

Alderman Adella Gray
Ward 1 Position 1

Alderman Sarah Marsh
Ward 1 Position 2

Alderman Mark Kinion
Ward 2 Position 1

Alderman Matthew Petty
Ward 2 Position 2



Mayor Lioneld Jordan
City Attorney Kit Williams
City Clerk Sondra E. Smith

Alderman Justin Tennant
Ward 3 Position 1

Alderman Sarah Bunch
Ward 3 Position 2

Alderman John La Tour
Ward 4 Position 1

Alderman Alan T. Long
Ward 4 Position 2

**City of Fayetteville Arkansas
City Council Meeting
February 21, 2017**

A meeting of the Fayetteville City Council was held on February 21, 2017 at 5:30 p.m. in Room 219 of the City Administration Building located at 113 West Mountain Street, Fayetteville, Arkansas.

Call to Order

Roll Call

Pledge of Allegiance

Mayor's Announcements, Proclamations and Recognitions

City Council Meeting Presentations, Reports, and Discussion Items.

1. Award Presentation - Certificate of Achievement

APPROVED.

Agenda Additions:

1. **ARKANSAS GENERAL ASSEMBLY:** A resolution to request the Arkansas General Assembly to refrain from removing the authority of local governments to resolve local issues and enact development regulations to foster improved economic growth.

PASSED AND SHALL BE RECORDED AS RESOLUTION NO. 52-17

A. Consent:

2. Approval of the January 31, 2017 Special City Council Meeting Minutes and the February 7, 2017 City Council Meeting Minutes.

Approved

3. **JL BRYSON, INC. AND CH2M HILL ENGINEERS, INC. SETTLEMENT AGREEMENT:** A resolution to authorize Mayor Jordan to sign a settlement agreement with JL Bryson, Inc. and CH2M Hill Engineers, Inc. regarding a delay claim associated with the installation of the ozone disinfection system at the Noland Wastewater Treatment Plant, to approve a payment in the amount of \$19,000.00 to JL Bryson, Inc., and to approve a budget adjustment.

PASSED AND SHALL BE RECORDED AS RESOLUTION NO. 47-17

4. **ERIN KAISER REIMBURSEMENT:** A resolution pursuant to Fayetteville Code of Ordinances Section 39.10(C)(4) to authorize the Mayor to pay the amount of \$6,258.18 to Erin Kaiser for a wastewater damage claim arising at 2232 North Briarwood Lane in addition to a previous payment of \$14,557.62 to Servpro for sewer damage mitigation services.

PASSED AND SHALL BE RECORDED AS RESOLUTION NO. 48-17

B. Unfinished Business:

1. **SOLID WASTE REDUCTION, DIVERSION AND RECYCLING MASTER PLAN:** A resolution to adopt the solid waste reduction, diversion and recycling master plan as developed by Kessler Consulting, Incorporated.

PASSED AND SHALL BE RECORDED AS RESOLUTION NO 49-17

C. New Business: None

1. **KESSLER CONSULTING, INC:** A resolution to authorize Mayor Jordan to make a final payment to Kessler Consulting, Inc. in the amount of \$11,010.00 for extra work associated with the solid waste reduction, diversion, and recycling master plan, and to approve a budget adjustment.

PASSED AND SHALL BE RECORDED AS RESOLUTION NO. 50-17

2. **RZN 16-5667 (1918 S. GARLAND AVE./ANDERSON):** An ordinance to rezone that property described in rezoning petition rzn 16-5667 for about 0.32 acres located at 1918 S. Garland Avenue from I-1, heavy commercial & light industrial to rsf-8, residential single family, 8 units per acre.

PASSED AND SHALL BE RECORDED AS ORDINANCE NO. 5952

3. **VAC 16-5687: (2790 N. SIGNET PLACE/BOWERS):** An ordinance to approve vac 16-5687 for property located at 2790 N. Signet Place to vacate a portion of a general utility easement.

PASSED AND SHALL BE RECORDED AS ORDINANCE NO. 5953

4. **VAC 16-5688: (3300 W. GROVE DR./PLANET FITNESS):** An ordinance to approve vac 16-5688 for property located at 3300 W. Grove Drive to vacate a water/sewer easement.

PASSED AND SHALL BE RECORDED AS ORDINANCE NO. 5954

5. **AMENDMENT TO THE 2017 ADOPTED BUDGET:** An resolution to amend the 2017 adopted budget by reappropriating \$63,137,158.00 in bonded or ongoing capital projects, outstanding obligations and grant funded items.

PASSED AND SHALL BE RECORDED AS RESOLUTION NO. 51-17

6. **AMEND §110.02 TELECOMMUNICATIONS FRANCHISES:** An ordinance to amend §110.02 telecommunications franchises of the city code to include and incorporate references to competing local exchange carriers and any other telecommunications providers desiring to use city street rights of way.

AT THE FEBRUARY 21, 2017 THIS ORDINANCE WAS LEFT ON THE FIRST READING

D. City Council Agenda Session Presentations:

E. City Council Tour:

F. Announcements:

Adjournment: 9:00 p.m.

Subject:	Roll				
	Marsh	✓			
	Kinion	✓			
	Petty	✓			
	Tennant	✓			
	Bunch	✓			
	La Tour	✓			
	Long	✓			
	Gray	✓			
	Mayor Jordan	✓			

9-0

Subject:					
Motion To:					
Motion By:					
Seconded:					
	Marsh				
	Kinion				
	Petty				
	Tennant				
	Bunch				
	La Tour				
	Long				
	Gray				
	Mayor Jordan				

Subject:	Consent				
Motion To:					
Motion By:		<i>Approve</i>			
Seconded:		<i>Long</i>			
		<i>Marsh</i>			
A. 1- A. 3 <i>Approved</i> 47-17 48-17	Marsh	✓			
	Kinion	✓			
	Petty	✓			
	Tennant	✓			
	Bunch	✓			
	La Tour	✓			
	Long	✓			
	Gray	✓			
	Mayor Jordan				

8-0

Subject:					
Motion To:					
Motion By:					
Seconded:					
	Marsh				
	Kinion				
	Petty				
	Tennant				
	Bunch				
	La Tour				
	Long				
	Gray				
	Mayor Jordan				

Subject:	SOLID WASTE REDUCTION, DIVERSION AND RECYCLING MASTER PLAN				
Motion To:		<i>New resolution</i> <i>Amend</i>	<i>Approve</i>		
Motion By:		<i>Kinion</i>	<i>Kinion</i>		
Seconded:		<i>La Tour</i>	<i>Gray</i>		
B. 1 Unfinished Business <i>49-17</i>	Marsh	✓	✓		
	Kinion	✓	✓		
	Petty	✓	✓		
	Tennant	✓	✓		
	Bunch	✓	✓		
	La Tour	✓	✓		
	Long	✓	✓		
	Gray	✓	✓		
	Mayor Jordan				

8-0

8-0

Subject:					
Motion To:					
Motion By:					
Seconded:					
Unfinished Business	Marsh				
	Kinion				
	Petty				
	Tennant				
	Bunch				
	La Tour				
	Long				
	Gray				
	Mayor Jordan				

Subject:	KESSLER CONSULTING, INC.				
Motion To:		<i>Approve</i>			
Motion By:		<i>Kinion</i>			
Seconded:		<i>Marsh</i>			
C. 1 New Business <i>Approved</i> <i>50-17</i>	Marsh	<i>✓</i>			
	Kinion	<i>✓</i>			
	Petty	<i>✓</i>			
	Tennant	<i>✓</i>			
	Bunch	<i>✓</i>			
	La Tour	<i>✓</i>			
	Long	<i>N</i>			
	Gray	<i>✓</i>			
	Mayor Jordan				

7-1

Subject:	RZN 16-5667 (1918 S. GARLAND AVE./ANDERSON)				
Motion To:		<i>2nd Read</i>	<i>3rd Read</i>	<i>Approve</i>	
Motion By:		<i>Marsh</i>	<i>Marsh</i>		
Seconded:		<i>Long</i>	<i>Long</i>		
C. 2 New Business <i>Approved</i> <i>5952</i>	Marsh	<i>✓</i>	<i>✓</i>	<i>✓</i>	
	Kinion	<i>✓</i>	<i>✓</i>	<i>✓</i>	
	Petty	<i>✓</i>	<i>✓</i>	<i>✓</i>	
	Tennant	<i>✓</i>	<i>✓</i>	<i>✓</i>	
	Bunch	<i>✓</i>	<i>✓</i>	<i>✓</i>	
	La Tour	<i>✓</i>	<i>✓</i>	<i>✓</i>	
	Long	<i>✓</i>	<i>✓</i>	<i>✓</i>	
	Gray	<i>✓</i>	<i>✓</i>	<i>✓</i>	
	Mayor Jordan				

*8-0**8-0**8-0*

Subject:		VAC 16-5687: (2790 N. SIGNET PLACE/BOWERS)			
Motion To:		<i>2nd Read</i>	<i>3rd Read</i>	<i>Approve</i>	
Motion By:		<i>Marsh</i>	<i>Tennant</i>		
Seconded:		<i>Gray</i>	<i>Long</i>		
C. 3 New Business <i>Approved</i> 5953	Marsh	✓	✓	✓	
	Kinion	✓	✓	✓	
	Petty	✓	✓	✓	
	Tennant	✓	✓	✓	
	Bunch	✓	✓	✓	
	La Tour	✓	✓	✓	
	Long	✓	✓	✓	
	Gray	✓	✓	✓	
	Mayor Jordan				

8-0

8-0

8-0

Subject:		VAC 16-5688: (3300 W. GROVE DR./PLANET FITNESS)			
Motion To:		<i>2nd Read</i>	<i>3rd Read</i>	<i>Approve</i>	
Motion By:		<i>Marsh</i>	<i>Long</i>		
Seconded:		<i>Gray</i>	<i>Marsh</i>		
C. 4 New Business <i>Approved</i> 5954	Marsh	✓	✓	✓	
	Kinion	✓	✓	✓	
	Petty	✓	✓	✓	
	Tennant	✓	✓	✓	
	Bunch	✓	✓	✓	
	La Tour	✓	✓	✓	
	Long	✓	✓	✓	
	Gray	✓	✓	✓	
	Mayor Jordan				

8-0

8-0

8-0

Subject:		AMENDMENT TO THE 2017 ADOPTED BUDGET			
Motion To:					
Motion By:			<i>Approve</i>		
Motion By:			<i>Long</i>		
Seconded:			<i>Marsh</i>		
C. 5 New Business	Marsh		<i>✓</i>		
	Kinion		<i>✓</i>		
	Petty		<i>✓</i>		
	Tennant		<i>✓</i>		
	Bunch		<i>✓</i>		
	La Tour		<i>✓</i>		
	Long		<i>✓</i>		
	Gray		<i>✓</i>		
	Mayor Jordan				

8-0

Subject:		AMEND §110.02 TELECOMMUNICATIONS FRANCHISES			
Motion To:					
Motion By:					
Seconded:					
C. 6 New Business	Marsh				
	Kinion				
	Petty				
	Tennant				
	Bunch				
	La Tour				
	Long				
	Gray				
	Mayor Jordan				

*Left on
First
Reading*

Subject:		<i>Arkansas General Assembly Request</i>			
Motion To:		<i>Suspend the rules</i>	<i>Approve</i>		
Motion By:		<i>Marsh</i>	<i>Long</i>		
Seconded:		<i>Long</i>	<i>Bunch</i>		
<i>Agenda Addition Approved</i>	Marsh	✓	✓		
	Kinion	✓	✓		
	Petty	✓	✓		
	Tennant	✓	✓		
	Bunch	✓	✓		
	La Tour	<i>N</i>	<i>N</i>		
	Long	✓	✓		
	Gray	✓	✓		
	Mayor Jordan				

7-1

7-1

Subject:					
Motion To:					
Motion By:					
Seconded:					
	Marsh				
	Kinion				
	Petty				
	Tennant				
	Bunch				
	La Tour				
	Long				
	Gray				
	Mayor Jordan				



OFFICE OF THE
CITY ATTORNEY

DEPARTMENTAL CORRESPONDENCE



Kit Williams
City Attorney

Blake Pennington
Assistant City Attorney

Patti Mulford
Paralegal

TO: Mayor Jordan

THRU: Sondra Smith, City Clerk

FROM: Kit Williams, City Attorney

DATE: February 22, 2017

RE: Resolutions and Ordinances prepared by the City Attorney's Office and passed at the City Council meeting of February 21, 2017

1. Approval of the January 31, 2017 special City Council meeting minutes and the February 7, 2017 City Council meeting minutes
2. A resolution to authorize Mayor Jordan to sign a settlement agreement with JL Bryson, Inc. and CH2M Hill Engineers, Inc. regarding a delay claim associated with the installation of the ozone disinfection system at the Noland Wastewater Treatment Plant, to approve a payment in the amount of \$19,000.00 to JL Bryson, Inc., and to approve a budget adjustment
3. A resolution pursuant to Fayetteville Code of Ordinances section 39.10(c)(4) to authorize the Mayor to pay the amount of \$6,258.18 to Erin Kaiser for a wastewater damage claim arising at 2232 North Briarwood Lane in addition to a previous payment of \$14,557.62 to Servpro for sewer damage mitigation services
4. A resolution to accept and adopt an amended Solid Waste Reduction, Diversion and Recycling Master Plan, and to revise the city's diversion goal by more than doubling our current diversion rate to 40% by 2027
5. A resolution to authorize Mayor Jordan to make a final payment to Kessler Consulting, Inc. in the amount of \$11,010.00 for extra work associated with the Solid Waste Reduction, Diversion, and Recycling Master Plan, and to approve a budget adjustment
6. An ordinance to rezone that property described in rezoning petition RZN 16-5667 for about 0.32 acres located at 1918 S. Garland Avenue from I-1, Heavy Commercial & Light Industrial to RSF-8, Residential Single Family, 8 units per acre
7. An ordinance to approve VAC 16-5687 for property located at 2790 N. Signet Place to vacate a portion of a general utility easement

8. An ordinance to approve VAC 16-5688 for property located at 3300 W. Grove Drive to vacate a water/sewer easement
9. A resolution to amend the 2017 adopted budget by reappropriating \$63,137,158.00 in bonded or ongoing capital projects, outstanding obligations and grant funded items
10. A resolution to request the Arkansas General Assembly to refrain from removing the authority of local governments to resolve local issues and enact development regulations to foster improved economic growth

City of Fayetteville, Arkansas

*113 West Mountain Street
Fayetteville, AR 72701
(479) 575-8323*



Meeting Agenda - Final Agenda

Tuesday, February 21, 2017

5:30 PM

City Hall Room 219

City Council Meeting

*Adella Gray Ward 1
Sarah Marsh Ward 1
Mark Kinion Ward 2
Matthew Petty Ward 2
Justin Tennant Ward 3
Sarah Bunch Ward 3
John S. La Tour Ward 4
Alan Long Ward 4*

ELECTED OFFICIALS:

*Mayor Lioneld Jordan
City Attorney Kit Williams
City Clerk Sondra Smith*

Call To Order**Roll Call****Pledge of Allegiance****Mayor's Announcements, Proclamations and Recognitions****1. [2017-0067](#)**

AWARD PRESENTATION - CERTIFICATE OF ACHIEVEMENT

City Council Meeting Presentations, Reports and Discussion Items:**Agenda Additions:****A. Consent:****A. 1 [2016-0569](#)**

APPROVAL OF THE JANUARY 31, 2017 SPECIAL CITY COUNCIL MEETING MINUTES AND THE FEBRUARY 7, 2017 CITY COUNCIL MEETING MINUTES.

A. 2 [2017-0065](#)**JL BRYSON, INC. AND CH2M HILL ENGINEERS, INC. SETTLEMENT AGREEMENT:**

A RESOLUTION TO AUTHORIZE MAYOR JORDAN TO SIGN A SETTLEMENT AGREEMENT WITH JL BRYSON, INC. AND CH2M HILL ENGINEERS, INC. REGARDING A DELAY CLAIM ASSOCIATED WITH THE INSTALLATION OF THE OZONE DISINFECTION SYSTEM AT THE NOLAND WASTEWATER TREATMENT PLANT, TO APPROVE A PAYMENT IN THE AMOUNT OF \$19,000.00 TO JL BRYSON, INC., AND TO APPROVE A BUDGET ADJUSTMENT

Attachments:

[JL BRYSON, INC. AND CH2M HILL ENGINEERS, INC. SETTLEMENT AGREEMENT](#)

[BA_JL BRYSON, INC. AND CH2M HILL ENGINEERS, INC. SETTLEMENT AGREEMENT](#)

A. 3 [2017-0070](#)**ERIN KAISER REIMBURSEMENT:**

A RESOLUTION PURSUANT TO FAYETTEVILLE CODE OF ORDINANCES SECTION 39.10(C)(4) TO AUTHORIZE THE MAYOR TO PAY THE AMOUNT OF \$6,258.18 TO ERIN KAISER FOR A WASTEWATER DAMAGE CLAIM ARISING AT 2232 NORTH BRIARWOOD LANE IN ADDITION TO A PREVIOUS PAYMENT OF \$14,557.62 TO SERVPRO FOR SEWER DAMAGE MITIGATION SERVICES

Attachments: [ERIN KAISER REIMBURSEMENT](#)

B. Unfinished Business:**B. 1 [2016-0506](#)****SOLID WASTE REDUCTION, DIVERSION AND RECYCLING MASTER PLAN:**

A RESOLUTION TO ADOPT THE SOLID WASTE REDUCTION, DIVERSION AND RECYCLING MASTER PLAN AS DEVELOPED BY KESSLER CONSULTING, INCORPORATED

Attachments: [SOLID WASTE REDUCTION, DIVERSION AND RECYCLING MASTER PLAN](#)
 [ADDITIONAL SOLID WASTE REDUCTION, DIVERSION AND RECYCLING MASTER PLAN](#)

At the December 6, 2016 City Council Meeting this resolution was tabled to February 21, 2017.

C. New Business:**C. 1 [2017-0069](#)****KESSLER CONSULTING, INC.:**

A RESOLUTION TO AUTHORIZE MAYOR JORDAN TO MAKE A FINAL PAYMENT TO KESSLER CONSULTING, INC. IN THE AMOUNT OF \$11,010.00 FOR EXTRA WORK ASSOCIATED WITH THE SOLID WASTE REDUCTION, DIVERSION, AND RECYCLING MASTER PLAN, AND TO APPROVE A BUDGET ADJUSTMENT

Attachments: [KESSLER CONSULTING, INC.:](#)
 [BA_KESSLER CONSULTING, INC.](#)

C. 2 [2017-0054](#)**RZN 16-5667 (1918 S. GARLAND AVE./ANDERSON):**

AN ORDINANCE TO REZONE THAT PROPERTY DESCRIBED IN REZONING PETITION RZN 16-5667 FOR ABOUT 0.32 ACRES LOCATED AT 1918 S. GARLAND AVENUE FROM I-1, HEAVY COMMERCIAL & LIGHT INDUSTRIAL TO RSF-8, RESIDENTIAL SINGLE FAMILY, 8 UNITS PER ACRE

Attachments: [RZN 16-5667 \(1918 S. GARLAND AVE./ANDERSON\)](#)

C. 3 [2017-0052](#)**VAC 16-5687: (2790 N. SIGNET PLACE/BOWERS):**

AN ORDINANCE TO APPROVE VAC 16-5687 FOR PROPERTY LOCATED AT 2790 N. SIGNET PLACE TO VACATE A PORTION OF A GENERAL UTILITY EASEMENT

Attachments: [VAC 16-5687: \(2790 N. SIGNET PLACE/BOWERS\)](#)

C. 4 [2017-0053](#)**VAC 16-5688: (3300 W. GROVE DR./PLANET FITNESS):**

AN ORDINANCE TO APPROVE VAC 16-5688 FOR PROPERTY LOCATED AT 3300 W. GROVE DRIVE TO VACATE A WATER/SEWER EASEMENT

Attachments: [VAC 16-5688 \(3300 W. GROVE DR./PLANET FITNESS\)](#)

C. 5 [2017-0079](#)**AMENDMENT TO THE 2017 ADOPTED BUDGET:**

A RESOLUTION TO AMEND THE 2017 ADOPTED BUDGET BY REAPPROPRIATING \$63,137,158.00 IN BONDED OR ONGOING CAPITAL PROJECTS, OUTSTANDING OBLIGATIONS AND GRANT FUNDED ITEMS

Attachments: [AMEND THE 2017 ADOPTED BUDGET](#)

C. 6 [2017-0076](#)**AMEND §110.02 TELECOMMUNICATIONS FRANCHISES:**

AN ORDINANCE TO AMEND §110.02 **TELECOMMUNICATIONS FRANCHISES** OF THE CITY CODE TO INCLUDE AND INCORPORATE REFERENCES TO COMPETING LOCAL EXCHANGE CARRIERS AND ANY OTHER TELECOMMUNICATIONS PROVIDERS DESIRING TO USE CITY STREET RIGHTS OF WAY

Attachments: [AMEND §110.02 TELECOMMUNICATIONS FRANCHISES](#)

D. City Council Agenda Session Presentations:**E. City Council Tour:****F. Announcements:****G. Adjournment****NOTICE TO MEMBERS OF THE AUDIENCE**

All interested persons may appear and address the City Council on Unfinished Business, New Business, and Public Hearings at City Council meetings. If you wish to address the City Council on an agenda item, please wait for the Mayor or Chair to request public comment then queue behind the podium. When the Mayor or Chair recognizes you, approach the podium and give your name and address. Comments are to be addressed to the Mayor or Chair. The Mayor or Chair will direct your comments to the appropriate elected officials, staff, or others for response. Keep your comments respectful, brief, to the point, and relevant to the agenda item being considered. Each speaker from the public will be allowed one turn at the microphone for discussion of an agenda item.

Agenda Additions: A new item which is requested to be added to the agenda at a City Council meeting should only be considered if it requires immediate City Council consideration and if the normal agenda setting process is not practical. The City Council may only place such new item on the City Council meeting's agenda by suspending the rules by two-thirds vote. Such agenda addition shall be heard prior to the Consent Agenda.

Consent Agenda: Consent Agenda items shall be read by the Mayor and voted upon as a group without discussion by the City Council. If an Alderman wishes to comment upon or discuss a Consent Agenda item, that item shall be removed and considered immediately after the Consent Agenda has been voted upon.

Old Business and New Business: Presentations by Staff and Applicants: Agenda items shall be introduced by the Mayor and, if an ordinance, read by the City Attorney. City staff shall then present a report. An agenda applicant (city contractor, rezoning or development applicant, etc.) may present its proposal only during this presentation period, but may be recalled by an alderman later to answer questions. City staff, City Council members, and applicants may use electronic visual aids in the City Council meeting as part of the presentation of the agenda item.

Public Comments: Public comment shall be allowed for all members of the audience on all items of old and new business and subjects of public hearings. A simple majority of the City Council members, present and voting, may authorize a representative of a Fayetteville citizens' group opposing the ordinance or resolution to present an electronic visual aid not to exceed five minutes, but no other electronic visual aid presentations will be allowed; however, the public may submit photos, petitions, etc. to be distributed to the City Council. If a member of the public wishes for the City Clerk to distribute materials to the City Council before its meeting, such materials should be supplied to the City Clerk's Office no later than 9:00 A.M. on the day of the City Council meeting. Any member of the public shall first state his or her name and address, followed by a concise statement of the person's position on the question under discussion. Repetitive comments should be avoided; this applies to comments made previously either to the City Council or to the Planning Commission when those Planning Commission minutes have been provided to the Aldermen. All remarks shall be addressed to the Mayor or the City Council as a whole and not to any particular member of the City Council. No person other than the Aldermen and the person having the floor shall be permitted to enter into any discussions without permission of the Mayor. No questions shall be directed to an Alderman or city staff member except through the Mayor.

