

(4)

Knowingly allow or permit any act of prostitution or patronizing prostitution on the premises; or

(5)

Knowingly allow or permit a violation of this Chapter or any other City ordinance or County, State or Federal law.

7.

Signs required. All sexually oriented businesses shall have conspicuously displayed in the common area inside the principal entrance to the premises a sign, on which uppercase letters shall be at two (2) inches high and lowercase letters shall be at least one (1) inch high, which shall reads as follows:

THIS SEXUALLY ORIENTED BUSINESS IS REGULATED AND LICENSED BY THE CITY OF CREVE COEUR

* No person shall engage in any type of sexual conduct or prostitution on the premises or fondle, caress or touch the breasts, pubic region, buttocks or genitals of any other person or ~~to~~ permit any other person to fondle, caress or touch their breasts, pubic region, buttocks or genitals.
* No person shall be nude, unclothed or in less than opaque attire, costume or clothing so as to expose to view any portion of the breasts below the top of the areola or any portion of the pubic region, buttocks and/or genitals.
* No person shall make or receive any payment or gratuity related to the performance of an adult entertainer, except as follows:

While the entertainer is on the stage, by placement of such payment or gratuity into a box affixed to the stage, or

While the entertainer is not on the stage but is fully clothed, by placement of such payment or gratuity into their hand.

CUSTOMERS ARE NOT PERMITTED TO BE UPON STAGE AT ANY TIME

8.

Lighting required. The premises of a sexually oriented business shall be equipped with overhead lighting of sufficient intensity to illuminate every place to which customers or patrons are permitted access to an illumination of not less than one (1) foot-candle as measured at the floor level and such illumination must be maintained at all times that any customer or patron is present in or on the premises.

9.

Closed booth or room prohibited. The premises of a sexually oriented business shall be physically arranged in such manner that the entire interior portions of any booths, cubicles, rooms or stalls are visible from a common area of the premises. Visibility shall not be blocked or obscured by doors, curtains, drapes or any other obstruction whatsoever. In addition, all requirements of State law must be met (see for example Section 573.531.6 RSMo.).

10.

Ventilation and sanitation requirements. The premises of a sexually oriented business shall be kept in a sanitary condition. Separate dressing rooms and restrooms for men and women shall at all times be maintained and kept in a sanitary condition. No adult media shall be displayed in restrooms.

11.

Hours of operation. A sexually oriented business may only be open for business or in use by customers between 11:00 A.M. and 11:00 P.M. on any day besides a Sunday. A sexually oriented business shall not be open for business or in use by customers at any other times.

12.

Breast-feeding. Consistent with Section 191.918 RSMo., notwithstanding any other provision of this Chapter, a mother may with discretion breast-feed her child or express breast milk in any public or private place where the mother is otherwise authorized to be, and such conduct shall not constitute sexual conduct or sexual contact or be considered indecent or otherwise prohibited or restricted.

Section 617.090. Manager On Premises.

[Ord. No. 5132 §1, 4-26-2010; Ord. No. 5167 §1, 12-13-2010]

A.

A licensed manager shall be on duty at a sexually oriented business at all times the premises is open to the public. The name of the manager on duty shall be prominently posted so as to be publicly visible upon entering the main entrance during business hours.

B.

It shall be the responsibility of the manager to verify that any person who works as an adult entertainer or as a server within the premises possesses a current and valid adult entertainer's license or server's license and that all required licenses are prominently posted as required by ordinance.

Section 617.100. Inspector and Inspections.

[Ord. No. 5132 §1, 4-26-2010; Ord. No. 5167 §1, 12-13-2010]

All sexually oriented businesses shall permit representatives of the Police Department or any other City Official acting in their official capacity to inspect portions of the premises accessible to the public on a monthly basis to insure the business is complying with all applicable regulations and laws.

Section 617.110. Suspension, Revocation or Non-Renewal — License.

[Ord. No. 5132 §1, 4-26-2010; Ord. No. 5167 §1, 12-13-2010]

A.

~~Whenever t~~The Police Chief shall notify the Finance Director whenever the Police Chief has
1.
The owner or operator of a licensed sexually oriented business or a holder of a manager, server or adult entertainer license has violated or knowingly allowed or permitted the violation of any of the provisions of the City Code; or
2.
There have been recurrent violations of provisions of this Chapter that have occurred under such circumstances that the owner or operator of a sexually oriented business knew or should have known that such violations were committed; or
3.
A sexually oriented business license or manager, server or adult entertainer license was obtained through false statements in the application for such license or renewal thereof; or
4.
A sexually oriented business licensee or a manager, server or adult entertainer licensee failed to make a complete disclosure of all information in the application for such license or renewal thereof; or
5.
The owner or operator or any partner or any corporate officer or director, member or manager or other person with an influential interest of an entity holding a sexually oriented business license has become disqualified from having a license by a conviction as provided in this Chapter; or
6.
The holder of a manager, server or adult entertainer license has become disqualified from having a license by a conviction as provided in this Chapter.

B. Upon receipt of such notice from the Police Chief, ~~the Police Chief shall notify~~ the Finance Director ~~who~~ shall conduct a public hearing upon reasonable notice to determine whether the license should be suspended or revoked. Based on the evidence produced at the hearing, the Finance Director may take any of the following actions:

1~~a~~.
Suspend the license for up to ninety (90) days.
2~~b~~.
Revoke the license for the remainder of the license year.
3~~c~~.
Place the license holder on administrative probation for a period of up to one (1) year, on the condition that no further violations of this Chapter occur during the period of probation. If after a hearing upon reasonable notice it is determined that another violation has occurred, the license will be revoked for the remainder of the license year.
4~~d~~.
Any action authorized in the City Code not inconsistent with this Section.

Section 617.120. License Renewal.

[Ord. No. 5132 §1, 4-26-2010; Ord. No. 5167 §1, 12-13-2010]
A.
A license may be renewed by making an application for renewal pursuant to Section 617.050 to the Police Chief ~~on application forms provided for that purpose~~. Licenses shall expire on March fifteenth (15th) of each calendar year and renewal applications for such licenses shall be submitted to the Police Chief by the preceding February fifteenth (15th) of each license year to avoid a gap in licensing.
B.

Upon timely application and review as provided for a new license, a license issued under the provisions of this Chapter shall be renewed by issuance of a new license in the manner provided in this Chapter.
C.
If the application for renewal of a license is not made during the time otherwise provided in the Creve Coeur Municipal Code, a new application shall be required.

Section 617.130. Review.

[Ord. No. 5132 §1, 4-26-2010; Ord. No. 5167 §1, 12-13-2010]
Following the entry of an order suspending or revoking a license issued pursuant to this Chapter or disapproving the application or renewal application for a license, such licensee or applicant may seek review in a manner provided by law.

Section 2. This ordinance shall become effective in accordance with Section 3.11 (g) of the City Charter.

ADOPTED THIS ____DAY OF ___________________, 2016.

____
ELLEN LAWRENCE
PRESIDENT OF CITY COUNCIL

APPROVED THIS ___ DAY OF ____________________, 2016

____
BARRY GLANTZ, MAYOR

ATTEST:

____
DEBORAH RYAN, CITY CLERK, MPCC

city of CREVE COEUR

300 North New Ballas Road • Creve Coeur, Missouri 63141
(314) 432-6000 • Fax (314) 872-2539 • Relay MO 1-800-735-2966
www.creve-coeur.org

MEMO TO CITY ADMINISTRATOR AND CITY COUNCIL

Meeting Date: July 25, 2016

Subject: Ordinance Amending Chapter 617 Regarding Sexually Oriented Businesses

Memo Prepared by: Jason W. Jaggi, AICP, Director of Community Development

Attachments: Draft Amended Ordinance, Chapter 617

The attached amendment reflects changes in the City's ordinances for parallel conformance with recent changes to state law regarding the regulation of sexually oriented businesses. The amendment also clarifies that clothing must be fully opaque and of fabric material and that body paint does not constitute sufficient covering.

Chapter 617 regulates the standards of conduct and licensing requirements for sexually oriented businesses. The following is a summary of the changes to this Chapter as found in the attached amended ordinance:

- The definitions specific to these uses have been modified or new definitions have been added to reflect changes in terminology at the state level. (Pages 1-6)
- The definition of the phrase "Semi-Nude or State of Semi-Nudity" has been revised to specify coverage other than opaque fabric constitutes a "showing" and that body paint does not qualify as a fabric material for the purposes of these regulations. (Page 4)
- Revises the list of specified offenses that would disqualify an individual from obtaining a license to operate if previously found guilty within the past 8 years within the Sexually Oriented Business License Application requirements section. (Page 8)
- Revises the list of specified offenses that would disqualify an individual from obtaining a license to operate if previously found guilty within the past 8 years within the Adult Entertainment Manager, Server, or Entertainer Licensing section. (Page 9)
- Declares an applicant disqualified to obtain a license if convicted of specified offenses enumerated in prior sections. (Page 11)
- Revises the Standards of Conduct section to emphasize the prohibition of employees to appear in a semi-nude state with less than fully opaque fabric covering and specifying body paint is not considered fabric covering. (Pages 12 and 13)
- Exempts breast-feeding as a prohibited act in conformance with state law. (Page 14)

In addition to the above changes, the ordinance proposes several minor edits to clarify existing language.

The Planning and Zoning Commission held a public hearing on a text amendment application to Chapter 405, Section 405.120 of the Zoning Code on July 18, 2016 which involved similar revisions. The Planning Commission voted unanimously to recommend approval of the amendment which is also on the agenda.

City Council
300 North New Ballas Rd
Creve-Coeur, MO 63141

SCHEDULED

RESOLUTION

Meeting: 07/25/16 07:00 PM
Department: Public Works Department
Category: Contract
Prepared By: Matt Wohlberg
Department Head: Jim Heines

Resolution No. 1234 - a Resolution of the City Council of the City of Creve Coeur, Missouri, Approving the Use of a Contract Established by the City of Kirkwood as the Basis for a Cooperative Purchasing Agreement for the Procurement of Microsurfacing Services.

The City of Kirkwood has recently received bids for microsurfacing and included a clause in its bid that allowed the bid to be extended to area municipalities like Creve Coeur. Given the competitive bid prices and the quality of the product that has been observed, staff recommends entering into a contract with Donelson Construction that extends the terms of the Kirkwood contract to the City of Creve Coeur.

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF CREVE COEUR, MISSOURI, APPROVING THE USE OF A CONTRACT ESTABLISHED BY THE CITY OF KIRKWOOD AS THE BASIS FOR A COOPERATIVE PURCHASING AGREEMENT FOR THE PROCUREMENT OF MICROSURFACING SERVICES.

WHEREAS, the City of Creve Coeur provides safe public rights of way for its commercial and residential communities;

WHEREAS, it is necessary for the City to improve and maintain its asphalt pavement network to provide safe rights of way and to maintain the quality of life expected by the community;

WHEREAS, microsurfacing is one of several techniques used by the City to maintain its asphalt roadway pavement;

WHEREAS, Section 140.030 of the City of Creve Coeur Code of Ordinances allows the City to enter into acceptable cooperative purchasing agreements, and that such agreements can be based upon a contract established by another governmental entity;

WHEREAS, the City of Kirkwood solicited competitive bids for microsurfacing and related services on March 1, 2016, with contract terms, conditions, and specifications that are similar to or more stringent than those used by the City of Creve Coeur;

WHEREAS, Donelson Construction Company, LLC, provided the lowest and best bid for the Kirkwood project and agreed to extend this bid to other interested municipalities, such as the City of Creve Coeur.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF CREVE COEUR, AS FOLLOWS:

Section 1. The City's participation in a cooperative purchasing agreement, whereby microsurfacing and related services are procured in accordance with the requirements and bid prices for the City of Kirkwood "2016 Microsurfacing" project (Bid Number 11362), is hereby approved.

Section 2. The Contract between **Donelson Construction Company, LLC,** and the City, attached hereto as "Exhibit A," with a **contract sum not to exceed $ 182,866.31**, is hereby approved and the City Administrator is hereby authorized and directed to enter into and execute that Contract. The Contract as executed shall be substantially in the form of "Exhibit A," with such changes therein as shall be approved by the officers of the City executing same, consistent with the provisions and intent of this Resolution. The City Administrator and his designated representatives are hereby authorized and directed to take any and all actions necessary, desirable, convenient, or proper in order to carry out the intent of this Resolution, the matters herein authorized, and the rights and duties of the City under the Contract.

Adopted this 25th day of July, 2016.

____

Barry Glantz

Mayor

Attest:

____

Deborah Ryan, City Clerk

EXHIBIT A

CITY-CONTRACTOR AGREEMENT

This is an Agreement made and entered into the ____ day of ___________, 2016, by and between the City of Creve Coeur, Missouri (hereinafter called the "City") and, **Donelson Construction Company, LLC,** with offices at **1075 Wise Hill Road, Clever, Missouri 65631** (hereinafter called the "Contractor"). The project identified as the **2016 Microsurfacing Project** (hereinafter referred to as the "Project" or the "Work").

WITNESSETH:

The Contractor and the City for the consideration set forth herein agree as follows:

ARTICLE I

The Contract Documents

The Contract Documents which comprise the entire agreement between the City and the Contractor consist of the following:

1) This City-Contractor Agreement
2) Special Provisions and Detailed Specifications in City of Kirkwood bid documents for "2016 Micro Surfacing" project (Bid Number 11362).
3) Performance Payment Bond
4) Construction Schedule
5) All Modifications issued after execution of this Contract
6) The Saint Louis County Standard Specifications for Highway Construction, dated July 1, 2015, referred to herein as the "Standard Specifications" and applicable to the Work of this Contract by reference;

7) The latest version of the Manual on Uniform Traffic Control Devices for Streets and Highways (MUTCD)

The documents listed above, together with this Agreement, form the Contract and are all as fully a part of the Contract as if attached to this Agreement or repeated herein. All definitions set forth in the General Conditions of City-Contractor Agreement are applicable to this Agreement.

ARTICLE II

Scope of Work

The Contractor, acting as an independent contractor, shall do everything required by the Contract Documents. The Contractor represents and warrants that he has special skills which qualify him to perform the Work in accordance with the Contract and that he is free to perform all such Work and is not a party to any other agreement, written or oral, the performance of which would prevent or interfere with the performance, in whole or in part, of the Work.

ARTICLE III

Time of Completion

All time limits stated in the Contract Documents are of the essence. The Work to be performed under the Contract shall be substantially completed **within sixty (60) days of the written notice to proceed**, unless specified otherwise in writing by the City.

ARTICLE IV

The Contract Sum and Payments

The "Contract Sum" is hereby defined as the sum total of the products of the estimated quantity of each bid item in the Bid Form Proposal and the unit price bid by the Contractor in the Bid Form Proposal for that item, adjusted to account for any Modification(s), as defined in the General Conditions, made in compliance with Article VII of this Agreement and made prior to the execution of this Agreement. Therefore, the Contract Sum represents a reasonable estimate of the anticipated final contract value at the time of the execution of this Agreement. Both the Contractor and the City acknowledge that the actual work may require different item quantities than those that were included in the Bid Form Proposal or a pre-construction Modification and that the completed and accepted item quantities will be reconciled against the estimated quantities through a final change order upon the completion of the Work.

The Contract Sum for this Work shall be one-hundred-eighty-two thousand, eight hundred, and sixty-six dollars and thirty-one cents ($ 182,866.31). The Contract unit prices and Contract item quantities are listed in Table 1 of this Agreement. These unit prices and item quantities form the basis of the not-to-exceed Contract Sum, as described above and as illustrated in Table 1. All payments for the Work shall be based upon the Contract unit costs listed in Table 1.

Based upon Applications for Payment submitted by the Contractor on or before the twentieth day of the month for work completed and accepted by the City, in accordance with the Contract Documents, except as otherwise required by Section 34.057 RSMo. the City shall pay the Contractor as follows:

(1) On or about the tenth day of each following month, ninety percent (90%) [95% if Contract Sum exceeds $50,000] of the value of the portion of the Work that has been completed and accepted to date, less the aggregate of all previous progress payments;

(2) Upon completion of the Work, the Contractor and the City shall execute a final Modification to this Agreement to reconcile the quantity of each completed and accepted Contract item with the estimated quantity of that item included in Table 1 and adjusted through subsequent Modification(s), if any, made in compliance with Article VII of this Agreement; and

(3) Final payment shall be made within thirty (30) days after the Work is fully completed and accepted by the City and the Contract fully performed.

ARTICLE V
Performance of the Work

a) Within seven (7) calendar days after being awarded the Contract, the Contractor shall prepare and submit for the City's approval:

(1) a Construction Schedule for the Work in a bar chart format which Construction Schedule shall indicate the dates for starting and completing the various stages of construction on a street by street basis, and

(2) a Traffic Control Plan indicating the location of all proposed signage, detours, and road closures throughout the project which adequately address the traffic control required for the proposed work. All traffic control shall be according to the standards of the Manual on Uniform Traffic Control Devices (MUTCD) developed by the Federal Highway Administration and shall be signed and sealed by a professional engineer who is licensed in the state of Missouri.

b) The Notice To Proceed shall be issued within fourteen (14) calendar days of the award, however no work will commence until the Contractor's Construction Schedule and Traffic Control Plan are submitted and approved by the City.

c) The Contractor shall be required to substantially finish portions of the work as designated by the Director of Public Works prior to continuation of further work remaining on the project. This may include backfilling, paving, sodding, or cleanup as designated by the Director of Public Works.

d) Completion of the Work in accordance with the time limits set forth in the Construction Schedule is an essential condition of the Contract. If the Contractor fails to complete the Work in accordance with the Construction Schedule, unless the delay is excusable under the provisions of Article VI hereof, the Contractor shall pay the City as liquidated damages, and not as a penalty, the sum of two hundred and fifty dollars ($250.00) for each calendar day the Contractor fails to comply with the Construction Schedule. The total amount so payable to the City as liquidated damages may be deducted from any sums due or to become due to the Contractor from the City.

e) After Commencement of the Work, and until final completion of the Work, the Contractor shall report to the City, at such intervals as the City may reasonably direct, the actual progress of the work compared to the Construction Schedule. If the Contractor falls behind the Construction Schedule for any reason, he shall promptly take, and cause his Subcontractors to take, such action as is necessary to remedy the delay, and shall submit promptly to the City for approval a supplementary schedule or progress chart demonstrating the manner in which the delay will be remedied; provided, however, that if the delay is excusable under Article VI hereof, the Contractor will not be required to take, or cause his Subcontractors to take, any action which would increase the overall cost of the Work (whether through overtime premium pay or otherwise), unless the City shall have agreed in writing to reimburse the Contractor for such increase in cost. Any increase in cost incurred in remedying a delay which is not excusable under Article VI hereof shall be borne by the Contractor.

ARTICLE VI

Delays Beyond Contractor's Control

(a) If the Contractor fails to complete the Work in accordance with the Construction Schedule solely as a result of the act or neglect of the City, or by strikes, lockouts, fire or other similar causes beyond the Contractor's control, the Contractor shall not be required to pay liquidated damages to the City pursuant to paragraph (d) of Article V hereof, provided the Contractor uses his best efforts to remedy the delay in the manner specified in paragraph (d) of Article V hereof. If, as a result of any such cause beyond the Contractor's control, the delay in completion of the Work in accordance with the Construction Schedule is so great that it cannot be remedied in the aforesaid manner, or if the backlog of Work is so great that it cannot be remedied without incurring additional cost which the City does not authorize, then the time of completion and the Construction Schedule shall be extended pursuant to a Change Order for the minimum period of delay occasioned by such cause. The period of delay and extension shall be determined by the City.

(b) Notwithstanding the foregoing paragraph (a), no extension of time shall be granted for any delay the cause of which occurs more than seven (7) days before claim therefore is made in writing by the Contractor to the City, and no extension of time shall be granted if the Contractor could have avoided the need for such extension by the exercise of reasonable care and foresight, as determined by the Director of Public Works. In the case of a continuing cause of delay, only one claim is necessary.

(c) Weather shall not constitute a cause for granting an extension of time.

(d) In the event a delay is caused by the City, the Contractor's sole remedy shall consist of his rights under this Article VI.

ARTICLE VII

Changes in the Work

(a) The City may make changes within the general scope of the contract by altering, adding to, or deducting from the Work, the Contract Sum being adjusted accordingly. All such changes in the Work shall be executed under the conditions of the Contract. No extra work or change shall be made except pursuant to a Change Order from the City in accordance with the General Conditions. Any claim for an increase in the Contract Sum resulting from any such change in the Work shall be made by the Contractor in accordance with the General conditions.

(b) If the requested change would result in a delay in the Construction Schedule, the provisions of Article V, paragraph (d), and Article VI hereof shall apply. If the requested change would result in a decrease in the time required to perform the Work, the completion date and the Construction Schedule shall be adjusted by agreement between the parties to reflect such decrease.

(c) Any adjustment in the Contract Sum for duly authorized extra work or change in the Work shall be determined based on the Contract unit prices listed in Table 1 of this Agreement, to the extent such unit prices are applicable. To the extent such unit prices are not applicable, the adjustment in the Contract Sum shall, at the option of the City, be determined by an acceptable fee properly itemized and supported by sufficient substantiating data to permit evaluation, by an acceptable cost-plus-percentage fee, or by an acceptable fixed fee.

ARTICLE VIII

Termination by City or Contractor

(a) If the Contractor is adjudged a bankrupt; or if the Contractor makes a general assignment for the benefit of creditors; or if a received is appointed on account of the Contractor's insolvency; or if the Contractor persistently or repeatedly fails, except in cases for which extension of time is provided, to make progress in accordance with the Construction Schedule; or if the Contractor fails to make prompt payment to Subcontractors or for material or labor, or persistently disregards laws, ordinances or the instructions of the City, or otherwise breaches any provision of the Contract, the City may, without prejudice to any other right or remedy, by giving written notice to the Contractor and his surety, terminate the Contract, take possession of the Work and of all materials and equipment thereon, and finish the Work by whatever method the City may deem expedient. If the unpaid balance of the value of the Work completed to date shall exceed the expenses of finishing the Work, including additional professional, managerial, and administrative expenses, such excess shall be paid to the Contractor. If such expenses shall exceed the unpaid balance of the value of the Work completed to date, the Contractor shall pay the difference to the City promptly upon demand.

In the event of termination pursuant to this paragraph, the Contractor, upon the request of the City, shall promptly:

(i) assign to the City in the manner and to the extent directed by the City all right, title, and interest of the Contractor under any subcontracts, purchase orders, and construction equipment leases to which the Contractor is a party and which relate to the Work or to construction equipment required therefore, and

(ii) make available to the City, to the extent directed by the City, all construction equipment owned by the Contractor and employed in connection with the Work.

(b) Performance of the Work hereunder may be terminated by the City by giving three (3) days prior written notice to the Contractor if the City, in its sole discretion, decides to discontinue or suspend construction. In the event of such termination, as opposed to termination pursuant to paragraph (a) of this Article VIII, the Contract Sum shall be reduced in an equitable manner by agreement between the parties.

ARTICLE IX
Contractor's Liability Insurance

The Contractor shall purchase and maintain in full force and effect the following insurance coverage with an insurance carrier acceptable to the City:

The policy shall be endorsed to cover the contractual liability of the Contractor under the General Conditions.

The Contractor and his Subcontractors shall procure and maintain during the life of this agreement insurance of the types and minimum amounts as follows:

(a) Workers' Compensation in full compliance with statutory requirements of Federal and State of Missouri law and Employers' Liability coverage in the amount of $1,000,000.

(b) Comprehensive General Liability and Bodily Injury

Including Death:	$1,000,000 each person
	$1,000,000 each occurrence
Property Damage:	$1,000,000 each occurrence
	$1,000,000 aggregate

(c) Comprehensive Automobile Liability, Bodily Injury

Including Death:	$1,000,000 each person
	$1,000,000 each occurrence
Property Damage:	$1,000,000 each accident

(d) Owner's Protective Bodily Injury

Including Death:	$1,000,000 each person
	$1,000,000 each occurrence
Property Damage:	$1,000,000 each occurrence
	$1,000,000 aggregate

The Owner's Protective policy shall name the City as the Insured. Certificates evidencing such insurance shall be furnished the City prior to Contractor commencing the work on this project. The certificates must state **"The City of Creve Coeur is an additional primary insured."** The certificate must provide for thirty (30) days advance notice to the City as certificate holder of any change or cancellation, and any necessary policy endorsements must be provided.

ARTICLE X

Equal Opportunity and Non-Discrimination

The Contractor will comply with all provisions of federal, state, and local codes, ordinances, and regulations governing the regulation of Equal Employment Opportunity and Non-Discrimination.

In the event that any or all of the provision(s) of this Article conflict with federal, state, or other local laws, ordinances, or regulations, then the requirements of such federal, state, or local laws, ordinances, or regulations shall prevail. Compliance with the foregoing provisions shall not relieve the Contractor from adherence to any and all additional requirements regarding equal employment or non-discrimination set forth in such federal, state, or other local laws, ordinances, or regulations.

During the performance of this contract, the contractor, for itself, its assignees and successors, in interest (hereinafter referred to as the "contractor") agrees, as follows:

1. Compliance with Regulations: The contractor shall comply with Regulations relative to nondiscrimination in Federally-assisted programs of the Department of Transportation, Title 49, Code of Federal Regulations, Part 21, as they may be amended from time to time (hereinafter referred to as the Regulations), which are herein incorporated by reference and made a part of this contract.

   Further, on any federal assisted contract, the Contractor and sub-contractor agree to comply with the Equal Employment Opportunity provisions cited in CFR 23, Subpart D – Construction Contract Equal Employment Opportunity Compliance Procedures, CFR 49 – Non-Discrimination in Federally-assisted Programs of the Department of Transportation – Effectuation of Title VI of the Civil Rights Act of 1964, E.E. 11246 and Title VII of the Civil Rights Act of 1964.

2. Nondiscrimination: The contractor, with regard to the work performed by it during the contract, shall not discriminate on the grounds of race, color, national origin, income, limited English proficiency, sex, gender identity, sexual orientation, age or disability in the selection, retention, and treatment of subcontractors, including procurements of materials in the discrimination prohibited by Section 21.5 of the Regulations, including employment practices when the contractor covers a program set for in Appendix B of the Regulations.

3. Solicitation for Subcontracts, Including Procurements of Materials and Equipment: In all solicitations either by competitive bidding or negotiation made by the contractor for work

to be performed under a subcontract, including procurements of materials or leases of equipment, each potential subcontractor or supplier shall be notified by the contractor of the contractor's obligations under the contract and the Regulations relative to nondiscrimination on the grounds of race, color, national origin, income, limited English proficiency, sex, gender identity, sexual orientation, age or disability.

4. Information and Reports: The contractor shall provide all information and reports required by the Regulations, or directives issued pursuant thereto, and shall permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the State Highway Department of the Federal Highway Administration to be pertinent to ascertain compliance with such Regulations or directives. Where any information required of a contractor is in the exclusive possession of another who fails or refuses to furnish this information, the contractor shall so certify to the State Highway Department or the Federal Highway Administration, as appropriate, and shall set forth what efforts it has made to obtain the information.

5. Sanctions for Noncompliance: In the event the contractor's noncompliance with the nondiscrimination provisions of this contract, the State Highway Department shall impose such contract sanctions as it or the Federal Highway Administration may determine to be appropriate, including, but not limited to:
   a) Withholding payments to the contractor under the contract until the contractor complies and/or
   b) Cancellation, termination or suspension of the contract, in whole or in part.

6. Incorporation of Provisions: The contractor shall include provisions of paragraphs (1) through (5) in every subcontract, including procurement of material and leases of equipment, unless exempt by the Regulations, or directives issued pursuant thereto. The contractor shall take such action with respect to any subcontract or procurement as the State Highway Department or the Federal Highway Administration may direct as a means of enforcing such provisions including sanctions for noncompliance: Provided, however, that, in the event a contractor becomes involved in, or is threatened with, litigation with a subcontractor or supplier as a result of such direction, the contractor may request the State Highway Department to enter into such litigation to protect the interests of the State, and, in addition, the contractor may request the United States to enter into such litigation to protect the interests of the United States.

ARTICLE XI

Conflicts of Interest

The parties agree to abide by all applicable federal, state, and local laws, ordinances, and regulations relating to conflicts of interest. A detailed discussion of conflicts of interest can be found in Section 5.6 of the General Conditions of City-Contractor Agreement.

ARTICLE XII

The Work

The Contractor shall furnish all labor, materials, and equipment necessary to complete all activities within the project limits, as specified in the Contract Documents. The Scope of Work generally includes the application of an asphaltic surface sealant to selected residential and commercial roadways within the City of Creve Coeur. The Scope of Work provides for items as more specifically described in the referenced Contract Documents.

All work shall be completed to the satisfaction of the Director of Public Works for the City of Creve Coeur.

TABLE 1 – CONTRACT UNIT PRICES

ITEM	QUANTITY	UNIT	UNIT COST	EXTENDED COST
MAQS Driving Surface **	44,391	SY	$3.37	$149,597.67
MAQS-Flex	9,872	SY	$3.37	$33,268.64
NOT-TO-EXCEED CONTRACT SUM:				**$182,866.31**

** Item thickness to be less than 3/8”.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement:

CITY OF CREVE COEUR

By: ______________________________
Mark C. Perkins, City Administrator

By: ______________________________
James H. Heines, Director of Public Works

(SEAL)

Attest: ______________________________
City Clerk

Date: ______________________________

DONELSON CONSTRUCTION COMPANY, LLC

By: ______________________________
Signature

____
Printed Name

____
Title

(SEAL)

Attest: ______________________________

Date: ______________________________

DEPARTMENT OF PUBLIC WORKS
STAFF MEMORANDUM

DATE: July 19, 2016

TO: Mark Perkins, City Administrator

FROM: Jim Heines, Director of Public Works
Matt Wohlberg, P.E., City Engineer

SUBJECT: Recommendation to Pursue Cooperative Purchasing Agreement
2016 Microsurfacing Program

City staff has reviewed the bid documents from a recent competitive public bid for microsurfacing issued by the City of Kirkwood, and staff recommends that the City approve the use of this bid as the basis for a cooperative purchasing agreement, as is provided for in the Kirkwood bid documents and the Code of Ordinances of the City of Creve Coeur.

Microsurfacing
Microsurfacing is a thin, asphalt-based pavement surface treatment whose purpose is to help preserve asphalt pavement. It does this by sealing the pavement from water infiltration and by providing a new driving surface.

Microsurfacing is not an asphalt overlay: it is poured and spread over the pavement rather than rolled smooth. Micorsurfacing also relies upon the pavement below it for its strength, meaning that it is best applied to streets that are in good condition. The City's Public Works crews typically replace failed sections of pavement along streets in this program to provide a solid foundation for the microsurfacing application.

Project Locations
The streets that are proposed for this project include:

Ridgemoor Forest Subdivision
- Angleterre Drive
- Carillon Court
- Rugby Drive
- Trammel Court
- Villa Hill Lane

Mason Forest Subdivsion
- Hibler Woods Court
- Hibler Woods Drive
- Mason Forest Drive

Broadview Farm Subdivision
- Broadview Farm Drive

Balcon Estates Subdivision
- Balcon Estates Drive

Additional Streets
- Corporate Square Drive
- Martin Grove Lane
- Rolling View Drive
- Will Avenue

These locations were discussed with the City Council in April 2016 during the development of the FY2017 capital improvement plan. The staff report from that work session and a map illustrating the locations of these streets are attached for reference.

This list is longer than usual, as it includes the streets that were expected to be completed in FY2016 and FY2017. As discussed below, the City's bid for the FY2016 project in the spring of 2016 was not successful. Therefore, staff recommended to combine the programs from these two fiscal years, and the FY2017 budget was adjusted accordingly.

FY2016 Bid Results

City staff solicited bids for this project in April 2016, but only one bid was received. Staff learned that one of the two companies in the St. Louis area that perform microsurfacing had filled its schedule for the summer with work for the Illinois Department of Transportation and therefore did not bid on the City's project.

Cooperative Agreement using Kirkwood Bid

Following the City's bid opening, City staff learned that the City of Kirkwood had bid its microsurfacing project and included a cooperative agreement clause to invite its contractor to extend the project to municipalities in the St. Louis area. Staff understands that the City of Ballwin has used the Kirkwood bid as the basis for its microsurfacing project this year.

According to Section 140.030 of the City of Creve Coeur Code of Ordinances, the City may participate in a cooperative purchasing agreement that is based upon a contract that was legally set up by another government entity. This section further defines an "acceptable" cooperative agreement to be one that contains the same terms, conditions, and specifications as the City would include in its own contract documents.

The staff review of the Kirkwood bid document found that Kirkwood's terms and conditions are substantially similar to the City's. The Kirkwood specifications, however, call for a microsurfacing product that is stronger, more durable, and cures faster than the St. Louis County standard specification used by the City.

Similar to the City's experience, Kirkwood's bid process resulted in only one bidder, but the bid price Kirkwood received was substantially lower. Donelson Construction Company provided Kirkwood with a bid of $3.37 per square yard for microsurfacing, whereas the bid the City received from Missouri Petroleum was $3.96 per square yard.

Therefore, the cooperative agreement recommended by staff is to enter into a contract with Donelson Construction Company using the City of Kirkwood bid as the basis for establishing the cost, terms, and specifications for the work. The proposed contract would not actually involve the City of Kirkwood, other than to reference their bid documents.

Review of Donelson Construction Company

Staff were invited to observe Donelson Construction as they applied microsurfacing to a residential street in Ballwin in 2015. Staff found that the Donelson crew was capable of installing the microsurface but needed to remove and replace one of the cul-de-sacs in that demonstration. Otherwise, the demonstration illustrated that Donelson's materials went down well and set nicely and that their workmanship was good. Based upon this observation, City staff finds that Donelson Construction will likely provide the City with a good product.

Modified microsurfacing pre-treatment. Donelson Construction offers additional products and services, including a version of the microsurfacing application that has been modified to be significantly more flexible. This version has been developed to be applied on distressed areas of pavement to act as a buffer between the existing cracks and the final microsurfacing application so that the final surface does not crack due to the issues it has covered. Staff has successfully used a similar concept with asphalt resurfacing in the past and recommends trying this product with this microsurfacing program.

The cost of this product enhances the staff recommendation. At $3.37 per square yard (the same price as the microsurfacing application), this product could prove to save significant staff time in the patching and preparation of streets for the microsurfacing project. Considering that certain areas are patched to provide a smoother driving surface and that each patch typically requires several hours of staff time to complete, it would be in the City's best interest to have that area addressed with the Donelson pre-treatment product for about $10, if appropriate.

Project Schedule

Work has been underway to prepare the project roadways for microsurfacing for a few years, in part due to the postponement of the work until FY2017 but also to accommodate the various programs involved in that preparation. Milestones in the project include:

Spring/Summer 2013, 2014, and 2015 ....Replacement of damaged concrete curbs
Spring/Summer 2015 and 2016 ....Public Works roadway patching
February-March 2016 ....City of Kirkwood microsurfacing bid
March/April...City of Creve Coeur FY2016 microsurfacing bid
April 2016 ....CIP work session with City Council
July 2016* ....*Recommendation of award of microsurfacing project to City Council
July 2016..Project award
August/September 2016...........................Construction

If authorization is given to execute the contract, construction would likely follow in August. In past years, this project has been pushed to be completed prior to schools resuming for the fall semester in order to minimize the conflict between road closures and school buses. The shorter cure time for the Donelson microsurfacing product over what has been used in the past (i.e. 1-2 hours vs. 4-6 hours) will significantly shorten lane closures and will allow the project to occur during the school year, if necessary.