Courtesy and Respect: All members of the public, all city staff and elected officials shall accord the utmost courtesy and respect to each other at all times. All shall refrain from rude or derogatory remarks, reflections as to integrity, abusive comments and statements about motives or personalities. Any member of the public who violates these standards shall be ruled out of order by the Mayor, must immediately cease speaking and shall leave the podium.

Interpreters or Telecommunications Device for the Deaf (TDD), for hearing impaired are available for all City Council meetings, a 72-hour advance notice is required. For further information or to request an interpreter, please call 479-575-8330.

A copy of the complete City Council agenda is available on our website at www.fayetteville-ar.gov or in the office of the City Clerk, 113 W. Mountain, Fayetteville, Arkansas (479) 575-8323.

All cell phones must be silenced and may not be used within the City Council Chambers.

TO: Lioneld Jordan, Mayor

THRU: Terry Gulley, Transportation Director
Jeff Coles, Recycling and Trash Collection Director

FROM: Brian Pugh, Waste Reduction Coordinator

DATE: February 10, 2017

SUBJECT: **City Administration's Recommendations regarding Adoption of the Solid Waste Reduction, Diversion and Recycling Master Plan**

RECOMMENDATION:

Adoption of the plan with a modified implementation schedule to prioritize Organics Composting, the release of an RFP to secure a contract with a processor for the recovery and recycling of construction and demolition material, and the development of a communications plan to increase community participation in support of the city's commitment to waste diversion.

BACKGROUND:

Based on discussions throughout the study period regarding the adoption of the Solid Waste Reduction, Diversion and Recycling Master Plan as developed by Kessler Consulting, Incorporated, staff proposes adoption of the plan with the revised implementation schedule (attached).

DISCUSSION:

The Administration supports organics composting and the release of an RFP to secure a contract with a processor for the recovery and recycling of construction and demolition material. At this time, the Administration does not support prioritizing single stream recycling or mandating recycling or disposal bans.

The Recycling and Trash Collection Master Plan provides invaluable data that have helped us evaluate the overall composition of the city's residential and commercial waste, the increased volume in the landfill, set new goals for increased participation and education, and review the attainability of the previously set 80% diversion rate goal.

The Administration and staff realize that the 80% diversion goal is not attainable even if everything in the plan were adopted. The Mayor and staff agreed to try to set a more attainable goal. Staff recommends that we set a new goal, doubling where we are today, with a 40% diversion rate as the new target. The goal is to move from 20-30% diversion between 2017 - 2022 and 30-40% diversion between 2022-2027.

Another idea that has been discussed is that a collaborative partnership with the Benton County and Boston Mountain Solid Waste Districts and the other municipalities could be pursued to plan a regional recovery facility which meets the standards set by the City of Fayetteville. While

the plan put forward by Kessler Consulting describes a “mini-MRF” option which would serve only Fayetteville, that option is not recommended because it would be superseded by the eventual development of a regional facility.

In support of the original resolution to improve multi-family and apartment recycling, staff will evaluate the potential to provide curbside recycling service for a limited number of multi-family residential units for which recycling services are not currently available. This service would be considered for those occupants in multi-family units of 3 (tri-plexes) up to 24 (with exceptions to be considered at the discretion of the Director of Transportation), and predicated on reasonable access to roadway (curbside) access for bin placement and collection. Participation would be strictly voluntary and contingent upon the property owner or management consent. It must be clear, however, that we are currently at capacity and any increase in multi-family participation will come with an increase in staff and fleet needed to process higher volumes.

The Administration requests a resolution of direction in these areas, as they are critical for the planning of our rate study, potential new headcount, and capital planning for fleet purchases. We cannot continue to delay these decisions and meet the needs of the enterprise fund.

BUDGET/STAFF IMPACT:

None

Attachments:

Recommended Initial Implementation Steps

**Recommended Initial Implementation Steps
(to replace page105 of Proposed Recycling and Trash Master Plan)**

To develop an environmentally and economically sustainable materials management system that maximizes waste diversion and minimizes waste disposal, the following steps are recommended to initiate implementation of the proposed action plan:

1. Provide conceptual approval of the proposed action plan with implementation of key elements dependent on acceptance of detailed implementation plans.
2. Obtain a Type CO permit for the City's compost facility.
3. Develop a detailed plan and schedule for initiating a voluntary organics recovery program, focusing initially on large food waste generators and schools.
4. Release an RFP to secure a contract with a processor for the recovery and recycling of construction and demolition material.
5. Develop a communications plan to announce the City's commitment to waste diversion and to get buy-in to new initiatives.
6. Develop a technical assistance program to inform businesses, institutions, and multi-family complexes of the City's waste diversion commitment and help them prepare for new recycling initiatives.
7. Adopt a Green City Initiative directing all city-owned or operated buildings to establish comprehensive recycling, organics recovery, and environmentally preferable purchasing programs.
8. Modify City building codes to require new commercial and multi-family developments to provide adequate space and access for recycling and organics recovery (for large commercial food waste generators).

Exhibit A

Recommended Initial Implementation Steps (to replace page 105 of Proposed Recycling and Trash Master Plan)

To develop an environmentally and economically sustainable materials management system that maximizes waste diversion and minimizes waste disposal, the following steps are recommended to initiate implementation of the proposed action plan:

1. Provide conceptual approval of the proposed action plan with implementation of key elements dependent on acceptance of detailed implementation plans.
2. Obtain a Type CO permit for the City's compost facility.
3. Develop a detailed plan and schedule for initiating a voluntary organics recovery program, focusing initially on large food waste generators and schools.
4. Release an RFP to secure a contract with a processor for the recovery and recycling of construction and demolition material.
5. Develop a communications plan to announce the City's commitment to waste diversion and to get buy-in to new initiatives.
6. Develop a technical assistance program to inform businesses, institutions, and multi-family complexes of the City's waste diversion commitment and help them prepare for new recycling initiatives.
7. Adopt a Green City Initiative directing all city-owned or operated buildings to establish comprehensive recycling, organics recovery, and environmentally preferable purchasing programs.
8. Modify City building codes to require new commercial and multi-family developments to provide adequate space and access for recycling and organics recovery (for large commercial food waste generators).

Alderman Adella Gray
Ward 1 Position 1

Alderman Sarah Marsh
Ward 1 Position 2

Alderman Mark Kinion
Ward 2 Position 1

Alderman Matthew Petty
Ward 2 Position 2



Mayor Lioneld Jordan
City Attorney Kit Williams
City Clerk Sondra E. Smith

Alderman Justin Tennant
Ward 3 Position 1

Alderman Sarah Bunch
Ward 3 Position 2

Alderman John La Tour
Ward 4 Position 1

Alderman Alan T. Long
Ward 4 Position 2

**City of Fayetteville Arkansas
City Council Meeting
February 7, 2017**

A meeting of the Fayetteville City Council was held on February 7, 2017 at 5:30 p.m. in Room 219 of the City Administration Building located at 113 West Mountain Street, Fayetteville, Arkansas.

Mayor Jordan called the meeting to order.

PRESENT: Alderman Adella Gray, Sarah Marsh, Mark Kinion, Matthew Petty, Justin Tennant, Sarah Bunch, John La Tour, Alan Long, Mayor Lioneld Jordan, City Attorney Kit Williams, City Clerk Sondra Smith, Staff, Press, and Audience.

Pledge of Allegiance

Mayor's Announcements, Proclamations and Recognitions:

Mayor Jordan welcomed Dr. Robwell's journalism class from the University of Arkansas.

Ort-Ozark Regional Transit - Semi-Monthly Report

Jeff Hatley, Public Information Officer presented the Ozark Regional Transit report. He gave a brief description about a major fire that occurred on January 10, 2017 that destroyed 20 buses.

Mayor Jordan: Thank you for the service you provide. Thank you for getting everything up and running. It is a vital part to this city.

Alderman La Tour: The buses that you borrowed, have you made any modifications other than painting the name of your organization on the side?

Jeff Hatley: The only paint was the Razorback Transit buses. They took the Razorback Transit off and painted Ozark Regional Transit. The other ones have a very large sticker on the front of it that says Ozark Regional Transit with the route.

Alderman La Tour: Are the windows on the replacement buses tinted?

Jeff Hatley: I'm not sure.

Alderman La Tour: Can you see into the bus?

Jeff Hatley: I assume so. I can find out for you.

A copy of the report is attached.

Fayetteville Natural Heritage Association Check Presentation

Jennifer Ogle, Chair of the Fayetteville Natural Heritage Association: We are a local non-profit organization that is dedicated to conserving natural areas in Fayetteville. We have enjoyed our partnership with the city over the years. I am here tonight because of our commitment to Kessler Mountain. We agreed to raise \$300,000 towards the purchase price of Kessler and to help manage it into the future. I would like to present a check for \$60,000.

Mayor Jordan: The Fayetteville Natural Heritage Association has been a great partner for this city. Thank you all very much.

Kessler Mountain Regional Park Rotary Playground Project Presentation - Presented by Rotary Club President Harrison Pittman.

Harrison Pittman, Rotary Club President: Over a year ago we embarked on the largest fundraiser in our club's history. We raised \$150,000 to help build a playground at the Kessler Mountain Regional Park.

Mayor Jordan: Thank you all very much.

City Attorney Kit Williams thanked the Rotary Club for their commitment in raising the funds.

City Council Meeting Presentations, Reports, and Discussion Items: None

Consent:

Approval of the January 17, 2017 City Council Meeting Minutes.

Approved

Bid No. 16-65 J.A. Riggs Tractor Company: A resolution to award Bid No. 16-65 and authorize the purchase of a Genie S-45 telescopic boom lift from J.A. Riggs Tractor Company of Springdale in the amount of \$64,710.96 for use at the Biosolids Management Site.

Resolution 32-17 as recorded in the office of the City Clerk

Bid No. 16-66 Scruggs Equipment Company: A resolution to award Bid No. 16-66 and authorize the purchase of an Elgin Crosswind Street Sweeper from Scruggs Equipment Company of Memphis, Tennessee in the amount of \$202,265.00 for use by the Transportation Services Department.

Resolution 33-17 as recorded in the office of the City Clerk

Bid No. 16-67 Sweetser Construction, Inc.: A resolution to award Bid No. 16-67 and authorize a contract with Sweetser Construction, Inc. in the amount of \$158,422.00 for the construction of a bridge along Salem Road for the Clabber Creek Trail, and to approve a project contingency in the amount of \$7,921.00.

Resolution 34-17 as recorded in the office of the City Clerk

Sanders Crest, Inc.: A resolution to approve a one year lease agreement with an option to renew for three additional one year terms with Sanders Crest, Inc. for office space in the Airport Terminal building in the amount of \$780.16 per month for the first year.

Resolution 35-17 as recorded in the office of the City Clerk

Franklin and Son, Inc.: A resolution to award Bid No. 17-21 and approve a construction contract with Franklin and Son, Inc. of Farmington, Arkansas for the Airfield Roof Rehabilitation Project at Drake Field in the amount of \$378,253.00, and to approve a project contingency in the amount of \$79,374.00.

Resolution 36-17 as recorded in the office of the City Clerk

Bank of Fayetteville Donation Revenue: A resolution to approve a budget adjustment in the amount of \$1,000.00 representing donation revenue from the Bank of Fayetteville to the Fayetteville Fire Department for the annual employee service awards event.

Resolution 37-17 as recorded in the office of the City Clerk

CH2M Hill Engineers, Inc. Amendment No. 7: A resolution to approve a two month extension of Amendment No. 7 to the contract with CH2M Hill Engineers, Inc. beginning January 1, 2017 and ending February 28, 2017 at a cost of \$656,019.58 per month for operations, maintenance and management services.

Resolution 38-17 as recorded in the office of the City Clerk

Davis Law Firm Water Damage Claim: A resolution pursuant to Fayetteville Code of Ordinances Section 39.10(C)(4) to authorize the Mayor to pay the amount of \$26,759.34 to Davis, Clark, Butt, Carithers & Taylor, PLC for a water damage claim at 15 and 19 East Mountain Street.

Resolution 39-17 as recorded in the office of the City Clerk

Daniel and Megan Kelsey Sewer Damage Claim: A resolution pursuant to Fayetteville Code of Ordinances Section 39.10(C)(4) to authorize the Mayor to pay the amount of \$13,903.57 to Daniel and Megan Kelsey as reimbursement for damage to their real and personal property in addition to payments previously made in the amount of \$6,587.78 to Servpro for water damage mitigation services and \$350.00 to WFC, Inc. for bathroom repair work.

Resolution 40-17 as recorded in the office of the City Clerk

Lake Sequoyah Dredging Facilities: A resolution to approve a new capital project for continued construction of dredging facilities at Lake Sequoyah, and to approve a budget adjustment in the amount of \$503,242.00 to fund the project.

Resolution 41-17 as recorded in the office of the City Clerk

Fayetteville Rentals, LLC: A resolution to approve a 50/50 cost share agreement with Fayetteville Rentals, LLC for construction of a sewer main along a portion of South Street between South College Avenue and South Washington Avenue at a total estimated cost of \$10,174.86 including a 20% project contingency.

Resolution 42-17 as recorded in the office of the City Clerk

Bid No. 17-22 Blue Ribbon Lawns, Inc.: A resolution to award Bid No. 17-22 and authorize a contract with Blue Ribbon Lawns, Inc. in the amount of \$169,810.24 for the installation of trees and shrubs within the median of Ruppel Road between West Persimmon Street and West Martin Luther King, Jr. Boulevard, and to approve a project contingency in the amount of \$15,000.00.

Resolution 43-17 as recorded in the office of the City Clerk

Alderman Marsh moved to accept the Consent Agenda as read. Alderman Long seconded the motion. Upon roll call the motion passed unanimously.

Unfinished Business:

Preliminary Plat 16-5574 (Mountain Vista Subdivision) Grant Appeal: A resolution to grant the appeal of City Council Member Adella Gray and to deny Preliminary Plat 16-5574 (Mountain Vista Subdivision) because such development would create or compound a dangerous traffic condition in violation of §166.02 (C)(2)(a)(iv) of the Unified Development Code. *At the January 3, 2017 City Council Meeting this resolution was tabled to the February 7, 2017 City Council Meeting.*

Jeremy Pate, Director of Development Services gave a brief description of the resolution. He stated there are two access points proposed and that was the only reason the item was appealed from the Planning Commission's decision. The Planning Commission voted 5-3 in favor of the subdivision. Staff recommends approval. He stated it was agreed that a left turn lane into the development off of 24th Street should be provided.

Chris Brown, City Engineer gave a brief historical description of the project. He stated at 25 mph which is the speed limit, there is no sight distance and safety issue. Measures to slow the traffic down to near that speed limit are needed to eliminate the sight distance concern. The northbound traffic turn lane on 24th Street is recommended, which can be done with striping and no curb changes needed. He stated the City Attorney brought up a good recommendation for Askew Drive to be signed as a no left turn, it would reduce the potential for T-bone accidents.

Alderman Petty: What is the daily traffic count on the road?

Chris Brown: It was taken over a three day period from December 20, 2016 through December 22, 2016. A full one day count was 470 vehicles.

Jeremy Pate: The Country Club is not in full season currently. There are a lot more visitors to the County Club area during the summer.

Alderman Petty: Would you say that's reduced by a factor of two or ten?

Chris Brown: I have no opinion. I don't know.

Alderman Petty: Our best guess is 500 in the off season?

Chris Brown: Yes, that is the information we have.

Alderman La Tour: When speaking about mitigation possibilities and trying to lower the actual speed limit down closer to the marked speed limit, have we done that in other areas of the city?

Chris Brown: Sure. Simple speed tables would reduce the speeds. Any number of traffic calming elements are available for that kind of thing.

Alderman La Tour: We have seen these techniques in the city with some degree of success?

Chris Brown: Yes, absolutely.

Alderman La Tour: Would you say marginal success or substantial success?

Chris Brown: When used and designed appropriately, they are very successful.

Alderman La Tour: Putting in a no left turn designation coming out from Askew Drive onto 24th Street, is there another exit proposed for the new division coming out the backside of the subdivision.

Chris Brown: Yes. There would be a way for folks to get up to the top of the hill.

Jeff Bates, Civil Engineer: We have worked back and forth with Engineering. We agree with them that the best solution is the stop sign. It would prevent accidents. I hate to limit the residents in that subdivision to a no left turn. I assume a lot of them would want to live up there so they can go to the Country Club. Other than that the developer has been willing to do, add, or pay for anything pretty much to make that intersection safer.

Alderman Gray: I have a constituent that would like to present a Powerpoint presentation.

A discussion followed about proper procedure for presenting a Powerpoint at a City council meeting.

Alex Mironoff, 159 West 29th Court gave a brief PowerPoint presentation. He discussed sight stopping distance. He believes the Mountain Vista entrance should be moved further downhill to the existing stretch of road. He reviewed topographical maps. He discussed possible solutions of putting in a workable road. He spoke about public safety. He stated a stop sign is a poor quality solution. He believes the key to a high quality solution is prevention, which means doing it right the first time. He requested for the project to be sent to the Ordinance Review Committee for further study or returned to the Planning Commission to perform a thorough analysis of design changes that would ensure public safety. He wants an approved plat that includes a safe main entrance, including a left turn lane for uphill traffic. He stated for the future he wants the city to not approve any further hilltop or hillside development unless it provides for a second exit to a major artery.

Rita Miller, 2780 South College Drive spoke about a petition that circulated through her neighborhood. She turned the petitions into the City Clerk office for City Council review. She spoke about traffic and safety. She requested the application be denied for a subdivision. She wants the item to be sent to the Ordinance Review Committee.

Michael Landman, 310 East Fairway Lane stated he signed the petition. He spoke about safety and traffic concerns. He wants two entrances and exits. He spoke in opposition of speed tables.

Suzanne Clark, 438 East Fairway Lane believes the developer has proposed a wonderful development for South Fayetteville. She stated she has safety concerns with traffic. She wants the city to do a cost share with the developer for a more a successful project.

Ron Calaway, 2848 South Club Oak Drive spoke about traffic safety. He wants all options to be looked at to make it as safe as possible.

Diana Albert, 492 East Fairway Lane voiced her concerns about safety.

Steve Clark, 438 East Fairway Lane stated he was there as a citizen. He stated development in South Fayetteville is overdue and likes the idea of development. He requested for Council to be a part of a solution for the problems that were created as Fayetteville grew from a sleepy little

university town to where it is today. He spoke about ingress, egress, infill, safety, and cost share. He doesn't believe all solutions have been outlined.

Craig Thompson, 227 West 29th Court stated the speed limit had been changed on the uphill slope from 30 mph to 25 mph. He has not noticed that people have slowed down. He doesn't believe a speed bump is the answer.

Beth Moore, 11 East 28th Circle spoke about a second entrance and believes the city should take the opportunity for a cost share with the developer.

Alderman Petty: Is Askew Drive currently a street or a driveway?

Jeremy Pate: It is currently a driveway.

Alderman Gray: Mayor, I would like to send this to the Ordinance Review Committee.

A discussion followed about sending the item to the Ordinance Review Committee.

Jeff Bates, Civil Engineer: We have looked at this a lot with the city engineers. People are wanting another way off the mountain, but there is no other way off the mountain through this subdivision. The terrain will not allow it. It is vertical in some places and over 20% in most places. Moving the driveway down 150 feet is not going to be another way off the mountain.

Alderman Kinion: People are talking about a cost share, but I don't see anything in a packet that specifies a cost share.

J.B. Hays, Developer: I don't have an approval from the Mayor or city for cost sharing. Neighbors up there have suggested that they might be able to get some from the city. I don't know how that is done. What do you think Mayor?

Mayor Jordan: I don't know what the cost share would be because I don't know what the cost of that road would be. We haven't looked at it.

J.B. Hays, Developer: I've heard \$250,000 to \$300,000.

Mayor Jordan: J.B., I don't have anything solid on that.

J.B. Hays, Developer: Put yourself in my position as a developer. We have this all approved and the engineers from the city and my engineers have looked at. I've met with the inhabitants at the Country Club area a couple of times and it was friendly. How would you like to be in my position?

Mayor Jordan: I wouldn't want to be. You do have a tough position here.

J.B. Hays, Developer: I have tried to do the best developments in Fayetteville. I think it is going to be a fun project if we can get everybody happy.

Mayor Jordan: I agree. I personally think you've got a good project. I don't know about committing to cost sharing a road when I don't know what the cost are. According to the City Attorney's memo, he is building according to the ordinance we have on the books, which is a build by right.

City Attorney Kit Williams: It is a build by right. They do have a property interest in access to 24th Street. I would like our City Engineer to discuss a different location for the street that a presenter spoke about. Did you look at a different location and would that be a much less expensive design?

Chris Brown: They are all very similar. We looked at something not exactly in that location. Just down the hill, the terrain adjacent to the road is very similar. The steepness of the street would be in that 15% to 20% range that is at the very top of the realm of possibility and acceptability. There are an infinite number of spots we could look at. All of them in my opinion have an issue in regards to safety as compared to this existing location.

City Attorney Kit Williams: Do you think this current driveway location is the safest of the ones you have looked at?

Chris Brown: The only issue with this driveway location is that one sight distance. I believe there are mitigation measures that can be taken through traffic calming that could make this the best location.

Alderman Marsh: There will be a trail easement dedicated, connecting to 22nd Street. Have we looked at that route as a potential connection as a second entrance?

Chris Brown: Yes. There is an easement dedicated. The existing terrain is 15% to 20% there as well. It is very steep.

Alderman Marsh: How are we going to make that work for the trail?

Chris Brown: It wouldn't meet any AASHTO design standards. It could be built, but we would have to do switchbacks to really make it meet AASHTO standards. The easement is there, but the practicality of building that would be a challenge.

City Attorney Kit Williams: Jeremy, you heard about the other acreage that is for sale on the far side of the mountain. Are you aware of what the terrain is like between the road to the east? Is there a way to get down off the mountain on the east side of the mountain instead of looking for another way on the west side?

Jeremy Pate gave a brief description of the area. He stated it has not been looked at in great detail to determine if it could be possible.

A discussion followed regarding the procedure of sending the item to the Ordinance Review Committee.

Alderman La Tour: We have a City Engineer who has professional credentials. He has given us his opinion twice tonight saying that Askew Drive is probably the safest of all the options. I realize the neighbors have a different opinion, but none of the neighbors gave me their engineering credentials. I have to go with what Chris Brown is telling us. As far as an Ordinance Review of a resolution, that is unusual. Dr. Hays has an investment in this property. For every day we delay it, he is paying interest on the loan or the opportunity cost of his own money. I don't see that we would gain a lot by going to Ordinance Review. Mitigation can be used to slow people down. The argument that there is only one way in and one way out is a condition that existed when you bought your homes. Why are you changing your mind about that now? You have the largest cul-de-sac in Fayetteville. You don't have through traffic coming through your neighborhood. Now we are talking about the dangers of it. Those dangers existed when you purchased your home. I encourage us to move ahead and decide the issue.

Alderman Tennant: I struggle with sending the item to Ordinance Review as well. Alderman Gray, what would you hope to gain by sending this to the Ordinance Review Committee?

Alderman Gray: I hope to gain more time to look at more options. I know it is unusual to send a resolution to Ordinance Review. One of the things that we have heard from so many of our constituents is the city needs to be concerned about safety. Is there anything in our ordinances regarding building developments that says anything about being required to build for safety?

City Attorney Kit Williams: This whole appeal is based upon safety. They complied with all of the normal requirements. Planning Department has stated that they have. The only issue, that this Preliminary Plat could be denied, is if it created a dangerous traffic condition. You must weigh that upon some evidence. Strong evidence, especially if you are thinking about not just referring this for a further look at something but if you are thinking about denying this. The property owner has access rights to 24th Street. We can try to make it in the safest location as possible, but our City Engineer has said that is in fact, Askew Drive. Beyond that we can't take away their access easement without paying the damages. There was a question about whether I said that the city can't be sued for negligence. Well that is true also, but that is a different issue. Let's say we make a mistake and mis-design something and somebody says our design was negligently done and that caused a traffic accident. We can't be sued for that, but we can be sued for taking away somebody's property interest.

Alderman Gray: My reason for bringing this is because there are many folks who are strong constituents of our city and they have asked me to bring it to a place where they can have more discussion.

Alderman Tennant: I don't know what we are going to accomplish by going to Ordinance Review. I might be supportive to send it back to Planning Commission, but they will probably ask staff what their recommendations are. We will just hear the same thing from staff. I don't know that we are doing anything here except preventing Dr. Hays from doing something that he followed every rule we have.

Alderman Long: I think there should be a solution that we can find, in looking at this we had some new information presented tonight on the speed change. We have heard about the cost share

agreement. I initially thought the Planning Commission would be the right body to look at this, but only the Council can allocate or reallocate funds from the budget to access changes in street conditions. If the Ordinance Review Committee looks at this, then we would have a little bit of insight for the next meeting.

J.B. Hayes, Developer: There are several people in the present subdivision who have made a desire to purchase lots and be in this subdivision. We have met with the engineers with the city and people who live in the Country Club area. I'm trying to do what is best.

Mayor Jordan: If this goes to Ordinance Review, I don't know exactly what we are going to discuss. As far as cost shares, I don't have an estimate on what the road is going to cost. I can't commit to that until we get some kind of idea. We can do the suggestions for traffic calming or not. Dr. Hays is ready to build and he has fulfilled his obligations to the ordinance to build that development. The City Attorney is giving you some really good advice because it becomes build by right after a while. If you deny his development, then a case could be made.

Alderman Kinion gave a brief description of an Enterprise Fund and a General Fund when doing long term planning for projects.

Mayor Jordan: I agree with the neighborhood on connectivity. I believe there needs to be another route out of that area. It is all about cost and what we have allocated as a Council to do road construction on.

Alderman Gray moved to table the resolution and send it to the Ordinance Review Committee. Alderman Long seconded the motion. Upon roll call the motion failed 2-6. Alderman Gray and Long voting yes. Alderman Marsh, Kinion, Petty, Tennant, Bunch, and La Tour voting no.

City Attorney Kit Williams: The resolution is worded as an appeal. If you vote in favor of the resolution you are granting the appeal. You would be reversing the Planning Commission and denying the Preliminary Plat.

Mayor Jordan: Which means it would stop the development.

A discussion followed about what a yes vote or no vote means.

Alderman Marsh: Thank you to the neighborhood for having us out. It was helpful to walk around and see the conditions. I went back later in my tiny car and it is a manual transmission. I wanted to test the hill to see if I could do 25 mph and I could easily. I felt the sight lines were sufficient in the proposed location of Askew Drive. I have concerns about one way in and one way out. I feel the proposed route on Askew is the safest of all the feasible proposals.

Alderman Kinion: I understand the concerns of the neighborhood. One of the things we have in Fayetteville that is so nice to see, is an engaged neighborhood that steps out and expresses their views. I am not going to support the appeal. I can't think of a better alternative than Askew. I hope there will be traffic calming measures taken.

Mayor Jordan: I will be looking at another route out of that area. Due to the regards of the time we have, I can't do anything tonight. Thank you to Chris Brown and his staff for the work on this project. He has done the best that he can.

Alderman Gray moved to approve the resolution. Alderman Petty seconded the motion. Upon roll call the resolution failed unanimously.

This resolution failed.

New Business:

Walton Family Foundation Matching Grant: A resolution to accept a Walton Family Foundation matching grant in the amount of \$210,000.00 for the implementation of a portion of the Kessler Mountain Master Trails Plan, to authorize Mayor Jordan to sign the grant agreement, and to approve a budget adjustment.

Ken Eastin, Park Planner gave a brief description of the resolution.

City Attorney Kit Williams: Kessler Mountain is receiving \$420,000 in support tonight. Thanks for your work on this grant, which is a major part of that.

Mayor Jordan: Well done, Ken. The Walton Foundation has been a great partner for us in this project.

Alderman Long moved to approve the resolution. Alderman Petty seconded the motion. Upon roll call the resolution passed unanimously.

Resolution 44-17 as recorded in the office of the City Clerk

2017 Energy Action Plan: A resolution to express the City Council's support for the study and development of an Energy Action Plan in 2017.

Peter Nierengarten, Sustainability and Resilience Director gave a brief description of the resolution. He stated the Environmental Action Committee recommended approval.

Alderman La Tour: Could you go over the respondent's statistics.

Peter Nierengarten: 78% of respondents agreed or strongly agreed that Fayetteville should prioritize renewal energy and energy efficiency, policies, and programs. 62% of residents agreed or strongly agreed the City of Fayetteville should prioritize climate change preparedness. That was from a community survey conducted primarily during the month of December 2016.

Alderman La Tour: How many people completed the survey?

Peter Nierengarten: The survey was completed by a little over 1,400 respondents. It is roughly 1.5% of the Fayetteville population.

Alderman La Tour: How were those 1,400 respondents selected?

Peter Nierengarten: There was 3,000 postcards mailed out to randomly selected residences throughout the community. The survey was online or you could get a paper copy. There were press releases and other media releases that went out encouraging citizens to participate in the survey. We did outreach at several community events.

Alderman La Tour: Who selected the 3,000 randomly selected participants?

Peter Nierengarten: It was done through a random address generator working with our GIS Department.

Matt Pope, 2536 Elizabeth Avenue stated the plan is right in place with the City Plan 2030 goals. He spoke in favor of the resolution.

Ryan McClain, Pinnacle Energy Services spoke in favor of the resolution.

Alderman Marsh: I applaud Peter's effort at spearheading this. In 2011, the Center for Neighborhood Technology found that for every one dollar the residents of Northwest Arkansas spend on energy, ninety seven cents leaves our state. The more money we spend on energy, the more money is pulling out of our local and regional economy instead of staying here and being reinvested in our community. Having a responsible energy plan will help us retain that wealth as well as grow and create jobs in our economy. It will fulfill the portion of our Fayetteville First plan where we are branding ourselves as a sustainable city that is moving forward.

Mayor Jordan: Thank you Peter for your work on this.

Alderman Petty moved to approve the resolution. Alderman Long seconded the motion. Upon roll call the resolution passed 7-1. Alderman Gray, Marsh, Kinion, Petty, Tennant, Bunch, and Long voting yes. Alderman La Tour voting no.

Resolution 45-17 as recorded in the office of the City Clerk

CH2M Hill Engineers, Inc. Amendment No. 8: A resolution to approve Amendment No. 8 to the agreement for operations, maintenance and management services between the City of Fayetteville, Arkansas and CH2M Hill Engineers, Inc. in the amount of \$7,807,453.00 for services in 2017.

Tim Nyander, Utilities Director gave a brief description of the resolution. He stated staff is pleased with the work CH2M Hill has been doing for the city and recommends approval of the resolution.

Alderman Kinion stated the Water, Sewer & Solid Waste Committee are pleased with the CH2M Hill organization.

Alderman Kinion moved to approve the resolution. Alderman Long seconded the motion. Upon roll call the resolution passed unanimously.

Resolution 46-17 as recorded in the office of the City Clerk

21 West, LLC Cost Share: An ordinance to waive the requirements of formal competitive bidding and approve a cost share agreement with 21 West, LLC for the installation of sewer main along a portion of Meadow Street between West Avenue and Gregg Avenue, with the estimated amount to be paid by the City of Fayetteville not to exceed \$36,128.00, and to approve a project contingency in the amount of \$7,225.60.

City Attorney Kit Williams read the ordinance.

Tim Nyander, Utilities Director stated he didn't have anything to add to the language of the ordinance.

Alderman Kinion: This is infrastructure the city has the responsibility to offer the sewer system. This is going to give us the opportunity to share the cost with the developer.

Alderman Kinion moved to suspend the rules and go to the second reading. Alderman Marsh seconded the motion. Upon roll call the motion passed unanimously.

City Attorney Kit Williams read the ordinance.

City Attorney Kit Williams: We could actually pay more than \$36,000 if we run into problems. Is that correct?

Tim Nyander: Correct.

Mayor Jordan: You will be back if that occurs?

Tim Nyander: It is what would be figured into the contingency.

Mayor Jordan: If it stays within the contingency you won't be back.

Alderman Kinion moved to suspend the rules and go to the third and final reading. Alderman Marsh seconded the motion. Upon roll call the motion passed unanimously.

City Attorney Kit Williams read the ordinance.

Mayor Jordan asked shall the ordinance pass. Upon roll call the ordinance passed unanimously.

Ordinance 5947 as Recorded in the office of the City Clerk

Cruse Uniforms and Equipment, Inc.: An ordinance to waive the requirements of formal competitive bidding through December 31, 2018 and authorize the purchase of police service weapons and holsters from Cruse Uniforms and Equipment, Inc. in the amount of \$109,237.00, and to approve a budget adjustment.

City Attorney Kit Williams read the ordinance.

Greg Tabor, Chief of Police gave a brief description of the ordinance.

Alderman Long: We are purchasing Fourth Generation glocks, 55 of those. We are getting a trade in for 37 gl23C. Are those the same?

Greg Tabor, Chief of Police: The weapons we have now are Generation Three weapons. We have some Generation Fours. The current Generation Four weapons we have now, we are not trading. That is why those numbers aren't exactly the same.

Alderman Long: Thank you.

Alderman Marsh moved to suspend the rules and go to the second reading. Alderman Long seconded the motion. Upon roll call the motion passed unanimously.

City Attorney Kit Williams read the ordinance.

Alderman Gray moved to suspend the rules and go to the third and final reading. Alderman Tennant seconded the motion. Upon roll call the motion passed unanimously.

City Attorney Kit Williams read the ordinance.

Mayor Jordan asked shall the ordinance pass. Upon roll call the ordinance passed unanimously.

Ordinance 5948 as Recorded in the office of the City Clerk

RZN 16-5677 (3535 E. Huntsville Rd./Harris): An ordinance to rezone about 1.27 acres described in Rezoning Petition 16-5677 located at 3535 East Huntsville Road from RSF-4, Residential Single Family-four units per acre to R-A, Residential Agriculture.

City Attorney Kit Williams read the ordinance.

Jeremy Pate, Director of Development Services gave a brief description of the ordinance. Staff recommends approval. The Planning Commission voted 8-0 in favor of the request.

Nathan Harris, Applicant: Our main goal on this front piece of property is to have a sign to put up to advertise our storage facility.

Alderman Long moved to suspend the rules and go to the second reading. **Alderman Marsh** seconded the motion. Upon roll call the motion passed unanimously.

City Attorney Kit Williams read the ordinance.

Alderman Marsh moved to suspend the rules and go to the third and final reading. **Alderman Gray** seconded the motion. Upon roll call the motion passed unanimously.

City Attorney Kit Williams read the ordinance.

Mayor Jordan asked shall the ordinance pass. Upon roll call the ordinance passed unanimously.

Ordinance 5949 as Recorded in the office of the City Clerk

Amend §164.02 Accessory Structures and Uses: An ordinance to amend §164.02 Accessory Structures and Uses of the Unified Development Code to allow the construction of shared accessory structures.

City Attorney Kit Williams read the ordinance.

Jeremy Pate, Director of Development Services gave a brief description of the ordinance. Staff recommends approval. The Planning Commission voted 8-0 in favor of the request.

Alderman Kinion moved to suspend the rules and go to the second reading. **Alderman Marsh** seconded the motion. Upon roll call the motion passed unanimously.

City Attorney Kit Williams read the ordinance.

Alderman Kinion moved to suspend the rules and go to the third and final reading. **Alderman Gray** seconded the motion. Upon roll call the motion passed unanimously.

City Attorney Kit Williams read the ordinance.

Mayor Jordan asked shall the ordinance pass. Upon roll call the ordinance passed unanimously.

Ordinance 5950 as Recorded in the office of the City Clerk

Amend §151.01 Definitions and §174.09 Sign Illumination: An ordinance to amend §151.01 **Definitions** and §174.09 **Sign Illumination** of the Unified Development Code to repeal unneeded definitions and to remove a requirement that sign illumination in the I-540 Overlay District be indirect.

City Attorney Kit Williams read the ordinance.

Jeremy Pate, Director of Development Services gave a brief description of the ordinance. Staff recommends approval.

City Attorney Kit Williams gave a brief history of light sources.

Alderman Long moved to suspend the rules and go to the second reading. **Alderman Kinion** seconded the motion. Upon roll call the motion passed unanimously.

City Attorney Kit Williams read the ordinance.

Alderman Kinion moved to suspend the rules and go to the third and final reading. **Alderman Tennant** seconded the motion. Upon roll call the motion passed unanimously.

City Attorney Kit Williams read the ordinance.

Mayor Jordan asked shall the ordinance pass. Upon roll call the ordinance passed unanimously.

Ordinance 5951 as Recorded in the office of the City Clerk

Announcements:

Susan Norton, Communications & Marketing Director: The city will have a website update going live this weekend. It will have a new color palette, new graphics, modern and more streamlined look.

We have adult kickball and softball spring league registration now open. Ladies Duathlon registration has now been opened. This information can be found on the City of Fayetteville website.

Northbound College between Sunbridge to Drake has been reduced to one lane for drainage improvements. This work will end at the end of the week.

The City Clerk has announced the city is seeking volunteers for boards and committees. Deadline for applications is February 24, 2017.

U.S. News and World Report recognized Fayetteville and the Northwest Arkansas Metropolitan area as 5th best place to live in the United States.

City Attorney Kit Williams: It will be my honor to drive to Little Rock to appear before the Supreme Court on Thursday to defend the Civil Rights ordinance.

City Council Agenda Session Presentations: None

City Council Tour:

February 6, 2017 4:30 p.m. - Preliminary Plat 16-5574.

Adjournment: 8:01 p.m.

Lioneld Jordan, Mayor

Sondra E. Smith, City Clerk Treasurer

Alderman Adella Gray
Ward 1 Position 1

Alderman Sarah Marsh
Ward 1 Position 2

Alderman Mark Kinion
Ward 2 Position 1

Alderman Matthew Petty
Ward 2 Position 2



Mayor Lioneld Jordan
City Attorney Kit Williams
City Clerk Sondra E. Smith

Alderman Justin Tennant
Ward 3 Position 1

Alderman Sarah Bunch
Ward 3 Position 2

Alderman John La Tour
Ward 4 Position 1

Alderman Alan T. Long
Ward 4 Position 2

**City of Fayetteville Arkansas
City Council Meeting
January 31, 2017**

A special meeting of the Fayetteville City Council was held on January 31, 2017 at 5:30 p.m. in Room 219 of the City Administration Building located at 113 West Mountain Street, Fayetteville, Arkansas.

Mayor Jordan called the meeting to order.

PRESENT: Alderman Sarah Marsh, Mark Kinion, Matthew Petty, Justin Tennant, Sarah Bunch, John La Tour, Alan Long, Mayor Lioneld Jordan, City Attorney Kit Williams, City Clerk Sondra Smith, Staff, Press, and Audience.

Alderman Adella Gray was absent.

Pledge of Allegiance

Mayor's Announcements, Proclamations and Recognitions: None

City Council Meeting Presentations, Reports, and Discussion Items: None

Agenda Additions: None

New Business:

Seven Hills Homeless Center Emergency Funding: An ordinance to waive competitive bidding, to approve an emergency two month purchase of services contract with Seven Hills Homeless

Center with possible extensions of up to four additional months and to approve a budget adjustment.

City Attorney Kit Williams read the ordinance.

Paul Becker, Chief Financial Officer gave a brief description of the ordinance. He stated he feels it is an emergency situation.

Lynn Carver, President of the Board for the Seven Hills Homeless Center: Thank you on behalf of our Board of Directors and staff for all the city has done for us in the past. Thank you for considering this additional emergency funding. The homeless population of Northwest Arkansas has grown faster than the population in general. We do not see an end to the increase need for the kinds of services we are providing. We believe that what we provide is essential to the overall system of support providing care to our neighbors in need while they move toward recovery and self-sufficiency. Despite the growing need, our organization has reached the point that we can no longer maintain the full range of services for people who are homeless. We have been working diligently to avoid having to cut services and we have made tremendous progress. We have cut staff and decreased our cost. We have added to our Board of Directors. We have reached out to other providers and community and faith leaders as we attempt to help people turn their lives around. We have lowered our debt. We moved our day center to property we purchased without the loss of a day of services. We have raised the money to stay open even with operating shortfalls at the day center and the Walker Facility. Despite these efforts we have fallen short. Our inability to find consistent substantial funding from any source means we have reached the point that we can no longer afford to continue our full range of operations. Without the funding you are considering and the additional assistance of the Northwest Arkansas community, more than 2,000 people will have no access to essential services. In addition to having to close the day center we are anticipating the necessity to discontinue our housing of the Walker Family Residential Community. There are over 20 residents, some of whom have disabilities and some with minor children who will be without housing when we do. Closing both of these facilities will have serious consequences for other organizations in Northwest Arkansas who depend on the Walker Family Residential Community to support a client or family's transition to self-sufficiency. This is a community problem and we ask for your help to continue this work.

Alderman La Tour: We should approve the funding. I am convinced this is the right action for the city to take. Jesus said, "In as much as you have done it to the least of these my brethren, you have done it unto me." I strongly support this move.

Alderman Petty: When I heard about this I made several calls trying to find funding, even though the board had worked diligently to find it on their own. The impression I got from some in the community was that they were waiting for Seven Hills to fail so they could resurrect a new program because of the problems that Seven Hills had in the past. If the City of Fayetteville needs to take a lead on this then we should be proud to take a lead. We should use this vote to renew a call to all the members of our community to help. If we need to convene an effort to assemble the resources to address this problem directly, then that is exactly what we should do.

Alderman La Tour moved to suspend the rules and go to the second reading. **Alderman Bunch** seconded the motion. Upon roll call the motion passed 7-0. **Alderman Gray** was absent.

City Attorney Kit Williams read the ordinance.

Alderman Long moved to suspend the rules and go to the third and final reading. **Alderman Marsh** seconded the motion. Upon roll call the motion passed 7-0. **Alderman Gray** was absent.

City Attorney Kit Williams read the ordinance.

Major Dan Matthew, Salvation Army spoke in favor of the ordinance.

Robert Ferdoe, 792 South Seven Hills Court spoke in favor of the ordinance.

David King, a homeless resident spoke in favor of the ordinance.

Sherman Terry spoke in favor of the ordinance.

Alderman Tennant: Is there a homeless center in Springdale, Rogers, Bentonville or something similar anywhere?

Lynn Carver: No.

Alderman Tennant: This is more of a regional facility than a Fayetteville facility. I don't see other cities lined up here to help and it is disappointing. This building is in Fayetteville, but that doesn't mean it is just a Fayetteville situation. I challenge the other cities to step up. I've gotten a wave of emails and phone calls saying they didn't know there was a problem and now vowing to be active in helping. I encourage everyone to get involved and participate.

Alderman Marsh: In the near future our Active Transportation Committee has recommended the construction of a sidewalk from the Seven Hills Center back to the intersection of 15th Street. We will have a safe and dignified way for people to traverse from the Seven Hills Center into our town. We are going to make some infrastructure improvements to help include everyone in our community. Thank you to everyone in my ward who wrote me letters and emails in support for this initiative. Fayetteville is a city of compassion and this is how we walk that walk.

Alderman Kinion: I want to express my appreciation for the services they offer and the admiration I have for the challenges faced by this board. There is a continual need for this service. We all need to unite and make sure the services that are provided by Seven Hills are available and continued without disruption. This is a call out for the community to step up to the plate also. I look forward to the prosperity for the board so we can get these services guaranteed in the future without an emergency situation.

Mayor Jordan: When looking at situations like this, I don't have the heart to turn out 2,000 people into the street. I remember when Seven Hills started in 2001. I supported it then, I support it now, and I will support it in the future. At the end of the day it is the people that we take care of. This city believes in one another and taking care of one another. We need to be sure that everybody feels like a partner in this city regardless if they are homeless, the color of their skin, religious belief or who they love. We are going to support Seven Hills and take care of the homeless situation in this city.

Mayor Jordan asked shall the ordinance pass. Upon roll call the ordinance passed 7-0. Alderman Gray was absent.

Ordinance 5946 as Recorded in the office of the City Clerk

Announcements: None

Adjournment: 5:55 p.m.

Lioneld Jordan, Mayor

Sondra E. Smith, City Clerk Treasurer

Master Plan

Amended
Resolution

2-21-17

RESOLUTION NO.

A RESOLUTION TO ACCEPT AND ADOPT AN AMENDED SOLID WASTE REDUCTION, DIVERSION AND RECYCLING MASTER PLAN, AND TO REVISE THE CITY'S DIVERSION GOAL BY MORE THAN DOUBLING OUR CURRENT DIVERSION RATE TO 40% BY 2027

WHEREAS, the City Council passed a Resolution in December 2013 to hire a consultant to develop a master plan to help attain the highest possible waste diversion rate by 2025; and

WHEREAS, the consultants have advised that a 40% waste reduction rate is reasonably attainable and have suggested ways to increase the current waste reduction rate; and

WHEREAS, no adequate recycling materials processor has been located which would deliver the state of the art processing center needed for a single stream recycling plan; and

WHEREAS, the Administration is not in support of all recommendations within the original master plan as pointed out in the Chief of Staff's memo of November 22, 2016, and further recognizes that even if the entire plan was implemented the former 80% diversion goal is not attainable; and

WHEREAS, the Administration recommends that the proposed master plan be amended to focus on organics composting, the recycling of construction and demolition debris, and multi-family and apartment recycling and to change the implementation schedule; and

WHEREAS, the administration does not support prioritizing single stream recycling or mandatory recycling and disposal bans, but wants to continue studying the feasibility of a regional recovery facility that would meet the standards of the City of Fayetteville.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF FAYETTEVILLE, ARKANSAS:

Section 1: That the City Council of the City of Fayetteville, Arkansas hereby adopts the Solid Waste Reduction, Diversion and Recycling Master Plan as developed by Kessler Consulting, Inc. with page 105 of the proposed plan, which contains the recommended initial implementation steps, replaced by a new implementation schedule, attached as Exhibit A to this Resolution.

Section 2: That the City Council of the City of Fayetteville, Arkansas hereby amends Section 1 of Resolution No. 260-13 and sets a goal to achieve a 40% diversion rate of solid waste generated by residents and businesses within the City to be attained by 2027.

PASSED and APPROVED this 21st day of February, 2017.

APPROVED:

ATTEST:

By: _____
LIONELD JORDAN, Mayor

By: _____
SONDRA E. SMITH, City Clerk/Treasurer

Exhibit A

Recommended Initial Implementation Steps (to replace page 105 of Proposed Recycling and Trash Master Plan)

To develop an environmentally and economically sustainable materials management system that maximizes waste diversion and minimizes waste disposal, the following steps are recommended to initiate implementation of the proposed action plan:

1. Provide conceptual approval of the proposed action plan with implementation of key elements dependent on acceptance of detailed implementation plans.
2. Obtain a Type CO permit for the City's compost facility.
3. Develop a detailed plan and schedule for initiating a voluntary organics recovery program, focusing initially on large food waste generators and schools.
4. Release an RFP to secure a contract with a processor for the recovery and recycling of construction and demolition material.
5. Develop a communications plan to announce the City's commitment to waste diversion and to get buy-in to new initiatives.
6. Develop a technical assistance program to inform businesses, institutions, and multi-family complexes of the City's waste diversion commitment and help them prepare for new recycling initiatives.
7. Adopt a Green City Initiative directing all city-owned or operated buildings to establish comprehensive recycling, organics recovery, and environmentally preferable purchasing programs.
8. Modify City building codes to require new commercial and multi-family developments to provide adequate space and access for recycling and organics recovery (for large commercial food waste generators).