Financing

The proposed budget for the FY2017 capital improvement plan includes $230,000 for microsurfacing, which provides sufficient funding for the $182,866.31 estimated by Donelson Construction Company for the project.

Recommendation

When compared to the City's bid results for microsurfacing, Kirkwood's bid process resulted in a lower price for a technically superior product. Staff recommends that the City enter into a contract with Donelson Construction Company that extends the Kirkwood prices for the products specified by Kirkwood.

Attachments: FY2017 Roadway Improvement Project work session staff report
2016 Microsurfacing Project roadway map
Donelson Construction Cooperative Agreement Notice and Bid Proposal
Kirkwood Bid Tabulation
Donelson Construction Company quote, dated June 2, 2016

DEPARTMENT OF PUBLIC WORKS
STAFF MEMORANDUM

DATE: April 7, 2016

TO: Mark Perkins, City Administrator

CC: Jim Heines, Director of Public Works

FROM: Matt Wohlberg, P.E., City Engineer
Rich Beran, P.E., Civil Engineer

SUBJECT: Repair Location Recommendations
FY2017 Roadway Maintenance Program

The Department of Public Works proposes the roadway maintenance program outlined below for the 2017 fiscal year, much of which will be completed during the 2016 construction season. The proposed roadway maintenance program continues the City's typical concrete pavement replacement, roadway reconstruction, asphalt resurfacing, microsurfacing, and sidewalk programs. Two program from the 2016 fiscal year (sidewalk improvements and microsurfacing) are proposed to be moved into the 2017 fiscal year, along with the unused 2016 funding associated with these projects.

Pavement Condition Update
The City hired Infrastructure Management Services (IMS) to evaluate the pavement conditions for every City-maintained street. IMS completed its evaluation in January 2016. Although the final report for this evaluation is not yet available, IMS was able to provide preliminary data so that the updated condition information could be referenced during the development of the recommendations for FY2017.

Two aspects of the pavement data that are used in this report require some explanation:

1. PCI. The pavement condition index (PCI) for each street is developed based upon the number of cracks, potholes, and other defects that be seen. This index is on a scale of 0-100, where 100 represents perfect pavement with no problems.

2. Roughness Index. The amount of vertical change in the street is measured along its length, and this is converted into an index that reflects the level of discomfort a driver might experience by using that street. This index is on a scale of 0-100, where 100 represents a perfectly smooth street.

Roadway Selection
The City invests a significant portion of its annual budget on street and sidewalk maintenance and improvements. However, road and sidewalk work is expensive, and it would be impossible to make all needed repairs immediately. Therefore, this work must be prioritized. To this end, repair recommendations are based upon two goals:

1) to find the most impact for the money spent to perform the maintenance, and 2) to make repairs that improve the lives of the citizens of Creve Coeur.

To achieve the first goal, the number of motorists using the roadway, the cost of the repair, and the condition of the street are weighed for each street. The opportunity cost of not doing a repair should also be considered, and this is an important decision factor for roads that are on the verge of deteriorating to a point where a particular repair can no longer be effective, and thus becoming much more expensive to fix. The goal, therefore, is to perform the right repair on the right street at the right time.

The City has adopted a "neighborhood approach" for street repairs in an attempt to achieve the second goal. Where possible, streets within a subdivision are targeted so to improve as much of the pavement in that subdivision as possible within a span of one or several years. While this will mean that some of the streets addressed each year might be in better condition than a few others in the City, it will also mean that repairs are concentrated in an area for a short time rather than having these repairs performed piecemeal each (and perhaps every) year. The intent is to create a condition in which future repair needs are similar throughout each neighborhood, which has made planning easier and should continue to inconvenience the residents in each area for the least amount of time possible.

Concrete Pavement Replacement

Work involved in this program will include the removal and replacement of failed concrete pavement slabs, curbs, gutters, and sidewalks. New accessible pedestrian curb ramps will also be installed as needed near street repair locations.

The proposed concrete pavement replacement program is listed below, along with the current pavement condition index (PCI) and roughness index for each street with pavement replacement:

<u>Pavement Slab Replacement</u>

Street Name	PCI	Roughness Index
Conway Aire Drive	58	31
Camfield Square	46	39
Haverton Drive	67 *	42 *
Laduemont Drive	64 *	39 *
Mariners Pointe	72 *	51 *
Old Ballas Road	71	60
Royal Gate Drive	69	45
Royal Manor Drive	71 *	52 *
Royalwood Court	66	39
Sackston Woods Lane	70	74
Turrentine Trail	73	52

** Indicates an average condition rating for multiple street segments.*

<u>Curbing Replacement</u>

Balcon Estates Subdivision (cul de sac islands)
Chilton Lane
Beaver Drive at Havenview Court
Winfield Pointe Drive

These streets are proposed for one or several of the following reasons: pavement conditions, previous commitments, support of other projects, and future planning.

Pavement Conditions. City staff reviews the concrete pavement network at the end of each winter to prioritize the repair needs for concrete pavement and curbing. This year, the staff review was augmented by the IMS condition review. Aging, cracked, and broken pavement and curbing exists throughout the City in quantities that exceed what the City could afford to replace in any given year. Hazardous and potentially hazardous pavement and curbing failures have been given the highest priority in replacement, and all pavement identified as such is included in the proposed program.

- Local Failures and PCI. The pavement condition index (PCI) shown for each street represents the average condition for the entire street. One localized failure will lower the street's condition, but it might not make a big impact to the street's PCI. This is most true for longer streets. Local failures are most common on concrete streets where the conditions can vary from one slab to the next.

  Failed and potentially hazardous slabs have developed on Sackston Woods Lane, Turrentine Trail, and Royalwood Court. The proposed program expands beyond these few hazardous slabs to address other priority replacement needs for both of these streets. The proposed pavement replacement will significantly improve the condition of these streets and should eliminate the need for further repairs in the foreseeable future.

- Joint Deterioration. Spalling (i.e. deteriorating) joints present another problem for PCI. When patched, joint spalling is a relatively low-severity problem which will not significantly lower a street's PCI, particularly if the rest of the concrete slab is in good condition. Joint spalling along many of the concrete joints on a street can become a problem, not just for the number of slabs that are affected, but because the failure of one or two joint patches can change the pavement conditions overnight.

  Concrete slabs can be in very good condition except for their joints. Joint issues often impact adjacent slabs, spreading out the problem. Spalling can be addressed in several ways, but badly spalled joints should be cut out and replaced. If many of the street's joints have this problem, then the best long-term solution becomes full slab replacement. Unfortunately, the cost to replace much of the street is expensive and will seem disproportionate to the street's PCI.

- Roughness Index. The IMS investigation into the roughness of the City's streets offers an insight into the level of joint deterioration on concrete streets. A low (poor) roughness index on a street with a good PCI could indicate that the street has significant joint deterioration. Laduemont Drive is a good example of a street that is in this situation, and the repair recommendations for Laduemont Drive aim to make the street smoother, not just structurally sound.

Previous Commitments. The City began pavement replacements in the Royal Manor subdivision in 2014 following several years during which the City addressed only emergency concerns in that neighborhood to avoid conflicting with a sanitary sewer project by the Metropolitan St. Louis Sewer District (MSD). The proposed slab replacement along Royal Gate Drive and Royal Manor Drive will address the remaining issues in this neighborhood, which will conclude the four-year effort to improve streets in that subdivision.

Support for Other Projects and Future Planning. It is common that more than one type of project or approach is required or recommended to address the needs of a street or sidewalk.

This tends to occur with sidewalk projects that require street work (or vice versa) and with composite streets (i.e. concrete streets with an asphalt overlay).

- Sidewalk projects. Work is proposed on Laduemont Drive and Old Ballas Road, in part, to support sidewalk improvements along those streets.

- Asphalt resurfacing projects. Several composite streets are recommended for resurfacing in FY2017. These include Clarissa Drive, Sona Lane, and others, as listed above. Significant concrete pavement replacement is expected for these streets, based upon past experience, but it is rather difficult to know how much of the concrete base will need to be replaced for these streets until it is exposed during construction.

  The IMS investigation included measurement of the soundness of the concrete base for all of the City's composite streets. The concrete base of Sona Lane rated the worst among those proposed for resurfacing in FY2017, and staff expects to replace at least one third of the street's concrete in order to resurface it. However, the measurements of the base for the remaining composite streets (Clarissa, Phyllis, Renee, and Saucier) were consistent with quality concrete pavement. Staff has planned for extensive concrete replacement on these streets, but is hopeful that the concrete base for these streets will be in relatively good condition, as suggested by the IMS data.

  Curbing replacement along Winfield Point Drive is recommended in order to facilitate asphalt resurfacing for that street in FY2018.

- Microsurfacing projects. Staff proposes to replace the existing asphalt curb in the islands of the Balcon Estates subdivision and the island at the Chilton Lane cul de sac with concrete curb that will better withstand tires running it over. This work will help prepare these areas for upcoming microsurfacing projects.

Sidewalk Improvements

The City is obligated to continue improve the accessibility of its sidewalks. Accessibility improvements are typically made in conjunction with adjacent roadway projects.

Sidewalk improvements are proposed along Laduemont Drive, North New Ballas Road, Winfield Pointe Drive, and Old Ballas Road.

Laduemont Drive. The sidewalks along Laduemont Drive are the only continuous and publicly maintained sidewalks between Ladue Road and Conway Road in Creve Coeur west of New Ballas Road, making this sidewalk a priority to improve. The amount of sidewalk work required along Laduemont is too great to be included as one annual program, so staff recommends that this work gets divided and continued in FY2018.

North New Ballas Road. The public right of way and sidewalk easements that typically extend over the sidewalks along North New Ballas Road do not cover the entrance to the Carlyle Lake subdivision. City staff is working with the trustees and management of this private subdivision to extend the public right of way to include the pedestrian crossing here. In exchange for the right of way, staff recommends reconstructing the pedestrian crossing to be accessible.

The right of way at this entrance will be beneficial to the City the next time the City uses a federal grant to improve the adjacent portion of North New Ballas Road, as is anticipated in the next five years. The City would be required to obtain this right of way or a sidewalk easement for the pedestrian crossing as part of that project. Obtaining the right of way now allows this process to take place on the City's schedule.

Winfield Point Drive. This asphalt street was found to be in poor condition and should be resurfaced soon. Sidewalk and curbing improvements are proposed for FY2017 in order to prepare the street for resurfacing in FY2018.

Old Ballas Road. The sidewalks along Old Ballas Road from New Ballas Road to Emerson Road have numerous deficiencies and are not technically accessible. Staff proposed to improve these sidewalks as part of the FY2016 pavement maintenance program, but the City had inadequate bid participation for the project. Staff recommends to complete the project in FY2017, along with the sidewalk improvements to Laduemont Drive and North New Ballas Road.

Sidewalks Improvements through Federal Grants. Significant sidewalk improvements are included in two federal grant projects by the City and are expected to be constructed in FY2017.

- Coeur de Ville Rehabilitation Project. The City has been awarded a federal grant to improve the pavement and sidewalks along Coeur de Ville Drive. The project will include accessibility improvements for the length of Coeur de Ville Drive, from Ladue Road to Olive Boulevard. One of these improvements will be to add a crosswalk across Coeur de Ville at Olive Boulevard. Currently, this crosswalk is located approximately 200 feet south of Olive Boulevard.

  The Coeur de Ville project is expected to begin in late summer or early fall of 2016 and should take several months to complete.

- Emerson Sidewalk Improvement Project. The City has been awarded a federal grant to add a sidewalk along the east side of Emerson Road. This new sidewalk will extend from Ladue Road to Old Ballas Road. This project may begin as early as fall of 2016, but coordination and approvals for the project may require that it begin in the spring of 2017.

These projects are included as separate line items in FY2017 of the proposed capital improvement plan. This funding is separate from the annual roadway maintenance program.

Asphalt Resurfacing

The asphalt resurfacing program proposed for FY2017 involves several asphalt and composite streets along Olive Boulevard:

Street Name	PCI	Roughness Index
Bal Harbour Drive	57	42
Clarissa Drive	68	46
Deaver Avenue	51	58
Larkin Avenue	38	55
Park West Drive	45	47
Phyllis Lane	71	49
Renee Drive	51 *	61 *
Saucier Drive	64	36
Sona Lane	50	49
Tempo Drive (north of Olive)	62	55

** Indicates an average condition rating for multiple street segments.*

As discussed above for the concrete pavement replacement program, significant concrete repairs are expected to accommodate resurfacing the composite streets in the recommended program (i.e. Clarissa Drive, Phyllis Lane, Renee Lane, Saucier Drive, and Sona Lane). Sona Lane is the largest concern among these composite streets, as it is in the poorest condition among them.

The City maintains only a portion of Bal Harbour Drive, Park West Drive, and Tempo Drive, as these are located between Olive Boulevard and the north boundary of the City. Each of these sections is approximately 200 feet in length.

Olive Boulevard Resurfacing and Sidewalks (MoDOT). This resurfacing recommendation was delayed from last year to accommodate the current roadway and sidewalk improvements by the Missouri Department of Transportation along Olive Boulevard. Unfortunately, the MoDOT project was delayed by nearly one year, and now the projects will run concurrently. Staff expects that there will be minimal conflict between the two projects, because the MoDOT project will likely be finished in the area of the City's project by July, and the MoDOT project occurs almost exclusively at night. Therefore, staff does not feel that it will be necessary to continue to delay the recommended asphalt resurfacing to accommodate MoDOT's project on Olive.

Asphalt resurfacing through federal grants. The City maintains a section of Coeur de Ville Drive between Royal Valley Drive and the Parc Provence retirement community. Much of the pavement in this area has failed and will be replaced through a reconstruction and resurfacing project that is expected to begin in the summer or fall of 2016. Much of the funding for the Coeur de Ville project will be from a federal grant.

Roadway Reconstruction

The proposed roadway reconstruction for FY2017 involves finishing the reconstruction of New London Drive and reconstructing the composite portion of Lakeshore Drive. Lakeshore Drive, New London Drive, and New Salem Drive form one, continuous street and serve as the primary roadway in the Westchester Estates Subdivision. The reconstruction work that is proposed will complete the replacement of one of the longest composite streets in the City with new concrete pavement, eliminating one of the most significant pavement maintenance liabilities in the City.

Street Name	PCI	Roughness Index
Lakeshore Drive	45 *	53 *
New London Drive	60	53

** Indicates an average condition rating for multiple street segments.*

This street was originally recommended for reconstruction, because previous attempts to make repairs to these streets had been counterproductive: fixing one area led to failures in other areas. Construction along New Salem Drive in the spring of 2016 again found this to be true, as the street failed beneath the equipment replacing the other side.

Schedule. The reconstruction work in the Westchester Estates subdivision was originally expected to require three years to complete. Lower-than-expected project costs and additional funding for the project have made it likely that this project will now be completed in two years. The implications could be important (and presumably welcome) for other failing streets in the City.

Micro-Surfacing

The proposed micro-surfacing project will include minor street repairs and the application of a thin asphaltic surface treatment to the entire roadway surface. This surface treatment is typically aimed at roads that are in good condition, and its purpose is to help seal the pavement from water infiltration while providing an improved driving surface.

The proposed micro-surfacing project will focus on the Ridgemoor Forest, Broadview Farms, Mason Forest, and Balcon Estates neighborhoods. Concrete curb replacement was completed in these neighborhoods in 2013 as preparation for the proposed micro-surfacing, and the intent was to include these streets in the FY2015 and FY2016 program. Unfortunately, material costs for the other pavement programs reduced the budget available for the FY2015 program, and this work was postponed.

Some preparation work in the Mason Forest Subdivision will be required to reduce the size of the subdivision's two cul-de-sac islands. Reduction in the size of these islands will provide more space for vehicles to navigate each cul de sac and should reduce the amount of damage to the islands from vehicle tires.

The roadways proposed for this project are:

Villa Hill Subdivision

Street Name	PCI	Roughness Index
Angleterre Drive	67	60
Carillon Court	78	59
Rugby Court	72	51
Trammel Court	58	54
Villa Hill Lane	49 *	58 *

Mason Forest Subdivision

Street Name	PCI	Roughness Index
Hibler Woods Court	60	37
Hibler Woods Drive	74 *	53 *
Mason Forest Drive	70 *	55 *

Broadview Farm Subdivision

Street Name	PCI	Roughness Index
Broadview Farm Road	66 *	49 *

Balcon Estates Subdivision

Street Name	PCI	Roughness Index
Balcon Estates Drive	64 *	52 *

Additional Streets

Street Name	PCI	Roughness Index
Corporate Square Drive	55 *	68 *
Martin Grove Lane	81	63
Rolling View Drive	65	41
Will Avenue	19	55

** Indicates an average condition rating for multiple street segments.*

Work along Will Avenue is proposed to provide some improvement, but it microsurfacing cannot fix what IMS found to be the City's worst street. This street receives little traffic and serves as something of an alley. Staff feels that it is appropriate to patch and microsurface this street so to postpone its resurfacing or reconstruction for several years.

As with previous years, the City's Public Works staff will correct many of the deficiencies in the pavement surface to prepare these roads for the microsurface application. By having City crews prepare the pavement, the potential cost of this program is typically reduced.

Project Postponements from Previous Fiscal Years. The proposed micro-surfacing project involves the Villa Hill, Broadview Farms, and Mason Forest neighborhoods. The intent was to include these streets in the FY2015 program, and then in the FY2016 program. Unfortunately, material costs for the other pavement programs reduced the budget available for the FY2015 program, and this work was postponed until FY2016.

Staff recently learned that at least one of the few contractors who can complete this type of work will have no availability until late in the summer due to major commitments to other projects. Staff recommends moving the work in the Ridgmoor Forrest, Broadview Farms, and Mason Forest subdivisions to FY2017 to improve the bidding situation for this project.

Projected Costs

City staff estimates that completion of the proposed FY2017 Roadway Maintenance Program will cost approximately $ 1,733,000.

FY2016 transfer to FY2017

The recommended pavement maintenance program for FY2017 incorporates the microsurfacing project and the sidewalk improvement project from FY2016. Funding this work will require moving unused funds from the FY2016 sidewalk and microsurfacing programs into FY2017.

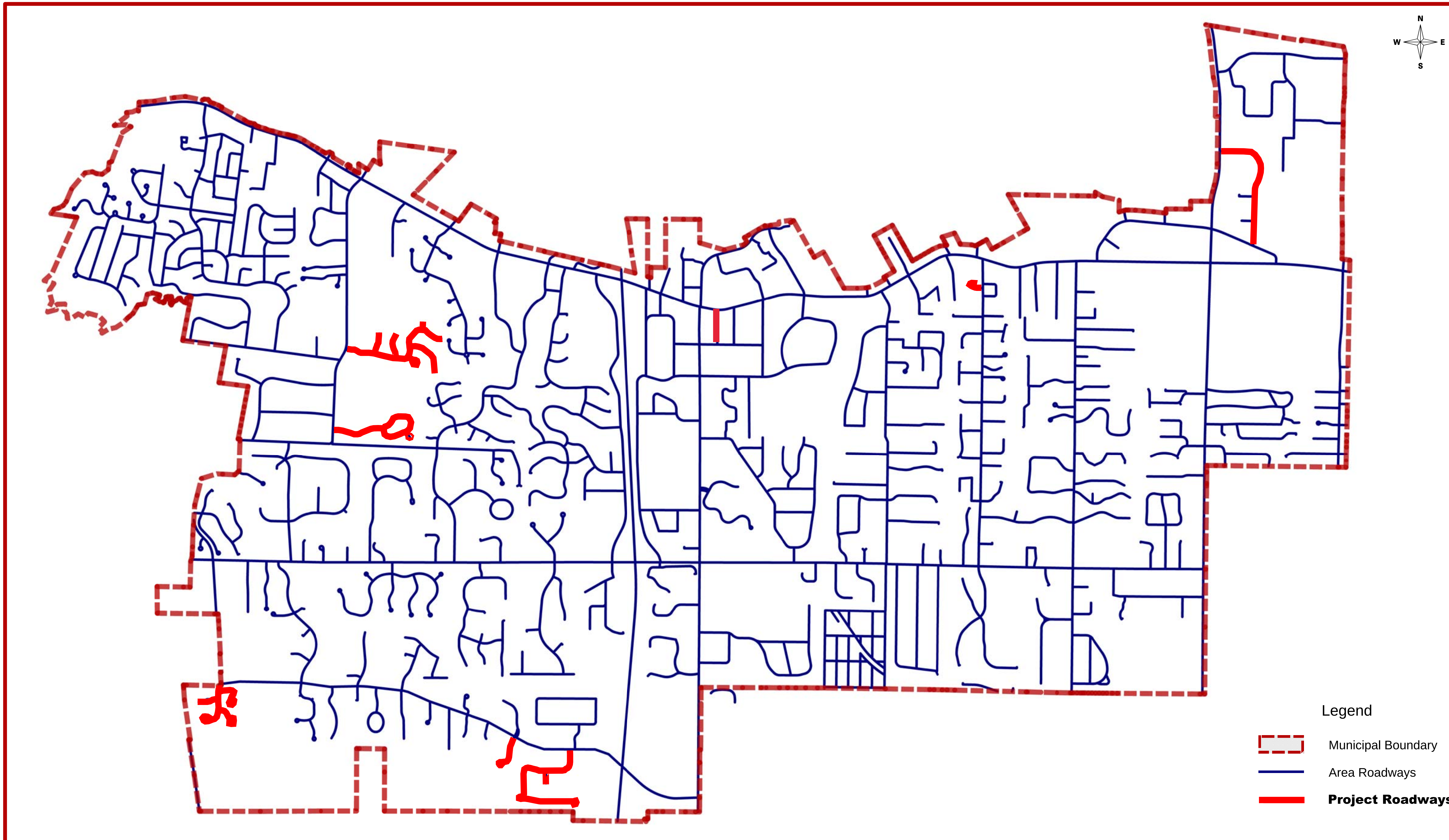
The adjusted budget would be as follows:

FY2016 Microsurfacing	$	150,000
FY2016 Sidewalk Improvements	$	100,000
Total FY2016 Transfer	**$**	**250,000**

Original FY2017 Roadway Maintenance	$	1,133,000
FY2016 Transfer	$	250,000
FY2017 Reconstruction	$	350,000
Total FY2017 Budget	**$**	**1,733,000**

The project breakdown for the adjusted FY2017 roadway program is proposed to be:

Concrete Pavement Replacement	$	500,000
Sidewalk Replacement	$	200,000
Asphalt Resurfacing	$	420,000
Microsurfacing	$	230,000
Reconstruction	$	350,000
City Work (Patching for Micro-Surfacing, etc.)	$	33,000
Total	**$**	**1,733,000**



2016 MICROSURFACING PROJECT ROADWAYS

CITY OF CREVE COEUR

Cooperative Agreement Notice

The City is interested in assisting Missouri political subdivision, etc. in contracting for Micro Surfacing as further detailed in Invitation for Bid 11362. Each bidder is asked to indicate below whether they would be willing to offer Micro Surfacing as further detailed in Invitation for Bid 11362 at the rates provided to these political subdivisions at the same bid price offered to the City. It is understood the City will not issue purchase orders, accept delivery nor make payment for Micro Surfacing ordered by any other political subdivision. It is further understood the price is based on the ***Micro Surfacing*** meeting the City's specifications. Any added options, deletions, or modifications to the work as described in Invitation for Bid 11362 would be negotiated between the political subdivision and the successful Bidder.

Indicate below whether your company is willing to offer such cooperative purchasing for Missouri counties, cities or other political subdivisions.

YES ✓ NO ______

Indicate the deadline date that new orders will be accepted. Negotiable

COMPANY NAME Donelson Construction Co., LLC

ADDRESS 1075 Wise Hill Road Clever, MO 65631

PHONE NUMBER 417-743-2694

SIGNATURE Michael J Donelson

TITLE Member

DATE 2/26/2016

(Each Bidder should complete the appropriate sections of their form and submit with their bid.)

Donelson Const.
CONTRACTOR

BID PROPOSAL

FOR: 2016 MICRO SURFACING
BID NO. 11362

TO: Director of Purchasing
City of Kirkwood
212 South Taylor Avenue
Kirkwood, MO 63122

Pursuant to and in compliance with your Advertisement for Bids, the Information for Bidders, and other documents relating thereto, the undersigned Bidder hereby proposes to furnish all tools, equipment, labor and materials, and to perform all work necessary to place micro surfacing to street pavement in strict accordance with the Contract Documents at the following unit prices:

Item No. 1: Crack Sealing and Filling
75,919 Square Yards @
($ 0.61) Per S.Y. $ 46,310.59

Item No. 2: MAQS-2
75,919 Square Yards @
($ 3.37) Per S.Y. $ 255,847.03

The Total Bid Amount of Three hundred two thousand one hundred fifty seven dollars, sixty two cents **Dollars ($ 302,157.62), based upon the unit prices herein contained.**

UNIT PRICES FOR ADDITIONAL WORK, PER CHANGE ORDER:

Item A	MAQS Flex Seal	$ 3.37 /S.Y.
Item B	MAQS-1	$ 2.95 /S.Y.
Item C	Additional material over 22 lbs/sy	$ 0.17 /lb
Item D	MAQS-2 Rut filling	$ 0.17 /lb

The undersigned, as Bidder, declares that the only persons or parties interested in this Proposal as principal are those named herein; that this Proposal is made without collusion or combination of any kind or character with any other person, firm, association, or corporation, or any member or officer thereof.

It is understood by the undersigned that the quantities given in the foregoing itemized Proposal are not guaranteed by the Owner and are used solely for the purpose of comparing bids and awarding the Contract and may or may not represent the actual quantities encountered on the job and that the sum of the products of the quantities listed in the foregoing itemized Proposal multiplied by the unit prices bid shall constitute the total Bid.

The undersigned Bidder agrees that, if awarded the Contract for the above work, he will commence construction of the work promptly upon receipt of the Notice to Proceed and will complete the same without delay in accordance with the Contract Documents. The undersigned Bidder further represents that he has visited and examined the site of the proposed construction and has carefully examined the Contract Documents which include the Advertisement for Bids, Information for Bidders, Bid Proposal, Contract Agreement, Performance Bond, General Conditions, Special Provisions, and Detailed Specifications.

The undersigned Bidder agrees that, if this Proposal is accepted, he shall complete the said work within sixty (60) calendar days, from the date of the Notice to Proceed, and that should he fail to complete the work in the time specified or such additional time as may be allowed by the Engineer under the Contract, the amount of liquidated damages to be recovered shall be Five Hundred Dollars ($500) per calendar day.

The undersigned Bidder proposes and agrees that, if this Proposal is accepted, to execute the Contract and perform all its terms, covenants, and conditions, all in strict conformity with the Specifications and other Contract Documents and that he will accept in full payment therefor certified by the Director of Procurement.

The undersigned Bidder guarantees that the bid bond submitted with this proposal is from a surety that is authorized to do business in the State of Missouri and is authorized to issue bonds in the State of Missouri.

Donelson Construction Co., LLC

Name of Bidder
(Corporation, Firm, or Individual)

By [signature]
Signature

Michael J. Donelson

Typed or Printed Name

Member

Title

1075 Wise Hill Road Clever, MO 65631

Business Address

417-743-2694

Business Telephone Number

ATTEST: [signature]

Office Manager

Title

DATED: 02/26/2014

Attach Corporate Seal, if Applicable

ENCLOSURES: Bid Security, 5% of Bid Amount
Qualification Form for Bidders
Non-Collusive Affidavit
Employment of Unauthorized Aliens Prohibited

(BIDDER SHALL SUBMIT TWO COPIES OF BID PROPOSAL)

BID TABULATION

BID OPENING DATE: March 1st, 2016 BID NUMBER: 11362 PAGE 1 OF 1

BID OPENING TIME: 2:00 p.m.

BID TITLE / DESCRIPTION: 2016 Microsurfacing

SIGNATURES:

COMPANY NAME	Donelson Construction Co. LLC		
CITY AND STATE	Clever, MO 65631		
X CONTACT	Michael Donelson		
X PHONE	417-743-2694		
X FAX			
X EMAIL	mdonelson@cleverstone.com		
VENDOR'S SIGNATURE	X	X	X

ITEM	QTY	UNIT	DESCRIPTION	UNIT PRICE	TOTAL	UNIT PRICE	TOTAL	UNIT PRICE	TOTAL
1	75,919	S.Y.	Crack Sealing and Filling	$0.61	$46,310.59				
2	75,919	S.Y.	MAQS -2	$3.37	$255,847.03				
A		S.Y.	MAQS Flex Seal	$3.37					
B		S.Y.	MAQS-1	$2.95					
C		LB	Additioanl material over 22lbs/sy	$0.17					
D		LB	MAQS-2 Rut filling	$0.17					
			Total		$302,157.62				
			Notes						

DONELSON Construction Company,LLC

Ph: (417) 743-2694
Fax: (417) 743-2945
1075 Wise Hill Road, Clever, MO 65631

Estimate

June 2, 2016

City of Creve Coeur
300 N New Ballas Rd
Creve Coeur, MO 63141

Donelson Construction Co., LLC is pleased to provide the following quote for the installation of our patented Modified Aggregate Quick Set (MAQS) Surfacing System®. The prices include all labor equipment, materials and traffic control.

Villa Hill Ln (N Mason Rd – End)….. 6,681 square yards
MAQS-Flex……$ 7,130.92
MAQS Driving Surface…..$ 22,514.97
Total: $ 29,645.89

Angleterre Dr (Villa Hill Ln – End)….. 988 square yards
MAQS-Flex……$ 111.21
MAQS Driving Surface…..$ 3,329.56
Total: $ 3,440.77

Carillon Ct (Villa Hill Ln – End)….. 1,510 square yards
MAQS-Flex……$ 74.14
MAQS Driving Surface…..$ 5,088.70
Total: $ 5,162.84

Rugby Ct (Villa Hill Ln – End)….. 660 square yards
MAQS-Flex……$ 74.14
MAQS Driving Surface…..$ 2,224.20
Total: $ 2,298.34

Trammell Ct (Villa Hill Ln – End)….. 2,127 square yards
MAQS-Flex……$ 2,739.81
MAQS Driving Surface…..$ 7,167.99
Total: $ 9,907.80

Deland Dr (Villa Hill Ln – End)….. 235 square yards
MAQS-Flex……$ 252.75
MAQS Driving Surface…..$ 791.95
Total: $ 1,044.70

Will Ave (Olive Blvd – Studt Ave)….. 1,687 square yards
MAQS-Flex……$ 5,685.19
MAQS Driving Surface…..$ 5,685.19
Total: $ 11,370.38

Mason Forest Dr (N Mason Rd – Hibler Woods Dr)….. 3,936 square yards
MAQS-Flex……$ 77.51
MAQS Driving Surface…..$ 13,264.32
Total: $ 13,341.83

Hibler Woods (Mason Forest Dr – Mason Forest Dr)….. 2,017 square yards
MAQS-Flex……NA
MAQS Driving Surface…..$ 6,797.29
Total: $ 6,797.29

Hibler Woods Ct (Hibler Woods Dr – End)….. 782 square yards
MAQS-Flex……$ 74.14
MAQS Driving Surface…..$ 2,635.34
Total: $ 2,709.48

Balcon Estates (Conway Rd – End)….. 6,980 square yards
MAQS-Flex……$ 6,146.88
MAQS Driving Surface…..$ 23,522.60
Total: $ 29,669.48

Balcon Estates Ct (Balcon Estates – End)….. 656 square yards
MAQS-Flex……$ 74.14
MAQS Driving Surface…..$ 2,210.72
Total: $ 2,284.86

Rolling View Rd (Conway Rd – End)….. 2,329 square yards
MAQS-Flex……$ 2,052.33
MAQS Driving Surface…..$ 7,848.73
Total: $ 9,901.06

Broadview Farm Rd [A] (Conway Rd – End)….. 2,608 square yards
MAQS-Flex……$ 74.14
MAQS Driving Surface…..$ 8,788.96
Total: $ 8,863.10

Broadview Farm Rd [B] (Broadview Farm Rd [A] – End)….. 1,368 square yards
MAQS-Flex……$ 276.34
MAQS Driving Surface…..$ 4,610.16
Total: $ 4,886.50

Broadview Farm Rd [C] (Broadview Farm Rd [A] – End)….. 1,242 square yards
MAQS-Flex……NA
MAQS Driving Surface…..$ 4,185.54
Total: $ 4,185.54

Broadview Farm Rd [D] (Broadview Farm Rd [A] – End)….. 1,404 square yards
MAQS-Flex……NA
MAQS Driving Surface…..$ 4,731.48
Total: $ 4,731.48

Corporate Square Dr (N Lindergh Blvd – Old Olive Street Rd)….. 6,311 square yards
MAQS-Flex……$ 8,425.00
MAQS Driving Surface…..$ 21,268.07
Total: $ 29,693.07

Martin Grove Ln (N Graeser Rd – End)….. 870 square yards
MAQS-Flex……NA
MAQS Driving Surface…..$ 2,931.90
Total: $ 2,931.90

Total $ 182,866.31

Respectfully Submitted,

Bryant Donelson

Bryant M. Donelson
Project Representative

City Council
300 North New Ballas Rd
Creve-Coeur, MO 63141

SCHEDULED

RESOLUTION

Meeting: 07/25/16 07:00 PM
Department: City Council
Category: New Business
Prepared By: Andrea Muskopf
Department Head: Andrea Muskopf

Resolution No. 1235 - a Resolution to Adopt a Phase 2 Climate Action Plan to Save Energy and Reduce Greenhouse Gas Emissions.

The Energy and Environment Committee has recommended to the City Council a Phase 2 Climate Action Plan to Save Energy and Reduce Greenhouse Gas Emissions.

INTEROFFICE MEMORANDUM

Date: July 20, 2016

To:	Mark Perkins, City Administrator
From:	Andrea Muskopf, Human Resources & Management Analyst
Subject:	Adoption of Phase 2 of the Climate Action Plan

Background

In 2008, the City Council passed a resolution supporting the U.S. Mayors Climate Protection Agreement by joining ICLEI-Local Governments for Sustainability. The City's first significant step was to develop a baseline measurement of Creve Coeur's greenhouse gas emissions, which was accomplished through the engagement of a summer intern and the completion of a greenhouse gas emissions inventory report in August 2008. The report included a recommendation that the City set a greenhouse gas emissions reduction target and develop a local action plan for meeting the target.

Following the completion of the inventory, the City Council established the Climate Action Task Force (CATF). The CATF worked diligently to consider the findings in the greenhouse gas inventory report. In 2010, the CATF developed a Climate Action Plan – Phase 1 to save energy and reduce greenhouse gas emissions 20% by 2015.

In Fall 2014, the City Council reaffirmed its commitment to sustainability efforts by dissolving the CATF and creating the Energy and Environment Committee. Furthermore, the City entered into an agreement with the U.S. Green Building Council – Missouri Gateway Chapter's Regional Environmental Internship Program to conduct a greenhouse gas emissions inventory and develop a carbon pollution reduction plan to begin Phase 2 of the Climate Action Plan. In 2015, Luis Garcia was hired to complete the inventory and draft Phase 2 of the Climate Action Plan 2. Luis presented the results of the greenhouse gas emissions inventory and the draft Phase 2 of the Climate Action Plan to the City Council on December 14, 2015 and forwarded the plan to the Energy and Environment Committee for their review.

The Energy and Environment Committee established a subcommittee of Energy and Environment Committee Members, including Joseph Martinich, Ben Lefton, Judy Sherman, and Molly Hyland, to review the proposed document. After careful review and consideration, the Energy and Environment Committee made minor changes to the document and voted to recommend that the City Council adopt Phase 2 of the Climate Action Plan on July 12, 2016.

Action Requested

The Energy and Environment Committee requests that the City Council review the attached Phase 2 of the Climate Action Plan and resolution for consideration.

Please let me know if I can provide any additional information.

Attachments:

Greenhouse Gas Emissions Inventory – 2014
Phase 2 of the Climate Action Plan – 2015
Baseline Greenhouse Gas Emissions Inventory for 2005
Phase 1 of the Climate Action Plan – 2010

RESOLUTION NO. 1235

A RESOLUTION TO ADOPT A PHASE 2 CLIMATE ACTION PLAN TO SAVE ENERGY AND REDUCE GREENHOUSE GAS EMISSIONS.

WHEREAS, the Mayor and the City Council of the City of Creve Coeur have affirmed their support for the goals of the US Mayors' Climate Protection Agreement to support energy efficiency and greenhouse gas reduction in Creve Coeur; and

WHEREAS, in 2008 the City Council established a Climate Action task Force, which completed a greenhouse gas inventory and developed a Phase 1 Climate Action Plan that was approved by the City Council in 2010; and

WHEREAS, a second greenhouse gas inventory has been completed for the City of Creve Coeur in 2015; and

WHEREAS, the City Council established the Energy and Environment Committee in September 2014 to success the Climate Action Task Force and charged it with the duties to advise the City Council on issues related to sustainability, including initiatives to reduce waste, greenhouse gas emissions, and consumption of energy from non-renewable sources; to advise the City Council on issues related to trash and recycling; to review and update the Climate Action Plan; to advise the City Council in maintaining current sustainability information in public spaces on the City's website and in City publications; and to support and promote City functions related to sustainability; and

WHEREAS, after deliberation and study the Energy and Environment Committee has recommended to the City Council a Phase 2 Climate Action Plan to Save Energy and Reduce Greenhouse Gas Emissions.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF CREVE COEUR, MISSOURI THAT:

SECTION 1: The City Council hereby adopts a Phase 2 Climate Action Plan to Save Energy and Reduce Greenhouse Gas Emissions, which is attached hereto and is hereby incorporated as a part of this Resolution as if fully set out herein.

SECTION 2: This Resolution shall take effect immediately upon its adoption.

Adopted this 25th day of July, 2016.

____
Barry Glantz
Mayor

Attest:

____
Deborah Ryan, City Clerk

City of Creve Coeur, Missouri

Phase 2 Climate Action Plan

Luis Garcia
2015 REIP Intern
USGBC-Missouri Gateway

Acknowledgements:

This project could not have been completed without the help and support of many people. I would like to thank the City of Creve Coeur staff especially; Andrea Muskopf (Human Resources Assistant), Mark Perkins (City Manager), Sharon Stott (Asst. to the City Administrator), Jim Heines (Director of Public Works), Jason Valvero (Director of Parks and Recreation), Sgt. Jeffrey Hartman (Admin & Support Services), Debbie Loso (Finance Manager), Matt Wohlberg (City Engineer), and Steve Unser (Chief Building Official). I would also like to thank the members of the Energy and Environment Committee, whose help in the creation of this report was invaluable.

I would also like to offer a great deal of thanks to John May and Emily Andrews, for their patience, tutelage and willingness to answer my many questions.

Finally, I would like to offer my appreciation to the citizens of Creve Coeur for their continued dedication to build a more sustainable community.

Sincerely,

Luis Garcia
Regional Environmental Intern
U.S. Green Building Council- Missouri Gateway Chapter

List of Figures & Tables:

Figures:

Tables:

Introduction:

The City of Creve Coeur has been a leader of clean energy and efficiency among local St. Louis communities. On April 14th, 2008, the City Council of the City of Creve Coeur unanimously passed a resolution endorsing the U.S. Mayors' Climate Protection Agreement. As part of this agreement the City is striving to meet or beat the greenhouse gas emission targets outlined by the Kyoto Protocol[1] and incorporate the following 12 strategies:

1. Inventory global warming emissions in City operations and in the community, set reduction targets, and create an action plan.

2. Adopt and enforce land-use policies that reduce sprawl, preserve open space, and create compact, walkable urban communities.

3. Promote transportation options such as bicycle trails, commute trip reduction programs, and incentivize carpooling and public transit.

4. Increase the use of clean, alternative energy by, for example, investing in "green tags" [2], advocating for the development of renewable energy resources, recovering landfill methane for energy production, and supporting the use of waste to energy technology.

5. Make energy efficiency a priority through building code improvements, retrofitting city facilities with energy efficient lighting, and urging employees to conserve energy and save money.

6. Purchase only Energy Star[3] equipment and appliances for City use, when possible.

7. Practice and promote sustainable building practices using the U.S. Green Building Council's LEED program or a similar system.

8. Make changes to the city's vehicle fleet including increasing the average fuel efficiency of municipal fleet vehicles, reduce the number of vehicles in fleet, launch an employee education program including anti-idling messages, and, if possible, convert diesel vehicles to more sustainable energy options.

9. Support and encourage Metropolitan St. Louis Sewer District (MSD) to evaluate opportunities to increase pump efficiency in water and wastewater systems, and recover wastewater treatment methane for energy production.

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[1] The Kyoto Protocol is an international agreement that aims at reducing carbon emissions by setting reduction targets for its parties.

[2] "Green tags" or as they are also commonly referred to Renewable Energy Credits (RECs) represent the ownership of the environmental benefits associated with renewable power generation

[3] Energy Star is a voluntary program from the EPA aimed at assisting individuals and businesses save money and protect the environment through energy efficiency

10. Increase recycling rates in City operations and in the community, including businesses and multi-family facilities.

11. Maintain healthy urban forests and promote tree planting to increase shading and to absorb carbon dioxide (CO_2).

12. Help educate the public, schools, other jurisdictions, professional associations, and businesses about reducing global warming pollution.

Along with being a signatory of the U.S. Mayors' Climate Protection Agreement, in 2008 the City created the Climate Action Task Force, which led to a Phase I Greenhouse Gas (GHG) Inventory in 2008 and Climate Action Plan (CAP) in 2010. The 2010 CAP outlined several strategies aimed at curbing Creve Coeur's GHG emissions. In this initial plan much of the emphasis was placed on municipal operations. The strategies included performing an energy audit of government buildings, upgrading HVAC systems for government buildings, and organizing a staff green team. These strategies have resulted in the City of Creve Coeur seeing a marked reduction in energy usage and associated GHG emissions. Additionally, electricity and natural gas payments combined were essentially unchanged from 2005 and 2014, in spite of increasing utility rates.

The CAP envisioned a three phase program, starting with easily achieved strategies focused on government operations, then gradually expanding to include more ambitious strategies that involved the community at large. Thus, the Phase 1 plan was intended to familiarize the local government with reducing its own emissions, and to have a smaller impact on the community at large. The Phase 1 CAP set an ambitious goal of reducing GHG emissions by 20% by 2015 and by 50% by 2050. The City of Creve Coeur, Missouri Updated Greenhouse Gas Emissions Inventory for 2014 found that emissions from government operations have, indeed, been reduced by 20% from 2005 levels. In the community at large, however, construction added two million square feet of commercial space under roof between 2005 and 2014, making apples-to-apples comparisons impossible. However, adjusting for the additional construction, compared to business as usual projections for 2015, GHG emissions from the community at large have been reduced by 9%. Even though overall GHG emissions increased by 2,836 metric tons (mt) of CO2e from 2005, a per capita decrease was seen from 49.7 mt of CO2e in 2005 to 47.2 mt of CO2e in 2014.

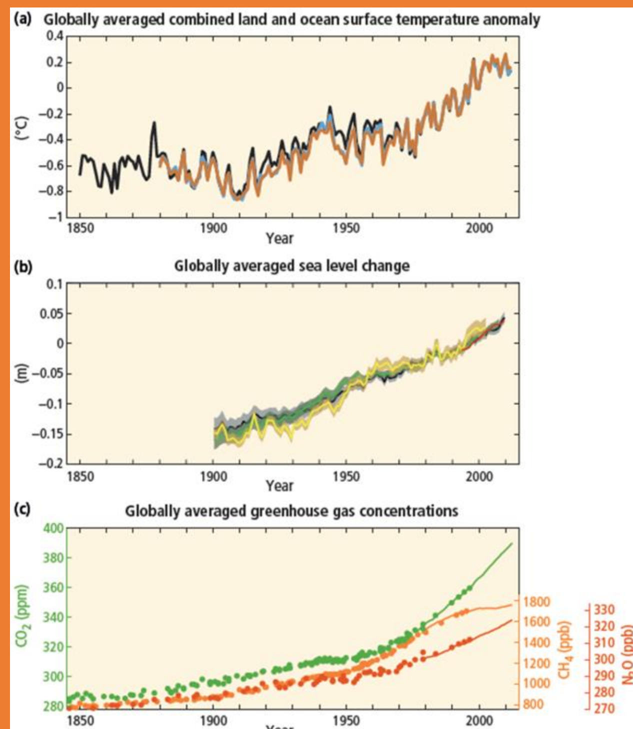
Thus, the initial GHG emission reduction goal was met for city government operations, but not for the community at large. The best scientific information indicates that to avoid the worst effects of climate change, GHG emissions must be reduced 40-70% by mid-century.[4] Because technological progress is likely to make further reductions easier for Creve Coeur, the largest reductions should be loaded toward the end of the time period. Thus, this report recommends that Creve Coeur adopt new goals of reducing GHG emissions 10% by 2025, 20% by 2035, and 50% by 2050, all compared to 2015 GHG emissions. This amounts to an annual reduction of 8,544 mt of CO2e per year by 2025, and 13,670 mt of CO2e between 2025 and 2050.

[4] *Fifth Assessment Report,* Intergovernmental Panel on Climate Change, published in 2014.

Climate Change:

Human activities are causing vast and lasting changes to the Earth's atmosphere. Though scientific consensus is overwhelming many citizens are still skeptical of the immediate need for strategies to reduce greenhouse gas emissions that could help stem the alterations to the atmosphere and consequent climate change. However, if communities wait to take action until the worst effects of climate change are visible, it will be too late.

Figure 1: Correlation of atmospheric gases and Earth's temperature



A report by the Risky Business Project identified the St. Louis Area as the Midwestern metropolitan area facing the highest climate risk due to its high summer temperatures and humidity levels. Some of the economic effects that could be experienced include increased energy costs and declines in labor productivity (Kate Gordon, 2015). Increased demand for electricity will further tax an already aging and over-taxed electrical grid. Without improvements to the grid or alteration to the distribution of electrical energy, power outages may become more frequent and prolonged (Neumann and Price, 2009).

The human contribution to climate change is caused primarily by the emission of greenhouse gases from burning fossil fuel to create energy. Many strategies to reduce GHG emissions do so by reducing energy consumption or by substituting renewable energy for energy from fossil fuel. They are investments in our future. Sometimes the investment is expected to reduce or avoid future energy costs. Other times they are anticipated to generate returns related to the City's leadership position and ability to attract "the best and the brightest" to live and work here. And at times they are anticipated to generate returns related to health, welfare, social values, and quality of life. The City of Creve Coeur, Missouri, Updated Greenhouse Gas Emissions Inventory for 2014 estimated that the City's efforts to reduce GHG emissions were already saving $2.8 million annually in avoided damages that would have been caused by the carbon emissions[5].

[5] Based on the per ton social cost of carbon as determined by the U.S. Government, Technical Support Document: Technical Update of the Social Cost of Carbon for Regulatory Impact Analysis Under Executive Order 12866 (May 2013)

Forecast:

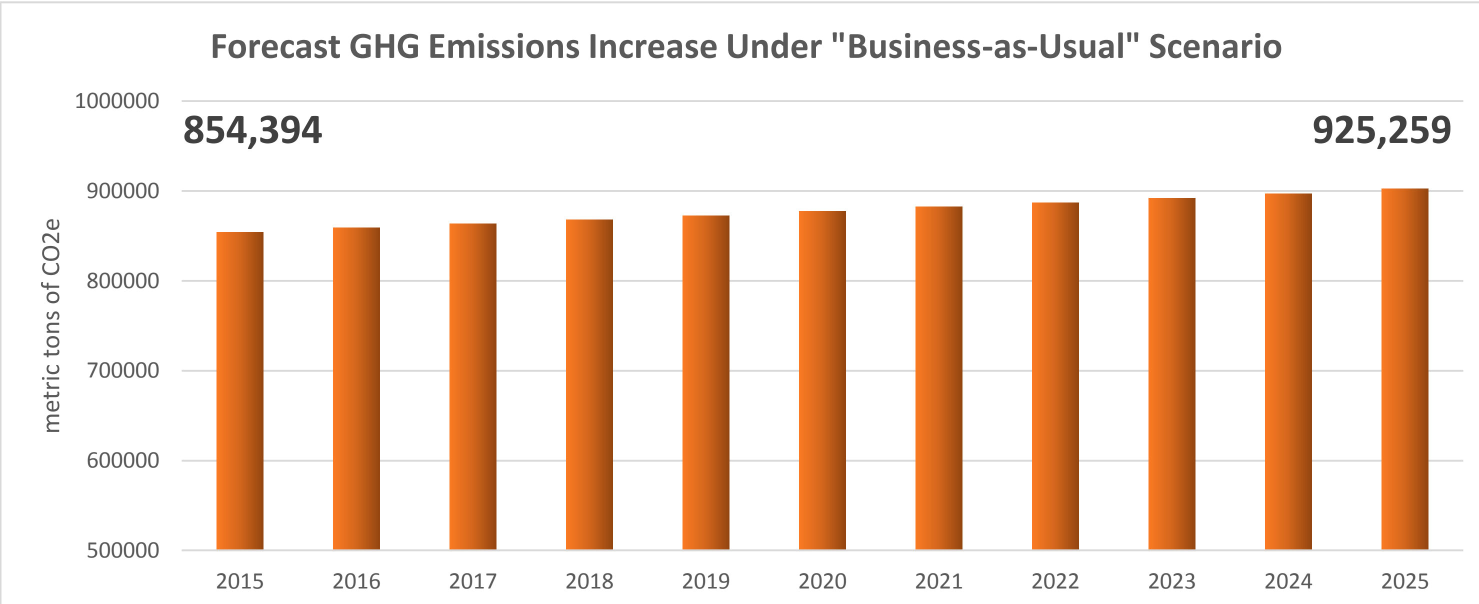


Figure 2: Forecast GHG emissions for Creve Coeur by 2025

Greenhouse gas emissions are expected to increase at the same rate as does population. Creve Coeur's annual rate of population increase is expected to be 0.08%. Thus, emissions are forecasted to increase by 70,865 metric tons of CO_2e in the next 10 years (Figure 2). This is equivalent to adding 1,500 cars to road each year. Looking further out this "business-as-usual" scenario would result in 1,002,059 mt of CO_2e emissions by 2035 and 1,126,815 mt of CO_2e emissions by 2050. This is equivalent to burning approximately 1,500 railroad cars full of coal.

GOALS:

The following recommended goals are an update and expansion of the goals set forth in the original Climate Action Plan.

1. Increase energy efficiency in the community as a whole and in government operations;

2. Increase the use of renewable energy in the community as a whole and in government operations;

3. Increase the use of alternative transportation in the community as a whole and in government operations;

4. Provide and encourage education on climate change, and on strategies to reduce energy consumption and GHG emissions.

5. Reduce waste in the community at large and in government operations;

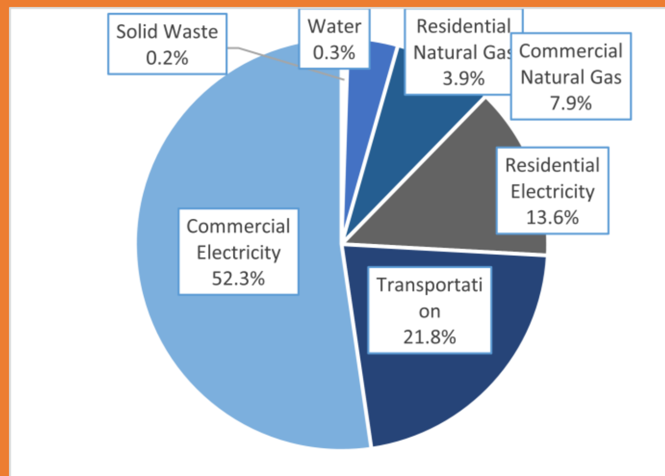
6. Encourage the development of plans and strategies to create a resilient community to cope with and adapt to the changes that will occur as a result of climate change.

Energy Efficiency:

Community Strategies:

Commercial buildings are the single largest emitters of greenhouse gases in Creve Coeur (60% of all GHG). If emissions are to be reduced by any meaningful amount, then reducing their consumption of energy from fossil fuel must be priority.

Figure 3: GHG emissions percentage by sector



The largest single emitter of green-house gases in Creve Coeur is commercial electricity use.

Strategies:

Encourage participation in the national building benchmarking challenge: The past few years have seen a surge of governments, particularly of large cities, requiring large private buildings in their community to benchmark energy consumption. This benchmarking is typically done with a tool such as the ENERGY STAR Portfolio Manager, which allows building energy consumption to be tracked over time and compared to the energy consumption of other similar buildings around the country. Benchmarking allows for better management of building operations and maintenance and allows building managers to more effectively consider energy efficiency when making their capital improvement plans. The Environmental Protection Agency (EPA) estimates that buildings that participate in energy benchmarking save 2.4% in annual energy through improved energy use.

Commercial building upgrades & retrofits: This report recommends that the City of Creve Coeur encourage commercial buildings to make energy efficiency retrofits and upgrades using two basic approaches. One is educational, and will be discussed below. The other involves incentives. Development of a program of incentives is beyond the scope of this plan, but could include zoning and building code trade-offs, permitting fee reductions or rebates, and expedited permit processing.

Develop a program to encourage energy audits in small commercial and residential buildings. Energy audits identify building systems that involve the greatest energy waste as well as building systems that can be upgraded or retrofitted economically. They are the essential first step of any retrofit or upgrade project. Three levels of energy audits have been identified. In increasing comprehensiveness they are walkthrough, general, and investment grade. Investment grade audits tend to identify the largest energy saving opportunities. In a large commercial building, an investment grade energy audit is a significant project. Most commercial building retrofits should begin with an investment grade energy audit, which should be incentivized by the City of Creve Coeur as part of the upgrade and retrofit incentive program discussed above.

Economically justifying comprehensive energy audits in small commercial and residential buildings may be more difficult. For this reason, this plan recommends development of a program of incentives to encourage them. The specifics of such a program are beyond the scope of this report. They could include, however, developing a referral list of state certified energy auditors, aggregating audits for buildings in Creve Coeur and contracting with approved energy auditors to provide the audits at a discounted price, zoning or building code trade-offs for buildings that obtain an audit and carry out the recommendations, or even development of an Energy Conservation Audit and Disclosure ordinance mandating that building sellers must conduct an energy audit and disclose it to the buyer.

Developing financial incentives for energy efficiency and clean energy: Properly conceived and executed energy efficiency and clean energy projects have a moderate return on investment. While it is larger than the return on most bond investments, the immediate cost of the project coupled with its moderate return over time may not be sufficient to capture the interest of building owners. To help businesses and residents invest in energy efficiency, the City of Creve Coeur could adopt any of a series of financial programs to encourage energy efficiency:

- **Clean energy financing programs.** The returns on energy efficiency and clean energy programs are moderate, but reliable. They are ideal candidates for financing programs in which the cost of the financing is paid out of the energy savings they achieve. Because returns are moderate, the payoff period of such loans can be five years or more, making it advantageous for the financing program to attach to the property rather than the individual if the property is sold. A variety of clean energy financing schemes exist, including financing by energy service companies, bank loans, and Property Assessed Clean Energy (PACE) programs. A PACE program is a program in which energy efficiency and clean energy projects are bundled together by a PACE authority. The authority sells a bond in the aggregated amount. The proceeds from the sale of the bond are distributed to the property owners in the form of loans to do the energy efficiency and clean energy projects. The property owners pay off the loans from their energy savings, keeping any additional savings for themselves. However, unlike a traditional loan, which attaches to the individual, the PACE loan attaches to the property and is paid as a form of property tax. This means it runs with the property should the property be sold before it is paid off. Properly designed PACE projects provide sufficient savings to pay the debt service on the loan and provide a return to the property owner. After the loan is paid off, all savings accrue to the property owner.

  In order to be economic, energy financing programs must aggregate a sufficient number of projects to make the process efficient. Creve Coeur is not a large enough city to aggregate sufficient projects. Thus, it would need to participate in financing programs operated by others. Each program has its own specific advantages. Exploring which is the best fit for Creve Coeur is beyond the scope of this plan. However, participating in one or the other would be one way the City could help make energy efficiency and clean energy projects affordable.

  Alternatively, there are various forms of private funding for energy efficiency projects through private third party financing companies that are available for building owners. These companies often work through contractors that arrange financing for the customer and the contractor or financing company is paid over time through the energy savings.

- **Fee reductions:** The City of Creve Coeur collects a variety of permitting fees related to properties. Though not a large fraction of building or project costs, on some projects the fees can aggregate to a significant sum. The City could develop a program of permitting fee reductions for projects that include energy efficiency and clean energy projects. The City could include expedited processing as part of the program.

- **Zoning incentives.** It is common for cities to negotiate zoning incentives with property developers in order to secure goals related to public welfare that may not be directly covered by zoning or building codes. The City of Creve Coeur could use zoning incentives to secure energy efficiency or clean energy features in new construction and significant renovations. The City of Creve Coeur is currently looking at incorporating zoning incentives into its updated Comprehensive Plan.

Table 1: Ordinances for Energy Efficiency Financing:	
• PACE • Building benchmarking • Tax break/penalty to comply • Fee reduction • Expedited processing • Zoning incentives	15-25% reduction in energy use resulting in a reduction of **10,000 to 17,000 mt of CO2e** [6][7]

Updating the IECC code: The lifespan of a typical building is 50-60 years. Inefficient building construction leads to higher energy bills over the life of the building resulting in decades of increased costs that far exceed the cost of energy efficient construction. Because the building stock transforms slowly, the IECC building codes will not result in an immediate large reduction in building-related GHG emissions or energy consumption. However, if kept up to date, they will ensure that future construction will produce energy efficient buildings, and large energy and GHG reductions will be achieved over time. The City of Creve Coeur should review and adopt updated versions of the IECC as part of its regular code updating process.

Leaders in the Community:

Much "buy in" will be required from the commercial sector to realize these emission reductions. Strategies to educate the community and encourage participation will be discussed under "Education" below. However, many commercial entities within Creve Coeur are already taking a closer look at their energy expenditures and realizing the savings available from energy efficient practices. Though by no means comprehensive, examples might include:

The Danforth Plant Sciences Center- HVAC and boiler upgrade

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[6] Estimated reductions based on average energy efficiency projects from a variety of energy efficiency resource site (ex: EPA, ACEEE, MEEA), as well as data from local energy efficiency contractors

[7] Reductions based on 10% participation by Creve Coeur community

- The Danforth Plant Sciences Center has implement energy efficiency measures including conversion of water boiler system and recalibrating HVAC airflow system
- These changes have resulted in approximately 50% decrease in energy usage

Missouri Baptist University- Lighting conversion to LED

- The university converted 1,542 fluorescent fixtures to high efficiency LEDs
- The return on investment of this lighting retrofit is expected to be less than one year

Government Strategies:

The City of Creve Coeur has been a leader in implementing energy efficient practices in their buildings.

For several years the City implemented energy efficiency strategies on an ad hoc basis. In 2013 the City procured an energy audit and has used its recommendations to guide its energy efficiency efforts since then.

These practices have reduced emissions by 14% and saved the city $40,000 in utility costs for 2014. These changes not only resulted in annual savings, they also created a more sustainable environment for current and future citizens of Creve Coeur.

At this point, the City has initiated numerous energy efficiency strategies. The next steps for the City should focus on periodically monitoring city operations and promoting energy efficiency strategies within the community.

Require "Green" certification of new buildings: Buildings that are energy efficient result in greater energy savings over the life of the building. Energy efficient buildings also help utilities better handle demand during peak hours. In addition to energy efficiency, “green” buildings provide a healthier, more comfortable working environment. At the time of this writing, the City is considering a new Police Department building and either a new Government Center or a renovation of the existing Government Center. Two types of green certification are available. The first involves the overall environmental impact of the building. A variety of green building certification schemes exist, however the U.S. Green Building Council’s (USGBC) Leadership in Energy & Environmental Design (LEED) program is the best-known green building certification system, with more than 13.8 billion square feet of building space certified. The second kind of certification involves energy efficiency. The U.S. Department of Energy's Energy Star certification is available to buildings that achieve a certain level of energy efficiency, with more than 25,000 properties certified. The City of Creve Coeur could adopt a policy requiring both certifications for new government buildings and for significant renovations of existing buildings.

Building Benchmarking coupled with periodic reports to City Council: Benchmarking would allow the city to better manage building energy use and better target energy inefficiencies. The past few years have seen a surge of governments, both state and local, requiring regular benchmarking of energy performance in their own buildings. The most commonly used tool is the U.S. Department of Energy's ENERGY STAR Portfolio Manager which allow for tracking of energy consumption over time and for comparisons of performance to other similar buildings around the country. Tracking with Portfolio Manager is required to achieve ENERGY STAR certification, discussed above.

Table 2: Government Building benchmarking (Assumes a 2.4% reduction in improved annual energy use)			
Estimated total potential annual emissions reductions (mt of CO2e)			**53**
Buildings	Government Center	Dielmann Rec Complex	Public Works Garage
Emissions Reductions (mt of CO2e)	**20**	**29**	**4**

Renewable Energy:

Community Strategies:

The access to renewable energy sources is key to creating a sustainable and carbon neutral society. Energy efficiency is the most cost effective strategy for reducing GHG emissions. However, in today's world, humans require energy to support our lives and our economy. Thus, it will not be possible for Creve Coeur to achieve the deep reductions in GHG emissions that are needed without access to renewable energy.

The City of Creve Coeur has been an EPA Green Power Partner since 2012. As part of this commitment the Creve Coeur community at large committed to purchasing at least 3% of its electrical energy from renewable sources. This amounted to approximately 15 million kWh from renewable energy for 2014. Most of this energy was acquired by purchasing Green-e certified renewable energy credits through Ameren Missouri. The city has also granted building permits for rooftop solar array installation amounting to 872 kW of solar energy production in Creve Coeur.

Because commercial buildings are the largest consumers of electrical energy, encouraging them to source energy from renewable sources should be a primary focus.

Strategies:

Purchase additional renewable energy credits: Currently the Creve Coeur community is sourcing 3.2% of its electrical energy from renewable energy sources. Increasing the purchase of credits would result in an immediate offsetting of carbon emissions. Purchasing renewable energy credits is among the easiest strategies for increasing consumption of renewable energy. Creve Coeur should continue its participation in the Green Energy Challenge, and should periodically engage in public events and educational campaigns that promote the use of renewable energy.

Table 3: Increase in renewable energy credits (RECs) purchased by community			
Percent increase in RECs purchase	50%	100%	150%
Percent of total energy purchased	4.8%	6.4%	8.0%
Annual kWh	23,085,192	30,780,256	38,475,320
Estimated annual emissions reductions (mt of CO2e)	**7,000**	**9,333**	**11,667**

Solarize Campaign: Purchasing renewable energy credits may be the easiest renewable energy strategy, but it adds cost to the energy bill without providing a payback, except by avoiding future damage from GHG emissions. In addition, it does not provide a physical asset that can be seen by the public to serve as a symbol of the city's commitment to renewable energy. For those reasons, Creve Coeur may want to develop renewable energy assets that provide a payback and have a physical presence inside the city.

Solar energy is a renewable energy well-suited to the St. Louis area. The city of Creve Coeur should review its codes and ordinances to ensure that building owners who want to install solar energy systems, whether residential or commercial, are not constrained from doing so by zoning restrictions, outdated building codes, or neighborhood covenants. The city should encourage commercial buildings to consider rooftop solar as they provide a greater area with minimal shading.

However, a national study found that only 22-27% of residential roofs are suitable for PV arrays. One option would be to establish a larger community installation, often called a "solar garden," which would sell some or all of its power to Creve Coeur residents. As Missouri is a regulated market for utilities a third party cannot at this time install and sell energy from a solar garden that supplies solar power to its customers. For this reason the most likely scenario would be for the local utility (i.e. Ameren Missouri) to install and operate the array. Ameren Missouri has made just such an installation at the O'Fallon Renewable Energy Center in O'Fallon, MO. To develop a solar garden, the city would need to locate a suitable tract of land and work with community partners to build the solar garden and sell its power to Creve Coeur residents. The table below estimates the emission reductions of a 1MW array.

Table 4: Solarize Campaign	
Estimated total potential annual emissions reductions (mt of CO_2e)	**900**[8]

Leaders in the Community:

Several members of the Creve Coeur community have made significant commitments to renewable energy:

DeSmet Jesuit Academy- 100kW PV array

- In July of 2014 four 25kW arrays were installed on the roof of the DeSmet Jesuit Academy
- This is the largest single solar array in Creve Coeur

Monsanto- RECs in community

- Monsanto contributes the largest percentage of renewable energy credits (RECs) within Creve Coeur

Government Strategies:

As part of the Green Power Challenge, the City itself purchased 396,000 kWh of renewable energy in 2014. This amounts to 14% of the total electrical energy used for city operations.

[8] Electricity generation and subsequent emissions were calculated using the PVWatts® calculator from the National Renewable Energy Laboratory

In addition, the city also placed a 25kW array on the roof of the Dielmann Recreation Complex. Since coming online in August of 2014 the solar array has generated approximately 35,000 kWh of electricity for the city.

Strategies:

Installation of additional solar power on city facilities: The City of Creve Coeur has installed a trial 25kWh array on the Dielmann Recreation Center. The city should establish a goal of procuring 30% of its electricity from renewable energy by 2035. This does not have to come completely from on-site installations but could also be purchased from the larger community solar discussed in the Community Strategies section. The city is considering constructing a new police building and renovating the city government center. Incorporating solar arrays into the designs for those buildings would be a natural step in implementing this strategy.

Table 5: Emissions avoided from additional renewable energy procurement	
Two 25 kWh solar arrays on new/renovated government buildings	48 mt of CO2e
30% of electricity for municipal operations coming from renewable sources	690 mt of CO2e

10% RECs increase: Currently the City of Creve Coeur purchases 15% of its electrical energy in the form of renewable energy credits. Increasing the purchase of RECs from 15% to 25% would result in immediate offsetting of carbon emissions (Table5).

Table 6: Increase purchase of RECs offsetting Government electricity	
Current RECs (kWh)	396,000
Current RECs % of Government electricity	15%
Potential increase in RECs purchase	25%
Estimated annual emissions reductions (mt of CO2e)	**455**

Alternative Transportation:

Community Strategies:

Emissions from vehicles account for 22% of Creve Coeur's greenhouse gas emissions. Strategies that encourage alternative modes of transportation (walking, bicycling, mass transit) would not only reduce GHG emissions, they would bring other benefits to the citizens of Creve Coeur, such as safer roads, increased air quality and better health.

Strategies:

Pedestrian connectivity: The 2002 Comprehensive Plan calls for the city to design and create a comprehensive community wide network of off-street and on-street connections for pedestrians. The plan also calls for the city to require new development to include public amenities, including pedestrian connections and bicycle facilities. These efforts should be continued and given a high priority.

Bikeway plan: The 2002 Comprehensive Plan calls for the city to develop a Bikeway Plan as part of the Pedestrian Plan. The city should work with a local partner (for instance, Trailnet) to develop such a plan and implement it.

Multi-modal streets: The 2002 Comprehensive Plan calls for the city to promote the design of multi-modal streets that provide safe and efficient mobility for automobiles, bicycles, and pedestrians. In some locations, street modifications have been accomplished, for instance along Olive Boulevard west of I-270. The city should continue its efforts to create multi-modal streets. Since 2002, however, several street design ethics have gained national attention that not only promote safety for multiple transportation modes, but also address other concerns such as stormwater runoff. The most well-known of them is called "Complete Streets." The city should explore the adoption of Complete Streets or a similar design ethic as part of its comprehensive plan update (Table 7).

Table 7: Multi-modal streets program (based on 5% participation)			
Avg. vehicle fuel efficiency (mpg)			23.8
Est. population of Creve Coeur			17,000
No. of weekly VMTs avoided	1	3	5
Total weekly gallons of gasoline avoided	36	108	180
Estimated annual emissions reductions (mt of CO2e)	**16**	**48**	**80**

Carpooling program: Work with a local transportation or carpooling partner to develop a carpooling program for businesses in Creve Coeur (Table 8).

Table 8: Carpooling program (based on 5% participation)			
Avg. vehicle fuel efficiency			23.8
Est. commuting population of Creve Coeur			28,000
No. of daily commute VMTs avoided	4	10	20
Total daily gallons of gasoline avoided	235	588	1,176
Estimated annual emissions reductions (mt of CO2e)	**460**	**1,150**	**2,300**

Leaders in the Community:

The Parkway School District has been a leader and staunch advocate for sustainability in the community for many years. The district could be included in all six of the goals set forth in this report. The district serves as an example of how large organizations can effectively implement sustainable practices.

Parkway School District has integrated CNG fuel into its bus fleet

- Currently Parkway Schools operate 30 CNG buses out of its 150 bus fleet
- The school district will continue to convert to CNG as older buses are replaced

Government Strategies:

Transportation-related emissions from government operations come from two main sources: emissions by vehicles in the city fleet (primarily police and public works) and emissions for vehicles used by employees in their daily commute. In both cases, reductions in energy consumption and GHG emissions are accompanied by reductions in energy costs. Further reductions can be accomplished by substituting alternative fuels for gasoline and diesel, by reducing vehicle miles traveled, and by continuing the transition from gas guzzling vehicles to fuel efficient vehicles.

Strategies:

Alternative fuel sources: CNG vehicles have several advantages over gasoline and diesel vehicles: CNG costs less per mile travelled, it emits 20-45% less smog producing pollutants, and 5-9% fewer GHG emissions. The city government has researched the feasibility of establishing compressed natural gas fuel stations within Creve Coeur. In addition the capital cost associated with building a CNG plant cannot be justified with the current usage of CNG in the community. However, future demand might become more favorable towards CNG, especially if local businesses express interest. In addition, if a fueling station could be established in cooperation with a consortium of nearby local governments, all of which contract to purchase fuel from the station, then affordability might improve.

The following table represents the savings that would be possible by converting the Public Works gasoline vehicles to compressed natural gas (Table 9). The difference in fuel consumption reflects the greater efficiency of CNG fuels[9]. At the time of this writing the price for CNG was $1.99/gasoline gallon equivalent (GGE)[10].

Table 9: Explore Alternative fuel sources for Public Works fleet vehicles

	Annual Fuel Consumption	GHG emissions (mt of CO2e)	Cost ($)
Gasoline consumption	8,325 gallons	44	$24,847
CNG equivalent	6,926 GGE	36	$13,784

Employee Carpooling Campaign: The city government could develop an employee carpooling program. Such programs typically involve a central registry that connects potential users with each other. The city could follow up with a program of incentives or contests to reward and encourage participation. Table 10 illustrates the emissions reductions of half the city staff participating in a ride sharing programming.