TO: Lioneld Jordan, Mayor

THRU: Terry Gulley, Transportation Director
Jeff Coles, Recycling and Trash Collection Director

FROM: Brian Pugh, Waste Reduction Coordinator

DATE: February 10, 2017

SUBJECT: **City Administration's Recommendations regarding Adoption of the Solid Waste Reduction, Diversion and Recycling Master Plan**

RECOMMENDATION:

Adoption of the plan with a modified implementation schedule to prioritize Organics Composting, the release of an RFP to secure a contract with a processor for the recovery and recycling of construction and demolition material, and the development of a communications plan to increase community participation in support of the city's commitment to waste diversion.

BACKGROUND:

Based on discussions throughout the study period regarding the adoption of the Solid Waste Reduction, Diversion and Recycling Master Plan as developed by Kessler Consulting, Incorporated, staff proposes adoption of the plan with the revised implementation schedule (attached).

DISCUSSION:

The Administration supports organics composting and the release of an RFP to secure a contract with a processor for the recovery and recycling of construction and demolition material. At this time, the Administration does not support prioritizing single stream recycling or mandating recycling or disposal bans.

The Recycling and Trash Collection Master Plan provides invaluable data that have helped us evaluate the overall composition of the city's residential and commercial waste, the increased volume in the landfill, set new goals for increased participation and education, and review the attainability of the previously set 80% diversion rate goal.

The Administration and staff realize that the 80% diversion goal is not attainable even if everything in the plan were adopted. The Mayor and staff agreed to try to set a more attainable goal. Staff recommends that we set a new goal, doubling where we are today, with a 40% diversion rate as the new target. The goal is to move from 20-30% diversion between 2017 - 2022 and 30-40% diversion between 2022-2027.

Another idea that has been discussed is that a collaborative partnership with the Benton County and Boston Mountain Solid Waste Districts and the other municipalities could be pursued to plan a regional recovery facility which meets the standards set by the City of Fayetteville. While

the plan put forward by Kessler Consulting describes a “mini-MRF” option which would serve only Fayetteville, that option is not recommended because it would be superseded by the eventual development of a regional facility.

In support of the original resolution to improve multi-family and apartment recycling, staff will evaluate the potential to provide curbside recycling service for a limited number of multi-family residential units for which recycling services are not currently available. This service would be considered for those occupants in multi-family units of 3 (tri-plexes) up to 24 (with exceptions to be considered at the discretion of the Director of Transportation), and predicated on reasonable access to roadway (curbside) access for bin placement and collection. Participation would be strictly voluntary and contingent upon the property owner or management consent. It must be clear, however, that we are currently at capacity and any increase in multi-family participation will come with an increase in staff and fleet needed to process higher volumes.

The Administration requests a resolution of direction in these areas, as they are critical for the planning of our rate study, potential new headcount, and capital planning for fleet purchases. We cannot continue to delay these decisions and meet the needs of the enterprise fund.

BUDGET/STAFF IMPACT:

None

Attachments:

Recommended Initial Implementation Steps

**Recommended Initial Implementation Steps
(to replace page105 of Proposed Recycling and Trash Master Plan)**

To develop an environmentally and economically sustainable materials management system that maximizes waste diversion and minimizes waste disposal, the following steps are recommended to initiate implementation of the proposed action plan:

1. Provide conceptual approval of the proposed action plan with implementation of key elements dependent on acceptance of detailed implementation plans.
2. Obtain a Type CO permit for the City's compost facility.
3. Develop a detailed plan and schedule for initiating a voluntary organics recovery program, focusing initially on large food waste generators and schools.
4. Release an RFP to secure a contract with a processor for the recovery and recycling of construction and demolition material.
5. Develop a communications plan to announce the City's commitment to waste diversion and to get buy-in to new initiatives.
6. Develop a technical assistance program to inform businesses, institutions, and multi-family complexes of the City's waste diversion commitment and help them prepare for new recycling initiatives.
7. Adopt a Green City Initiative directing all city-owned or operated buildings to establish comprehensive recycling, organics recovery, and environmentally preferable purchasing programs.
8. Modify City building codes to require new commercial and multi-family developments to provide adequate space and access for recycling and organics recovery (for large commercial food waste generators).

Branson, Lisa

From: Smith, Sondra
Sent: Tuesday, February 21, 2017 4:08 PM
To: Alan Long (Longward4@gmail.com); Pennington, Blake; citycouncil@matthewpetty.org; Marr, Don; Eads, Gail; Roberts, Gina; Johnson, Kimberly; Williams, Kit; Branson, Lisa; Jordan, Lioneld; Lynch, Rhonda; Mulford, Patti; Norton, Susan; Pate, Jeremy; Smith, Lorinda; Smith, Sondra; Gray, Adella; Marsh, Sarah; Kinion, Mark; Tennant, Justin; Bunch, Sarah; La Tour, John; Long, Alan
Cc: bidslam.smith@gmail.com
Subject: FW: Recycling

Aldermen

Please read the email below.

Thanks!
Sondra

From: Marty & Bob Smith [mailto:bidslam.smith@gmail.com]
Sent: Tuesday, February 21, 2017 2:47 PM
To: Smith, Sondra <:ssmith@fayetteville-ar.gov>
Subject: Fwd: Recycling

Sandra,

Thank you for calling.

Please find my original email below.

I appreciate your time to forward my email to all Fayetteville Ward Representatives.

Best regards,

Bob Smith

Begin forwarded message:

From: Marty & Bob Smith <bidslam.smith@gmail.com>
Date: February 21, 2017 at 11:24:55 AM CST
To: sarahbunch.realtor@gmail.com, ward3_pos1@fayar.onmicrosoft.com
Subject: Recycling

Ms Bunch and Mr Tennant

My wife and I are opposed to a single stream recycling program.

Let's keep our current, clean, curb sort program in place.

Thank you.

Bob and Marty Smith
2654 E Meandering Way
Fayetteville AR 72701
Phone: 479.200.2554

Tree Ordinance

Added at the
Feb. 21, 2017
City Council
meeting

RESOLUTION NO. _____

A RESOLUTION TO REQUEST THE ARKANSAS GENERAL ASSEMBLY TO REFRAIN FROM REMOVING THE AUTHORITY OF LOCAL GOVERNMENTS TO RESOLVE LOCAL ISSUES AND ENACT DEVELOPMENT REGULATIONS TO FOSTER IMPROVED ECONOMIC GROWTH

WHEREAS, the Arkansas General Assembly has long recognized that local governments are the closest and most responsive to their citizens and best able to resolve the varied uses and conflicts of city life; and

WHEREAS, the General Assembly has empowered city councils to enact ordinances "which, as to them, shall seem necessary to provide for the safety, preserve the health, promote the prosperity and improve the morals, order, comfort and convenience of such corporations and the inhabitants thereof" (A.C.A. § 14-55-102); and

WHEREAS, the Arkansas Supreme Court has also "recognized that the varied uses and conflicts of city life requires that much must be left to the discretion of city authorities" (*City of Little Rock v. Linn*, 245 Ark. 260, 264 (1968)); and

WHEREAS, after lengthy study and negotiations between developers, realtors, citizens and city staff, the City Council of the City of Fayetteville enacted a Tree Preservation and Protection Ordinance a quarter of a century ago and has used it to preserve and enhance the beauty and quality of life in Fayetteville ever since; and

WHEREAS, Fayetteville's Tree Preservation and Protection ordinance preserves our homeowners' rights to remove any tree or bush from their residential property and exempts most builders of homes and duplexes from tree preservation requirements; and

WHEREAS, since that time Fayetteville has enjoyed very rapid growth and almost doubled its population with equally impressive job and commercial growth assisted (and not hindered) by Fayetteville's Tree Preservation and Protection ordinance and other development regulations ensuring quality and sustainable growth; and

WHEREAS, Fayetteville and its metropolitan area has once again been ranked as one of best places to live and work in America; and

WHEREAS, our citizens' quality of life and our city's attractiveness for continued commercial and residential development depends upon the Fayetteville City Council's development regulations not being vetoed by big government proponents in the Legislature who want to impose their will and substitute their judgment for our citizens' clear decisions to preserve worthy parts of our natural settings which have proven so successful for our economic prosperity.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF FAYETTEVILLE, ARKANSAS:

Section 1. That the City Council of the City of Fayetteville, Arkansas hereby requests that the Arkansas General Assembly reject Senate Bill 286 and refrain from removing the authority of local governments to resolve their local issues and also requests that the General Assembly honor and respect our City Council's judgments on how best to preserve and enhance Fayetteville's natural beauty and economic prosperity.

PASSED and **APPROVED** this 21st day of February, 2017.

APPROVED:

ATTEST:

By: _____
LIONELD JORDAN, Mayor

By: _____
SONDRA SMITH, City Clerk/Treasurer

City of Fayetteville, Arkansas

*113 West Mountain Street
Fayetteville, AR 72701
(479) 575-8323*



Meeting Agenda - Tentative Agenda

Tuesday, February 14, 2017

4:30 PM

City Hall Room 326

City Council Agenda Session

*Adella Gray Ward 1
Sarah Marsh Ward 1
Mark Kinion Ward 2
Matthew Petty Ward 2
Justin Tennant Ward 3
Sarah Bunch Ward 3
John S. La Tour Ward 4
Alan Long Ward 4*

ELECTED OFFICIALS:

*Mayor Lioneld Jordan
City Attorney Kit Williams
City Clerk Sondra Smith*

Call To Order**Roll Call****Pledge of Allegiance****Mayor's Announcements, Proclamations and Recognitions****City Council Meeting Presentations, Reports and Discussion Items:****1.**[2017-0067](#)

AWARD PRESENTATION - CERTIFICATE OF ACHIEVEMENT

Agenda Additions**A. Consent:****A. 1**[2016-0569](#)

APPROVAL OF THE JANUARY 31, 2017 SPECIAL CITY COUNCIL MEETING MINUTES AND THE FEBRUARY 7, 2017 CITY COUNCIL MEETING MINUTES.

A. 2[2017-0065](#)**JL BRYSON, INC. AND CH2M HILL ENGINEERS, INC. SETTLEMENT AGREEMENT:**

A RESOLUTION TO AUTHORIZE MAYOR JORDAN TO SIGN A SETTLEMENT AGREEMENT WITH JL BRYSON, INC. AND CH2M HILL ENGINEERS, INC. REGARDING A DELAY CLAIM ASSOCIATED WITH THE INSTALLATION OF THE OZONE DISINFECTION SYSTEM AT THE NOLAND WASTEWATER TREATMENT PLANT, TO APPROVE A PAYMENT IN THE AMOUNT OF \$19,000.00 TO JL BRYSON, INC., AND TO APPROVE A BUDGET ADJUSTMENT

Attachments:

[JL BRYSON, INC. AND CH2M HILL ENGINEERS, INC. SETTLEMENT AGREEMENT](#)

[BA_JL BRYSON, INC. AND CH2M HILL ENGINEERS, INC. SETTLEMENT AGREEMENT](#)

A. 3 [2017-0070](#)**ERIN KAISER REIMBURSEMENT:**

A RESOLUTION PURSUANT TO FAYETTEVILLE CODE OF ORDINANCES SECTION 39.10(C)(4) TO AUTHORIZE THE MAYOR TO PAY THE AMOUNT OF \$6,258.18 TO ERIN KAISER FOR A WASTEWATER DAMAGE CLAIM ARISING AT 2232 NORTH BRIARWOOD LANE IN ADDITION TO A PREVIOUS PAYMENT OF \$14,557.62 TO SERVPRO FOR SEWER DAMAGE MITIGATION SERVICES

Attachments: [ERIN KAISER REIMBURSEMENT](#)

B. Unfinished Business:**B. 1 [2016-0506](#)****SOLID WASTE REDUCTION, DIVERSION AND RECYCLING MASTER PLAN:**

A RESOLUTION TO ADOPT THE SOLID WASTE REDUCTION, DIVERSION AND RECYCLING MASTER PLAN AS DEVELOPED BY KESSLER CONSULTING, INCORPORATED

Attachments: [SOLID WASTE REDUCTION, DIVERSION AND RECYCLING MASTER PLAN](#)

At the December 6, 2016 City Council Meeting this resolution was tabled to February 21, 2017.

C. New Business:**C. 1 [2017-0069](#)****KESSLER CONSULTING, INC.:**

A RESOLUTION TO AUTHORIZE MAYOR JORDAN TO MAKE A FINAL PAYMENT TO KESSLER CONSULTING, INC. IN THE AMOUNT OF \$11,010.00 FOR EXTRA WORK ASSOCIATED WITH THE SOLID WASTE REDUCTION, DIVERSION, AND RECYCLING MASTER PLAN, AND TO APPROVE A BUDGET ADJUSTMENT

Attachments: [KESSLER CONSULTING, INC.:](#)
 [BA_KESSLER CONSULTING, INC.](#)

C. 2 [2017-0054](#)**RZN 16-5667 (1918 S. GARLAND AVE./ANDERSON):**

AN ORDINANCE TO REZONE THAT PROPERTY DESCRIBED IN REZONING PETITION RZN 16-5667 FOR ABOUT 0.32 ACRES LOCATED AT 1918 S. GARLAND AVENUE FROM I-1, HEAVY COMMERCIAL & LIGHT INDUSTRIAL TO RSF-8, RESIDENTIAL SINGLE FAMILY, 8 UNITS PER ACRE

Attachments: [RZN 16-5667 \(1918 S. GARLAND AVE./ANDERSON\)](#)

C. 3 [2017-0052](#)**VAC 16-5687: (2790 N. SIGNET PLACE/BOWERS):**

AN ORDINANCE TO APPROVE VAC 16-5687 FOR PROPERTY LOCATED AT 2790 N. SIGNET PLACE TO VACATE A PORTION OF A GENERAL UTILITY EASEMENT

Attachments: [VAC 16-5687: \(2790 N. SIGNET PLACE/BOWERS\)](#)

C. 4 [2017-0053](#)**VAC 16-5688: (3300 W. GROVE DR./PLANET FITNESS):**

AN ORDINANCE TO APPROVE VAC 16-5688 FOR PROPERTY LOCATED AT 3300 W. GROVE DRIVE TO VACATE A WATER/SEWER EASEMENT

Attachments: [VAC 16-5688 \(3300 W. GROVE DR./PLANET FITNESS\)](#)

C. 5 [2017-0079](#)**AMENDMENT TO THE 2017 ADOPTED BUDGET:**

A RESOLUTION TO AMEND THE 2017 ADOPTED BUDGET BY REAPPROPRIATING \$63,137,158.00 IN BONDED OR ONGOING CAPITAL PROJECTS, OUTSTANDING OBLIGATIONS AND GRANT FUNDED ITEMS

Attachments: [AMEND THE 2017 ADOPTED BUDGET](#)

C. 6 [2017-0076](#)**AMEND §110.02 TELECOMMUNICATIONS FRANCHISES:**

AN ORDINANCE TO AMEND §110.02 **TELECOMMUNICATIONS FRANCHISES** OF THE CITY CODE TO INCLUDE AND INCORPORATE REFERENCES TO COMPETING LOCAL EXCHANGE CARRIERS AND ANY OTHER TELECOMMUNICATIONS PROVIDERS DESIRING TO USE CITY STREET RIGHTS OF WAY

Attachments: [AMEND §110.02 TELECOMMUNICATIONS FRANCHISES](#)

D. City Council Agenda Session Presentations:**E. City Council Tour:****F. Announcements:****G. Adjournment****NOTICE TO MEMBERS OF THE AUDIENCE**

All interested persons may appear and address the City Council on Unfinished Business, New Business, and Public Hearings at City Council meetings. If you wish to address the City Council on an agenda item, please wait for the Mayor or Chair to request public comment then queue behind the podium. When the Mayor or Chair recognizes you, approach the podium and give your name and address. Comments are to be addressed to the Mayor or Chair. The Mayor or Chair will direct your comments to the appropriate elected officials, staff, or others for response. Keep your comments respectful, brief, to the point, and relevant to the agenda item being considered. Each speaker from the public will be allowed one turn at the microphone for discussion of an agenda item.

Below is a portion of the Rules of Order and Procedure of the Fayetteville City Council pertaining to City Council meetings:

Agenda Additions: A new item which is requested to be added to the agenda at a City Council meeting should only be considered if it requires immediate City Council consideration and if the normal agenda setting process is not practical. The City Council may only place such new item on the City Council meeting's agenda by suspending the rules by two-thirds vote. Such agenda addition shall be heard prior to the Consent Agenda.

Consent Agenda: Consent Agenda items shall be read by the Mayor and voted upon as a group without discussion by the City Council. If an Alderman wishes to comment upon or discuss a Consent Agenda item, that item shall be removed and considered immediately after the Consent Agenda has been voted upon.

Old Business and New Business: Presentations by Staff and Applicants: Agenda items shall be introduced by the Mayor and, if an ordinance, read by the City Attorney. City staff shall then present a report. An agenda applicant (city contractor, rezoning or development applicant, etc.) may present its proposal only during this presentation period, but may be recalled by an alderman later to answer questions. City staff, City Council members, and applicants may use electronic visual aids in the City Council meeting as part of the presentation of the agenda item.

Public Comments: Public comment shall be allowed for all members of the audience on all items of old and new business and subjects of public hearings. A simple majority of the City Council members, present and voting, may authorize a representative of a Fayetteville citizens' group opposing the ordinance or resolution to present an electronic visual aid not to exceed five minutes, but no other electronic visual aid presentations will be allowed; however, the public may submit photos, petitions, etc. to be distributed to the City Council. If a member of the public wishes for the City Clerk to distribute materials to the City Council before its meeting, such materials should be supplied to the City Clerk's Office no later than 9:00 A.M. on the day of the City Council meeting. Any member of the public shall first state his or her name and address, followed by a concise statement of the person's position on the question under discussion. Repetitive comments should be avoided; this applies to comments made previously either to the City Council or to the Planning Commission when those Planning Commission minutes have been provided to the Aldermen. All remarks shall be addressed to the Mayor or the City Council as a whole and not to any particular member of the City Council. No person other than the Aldermen and the person having the floor shall be permitted to enter into any discussions without permission of the Mayor. No questions shall be directed to an Alderman or city staff member except through the Mayor.



City of Fayetteville, Arkansas

113 West Mountain Street
Fayetteville, AR 72701
(479) 575-8323

Text File

File Number: 2017-0067

Agenda Date: 2/21/2017

Version: 1

Status: Agenda Ready

In Control: City Council Meeting

File Type: Presentation

Agenda Number: 1.

AWARD PRESENTATION - CERTIFICATE OF ACHIEVEMENT



City of Fayetteville, Arkansas

113 West Mountain Street
Fayetteville, AR 72701
(479) 575-8323

Text File

File Number: 2016-0569

Agenda Date: 2/21/2017

Version: 1

Status: Agenda Ready

In Control: City Council Meeting

File Type: Minutes

Agenda Number: A. 1

APPROVAL OF THE JANUARY 31, 2017 SPECIAL CITY COUNCIL MEETING MINUTES AND THE FEBRUARY 7, 2017 CITY COUNCIL MEETING MINUTES.



City of Fayetteville, Arkansas

113 West Mountain Street
Fayetteville, AR 72701
(479) 575-8323

Text File

File Number: 2017-0065

Agenda Date: 2/21/2017

Version: 1

Status: Agenda Ready

In Control: City Council Meeting

File Type: Resolution

Agenda Number: A. 2

JL BRYSON, INC. AND CH2M HILL ENGINEERS, INC. SETTLEMENT AGREEMENT:

A RESOLUTION TO AUTHORIZE MAYOR JORDAN TO SIGN A SETTLEMENT AGREEMENT WITH JL BRYSON, INC. AND CH2M HILL ENGINEERS, INC. REGARDING A DELAY CLAIM ASSOCIATED WITH THE INSTALLATION OF THE OZONE DISINFECTION SYSTEM AT THE NOLAND WASTEWATER TREATMENT PLANT, TO APPROVE A PAYMENT IN THE AMOUNT OF \$19,000.00 TO JL BRYSON, INC., AND TO APPROVE A BUDGET ADJUSTMENT

BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF FAYETTEVILLE, ARKANSAS:

Section 1: That the City Council of the City of Fayetteville, Arkansas hereby authorizes Mayor Jordan to sign a settlement with JL Bryson, Inc. and CH2M Hill Engineers, Inc. regarding a delay claim associated with the installation of the ozone disinfection system at the Noland Wastewater Treatment Plant.

Section 2: That the City Council of the City of Fayetteville, Arkansas hereby approves a payment to JL Bryson, Inc. in the amount of \$19,000.00 pursuant to the settlement agreement.

Section 3: That the City Council of the City of Fayetteville, Arkansas hereby approves a budget adjustment, a copy of which is attached to this Resolution.

City of Fayetteville Staff Review Form

2017-0065

Legistar File ID

2/21/2017

City Council Meeting Date - Agenda Item Only
N/A for Non-Agenda Item

Tim Nyander

2/1/2017

Utilities Director /
Utilities Department

Submitted By

Submitted Date

Division / Department

Action Recommendation:

APPROVAL OF A SETTLEMENT AGREEMENT WITH JL BRYSON, INC WHICH AUTHORIZES THE CITY TO PAY \$19,000.00 IN SETTLEMENT OF A DELAY CLAIM, AND APPROVAL OF A BUDGET ADJUSTMENT.

Budget Impact:

5400.730-5800-5314.00

Water/Sewer

Account Number

Fund

10008.1

Disinfection System Replacement (UV)

Project Number

Project Title

Budgeted Item? Yes

Current Budget \$ 38,592.69

Funds Obligated \$ 23,276.00

Current Balance \$ 15,316.69

Does item have a cost? Yes

Item Cost \$ 19,000.00

Budget Adjustment Attached? Yes

Budget Adjustment \$ 3,684.00

Remaining Budget \$ 0.69

V20140710

Previous Ordinance or Resolution # 30-17

Original Contract Number: 2347

Approval Date:

Comments:



CITY COUNCIL AGENDA MEMO

MEETING OF FEBRUARY 21, 2017

TO: Fayetteville City Council

THRU: Mayor Lioneld Jordan
Don Marr, Chief of Staff

FROM: Tim Nyander, Utilities Director

DATE: February 1, 2017

SUBJECT: Approval of a Settlement Agreement with JL Bryson Inc. and CH2M Hill Engineers, Inc.

RECOMMENDATION:

Staff recommends approval of a settlement agreement with JL Bryson, Inc. which authorizes the city to pay \$19,000.00 in settlement of a delay claim, and approval of a budget adjustment.

BACKGROUND:

The City of Fayetteville and JL Bryson have been negotiating the outcome of a claim as a result of delays in the completion of the Ozone disinfection system at the Paul R. Noland Wastewater Treatment Plant. Included in the negotiation has been the final payment for the work for \$30,240.00, and the cost of additional concrete due to a change order at \$23,276.00. These items have already been paid to the vendor.

DISCUSSION:

The remaining \$19,000.00 is the City of Fayetteville's portion of the payment to JL Bryson for delays in the project.

BUDGET/STAFF IMPACT:

Cost savings from the Regional Park Project will be moved to pay a portion of the delay claim.