Table 10: Promote employee carpooling/ride sharing

Emissions reduction (mt of CO2e)	**218**
Annual gallons of gasoline	24,530
Annual savings to employees	$51,513

Anti-idling campaign: Engine idling consumes fuel and emits greenhouse gases. In addition, it emits other pollutants and increases engine wear and tear. Between 5-10% of vehicle fuel use occurs during idling, and hence, a similar proportion of GHG emissions. Most idling episodes are brief. However, some

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[9] Based on fuel conversion table by the California Energy Commission; http://energyalmanac.ca.gov/transportation/gge.html

[10] http://www.cngprices.com/stations/CNG/Missouri/St-Louis/

vehicles (trucks, construction equipment, etc.) may be allowed to idle for longer periods of time, increasing the fraction of fuel use and GHG emissions attributable to idling. The City of Creve Coeur should develop and conduct an anti-idling campaign for operators of its vehicle fleet. In addition to directly reducing GHG emissions, an anti-idling campaign would have the effect of demonstrating to its employees the city's commitment to reducing GHG emissions.

Reducing Waste:

While greenhouse gas emissions from waste and associated activities contributed little to overall emissions in Creve Coeur, promoting waste reduction is an essential element of sustainable communities.

Community Strategies:

Strategies:

Trash service: Under the current contract residents will pay for the valet component of the trash service. The city has already seen a significant drop in valet service from 40% to 18%. This results in fewer GHG emissions from idling trash trucks. Currently, the residents may choose from three sizes of trash totes. The city, in the future, might consider other programs aimed at reducing the amount of trash produced by residents such as composting (discussed below) programs.

Increase composting of local waste: Much of the refuse taken to the landfill is compostable waste. This should be encouraged not only for the local residents but also some of the businesses where food is a major waste product (ex: grocery stores and restaurants). As mentioned below the Parkway School District has successfully partnered with local composting organizations to collect and remove the waste. The city might want to explore options into large scale community composting. Many major cities have implemented curbside composting for residents, this might be easily incorporated into Creve Coeur’s successful yard waste program. The city yard waste sites might be ideal locations to consolidate organic waste from the community and partner with a composting organization to remove the compostable food waste.

Leaders in the Community:

Parkway School District

- 500 tons of waste is composted annually in partnership with Total Organics Recycling/St. Louis Composting
- Much of the tableware used in the schools is compostable

Government Operations:

Strategies:

Monitor current waste reduction: In July 2015, the City of Creve Coeur changed its waste service. This was done to decrease waste going to the landfill and increase recycling. The effectiveness of this effort should be evaluated as data becomes available. Included in this should be the effect of conversion from any of the trash pickup vehicles from diesel to CNG.

Implementation:

- Monitor effectiveness of new waste program (Green Team, EEC)
- Promote composting among residents and businesses that produce the largest quantity of compostable waste.

Education:

As Creve Coeur implements the various initiatives that will put this plan into effect, it will be necessary to inform the public about them. Thus, Creve Coeur will need an ongoing climate action public education campaign. The current government website offers information on a variety of environmentally friendly practices. This however, needs to be expanded upon with community outreach campaigns.

Community Strategies

Strategies:

Creve Coeur Sustainability Campaign: Beginning in 2016 the City of Creve Coeur's Energy and Environment Committee began to offer informative meetings aimed at curbing energy inefficiency for residents and businesses. Information regarding cost effective strategies that range from simple to complex to reduce energy use and GHG emissions is widely needed to counter any misinformation.

Website update: Creve Coeur's website offers environmental tips and information on reducing GHG emissions on its website. The information on those pages is several years old and is no longer accurate. As part of the sustainability campaign discussed above, the city should update this information regularly.

Leaders in the Community:

Dr. Joseph Martinich- 2016 Sustainability Campaign

- In early 2016 Creve Coeur resident Dr. Joseph Martinich, Founders Professor of Logistics and Operations Management at the University of Missouri- St. Louis, conducted information sessions on a wide range of energy and waste reduction methods

Government Strategies:

Though often overlooked, strategies to organize city staff, educate them, motivate them, and reward them are among the most important strategies of all. The reason is that there are hundreds, if not thousands, of sustainability practices, and no planning process can identify or evaluate them all. Creve Coeur will have to rely on its staff to identify and implement strategies to reduce GHG emissions. Unless staff is organized around sustainability, educated, motivated, and rewarded, Creve Coeur is unlikely to achieve its GHG reduction goals.

Strategies:

Regular municipal green team meetings: A green team is team of city employees who meet to create, evaluate, coordinate, and implement sustainability strategies. The requirements of a successful green team are that it be chaired by somebody who is held responsible for its success, that it have a clear mission, that its members be committed to improving the sustainability of government operations, and that members be in positions to actually influence city operations.

Many sustainability experts consider the establishment of a functioning green team to be the single most important sustainability strategy any organization can pursue. Creve Coeur established a green team a few years ago; it does not meet regularly, however. Creve Coeur should reinvigorate its green team, give it a clearly defined mission, and hold it responsible for meeting regularly and continuing to accomplish its mission.

Incentivize "green" practices: City employees are the city's greatest resource for developing green ideas. To tap this resource, Creve Coeur would need to develop a program through which green ideas can be submitted to the green team, and through which successful ideas can be acknowledged and incentivized.

"Green" recognition: Creve Coeur should develop a program to recognize employees that are practicing or promoting "green" policies during monthly administration meetings.

Review the green purchasing plan: In 2009, Creve Coeur became one of the first municipalities in the region to implement a green purchasing policy. At the time, the policy intentionally gave considerable leeway to purchasers in deciding whether to pursue a green purchase or a more standard purchase. Creve Coeur has now been implementing this green purchasing policy for six years, and it is an appropriate time to review it, determine its strengths and weaknesses, and determine where and how it needs to be amended.

Adaptation:

While it is of upmost importance to reduce the amount of greenhouse gases emitted into the atmosphere there is overwhelming consensus that we are beginning to see, and will for the foreseeable future continue to see, the effects of global climate change. For this reason, it is important for communities to implement strategies aimed at mitigating climate change's effects. It is only in recent years, however, that scientific information has begun to emerge in sufficient detail to allow for such planning in our region. For the Midwest, and the St. Louis area in particular, the direct effects include hotter summer days, warmer winters, more severe and acute rain events that could lead to flooding, and longer dry periods between the rains. Combined, these direct effects are likely to have some or all of the following secondary effects:

- a greater number of extremely hot days during summer, with an accompanying increase in heat-related illness and death, and a decrease in work productivity;
- a decrease in air quality, with an accompanying increase in respiratory illness;
- a decrease in water quality during hot periods due to low oxygenation and the growth of algae and other microorganisms;
- an increase in water demand during hot summer months;
- an increase in insect pests, including those that vector diseases;
- an increase in electricity demand during hot summer months, with an accompanying increase in electricity outages and interruptions;
- an increase in heat-related maintenance costs, such as equipment overheating and road buckling;
- a decrease in heating demand during the winter months;
- a decrease in cold-related maintenance costs such as pipe freezing and snow removal;
- possible changes in food availability.

Until these threats become clearer, and specifically how they will affect Creve Coeur, it is not possible for the city to take extensive action. However, a few general strategies can be pursued. Having a diverse plant community could help mitigate some of the effects of climate change. Plants also actively reduce the concentration of atmospheric carbon dioxide, a greenhouse gas. Plants also provide additional benefits to the community, these include: increasing property values, lower utility costs and increasing quality of life.

Community Strategies:

Strategies:

Strengthen the electrical grid: Modern life is heavily dependent on the energy grid. Weather events over the past few decades have taught us that when the grid goes down, our ability to function normally is seriously disrupted. Creve Coeur does not have control over the grid, and it is regulated at the state and national level. However, the city is in a position to speak for its residents and advocate for a strong, resilient grid. In addition, local renewable energy systems, such as rooftop solar and solar gardens, have the potential to provide some power should a catastrophic failure occur on the grid. Creve Coeur should advocate at the state level for a strong, resilient grid. It should encourage local renewable energy systems, and see that they are designed to function as partial backups in the event of a grid failure. This would include the advocacy for micro-grids that have the potential to operate independent of the grid.

Harden city infrastructure: Creve Coeur should convene a task force to study how climate change is likely to impact infrastructure owned by the city, and how it should be hardened.

Heat emergency plan: Creve Coeur should develop and keep updated an emergency plan to cope with heat emergencies. The plan should have such factors as establishing emergency cooling shelters, identifying those in need of emergency services, determining whether they need medical or cooling attention, and transporting them to medical facilities and/or cooling shelters.

Government Strategies:

One of the City of Creve Coeur's points of pride is the amount of green space. The City has been certified a Tree City USA by the Arbor Day foundation since 1997 and recently completed a tree inventory which will help maintain a diverse tree population. While Creve Coeur has made many strides in creating a verdant community many improvements are possible.

Strategies:

Urban ecosystems modelled after SITES: SITES is a rating system that assesses the design, construction and maintenance of landscapes. The goal with these landscapes it to create ecologically resilient communities. Among some of the benefits are a suite of ecosystem services including: flood mitigation, water quality improvement and erosion control.

The city is currently developing a residential storm water ordinance aimed at mitigating storm water. This involves a buffer zone along creeks where no disturbance is allowed. These locations would be ideal for diverse urban ecosystems. In addition, in city parks have implemented different plantings such as rain garden and swales that provide varied ecosystem services. While these practices are individually beneficial the city could move towards a more extensive and wide-reaching plan aimed at encouraging the implementation of SITES based ecosystems where applicable.

Provide native planting habitats for pollinators including the Monarch butterfly: This strategy works in conjunction with the previous one. High functioning urban ecosystems have the added benefit of providing habitat for fauna including native pollinators. Currently, native pollinators are facing marked declines in population and these declines are having, previously unforeseen, effects on plant communities. City committees and departments, including the Horticulture, Ecology, and Beautification Committee, the Stormwater Committee, and the Planning and Zoning Commission, the Public Works Department, the Community Development Department, and the Recreation Department should be charged with developing plans to adapt city infrastructure and property to the effects of climate change.

Conclusion:

Since 2008, when it completed the first greenhouse gas inventory in the St. Louis Region, Creve Coeur has been a sustainability leader. The completion of the Updated Greenhouse Gas Emissions Inventory for 2014 and the adoption of this climate action plan, Creve Coeur reaffirms that it remains a sustainability leader in the St. Louis Region. History shows that when the people of Creve Coeur unite and put their hearts and minds behind a task, they can accomplish great things. Climate change will require the city's best efforts, for its own welfare, and for the welfare of the world.

Energy Efficiency			Estimated Reductions
Community			
Building Benchmarking	**Short (next year)**	Initiate communications with major commercial partners, establish contact person within city staff	**N/A**
	Medium (1-5 yrs)	Establish infrastructure for collecting and monitoring building performance	
	Long (5 yrs +)	Explore feasibility of requiring benchmarking for all commercial buildings	
Energy Auditors List	**Short (next year)**	Task EEC member and staff to create a list of energy auditors	**N/A**
	Medium (1-5 yrs)	Promote energy auditors list to community	
	Long (5 yrs +)	Explore opportunities to incentivize residential energy efficiency	
Adopt new IECC standards	**Short (next year)**	City Council pass new IECC standards	**N/A**
	Medium (1-5 yrs)	Continue to monitor and upgrade as necessary	
	Long (5 yrs +)	Continue to monitor and upgrade as necessary	
Commercial Energy Efficiency Incentive Programs	**Short (next year)**	Explore energy efficiency ordinances centered on incentivizing energy efficiency upgrades for commercial buildings	**10,000 – 17,000**
	Medium (1-5 yrs)	Pass affordable financing ordinances for building energy efficiency programs	
	Long (5 yrs +)		
Government			
Require "Green" Certification	**Short (next year)**	Team EEC, city staff and USGBC to explore LEED certification for new city construction	**N/A**
	Medium (1-5 yrs)	Based on results of committee findings implement necessary steps	
	Long (5 yrs +)		
Building benchmarking with reports to City Council	**Short (next year)**	Assign city staff responsible for updating benchmarking info. and reports	**53**
	Medium (1-5 yrs)	Set goals for municipal buildings to reach energy star certification	
	Long (5 yrs +)	Adjust goals as needed to continually improve building performance	

Renewable Energy			Estimated Reductions
Community			
RECs increase	**Short (next year)**	Promote Green Power Community commitment to community	**7,000**
	Medium (1-5 yrs)	Explore collaboration and participation with large community organizations (business, hospitals, schools, etc.)	
	Long (5 yrs +)	Continue promotion of renewable energy	
Community Solar	**Short (next year)**	Explore public interest and feasibility of community solar campaign	**900**
	Medium (1-5 yrs)	Based on findings, task residents with building interest or support	
	Long (5 yrs +)	Create campaign aimed at utility (Ameren) owned community solar array	
Government			
RECs increase	**Short (next year)**	Increase RECs purchases of RECs from 15% to 25%	**455**
	Medium (1-5 yrs)	Move out into community to increase RECs purchases throughout community	
	Long (5 yrs +)	Use RECs purchasing as clear sign of Creve Coeur's commitment and interest in local renewable energy	
Additional solar on city buildings	**Short (next year)**	Complete thorough analysis of cost/benefit of solar installation on DRC	**740**
	Medium (1-5 yrs)	Consider solar and geothermal installations on new/renovated buildings	
	Long (5 yrs +)	Explore options to increase renewable energy either within or outside of Creve Coeur	

Alternative Transportation			Estimated Reductions
Community			
Multi-modal Streets	**Short (next year)**	Comprehensive plan currently underway	**80**
	Medium (1-5 yrs)	With guidance from Comprehensive plan partner with community organizations (ex: Trailnet) to identify potential expansion of alternative transport	
	Long (5 yrs +)	Incorporate dense community building planning in key areas around Creve Coeur	
Carpool Campaign	**Short (next year)**	Communicate with major businesses within Creve Coeur	**2,300**
	Medium (1-5 yrs)	Work with business to develop plan to encourage carpooling by employees	
	Long (5 yrs +)	Evaluate effectiveness of plan and adjust as necessary	
Government			
Alternative Fuel Source	**Short (next year)**	Explore interest in community for fleet vehicle upgrade to CNG or other fuel source	**8**
	Medium (1-5 yrs)	Continue upgrading vehicle fleet to diesel and other fuel alternatives to gasoline	
	Long (5 yrs +)		
Employee Carpool	**Short (next year)**	Develop plan to encourage/incentivize employee carpooling	**218**
	Medium (1-5 yrs)	Evaluate effectiveness of plan and adjust as necessary	
	Long (5 yrs +)	Continue evaluation	
Anti-idling Campaign	**Short (next year)**	Develop campaign setting limits on idling time for city vehicles	**N/A**
	Medium (1-5 yrs)	Initiate campaign	
	Long (5 yrs +)	Evaluate fuel consumption savings	

Reducing Waste			Estimated Reductions
Community			
Increase Composting	**Short (next year)**	Communicate with major organic waste producers (restaurants, grocery stores, etc.) within city	**TBD**
	Medium (1-5 yrs)	Explore feasibility of partnering trash producers with composting companies in the region	
	Long (5 yrs +)	Consider expanding composting to other areas of the community	
Government			
Monitor Current waste reduction	**Short (next year)**	Continue monitoring trash conversion to curbside and size of trash totes used by residents	**N/A**
	Medium (1-5 yrs)	Explore options aimed at reducing trash and increasing recycling and composting	
	Long (5 yrs +)	Explore options aimed at reducing trash and increasing recycling and composting	

Education			Estimated Reductions
Community			
Sustainability Campaign	**Short (next year)**	First phase of the Creve Coeur Sustainable Living series	**N/A**
	Medium (1-5 yrs)	Monitor success/participation of campaign, adapt topics/presentation as needed	
	Long (5 yrs +)	Continue monitoring/adapting	
Website Update	**Short (next year)**	Task EEC with compiling current sustainability topics and information	**N/A**
	Medium (1-5 yrs)	Update sustainability section of website with new information	
	Long (5 yrs +)	Continue updating as needed	
Government			
Regular Green Team Meetings	**Short (next year)**	Set a team "leader" and team member from all departments, initial planning meeting to set goals and schedule (possible ideas follow)	**N/A**
	Medium (1-5 yrs)	Continue meetings adjusting goals as needed	
	Long (5 yrs +)	Evaluate success of goals	
Incentivize "green" practices	**Short (next year)**	Green Team develop "green" campaign	**N/A**
	Medium (1-5 yrs)	Launch "green" campaign	
	Long (5 yrs +)	Evaluate success and adapt as needed	
"Green" recognition	**Short (next year)**	Green Team explore recognition for staff that practice "green" habits	**N/A**
	Medium (1-5 yrs)	Implement recognition program	
	Long (5 yrs +)	Evaluate success and adapt as needed	
Review the green purchasing plan	**Short (next year)**	Green Team evaluate green practices in city operations	**N/A**
	Medium (1-5 yrs)	Report to city council success/improvement	
	Long (5 yrs +)	Continue evaluating purchase practices	

Adaptation			Estimated Reductions
Community			
Strengthen the electrical grid	**Short (next year)**	Explore along with community solar campaign	**N/A**
	Medium (1-5 yrs)	Develop strategies to campaign for electrical grid renovation to state government	
	Long (5 yrs +)	Continue conveying importance to state officials	
Heat emergency plan	**Short (next year)**	Identify target areas and population susceptible to high temperature	**N/A**
	Medium (1-5 yrs)	Determine whether Heat Emergency Plan is necessary for Creve Coeur	
	Long (5 yrs +)	Develop and implement plan	
Government			
Urban ecosystem based on SITES	**Short (next year)**	Explore integration with current city stormwater and comprehensive plans	**N/A**
	Medium (1-5 yrs)	Encourage SITES model to businesses and residents where applicable	
	Long (5 yrs +)	Evaluate effectiveness of SITES model and adapt as necessary	
Provide native planting for pollinators	**Short (next year)**	Provide education on benefits of diverse plantings	**N/A**
	Medium (1-5 yrs)	Expand native plantings on government grounds	
	Long (5 yrs +)	Collaborate with local agencies to help expand efforts	

City of Creve Coeur, Missouri

Updated Greenhouse Gas Emissions Inventory for 2014

LUIS GARCIA

USGBC-MISSOURI GATEWAY CHAPTER REIP INTERN

SEPTEMBER, 2015

Credits and Acknowledgements

Many people were instrumental in the completion of this report. I would like to express my immense gratitude to the City of Creve Coeur staff: Andrea Muskopf (Human Resources Assistant), Mark Perkins (City Manager), Sharon Stott (Asst. to the City Administrator), Jim Heines (Director of Public Works), Jason Valvero (Director of Parks and Recreation), Sgt. Jeffrey Hartman (Admin & Support Services), Debbie Loso (Finance Manager), Matt Wohlberg (City Engineer), and Steve Unser (Chief Building Official). I would also like to thank the members of the Energy and Environment Committee, whose help in the creation of this report was invaluable

This inventory and report is the result of the collaboration of numerous sources. These sources include: Allied Waste Services, Ameren UE, East-West Gateway Council of Governments, Laclede Natural Gas Company, Missouri American Water Company, Republic Waste Services, and the City of Creve Coeur. I would like to express my gratitude to these sources and their representatives for the assistance and cooperation they provided, which made the completion of this report possible.

Lastly, I would like to personally thank Emily Andrews and John May for their continued guidance and support in this process.

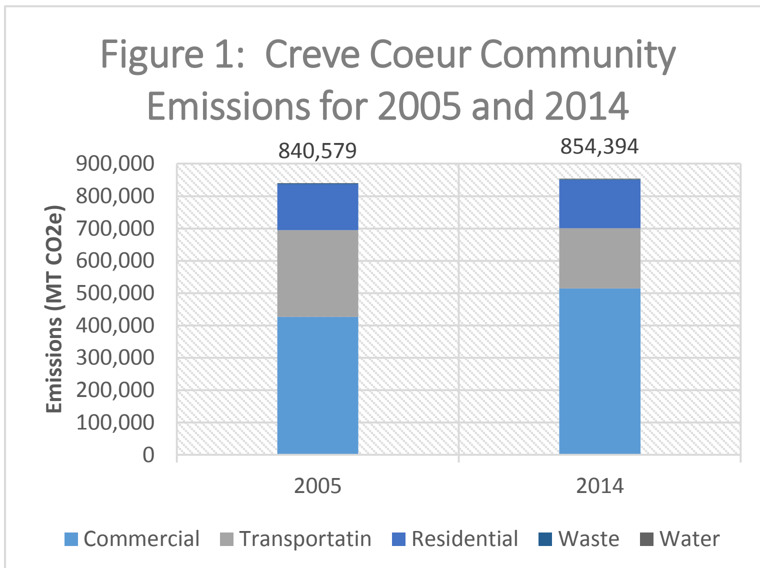
Sincerely,

Luis Garcia
Regional Environmental Intern

EXECUTIVE SUMMARY:

On August 15, 2008 an initial greenhouse gas (GHG) inventory was completed for the City of Creve Coeur detailing GHG emissions by source and sector for the community and government operations. This GHG inventory established 2005 as the baseline year on which all other GHG emissions for Creve Coeur will be compared. The 2008 inventory, using emission data from 2005, was a first step in Creve Coeur's attempt to address climate change in its community. The City of Creve Coeur has since continued its commitment to limit wasteful and costly greenhouse gas emissions, implement energy conservation strategies and safeguard the environment for present and future citizens. This report is a small component of this commitment. In addition to the monitoring of current GHG emissions for the community and local government, this report will help assess the efficacy of reduction strategies that have been implemented since the original 2008 inventory. Similar to the 2008 inventory this report will tally emissions for the community as a whole as well as report emissions that are a result of government operations. The methods used in 2015 were similar to 2008 and permit direct comparison.

COMMUNITY EMISSIONS:



In 2014, Creve Coeur's total Community emissions were 854,394 metric tons (MT) carbon dioxide equivalent (CO_2e). Emissions from the Commercial energy consumption accounted for over half (60.2%) of the GHG emissions for the community. Transportation was the cause for the second highest emissions (21.8%). The Residential energy consumption was responsible for 17.5% of GHG emissions. Water and Wastewater (0.3%), and Solid Waste (0.2%) contributed a small percentage of overall emissions. Greenhouse gas emissions were 1.6% greater in 2014 compared to those in 2005. Though total emissions saw an increase, the Transportation and Waste sectors saw decreases in their emissions.

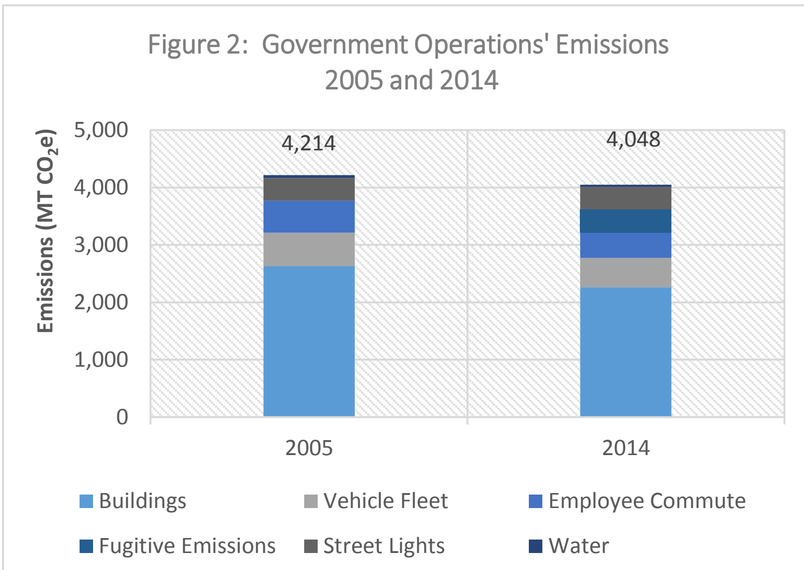
The majority of Community emissions, which is the combination of government operations, residential and commercial emissions, come from electricity (Table 1). The Commercial sector was the greatest consumer of electrical energy with 541,233,399 kWh emitting 446,914 metric ton of CO_2e. This amounts to 52.3% of all emissions.

Community Emissions		
Source	**2014 GHG emissions (Percentage of CO_2e)**	**2014 GHG emissions (MT CO_2e)**
Electricity	66%	565,220
Gasoline	19%	165,941
Natural Gas	12%	100,784
Diesel	3%	21,409

Table 1: 2014 GHG Emissions by Source

Compared to 2005, Commercial consumption of electricity and natural gas has increased 20% and 34%, respectively. Since 2005, Creve Coeur has seen an addition of approximately 2 million square feet of commercial floor space. This 16% increase in floor space can help account for part, but not all, of the 20% and 34% increase in electricity and natural gas use respectively, for the Commercial sector.

GOVERNMENT EMISSIONS:



In 2014, emission from the City of Creve Coeur's government operations were 4,048 metric tons of CO_2e. This represents a 4% decrease from 2005. Purchased energy (electricity and natural gas) for government buildings and facilities was responsible for the largest percentage of emissions with 55.9%. Next, with 12.6%, were emissions that were the result of burning gasoline and diesel by the city's vehicle fleet. Emissions from full-time government employees commuting to work accounted for 10.8% of government emissions. Fugitive emissions from leaked coolant used at the Dielmann Recreation Complex's Ice Arena accounted for 10%. Electricity used to power the city's streetlights and traffic signals was responsible for 9.7% of emissions. Lastly, electricity used to power the city's fountains and irrigation was responsible for 1% of emissions.

While emissions from government operations in total were down 4% from 2005, this comparison is skewed because refrigerant was purchased for the ice arena in 2014, but not in 2005. Refrigerant is an extremely powerful greenhouse gas. Comparing only emission sources that were included in the 2005 inventory, the government operations have actually seen a 20% decrease in emissions.

Though government operations make up only 0.5% of Creve Coeur's total GHG emissions, many lessons can be learned from the government's dedication to energy efficiency. With the cost of local utilities projected to increase in the coming years, energy efficiency is becoming increasingly important. Local government operations saw a decrease in emissions in most sectors, excluding electricity for streetlights and traffic signals. Even though the government saw an increase in their utilities bills compared to 2005, these increases would have been more significant without some of the energy efficiency practices that the government has implemented. Creve Coeur's government avoided a total of $53,125 in utility charges in 2014 due to these efficiency practices.

CONCLUSION:

The 2005 greenhouse gas inventory forecast that, without making efforts to reduce greenhouse gas emissions, they would increase 9% by 2015. Adding the increase in commercial space that occurred, a 9% increase would have resulted in community emissions of 928,925 MT CO_2e. While Creve Coeur did not meet its target of reducing community GHG emissions by 20%, it did avoid 75,531 MT CO_2e of forecast emissions in 2014. By avoiding these emissions, Creve Coeur prevented $2,794,647 worth of damage that would have been caused by the carbon emissions[1]. Likewise, the energy efficiency actions implemented by the city government avoids $40,131 in annual utility costs at 2014 utility rates. This updated inventory allows the community to the re-evaluate its reduction strategies. Future reduction strategies for GHG emissions should be targeted to sectors that produce the largest emissions. There are many strategies still available to the community. Now is the time to celebrate successes and re-energize the community's investment in future energy conservation.

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[1] Based on the per ton social cost of carbon as determined by the U.S. Government, Technical Support Document: Technical Update of the Social Cost of Carbon for Regulatory Impact Analysis Under Executive Order 12866 (May 2013)

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INTRODUCTION:

BACKGROUND:

On April 14th, 2008, at the request of the Recycling, Environment and Beautification Committee, the City Council of the City of Creve Coeur unanimously passed a resolution requesting Mayor Harold Dielmann to sign the U.S. Mayors' Climate Protection Agreement, authorizing the City to conduct an inventory of greenhouse gases (GHG). Mayor Dielmann publicly signed the U.S. Mayors' Climate Protection Agreement on April 28, 2008. On August 15, 2008 an initial Greenhouse Gas Emissions Inventory for Creve Coeur was completed using 2005 as the baseline year. This inventory was performed with the assistance and consultation of ICLEI-Local Governments for Sustainability, using the process developed for their Cities for Climate Protection Campaign. The inventory utilized computer software developed specifically for this purpose: the Clean Air and Climate Protection Software (CACP) and emissions data from 2005. That report represented the completion of the first step of five in a process intended to guide cities through the creation and execution of an action plan to reduce GHG emissions and energy use.

This report is a continuation of this process and Creve Coeur's commitment to energy efficiency and conservation. Its purpose is twofold: It is an updated inventory of GHG emissions for the city government and community, and to monitor and assess the efficacy of reductions strategies that Creve Coeur's city government and community have implemented since the original inventory. The 2005 inventory used 2015 as the "forecast" year and emissions were forecasted under a "business as usual" scenario. GHG emissions were forecasted to rise 9% by 2015. It is logical then to re-evaluate GHG emissions at this time to compare projected emissions to actual emissions. Data used is from calendar year 2014 and not 2015 for various reasons. The city of Creve Coeur is currently in the process of updating its comprehensive plan and the results of this report will help to inform that process. Additionally, Creve Coeur participated in the Environment Protection Agency's (EPA) Pure Power Challenge in 2013, and this report will help to assess the results of participating in this challenge.

Since the initial inventory, Creve Coeur has continued its commitment to environmental stewardship. For example, in 2011 Creve Coeur became the second Green Power Community in Missouri and the fifth in the Midwest. As an EPA Green Power Community, Creve Coeur committed to acquire 3% of its electrical energy from renewable sources. The city government completed a Comprehensive Energy Audit for its government operations in 2013, and Creve Coeur won the Community Renewable Energy Project of the Year from Ameren Missouri's Pure Power Program in 2014. Also, in 2014 the city began its participation in the 25x20 Energy Benchmarking Campaign.

The city government has been participating in the previously mentioned programs and has seen some major projects aimed at reducing its GHG emissions. These include a lighting retrofit at all government buildings, more efficient heating systems at the Government Center and Public Works garage, white paint coating on the Government Center roof, LED lighting along part of Olive Boulevard, and the installation of a solar photovoltaic system at the Dielmann Recreational Complex. During the writing of this report, the city also implemented a new trash service contract aimed increasing the amount of recycling in the community.

THE IMPORTANCE OF QUANTIFYING GHG EMISSIONS:

On August 3, 2015, the President of the United States unveiled the Clean Power Plan. This plan is aimed at reducing the carbon emissions from the power sector, nationwide. This will be accomplished by investing in renewable energy and cutting cost to homes and businesses by improving energy efficiency[2].

The evidence that humans are influencing the climate system is overwhelming. Findings conclude that more than half of the observed global temperature change from 1951 to 2010 was a result of human activities increasing GHG concentrations. The amount of GHG emission due to anthropogenic activities has continued to increase since 1970 with a larger increase seen between 2000 and 2010, despite more emission mitigation policies. Current science links an almost linear relationship between CO_2e emissions and projected global temperature change to the end of the century. To avoid the worst effects of climate change, emissions need to be reduced 40-75% by 2050, and to near zero by the year 2100[3].

This increased warming could have many adverse effects in our region. The number of heat waves and days with a temperature greater than 100 degrees Fahrenheit are expected to increase. Extreme hot weather is the leading cause of weather related deaths in the U.S., with the young and old being most at risk. A less extreme but operationally important aspect is that hotter temperatures also reduce worker productivity, especially for those working outside. Hotter summers may lead to poor air quality. Poor air quality is linked to many respiratory illnesses including asthma, bronchitis and emphysema, with children being the most susceptible. The Midwest is also forecast to see more intense rain fall with greater time intervals between rain falls. This could lead to increased flooding that could damage many residents. Warmer, wetter summers coupled with milder winters likely means an increased number of disease vectors mainly, ticks and mosquitos. These vectors carry diseases such as West Nile virus, St. Louis encephalitis virus and Lyme disease[4].

If the threats associated with global climate change are to be reduced or avoided, then a careful inventory of GHG emissions must be the first step in addressing this concern. Creve Coeur accomplished this step in 2008 with its baseline GHG inventory. This first step, however, should then be followed with periodic monitoring and evaluation of progress. This report is aimed toward assisting the Creve Coeur community evaluate its progress and decide which programs and activities would best reduce wasteful

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[2] http://www.epa.gov/airquality/cpp/cpp-key-topics.pdf
[3] Climate Change 2014 Synthesis Report Summary for Policymakers, IPCC, 2014: Climate Change 2014: Synthesis Report. Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change [Core Writing Team, R.K. Pachauri and L.A. Meyer (eds.)]. IPCC, Geneva, Switzerland, 151 pp.
[4] http://nca2014.globalchange.gov/

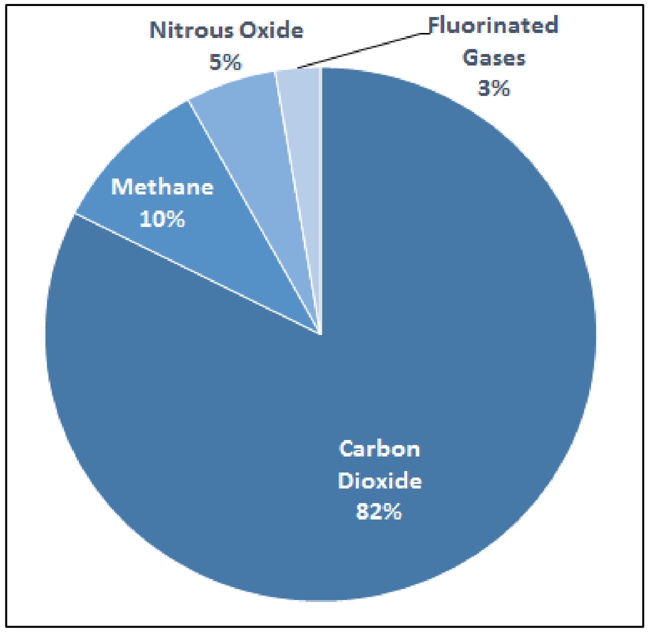
and unnecessary energy consumption and GHG emissions, thereby helping protect the economic longevity and personal health of its community.

METHODOLOGY:

MEASURING GREENHOUSE GASES

Emissions of greenhouse gases at community and government scale cannot be directly measured in a cost effective manner. For this reason GHG emissions are estimated using proxy data. Electricity and natural gas consumption are used to estimate emissions from commercial buildings, homes and industry. Vehicle miles travelled (VMT) are used to estimate emissions from motor vehicles. Emissions from burning coal for electrical generation and natural gas for heating were estimated from usage data provided from Ameren Missouri and Laclede Gas. Emissions from vehicle miles travelled within Creve Coeur include whether Creve Coeur was the origination or destination of the trip or simply passed through.

Figure 3: U.S. GHG Emissions in 2013



Greenhouse gasses are a diverse group of gasses that all share the trait of trapping radiant heat close to the surface of the Earth and are a major factor in global climate change. They include methane (CH_4), nitrous oxide (NO_x) and carbon dioxide (CO_2) among others. The capacity to which each gas can trap heat varies, and is referred to as its global warming potential (GWP). As CO_2 is the most prevalent GHG emitted (Figure 3), it is given a global warming potential of 1, and the global warming potential of all other gasses are compared to CO_2 (Table 2). In order to create a standard for comparison, the global warming effect of all gases are converted to the amount of CO_2 that would be required to have the equivalent effect, and the result is expressed in a single unit known as carbon dioxide equivalent (CO_2e). This procedure allows the effect of different gases to be directly compared, and it allows for the effects of all gases to be summed to a single comprehensive total.

Greenhouse Gas	Global Warming Potential (GWP)
Carbon dioxide (CO_2)	1
Methane (CH_4)	21
Nitrous Oxide (N_2O)	310
Hydrofluorocarbons (HFCs)	43-11,700

Table 2: Global Warming Potential for Four Common Greenhouse Gases

INVENTORY PROTOCOLS

This report uses the ICLEI ClearPath tool to inventory GHG emissions reported by their carbon dioxide equivalent (CO_2e). ICLEI-Local Governments for Sustainability is a membership organization that works to help local governments achieve reductions in greenhouse gas emissions and adapt to changes that may impact them due to climate change. The 2005 GHG inventory used the Clean Air and Climate Protection (CACP) software to calculate greenhouse gas emissions. ClearPath is an update of the CACP software, therefore results that were calculated from the CACP software for CO_2e emissions can be directly compared to emissions from the ClearPath software.

Similar to the baseline inventory, two separate inventories were compiled; one for government operations for the City of Creve Coeur and another for the community as a whole. All efforts were made to keep data sources and analysis constant from the initial inventory. There was some divergence from the baseline inventory data, specifically regarding Commercial and Industrial energy usage. In the 2008 inventory, reporting 2005 emission, there are separate Commercial and Industrial sectors. In this report, energy usage from these two sectors is combined in the Commercial sector. This was a result of Ameren Missouri no longer differentiating between the industrial and commercial rate classes. To reflect this change in this report, data from the Commercial and Industrial sectors have been combined into the Commercial sector for both inventories.

COMMUNITY AND GOVERNMENT SECTORS

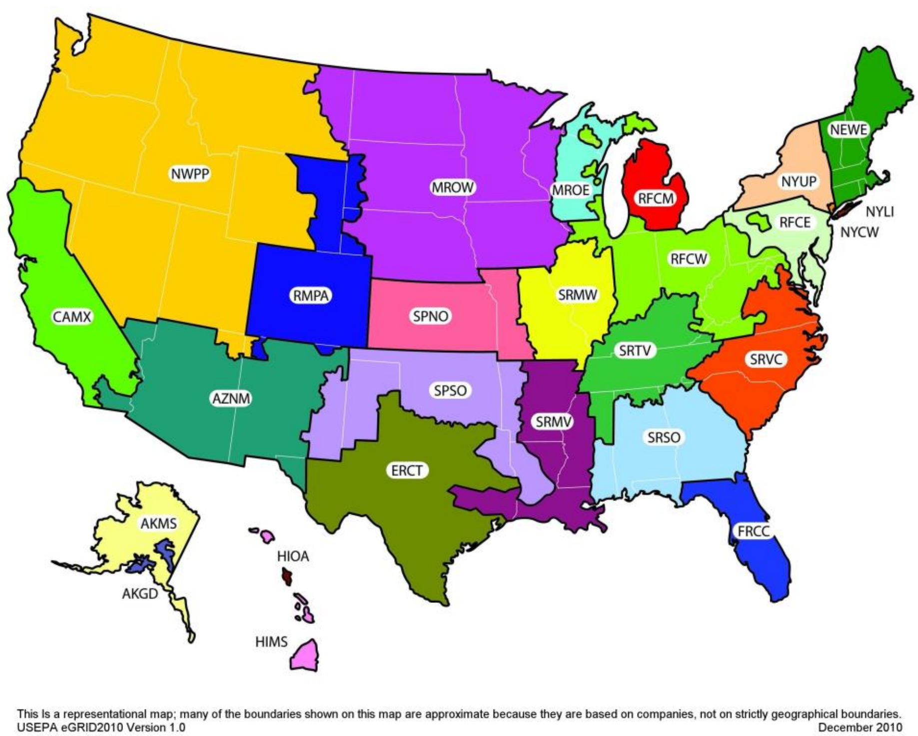
The community inventory involved compiling GHG emissions data from five major sectors. These were: Commercial, Residential, Transportation, Waste and Water. All data collected was for calendar year 2014. Commercial and Residential GHG emissions were estimated using electricity and natural gas usage, with data for each sector being provided by local utilities. Transportation emissions were calculated from vehicle miles travelled within Creve Coeur. This information was acquired from the East West Gateway Council of Governments (EWGCG). EWGCG tabulated vehicle miles travelled occurring within Creve Coeur city limits and supplied this total number to be used in this report. Solid waste creates GHG emissions in two ways. Greenhouse gasses are initially released from the vehicles used in collecting and transporting the waste. Secondly, greenhouse gasses are emitted from the decomposition or incineration of the solid waste. GHG emissions from both activities were accounted for in this report. GHG emission from the collection and transportation were estimated using miles traveled by the waste hauling trucks and fuel data supplied by the collection. Emissions from decomposition were projected from the amount of solid waste collected. Supplying water to the community results in the release of GHGs from the electricity required to deliver the water. The calculation of electricity required to deliver water total gallons consumed by the City of Creve Coeur was obtained in addition to total water consumption and associated electricity usage for the St. Louis region. The percentage of Creve Coeur water consumption was applied to total electricity usage to calculate electricity consumption for water delivery.

Local government emissions were calculated from data furnished by the City of Creve Coeur. These emissions were reported for five sectors: Buildings, Vehicle Fleet, Employee Commute, Streetlights and Water. All data was for calendar year 2014, except for vehicle fleet data, which was only available for the 2014 fiscal year (1/1/13-6/30/14), and employee commute, which was computed using current employee driving distances (July, 2015). Building emissions, similar to the community, were estimated using energy consumption, which was taken from utility bills. Vehicle fleet emissions were calculated using vehicle miles travelled and fuel use. GHG emissions that resulted from an employee commuting to work were determined by the distance the employee travels to work and average vehicle fuel efficiency. The distance was estimated using an employee survey. Streetlight emissions are a result of the electricity required to run the lights. This data came from the city government's utility bills. Similarly, water related emissions are a result of the electricity needed to pump and transport the water.

FACTOR SETS

Emissions are tabulated and accounted for in every major sector of the community and government operations. This includes primary emissions (emissions that occurred within the political boundaries of Creve Coeur) and secondary emissions (emissions occurring outside the political boundaries of Creve Coeur, but caused by activities within the political boundaries or Creve Coeur, e.g. electricity usage). Because greenhouse gases are estimated from proxy data (e.g. electricity consumption, natural gas consumption), greenhouse gas intensity factor sets must be used to equate the proxy data to a carbon dioxide equivalent. These emission factors can be universal, such as the case with burning of fuel oil and waste decomposition, or they can be varied as is the case with electricity generation.

Figure 4: NERC Regional Map



Electricity generation emissions vary by where the electricity is produced. Figure 4 illustrates different electricity generation regions in the United States. Between these regions, different combinations of fuel sources are used to generate electricity, and therefore the amount of greenhouse gas emissions produced by production of a unit of electricity varies.

Between 2008 and 2014, Creve Coeur was transferred into the Southeast Electric Reliability Corporation (SERC) Midwest (SRMW) region. Thus, in this inventory, SRMW factor sets were used to report emissions from electricity consumption. The initial inventory used different factor sets. To permit direct comparison between the two inventories, wherever such comparisons are made, the 2008 electrical emissions have been adjusted using the SRMW factor sets.

2014 COMMUNITY GHG EMISSIONS:

COMMUNITY EMISSIONS:

Greenhouse Gas emissions are reported in units of carbon dioxide equivalent (CO_2e) for each sector of the community. These sectors include Residential, Commercial, Transportation, Water and Solid Waste. In 2014, the Creve Coeur community emitted 854,394 metric tons (MT) of CO_2e. The U.S. Census Bureau estimated Creve Coeur's population at 17,868 for 2014. This would amount to a per capita emission of 47.2 MT CO_2e.

Community GHG emissions are shown by sector and percentage of total in Table 3. Figure 5 illustrates the percentage of emissions by sector. As in 2005, Commercial, Residential and Transportation make up the majority of emissions, accounting for over 99% of emissions, leaving Water and Waste to account for less than 1% of GHG emissions for the community.

In 2014, the Commercial sector accounted for over half (60.2%) of all GHG emissions. As in 2005, the next largest emitter of GHG was the Transportation sector, which was responsible for 21.8% of the community's total emissions. Residential emissions (17.5%) were third. Water and Wastewater and Solid Waste sectors, with 0.3% and 0.2% respectively, were minor contributors to the communities overall GHG emissions.

In 2013, Creve Coeur participated in the Green Power Challenge, resulting in the purchase of renewable energy credits in 2014, which offset greenhouse gas emissions, but not energy consumption. This program will be discussed below.

Table 3: Total Community GHG Emissions by Sector (2014)

Sector	GHG Emissions (Percentage of CO_2e)	GHG Emissions (MT CO_2e)
Commercial Energy	60.2%	514,412
Transportation and Mobile Sources	21.8%	186,467
Residential Energy	17.5%	149,162
Water and Wastewater	0.3%	2,430
Solid Waste	0.2%	1,923
Total	**100.0%**	**854,394**
Pure Power RECs		-10,979
Total Net Emissions		**843,415**

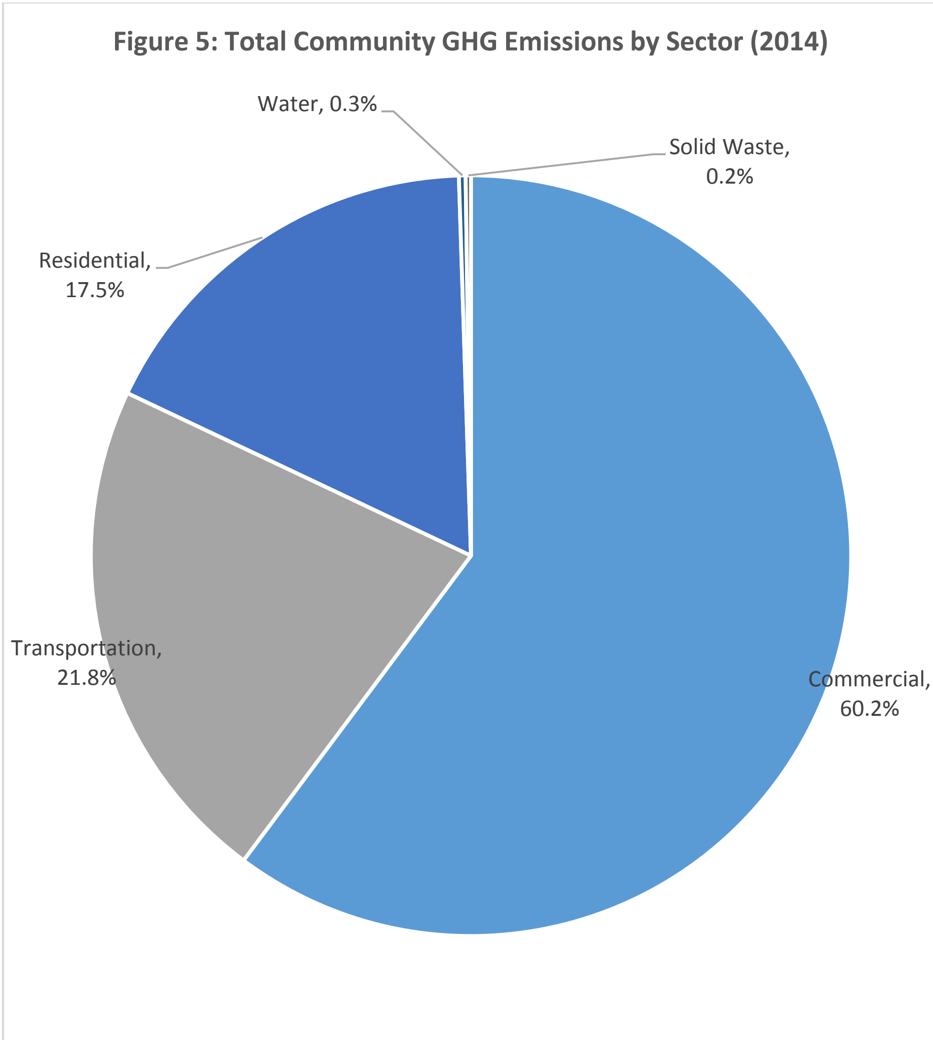


Figure 5: Total Community GHG Emissions by Sector (2014)
Water, 0.3%
Solid Waste, 0.2%
Residential, 17.5%
Transportation, 21.8%
Commercial, 60.2%

COMMERCIAL AND RESIDENTIAL BUILDINGS:

The Commercial and Residential sectors combined represent the built environment and account for 77.7% of all GHG emission for Creve Coeur (Table 3). These emissions are the result of providing energy to buildings in the form of electricity or natural gas. Table 5 shows the emissions from the Commercial and Residential sector broken down by energy source. The greatest emissions from providing energy to buildings are due to electricity usage. Close to 80% of both electricity usage and emissions that result from electricity comes from the Commercial sector. The Commercial sector used 400,925,413 more kilowatt-hours and emitted 331,038 metric tons of CO_2e more than the Residential sector. The Commercial sector is also responsible for 66% of natural gas usage and its associated emissions. This makes the Commercial sector a critical target for reducing GHG emissions within the community.

The Residential sector comprises the emissions generated to provide energy to Creve Coeur residents. As stated previously, the 2014 population was estimated to be 17,868 living in 7,550 households (2010 data for households). Using this figure the per capita emissions for residential energy (electricity and natural gas) were 8 metric tons of CO_2e, while the household emissions were 19 metric tons of CO_2e.

Table 4: 2014 Buildings Energy Usage and GHG Emissions by Source

Source and Sector	2014 Energy Usage	2014 Emissions (MT CO_2e)
Commercial		
Electricity (kWh)	541,233,399	446,914
Natural Gas (therms)	12,708,807	67,498
Residential		
Electricity (kWh)	140,307,986	115,876
Natural Gas (therms)	6,261,959	33,286
Subtotal electricity	**681,541,385**	**562,790**
Subtotal natural gas	**18,960,766**	**100,784**

TRANSPORTATION:

In recent years Creve Coeur has seen a decrease in vehicle traffic within its municipal boundary. However, while emissions from transportation are significantly smaller than those arising from the built environment, it is still the second largest source of emissions for the community. The Transportation sector was responsible for 20.8% or 186,467 metric tons of CO_2e emissions for Creve Coeur in 2014 (Table 3). This percentage is slightly smaller than the national trend where the Transportation sector accounts for 27% of GHG emissions. The majority of these emissions are the result of burning gasoline (Table 5). National fuel efficiency standards are reducing emissions from motor vehicles, but local policies encouraging the use of efficient vehicles could also encourage the use of fuel efficient vehicles.

SOLID WASTE AND WATER:

While many environmental benefits are to be realized by limiting solid waste and water use, these sectors represent a very small (less than 1%) portion of overall greenhouse gas emissions. Creve Coeur may wish to reduce its generation of solid waste and its water consumption for other reasons, but the City is unlikely to realize substantial reductions in energy consumption or GHG emissions by focusing on these sectors.

COMPARISON 2005 AND 2014:

Overall GHG emissions for the Creve Coeur community have increased by less than 1% from 2005. Table 5 offers a comparison of 2005 emissions of CO_2e with those of 2014. In contrast, on a per capita measure, emissions have decreased from 49.7 MT of CO_2e in 2005 to 47.2 MT of CO_2e in 2014. In 2005, the Commercial sector was responsible for 426,256 metric tons of CO_2e or 50.7% of all community emissions; in 2014, the Commercial sector was responsible for 514,412 metric tons of CO_2e or 60.2% of emissions. This represented a greater than 20% increase in emissions for this sector. While the 2005 inventory included Industrial emissions, these were down more than 95% compared to 2014. In 2005 industrial energy accounted for 6% of emission it now accounts for less than 1% of emissions. This was the result of the electrical utility no longer separating Industrial and Commercial electricity usage. This results in the Commercial sector having an inflated value and the Industrial sector has a deflated value compared to 2005. In 2013, Creve Coeur participated in the Green Power Challenge, resulting in the purchase of renewable energy credits in 2014, which offset greenhouse gas emissions, but not energy consumption. This program will be discussed below.

Table 5: Emissions by Sector for 2005 and 2014

Sector	2005 Emissions ($MT CO_2e$)	2014 Emissions ($MT CO_2e$)	% Difference
Commercial	426,256	514,412	+21%
Transportation	268,089	186,467	-30%
Residential	141,815	149,162	+5%
Waste	2,686	1,923	-28%
Water	1,733	2,430	+40%
Total	**840,579**	**854,394**	**1.6%**
Pure Power RECs	--	-10,979	
Total Net Emissions	**840,579**	**843,415**	**+0.3%**

COMMERCIAL AND RESIDENTIAL BUILDINGS:

Table 6 shows a more complete picture of building emissions by source and a comparison of Commercial and Residential energy use for 2005 and 2014. For 2014, commercial buildings used 91,035,622 kWh of electricity more than in 2005, an increase of more than 20%. Natural gas use also saw a total increase of more than 3 million therms, approximately a 20% increase. The Residential sector also saw moderate increases in energy use. Residential electricity use rose 7% and natural gas use rose 3% from 2005. In total, Residential energy accounted only 9% of the total energy use increase from 2005. This leaves the Commercial sector attributing to the other 91% of the increase. A major factor contributing to this energy use increase in the Commercial sector was the addition of 2 million ft^2 of commercial floor space since 2005, a 16% increase of commercial floor space from 2005.

Table 6: Utility energy use for 2005 and 2014 by source and sector

Source and Sector	2005	2014
Commercial		
Electricity (kWh)	450,197,777	541,233,399
Natural Gas (therms)	9,458,253	12,708,807
Residential		
Electricity (kWh)	131,080,309	140,307,986
Natural Gas (therms)	6,093,453	6,261,959
Subtotal electricity usage	**581,278,086**	**681,541,385**
Subtotal natural gas usage	**15,551,706**	**18,960,766**

TRANSPORTATION:

The Transportation sector has seen a decrease in emissions of 30% or 81,622 MT of CO_2e from 2005. Both emissions from gasoline and diesel fuel have seen a decrease from 2005 levels (Table 7). The emissions shown in Table 7 are different than the emissions from the Transportation sector in Table 6 because Table 7 includes emissions from all fuel use for transportation including the transportation of waste. The decreases in gasoline and diesel emissions shown here can be attributed to two major factors. The amount of vehicle traffic through Creve Coeur has decreased since 2005. Some of the roads have seen a decrease of 15% from 2005. In addition, national fuel efficiency standards have become stricter since 2005 which has resulted in less fuel burned per mile and lower emissions.

Table 7: GHG emissions by source for 2005 and 2014

Source	2005 GHG emissions (MT CO_2e)	2014 GHG emissions (MT CO_2e)	Percentage Difference
Gasoline	221,713	165,941	-25%
Diesel	46,377	21,409	-54%
Total	268,090	187,350	-30%

GREEN POWER COMMUNITY:

Electricity usage was responsible for 565,220 metric tons of CO_2e emissions. This corresponds to 66% of all community emissions by source (Table 8) and is by far the largest single contributor to community GHG emissions. Eighty percent of the electricity in Missouri comes from coal-burning power plants, 10% from nuclear power and 4% from power plants burning natural gas. In 2014, only 1% of electricity produced in Missouri was from non-carbon emitting, renewable sources[5].

Table 8: Total Community GHG Emissions by Source (2014)

Source	2014 GHG emissions (%CO_2e)	2014 GHG emissions (MT CO_2e)
Gross Electricity		565,220
***RECs*†**		*-10,979*
Net Electricity	66%	554,241
Gasoline	19%	165,941
Natural Gas	12%	100,784
Diesel	3%	21,409
Net Total		**843,415**

† CO_2e emissions from RECs was supplied by Ameren Pure Power

In December 2011, the Creve Coeur City Council approved Creve Coeur's participation in the Environmental Protection Agency's Green Power Community program. As part of this commitment a portion of the energy supplied to the Creve Coeur community must come from renewable resources. The supply of renewable energy is tracked through the purchase of renewable energy credits (RECs).

RECs are the only instrument available to track renewable energy use. This is because once it is fed into the grid, electricity produced from renewable sources (wind, solar, etc.) cannot be distinguished from that produced from conventional sources (coal, natural gas, etc.). Therefore, an organization wanting to use renewable energy must purchase RECs, in essence allowing the organization to "own" this renewable energy. Since the electrical energy produced by these renewable sources (wind, solar, etc.) does not produce any carbon or GHG emissions, the purchase of these RECs ultimately reduces the emissions that Creve Coeur is responsible for. In 2014, the Creve Coeur community purchased 15,922,570 kWh worth of renewable energy, equivalent to 10,979 metric tons of CO_2e. Table 9 shows net GHG emissions after the CO_2e offset by RECs has been deducted from overall community emissions.

[5] http://www.eia.gov/electricity/data/browser/

It is important to note that these RECs do not deduct from the amount of energy used, as Creve Coeur is still using this electricity, it simply gets to offset the emissions from this electricity.

Table 9: GHG emissions with RECs included

	2005	2014	Percentage Increase from 2005
GHG Emissions (MT CO_2e)	840,579	854,394	1.6%
RECs		-10,979	
Net GHG emissions (MT CO_2e)	840,579	843,415	0.3%

CONCLUSION AND SUGGESTIONS:

While Creve Coeur has not met its goal of reducing community wide GHG emissions by 20% by 2015, this is not the only figure that is important to consider. The 2005 GHG inventory projected an increase in community wide GHG emissions of 9% by 2015, and this has not been the case (Table 9). This 9% increase was projected using a “business-as-usual” scenario. Under this “business-as-usual” stipulation, there would be no change in energy use trends. In reality, Creve Coeur has seen many changes to its community and has taken many steps to reduce its energy consumption and subsequent GHG emissions. The Commercial sector alone has seen a 2 million ft^2. increase from 2005. Table 10 calculates the emissions that would have occurred under the "business as usual" scenario, including the additional commercial floor space, and calculates the emissions avoided. Under a “business-as-usual” projections Creve Coeur had the potential emissions increase of 10.5% from 2005, this represents 88,346 metric tons of CO_2e. This works to further illustrate the effect of the energy conservation practices that the community has adopted.

Table 10: Potential GHG emissions as a result of new commercial floor space

	Emissions (MT CO_2e)	Percentage increase from 2005
2005 Emission	840,579	
Effect of adding 2 million sq. ft.	141,042	17%
Projected 9% increase *(including effect of 2 million sq. ft.)*	88,346	10.5%
Updated projected 2014 emissions	928,925	
Measured 2014 emissions	854,394	
Emissions avoided	75,531	

A 2013 interagency report by the US Government estimated that each metric ton of CO_2 emitted in 2013 would cause $37 of damage, including effects on human health, property damage from flooding and loss of ecosystem services, among others. With Creve Coeur avoiding 75,531 metric tons of CO_2e in 2014, this equates to globally avoided damages of $2,794,647[6].

An in-depth discussion of how Creve Coeur might continue its efforts to reduce energy consumption is beyond the scope of this report. Thus, this report's first recommendation is that Creve Coeur update and

[6] Technical Support Document: Technical Update of the Social Cost of Carbon for Regulatory Impact Analysis Under Executive Order 12866 (May 2013)

revise its energy conservation and climate action plan, and consolidate it into its new comprehensive plan update.

Beyond that, Creve Coeur has seen how the effects of its conservation efforts can be reversed by other community events, such as new development. As noted above, the best scientific opinion estimates that, to prevent the worst effects of climate change, greenhouse gas emissions must be reduced by 40-75% by 2050, and to near zero by 2100. It is difficult to imagine how Creve Coeur might achieve such very large reductions without access to clean energy. The City might wish to consider how to best encourage and facilitate the transition of its energy mix to clean energy.

The Commercial sector is the single largest emitter of GHGs and could potentially show the greatest decease in emissions. As the old adage goes: you can't manage what you don't measure. A pivotal first step to curbing GHG emissions in this sector could be to increase energy use awareness. The City of Creve Coeur already participates in the 25x20 Voluntary Energy Benchmarking Campaign. A potential strategy would be to encourage commercial property owners and managers to participate in the 25x20 Energy Benchmarking campaign as well[7]. The EPA estimates that buildings that consistently monitor their energy usage can achieve 2-10% in energy savings through better energy management[8].

A more intensive step would be to encourage businesses to participate in the Green Business Challenge, a collaborative program by the St. Louis Regional Chamber and Missouri Botanical Garden. This program is designed for businesses of all types to improve their sustainable practices using the Challenge Scorecard. The challenge allows businesses to explore what other companies are doing in the region and also includes an Apprentice Track to help new members.

Residential GHG emissions are primarily the result of electrical energy use. Strategies could focus on reducing electricity use in and around the home. The first step, similar to the commercial sector, might be to increase energy use awareness for homeowners.

[7] St. Louis High Performance Building Initiative, http://stlhighperformbldg.org; www.25x20.org

[8] EPA Energy Star Portfolio, http://www.energystar.gov

2014 GOVERNMENT OPERATION GHG EMISSIONS:

LOCAL GOVERNMENT EMISSIONS:

This inventory assessed emissions in six sectors of local government operations, the same ones included in the 2005 inventory:

1. Buildings
2. Vehicle Fleet
3. Employee commute
4. Fugitive emissions
5. Streetlights and Traffic Signals
6. Water

The Buildings sector includes emissions from all facilities and buildings the city operates. Vehicle Fleet refers to emissions from the city's various cars, trucks and equipment, which are operated by several departments such as Police and Public Works. The Employee Commute sector accounts for the GHG emissions produced by motor vehicles used by full-time employees in their daily commute. Fugitive emissions are a result of coolant leaking from chillers used in government operations. Streetlights and Traffic Signals refers to emissions from the electricity supplied to these lights and includes only the streetlights and traffic signals for which the City pays. For instance, streetlights paid for by subdivisions or by Missouri Department of Transportation (I-270) are not included. Water refers to GHG emissions from the energy used to power the City's various fountains, irrigation systems, and pumps.

In 2014, the City of Creve Coeur's government operations emitted an estimated 4,048 metric tons of CO_2e (Table 11). The total cost of energy consumed (electricity, natural gas, gasoline and diesel) for 2014 was approximately \$510,072. This is greater than 15% of government operation expenditures[9]. This makes energy efficiency and conservation an integral part of reducing government operations expenses. Figure 6 illustrates the percentage of emissions by sector and associated cost. Emissions from buildings, streetlights and water account 66.6% from government operations, but the cost associated with these emissions is \$374,262 or 73 % of total cost. The majority of this expense (\$331,418) was the paid to cover electricity costs. Figure 6 further illustrates this trend showing emissions and cost by source. Electricity was responsible for the majority of costs and emissions associated with energy in 2014. The City purchased renewable energy credits as part of the Green Power Community Challenge in 2014, and these are shown as offsets to greenhouse gas emissions in Table 11. Lastly, Figure 7 (p. 27) shows that government operations emissions are relatively small compared to total community emissions.

[9] http://www.creve-coeur.org/documentcenter/view/4967

Table 11: Government Operations GHG emissions for 2014

Sector	%CO_2e	CO_2e (MT)	Cost ($)	Cost (%)
Buildings and Facilities	55.9%	2,262	$239,043	46.9%
Vehicle Fleet	12.6%	512	$138,366	27.1%
Employee Commute	10.8%	437	$0	0.0%
Fugitive Emissions	10.0%	407	$3,000	0.6%
Street Lights and Traffic Signals	9.7%	392	$124,107	24.3%
Water	1.0%	38	$5,556	1.1%
Total	**100.0%**	**4,048**	**$510,072**	**100.0%**
Renewable Energy Credits		-273		
Total Net Emissions		**3,775**		

Figure 6: Government Operations GHG emissions and cost by source, 2014

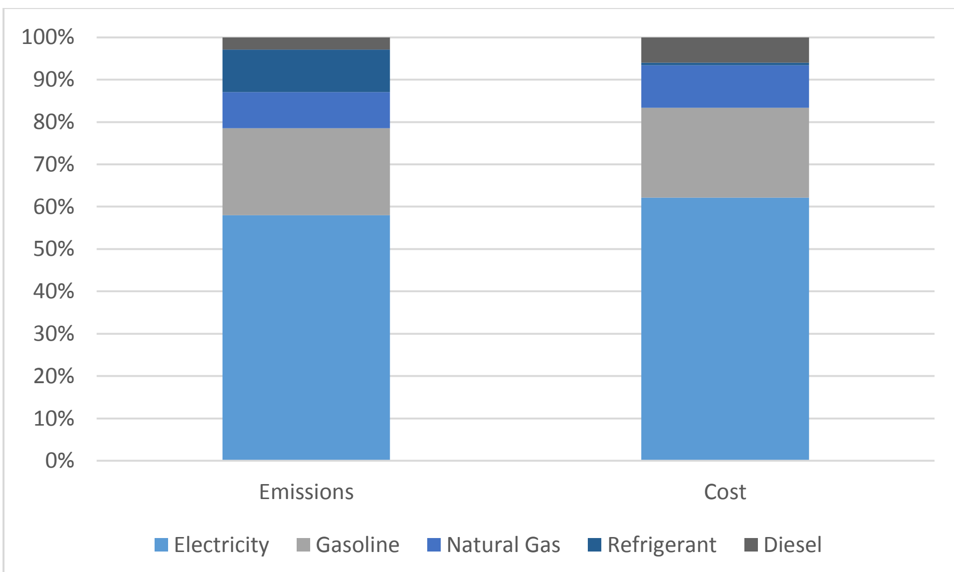
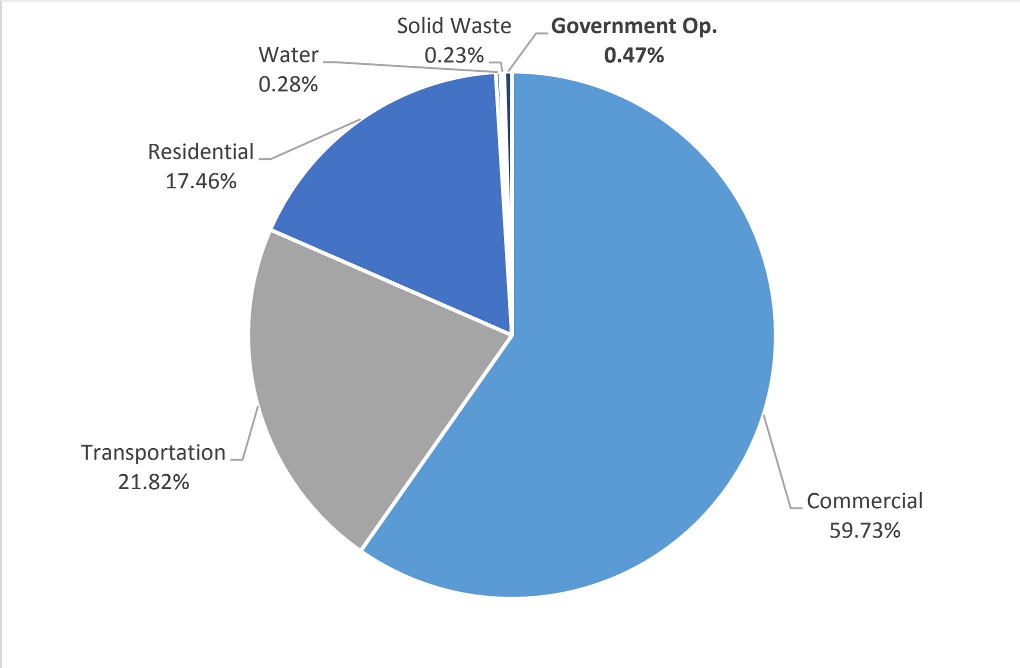


Figure 7: Government operations in relation to total community GHG emissions for 2014



BUILDINGS AND FACILITIES:

GHG emissions from buildings and facilities came primarily from energy use in 2014 and were 2,263 MT of CO_2e (Table 12). The Dielmann Recreation Complex, which houses an ice arena, golf shop and maintenance shop, is the largest user of electricity and natural gas. The Dielmann Recreation Complex has seen major renovations aimed at curbing energy use and the associated GHG emissions. The ice arena refrigeration system, used to keep the ice frozen, was found to be inefficient and was serviced in 2011. A photovoltaic (PV) solar system was installed on the roof and was tied to Golf Shop electrical system in the summer of 2014. In 2014, the PV system produced 9,223 kWh of electricity; this is equivalent to the offset of 6 MT of CO_2e[10] and a savings of $911.69[11]. The large use of natural gas is due to dehumidifiers used to keep fog off of the ice.

The Government Center is the second largest emitter of GHG by government owned buildings. Together with Dielmann Recreation Complex they are responsible for 85.9% of building energy use, 90.7% of building emissions and 88.4% of all building energy expenses (Tables 12 and 13). The Government Center also saw important renovations that helped reduce energy use since the 2005 GHG inventory. A lighting retrofit was conducted to convert lighting to more efficient compact fluorescent lamps and install motion sensors in some meeting rooms[12]. This was made possible by a grant through the American Reinvestment and Recovery Act and was completed in 2012. Two major renovations of the Government Center heating systems occurred in 2013. In addition, a heat-reflective white roof coating was installed on the Government Center in the summer of 2011.

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[10] http://www.epa.gov/cleanenergy/energy-resources/refs.html

[11] Avg. cost of $0.09885 per kWh for 2014

[12] Kellum, Spencer. City of Creve Coeur Greenhouse Gas Inventory 2005. Regional Environmental Internship Program, 2008

Table 12: Government buildings and facilities energy use and emissions for 2014

Building	Electricity (kWh)	Percentage	Natural Gas (therms)	Percentage	2014 GHG Emissions (MT CO_2e)	Percentage
Dielmann Rec Complex	1,182,426*	50.9	42,063	65.0	1,201	53.1
Government Center	971,280	41.8	9,103	14.1	850	37.6
Public Works Garage	108,300	4.7	11,509	17.8	150	6.6
Leaf Site	2,689	1.0	1,994	3.1	13	0.6
Minor Facilities	59,355	2.6	0	0.0	49	2.2
Total	**2,324,050**		**64,669**		**2,263**	

* This kWh is omitting power produced from the PV system

Table 13: Utility costs per building for 2014

Building	Electricity Cost	Natural Gas Cost	Total
Dielmann Rec Complex	$98,325	$31,670	**$129,995**
Government Center	$73,358	$8,046	**$81,404**
Public Works Garage	$10,052	$9,779	**$19,831**
Leaf Site	$386	$2,053	**$2,453**
Minor Facilities	$5,375	$0	**$5,375**
Total	**$187,496**	**$51,548**	**$239,054**

The Public Works Garage, the third largest emitter of GHGs, also saw many changes starting in 2011. The roof and walls of the building were re-insulated in 2011. Also, the vents for the heating system were located next to exhaust vents, effectively ejecting the warm air as it was released. The heating vents were moved closer to the floor to help alleviate this problem. Two radiant heat lamps were also installed above the garage bay doors. These help to quickly heat the area that sees the greatest mixing of indoor and outdoor air.

The Leaf Site is, as the name implies, a dumping ground for leaves that are collected by the Public Works department from residents' homes. The leaf sites have seen marked expansion since 2005, with an additional building being acquired in 2012. Minor facilities refers to small buildings or structures primarily located in parks, the most well-known being the Tappmeyer House in Millennium Park, and the main energy use associated with these facilities is electricity used for lighting.

VEHICLE FLEET:

Table 14: Fuel oil emissions for 2014

Department	Emissions (MT CO_2e)	Fuel use (Gallons)	Cost ($)
Public Works			
Gas	89	10,160	24,847
Diesel	117	11,500	30,480
Police			
Gas	306	33,992	80,039
Total	**512**	**55,652**	**135,366**

In 2014 the City of Creve Coeur's Vehicle Fleet emitted 512 MT of CO_2e. This accounted for 14% of total municipal emissions (Table 11). The Public Works Department has recently started converting its fleet to vehicles with diesel engines from vehicles with gasoline engines. Diesel comprised approximately 20% of fuel purchased and Vehicle Fleet emissions for 2014 (Table 14). The benefits offered by diesel are twofold; diesel engines offer better fuel economy compared to gasoline engines of comparable size. Plus, they maintain a greater torque at low rates per minutes (RPMs), allowing diesels to pull heavy machinery better.