ATTACHMENTS:

Staff Review Form
Settlement Agreement
Budget Adjustment

SETTLEMENT AGREEMENT, MUTUAL RELEASE, AND COVENANT NOT TO SUE

This SETTLEMENT AGREEMENT, MUTUAL RELEASE, AND COVENANT NOT TO SUE (the "Settlement Agreement") is entered into as of the date on which it is fully executed by all parties (the "Effective Date") between JL Bryson, Inc. (hereinafter "Bryson"), CH2M HILL Engineers, Inc. ("CH2M"), and the City of Fayetteville, Arkansas (hereinafter "City"). Collectively, Bryson, CH2M, and the City are referred to as the "Parties."

RECITALS

WHEREAS, the City and CH2M entered into an Agreement for Operations, Maintenance, and Management Services on December 15, 2009 (the "City-CH2M Agreement"), and subsequent amendments thereto;

WHEREAS, the City and Bryson entered into an Agreement Between City of Fayetteville and JL Bryson, Inc. (the "City-Bryson Agreement") in which Bryson agreed to perform certain work in connection with the Paul R. Noland Wastewater Treatment Plant – Ozone Disinfection Facilities (the "Project");

WHEREAS, disputes have arisen between the City and Bryson with respect to the Project and the City-Bryson Agreement;

WHEREAS, Bryson filed suit against the City in a litigation styled as JL Bryson, Inc. v. City of Fayetteville, Arkansas, Circuit Court of Washington County, Arkansas, Case No. 16-2502-1 (the "Litigation");

WHEREAS, the City thereafter sent a letter dated December 20, 2016 to CH2M, requesting that CH2M defend the City in the Litigation (the "City's Tender");

WHEREAS, the City and CH2M dispute Bryson's claims, and CH2M disputes that it is obligated to comply with the City's Tender; and

WHEREAS, the Parties, without any admission of liability or wrongdoing, and in order to avoid the uncertainty and expense of formal or informal dispute resolution proceedings, now desire to fully and finally compromise, resolve and settle all issues, disputes, claims, rights, duties, and obligations between them, whether or not asserted in the Litigation, arising from or related in any way to the various contracts between the Parties for engineering, construction, and installation of the BlueInGreen ozone disinfection system;

AGREEMENT

NOW, THEREFORE, in consideration of the mutual promises and covenants contained in this Settlement Agreement and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, and intending to be legally bound by the terms of this Settlement Agreement, the Parties do hereby expressly agree as follows:

1. **Recitals Part of the Settlement Agreement:** The Recitals above are a material part of this Settlement Agreement and are incorporated by reference as if fully set forth herein.

2. **Settlement Payments:**

- a. The City will pay the sum of \$23,276.00 to Bryson as compensation for material and labor costs related to the additional concrete work within 15 business days of the Execution Date of this Settlement Agreement.
- b. The City shall also pay the sum of \$30,240.00 for the final pay request submitted by Bryson, for completion of the project, within 15 business days of the Execution Date of this Settlement Agreement.
- c. In settlement of Bryson's delay claim:
 - i. The City shall pay to Bryson the sum of \$19,000.00 within 15 business days of the Execution Date of this Settlement Agreement; and

- ii. CH2M shall pay to Bryson the sum of \$121,000.00 via check made payable to J.L. Bryson, Inc. and delivered via Federal Express to 20121 E. Hwy. 412, Springdale, AR 72764 within 15 business days of the Execution Date of this Settlement Agreement.

3. **Dismissal of Litigation:** Bryson agrees to dismiss the Litigation with prejudice within ten days of receipt of the payments above.

4. **No Admission:** It is further understood and agreed that the fulfillment of the terms of this Settlement Agreement is merely a compromised settlement and an accord and satisfaction of potential claims, and does not constitute an admission of liability by any of the Parties.

5. **Warranty:** The City, Bryson and CH2M agree that the two-year warranty bond for construction of the ozone disinfection system commenced on March 15, 2016.

6. **Release by Bryson:** Except for the obligations created by this Settlement Agreement, effective immediately upon Bryson's receipt of the settlement payments referenced above in Paragraph 2, Bryson, and its parents, subsidiaries, affiliates, predecessors or successors in interest, assigns, partners, agents, representatives, attorneys, employees, shareholders, owners, officers, directors, sureties, and insurers ("Bryson Releasing Parties") do hereby RELEASE, ACQUIT, and FOREVER DISCHARGE the City and CH2M and their parents, subsidiaries, and affiliates, including all predecessors or successors in interest, assigns, partners, agents, representatives, attorneys, employees, shareholders, owners, officers, directors, subcontractors, suppliers, sureties, bonding companies, elected officials, and insurers ("City and CH2M Released Parties") from any and all possible actions, causes of action, suits, accounts, contracts, controversies, agreements, promises, damages, rights, duties, liens, claims, obligations, allegations, demands, losses, costs, expenses, and liabilities, of any kind or nature whatsoever, at law or in equity, whether known or unknown, fixed or

contingent, as well as any express, implied, or equitable indemnity, interest, attorneys' fees, costs, punitive damages, penalties, statutory penalties, claims based on fraud or concealment, and claims for malicious prosecution, which the Bryson Releasing Parties have or may have against the City and CH2M Released Parties arising out of or relating to the City-Bryson Agreement, the City-CH2M Agreement, the Project, the Litigation, or the City's Tender.

7. **Release by the City:** Except for the obligations created by this Settlement Agreement, effective immediately upon Bryson's dismissal of the Litigation with prejudice, the City, and its parents, subsidiaries, affiliates, predecessors or successors in interest, assigns, partners, agents, representatives, attorneys, employees, shareholders, owners, officers, directors, sureties, elected officials, and insurers ("City Releasing Parties") do hereby RELEASE, ACQUIT, and FOREVER DISCHARGE Bryson and CH2M and their parents, subsidiaries, and affiliates, including all predecessors or successors in interest, assigns, partners, agents, representatives, attorneys, employees, shareholders, owners, officers, directors, subcontractors, suppliers, sureties, bonding companies, and insurers ("Bryson and CH2M Released Parties") from any and all possible actions, causes of action, suits, accounts, contracts, controversies, agreements, promises, damages, rights, duties, liens, claims, obligations, allegations, demands, losses, costs, expenses, and liabilities, of any kind or nature whatsoever, at law or in equity, whether known or unknown, fixed or contingent, as well as any express, implied, or equitable indemnity, interest, attorneys' fees, costs, punitive damages, penalties, statutory penalties, claims based on fraud or concealment, and claims for malicious prosecution, which the City Releasing Parties have or may have against the Bryson and CH2M Released Parties arising out of or relating to the City-Bryson Agreement, the City-CH2M Agreement, the Project, the Litigation, or the City's Tender.

8. **Release by CH2M:** Except for the obligations created by this Settlement Agreement, effective immediately upon Bryson's dismissal of the Litigation with prejudice, CH2M, and its parents, subsidiaries, affiliates, predecessors or successors in interest, assigns, partners, agents, representatives, attorneys, employees, shareholders, owners, officers, directors, sureties, and insurers ("CH2M Releasing Parties") do hereby RELEASE, ACQUIT, and FOREVER DISCHARGE the City and Bryson and their parents, subsidiaries, and affiliates, including all predecessors or successors in interest, assigns, partners, agents, representatives, attorneys, employees, shareholders, owners, officers, directors, subcontractors, suppliers, sureties, bonding companies, elected officials, and insurers ("City and Bryson Released Parties") from any and all possible actions, causes of action, suits, accounts, contracts, controversies, agreements, promises, damages, rights, duties, liens, claims, obligations, allegations, demands, losses, costs, expenses, and liabilities, of any kind or nature whatsoever, at law or in equity, whether known or unknown, fixed or contingent, as well as any express, implied, or equitable indemnity, interest, attorneys' fees, costs, punitive damages, penalties, statutory penalties, claims based on fraud or concealment, and claims for malicious prosecution, which the CH2M Releasing Parties have or may have against the City and Bryson Released Parties arising out of or relating to the City-Bryson Agreement, the City-CH2M Agreement, the Project, the Litigation, or the City's Tender.

9. **Representations and Warranties:** The Parties expressly represent and warrant that they are the sole owner(s) of all claims, demands and causes of action, of any type, that are released herein and that no other person or entity had or has any interest in the matters referred to and released herein; that the signature of the person signing this Settlement Agreement on behalf of that Party has the right and authority to execute this Settlement Agreement on its behalf; that the Parties believe that they are acting

in the best interest of themselves in executing this Settlement Agreement; and that the Parties are correctly described in this Settlement Agreement.

10. **Covenant Not to Sue:** The Parties hereby covenant that they have not filed any arbitrations, lawsuits, liens, or other legal proceedings other than the Litigation identified above. Each Party further agrees that it shall not cause to be filed, prosecuted, or pursued, and shall not assist others in pursuing, any claim, lawsuit, lien, arbitration, or other proceeding against any other Party on their own behalf or in a representative capacity on behalf of any other person or entity with respect to the claims released herein.

11. **Full and Final Compromise:** This Settlement Agreement constitutes a full and final compromise and settlement of all claims and damages, whether known or unknown, related to the City-Bryson Agreement with the City for construction and installation of the BlueInGreen ozone disinfection system and the City-CH2M Agreement for engineering, construction oversight and other services related to the installation of the BlueInGreen ozone disinfection system.

12. **Settlement Agreement Read and Fully Agreed To:** The City, Bryson and CH2M have reviewed the terms of this Agreement with their legal counsel and understand all of the terms set forth in this agreement.

13. **Competency and Authority to Execute:** The undersigned are legally empowered to bind their organizations to this agreement.

14. **Counterparts:** This Agreement may be executed simultaneously in one or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument. A facsimile or PDF signature shall be deemed an original signature for all purposes.

15. **Entire Agreement:** This Settlement Agreement represents the entire understanding and agreement with respect to the subject matter hereof, and supersedes and replaces any prior understanding, agreement or statement, whether written or oral, between the Parties regarding the disputes identified above. The Parties agree that the Parties made no other promise or agreement except as expressed in this Settlement Agreement, and in executing this Settlement Agreement, the Parties are not relying on any statement or representation of one another or any of the other's agents regarding the specific matters in dispute. The Parties are relying on their own judgment and are represented by attorney(s) in this matter. This Settlement Agreement shall not be admissible in any legal proceeding except a proceeding to enforce its terms. For any modification, amendment or waiver of this Settlement Agreement to be binding upon the Parties, it must be reduced to writing and signed by the party against whom it is to be enforced.

16. **Governing Law:** This Settlement Agreement shall be governed by and construed under the laws of the State of Arkansas without regard to its conflicts of law principles. This Settlement Agreement shall be construed as if all Parties jointly prepared this Settlement Agreement and any uncertainty and ambiguity shall not be interpreted against any one Party.

17. **Severability:** If one or more of the provisions of this Settlement Agreement are held to be unenforceable under applicable law, such provisions shall be excluded from this Settlement Agreement and the balance of the Settlement Agreement shall be interpreted as if such provisions were so excluded and shall be enforceable in accordance with its remaining terms.

18. **Other Necessary Steps:** The Parties covenant and agree to perform such other and further acts and/or steps as may be necessary to effectuate the provisions of this Agreement and to execute or procure from third-parties such other and further documents as may be necessary to accomplish the intentions expressed in this Settlement Agreement.

IN AGREEMENT WITH ALL THE TERMS AND CONDITIONS ABOVE, we sign

below:

**CITY OF FAYETTEVILLE,
ARKANSAS**

CH2M

By: _____
LIONELD JORDAN, Mayor

By: Stephen O. Meisinger
*Stephen O. Meisinger, Senior
Designated
Manager*

Date: _____
Attest: _____
SONDRA SMITH, City Clerk

Date: 1/31/17
Attest: Stephen O. Meisinger

JL BRYSON, INC.

By: Justin Bryan
JUSTIN BRYAN, President

Date: 1-30-2017

Attest: Justin Bryan

City of Fayetteville, Arkansas - Budget Adjustment Form (Legistar)

Budget Year 2017	Division /Org2 WASTEWATER TREATMENT (730) Requestor: Cheryl Partain	Adjustment Number
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BUDGET ADJUSTMENT DESCRIPTION / JUSTIFICATION:

A BA is needed in the Disinfection System Replacement (UV) Ozone project to cover the cost of a settlement with JL Bryson for a delay claim made by JL Bryson. Cost savings from the completed Regional Park project is being moved to cover this additional cost.

RESOLUTION/ORDINANCE	COUNCIL DATE:	2/21/2017
	LEGISTAR FILE ID#:	2017-0065
	<i>Barbara Fell</i>	
	2/6/2017 9:51 AM	
	Budget Director	Date
	TYPE:	
	DESCRIPTION:	
	GLDATE:	
	POSTED:	/

TOTAL		-	-				v.20161021
Account Number	Increase / (Decrease)		Project.Sub#		AT	Account Name	
	Expense	Revenue	Project	Sub			
5400.730.5800-5314.00	3,218	-	10008	1	EX	Professional Services - :	
5400.730.5800-5801.00	466	-	10008	1	EX	Fixed Assets - :	
5400.720.5600-5808.00	(3,684)	-	14015	2000	EX	Water Line Improvements - Water Line Irr	
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City of Fayetteville, Arkansas

113 West Mountain Street
Fayetteville, AR 72701
(479) 575-8323

Text File

File Number: 2017-0070

Agenda Date: 2/21/2017

Version: 1

Status: Agenda Ready

In Control: City Council Meeting

File Type: Resolution

Agenda Number: A. 3

ERIN KAISER REIMBURSEMENT:

A RESOLUTION PURSUANT TO FAYETTEVILLE CODE OF ORDINANCES SECTION 39.10(C) (4) TO AUTHORIZE THE MAYOR TO PAY THE AMOUNT OF \$6,258.18 TO ERIN KAISER FOR A WASTEWATER DAMAGE CLAIM ARISING AT 2232 NORTH BRIARWOOD LANE IN ADDITION TO A PREVIOUS PAYMENT OF \$14,557.62 TO SERVPRO FOR SEWER DAMAGE MITIGATION SERVICES

WHEREAS, pursuant to the Fayetteville Code of Ordinances Section 39.10(C)(4), the City Council must approve the payment of wastewater damage claims exceeding \$8,000.00.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF FAYETTEVILLE, ARKANSAS:

Section 1: That the City Council of the City of Fayetteville, Arkansas, pursuant to Fayetteville Code of Ordinances § 39.10(C)(4), authorizes the Mayor to pay \$6,258.18 to Erin Kaiser for a wastewater damage claim arising at 2232 North Briarwood Lane in addition to the previous payment of \$14,557.62 to Servpro for sewer damage mitigation services.

City of Fayetteville Staff Review Form

2017-0070

Legistar File ID

2/21/2017

City Council Meeting Date - Agenda Item Only
N/A for Non-Agenda Item

Tim Nyander

2/2/2017

Utilities Director /
Utilities Department

Submitted By

Submitted Date

Division / Department

Action Recommendation:

ERIN KAISER SEWER DAMAGE CLAIM:

A RESOLUTION PURSUANT TO FAYETTEVILLE CODE OF ORDINANCES SECTION 39.10(C)(4) TO AUTHORIZE THE MAYOR TO PAY THE AMOUNT OF \$6,258.18 TO ERIN KAISER AS REIMBURSEMENT FOR DAMAGE TO HER REAL AND PERSONAL PROPERTY IN ADDITION TO A PREVIOUS PAYMENT OF \$14,557.62 TO SERVPRO FOR SEWER DAMAGE MITIGATION SERVICES

Budget Impact:

5400.720.4410.5311.04

Water/Sewer

Account Number

Fund

N/A

N/A

Project Number

Project Title

Budgeted Item? Yes

Current Budget \$ 50,000.00

Funds Obligated \$ 18,563.57

Current Balance \$ 31,436.43

Does item have a cost? Yes

Item Cost \$ 6,258.18

Budget Adjustment Attached? No

Budget Adjustment \$ -

Remaining Budget \$ 25,178.25

V20140710

Previous Ordinance or Resolution #

Original Contract Number:

Approval Date:

Comments:

MEETING OF FEBRUARY 21, 2017

TO: Mayor and City Council

THRU: Don Marr, Chief of Staff
Water & Sewer Committee

FROM: Tim Nyander, Utilities Director *TN*

DATE: February 2, 2017

SUBJECT: Claim Settlement – Erin Kaiser, 2232 N. Briarwood Lane

RECOMMENDATION:

City Staff recommends approving a claim settlement for sewage damage with Erin Kaiser in the amount of \$6,258.18 for damage to the home 2232 Briarwood Lane.

BACKGROUND:

At approximately 10:30 AM on Friday, October 28, 2016, there was a wastewater blockage caused by a collapsed sewer main. This caused the sewer main to backup and surcharge into the lower floor of the house. Four parties were affected by the damage. The owner contacted the City. City Staff repaired the collapsed pipe, returning the sewer main to normal flow.

DISCUSSION:

Ordinance 5504 identifies the water and wastewater claims process. Normally in a situation such as this, City Crews will contact a licensed, accredited restoration service company to clean and disinfect the affected areas, and the Water and Sewer Division will be directly billed by the restoration service contractor. Servpro has already been paid by the city for sewer damage mitigation in the amount of \$14,557.62. Repairs to the house are \$10,673.18, less \$5,000 paid by Nationwide Insurance.

BUDGET/STAFF IMPACT:

Funds are available in the sewer maintenance self-insurance account.

Attachments:

Staff Review Form
Claim Form and Documentation
Details of Claim Costs
Photos of Damage



RECEIVED

NOV 28 2016

CITY OF FAYETTEVILLE
MAYOR'S OFFICE

CLAIM REQUEST FORM - WATER & WASTEWATER

Although the City of Fayetteville is immune from any claim for liability or damages caused by alleged negligence of its employees, the City Council has authorized a very limited property damage claims procedure.

INSTRUCTIONS: This form is for mailing and hand delivery or fax purposes only. Please complete this form clearly stating the reason for the claim, amount you are requesting, all contact information, and attach appropriate documentation including receipts, estimates, photos, etc. Three (3) written estimates must be provided prior to repairs being made. Substantive documentation (written estimates and/or receipts, proof of incident, etc.) **MUST** be provided to establish all monetary values. Additional sheets may be added. Failure to provide all information and fully substantiate your claim will result in the claim being denied. Please do not discard any items that are being claimed as damaged. **Filing a claim does not imply approval**; claims will be investigated before a decision is rendered; claims received more than **30 days** after the incident will be denied. Claims containing inaccurate or fraudulent information will be denied. Please mail to or hand-deliver documents to: **Mayor's Office - Claims, City of Fayetteville, 113 W. Mountain St., Fayetteville, AR 72701 OR Fax to 479-575-8257**

CLAIMANT INFORMATION

Full Name: YOUNG, CLAYTON, C Email Address: CLAYCOLE.YOUNG@A.MAIL.COM
(Last Name, First Name, Middle Initial)

Street Address: 2232 N. Briarwood Ln
City, State & Zip: FAYETTEVILLE, AR 72703
Daytime Phone Number: 903.278.6097 Alternate Phone Number: —

INCIDENT INFORMATION

Address/Location of Occurrence: 2232 N. Briarwood Ln
Date and Time of Occurrence: 11am - 4pm (Oct 28) Amount Being Claimed: \$ 18,212.68
Nature of Occurrence: (Select One) Sewer Backup ☒ Water ☐ Other ☐
Do you have automobile, home or any other insurance which covers your damage in this incident? NO
(Select One) Automobile ☐ Home ☐ Auto & Home ☐ Other ☐ Deductible Amount \$ —
Have you filed a claim with your insurance company for this damage? NO

The City cannot pay a claim in an amount exceeding a Claimant's insurance deductible, if covered.

The undersigned hereby files a claim against the City of Fayetteville, Arkansas for the following reason(s): *Attach additional sheets if necessary*

SEE ATTACHED

By signing below, I acknowledge that the above-provided information is true and correct to the best of my knowledge and belief.

Claimant's Signature

Date

11/25/16

Received by

Referred to

Bonnie Bolinger

Mark Rogers

For City staff use only

Date Received

Date

11-28-16

11-30-16

Subject: Wastewater Damages Claim

Date of Incidence: October 28, 2016 11a – 4pm

Address:

2232 N. Briarwood Ln
Fayetteville, AR 72703

Homeowner: Clayton Young

The following has been prepared by the homeowner to the best of his ability to estimate costs incurred by the incident. The homeowner has prepared the following document in order to satisfy the City of Fayetteville, Arkansas' wastewater damages claim process in full transparency and under the supervision of legal council.

Description of Incident and Basis of Additional Claims Being Made:

On October 28, 2016 the City of Fayetteville, Arkansas' sewer line main near the property of 2232 N Briarwood Ln had a full stoppage resulting in the discharge of several hundred gallons of wastewater into the bottom floor of the residence at 2232 N Briarwood Ln. Four parties were affected by the damage incurred by this incident:

1. Homeowner
2. Sublessee "X"
3. Sublessee "Y"
4. Sublessee "Z"

Homeowner is claiming damages from:

1. Mitigation Repairs (See "Exhibit B", "Exhibit C" & "Exhibit D")
2. Personal Damages – Living Area
3. Personal Damages – Office
4. Personal Damages – Laundry Room

Servepro Industries Inc was contracted by the City of Fayetteville for category 3 wastewater mitigation for structural aspects of the residence. See "Exhibit A" for full details of mitigation. Much of what is being claimed by homeowner and Sublessee "X", "Y", and "Z" was removed and discarded by Servepro Industries Inc in matter of hours. For reference, there were from 5-8 Servepro crew removing wastewater, debris, personal items, and structural components from most of the bottom floor of the residence. All the aforementioned items were treated as category 3 wastewater contaminated materials and appropriately discarded as such. Many personal items were documented others were not. Of note, the homeowner was the only one home at the time of the occurrence and many personal item losses (especially from Sublessee "X" and "Y") were assessed after they had been removed during mitigation. The homeowner and

Servepro had to discard many items without the consent of the sublessee "X", "Y" & "Z".

Sublessee "X" and Sublessee "Y" share a bedroom.
Sublessee "Z" resides in the adjacent bedroom

Homeowner is claiming damages from mitigation repairs:

- Mitigation repairs estimate #1 [Exhibit B] = \$13,319.85
- Mitigation repairs estimate #2 [Exhibit B] = \$10,673.18
- Mitigation repairs estimate #3 [Exhibit C] = \$13,800
- **AVERAGE REPAIR ESTIMATE = \$12,597.68**

Homeowner is claiming the following damages incurred in the "office":

Burlap Area Rug	200
Concert Posters	40
OFFICE TOTAL	\$240

Homeowner is claiming the following damages incurred in the "living area":

Foam Matting (10' x 8')	60
Surge protector	20
Guitar Cables x 4	125
9V Chargers x 2	40
LIVING AREA TOTAL	\$245

Homeowner is claiming the following damages incurred in the "laundry room":

Wooden Laundry Bins x 4	40
Small Wood Shelf	60
LAUNDRY ROOM TOTAL	\$100

Sublessee "X" and Sublessee "Y" had just returned from a 3-week cross-country trip at the time of the incident and because of that much of their gear was in the floor of their room as opposed to higher shelving units. The room Sublessee "X" and Sublessee "Y" shared also happened to be the low point in the bottom floor and the received a fair amount more damage to their personal belongings than the rest of the bottom floor including the homeowner and Sublessee "Z".