Table 15: VMTs by department

Department	Vehicle Miles Travelled
Public Works	115,357
Police	389,072

The Police Department is responsible for 60% of the GHG emissions and the cost of the city's vehicle fleet. Police vehicles also travel over 3 times as far as do those of the Public Works department (Table 15). This equates to an average of 1,066 miles travelled daily. While, the Police Department has recently acquired newer vehicles, with over half the fleet vehicles being less 2 years old. While the city could realize greater savings converting to more fuel efficient vehicles, police vehicles must be pursuit rated. The city should continue to stay up-to-date on the technology surrounding the police vehicles and, as improvements are made and more fuel efficient vehicles become available, the city should consider switching their vehicles.

EMPLOYEE COMMUTE:

Employee commute was the third largest contributor to government GHG emissions with 437 metric tons of CO_2e. In 2014, the average City of Creve Coeur employee was travelling approximately 40 miles in daily work commute. This number assumes an average yearly work calendar of 230 days. The average gasoline price in the St. Louis region is $2.30 (July, 2015)[13]. Relatively far daily commutes in concert with low fuel prices and inadequate public transportation options ensures that the preferred commute option for employees will be single driver vehicle travel.

FUGITIVE EMISSIONS:

[13] http://fuelgaugereport.aaa.com/states/missouri/missouri-metro/

Fugitive emissions are emissions that result from coolants (ex. Hydrofluorocarbons (HFCs) and Hydrochlorofluorocarbons (HCFCs)) leaking from refrigeration units. These are an important group to consider as many of these chemicals have global warming potentials greater than 1,000 times that of CO_2. For Creve Coeur, these emissions primarily represented refrigerant (R-22) loss from the icing system at the ice arena. Such loss can occur suddenly, as when a pipe breaks, or as a slow leak over time, which is characteristic of all such systems. It is not possible to directly measure Creve Coeur's fugitive emissions in 2014, so they were estimated using refrigerant purchases during the year. Fugitive emissions accounted for 407 metric tons of CO_2e emissions, the fourth largest source of emissions for government operations (Table 11).

STREETLIGHTS:

In 2014, Creve Coeur's Street and Stop Lights emitted 392 MT of CO_2e and cost $124,107. This is the fifth largest emitter of GHGs but the third largest energy expense for government operations. The reason for the large expense is that the city purchases what is sometimes referred to a 'turn-key' service from Ameren Missouri for the majority of these lights. This includes the Olive Boulevard service that is responsible for 62% of GHG emissions and 85% of the cost. A turn-key service indicates that Ameren Missouri owns, operates and maintains the lights, with Creve Coeur paying for the service. Some of the costs, therefore, represent rental and maintenance fees, not the cost of electricity. This arrangement limits the control that the city has on the type of lights that are installed where this service is used. It is worth noting that the city has installed light-emitting diode (LED) lights in many new subdivisions and along part of Olive Boulevard median, where the city has sole control over lighting. LED lighting is the most energy efficient type of lighting currently available, and they last longer, reducing maintenance costs.

WATER:

Water emissions are a result of the electricity consumed to pump the water to its end location. This sector, in the government operations side of the inventory, does not include water for residential use or water pumped into government buildings. That is counted as part of the community emissions. Rather, this sector refers to water that is pumped to city fountains or used for irrigation.

RENEWABLE ENERGY CREDITS (RECS):

The City of Creve Coeur also participated in the Ameren Pure Power Program[14] in 2014. Similar to the community commitment, the City of Creve Coeur has committed to purchasing "blocks" of renewable energy certificates (RECs)[15] which support renewable energy production. Each REC that is purchased represents 1,000 kWh produced by renewable energy sources (e.g. wind, solar, etc.). In 2014, Creve Coeur purchased 33 Pure Power Blocks per month for a total of 396 blocks. This is equivalent to 396,000 kWh of electricity from renewable energy sources or 273 MT of CO_2e emissions. Similar to the community, this reduces the GHG emissions for 2014 from 3641 to 3368 (Table 16) but does not impact the energy use from government operations.

Table 16: Emissions from Government Operations with RECs

	2014	2005	% Difference
GHG Emissions (MT CO_2e)	3,641	4,214	-14%
RECs	273		
Net GHG emissions (MT CO_2e)	3,368	4,214	-20%

[14] https://ameren.com/missouri/environment/pure-power

[15] https://ameren.com/missouri/environment/pure-power/renewable-energy-certificates

COMPARISON 2005 AND 2014:

Although municipal operations account for a small fraction of overall GHG emissions in Creve Coeur (<0.5%), the local government is leading by example in energy efficiency and emissions reductions. Creve Coeur has been able to reduce GHG emissions by 573 MT of CO_2e which is a 14% decrease from 2005 (Table 17, Figure 8). These reductions do not take into account Fugitive emissions as these were not included in the 2005 inventory and do not allow for a direct comparison. The remainder of these comparisons will omit fugitive emissions and focus on emissions that were reported for 2005.

GHG emissions have been reduced in all sectors except streetlights (Table 17, Figure 8). This reduction in GHG emissions has been coupled with a 7% increase in energy costs. The disconnect between emissions decrease and cost increase is the result of overall cost increases for fuel and energy since 2005[16]. The majority of emissions for Creve Coeur government operation come from electricity usage. An even greater reduction was observed when RECs were deducted from 2014 GHG emissions. In total this amounts to a 20% reduction in GHG emissions from 2005 (Table 16 and 17).

Table 17: Comparison of GHG emissions and cost by sector, 2005 and 2014

Sector	2014 CO_2e (MT)	2005 CO_2e (MT)	Difference	Percentage Difference	2014 Cost ($)	2005 Cost ($)	Difference	Percentage Difference
Buildings and Facilities	2,262	2,627	-365	-14%	$239,043	$233,693	$5,350	2%
Vehicle Fleet	512	587	-75	-13%	$138,366	$120,019	$18,347	15%
Employee Commute	437	556	-119	-21%	$0	$0	$0	
Street Lights and Traffic Signals	392	394	-2	-0.5%	$124,107	$117,783	$6,324	5%
Water	38	50	-12	-24%	$5,556	$4,555	$1,001	22%
Total (fugitive emissions omitted)	**3,641**	**4,214**	**-573**	**-14%**	**$507,072**	**$476,050**	**$31,022**	**7%**
Renewable Energy Credits	273	-------						
Net (fugitive emissions omitted)	**3,368**	**4,214**	**-846**	**-20%**				

[16] http://www.eia.gov/electricity/data/browser/#/topic/7?agg=2,0,1&geo=g&freq=M

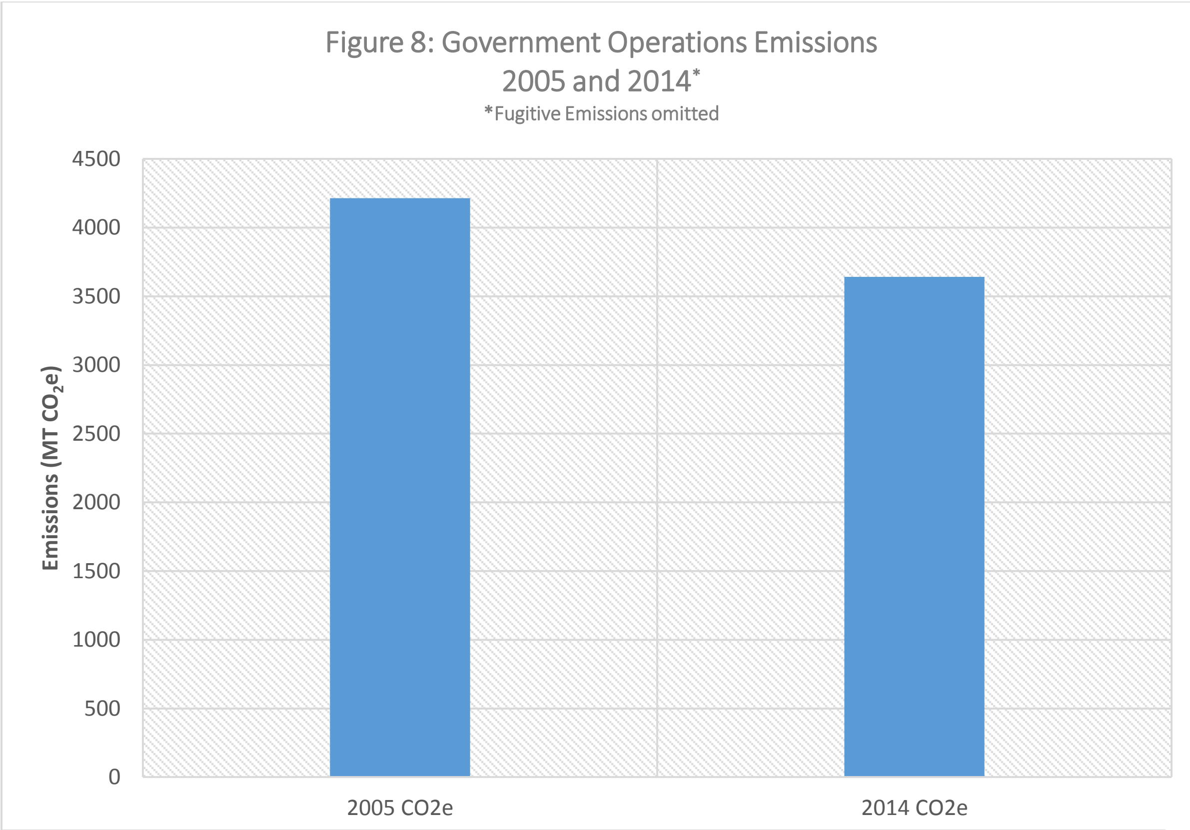


Figure 8: Government Operations Emissions
2005 and 2014*
*Fugitive Emissions omitted
Emissions (MT CO2e)
4500
4000
3500
3000
2500
2000
1500
1000
500
0
2005 CO2e
2014 CO2e

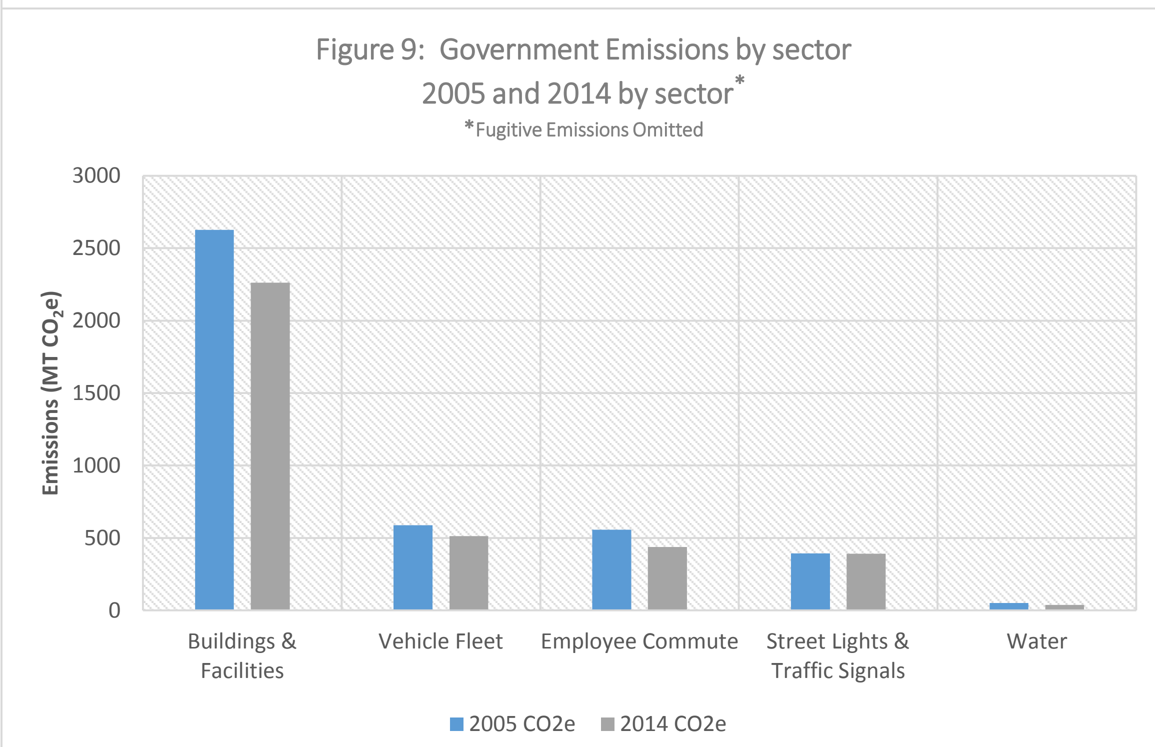


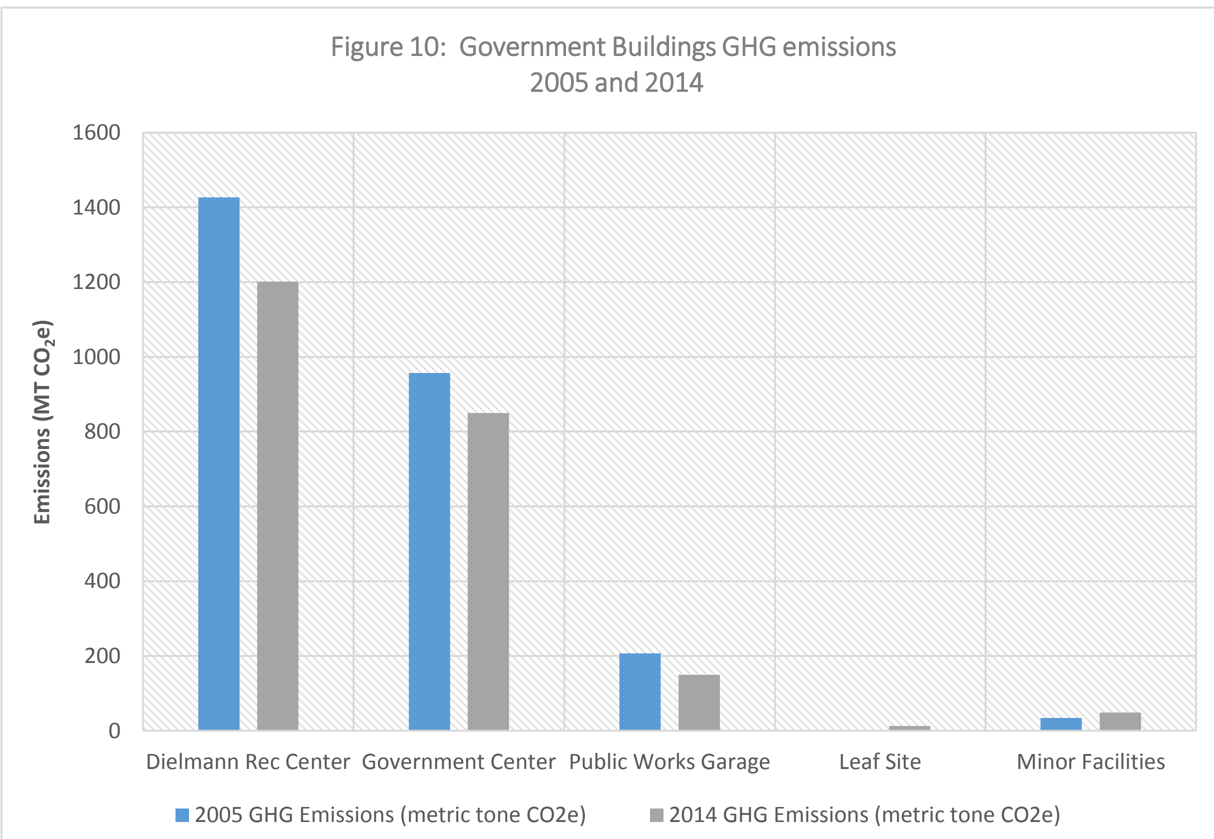
Figure 9: Government Emissions by sector
2005 and 2014 by sector*
*Fugitive Emissions Omitted
Emissions (MT CO2e)
3000
2500
2000
1500
1000
500
0
Buildings & Facilities
Vehicle Fleet
Employee Commute
Street Lights & Traffic Signals
Water
2005 CO2e
2014 CO2e

BUILDINGS AND FACILITIES:

Since 2005, Government building and facilities have seen a 13.9% reduction in emissions representing 364 metric of CO_2e (Table 18) (fugitive omissions omitted). Similar to 2005 the major contributing buildings to these emissions were the Dielmann Recreation Center, the Government Center and the Public Works Garage. All three buildings have decreased emissions, as can be seen in table 18 and as illustrated in figure 10.

Table 18: Comparison of GHG emissions by government buildings for 2005 and 2014

Building	2005 GHG Emissions (MT CO_2e)	2014 GHG Emissions (MT CO_2e)	Difference (MT CO_2e)	% Difference
Dielmann Recreation Complex	1,427	1,201	-226	-15.8%
Government Center	957	850	-107	-11.2%
Public Works Garage	207	150	-57	-27.5%
Leaf Site	2	13	11	550.0%
Minor Facilities	34	49	15	44.1%
Total	**2,627**	**2,263**	**-364**	**-13.9%**



The previously mentioned reductions in emissions can be tied to a decrease in the consumption of electricity and natural gas, as shown in Tables 19 and 20. The decrease in energy usage is a result of multiple factors, mentioned in the previous section, mostly involving building improvements or renovations. The Dielmann Recreation Complex continues to be the largest user of electricity and natural gas. Since 2005, it has seen two major renovations that have reduced electricity use in subsequent years. The ice arena refrigeration system overhaul and the photovoltaic solar system installation have attributed to a 15.8% reduction in GHG emissions from 2005.

The Government Center has also seen a reduction in its consumption of natural gas (Table 20). This is primarily a result of a new boiler system installed in 2013.

The Public Works garage has seen a reduction in natural gas use but an increase in electricity usage. Renovations were discussed in the Buildings and Facilities section, the addition of the heat lamps might help account for the increase electricity usage. The Leaf Site has seen major expansion since 2005 with a new building accounting for the increase in both electricity and natural gas usage. Minor facilities have seen a major increase in energy consumption from 2005. This is largely due to increased usage of the Tappmeyer House, a historic home in Creve Coeur's Millennium Park.

These increases in efficiency have helped to moderate the energy costs associated with Creve Coeur Government Buildings. Not only did Creve Coeur use less electricity in 2014, but compared to 2005 the price of electricity has increased 46%. Without its conservation efforts, Creve Coeur's electricity costs for its buildings would have been approximately $21,446 more than they were. Note that this represents an annual cost savings that Creve Coeur will reap every year so long as it continues to conserve electricity.

Natural gas, conversely, has seen a decrease in price since 2005. However, by reducing natural gas consumption, Creve Coeur avoided $18,685 in 2014 costs. This, too, is an annual savings that Creve Coeur will reap every year so long as it continues to conserve natural gas.

Combined the government of Creve Coeur avoided $40,131 in utility bills in 2014.

In 2009 and 2010, an informal analysis of energy use for the three government buildings (Dielmann Recreation Complex, Government Center and Public Works Garage) was completed. This analysis shows that the energy use for these three buildings was lowest in 2009 for electricity and 2010 for natural gas. Since then, energy use has increased slightly. This further helps underline Creve Coeur's need to continue and expand its energy conservation strategies targeted at building energy use.

Table 19: Comparison of electricity usage and cost by building for 2014 and 2005.

Building	2014 Electricity Use (kWh)	2005 Electricity Use (kWh)	Electricity use difference (kWh)	Percentage Difference	2014 Electricity Cost ($)	2005 Electricity Cost ($)	Electricity cost difference ($)	Percentage Difference
Dielmann Rec Complex	1,182,426	1,458,570	-276,144	-18.9%	$98,325	$78,556	$19,769	25%
Ice Arena	*933,180*	*1,170,360*	-237,180	*-20.3%*	*$74,234*	*$59,565*	*$14,669*	*25%*
Golf Shop	*224,340 **	*267,720*	-43,380	*-16.2%*	*$22,194*	*$17,795*	*$4,399*	*25%*
Golf Maintenance Building	*24,906*	*20,490*	4,416	*21.6%*	*$1,897*	*$1,196*	*$701*	*59%*
Government Center	971,280	995,040	-23,760	-2.4%	$73,358	$55,153	$18,205	33%
Public Works Garage	108,300	99,408	8,892	8.9%	$10,052	$6,159	$3,893	63%
Leaf Site	2,689	194	2,495	1286.1%	$386	$27	$359	1330%
Minor Facilities	59,355	35,914	23,441	65.3%	$5,375	$2,429	$2,946	121%
Total	**2,324,050**	**2,589,126**	**-265,076**	**-10.2%**	**$187,496**	**$142,324**	**$45,172**	**32%**

** On 8/21/2014, PV system came on-line.*

Table 20: Comparison of natural gas usage and cost by building for 2014 and 2005.

Building	2014 Natural Gas Use (therms)	2005 Natural Gas Use (therms)	Natural Gas use difference from 2005 (therms)	2014 Natural Gas Cost ($)	2005 Natural Gas Cost ($)	Natural Gas cost difference from 2005 ($)	Percentage Difference
Dielmann Rec Complex	42,063	39,547	2,516	$31,670	$40,295	-$8,625	6.4%
Government Center	9,103	23,660	-14,557	$8,046	$24,734	-$16,688	-61.5%
Public Works Garage	11,509	23,593	-12,084	$9,779	$25,057	-$15,278	-51.2%
Leaf Site	1,994	251	1,743	$2,053	$397	$1,656	694.4%
Minor Facilities	0	740	-740	$0	$886	-$886	-100.0%
Total	**64,669**	**87,791**	**-23,122**	**$51,548**	**$91,369**	**-$39,821**	**-43.6%**

VEHICLE FLEET:

In 2005, the Vehicle Fleet emissions were broken out by each individual department's fuel usage, which was then used to calculate their GHG emissions. In 2014, this separation was not available, all fuel use data was either categorized as Police or Public Works. To be able to better compare findings, the 2005 Emissions from non-police departments have been included under Public Works. The data is shown in Table 21.

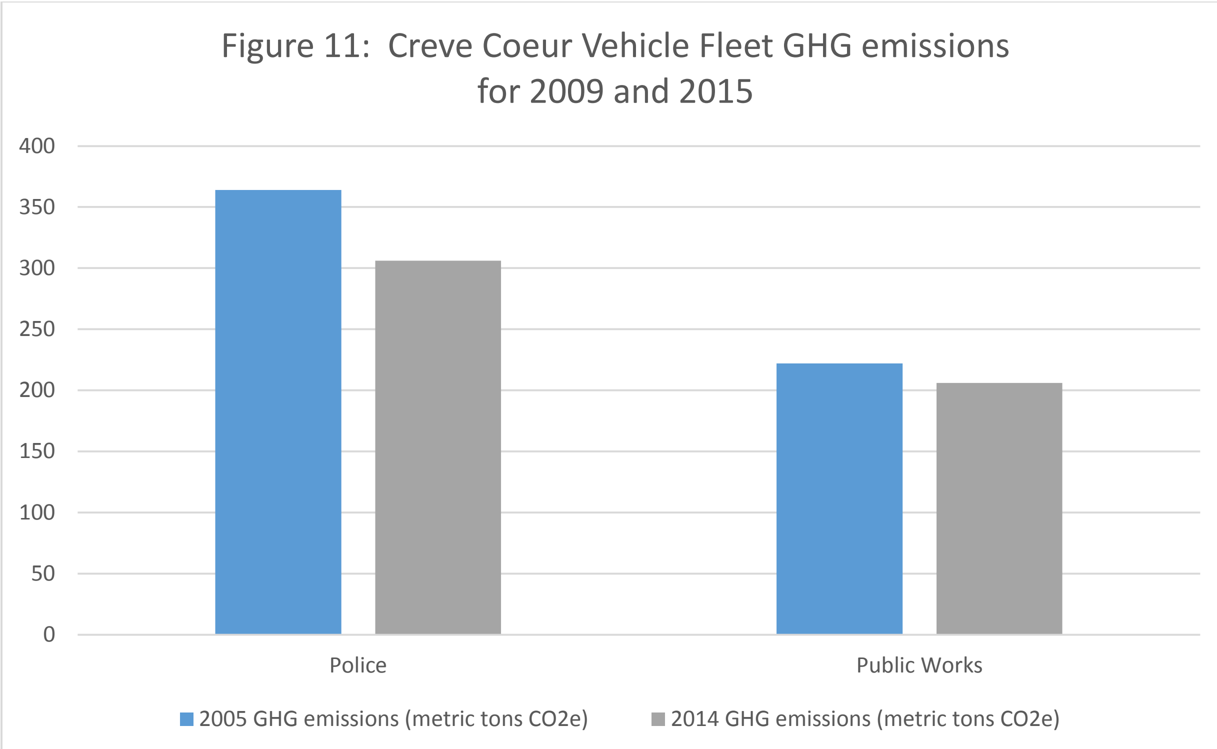
As in 2005, the largest emitter of GHGs in Creve Coeur's Vehicle Fleet is the Police Department (Table 21). The Police Department daily operations encompass patrolling Creve Coeur's city limits daily, and they require vehicles able to carry a large amount of equipment and conduct pursuit operations. Despite these constraints, both departments have been able to reduce GHG emissions, with a combined reduction of 12.6% (Table 21 and Figure 11). Since 2005, more than 75% of Public Works vehicles and all of the police vehicles have been replaced. For Public Works, the lower emissions are likely a result of much of the fleet being replaced by more fuel efficient and lower emitting diesel vehicles. The decrease in emissions from the Police Department most likely comes from a switch to smaller, more fuel efficient patrol cars. Similar to electricity costs, the cost of gasoline has increased since 2005 with the city from an average of $2.00/gallon in 2005 to $2.50/gallon in 2014[17], with diesel seeing similar increases[18]. By reducing the fuel consumed by its vehicle fleet, Creve Coeur avoided approximately $12,997 in fuel costs in 2014. As with electricity and natural gas, this is an annual savings that will accrue to Creve Coeur every year, so long as the city continues to conserve.

Table 21: Comparison of Vehicle Fleet emission and fuel usage for 2005 and 2014

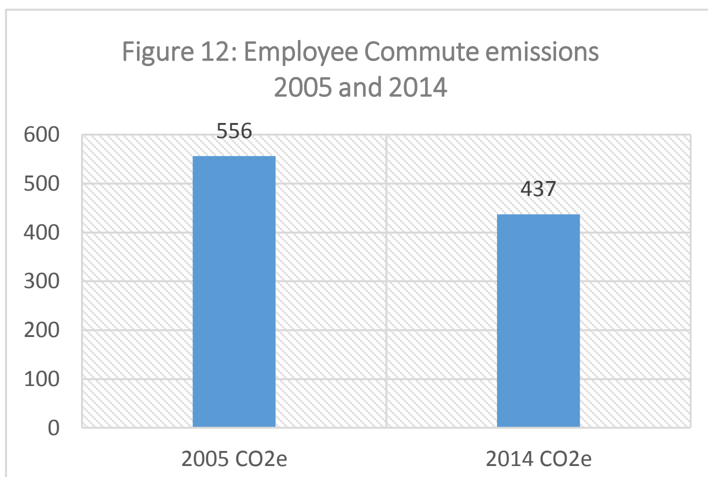
Department	2005 GHG emissions (MT CO_2e)	2014 GHG emissions (MT CO_2e)	Percentage Difference GHG emissions	2005 Fuel Use (gallons)	2014 Fuel Use (gallons)	Percentage Difference Fuel Use
Police	364	306	-15.9%	37,500	33,992	9.4%
Public Works	222	206	-7.2%	23,045	21,610	6.2%
Total	**586**	**512**	**-12.6%**	**60,545**	**55,602**	

[17] Vehicle fleet data is from FY 2014-2015 which includes data from 2015, which had greatly reduced costs per fuel

[18] http://fuelgaugereport.aaa.com/



EMPLOYEE COMMUTE:



Employee commute was the third largest contributor to government GHG emissions, similar to 2005. This sector, however, saw the greatest decrease (21%) from 2005. The GHG emissions for 2005 and 2014 are illustrated in Figure 12. The difference in emissions, similar to Vehicle Fleet, can be partly attributed to the steady increase of fuel efficiency for passenger vehicles since the 1990's. The current average fuel efficiency is over 33 miles per gallon (mpg) for new cars and 25 mpg for new light trucks[19]. Another consideration is the number of full time employees commuting to work. In 2005 that number was 117, while in 2014 that number was 107. The per-employee emission of GHGs was 4.8 MT of CO_2e in 2005.

[19]https://www.rita.dot.gov/bts/sites/rita.dot.gov.bts/files/publications/national_transportation_statistics/html/table_04_23.html

This has been decreased to 4.1 MT of CO_2e in 2014. Improving energy efficiency and increased use of hybrid and electric passenger vehicles should further reduce these emissions in the future.

STREETLIGHTS:

The five largest GHG emitting sets of streetlights are shown in Table 17 for 2005 and 2014. As in 2005, Creve Coeur does not own many of these streetlights. This applies to the Olive Boulevard Service, which is also responsible for the largest percentage of emissions (Table 22). All lights have seen a decrease in emissions, though the Olive Blvd Service and N. New Ballas Traffic Signals have seen an increase in cost. This is likely the result of a conversion to LED light as old signals are replaced.

Table 22: GHG emissions from Streetlights for 2005 and 2014

2005 Street Lights and Traffic Signals	2005 (MT CO_2e)	2005 Cost ($)	2014 Street Lights and Traffic Signals	2014 (MT CO_2e)	2014 Cost ($)
Total	**394**	**$117,783**	**Total**	**392**	**$124,107**
Olive Blvd Service	285	$109,345	Olive Blvd Service	278	$109,694
N New Ballas Traffic Signal	26	$2,022	N New Ballas Traffic Signal	17	$2,102
Rue de la Banque	19	$787	Rue de la Banque	10	$713
I-270 Overpass Light	18	$787	I-270 Overpass Light	8	$558
Magna Carta Traffic Signal	11	$938	Magna Carta Traffic Signal	4	$636
Sub-total	**322**	**$113,879**	**Sub-total**	**317**	**$113,703**
% of total	**91.7%**		**% of total**	**80.9%**	

WATER:

The amount of GHG emissions from water have been reduced 24% from 2005 but the city has seen a 22% increase in cost (Table 23). This was again caused by the increase in cost of electricity from 2005 and is forecast to steadily increase in the coming years.

Table 23: GHG emissions and cost from Water for 2005 and 2014

Sector	2005 CO2e (MT)	2014 CO2e (MT)	Emissions Difference (MT)	Percentage Emissions Reduction	2005 Cost ($)	2014 Cost ($)	Cost Difference ($)	Percentage Cost Increase
Water	50	38	-12	-24%	$4,555	$5,556	$1,001	22.0%

CONCLUSION AND SUGGESTIONS:

The City of Creve Coeur has been able to reduce GHG emissions that result from government operations by 604 MT of CO_2e which is a 20% decrease from 2005. At the same time, Creve Coeur is paying 7% more in fuel and energy costs compared to 2005 (Table 17). This difference can be seen in every sector of government operations. The price for electricity and natural gas is projected to steadily increase in coming years.[20] At this rate, the local government must continually reduce their emissions to avoid a future increase in their energy expenses.

Similar to the community inventory, the largest portion of emission for the local government comes from buildings (62.1%). While Creve Coeur has made progress in reducing energy consumption and GHG emissions from buildings, energy efficiency in this sector remains the city's largest opportunity. Some possible opportunities include participation in the Green City Challenge, which, similar to the Green Business Challenge, focuses on reducing energy use in everyday operations. Unlike the Green Business Challenge, it has an added focus on engaging constituents, both residents and businesses, to support the city's efforts. Part of the Green City Challenge would involve re-forming a city staff green team, which was also a recommendation in the 2010 Climate Action Plan for Creve Coeur. A city green team would consist of representatives from different departments meeting regularly to discuss and coordinate energy conservation and greenhouse gas reduction efforts. If the local government is to increase its reductions in GHG emissions, these efforts must be concentrated and directly overseen by a group or individuals responsible for implementation and execution. As with community emissions, more detailed and comprehensive strategies will be outline in the Climate Action Plan.

[20] http://www.eia.gov/beta/aeo/#/?id=3-AEO2015

Appendix A: ICLEI Procedures

ICLEI-Local Governments for Sustainability provided Government and Community excel worksheets to help track and catalogue the data. The original data, whether excel spreadsheet, PDF or other, was also saved within these excel worksheets. The contact information was also recorded for the person/s that provided the information.

Energy use data was originally input into a Master Data Workbook, supplied by ICLEI, to help in collection and tabulation. Amounts that were tabulated in this workbook were then entered into ClearPath software. ClearPath converted these inputs using appropriate factor sets, into CO_2e.

Appendix B: Common Acronyms and Definitions

CACP CACP is a management tool that tracks emissions and reductions of greenhouse gases associated with electricity, fuel use, and waste disposal.

ICLEI Local Government s for Sustainability is a membership organization that works to help local governments achieve reductions in greenhouse gas emissions and adapt to changes that may impact them due to climate change. ICLEI's members consist of local governments, more than 1,000 of which were active members in 2013.

GHG Greenhouse Gas. Any of several gases (carbon dioxide, water vapor, methane, nitrous oxide, ozone, hydrofluorocarbons) that, when released into the atmosphere, have the effect of trapping heat

GWP Global Warming Potential. This is the unit of measurement of heat trapping effects of gas relative to carbon dioxide.

CO_2e Carbon Dioxide Equivalent. When a greenhouse gas is released into the atmosphere, its warming effect is described by referring to the number of tons of carbon dioxide that would have to be released to create the equivalent warming effect.

MT Metric Ton. A metric ton is equal to 1,000 kilograms. It is approximately 2,204 pounds.

kWh Kilowatt hour, equal to 1,000 watts. A kWh is equal to 3,412 BTUs.

therm A unit of heat energy most commonly used in reference to natural gas and is approximately equal to burning 100 cubic feet of natural gas. A therm is equal to 100,000 BTU

VMT Vehicle Miles Traveled

REC Renewable Energy Credit. A certificate that demonstrates an individual or organization has purchased 1 megawatt-hour of renewable energy.

City Council
300 North New Ballas Rd
Creve-Coeur, MO 63141

SCHEDULED

RESOLUTION

Meeting: 07/25/16 07:00 PM
Department: Legislative /City Clerk
Category: Contract
Prepared By: Debbie Ryan
Department Head: Debbie Ryan

Resolution No. 1236 - a Resolution of the City Council of the City of Creve Coeur, Missouri, Authorizing the Engagement of Bond Counsel Regarding a New Police Station Project.

The Nominating Committee is recommending Gilmore and Bell to serve as Bond Counsel for the Police Station financing.

RESOLUTION NO. 1236

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF CREVE COEUR, MISSOURI, AUTHORIZING THE ENGAGEMENT OF BOND COUNSEL REGARDING A NEW POLICE STATION PROJECT.