Sublessee "X" is claiming the following damages:

IQ Bike shoes	60
Bikenstocks	100
Black High Heel Boots	75
Wool Slippers	60
Cheetah Doc Martin Boots	90
Teal Doc Martin Boots	90
Adidas High Top Trail Runners	120
Adidas Low Top Trail Runners	120
Oboz Hiking Boots	150
Yoga mats x 2	180
Carhart Hat	35
Silver Wedding Shoes	90
Cutting Mat	25
Computer Case	25
Janome Jem Platinum 760	800
Leather for Purse	25
Pink Camelbak Hydration Pack	85
Vintage Leather Bag	200
Purses x 3	100
MacBook Pro Charger	50
Phone Charger	20
Belkin Surge Protector	30
Oil Diffuser	25
Climbing Rope Rug	60
Total	\$2615

Sublessee "Y" is claiming the following damages:

Yoga Mat	40
Rain Pants	30
Osprey Duffel	150
Osprey Hydration Pack	120
Black Duffel	20
Comforters x 3	180
Clothing Hamper	25
External Hard Drive	100

Construction Textbook	30
Records x 2	20
Asus Memo Pad	100
HP Touchsmart Computer	700
Galaxy Phone Charger	20
Bed Frame	250
Area Rug	100
TOTAL	\$1885

Sublessee "Z" is claiming the following damages:

Shirts x 8	160
Smartwool Base Layers	120
Shoes X 5 Pairs	250
TOTAL	\$530

Damage Claim Subtotals and Summary

Average Repair Estimate	\$12,597.68
Homeowner Office Total	\$240
Homeowner Laundry Room Total	\$100
Homeowner Living Area Total	\$245
Sublessee "X" Damages Total	\$2615
Sublessee "Y" Damages Total	\$1885
Sublessee "Z" Damages Total	\$530

TOTAL DAMAGES CLAIM: \$18,212.68



Servpro of Fayetteville/Springdale

228 E Robinson Ave
Springdale, AR 72764
479-419-5544
Tax ID # 26-3487504

RECEIVED

NOV 28 2016

CITY OF FAYETTEVILLE
MAYOR'S OFFICE

Client: CLAY YOUNG
Property: 2232 BRIARWOOD
FAYETTEVILLE, AR 72703

Operator: ADMIN

Type of Estimate: Water Damage

Date Entered: 11/2/2016

Date Assigned:

Price List: ARFA8X_NOV16

Labor Efficiency: Restoration/Service/Remodel

Estimate: YOUNG_CLAY

Mitigation

[Exhibit A]

Mitig



Servpro of Fayetteville/Springdale

228 E Robinson Ave
Springdale, AR 72764
479-419-5544
Tax ID # 26-3487504

YOUNG_CLAY

Main Level

Main Level

DESCRIPTION	QTY	REMOVE	REPLACE	TAX	TOTAL
1. Emergency service call - during business hours	1.00 EA	0.00	109.84	10.71	120.55
3. Haul debris - per pickup truck load - including dump fees	4.00 EA	102.54	0.00	39.99	450.15
105. Equip. setup, take down & monitoring - after hrs Equipment Set-up: 10.28	3.00 HR	0.00	59.01	17.26	194.29
104. Equip. setup, take down & monitoring - after hrs Equipment daily monitoring: 10.29, 10.30	3.00 HR	0.00	59.01	17.26	194.29
227. Equipment setup, take down, and monitoring (hourly charge) Daily monitoring: 10.31	1.50 HR	0.00	39.30	5.75	64.70
125. Equipment setup, take down, and monitoring (hourly charge) Equipment take down: 11.1	3.00 HR	0.00	39.30	11.50	129.40
106. Power distribution box	5.00 DA	0.00	37.42	18.24	205.34
Total: Main Level				120.71	1,358.72



Living Room

Height: 8'

509.89 SF Walls	261.17 SF Ceiling
771.06 SF Walls & Ceiling	261.17 SF Floor
29.02 SY Flooring	63.25 LF Floor Perimeter
66.17 LF Ceil. Perimeter	

Missing Wall - Goes to Floor

2' 11" X 6' 8"

Opens into HALLWAY

DESCRIPTION	QTY	REMOVE	REPLACE	TAX	TOTAL
126. Baseboard - Detach	63.25 LF	0.00	0.78	4.81	54.15
127. Remove Base shoe	63.25 LF	0.10	0.00	0.62	6.95
129. Tear out non-salv vinyl, cut & bag - Cat 3 water-after hrs	261.17 SF	2.10	0.00	53.47	601.93
130. Tear out non-salvageable tile floor & bag - Cat 3 water	261.17 SF	3.55	0.00	90.40	1,017.55
131. Add for glued down application over concrete substrate	261.17 SF	0.92	0.00	23.43	263.71

YOUNG_CLAY

11/17/2016

Page: 2

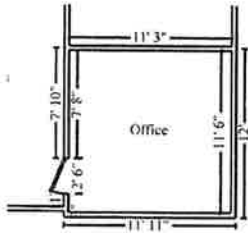


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CONTINUED - Living Room

DESCRIPTION	QTY	REMOVE	REPLACE	TAX	TOTAL
133. Water extraction from hard surface floor - Cat 3 water	261.17 SF	0.00	0.66	16.81	189.18
134. Apply plant-based anti-microbial agent - after hours	261.17 SF	0.00	0.27	6.88	77.40
135. Clean stud wall - Heavy	509.89 SF	0.00	0.72	35.79	402.91
138. Tear out wet paneling, bag for disp. - Cat 3 - after hours	16.58 SF	0.85	0.00	1.37	15.46
139. Air mover (per 24 hour period) - No monitoring 6 air movers for 3 days	18.00 EA	0.00	26.01	45.65	513.83
140. Dehumidifier (per 24 hour period) - XLarge - No monitoring 1 XL Dehumidifier for 3 days	3.00 EA	0.00	101.35	29.64	333.69
Totals: Living Room				308.87	3,476.76



Office

Height: 8'

364.00 SF Walls	129.38 SF Ceiling
493.38 SF Walls & Ceiling	129.38 SF Floor
14.38 SY Flooring	45.50 LF Floor Perimeter
45.50 LF Ceil. Perimeter	

DESCRIPTION	QTY	REMOVE	REPLACE	TAX	TOTAL
141. Water extraction from hard surface floor - Cat 3 water	129.38 SF	0.00	0.66	8.33	93.72
142. Baseboard - Detach	45.50 LF	0.00	0.78	3.46	38.95
143. Tear out non-salv floating floor & bag - Category 3 water	129.38 SF	1.80	0.00	22.71	255.59
144. Tear out wet drywall, cleanup, bag, per LF - to 2' - Cat 3	19.50 LF	3.52	0.00	6.69	75.33
145. Apply plant-based anti-microbial agent	129.38 SF	0.00	0.19	2.40	26.98
146. Content Manipulation charge - per hour	0.50 HR	0.00	28.05	1.37	15.40
216. Air mover (per 24 hour period) - No monitoring 2 air movers for 3 days	6.00 EA	0.00	26.01	15.22	171.28
Totals: Office				60.18	677.25



Servpro of Fayetteville/Springdale

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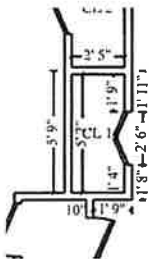
Bedroom 1

Height: 8'

436.00 SF Walls
595.58 SF Walls & Ceiling
17.73 SY Flooring
54.50 LF Ceil. Perimeter

159.58 SF Ceiling
159.58 SF Floor
54.50 LF Floor Perimeter

DESCRIPTION	QTY	REMOVE	REPLACE	TAX	TOTAL
148. Water extraction from hard surface floor - Cat 3 water	159.58 SF	0.00	0.66	10.27	115.59
151. Tear out non-salv. vinyl tile, cut & bag Cat 3 - aft. hrs	159.58 SF	2.35	0.00	36.56	411.57
149. Baseboard - Detach - after hours	54.50 LF	0.00	1.19	6.32	71.18
150. Tear out non-salv floating floor & bag- Cat 3 wtr-aft hrs	159.58 SF	2.66	0.00	41.39	465.87
152. Add for glued down application over concrete substrate	159.58 SF	0.92	0.00	14.31	161.12
153. Tear out wet drywall, cleanup, bag, LF - 4" Cat 3 aft hrs	54.50 LF	4.74	0.00	25.19	283.52
154. Apply plant-based anti-microbial agent - after hours	159.58 SF	0.00	0.27	4.20	47.29
155. Content Manipulation charge - per hour - after hours	1.00 HR	0.00	42.12	4.11	46.23
217. Air mover (per 24 hour period) - No monitoring	15.00 EA	0.00	26.01	38.04	428.19
5 air movers for 3 days					
Totals: Bedroom 1				180.39	2,030.56



CL 1

Height: 8'

128.00 SF Walls
141.49 SF Walls & Ceiling
1.50 SY Flooring
16.00 LF Ceil. Perimeter

13.49 SF Ceiling
13.49 SF Floor
16.00 LF Floor Perimeter

DESCRIPTION	QTY	REMOVE	REPLACE	TAX	TOTAL
156. Water extraction from hard surface floor - Cat 3 water	13.49 SF	0.00	0.66	0.87	9.77
157. Tear out non-salv. vinyl tile, cut & bag Cat 3 - aft. hrs	13.49 SF	2.35	0.00	3.09	34.79
158. Baseboard - Detach - after hours	16.00 LF	0.00	1.19	1.86	20.90



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CONTINUED - CL 1

DESCRIPTION	QTY	REMOVE	REPLACE	TAX	TOTAL
159. Tear out non-salv floating floor & bag- Cat 3 wtr-aft hrs	13.49 SF	2.66	0.00	3.50	39.38
160. Add for glued down application over concrete substrate	13.49 SF	0.92	0.00	1.21	13.62
161. Tear out wet drywall, cleanup, bag, LF - 4" Cat 3 aft hrs	16.00 LF	4.74	0.00	7.39	83.23
162. Apply plant-based anti-microbial agent - after hours	13.49 SF	0.00	0.27	0.35	3.99
163. Content Manipulation charge - per hour - after hours	0.25 HR	0.00	42.12	1.03	11.56
164. Remove Bifold door - Colonist - Single	2.00 EA	7.70	0.00	1.50	16.90
Removed 2 sets of bi-fold doors					
218. Air mover (per 24 hour period) - No monitoring	6.00 EA	0.00	26.01	15.22	171.28
2 air movers for 3 days					
Totals: CL 1				36.02	405.42



Bedroom 2

Height: 8'

436.00 SF Walls	175.10 SF Ceiling
611.10 SF Walls & Ceiling	175.10 SF Floor
19.46 SY Flooring	54.50 LF Floor Perimeter
54.50 LF Ceil. Perimeter	

DESCRIPTION	QTY	REMOVE	REPLACE	TAX	TOTAL
165. Water extraction from hard surface floor - Cat 3 water	175.10 SF	0.00	0.66	11.27	126.84
167. Baseboard - Detach - after hours	54.50 LF	0.00	1.19	6.32	71.18
168. Tear out non-salv floating floor & bag- Cat 3 wtr-aft hrs	175.10 SF	2.66	0.00	45.41	511.18
166. Tear out non-salv vinyl, cut & bag - Category 3 water	175.10 SF	1.36	0.00	23.22	261.36
169. Add for glued down application over concrete substrate	175.10 SF	0.92	0.00	15.71	176.80
170. Tear out wet drywall, cleanup, bag, LF - 2' Cat 3 aft hrs	54.50 LF	5.12	0.00	27.21	306.25
171. Apply plant-based anti-microbial agent	175.10 SF	0.00	0.19	3.24	36.51

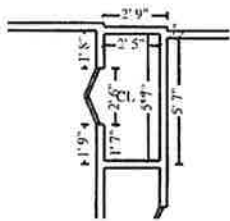


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CONTINUED - Bedroom 2

DESCRIPTION	QTY	REMOVE	REPLACE	TAX	TOTAL
172. Content Manipulation charge - per hour - after hours	1.00 HR	0.00	42.12	4.11	46.23
173. Remove Outlet or switch cover	3.00 EA	0.39	0.00	0.11	1.28
176. Tear out wet paneling, bag for disp. - Cat 3 - after hours	611.10 SF	0.85	0.00	50.65	570.09
219. Air mover (per 24 hour period) - No monitoring 4 air movers for 4 days	16.00 EA	0.00	26.01	40.58	456.74
Totals: Bedroom 2				227.83	2,564.46



CL 2

Height: 8'

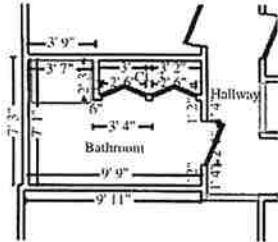
128.00 SF Walls	13.49 SF Ceiling
141.49 SF Walls & Ceiling	13.49 SF Floor
1.50 SY Flooring	16.00 LF Floor Perimeter
16.00 LF Ceil. Perimeter	

DESCRIPTION	QTY	REMOVE	REPLACE	TAX	TOTAL
177. Baseboard - Detach - after hours	16.00 LF	0.00	1.19	1.86	20.90
178. Tear out non-salv floating floor & bag- Cat 3 wtr-aft hrs	13.49 SF	2.66	0.00	3.50	39.38
179. Tear out non-salv vinyl, cut & bag - Category 3 water	13.49 SF	1.36	0.00	1.79	20.14
180. Add for glued down application over concrete substrate	13.49 SF	0.92	0.00	1.21	13.62
181. Tear out wet drywall, cleanup, bag, LF - 4" Cat 3 aft hrs	10.00 LF	4.74	0.00	4.62	52.02
182. Apply plant-based anti-microbial agent - after hours	13.49 SF	0.00	0.27	0.35	3.99
185. Remove Bifold door - Colonist - Single	2.00 EA	7.70	0.00	1.50	16.90
220. Air mover (per 24 hour period) - No monitoring 2 air movers for 3 days	6.00 EA	0.00	26.01	15.22	171.28
Totals: CL 2				30.05	338.23



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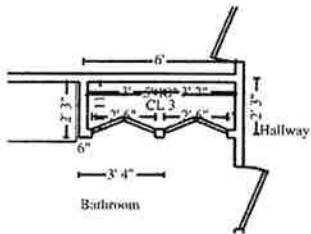


Bathroom

Height: 8'

252.66 SF Walls	55.19 SF Ceiling
307.84 SF Walls & Ceiling	47.13 SF Floor
5.24 SY Flooring	30.33 LF Floor Perimeter
33.67 LF Ceil. Perimeter	

DESCRIPTION	QTY	REMOVE	REPLACE	TAX	TOTAL
186. Water extraction from hard surface floor - Cat 3 water	47.13 SF	0.00	0.66	3.03	34.14
187. Clean toilet - Heavy	1.00 EA	0.00	19.88	1.94	21.82
188. Clean shower - Heavy	1.00 EA	0.00	38.42	3.75	42.17
189. Baseboard - Detach - after hours	30.33 LF	0.00	1.19	3.52	39.61
190. Tear out wet drywall, cleanup, bag, LF - 2' Cat 3 aft hrs	9.00 LF	5.12	0.00	4.49	50.57
191. Tear out wet drywall, cleanup, bag, LF - 4' Cat 3 aft hrs	1.50 LF	6.89	0.00	1.01	11.35
192. Tear out non-salv. tile floor & bag - Cat 3 water-aft hrs	47.13 SF	5.25	0.00	24.12	271.55
193. Drill holes for wall cavity drying - after hrs	7.00 EA	0.00	0.51	0.35	3.92
194. Apply plant-based anti-microbial agent - after hours	47.13 SF	0.00	0.27	1.24	13.97
221. Air mover (per 24 hour period) - No monitoring	20.00 EA	0.00	26.01	50.72	570.92
5 air movers for 4 days					
Totals: Bathroom				94.17	1,060.02



CL 3

Height: 8'

124.00 SF Walls	11.18 SF Ceiling
135.18 SF Walls & Ceiling	11.18 SF Floor
1.24 SY Flooring	15.50 LF Floor Perimeter
15.50 LF Ceil. Perimeter	

DESCRIPTION	QTY	REMOVE	REPLACE	TAX	TOTAL
195. Tear out non-salv. tile floor & bag - Cat 3 water-aft hrs	11.18 SF	5.25	0.00	5.72	64.42
196. Baseboard - Detach - after hours	15.50 LF	0.00	1.19	1.80	20.25

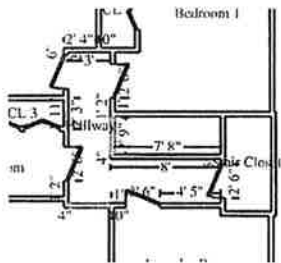


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Springdale, AR 72764
479-419-5544
Tax ID # 26-3487504

CONTINUED - CL 3

DESCRIPTION	QTY	REMOVE	REPLACE	TAX	TOTAL
197. Tear out wet drywall, cleanup, bag, LF - 2' Cat 3 aft hrs	15.50 LF	5.12	0.00	7.74	87.10
198. Water extraction from hard surface floor - Cat 3 water	11.18 SF	0.00	0.66	0.72	8.10
199. Apply plant-based anti-microbial agent	11.18 SF	0.00	0.19	0.21	2.33
200. Remove Bifold door - Colonist - Single	2.00 EA	7.70	0.00	1.50	16.90
222. Air mover (per 24 hour period) - No monitoring 2 air movers for 3 days	6.00 EA	0.00	26.01	15.22	171.28
Totals: CL 3				32.91	370.38



Hallway

Height: 8'

315.56 SF Walls	59.25 SF Ceiling
374.81 SF Walls & Ceiling	59.25 SF Floor
6.58 SY Flooring	38.50 LF Floor Perimeter
44.17 LF Ceil. Perimeter	

Missing Wall - Goes to Floor

2' 11" X 6' 8"

Opens into LIVING_ROOM

Missing Wall - Goes to Floor

2' 9" X 6' 8"

Opens into Exterior

DESCRIPTION	QTY	REMOVE	REPLACE	TAX	TOTAL
201. Baseboard - Detach - after hours	38.50 LF	0.00	1.19	4.47	50.29
202. Remove Base shoe	38.50 LF	0.10	0.00	0.38	4.23
203. Tear out non-salv. tile floor & bag - Cat 3 water-aft hrs	59.25 SF	5.25	0.00	30.33	341.39
204. Tear out non-salv vinyl, cut & bag - Cat 3 water-after hrs	59.25 SF	2.10	0.00	12.13	136.56
205. Add for glued down application over concrete substrate	59.25 SF	0.92	0.00	5.31	59.82
206. Tear out wet drywall, cleanup, bag, LF - 4" Cat 3 aft hrs	19.25 LF	4.74	0.00	8.90	100.15
207. Tear out wet drywall, cleanup, bag, LF - 2' Cat 3 aft hrs	19.25 LF	5.12	0.00	9.61	108.17
208. Apply plant-based anti-microbial agent - after hours	59.25 SF	0.00	0.27	1.56	17.56
223. Air mover (per 24 hour period) - No monitoring 3 air movers for 3 days	9.00 EA	0.00	26.01	22.82	256.91

YOUNG_CLAY

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Servpro of Fayetteville/Springdale

228 E Robinson Ave
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CONTINUED - Hallway

DESCRIPTION	QTY	REMOVE	REPLACE	TAX	TOTAL
224. Dehumidifier (per 24 hour period) - Large - No monitoring 1 large Dehumidifier for 3 days	3.00 EA	0.00	77.46	22.66	255.04
Totals: Hallway				118.17	1,330.12

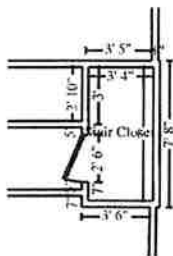


Laundry Room

Height: 8'

306.67 SF Walls	87.02 SF Ceiling
393.69 SF Walls & Ceiling	87.02 SF Floor
9.67 SY Flooring	38.33 LF Floor Perimeter
38.33 LF Ceil. Perimeter	

DESCRIPTION	QTY	REMOVE	REPLACE	TAX	TOTAL
209. Water extraction from hard surface floor - Cat 3 water	87.02 SF	0.00	0.66	5.60	63.03
210. Baseboard - Detach - after hours	38.33 LF	0.00	1.19	4.45	50.06
211. Tear out wet drywall, cleanup, bag, LF - 2' Cat 3 aft hrs	38.33 LF	5.12	0.00	19.13	215.38
212. Apply plant-based anti-microbial agent - after hours	87.02 SF	0.00	0.27	2.29	25.79
213. Content Manipulation charge - per hour	0.50 HR	0.00	28.05	1.37	15.40
225. Air mover (per 24 hour period) - No monitoring 3 air movers for 3 days	9.00 EA	0.00	26.01	22.82	256.91
Totals: Laundry Room				55.66	626.57



Stair Closet

Height: 8'

165.33 SF Walls	23.33 SF Ceiling
188.67 SF Walls & Ceiling	23.33 SF Floor
2.59 SY Flooring	20.67 LF Floor Perimeter
20.67 LF Ceil. Perimeter	

DESCRIPTION	QTY	REMOVE	REPLACE	TAX	TOTAL
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**Servpro of Fayetteville/Springdale**

228 E Robinson Ave
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CONTINUED - Stair Closet

DESCRIPTION	QTY	REMOVE	REPLACE	TAX	TOTAL
214. Water extraction from hard surface floor - Cat 3 water	23.33 SF	0.00	0.66	1.50	16.90
215. Apply plant-based anti-microbial agent	23.33 SF	0.00	0.19	0.43	4.86
226. Air mover (per 24 hour period) - No monitoring 1 air mover for 3 days	3.00 EA	0.00	26.01	7.61	85.64
Totals: Stair Closet				9.54	107.40
Total: Main Level				1,274.50	14,345.89

Labor Minimums Applied

DESCRIPTION	QTY	REMOVE	REPLACE	TAX	TOTAL
128. Finish carpentry labor minimum	1.00 EA	0.00	56.53	5.51	62.04
175. Electrical labor minimum	1.00 EA	0.00	136.39	13.30	149.69
Totals: Labor Minimums Applied				18.81	211.73
Line Item Totals: YOUNG_CLAY				1,293.31	14,557.62

Grand Total Areas:

3,166.10 SF Walls	988.18 SF Ceiling	4,154.28 SF Walls and Ceiling
980.12 SF Floor	108.90 SY Flooring	393.08 LF Floor Perimeter
0.00 SF Long Wall	0.00 SF Short Wall	405.00 LF Ceil. Perimeter
980.12 Floor Area	1,083.57 Total Area	3,166.10 Interior Wall Area
1,421.67 Exterior Wall Area	160.00 Exterior Perimeter of Walls	
0.00 Surface Area	0.00 Number of Squares	0.00 Total Perimeter Length
0.00 Total Ridge Length	0.00 Total Hip Length	



Servpro of Fayetteville/Springdale

228 E Robinson Ave
Springdale, AR 72764
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Summary for Dwelling

Line Item Total	13,264.31
Total Sales Tax	1,293.31
Replacement Cost Value	\$14,557.62
Net Claim	\$14,557.62