WHEREAS, the City Council hired Bond Architects, Inc. to assess the ability of current buildings to meet the needs of the City; and

WHEREAS, the City Council also appointed a citizen committee, the Government Center Assessment Task Force, to oversee the evaluation process and provide recommendations to the City Council; and

WHEREAS, the Government Center Assessment Task Force and Bond Architects, Inc. issued a final report in May 2014 recommending the construction, furnishing and equipping of a new police station on the current government center property and making safety and security renovations to the existing building (the "Project"); and

WHEREAS, the Project would among other things address the need for an improved police emergency operations center, multiple safety and security concerns, space shortages for training, meeting, office and storage, plumbing deficiencies and unsafe parking and traffic circulation conflicts; and

WHEREAS, the City Administrator and Chief of Police have recommended that the City proceed with the Project; and

WHEREAS, by separate action the City Council will make its decision as to whether to declare its intent to borrow $10,500,000 for the purpose of undertaking and completing the Project and to hold an election to obtain approval to evidence such borrowing by the issuance of general obligation bonds of the City in accordance with applicable law in the maximum amount of $10,500,000, with a corresponding real property tax increase (the "Bonds"); and

WHEREAS, the City Council has determined that it is necessary and appropriate to engage bond counsel to receive their counsel and advice regarding the Project and the proposed bond issue referenced above and subsequently to assist in the issuance of the Bonds to fund the Project if the City Council makes such a decision;

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF CREVE COEUR, AS FOLLOWS:

SECTION 1: The agreement between Gilmore & Bell, P.C. and the City of Creve Coeur for professional bond counsel services related to the Project and the Bonds attached hereto as **Exhibit 1** is hereby approved. The City Administrator is authorized to execute the agreement and the City Clerk is authorized to attest thereto. The agreement as executed shall be in the form attached hereto as **Exhibit 1** subject to final changes consistent with the provisions and intent of this Resolution, and necessary, desirable, convenient or proper in order to carry out the matters herein authorized. The City Administrator and his designated representatives are hereby authorized and directed to take any and all actions necessary, desirable, convenient or proper in order to carry out the intent of this Resolution, the matters herein authorized, and the rights and duties of the City under the agreement.

Section 2: This Resolution shall take effect upon approval.

Adopted this ____ day of ____________________, 2016.

____
Barry Glantz, Mayor

Attest:

____
Deborah Ryan, City Clerk

GILMOREBELL

GILMORE & BELL PC
ONE METROPOLITAN SQUARE - 211 N BROADWAY, SUITE 2350
ST. LOUIS, MISSOURI 63102-2741

314-436-1000 | 314-436-1166 FAX
GILMOREBELL.COM

July 21, 2016

Mayor and City Council
City of Creve Coeur, Missouri
300 N. New Ballas Road
Creve Coeur, Missouri 63141

Re: Proposed Issuance of General Obligation Bonds

Ladies and Gentlemen:

The purpose of this engagement letter is to set forth certain matters concerning the services we will perform as bond counsel to the City of Creve Coeur, Missouri (the "*Issuer*") in connection with the issuance of approximately $10,500,000 of General Obligation Bonds.

SCOPE OF ENGAGEMENT

In this engagement, as bond counsel to the Issuer we expect to perform the following duties:

(1) Subject to the completion of proceedings to our satisfaction, render our legal opinion (the "*Bond Opinion*") regarding the validity and binding effect of the Bonds, the excludability of interest on the Bonds from gross income for federal and Missouri income tax purposes, and such related matters as we deem necessary or appropriate.

(2) Examine applicable law as it relates to the authorization and issuance of the Bonds and our Bond Opinion and advise the Issuer regarding the legal authority for the issuance of the Bonds and other legal matters related to the structure of the Bonds.

(3) Prepare or review election proceedings, authorizing proceedings and legal documents necessary or appropriate to the authorization, issuance and delivery of the Bonds and coordinate the authorization and execution of such documents.

(4) Prepare or review the notice of sale pertaining to the competitive sale of the Bonds and draft the official statement or other offering document in connection with the issuance of the Bonds. Alternatively, if the Issuer advises that its financial adviser is preparing the official statement, prepare those sections of the official statement involving (a) the terms

of the Bonds, (b) appropriate descriptions or summaries of certain legal documents and legal matters, (c) Missouri and federal law pertinent to the validity of the Bonds and the income tax treatment of interest paid thereon, and (d) our Bond Opinion.

(5) Draft or review the continuing disclosure undertaking of the Issuer.

(6) Assist the Issuer in seeking from other governmental authorities such approvals, permissions, and exemptions as we determine are necessary or appropriate in connection with the authorization, issuance and delivery of the Bonds, except that we will not be responsible for any required Blue Sky filing.

(7) Assist the Issuer in presenting information to bond rating organizations and providers of credit enhancement relating to legal issues affecting the issuance of the Bonds.

(8) Attend meetings and conferences related to the Bonds and otherwise consult with the parties to the transaction prior to the issuance of the Bonds.

(9) Coordinate the closing of the transaction, and after the closing assemble and distribute transcripts of the proceedings and documentation relating to the authorization and issuance of the Bonds.

(10) Undertake such additional duties as we deem necessary to complete the financing and to render our Bond Opinion.

Our Bond Opinion will be addressed to the Issuer and will be delivered by us on the date the Bonds are exchanged for their purchase price (the "*Closing*"). The Bond Opinion will be based on facts and law existing as of its date. In rendering our Bond Opinion, we will rely upon the certified proceedings and other certifications of public officials and other persons furnished to us without undertaking to verify the same by independent investigation, and we will assume continuing compliance by the Issuer with applicable laws relating to the Bonds. During the course of this engagement, we will rely on you to provide us with complete and timely information on all developments pertaining to any aspect of the Bonds and their security. We understand that you will direct members of your staff and other employees of the Issuer to cooperate with us in this regard.

Our duties in this engagement are limited to those expressly set forth above. Among other things, our duties do not include:

(a) Except as described in paragraph (4) above, assisting in the preparation or review of an official statement or any other disclosure document with respect to the Bonds or performing an independent investigation to determine the accuracy, completeness or sufficiency of any such document or rendering advice that the official statement or other disclosure document does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements contained therein, in light of the circumstances under which they were made, not misleading.

(b) Preparing requests for tax rulings from the Internal Revenue Service or no-action letters from the Securities and Exchange Commission, or representing the Issuer in Internal

Revenue Service examinations or inquiries or Securities and Exchange Commission investigations.

(c) Preparing Blue Sky or investment surveys with respect to the Bonds.

(d) Drafting state constitutional or legislative amendments or pursuing test cases or other litigation.

(e) Making an investigation or expressing any view as to the creditworthiness of the Issuer or any credit enhancement provider for the Bonds.

(f) Preparing or negotiating the terms of any guaranteed investment contract or other investment agreement.

(g) After Closing, unless separately engaged, providing advice concerning any actions necessary to assure compliance with any continuing disclosure undertaking.

(h) After Closing, unless separately engaged, providing continuing advice to the Issuer or any other party concerning any actions necessary to assure that interest paid on the Bonds will continue to be excludable from gross income for federal income tax purposes *(e.g.,* our engagement does not include rebate calculations for the Bonds).

(i) Addressing any other matter not specifically set forth above that is not required to render our Bond Opinion.

ATTORNEY-CLIENT RELATIONSHIP

Upon execution of this engagement letter, the Issuer will be our client and an attorney-client relationship will exist between us. We assume that all other parties will retain such counsel as they deem necessary and appropriate to represent their interests in this transaction. We further assume that all other parties understand that in this transaction we represent only the Issuer, we are not counsel to any other party, and we are not acting as an intermediary among the parties. Our services as bond counsel are limited to those contracted for in this letter; the Issuer's execution of this engagement letter will constitute an acknowledgment of those limitations. Our representation of the Issuer will not affect, however, our responsibility to render an objective Bond Opinion.

Our representation of the Issuer and the attorney-client relationship created by this engagement letter will be concluded upon issuance of the Bonds and delivery of our Bond Opinion. Nevertheless, subsequent to Closing, we will mail the Internal Revenue Service Form 8038-G and prepare and distribute to the participants in the transaction a transcript of the proceedings pertaining to the Bonds. We do not undertake (unless separately engaged) to provide continuing advice to the Issuer or any other party concerning any actions necessary to assure that interest paid on the Bonds will continue to be excludable from gross income for federal and Missouri income tax purposes or to assure compliance with the continuing disclosure requirements of applicable federal securities laws. Nonetheless, subsequent events may affect the tax-exempt status of interest on the Bonds and compliance with federal securities laws. Consequently, continued monitoring and other action to assure compliance with these requirements may be necessary. Should the Issuer want our firm to assist with such compliance (*e.g.*, arbitrage rebate calculations and ongoing securities law disclosure), our participation in such post-closing matters must be specifically requested, and a separate engagement will be required.

FEES

Our fee for serving as bond counsel and providing the services listed above will be based on a fee of $18,750 for a principal amount of $10,000,000, plus $0.50 per $1,000 over $10,000,000. Thus, our fee for a bond issue of $10.5 million would be $19,000. If requested, we will also prepare the official statement or other offering document for the transaction, for an additional fee of $5,000.

The above fees are inclusive of out-of- pocket expenses (travel, copies, etc.). Our fee will be payable only at the successful completion of the financing. If for any reason the financing is not consummated, we will not be entitled to any fee or reimbursement of any out-of-pocket expenses.

If the Issuer wishes to engage Gilmore & Bell for post-issuance tax and/or securities compliance services, we will be happy to provide proposals for those services.

Because our clients generally prefer that bond counsel services be provided on a fixed fee, with no amount due unless the bonds are issued, Gilmore & Bell bills very few matters on an hourly basis. Nevertheless, if there is a matter for which the Issuer and Gilmore & Bell determine that an hourly rate is appropriate, we will charge an hourly rate of $175 for non-tax matters and $295 for special tax counsel services.

RECORDS

At your request, papers and property furnished by you will be returned promptly upon receipt of payment for outstanding fees and client charges. Our own files, including lawyer work product, pertaining to the transaction will be retained by us. For various reasons, including the minimization of unnecessary storage expenses, we reserve the right to dispose of any documents or other materials retained by us after the termination of this engagement.

If the foregoing terms are acceptable to you, please so indicate by returning the enclosed copy of this engagement letter dated and signed by an authorized officer, retaining the original for your files. We look forward to working with you.

GILMORE & BELL, P.C.

By: ______________________

ACCEPTED AND APPROVED:

CITY OF CREVE COEUR, MISSOURI

By: __________________________________
Title: __________________________________
Date: __________________________________

MEMORANDUM

DATE: July 21, 2016

TO: Mark Perkins, City Administrator

FROM: Daniel Smith, Director of Finance

SUBJECT: Bond Counsel for Police Building Bond Issue

Staff requested the city's financial advisor (Piper Jaffray) to provide the names of at least three legal firms that specialize as Bond Counsel's for Bond Financing. The financial advisor provided 4 names. A Request for Proposal (RFP) was sent to the four firms and responses were received from three of the firms. The three firms submitting an RFP were Gilmore & Bell, Armstrong & Teasdale and Thompson Coburn. All the firms responding are well recognized in the Saint Louis area for their work with bond financing. I have attached a summary sheet of the responses based on the proposals received.

Based on the proposals staff recommended Gilmore and Bell for selection as Bond Counsel. This recommendation was based on the following reasons:

1. Gilmore & Bell has extensive experience as Bond Counsel for GO bond issues.
2. Gilmore & Bell's agreement that the city will be charged no fees or costs unless the financing is actually consummated.
3. The lead partner for Gilmore & Bell on the Creve Coeur financing is Mark Grimm whom the city has worked with in the past.
4. Gilmore & Bell's proposed fees were less than the other firms submitting proposals.

As a result of the staff recommendation and the information in the proposals the nominating committee voted to recommend the selection to serve as Bond Counsel at its 7-20-2016 meeting.

I would be happy to answer any questions.

PROPOSAL FOR
BOND COUNSEL
7/20/19

Name	Proposed Fees	Comments
Gilmore & Bell	$19,000. Prepare official statement $5,000. Inclusive of out of pocket expenses. No fees or expenses if financing not consummated.	1. Most experienced with GO issues for cities. 2. GO Issues – O'Fallon, Rock Hill, Kansas City, Lees Summit, Maplewood, Olivette, St. Peters, and Webster Groves. 3. Previously has done work for the City.
Armstrong & Teasdale	$29,500 including fees and out of pocket expenses. Fees and expenses not applicable if financing not consummated.	1. Experienced with GO's evenly split between cities and school districts. 2. Lake Saint Louis, City of St. Louis, Moline Acres and Jerseyville, Illinois. 3. More experience in Special District Financing (TDD, TIF, CID) 4. Previously has done work for the City.
Thompson Coburn	Flat fee $25,000 including drafting of election proceeds. Estimate reimbursement will not exceed $1,000. Disclosure Counsel services $7,500.	1. Some experience with GO's. Not as much as Gilmore & Bell, more than Armstrong Teasdale. 2. St. Louis County and other cities in Kansas and Illinois. 3. No experience with St. Louis County.

<u>Staff Recommendation</u>: Gilmore & Bell

Reasons:
1. Less cost.
2. More experience with GO issues.
3. No fees unless financing consummated.
4. Prior experience with Mark Grimm.

MINUTES OF A MEETING
OF THE NOMINATING COMMITTEE
JULY 20, 2016
7:30 P.M.

A meeting of the Nominating Committee for the appointment of Bond Counsel for the proposed Police Facility was held on Wednesday, July 20, 2016 starting at 4:30 p.m. at the Creve Coeur Government Center, 300 N. New Ballas Road.

Mayor Glantz called the meeting to review and recommend to Council Bond Counsel for the proposed Police Facility.

BOND COUNSEL – POLICE FACILITY
The Nominating Committee consisted of:

Barry Glantz, Mayor
Ellen Lawrence, Council President
Robert Hoffman, Council Member

Staff: Mark Perkins, City Administrator and Dan Smith, Finance Director

Dan Smith stated four proposals were sent out to firms known for doing this type of work. One firm, Cunningham, Vogel and Rost declined to submit a proposal which left us with three firms. Dan Smith reviewed the information from the three firms that did submit proposals. (Exhibit A)

Council President Lawrence asked what the scope of services were and what exactly the firms will do for the city.

Dan Smith reviewed the RFP information that was sent out outlining scope of services expected. (Exhibit B)

Council President Lawrence asked if the firms will handle the legal or financial aspect of the project.

Dan Smith stated legal.

Mayor Glantz asked who recommended the firms to submit RFPs to.

Dan Smith stated the city's financial advisor, Piper Jaffray made recommendations.

Mayor Glantz asked if the city does not proceed with the project, is there any cost to the city.

Dan Smith stated there will not be any cost to the city for any reason for not moving forward with issuance of bonds.

Mark Perkins stated we are proceeding this early due to recommendation by City Attorney, Carl Lumley so the chosen firm can assist in drafting language for the ordinance to place the issue on the ballot.

Dan Smith stated staff is recommending Gilmore and Bell as the city has worked extensively in the past with this firm.

Mayor Glantz stated he feels that it is important that Gilmore and Bell understand that the city is requesting that Mark Grimm be the lead partner working on the city's project.

NOMINATING COMMITTEE
JULY 20, 2016
4:30 P.M.

Council Member Hoffman moved, seconded by Council President Lawrence to recommend Gilmore and Bell for Bond Counsel on the Police Facility project, with the vote upon such motion being as follows, to-wit:

Council President Lawrence – Aye
Council Member Hoffman - Aye
Mayor Glantz - Aye

The vote on the motion being 3 Ayes and 0 Nays, the nomination recommended was approved.

The Nominating Committee Meeting adjourned at 4:48 p.m.

Attest:

______________________	______________________
Deborah Ryan	Barry Glantz
City Clerk	Mayor

PROPOSAL FOR
BOND COUNSEL
7/20/19

Name	Proposed Fees	Comments
Gilmore & Bell	$19,000. Prepare official statement $5,000. Inclusive of out of pocket expenses. No fees or expenses if financing not consummated.	1. Most experienced with GO issues for cities. 2. GO Issues – O'Fallon, Rock Hill, Kansas City, Lees Summit, Maplewood, Olivette, St. Peters, and Webster Groves. 3. Previously has done work for the City.
Armstrong & Teasdale	$29,500 including fees and out of pocket expenses. Fees and expenses not applicable if financing not consummated.	1. Experienced with GO's evenly split between cities and school districts. 2. Lake Saint Louis, City of St. Louis, Moline Acres and Jerseyville, Illinois. 3. More experience in Special District Financing (TDD, TIF, CID) 4. Previously has done work for the City.
Thompson Coburn	Flat fee $25,000 including drafting of election proceeds. Estimate reimbursement will not exceed $1,000. Disclosure Counsel services $7,500.	1. Some experience with GO's. Not as much as Gilmore & Bell, more than Armstrong Teasdale. 2. St. Louis County and other cities in Kansas and Illinois. 3. No experience with St. Louis County.

Staff Recommendation: Gilmore & Bell

Reasons:
1. Less cost.
2. More experience with GO issues.
3. No fees unless financing consummated.
4. Prior experience with Mark Grimm.

GILMORE BELL

GILMORE & BELL PC
ONE METROPOLITAN SQUARE – 211 N BROADWAY, SUITE 2350
ST. LOUIS, MISSOURI 63102-2741

314-436-1000 | 314-436-1166 FAX
GILMOREBELL.COM

July 20, 2016

Mr. Daniel N. Smith, CPA, CPFO
Director of Finance
City of Creve Coeur
300 N. New Ballas Road
Creve Coeur, Missouri 63141

Re: Bond Counsel Proposal to City of Creve Coeur, Missouri

Dear Mr. Smith:

We appreciate the opportunity to have worked with the City of Creve Coeur on prior transactions, and are pleased to submit this proposal to serve as bond counsel in connection with the proposed issuance by the City of general obligation bonds to fund a new police station (the *"Bonds"*).

GENERAL INFORMATION

Gilmore & Bell, P.C. was established in 1979, and today is one of the leading public finance law firms in the United States. The firm specializes in public finance transactions, serving as bond counsel in a wide variety of tax-exempt and taxable financings, and providing tax and arbitrage rebate services in connection with tax-exempt financings. The firm has offices located in St. Louis, Missouri, Kansas City, Missouri, Edwardsville, Illinois, Wichita, Kansas, Lincoln, Nebraska and Omaha, Nebraska. All offices provide public finance services.

Attached hereto as **Exhibit A** is a copy of our firm's resume, which includes an overview of the public finance practice.

SCOPE OF SERVICES

In this engagement, as bond counsel to the City, we will provide all of the services identified in the Request for Proposals dated June 28, 2016. Upon request, we will also draft the official statement or other offering document in connection with the issuance of the Bonds. Alternatively, if the City advises that its financial adviser is preparing the official statement, we will (at no additional charge) prepare or review those sections of the official statement involving (a) the terms of the Bonds, (b) appropriate descriptions or summaries of certain legal documents and legal matters, (c) Missouri and federal law pertinent to the validity of the Bonds and the income tax treatment of interest paid thereon, and (d) our bond counsel opinion.

Our bond counsel opinion will be addressed to the City and will be delivered by us on the date the Bonds are exchanged for their purchase price (the "*Closing*"). The opinion will be based on facts and law existing as of its date. In rendering our opinion, we will rely upon the certified proceedings and other certifications of public officials and other persons furnished to us without undertaking to verify the same by independent investigation, and we will assume continuing compliance by the City with applicable laws relating to the Bonds. During the course of this engagement, we will rely on the City to provide us with complete and timely information on all developments pertaining to any aspect of the Bonds and their security.

QUALIFICATIONS AND EXPERIENCE

Overall Bond Counsel Experience.

Gilmore & Bell is committed to the concept of a highly-specialized legal practice and believes this approach enhances the firm's ability to serve its clients. Bond transactions require transactional, tax and securities expertise, and Gilmore & Bell's attorneys deliver exceptional service in all three areas. Gilmore & Bell is uniquely equipped, compared to other local, regional and national law firms, to provide timely, efficient and thorough service in connection with the City's proposed bond issuance. The firm's attorneys devote nearly 100% of their time to municipal finance and related public law matters and are committed to providing the service, expertise, experience, creativity and hard work necessary to achieve our clients' goals.

The firm employs 41 partners/shareholders and 14 associates, all of whom provide a full range of services in connection with tax-exempt and taxable financings for state and local governments, including planning, structuring and coordinating financings, drafting legal documents, appearing before public bodies and agencies, drafting legislation, and advising issuers and investment bankers on a wide array of public law matters.

The firm has 31 partners and 12 associates practicing law in Missouri, nine of whom are in the St. Louis office. Gilmore & Bell routinely serves as bond counsel to the State of Missouri and a significant majority of the cities, counties and other political subdivisions located in Missouri. In 2015, Gilmore & Bell served as bond counsel on more bond issues than any other law firm in both Missouri and the United States – in fact, Gilmore & Bell served as bond counsel on nearly three times the number of transactions as any other bond counsel firm in the Midwest.[1]

Gilmore & Bell is the *only* bond counsel firm in Missouri with multiple full-time public finance tax attorneys whose job is to advise clients of the firm (and other attorneys in the firm) of the ever-changing federal tax statutes, regulations and rulings that could affect the City's debt financing programs. Gilmore & Bell is also the *only* Missouri bond counsel firm with full-time public finance securities attorneys whose job is to advise clients of the firm with respect to federal and state securities laws and disclosure requirements related to state and local bonds.

[1] Thompson Reuters, *Municipal Market Analysis National Bond Counsel Full Year 2015* (Midwest Long Term Municipal Issues).

Gilmore & Bell has acted or is currently acting as bond counsel for the following cities (among others) located within St. Louis and St. Charles counties:

Bellefontaine Neighbors	Florissant	Shrewsbury
Berkeley	Hazelwood	St. Charles
Brentwood	Jennings	St. Peters
Bridgeton	Kirkwood	Sunset Hills
Chesterfield	Manchester	Town & Country
Clayton	Maplewood	University City
Crestwood	Maryland Heights	Valley Park
Creve Coeur	O'Fallon	Webster Groves
Des Peres	Olivette	Weldon Spring
Ellisville	Pasadena Hills	Wentzville
Fenton	Richmond Heights	Wildwood
Ferguson	Rock Hill	Woodson Terrace

Additionally, Gilmore & Bell has acted or is currently acting as bond counsel for numerous school districts, library districts, sewer districts, levee districts and special taxing districts located within St. Louis and St. Charles counties.

Experience with Similar Tax-Exempt Transactions.

Attached as **Exhibit B** is a list of general obligation bond issues for Missouri cities for which the firm has acted as bond counsel since January 1, 2010. Attached as **Exhibit C** is a list of general obligation bond issues for other Missouri political subdivisions for which the firm has acted as bond counsel in the last three years. Feel free to contact any of these issuers regarding their experience and satisfaction with our firm and the services we provided.

Experience with Special Elements of Tax-Exempt Financings.

Each client is unique, and so is every financing. Because Gilmore & Bell is committed to the highest level of quality in the provision of all services necessary to provide superior bond counsel services, Gilmore & Bell attorneys must often research and present alternative financing strategies in order to accomplish client goals. Gilmore & Bell attorneys analyze deal-specific issues regarding optional redemption provisions, debt structuring, tax consequences and other arbitrage considerations for both bank qualified and non-bank qualified bond issuances. Furthermore, Gilmore & Bell is the only law firm in Missouri with the capability to provide yield computations and arbitrage rebate services to our clients. The members of our tax department perform the mathematical computations and analyses necessary in connection with municipal finance transactions, such as rebate requirements, cash flow analyses, escrow structuring, yield computations, debt service computations, and other computations necessary to determine compliance with federal arbitrage and other tax law restrictions. These capabilities allow the firm to provide services and opinions to the City that many other law firms cannot provide.

Depth of Firm's Tax Practice. Tax statutes and regulations require issuers to invest and spend tax-exempt bond proceeds for qualified purposes and use financed assets properly throughout the entire period the debt remains outstanding. With increased IRS scrutiny of tax-exempt bond financings, issuers must not only comply with these requirements, but they must also be prepared to document and substantiate compliance with federal tax statutes and regulations to IRS agents as long as any bonds are outstanding. The firm's tax attorneys have alerted clients to the recent IRS demands for enhanced post-issuance compliance and have hosted seminars and special in-house training to assist our clients in understanding the new provisions.

Over the past 10 years, the firm has represented clients in more than 100 IRS audits and administrative compliance checks. Gilmore & Bell's tax attorneys regularly work with the IRS Tax-Exempt Bond Group, which administers the IRS' audit and voluntary compliance program, and have developed strong working relationships with many of the auditors and supervisors. While the City may never need these services, the practical experience our tax attorneys have gained in handling IRS audit inquiries has been invaluable in helping issuers develop practical strategies to maintain and document compliance with the tax rules.

Firm's Approach to Primary Market Disclosure. As a firm that specializes in public finance law, nearly every attorney in the firm (with the exception of our full-time bond tax attorneys) is routinely engaged in preparing offering documents and interpreting and applying SEC and MSRB rules and regulations. As an additional resource for both our attorneys and clients, three of the firm's attorneys provide guidance with respect to federal and state securities laws and disclosure requirements relating to state and local bonds, including the continuing disclosure requirements under Rule 15c2-12 of the Securities and Exchange Commission. The firm is also actively involved in primary offering disclosure matters and regularly assists a wide range of governmental issuers in developing more current disclosure language.

When the SEC announced its Municipal Continuing Disclosure Cooperation initiative in 2014, Gilmore & Bell emailed an "alert" to our clients and advised numerous issuers on what actions should be taken with regard to the initiative. We believe it is in our clients' interests to be kept informed of government regulatory matters, regardless of whether we are currently working with the client on a bond issue.

<u>Litigation Regarding Services to Other Issuers</u>.

The only lawsuit that has arisen out of our firm's service to an issuer involves the Neosho Transportation Development District (the *"District"*). In May 2014, the District sued Steven A. Hays and Steven A. Hays, P.C. (the *"Hays Defendants"*) in the Circuit Court of Newton County, Missouri. The District's petition sets forth claims against the Hays Defendants for (1) professional negligence in the formation of the District, (2) negligent misrepresentation to the District regarding the validity of the formation of the District, (3) punitive damages, (4) unjust enrichment for recoupment of legal fees paid to the Hays Defendants, and (5) a claim for "money had and received" for recovery of legal fees paid by the District to the Hays Defendants. The District has amended the complaint, naming Gilmore & Bell, P.C. and the City of Neosho, Missouri as defendants. The claims against Gilmore & Bell are for (1) agency/vicarious liability, asserting that Gilmore & Bell was responsible for the conduct of the Hays Defendants in the formation of the District, and (2) professional negligence, alleging an attorney-client relationship between Gilmore & Bell and the District arose before the date of the engagement letter referenced below and before the District was organized.

Gilmore & Bell has historically served as bond counsel to the City of Neosho (*"Neosho"*). The District is a distinct and separate political subdivision within Neosho, created under applicable Missouri laws. Gilmore & Bell's engagement as general counsel to the District was set forth in an engagement letter dated April 5, 2011, after the District was organized. We resigned as counsel to the District effective November 1, 2011. There were certain issues related to the formation of the District and a sales tax vote by the property owners within the District. Neosho and the District sought Missouri Circuit Court approval of the validity of the formation of the District and the validity of the sales tax, both of which the Circuit Court validated in June 2012. All appeal periods relating to that Court ruling expired without appeal. Subsequent to that Court ruling, Neosho filed a second lawsuit seeking to set aside the District, alleging, among other things, that the District was not properly formed. Gilmore & Bell did not provide any legal advice to or representation of Neosho in this matter. The Circuit Court ruled in the second case in favor of the District. In December 2013, the Missouri Court of Appeals affirmed the Circuit Court's ruling that the District was validly formed and its proceedings since that date (including the imposition of a sales tax) were valid.

The District is seeking to recoup legal fees incurred by the District in various disputes with Neosho. The District alleges that it has incurred approximately $300,000 in legal fees and other economic damages (including legal fees paid to the Hays Defendants). This matter is currently in the discovery phase.

Enforcement Litigation or Investigations.

Gilmore & Bell has never been involved in any Securities and Exchange Commission, Internal Revenue Service, Municipal Securities Rulemaking Board or state law enforcement litigation or investigation. Moreover, Gilmore & Bell has acted as bond counsel on more than 15,000 financings since 1979, none of which has resulted in any adverse finding in which the firm was named as a party to the action. As part of Internal Revenue Service audit processes, some issues on which we have served as bond counsel have been audited, but no issue has lost its tax-exempt status.

STAFFING AND RESOURCES

If Gilmore & Bell is selected as bond counsel, Mark Grimm, a partner in the firm's St. Louis office with more than 25 years of experience as a municipal bond lawyer, and Joe Palumbo, an associate at the firm, will serve as the primary contacts for the City and will be available to attend meetings and participate in conference calls on a day-by-day basis. Mr. Grimm has served as bond counsel on hundreds of transactions, including 18 general obligation bond issues for cities since 2010. Biographies of Mr. Grimm, Mr. Palumbo and other Gilmore & Bell attorneys are included in **Appendix A**. Mr. Grimm and Mr. Palumbo's contact information is as follows:

Mark D. Grimm
Office: (314) 444-4118
Cell: (314) 495-4415
mgrimm@gilmorebell.com

Joseph D. Palumbo
Office: (314) 444-4116
Cell: (314) 704-5522
jpalumbo@gilmorebell.com

In addition to the tax law and securities law expertise described above, the Compliances Services Group, a division of Gilmore & Bell that is headed by a full-time tax attorney and a full-time securities attorney and supported by seven tax analysts, four disclosure analysts and additional administrative personnel, has been providing post-issuance compliance services to the public finance industry since 1987. These services are designed to help issuers comply with the federal income tax laws and continuing disclosure requirements after bonds are issued. The Compliance Services Group can be engaged to perform the following services for an agreed-upon compensation:

Tax Compliance Services. The Compliance Services Group annually completes approximately 1,000 post-issuance tax compliance services such as arbitrage rebate computations, final written allocations, and annual compliance checks for issuers and conduit borrowers located throughout the United States. In addition to providing accurate computations in accordance with applicable tax regulations, our goal is to simplify the tax compliance process and minimize the governmental entity's rebate liability. We provide assistance to clients in preparing and maintaining the records required by the IRS and representing clients in IRS audits. We also assist with other record-keeping and post-issuance tax compliance matters such as assisting clients in the calculation of private use, structuring arrangements in management and service agreements to avoid private business use, complying with the change-in-use rules in cases where it becomes necessary to sell or dispose of financed property, and generally establishing policies and procedures to substantiate ongoing tax compliance.

Continuing Disclosure Services. Our Compliance Services Group assists approximately 300 governmental issuers in meeting their continuing disclosure requirements. We also answer our clients' questions about market disclosures and help them tell the municipal securities market about their bond issues through annual filings and event notices.

FEES AND EXPENSES

Our fee for serving as bond counsel and providing the services listed above will be based on a fee of $18,750 for a principal amount of $10,000,000, plus $0.50 per $1,000 over $10,000,000. Thus, our fee for a bond issue of $10.5 million would be $19,000.

If requested, we will also prepare the official statement or other offering document for the transaction, for an additional fee of $5,000.

The above fees are inclusive of out-of-pocket expenses (travel, copies, etc.). Our fee will be payable only at the successful completion of the financing. If for any reason the financing is not consummated, we will not be entitled to any fee or reimbursement of any out-of-pocket expenses.

If the City wishes to engage Gilmore & Bell for post-issuance tax and/or securities compliance services, we will be happy to provide proposals for those services.

Because our clients generally prefer that bond counsel services be provided on a fixed fee, with no amount due unless the bonds are issued, Gilmore & Bell bills very few matters on an hourly basis. Nevertheless, if there is a matter for which the City and Gilmore & Bell determine that an hourly rate is appropriate, we will charge an hourly rate of $175 for non-tax matters and $275 for special tax counsel services.

ENGAGEMENT LETTER AND OPINION

Our suggested engagement letter is attached as **Exhibit D**. The form of our approving opinion is attached as **Exhibit E**.

REFERENCES

Please feel free to contact the following individuals (or any other issuer listed in the attached exhibits) for a reference:

Janet Watson
Director of Finance & Administration
City of Clayton
(314) 290-8475

Vicki Boschert
Director of Finance
City of O'Fallon
(636) 379-5522

Lori Helle
Finance Director
City of Hazelwood
(314) 513-5040

Jennifer Yackley
City Administrator
City of Rock Hill
(314) 968-1410

Karen Dilber, CPA
Finance Director
City of Maplewood
(314) 646-3606

John Butz
City Administrator
City of Rolla
(573) 426-6940

CONFLICTS OF INTEREST

Due to the limited nature of our municipal securities practice, Gilmore & Bell **does not have client relationships with non-governmental entities** that would give rise to the customary conflict of interest situations that would disqualify our firm from serving the City as bond counsel. Retaining Gilmore & Bell will not result in any conflict of interest or potential conflict with the City or any other parties to the City's financings.

CONCLUSION

Gilmore & Bell has a depth of resources available to the City that no other Missouri bond counsel firm can provide. We believe that no other law firm is better qualified than Gilmore & Bell to provide the requested bond and disclosure counsel services to the City. We hope to have the opportunity to work with you again.

Very truly yours,

Mark D. Grimm

Mark D. Grimm
Vice Chairman and Director

MDG:rab

CITY OF CREVE COEUR

June 28, 2016

REQUEST FOR PROPOSALS
BOND COUNSEL

City of Creve Coeur

Background

The Creve Coeur City Council is considering the placement of a Bond Issue on the November, 2016 ballot to fund a new Police Station and related site work estimated at $10.5 million.

The authorization of the bonds will approve the levy and collection of an annual tax in addition to the other taxes provided for by law on all taxable real property in the City sufficient to pay the interest and principal of the bonds as they fall due and retire the same within a certain amount of years of the date thereof.

Services Required of the Bond Counsel

The City has determined that Bond Counsel is needed to assist with the preparation, sale, and issuance of the previously described bonds. Services required of Bond Counsel will include, but not be limited to, the following:

1. Prepare or examine all proceedings and legal documents relating to the authorization and issuance of the bonds, including:

   a. Resolutions and other Proceedings of the City, and
   b. Closing Certificates of the City, Paying Agent, and the Bond Underwriter;

2. Work jointly with the City Director of Finance, City Attorney and City Administrator to prepare and review the Preliminary Official Statement, Notice of Sale, Bid Form, Official Statement, and other related documents.

3. Work jointly with the City Director of Finance, City Attorney and City Administrator to obtain the best possible rating from the various rating agencies, to include attendance at any presentation to the agencies.

4. Provide assistance in the printing of the Bonds, if needed, and execution of same.

5. Prepare and examine the Bond Transcripts covering the proceedings relating to the issuance of the Bonds, and, at closing, distribute copies to the parties to the financing.

6. Coordinate and assist with the necessary filings and recordings with appropriate county, state, and federal agencies including, but not limited to:

   a. Registration of Bonds with State Auditor's Office,
   b. No litigation Certificate,
   c. Signature Identification,
   d. Non-Arbitrage Certificate,
   e. Certificate of Outstanding Indebtedness,

f. County Assessor's Assessed Valuation Certificate, and
g. Official Incumbency Certificate, etc.

7. Render an approving legal opinion on the validity of the Bonds and on the tax-exempt status of the interest thereon and any opinion incidental thereto.

8. Attend such conferences and meetings, including the closing, as may be necessary in connection with the transaction.

9. Any other services necessary for the timely and cost effective sale of bonds. Bond Counsel must be willing to maintain a continuing relationship with the City and be available at all reasonable times for consultation on all matters regarding the financing including, but not limited to, advice on the use of call and refunding provisions, and changes in federal and state tax and arbitrage regulations.

Required Components of the Bond Counsel Proposal

1. The proposal should state the services to be provided by the Bond Counsel. It may restate the services described in the RFP, modify the services described in the RFP, or add to the services described in the RFP.

2. Qualifications and Experience

   Describe your qualifications for providing the required services and your experience relevant to tax- exempt financings. Please address the following area:

   a. Describe your overall experience in serving as Bond Counsel.
   b. Identify your engagements in connection with tax-exempt financings and advisory services rendered by your firm since January 1, 2010. For each of these financings, indicate the dollar amount, issuers, and general purpose of the bond sale.
   c. Cite your experience with regard to special elements of tax exempt financings, including optional early redemption provisions (i.e., call provisions), arbitrage considerations, and non-bank qualified bond issuances.
   d. Detail any litigation regarding your services to other issuers.