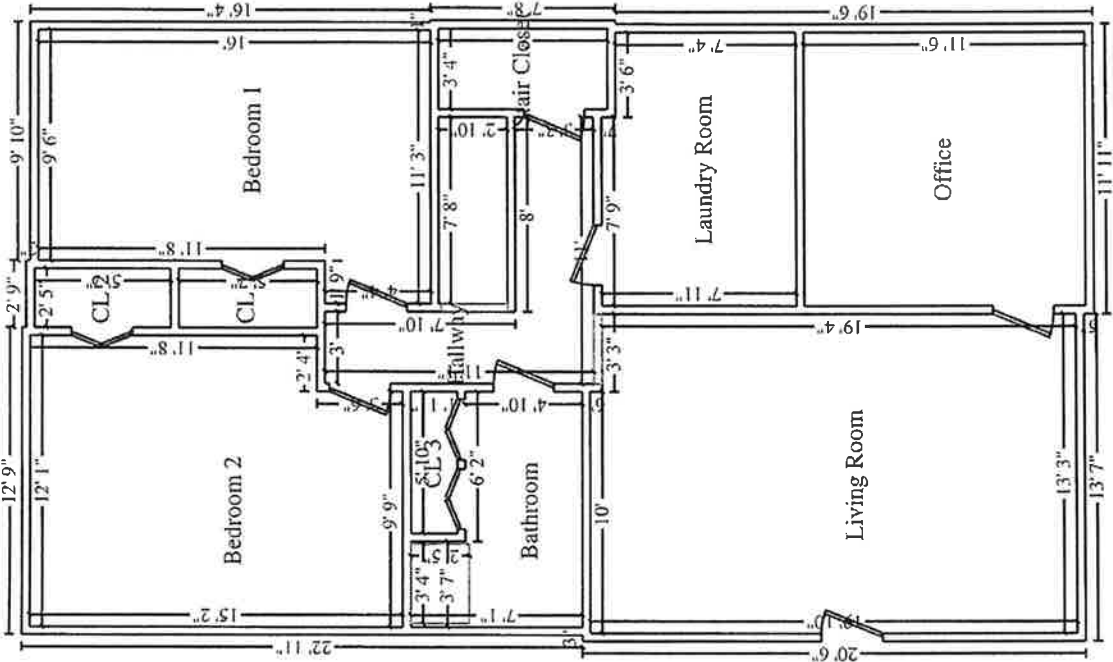


Servpro of Fayetteville/Springdale

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Recap by Category

Items	Total	%
CLEANING	425.42	2.92%
CONTENT MANIPULATION	122.83	0.84%
GENERAL DEMOLITION	6,955.16	47.78%
ELECTRICAL	136.39	0.94%
FINISH CARPENTRY / TRIMWORK	56.53	0.39%
WATER EXTRACTION & REMEDIATION	5,567.98	38.25%
Subtotal	13,264.31	91.12%
Total Sales Tax	1,293.31	8.88%
Total	14,557.62	100.00%





Servpro of Fayetteville/Springdale

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479-419-5544
Tax ID # 26-3487504

Client: CLAY YOUNG
Property: 2232 BRIARWOOD
FAYETTEVILLE, AR 72703

Operator: ADMIN

Type of Estimate: Water Damage
Date Entered: 11/2/2016

Date Assigned:

Price List: ARFA8X_NOV16
Labor Efficiency: Restoration/Service/Remodel
Estimate: YOUNG_CLAY-RPR

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NOV 28 2016

CITY OF FAYETTEVILLE
MAYOR'S OFFICE

[Exhibit B]



Servpro of Fayetteville/Springdale

228 E Robinson Ave
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479-419-5544
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YOUNG_CLAY-RPR

Main Level



Living

Height: 8'

521.56 SF Walls	255.40 SF Ceiling
776.97 SF Walls & Ceiling	255.40 SF Floor
28.38 SY Flooring	65.20 LF Floor Perimeter
65.20 LF Ceil. Perimeter	

DESCRIPTION	QTY	REMOVE	REPLACE	TAX	O&P	TOTAL
5. Base shoe	65.20 LF	0.00	0.87	2.54	11.84	71.10
126. Laminate - simulated wood flooring	255.40 SF	0.00	5.18	154.79	264.60	1,742.36
125. Baseboard - 2 1/4"	65.20 LF	0.00	1.73	4.45	23.46	140.71
172. Paint baseboard - two coats	65.20 LF	0.00	0.87	0.70	11.48	68.90
182. Casing - 2 1/4"	17.00 LF	0.00	1.40	1.39	5.04	30.23
183. Paint casing - two coats	17.00 LF	0.00	0.87	0.18	3.00	17.97
202. Paneling	21.73 SF	0.00	1.67	1.40	7.54	45.23
Totals: Living				165.45	326.96	2,116.50



Office

Height: 8'

364.00 SF Walls	129.38 SF Ceiling
493.38 SF Walls & Ceiling	129.38 SF Floor
14.38 SY Flooring	45.50 LF Floor Perimeter
45.50 LF Ceil. Perimeter	

DESCRIPTION	QTY	REMOVE	REPLACE	TAX	O&P	TOTAL
127. Baseboard - 2 1/4"	45.50 LF	0.00	1.73	3.11	16.36	98.19
128. Laminate - simulated wood flooring	129.38 SF	0.00	5.18	78.41	134.04	882.64
129. 1/2" - drywall per LF - up to 2' tall	19.50 LF	0.00	4.91	1.92	19.54	117.21
131. Texture drywall - light hand texture	39.00 SF	0.00	0.31	0.15	2.46	14.70
132. Paint the walls - two coats	364.00 SF	0.00	0.62	6.74	46.48	278.90
171. Paint baseboard - two coats	45.50 LF	0.00	0.87	0.49	8.02	48.10

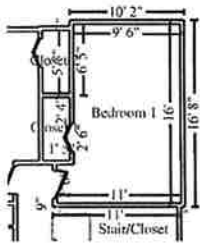


Servpro of Fayetteville/Springdale

228 E Robinson Ave
Springdale, AR 72764
479-419-5544
Tax ID # 26-3487504

CONTINUED - Office

DESCRIPTION	QTY	REMOVE	REPLACE	TAX	O&P	TOTAL
185. Seal the surface area w/PVA primer - one coat	39.00 SF	0.00	0.36	0.19	2.84	17.07
186. Contents - move out then reset - Small room	1.00 EA	0.00	28.73	0.00	5.74	34.47
Totals: Office				91.01	235.48	1,491.28

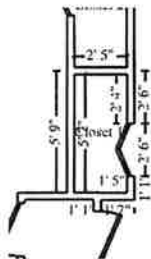


Bedroom 1

Height: 8'

432.50 SF Walls	157.12 SF Ceiling
589.62 SF Walls & Ceiling	157.12 SF Floor
17.46 SY Flooring	54.06 LF Floor Perimeter
54.06 LF Ceil. Perimeter	

DESCRIPTION	QTY	REMOVE	REPLACE	TAX	O&P	TOTAL
134. Baseboard - 2 1/4"	28.40 LF	0.00	1.73	1.94	10.20	61.27
135. Laminate - simulated wood flooring	157.12 SF	0.00	5.18	95.22	162.78	1,071.88
136. 1/2" - drywall per LF - up to 4 inches tall	21.75 LF	0.00	1.46	0.32	6.42	38.50
170. Paint baseboard - two coats	54.06 LF	0.00	0.87	0.58	9.52	57.13
203. Paneling	18.02 SF	0.00	1.67	1.16	6.26	37.51
Totals: Bedroom 1				99.22	195.18	1,266.29



Closet 1

Height: 8'

128.78 SF Walls	13.66 SF Ceiling
142.44 SF Walls & Ceiling	13.66 SF Floor
1.52 SY Flooring	16.10 LF Floor Perimeter
16.10 LF Ceil. Perimeter	

DESCRIPTION	QTY	REMOVE	REPLACE	TAX	O&P	TOTAL
137. Baseboard - 2 1/4"	16.10 LF	0.00	1.73	1.10	5.80	34.75
138. Laminate - simulated wood flooring	13.66 SF	0.00	5.18	8.28	14.16	93.20
139. 1/2" - drywall per LF - up to 4 inches tall	16.10 LF	0.00	1.46	0.24	4.74	28.49



Servpro of Fayetteville/Springdale

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CONTINUED - Closet 1

DESCRIPTION	QTY	REMOVE	REPLACE	TAX	O&P	TOTAL
169. Paint baseboard - two coats	16.10 LF	0.00	0.87	0.17	2.84	17.02
Totals: Closet 1				9.79	27.54	173.46

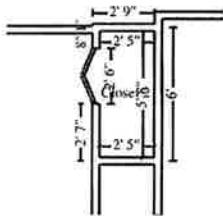


Bedroom 2

Height: 8'

434.72 SF Walls	173.56 SF Ceiling
608.29 SF Walls & Ceiling	173.56 SF Floor
19.28 SY Flooring	54.34 LF Floor Perimeter
54.34 LF Ceil. Perimeter	

DESCRIPTION	QTY	REMOVE	REPLACE	TAX	O&P	TOTAL
47. Outlet or switch cover	3.00 EA	0.00	1.72	0.16	1.08	6.40
173. Baseboard - 2 1/4"	54.34 LF	0.00	1.73	3.71	19.54	117.26
174. Paint baseboard - two coats	54.34 LF	0.00	0.87	0.58	9.58	57.44
175. Laminate - simulated wood flooring	173.56 SF	0.00	5.18	105.19	179.80	1,184.03
176. 1/2" - drywall per LF - up to 2' tall	54.34 LF	0.00	4.91	5.35	54.44	326.60
177. Paneling	163.35 SF	0.00	1.67	10.51	56.66	339.96
180. R&R Chair rail - 2 1/2" stain grade	54.34 LF	0.25	2.50	8.11	31.52	189.07
Totals: Bedroom 2				133.61	352.62	2,220.76



Closet 2

Height: 8'

129.89 SF Walls	13.82 SF Ceiling
143.70 SF Walls & Ceiling	13.82 SF Floor
1.54 SY Flooring	16.24 LF Floor Perimeter
16.24 LF Ceil. Perimeter	

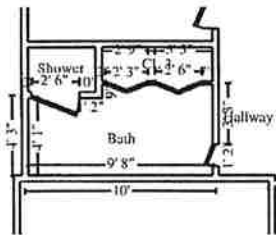
DESCRIPTION	QTY	REMOVE	REPLACE	TAX	O&P	TOTAL
142. Laminate - simulated wood flooring	13.82 SF	0.00	5.18	8.38	14.32	94.29
71. Bifold door set - Colonist - Double	2.00 EA	0.00	181.81	23.71	77.46	464.79

**Servpro of Fayetteville/Springdale**

228 E Robinson Ave
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CONTINUED - Closet 2

DESCRIPTION	QTY	REMOVE	REPLACE	TAX	O&P	TOTAL
141. 1/2" - drywall per LF - up to 4 inches tall	16.37 LF	0.00	1.46	0.24	4.82	28.96
140. Baseboard - 2 1/4"	16.37 LF	0.00	1.73	1.12	5.88	35.32
168. Paint baseboard - two coats	16.37 LF	0.00	0.87	0.18	2.88	17.30
Totals: Closet 2				33.63	105.36	640.66

**Bath****Height: 8'**

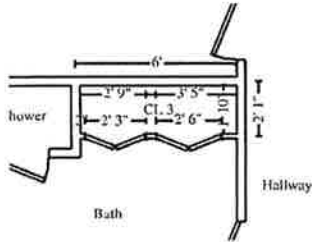
232.20 SF Walls	44.00 SF Ceiling
276.20 SF Walls & Ceiling	44.00 SF Floor
4.89 SY Flooring	29.02 LF Floor Perimeter
29.02 LF Ceil. Perimeter	

DESCRIPTION	QTY	REMOVE	REPLACE	TAX	O&P	TOTAL
143. Tile floor covering - Standard grade	36.00 SF	0.00	5.33	22.45	38.38	252.71
147. 1/2" - drywall per LF - up to 4' tall	1.50 LF	0.00	7.24	0.27	2.24	13.37
145. Baseboard - 2 1/4"	29.02 LF	0.00	1.73	1.98	10.44	62.62
146. 1/2" - drywall per LF - up to 2' tall	9.00 LF	0.00	4.91	0.89	9.02	54.10
151. Texture drywall - light hand texture	24.00 SF	0.00	0.31	0.09	1.50	9.03
152. Paint the walls - two coats	232.20 SF	0.00	0.62	4.30	29.66	177.92
167. Paint baseboard - two coats	29.02 LF	0.00	0.87	0.31	5.12	30.68
188. Seal the surface area w/PVA primer - one coat	24.00 SF	0.00	0.36	0.12	1.74	10.50
189. Bead board - 3/8" softwood veneer	26.00 SF	0.00	2.26	2.92	12.34	74.02
190. Corner trim	8.00 LF	0.00	1.30	0.59	2.20	13.19
191. Chair rail - 2 1/2"	8.00 LF	0.00	2.06	0.88	3.48	20.84
192. Paint chair rail - two coats	29.02 LF	0.00	0.87	0.31	5.12	30.68
204. R&R Vanity	7.50 LF	4.62	119.83	71.66	201.02	1,206.06
205. R&R Countertop - flat laid plastic laminate	6.00 LF	2.66	33.02	14.91	45.80	274.79
Totals: Bath				121.68	368.06	2,230.51



Servpro of Fayetteville/Springdale

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CL 3

Height: 8'

122.86 SF Walls
133.58 SF Walls & Ceiling
1.19 SY Flooring
15.36 LF Ceil. Perimeter

10.72 SF Ceiling
10.72 SF Floor
15.36 LF Floor Perimeter

DESCRIPTION	QTY	REMOVE	REPLACE	TAX	O&P	TOTAL
82. Bifold door set - Colonist - Double	2.00 EA	0.00	181.81	23.71	77.46	464.79
148. Tile floor covering	10.72 SF	0.00	6.82	8.56	14.62	96.29
149. Baseboard - 2 1/4"	15.36 LF	0.00	1.73	1.05	5.54	33.16
150. 1/2" - drywall per LF - up to 2' tall	15.36 LF	0.00	4.91	1.51	15.38	92.31
153. Texture drywall - light hand texture	15.36 SF	0.00	0.31	0.06	0.98	5.80
154. Paint the walls - two coats	122.86 SF	0.00	0.62	2.28	15.70	94.15
196. Seal the surface area w/PVA primer - one coat	30.72 SF	0.00	0.36	0.15	2.26	13.47
Totals: CL 3				37.32	131.94	799.97



Hallway

Height: 8'

307.98 SF Walls
364.23 SF Walls & Ceiling
6.25 SY Flooring
38.50 LF Ceil. Perimeter

56.25 SF Ceiling
56.25 SF Floor
38.50 LF Floor Perimeter

Missing Wall 9 9/16" X 8' Opens into STAIR_CLOSET
Missing Wall 11" X 8' Opens into Exterior
Missing Wall 2' 7 1/16" X 8' Opens into Exterior
Missing Wall 7" X 8' Opens into Exterior
Missing Wall 3 1/4" X 8' Opens into STAIR_CLOSET

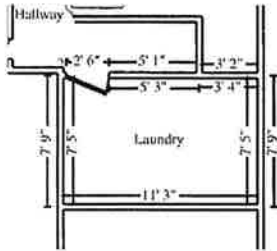
DESCRIPTION	QTY	REMOVE	REPLACE	TAX	O&P	TOTAL
95. Base shoe	38.50 LF	0.00	0.87	1.50	7.00	42.00
155. Baseboard - 2 1/4"	38.50 LF	0.00	1.73	2.63	13.84	83.08
156. Tile floor covering	56.25 SF	0.00	6.82	44.88	76.72	505.23
157. 1/2" - drywall per LF - up to 4 inches tall	11.50 LF	0.00	1.46	0.17	3.40	20.36

**Servpro of Fayetteville/Springdale**

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CONTINUED - Hallway

DESCRIPTION	QTY	REMOVE	REPLACE	TAX	O&P	TOTAL
158. 1/2" - drywall per LF - up to 2' tall	11.50 LF	0.00	4.91	1.13	11.52	69.12
159. Texture drywall - light hand texture	38.50 SF	0.00	0.31	0.15	2.42	14.51
160. Paint the walls - two coats	307.98 SF	0.00	0.62	5.71	39.34	236.00
166. Paint baseboard - two coats	38.50 LF	0.00	0.87	0.41	6.78	40.69
197. Paint baseboard w/cap &/or shoe - two coats	38.50 LF	0.00	1.06	0.83	8.32	49.96
198. Seal the surface area w/PVA primer - one coat	22.66 SF	0.00	0.36	0.11	1.66	9.93
Totals: Hallway				57.52	171.00	1,070.88

**Laundry****Height: 8'**

298.10 SF Walls	83.05 SF Ceiling
381.15 SF Walls & Ceiling	83.05 SF Floor
9.23 SY Flooring	37.26 LF Floor Perimeter
37.26 LF Ceil. Perimeter	

DESCRIPTION	QTY	REMOVE	REPLACE	TAX	O&P	TOTAL
161. Baseboard - 2 1/4"	37.26 LF	0.00	1.73	2.54	13.40	80.40
162. 1/2" - drywall per LF - up to 2' tall	37.26 LF	0.00	4.91	3.67	37.34	223.96
163. Texture drywall - light hand texture	15.00 SF	0.00	0.31	0.06	0.96	5.67
164. Paint baseboard - two coats	37.26 LF	0.00	0.87	0.40	6.56	39.38
165. Paint the surface area - two coats	54.46 SF	0.00	0.62	1.01	6.96	41.74
199. R&R Wallpaper	126.00 SF	0.48	1.74	12.53	58.44	350.69
Totals: Laundry				20.21	123.66	741.84

Total: Main Level **769.44 2,037.80 12,752.15**

Labor Minimums Applied

DESCRIPTION	QTY	REMOVE	REPLACE	TAX	O&P	TOTAL
187. General labor - labor minimum	1.00 EA	0.00	13.39	0.00	2.68	16.07
Totals: Labor Minimums Applied				0.00	2.68	16.07



Servpro of Fayetteville/Springdale

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479-419-5544
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Line Item Totals: YOUNG_CLAY-RPR	769.44	2,040.48	12,768.22
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Grand Total Areas:

3,322.59 SF Walls	987.31 SF Ceiling	4,309.91 SF Walls and Ceiling
987.31 SF Floor	109.70 SY Flooring	415.32 LF Floor Perimeter
0.00 SF Long Wall	0.00 SF Short Wall	415.32 LF Ceil. Perimeter
987.31 Floor Area	1,079.88 Total Area	3,321.50 Interior Wall Area
1,253.37 Exterior Wall Area	149.92 Exterior Perimeter of Walls	
0.00 Surface Area	0.00 Number of Squares	0.00 Total Perimeter Length
0.00 Total Ridge Length	0.00 Total Hip Length	



Servpro of Fayetteville/Springdale

228 E Robinson Ave
Springdale, AR 72764
479-419-5544
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Summary for Dwelling

Line Item Total	9,958.30
Material Sales Tax	243.28
Subtotal	10,201.58
Overhead	1,020.24
Profit	1,020.24
Service Sales Tax	526.16
Replacement Cost Value	\$12,768.22
Net Claim	\$12,768.22

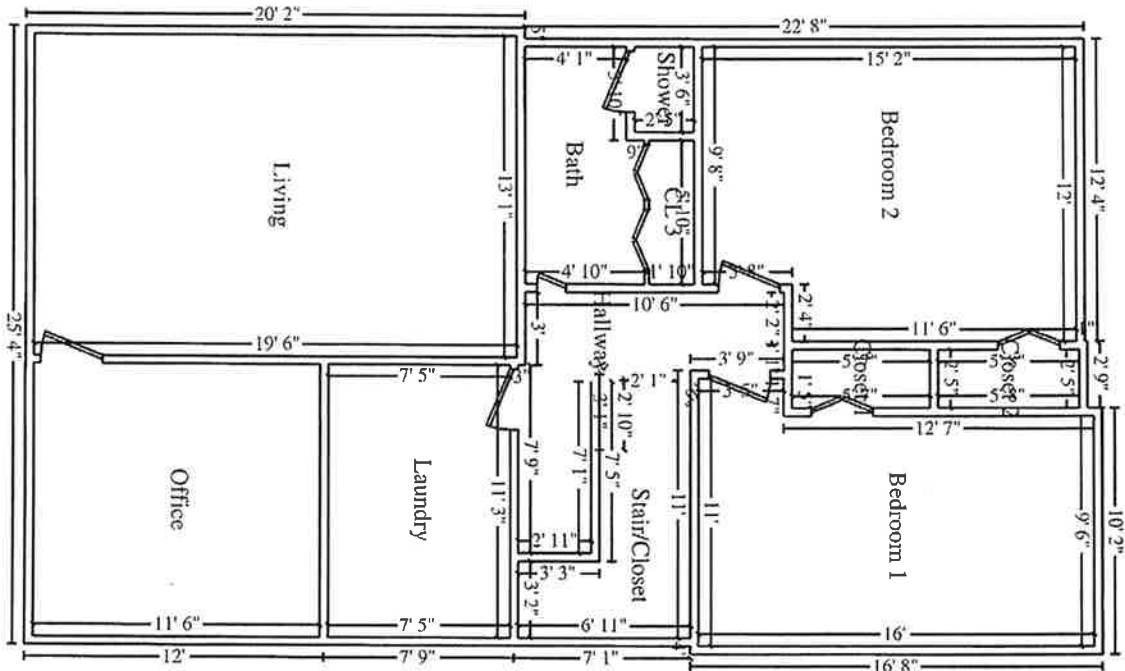


Servpro of Fayetteville/Springdale

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Springdale, AR 72764
479-419-5544
Tax ID # 26-3487504

Recap by Category

O&P Items	Total	%
CABINETRY	1,096.85	8.59%
CONTENT MANIPULATION	28.73	0.23%
GENERAL DEMOLITION	124.68	0.98%
DOORS	727.24	5.70%
DRYWALL	869.29	6.81%
ELECTRICAL	5.16	0.04%
FLOOR COVERING - CERAMIC TILE	648.62	5.08%
FLOOR COVERING - WOOD	3,848.43	30.14%
FINISH CARPENTRY / TRIMWORK	875.42	6.86%
LABOR ONLY	13.39	0.10%
PANELING & WOOD WALL FINISHES	397.93	3.12%
PAINTING	1,103.32	8.64%
WALLPAPER	219.24	1.72%
O&P Items Subtotal	9,958.30	77.99%
Material Sales Tax	243.28	1.91%
Overhead	1,020.24	7.99%
Profit	1,020.24	7.99%
Service Sales Tax	526.16	4.12%
Total	12,768.22	100.00%





SAMDOG GENERAL CONTRACTORS LLC
Lance Jackson
lanceajackson@gmail.com
479-684-9354

[Exhibit C]

Work Estimate

Date of Estimate: 11/17/16

Customer ID: Clayton Young

Address: 2232 N Briarwood Ln Fayetteville, AR 72703

Description	Quantity		Total
Drywall	~1000 sq ft patches to interior walls		\$1200
Flooring	1100 sq ft wood flooring	@ \$3.50/ sq ft	\$3850
Carpentry	150 sq ft baseboards Paneling repair Bathroom Cabinet Build Misc. Repairs around doors and bath		\$3300
Paint	3500 sq ft	@ \$0.35/sq ft	\$1225
Labor	Additional cleaning and demo required.	X 10 hrs @ \$15	\$150

Subtotal:	\$9727.00
Estimated Taxes:	\$948.18
Estimated Total	\$10,673.18

*Pursley Construction
Management, LLC*

(479) 236-4858

[Exhibit D]

Client: Clayton Young

- Repair from Basement Floor Flooding
- New flooring, drywall repair to multiple rooms, bathroom remodel, general carpentry, multiple room painting.
- Repairs depend on settlement amount with city of Fayetteville

Quantity	Description	Price
1100 SQ FT	Tile flooring	4500
	Bathroom Remodel New vanity and sink All tile around shower will need to be replaced Multiple wall repairs New Cabinets	4500
3500 SQ FT	Paint	\$2000
200 FT	General Carpentry	\$800
1000 SQ FT	Dry Wall Repair	\$1000
	General Labor	\$1000

ESTIMATE TOTAL = \$13,800

Thank you for your business!

Details of 2232 N. Briarwood Lane claim from Erin Kaiser

Servpro mitigation:	\$14,557.62
Repairs low estimate (Samdog):	\$10,673.18
Nationwide paid:	(\$5,000.00)
Contents claimed:	
Burlap rug	\$200
Concert posters	\$40
Foam yoga mats	\$60
Surge protector	\$20
4-Guitar cables	\$125
2-9V chargers	\$40
4-Wooden laundry bins	\$40
Wood shelf	\$60
	\$20,815.80

Pay \$14,557.62 to Servpro

Pay \$6,258.18 to Erin Kaiser

Damages pictured in photo: rubber mats as shown in above photo, Photo also relevant because this is after flow was cut off. In Center corner pictured was where all of my guitar amps, surge protectors and cables were. Luckily the amps and piano were off the ground. The guitar cables were not.