3. Staffing/Resources

   Identify the individuals within your firm who would be responsible for this engagement, and describe the qualifications and relevant experience of each person named. In addition, present an overview of your firm's support/advisory resources, if any, related to public financing in such areas as debt structure, alternative financing strategies, arbitrage planning, etc.

4. Fees and Expenses

   Firms are free to submit a proposal on either an hourly rate or a fixed fee basis. However, if an hourly rate is proposed, please indicate your total estimated hours for each category of service. Likewise, if a fixed fee is proposed, please indicate an hourly rate for additional services, if required. Please also include an estimate of normal out-of-pocket expenses.

5. Engagement Letter

   Please furnish your suggested form of engagement letter for a particular offering should you be selected as Bond Counsel.

6. Opinion

   Please submit a sample "form of opinion" your firm would use with respect to the legality of the tax-exempt nature of fire protection City financing.

7. References

   Please submit the names and phone numbers of at least three references from the client list previously provided in 2.b.

Proposal Submission Process

Three copies of the proposal should be submitted to Dan Smith, Director of Finance, in a sealed envelope marked "Proposal – Bond Counsel" and delivered to:

City of Creve Coeur
300 N. New Ballas Rd.
Creve Coeur, MO 63141

The deadline for submission of proposals is 5pm CST July 20, 2016. Proposals or amendments to proposals arriving after the deadline will not be considered.

Selection Criteria

1. All proposals will be evaluated based on the following criteria:

		Point Range
a.	Prior Experience	
	- In political subdivision bond issues in Missouri	0 – 10
b.	Firm's organization, size, structure and prior experience in comparable assignments	0 – 15
c.	Qualifications of personnel assigned to work with the City	0 – 25
d.	Responsiveness of the written proposal to the services required	0 – 15
e.	Fees	0 – 20

2. The City reserves the right to reject any and all proposals and to waive minor nonconformities. All proposals will be reviewed by the nominating committee with assistance of Staff. Final recommendation for selection will be made by the nominating committee with final decision to be made by Creve Coeur City Council.

3. Terms and Conditions

   a. If, through any cause, the firm selected shall fail to fulfill in a timely and proper manner the obligations agreed to, the City shall have the right to terminate its contract by specifying the date of termination in a written notice to the firm at least fifteen (15) working days before the termination date. In this event, the firm shall be entitled to just and equitable compensation for any satisfactory work completed.

   b. All claims, disputes, and controversies arising out of or in relation to the performance, interpretation, application, or enforcement of this agreement, including but not limited to breach thereof, shall be referred to mediation before, and as a condition precedent to, the initiation of any adjudicative action or proceeding, including arbitration, in accordance with Missouri law.

City Council
300 North New Ballas Rd
Creve-Coeur, MO 63141

SCHEDULED

Meeting: 07/25/16 07:00 PM
Department: Legislative /City Clerk
Category: Appointment
Prepared By: Debbie Ryan
Initiator: Debbie Ryan
Sponsors:

ANNUAL APPOINTMENTS TO VARIOUS BOARDS (ID # 2020) DOC ID: 2020

Annual Appointments and Reappointments to Boards and Committees

Recommendations from the Mayor/Nominating Committee to Council for appointments and reappointments.

Memorandum

To: City Council

From: Mayor Glantz, Nominating Committee Chair

Date: 07/20/16

Re: Recommendations for annual appointments and reappointments to boards, committees and commissions

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The Nominating Committee met on Monday, July 18, 2016 at 4:30 p.m. and recommend the following appointments and reappointments.

Energy and Environment
- Ben Lefton – reappoint for 3 yrs (exp 6/30/19)
- Dat Ngo – appoint for 3 yrs (exp 6/30/19)

Parks & Historic
- Roberta Horwitz – reappoint for 3 yrs (exp 6/30/19)
- Nancy Litzinger – appoint for 3 yrs (exp 6/30/19)
- Stephen Spurgeon – appoint for 3 yrs (exp 6/30/19)
- Phyllis Cantor – appoint to fill unexpired term (exp 6/30/18)

Board of Adjustment
- Ivan Schenberg – reappoint for 5 yrs (exp 6/30/2021)

Storm Water
- Tom D'Alfonso – reappoint for 3 yrs (exp 6/30/2019)
- Laura Catalano – reappoint for 3 yrs (exp 6/30/2019)
- Judith Campbell – reappoint for 3 yrs (exp 6/30/2019)

Finance
- Adam Shulenburger – reappoint for 3 yrs (exp 6/30/2019)
- Marjorie Richter – reappoint for 3 yrs (exp 6/30/2019)

Building Board of Appeals
- Dee Villacis – reappoint for 1 yr (exp 6/30/2017)
- Ron Alul – appoint for 3 yrs (exp 6/30/2019)

Arts Committee
- George Dirkers – reappoint for 3 yrs (exp 6/30/2019)
- Gina Casalone – reappoint for 3 yrs (exp 6/30/2019)

Economic Development Committee

- Sekhar Probhakar – reappoint for 3 yrs (exp 6/30/2019)
- Robert Bockersman – reappoint for 3 yrs (exp 6/30/2019)
- Ken Skornia – appoint for 3 yrs (exp 6/30/2016)

Horticultural, Environment and Beautification

- Nancy Meyer – reappoint for 3 yrs (exp 6/30/2019)
- Margie Richards – reappoint for 3 yrs (exp 6/30/2019)
- Sue Cohen – appoint for 3 yrs (exp 6/30/2019)
- Teresa Bell – appoint for 3 yrs (exp 6/30/2019)

Personnel Appeals

- Lisa Williams – reappoint for 3 yrs (exp 6/30/2019)
- Lynn Berry – reappoint for 3 yrs (exp 6/30/2019)
- Kirk Williams – appoint as an alternate (no term)

MINUTES OF A MEETING
OF THE NOMINATING COMMITTEE
MONDAY, JULY 18, 2016
4:35 P.M.

A meeting of the Nominating Committee was held on Monday, July 18, 2016 starting at 4:35 p.m. at the Creve Coeur Government Center, 300 North New Ballas Road, Creve Coeur MO 63141.

Mayor Glantz called the meeting to consider appointment and reappointments to committees, boards and commission pursuant to the requirements of Section 4.4(i) of the Creve Coeur City Charter.

ENERGY AND ENVIRONMENT
The Nominating Committee consisted of:
Mayor Glantz
Council President Ellen Lawrence
Alexis Travers, Chair of E&E

Mayor Glantz stated there were two applications received from Dat Ngo and Teresa Bell for the vacancy and that member Ben Lefton is eligible for reappointment for a three year term.

Chairman Travers moved, seconded by Council President Lawrence to reappoint Ben Lefton for a three year terms which will expire June 30, 2019; appoint Dat Nago for a three year term which will expire June 30, 2019, with the vote upon such motion being as follows, to-wit:

Chair Travers – Aye
Council President Lawrence – Aye
Mayor Glantz – Aye

The vote on the motion being 3 ayes and 0 nays, the reappointment and appointments were approved.

PARKS AND HISTORIC PRESERVATION COMMITTEE
The Nominating Committee consisted of:
Mayor Glantz
Council President Ellen Lawrence
David Hoffman, Chair of the PHP

Mayor Glantz stated there were several applications received interested in the PHP: Dat Nago, Teresa Bell, Tim Fogerty, Phyllis Cantor, Nancy Litzinger and Stephen Spurgeon.

Chair Hoffman stated he thought Nancy Litzinger is a good candidate because of her historical background and she has been attending PHP meetings, Stephen Spurgeon for his fund raising experience and his interest in the parks and Phyllis Cantor as she has already served as a volunteer for the city and could put in a different perspective.

Mayor Glantz stated Roberta Horwitz is eligible for reappointment.

Chair Hoffman moved, seconded by Council President Lawrence to appoint Nancy Litzinger, Stephen Spurgeon and Phyllis Cantor for a three year terms which will expire June 30, 2019 and reappoint Robert Horwitz for a three year term which will expire June 30, 2019, with the vote upon such motion being as follows, to-wit:

MINUTES OF A MEETING
OF THE NOMINATING COMMITTEE
MONDAY, JULY 18, 2016
4:35 P.M.

Chair Hoffman - Aye
Council President Lawrence – Aye
Mayor Glantz – Aye

The vote on the motion being 3 ayes and 0 nays, the appointments and reappointment were approved.

BOARD OF ADJUSTMENT
The Nominating Committee consisted of:
Mayor Glantz
Council President Ellen Lawrence
Chair Roger Levy

Mayor Glantz stated there is one member eligible for reappointment, Ivan Schenberg.

Chair Levy moved, seconded by Council President Lawrence to reappoint Ivan Schenberg for a five year term, which will expire June 30, 2021, with the vote upon such motion being as follows, to-wit:

Chair Levy - Aye
Council President Lawrence – Aye
Mayor Glantz – Aye

The vote on the motion being 3 ayes and 0 nays, the reappointment was approved.

STORM WATER COMMITTEE
The Nominating Committee consisted of:
Mayor Glantz
Council President Ellen Lawrence
Chair Martin Jaffe

Mayor Glantz stated there are three members eligible for reappointment; Tom D'Alfonso, Laura Catalano and Judith Campbell.

Chair Jaffe moved, seconded by Council President Lawrence to reappoint Tom D'Alfonso, Laura Catalano and Judith Campbell each for a three year term, which will expire June 30, 2019, with the vote upon such motion being as follows, to-wit:

Chair Jaffe - Aye
Council President Lawrence – Aye
Mayor Glantz – Aye

The vote on the motion being 3 ayes and 0 nays, the reappointments were approved.

FINANCE COMMITTEE
The Nominating Committee consisted of:
Mayor Glantz
Council President Ellen Lawrence

MINUTES OF A MEETING
OF THE NOMINATING COMMITTEE
MONDAY, JULY 18, 2016
4:35 P.M.

Mayor Glantz stated there are two members eligible for reappointment, Adam Shulenburger and Marjorie Richter.

Council President Lawrence moved, seconded by Mayor Glantz to reappoint Adam Shulenburger and Marjorie Richter each for a three year term, which will expire June 30, 2019, with the vote upon such motion being as follows, to-wit:

Council President Lawrence – Aye
Mayor Glantz – Aye

The vote on the motion being 2 ayes and 0 nays, the reappointments were approved.

EMPLOYEE PENSION BOARD
The Nominating Committee consisted of:
Mayor Glantz
Council President Ellen Lawrence

Staff: Dan Smith, Director of Finance and staff liaison for the Board was also present.

Mayor Glantz stated Mr. Michael Neal recently resigned, leaving a vacancy on this Board. There were no application received that were interested in serving on this Board and no applicants that had a background in personal investments that would benefit this Board.

Dan Smith suggested leaving the vacancy open until a suitable replacement could be found.

Nominating Committee agreed to leave vacant until a suitable replacement could be appointed.

BUILDING BOARD OF APPEALS
The Nominating Committee consisted of:
Mayor Glantz
Council President Ellen Lawrence

Mayor Glantz stated there is one vacancy due to a resignation and this Board is short for a quorum as well as having one member, the chair that is termed out. There was only one application received that was interested in serving on this Board, Ron Alul. The Building Board of Appeals has certain guidelines for members and what their background and profession should be to serve. The Nominating Committee could recommend to Council to extend the termed out members term for a certain amount of time or until a suitable replacement can be made.

Council President Lawrence moved, seconded by Mayor Glantz to reappoint Dee Villacis for a one year term, which will expire June 30, 2017 and appoint Ron Alul for a three year appointment which will expire June 30, 2019, with the vote upon such motion being as follows, to-wit:

Council President Lawrence – Aye
Mayor Glantz – Aye

The vote on the motion being 2 ayes and 0 nays, the reappointment and appointment were approved.

MINUTES OF A MEETING
OF THE NOMINATING COMMITTEE
MONDAY, JULY 18, 2016
4:35 P.M.

ARTS COMMITTEE
The Nominating Committee consisted of:
Mayor Glantz
Council President Ellen Lawrence

Mayor Glantz stated George Dirkers and Gina Casalone are both eligible for reappointment.

Council President Lawrence moved, seconded by Mayor Glantz to reappoint George Dirkers and Gina Casalone each for a three year term, which will expire June 30, 2019, with the vote upon such motion being as follows, to-wit:

Council President Lawrence – Aye
Mayor Glantz – Aye

The vote on the motion being 2 ayes and 0 nays, the reappointments were approved.

ECONOMIC DEVELOPMENT COMMITTEE
The Nominating Committee consisted of:
Mayor Glantz
Council President Ellen Lawrence

Mayor Glantz stated Sekhar Probhakar and Robert Bockersman are both eligible for reappointment. As with all Committees, the EDC can have up to nine members and the EDC Chair has expressed an interest in adding a new member. There were several applications received interested in serving on the EDC. Mayor Glantz stated Mark Perkins, staff liaison for the EDC recommended appointing Kent Skornia as he feels he would be an asset to the Committee.

Council President Lawrence moved, seconded by Mayor Glantz to reappoint Sekhar Probhakar and Robert Bockersman each for a three year term, which will expire June 30, 2019 and appointing Kent Skornia for a three year term, which will expire June 30, 2019, with the vote upon such motion being as follows, to-wit:

Council President Lawrence – Aye
Mayor Glantz – Aye

The vote on the motion being 2 ayes and 0 nays, the reappointments and appointment were approved.

HORTICULTURAL, ENVIRONMENT AND BEAUTIFICATION
The Nominating Committee consisted of:
Mayor Glantz
Council President Ellen Lawrence

Mayor Glantz stated there are two members eligible for reappointment, Nancy Meyer and Margie Richards and there is a vacancy which makes the committee fall short of a quorum for the minimum number of members. Mayor Glantz stated there were several applicants interested in volunteering to serve on this committee.

MINUTES OF A MEETING
OF THE NOMINATING COMMITTEE
MONDAY, JULY 18, 2016
4:35 P.M.

Council President Lawrence moved, seconded by Mayor Glantz to reappoint Nancy Meyer and Margie Richards each for a three year term, which will expire June 30, 2019 and appoint Sue Cohen and Teresa Bell each for a three year term, which will expire June 30, 2019, with the vote upon such motion being as follows, to-wit:

Council President Lawrence – Aye
Mayor Glantz – Aye

The vote on the motion being 2 ayes and 0 nays, the reappointments and appointments were approved.

PERSONNEL APPEALS
The Nominating Committee consisted of:
Mayor Glantz
Council President Ellen Lawrence

Mayor Glantz stated there two members eligible for reappointment, Lisa Willams and Lynn Berry. There is also a vacancy for an alternate member. Mayor Glantz stated the city received two applicants interested in volunteering for the Personnel Appeals Committee and one of those applicants have already been appointed to another committee.

Council President Lawrence moved, seconded by Mayor Glantz to reappoint Lisa Willams and Lynn Berry each for a three year term, which will expire June 30, 2019 and appointing Kirk Williams as an alternate which does not have a term limit, with the vote upon such motion being as follows, to-wit:

Council President Lawrence – Aye
Mayor Glantz – Aye

The vote on the motion being 2 ayes and 0 nays, the reappointments and appointment were approved.

The Nominating Committee meeting adjourned at 5:20 p.m.

Attest:

Deborah Ryan
City Clerk

Barry Glantz
Mayor

City Council
300 North New Ballas Rd
Creve-Coeur, MO 63141

SCHEDULED

Meeting: 07/25/16 07:00 PM
Department: Public Works Department
Category: Report
Prepared By: Matt Wohlberg
Department Head: Jim Heines

STAFF REPORT

Review of IMS Pavement Report

Staff has reviewed the five-year pavement maintenance projections and budget scenarios from Infrastructure Management Systems (IMS) and will report its findings and recommendations to the City Council. A copy of this report and other supporting documentation can be found on the City's website at http://www.creve-coeur.org/index.aspx?nid=410.

DEPARTMENT OF PUBLIC WORKS
STAFF MEMORANDUM

DATE: July 20, 2016

TO: Mark Perkins, City Administrator

CC: Jim Heines, Director of Public Works

FROM: Matt Wohlberg, P.E., City Engineer

SUBJECT: Review of IMS Pavement Projections
2016 Pavement Conditions Update
FY2017-FY2021 Roadway Maintenance Program

City staff has reviewed the roadway repair and budget recommendations provided by Infrastructure Management Systems (IMS) through their assessment of the pavement conditions of the City's entire roadway network. The IMS report and their recommendations are discussed below, following a brief summary of the City's roadway network and repair practices.

Roadway Network Characteristics
The City's roadway network consists of three standard pavement types or variations thereof. All percentages shown are based upon the area of the street.

Full-depth asphalt pavement..54% of network

Concrete pavement.................30% of network

Composite pavement.............16% of network

"Composite" (or "Combination") pavement indicates a concrete base with an asphalt overlay.

The City's roadway network also consists of three functional classes, which are general measurements of how much the road is typically used:

Arterial roads ....11% of network

Collector roads.......................14% of network

Residential/Local roads..........75% of network

The distribution of pavement types shows that the City's pavement maintenance programs need to balance asphalt and concrete repairs. This distribution also reflects that the City's major streets (i.e. arterial and collector roadways) consist predominantly of full-depth asphalt pavement.

Roadway Maintenance Programs
The City employs several pavement maintenance practices on an annual basis, and these practices differ based upon the type of pavement. The City's typical pavement repair practices are listed below, generally progressing from what would be done for good pavement to what may need to happen for failed pavement.

Asphalt pavement

- Crack sealing
- Pavement patching
- Microsurfacing
- Asphalt overlay
- Asphalt pavement resurfacing
- Reconstruction

Concrete pavement

- Crack sealing
- Patching
- Joint repairs
- Localized slab replacement to fix a hazard
- Wide-spread slab replacement to improve the street
- Reconstruction

Composite pavement

- All of the above: With both asphalt and concrete pavement, these streets can fall into practically any repair category.

These repairs are generally consolidated into the following annual pavement maintenance programs:

Crack Sealing. Typically performed by City staff, crack sealing is the most cost-effective pavement maintenance available. Crack sealing is intended to prevent surface water from entering the pavement base, which typically weakens the pavement base and causes pavement failure. Crack sealing is recommended for any street that is in good condition.

Microsurfacing. Microsurfacing involves adding a thin layer of asphaltic material to an asphalt pavement that is in decent condition in order to delay further deterioration. The microsurfacing material is essentially a gritty seal coat for the roadway that can last 5-8 years, depending upon the material used and the amount of traffic on the roadway. City staff completes the crack sealing and asphalt patching of streets in this program prior to the microsurfacing work being completed by a contractor.

Asphalt Resurfacing. If the asphalt pavement can no longer be effectively treated with a microsurface application, then it will need either an asphalt overlay or asphalt resurfacing. An overlay involves adding pavement to the existing pavement, while asphalt resurfacing (or mill and overlay) involves removing and replacing the top layer of asphalt. Asphalt overlay or resurfacing will last 10 years or more before a microsurfacing would be recommended, especially on residential streets. Most of the work in this program is completed by a contractor.

Concrete Pavement Replacement. The annual concrete program involves the replacement of sections of concrete pavement, called slabs. This program encompasses a range of attention to concrete streets, from slab replacement to replacement of curbing to joint repairs. Some pavement failures occur each year and must be addressed to alleviate potential driving hazards. Most other streets that are involved in this program have more general deterioration and receive more wide-spread slab replacement to improve the street. Such a focused effort, however, limits the number of streets in the program.

Roadway Reconstruction. The roadway reconstruction program was developed to address those streets that have deteriorated to the point where no other viable options remain. Many of the streets that are candidates for reconstruction are made of composite pavement with an old concrete base. Reconstruction provides a new street, but at a high cost, and typically only one, or a portion of one, street can be addressed through this program each year.

Capital Improvements Budget vs. Pavement Maintenance Budget

The City's pavement maintenance funding is different than its capital improvement funds that are allocated for Street and Sidewalk Improvements. While the City typically allocates around $2 million annually in the capital improvement plan for Street and Sidewalk Improvements, only about $1.45 million is spent to directly improve pavement conditions. A portion of the capital improvement funding is spent on design services, sidewalks, curbs, pavement striping, and other things that do not necessarily impact pavement conditions. The pavement maintenance funding is only that portion of the City's capital improvement program dedicated to street pavement maintenance and improvement.

The following summary of the City's average annual Street and Sidewalk Improvements account in the Capital Improvement Plan may illustrate this difference more clearly:

CIP funds for Street and Sidewalk Improvements		$ 2,150,000
Sidewalks, design, and other non-roadway items	-	$ 300,000
Grant reimbursements	-	$ 200,000
Average annual City investment into roadway construction		$ 1,550,000
Funds allocated toward curbing, striping, testing, etc.	-	$ 100,000
Annual pavement maintenance funding		$ 1,450,000

On average, the City spends about $250,000 annually for roadway construction on grant projects, leaving approximately $1.2 million in annual investments into its pavement maintenance programs.

Pavement Conditions Review

A discussion about pavement conditions needs to start with the definition of a few terms:

Pavement Condition Index (PCI). The PCI is a rating of the pavement surface conditions of a roadway that is measured on a scale of 0-100, where 100 represents a perfect street, and 0 represents a completely failed street.

IMS used their vehicle-mounted, road surface tester (RST) equipment to digitally measure the pavement conditions of every street in the City. The equipment detected defects in the pavement, such as potholes, rutting, and cracking, to provide a consistent and objective review of the City's pavement network.

Pavement Roughness. The City-wide review of the street conditions by IMS included a measurement of the International Roughness Index (IRI) for each street. The IRI is a measurement of how much the street pavement varies vertically over the length of the street. IMS converted the IRI into a "Roughness Index" that has a scale of 0-100, with 100 representing a perfectly smooth street, and 0 representing a very rough street.

The IMS study found the following average conditions for the City's pavement network:

Pavement Type	% Area	PCI	Roughness Index
Asphalt	54%	68.1	66.8
Concrete	30%	73.2	53.0
Composite	16%	66.0	58.5

Functional Class	% Area	PCI	Roughness Index
Arterial	11%	76.1	78.3
Collector	14%	71.5	71.7
Residential	75%	67.9	56.8

Two statistics appear noteworthy. First, the City's concrete streets are, on average, the most structurally sound but are the worst to drive on. The trade-off for long life in the middle of a concrete slab is that its edges may deteriorate over that time. Crack sealing and concrete pavement repairs, such as joint rehabilitation and focused concrete pavement replacement, will improve this number, but the regular joints in concrete pavement will always tend to make concrete streets seem worse for motorists. Second, the City's arterial and collector roadways are generally in better condition and smoother to drive on than the City's residential streets. Part of this is due to the prevalence of concrete streets in the City's subdivisions, but the average conditions reflect that the City's arterial and collector roadways have benefitted greatly from the City's success in obtaining federal grants to improve these streets. This is good news for the City, both from a budgeting and use perspective, as those streets that get the most use – and are typically the most costly and difficult to rehabilitate – are generally in the best condition. If there would be a drawback to this statistic, it would be that it supports the staff observation that the local road that residents see when they are at home or walking through their neighborhood may be the worst one that they have encountered in the City. This is perhaps as it should be from a pavement-management perspective, but it may explain some residents' disappointment with their streets.

Composite Base Pavement Investigation

In addition to using its RST vehicle to measure pavement conditions and roughness for all of the City's streets, IMS used a "dynaflect" device to measure the soundness of the pavement base on all of the City's composite streets. The dynaflect device uses a series of sensors to detect how the pavement reacts to weight loading and interprets this reaction into a structural index of the quality of the pavement's base. This index is on a scale of 0-100, with 100 representing high structural support (like new concrete) and 0 representing little or no structural support.

The City's composite streets were tested using the dynaflect device in order to give staff a better idea of the quality of the concrete base pavement for these streets. With the concrete base pavement hidden by the asphalt surface, this condition has been difficult to predict in the past.

A list of the structural indices for all of the City's composite streets is located on the City's website (a copy of the link is at the end of this report). These range from 11 to 96 and generally correlate to known pavement issues and recent repairs. For example, the structural index for Benwood Lane averages 94 and reflects the rehabilitation of this street in 2010. On the other end of the spectrum, the structural index for a part of Sackston Woods Drive is 11, reflecting the need to add pavement to this street due to wide-spread sinking.

There are two caveats to the dynaflect readings. The first is that the dynaflect test was rather expensive, so a limited number of tests were performed for each street. For the shorter streets, there may have been only one test performed. The second caveat is that the readings will reflect the slab on which the test was performed. One might hope that the tests reflect average slabs for the street, but the readings could be for slabs that are better or worse than the average.

IMS Evaluation of Budgeting Scenarios

After recording the City's pavement conditions, IMS used the City's GBA/Lucity pavement management software to use funding scenarios to estimate how future pavement conditions will respond to various pavement maintenance budgets. Figure 21 of the IMS Report (on page 34) illustrates the results of these scenarios.

IMS found that an annual pavement maintenance budget of $900,000 would be just enough to maintain the City's current pavement conditions. This funding level is generally equal to the City's annual pavement maintenance program or the grant-funded projects. This suggests that the investments into reconstruction and grant matches are needed for the City's pavement conditions to improve.

The primary funding scenario detailed by IMS uses the City's current pavement maintenance budget of $1.45 million. While initially created to explore the City's current budget, this scenario showed a steady increase in pavement conditions and became the preferred model for improvements.

Annual pavement maintenance budgets of $2 million and greater were explored as well. These scenarios resulted in higher average pavement conditions, but these also showed that the pavement conditions began to level off over time, suggesting diminishing returns on the investment.

Pavement Maintenance Projections

IMS and City staff developed multi-year pavement maintenance and improvement projections for the City's roadway network. The projections are located on the City's website, as is a map illustrating each, at the link at the end of this report. The projections have notable limitations, similarities, and differences.

<u>Limitations</u>

Multi-year projections are useful to consider priorities and to coordinate projects, but these should be considered guides only, as several factors can might hasten or delay repairs or entire programs. Among these factors are:

- *Material costs*. Initial estimates for projects are typically made months in advance during the preparation of the City's budget and are based upon past bids and modest inflation factors. While this typically accounts for cost increases, material prices have been known to fluctuate by 10% or more in a year, and this fluctuation could be up or down. Such a fluctuation could mean one or more streets are added to or eliminated from a program.

- *Projects from other agencies*. City staff coordinates the City's projects with utilities and other government agencies as much as possible to try to eliminate conflicts and to help ensure that a new street is not immediately dug up. The City cannot dictate the schedule for these projects - and sometimes neither can the other agency. Delays or emergency construction for another agency's project typically cause a change to a City project related to the same area or street.

- *Success or failure of previous programs*. A multi-year plan assumes that the work is actually completed in the year it is projected. If a program addresses only three of four streets that were intended to be completed, that remaining street still needs work and is probably still a priority. Subsequent years in the program will need to either absorb the extra work or delay other streets to accommodate the leftover work.

- *Changes in conditions*. Pavement is constantly deteriorating, and this deterioration can be accelerated by a harsh winter. A street might deteriorate beyond what its planned repair can fix, eliminating it from one program and putting it into another. Similarly, a pavement failure along a street that was not in the program would warrant immediate attention and may use project funds that were originally intended elsewhere.
- *Easements*. Easements are typically associated with project delays, because the need for a temporary or permanent easement can be unexpected and can take months or years to obtain.

Each of these factors has the potential to upset a significant portion of the plan, as the addition or subtraction from one year typically has a cascading impact on the following years. For this reason, each successive year in a projection should be viewed with a reduced level of confidence, and long-term projections should be avoided.

Staff projections are typically limited due to staff concerns about providing misleading or unreliable information.

Basis for Projections

The rationales used by IMS and staff to develop each plan are similar, but not the same:

- IMS used the GBA/Lucity software to prioritize repairs based upon the opportunity cost of not doing the repair. In other words, delaying a repair today might require a more expensive repair tomorrow. This approach is meant to maximize the effectiveness of the budget in the long run.
- Staff considered its experience with past programs and applied it to the conditions observed by both IMS and staff. Repair recommendations, while based upon need, involve groups of streets in order to minimize the movement of the contractors involved (reducing costs) and to improve areas of the City at a time (minimizing impact to the residents).

Similarities between the Projections

Attention to Major Roadways. Many of the streets are common to the two five-year projections, and this is particularly true for the City's arterial and collector roadways. With funding designated toward this relatively short list of streets, it is not surprising that those in poor condition (e.g. Warson, Mosley, and Coeur de Ville) are identified on both projections.

Addressing the streets in the City's light-industrial area, located in the northeast corner of the City, is also common to both projections. These streets have deteriorated and need attention.

Preservation of Good Pavement. Microsurfacing, which has a low cost and can therefore impact more street for the money, is recommended by both IMS and staff. While the IMS projections expand the program beyond what the City would typically budget for microsurfacing, staff agrees with those selected for the program.

Differences between the Projections

Neighborhood Approach. Perhaps the most significant difference between the two plans is that the IMS plan treats each street segment as an individual, whereas the staff plan considers the street and the subdivision as well. It should not be surprising if a resident becomes dissatisfied with the condition of his street following the rehabilitation of a similar neighboring street. By systematically progressing through an area or addressing an entire neighborhood in a series of years, the City's program allows the residents in the area to see and measure progress. Repairing one street in a subdivision is often necessary, but to repair one street in a subdivision every few years could suggest that there is no plan in place.

To illustrate this difference, consider the Westland Estates Subdivision, which includes Wallingshire Drive, Auburndale Drive, West Walling Drive, and North Walling Drive and is located along the north and west sides of Mason Road about a mile south of Olive Boulevard. All streets in this subdivision are candidates for asphalt resurfacing, and this was projected for FY2017 in past pavement maintenance proposals. Unfortunately, the winter of 2014-2015 was especially harsh to North Walling Drive, and it needed to be addressed sooner. Fortunately, the 2015 asphalt resurfacing project cost less than expected and was able to expand to include North Walling Drive. This leaves the rest of the subdivision with the same need as before. The IMS plan identifies resurfacing for Wallingshire Drive in 2016 and Auburndale Drive in 2018, leaving West Walling Drive a future program. The staff proposal is to address these three streets together in 2018. While West Walling Drive may not be in the most need of resurfacing that year, resurfacing West Walling Drive will be appropriate at that time, and it will make the most sense to do it that year.

Resurfacing vs. Microsurfacing. Another difference between the IMS and staff projections involves microsurfaced streets. It seems that the IMS review was particularly critical of these streets, as the pavement conditions reflect the deteriorating microsurface coating and not necessarily the pavement below it. Accordingly, some of the repair recommendations do not necessarily follow what staff would recommend.

This difference in approach could reflect the City's practice of repairing potholes and similar issues to prepare streets for the microsurfacing application – essentially making them microsurface candidates through the repairs.

Budget Allocation. Finally, the IMS plan uses the entire $1.25 million annual budget for pavement maintenance, whereas the City has designated $300,000 of its annual budget toward roadway reconstruction. The City's roadway reconstruction program was developed to address failing residential streets, particularly composite streets, whose relatively low traffic use and relatively high cost to repair would decrease the effectiveness of the investment needed to make that repair compared to less-expensive repairs elsewhere that would benefit more people. From the software's perspective, certain streets cannot get much worse, so repairs to them should wait if more streets can be improved with that same investment. The City has accepted and agrees with this perspective, particularly through the microsurfacing program, but the City has also sought a balance to its repairs so that those residential streets in poor condition have a better chance of seeing substantial improvement.

Recommendations

The IMS review provided information that formed an excellent and independent basis for discussion of pavement conditions, and the Lucity/GBA prioritization gave staff another tool to use in developing pavement maintenance recommendations.

<u>Recommendation #1: View Pavement Projections as Estimates</u>

Maps and lists of multi-year pavement repair projections are created as planning tools and represent the understanding of the priorities and conditions at the time the projections were developed. Many factors that can impact these projections are outside of the City's control, and the future repairs should not be presented or understood to be definite. Annual re-evaluation of the projections, as is done through the City's capital improvement plan development, is recommended, and changes to the projections should be expected.

The streets that are included in pavement repair projections should not be viewed as the only repair candidates. While the projections typically show the highest priority repairs first, any City-maintained street is a candidate for repair, should the need arise. Barring a significant funding increase, the City's pavement network will always have more repair needs than the City can address in a year. Depicting or listing all of the pavement repair needs would defeat the purpose of a program map or list.

Recommendation #2: Make Independent Review Routine
The automated data collection was successful, and the findings of an independent third party offer additional credibility to the City's pavement management data and practices. Staff recommends that the City consider having an independent review of the City's pavement conditions by a qualified firm, such as IMS, performed on a regular basis as a supplement to the annual update by staff. An independent review every 4-5 years will help to ensure that the City's pavement conditions and software remain correct, relevant, and useful.

Recommendation #3: Continue Roadway Reconstruction Program
The IMS projections suggest a pavement maintenance program without designated funding for roadway reconstruction. Reconstruction is expensive, and it would typically be the case that the cost for reconstructing a street could be used to resurface or otherwise improve multiple other streets. Without designated funding for reconstruction of failing residential streets, such repairs may never meet priority criteria to be included in a repair program. Staff recommends that the roadway reconstruction program continue without reduction, as there are several subdivisions with reconstruction needs, and the current program allows some progress for these streets.

Recommendation #4: In-Depth Review of Reconstruction Candidates
With the completion of the Westchester Estates subdivision anticipated in FY2017, the City must determine the next location for the roadway reconstruction program. Four locations in the City appear to have varying claim to be included into the program (in alphabetical order):

- Country Fair Subdivision
- Ladue Estates Subdivision
- Magna Carta Drive
- Sackston Woods Drive

These locations are predominately composite streets that are showing their age. Each could represent a significant and multi-year investment of the reconstruction program, and the City should be reasonably sure of its options prior to determining which to pursue and how to do it.

Staff recommends that the City hire a materials testing firm to complete an in-depth review of the pavement in these four locations to provide guidance regarding the City's options for each and the relative priority among them. This review could take place in late summer so that recommendations could be available prior to the beginning of the development of the next capital improvement plan.

Recommendation #5: Maintain Roadway Budget to Realize PCI Projections
According to the IMS budget scenarios, the City's current annual roadway maintenance budget of approximately $1.45 million provides for steady improvement of the average network pavement conditions. Staff feels that it is the residents' expectation that the City will improve its pavement conditions rather than to simply maintain the current average. Therefore, staff recommends to maintain the current budget projections for street and sidewalk improvements in the capital improvement plan.

Recommendation #6: Continue Pursuit of Grants
Grant funding for improvements to the City's major roadways form an essential part of the City's pavement maintenance plan. On average, the City spends approximately $250,000 annually toward construction on grant-subsidized projects. The City's investment is doubled or tripled through the grant, and this allows the City to be able to afford improvements to its major roadways, such as Mosley Road and Coeur de Ville Drive. Without grant assistance, resurfacing

of any one of the City's major roadways would dominate the City's maintenance program for one or more years, significantly limiting the number of other streets in the program.

Therefore, staff recommends that the City continue to pursue grants and that it maintain its current projected grant-match budget. However, should grants become more expensive or less likely to obtain, staff recommends that the City re-evaluate its roadway funding to continue to consistently provide more than the minimum funding required so that the City's pavement conditions can continue to improve.

Supporting documents can be found on the City's website at:

http://www.creve-coeur.org/index.aspx?nid=410

- Structural Index Listing for Composite Streets
- IMS Pavement Management Analysis Report
- IMS Pavement Maintenance Projections Map
- Staff Pavement Maintenance Projections and Map