Damages pictured in photo: burlap rug in office



Damages pictured in photo below: small shelves, (particle board and this was roughly 1 ft deep)



Damages pictured in photo: particle board steps and rubber mats.



Hallway in front of Laundry



Shower



Bathroom



Worst hit bedroom. Where roommates "X" and "Y" live. They had about 10" of standing water before shut off.



Another shot of roommates "X" and "Y" bedroom.



From: [Clay Young](#)
To: [Pennington, Blake](#); sharc3@nationwide.com
Cc: [Erin Kaiser](#); [Nyander, Tim](#); [Rogers, Mark](#); [Williams, Kit](#)
Subject: Re: Wastewater Damages Claim - Clay Young - 2232 N. Briarwood Ln
Date: Wednesday, December 14, 2016 2:55:57 PM
Attachments: [image001.png](#)
[image002.png](#)

Blake,

I have CC our agent with Nationwide, Chris, for further discussion.

On Mon, Dec 12, 2016 at 3:40 PM, Pennington, Blake <bpennington@fayetteville-ar.gov> wrote:

Erin,

Our ordinance requires a homeowner to submit a claim under his or her homeowners insurance policy regardless of fault. Once we have all of the documentation required to consider the claim, the Utilities Director will make a determination about whether the City approves the claim. If, after filing a claim with your insurance company, the insurance company accepts and agrees to pay for the claim, we will pay the deductible so you aren't out of pocket any money. If we approve the claim and your insurance company denies coverage, we will pay out the amount of the claim that is authorized by our damage claim ordinance and the Utilities Director.

If you want to read that ordinance (Section 39.10 – Water and Wastewater Damage Claims in its entirety, here is a link: https://www.municode.com/library/ar/fayetteville/codes/code_of_ordinances?nodeId=CD_ORD_TITIIIAD_CH39CIPO_ARTIIDACL_39.10WAWADACL

Please let us know if you have additional questions.

Thanks,

Blake

--

Blake E. Pennington

Assistant City Attorney

Tele: [\(479\) 575-8313](tel:(479)575-8313)

bpennington@fayetteville-ar.gov

From: Erin Kaiser [mailto:handyhealing@gmail.com]

Sent: Monday, December 12, 2016 10:55 AM

To: Clay Young <claycoleyoung@gmail.com>

Cc: Nyander, Tim <tnyander@fayetteville-ar.gov>; Rogers, Mark <mrogers@fayetteville-ar.gov>; Pennington, Blake <bpennington@fayetteville-ar.gov>

Subject: Re: Wastewater Damages Claim - Clay Young - 2232 N. Briarwood Ln

Thanks, Clay.

Hello, Mark! I've attached the letter from Nationwide regarding the claim we filed with them. Since liability is on the city, the claim was closed after our conversation with our agent. We wouldn't re open it unless something is not covered by the city. I was working in Europe and have just returned. Thanks for working with Clay on this in my absence. Please let me know if you need anything else from me.

With Gratitude,

Erin Kaiser

On Mon, Dec 12, 2016 at 10:46 AM, Clay Young <claycoleyoung@gmail.com> wrote:

Erin,

This is Mark as per our convo. Please send him claim notice and explain you are homeowner.

Thanks,

On Thu, Dec 8, 2016 at 2:22 PM, Rogers, Mark <mrogers@fayetteville-ar.gov> wrote:

Clay,

We will be good with an email from Erin confirming that she is the owner and that she is claiming the property damages. She will also need to provide homeowners insurance information and provide evidence that she has filed a claim.

Thank you,

Mark.

Mark Rogers

Water & Sewer Operations Manager

City of Fayetteville, Arkansas 72701

T [479.575.8392](tel:479.575.8392) **F** [479.684.4730](tel:479.684.4730)

TDD (Telecommunications Device for the Deaf): [479.521.1316](tel:479.521.1316)

[Facebook](#) | [Twitter](#) | [YouTube](#)



From: Clay Young [mailto:claycoleyoung@gmail.com]

Sent: Wednesday, December 07, 2016 4:57 PM

To: Rogers, Mark <mrogers@fayetteville-ar.gov>

Cc: Nyander, Tim <tnyander@fayetteville-ar.gov>; Pennington, Blake <bpennington@fayetteville-ar.gov>

Subject: Re: Wastewater Damages Claim - Clay Young - 2232 N. Briarwood Ln

Hi Mark,

I am Erin's fiance acting on her behalf. She has been out of country. She will be here Sat.

She just needs to sign the claim form? All other info would remain the same obviously.

I can tell my roommates to start their own claims.

On Wed, Dec 7, 2016 at 3:46 PM, Rogers, Mark <mrogers@fayetteville-ar.gov> wrote:

Hello Clay.

I am in receipt of the information you sent and this will be helpful in completing the claim.

We have found some issues that need to be address in the filing of the claim. First, the property at 2232 N. Briarwood Lane is in the ownership of Brittany Erin Kaiser, according to county records. The claim needs to be filed by the owner, as they are the only one that can legally sign the release of the claim settlement.

This is also the issue that needs to be addressed with the contents of your tenants. Each tenant will need to file a claim for their belongings for the same reason as above.

Please notify these people as to this requirement and I will continue to work on your submission of content loss. I also need to know if any of the tenants have renters insurance that may cover the loss of contents.

If you have any questions, you can call me and we can discuss.

Thank you. Mark.

Mark Rogers

Water & Sewer Operations Manager

City of Fayetteville, Arkansas 72701

T [479.575.8392](tel:479.575.8392) **F** [479.684.4730](tel:479.684.4730)

TDD (Telecommunications Device for the Deaf): [479.521.1316](tel:479.521.1316)

[Facebook](#) | [Twitter](#) | [YouTube](#)



From: Clay Young [mailto:claycoleyoung@gmail.com]

Sent: Friday, December 02, 2016 4:49 PM

To: Rogers, Mark <mrogers@fayetteville-ar.gov>

Subject: Re: Wastewater Damages Claim - Clay Young - 2232 N. Briarwood Ln

Mark,

The previous email was not meant to be brash. If it came off as so I do apologize. I have been told I have an aggressive writing style but it was not my intention to bully this process. I want what you want and am willing to comply at every step. This truly has been a stressful time for me and I am trying to deal with all associated factors to the best of my ability. I hope you can understand that.

Have a good weekend. Feel free to call at your convenience.

Thanks Mark,

On Fri, Dec 2, 2016 at 4:06 PM, Clay Young <claycoleyoung@gmail.com> wrote:

Hello Mark,

In this doc there are photos with descriptions of loss: [Click HERE](#)

Not pictured:

My posters that were laying in my office floor (they were hand signed and the only high quality prints I had made of two shows I produced. No way to account for sentimental value).

Roommate X Janome Jem Platinum 760: This is a sewing machine. Reduce price to \$500

We originally thought it could be salvaged but at current it will not turn on.

Roommates "Y"'s damages: this is my fault for not photo documenting the damages here. My phone had died at the time of my arrival at the house and I was in crisis mode which maybe you can understand. Most of the waste water went under his floorboards but his closet was pooled. I put everything in a trash bag and sent it to the dump haphazardly. We salvaged roughly 80% of closet contents and damages claimed are low estimates.

Mark, I also ask you to keep in mind the following:

- The downstairs is the living quarters of 3 people which had to accommodate new living situations for 5 days while deconstruction and mitigation (drying and dehumidification) was occurring. Roommate Z luckily had a girlfriend to stay with and the X and Y were moved to my fiance's massage room. Another way of saying this, was that there was no additional costs of hotels while mitigation repair took place (5 days x \$70 = \$350 x 2 rooms = \$700) because we accommodated.
- The downstairs section of the house is where I and roommate X work out of. I use my office for conf calls, and much of my computer work. These claims do not account from work loss which could be factored. Roommate "X" is a textile designer and uses her floor for pattern creation and keeps most of her textiles. Some of which are just scraps and have no real value but she did lose the majority of this as well. She too was without a work space for days.
- The amount of stress and tension due to our living situation and work situation has been immense. Our house is destroyed, it was loud from the blowers and dehumidifiers, and we had nowhere to go for peace or work comfortably. Me and my roommates got into several skirmishes over nothing just due to the stress. I literally became physically ill because of it. I could not sleep and it destroyed my immune system. How do you account for this? Obviously we did not, but the psychological damage was real. This is not a basement. These are people's offices and living spaces. Huge life disruption and we all work full time, for ourselves, with no form of business plan to deal with this type of work disruption.

Anyone at the house when this incident occurred could see a inches of flowing water from our bathroom out of the house and into X and Y's bedroom. When I arrived to the house there was roughly 8" of standing water in the bedroom and bathroom. The only reason more damage did not occur is because roommate X had enough sense to barricade the bathroom with dog beds and towels to slow the flow into the two bedrooms and force much of the water outside. If there would have been couches and such in the common living area the city would be paying for it because they would unsalvageable. Luckily, the common area, laundry, and office was fairly unpopulated with artifacts so few damages had to be claimed.

Regarding the notion that much could be salvaged that we are claiming: I worked in a biochemistry lab for 6 years and am very familiar with the type of pathogens in sewage. I care very little about the lack of precautions the city's workers take when working in these conditions. This is where 7 people live and I am not willing to accept the "rinse it off and reuse" mentality for what is being claimed. We salvaged MOST of what was soaked and these damages represent a very small portion of what was compromised.

I have contacted legal representation and I am keeping them updated on the progress of the claim. Depending on the progress we are prepared to file civil suit for actual damages, lost wages, emotional distress and/or punitive damages. I do not want to do this because it would distance my settlement date but would if necessary. This has been a giant disruption to my life and continues to interfere

with my daily living. What you have asked for thus far is reasonable and I have complied but I am not willing to drag this settlement out for such minor claims. I simply do not have the time. I want to get my house back in order and improve my current living situation. Nothing more. Nothing less. You are dealing with a moral person and the claims are not unreasonable in the least.

If you need additional requests please do not hesitate to ask. I appreciate the way you personally, the city, and Servepro have handled this situation thus far and want to get this done as timely and as stress free as possible, as I am sure you do too.

Thanks for everything.

Best,

--

Clayton Young

c: [903.278.6097](tel:903.278.6097)

CCO | [Inside-Out Presents](#)

CCO | [Wysidio](#)

Owner | [Citizen Unbound](#)

Speaker | [Food is Beautiful Medicine](#)

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City of Fayetteville, Arkansas

113 West Mountain Street
Fayetteville, AR 72701
(479) 575-8323

Text File

File Number: 2016-0506

Agenda Date: 2/21/2017

Version: 1

Status: Tabled

In Control: City Council Meeting

File Type: Resolution

Agenda Number: B. 1

SOLID WASTE REDUCTION, DIVERSION AND RECYCLING MASTER PLAN:

A RESOLUTION TO ADOPT THE SOLID WASTE REDUCTION, DIVERSION AND RECYCLING MASTER PLAN AS DEVELOPED BY KESSLER CONSULTING, INCORPORATED

WHEREAS, the City Council passed a Resolution in December 2013 to hire a consultant to develop a master plan to help attain a waste diversion rate of 80% by 2025; and

WHEREAS, the consultants have advised that the 80% waste reduction rate is not reasonably attainable, but have suggested ways to increase the current waste reduction rate; and

WHEREAS, no adequate recycling materials processor has been located which would deliver the state of the art processing center needed to significantly increase the diversion rate and to be accountable for this waste reduction rate and proper disposition of the recycled product; and

WHEREAS, the Mayor and his Administration is not in support of all recommendations within this master plan as pointed out in the Chief of Staff's memo of November 22, 2016.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF FAYETTEVILLE, ARKANSAS:

Section 1. That the City Council of the City of Fayetteville, Arkansas hereby adopts the Solid Waste Reduction, Diversion and Recycling Master Plan as developed by Kessler Consulting, Incorporated.

City of Fayetteville Staff Review Form

2016-0506

Legistar File ID

12/6/2016

City Council Meeting Date - Agenda Item Only
N/A for Non-Agenda Item

Brian Pugh

11/14/2016

Recycling & Trash Collection /
Transportation Services Department

Submitted By

Submitted Date

Division / Department

Action Recommendation:

Approve a resolution to adopt the Solid Waste Reduction, Diversion, and Recycling Master Plan developed by Kessler Consulting, LLC.

Budget Impact:

Account Number

Fund

Project Number

Project Title

Budgeted Item? NA

Current Budget \$ -

Funds Obligated \$ -

Current Balance \$ -

Does item have a cost? NA

Item Cost

Budget Adjustment Attached? NA

Budget Adjustment

Remaining Budget \$ -

V20140710

Previous Ordinance or Resolution #

Original Contract Number:

Approval Date:

Comments:



CITY COUNCIL AGENDA MEMO

MEETING OF DECEMBER 6TH, 2016

To: Fayetteville City Council

Thru: Jeff Coles, Recycling and Trash Collections Director

From: Brian Pugh, Waste Reduction Coordinator

Date: November 14, 2016

SUBJECT: Approve a resolution to adopt the Solid Waste Reduction, Diversion, and Recycling Master Plan developed by Kessler consulting, LLC.

RECOMMENDATION:

Staff recommends approving a resolution to adopt the Solid Waste Reduction, Diversion, and Recycling Master Plan developed by Kessler Consulting, Inc. The Legistar number for approval of a contract with Kessler Consulting is 2014-0396 and the resolution number is 171-14.

BACKGROUND:

The City Council passed Resolution Number 260-13 on December 17, 2013 to develop a Request for Qualifications to hire a consultant to develop a 10 year solid waste master plan in order to attain a waste diversion rate of 80%. Resolution 171-14 was authorized for development of a ten year solid waste master plan in an amount not to exceed \$264,890.00 and to approve a budget adjustment. Resolution 136-15 was approved to amend the contract with Kessler Consulting, Inc. in the amount of \$39,980.00 for assistance with the design and implementation of a commercial food waste pilot program and a single stream recycling pilot program, and to approve a budget adjustment.

DISCUSSION:

The Master Plan has been created with different scenarios in which waste programs can be changed, altered and developed in order to obtain higher diversion from landfill rates for the City. The plan lays out steps in order to obtain higher diversion numbers and staff will be bringing action items of the plan forward in future years for final discussion and implementation of the different aspects of the plan.

BUDGET IMPACT

The adoption of the plan does not have a budget impact. Action items of the plan will be brought forward in future years and budget impacts will be developed and outlined at those times.

Attachments: Kessler's Solid Waste Reduction, Diversion, and Recycling Master Plan
Tech Memo #1, #2, #3, #4, #5 and #6
Resolution 260-13
Resolution 171-14
Resolution 136-15
No fee Contract Agreement with Georgia Pacific Harmon Recycling

TO: Mayor and City Council

FROM: Fayetteville Environmental Action Committee

DATE: November 22, 2016

SUBJECT: Recommendation on Solid Waste Reduction, Diversion and Recycling Master Plan

RECOMMENDATION:

At the November 21, 2016, Environmental Action Committee, members voted unanimously to support the Solid Waste Reduction, Diversion and Recycling Master Plan. Their detailed recommendation language is discussed below.

DISCUSSION:

After reviewing Kessler Consulting's Solid Waste Reduction, Diversion, and Recycling Master Plan for the City of Fayetteville, the Environmental Action Committee (EAC) makes the following observations and recommendations:

The EAC supports the analysis of Kessler Consulting regarding the relationship between waste diversion and single stream recycling. It is inarguable that a switch to single stream will increase contamination; however the increase in recycling participation and volumes outweighs the increase in contamination in a state-of-the-art recycling facility. There is an overwhelming consensus of data to support this, which Kessler has outlined and accurately applied to our community. In pursuit of that solution, the EAC encourages staff and council to develop a clear communication strategy to address the concerns of residents who doubt single-stream's overwhelming ability to drastically increase our diversion of recyclable material.

The EAC also wholeheartedly supports the City's dogged investigation of a regional state-of-the-art single stream recycling facility in partnership with private sector companies and other municipalities that are willing to make such an investment. The Kessler report makes clear that the City of Fayetteville, by itself, does not produce the amount of solid waste necessary to support private sector investment in a large regional single stream material recovery facility. Therefore, a regional single stream facility is only a viable solution for capturing and recycling material if partnerships can be developed with several other Northwest Arkansas communities.

The EAC has serious reservations about some aspects of the smaller-scale plans. The economics and technology involved in recycling is changing rapidly. Should a state-of-the-art facility prove infeasible or if no private company is prepared to invest in its development, the EAC would encourage City Council to re-evaluate steps to achieve our diversion goals under the economic conditions at that time before pursuing the additional options in the Kessler plan. Before the EAC could support the prescribed secondary options, we would need to see an analysis that demonstrates the economic, environmental and social feasibility of such a solution.

The Environmental Action Committee thanks Kessler Consulting and our City's Recycling and Trash Division for appropriately meeting the scope of work and providing invaluable data to

move this discussion forward. We see this report as an important first step in a long process for increasing our recycling diversion rate in the City of Fayetteville and Northwest Arkansas region.

The Environmental Action Committee supports the adoption of this plan, with caveats, as a guide for identifying and prioritizing the actions necessary to reach the City's recycling goal.



CITY COUNCIL AGENDA MEMO

MEETING OF DECEMBER 6, 2016

TO: Mayor and City Council

THRU: Mayor Lioneld Jordan *LJ*

FROM: Don Marr, Chief of Staff *DM*

DATE: November 22, 2016

SUBJECT: Recycling & Trash Master Plan Single Stream Recommendation Concerns

BACKGROUND:

The staff is recommending the adoption of the Solid Waste Reduction, Diversion and Recycling Master Plan as developed by Kessler Consulting, Inc. While this is a recommendation by the staff to do so, I want to take this opportunity as the Chief of Staff for the City to make some specific points regarding this plan and its recommendations.

The City Council passed a resolution in December of 2013 to develop a master plan that would help attain a waste diversion rate of 80% by January 1st, 2025. While the plan itself does not have a budget impact outlined in the staff memo for this agenda item, future budgets would be impacted as the individual recommendations are brought forward. Some of these will have direct impact on the future rate study and rates of service as implemented.

The primary areas of interest from the Administration are increasing recycling participation by citizens, increasing eligible recycled volume tonnage during collection, and expansion of recycling into multi-family establishments and organics composting/collection.

While these goals are in alignment with the City Council's resolution, we do not have a set diversion goal percentage in mind since there are numerous challenges – specifically around the processing of collected recyclables. While the resolution states a goal of 80%, this master plan clearly points out that the ability for the city to reach 80% is not realistic based on our current market trends and services available.

DISCUSSION:

As an administration and as your Chief of Staff, we are not fully in support of single stream implementation in 2017/2018 as outlined in Table 6-1: phase 1 Proposed Action Plan on page 91 of the report. The recommendation of issuing an RFP/Contract for single stream processing & services is an area of significant concern to us. During the pilot project and during the Master Plan Study period, we have not identified an adequate recycling materials processor that has demonstrated or been willing to deliver a state of the art facility and the accountability we expect in the final disposition of commodities. Nor have we been able to garner regional interest in participation from our other local market governmental entities (other than possibly The City of Siloam Springs). Nor have we identified any regional recycling providers to partner for a processing center while conducting the study. The needed volume to make such a facility

economically viable has not been identified at this time. Bentonville has stated that they have no interest in such a facility, and Rogers and Springdale both contract with private companies for their services who already have processing centers that handle their recycling collections.

The Mayor has concerns that any facility that the City of Fayetteville seeks to partner with would have to have state of the art equipment to minimize worker risk and social & environmental aspects of such a work environment. Additionally, we are concerned about the contracting feasibility to obtain true accountability of where our collected commodities end up after being recycled by our citizens and collected by the city.

We do not want to have any program that does not allow us to maintain the level of accountability necessary to maintain a credible program. We are concerned about the pressure to collect items that make it easier for the customer to participate (such as collecting all plastics 1 through 7) yet having difficulty in disposing of these 3 – 7 plastics with viable market options.

Having these items collected that are not feasible to recycle because of limited market availability or limited resale interest brings credibility risk to our program that does not exist today. While during the pilot project we were able to sell the 3-7 products, that may not always be the case as some communities have not had providers available to buy those commodities. The last thing we want is for our citizens to think that something is being recycled that may end up in a landfill. So it is important that those commodities that we collect have viable markets for the products and numerous markets, or their collection should not be done. We are not willing to risk the credibility of our entire recycling program without assurances that such services and markets exist. Based on the technology, and the financial commitments necessary in today's environment, we have **no** interest in a mini-materials recovery center at this time. The technology capabilities may change in the future, but based on what we know today, we do not believe this is a good economic or work environment option for the City of Fayetteville at this time.

Another point is that currently our rates for recycling & trash services are subsidized by the money received from the sale of recycled materials. Outsourcing this processing could potentially result in a charge for processing and a loss of commodity sales. With the potential loss of offsetting our rates with the recovered dollars from the resale markets, this could result in an increase in costs. While this is a number that has been going down for the last several years, it is a financial change that could be lost if we don't process our recyclables ourselves.

Significant work would need to be done before a 2017/2018 single stream collection method could be considered.

Finally, the Mayor is not currently in support of recommendations in Table 6-3, Phase 3 Proposed Action Plan, which states to establish a recyclable material disposal ban, and establish a food waste disposal ban. This would require the development of an enforcement officer program, to enforce the material disposal, and he believes that further education efforts need to be done, and that a punitive program is not something the Mayor feels is the best approach to gain citizen participation.

In conclusion, until the processor question, and volume of recycling meets an economic threshold that makes it viable to have such a facility, it will be very difficult to implement this plan.

Attachments:

Page 91, 92 and 93 of the Kessler Study

Table 6-1: Phase 1 Proposed Action Plan

		Policies	Programs	Facilities	Diversion Target
PHASE 1	2017	- Require new multi-family and commercial developments to provide adequate space and access for recycling - Require franchised haulers to report source, tonnage, and recycling/disposal of all materials collected in the City	- Hire commercial/multi-family recycling program coordinator - Implement voluntary commercial organics recovery program, focusing on large food waste generators - Develop and initiate new communications plan - Develop technical assistance materials for businesses and multi-family complexes - Initiate Green City Program	- Obtain Type CO permit for compost facility - Implement MSAP composting method and begin accepting commercial organics - RFP/contract for single stream processing services; if sufficient interest does not exist, then RFP for mini-MRF development	19%
	2018	- Establish universal commercial and multi-family recycling (base service fee includes the cost of recycling service) - If City mini-MRF is developed, require franchised haulers to deliver recyclables collected within the City to the MRF	- Implement residential and commercial/multi-family single stream recycling; add material types - Provide technical assistance to businesses and multi-family complexes to implement universal recycling - Continue to expand commercial organics recovery - Expand Green City Program - Continue implementing communications plan	Deliver recyclables to private single stream MRF or initiate processing single stream recyclables at City-owned mini-MRF	22%
	2019	Establish universal commercial organics recovery for large commercial food waste generators (base service fee includes the cost of organics recovery)	- Implement voluntary curbside residential organics recovery - Provide technical assistance to implement universal commercial organics recovery - Continue Green City Program - Continue implementing communications plan - Possibly conduct C&D debris recovery pilot program	- Begin composting residential organics at compost facility - Evaluate status of regional C&D recovery facilities - RFP for C&D debris recycling (by contractor or develop facility)	26%

Table 6-2: Phase 2 Proposed Action Plan

		Policies	Programs	Facilities	Diversion Target
PHASE 2	2020	• If City does not develop a C&D MRF, establish recycling/diversion standards for C&D projects and link them to permitting process • If City develops a C&D MRF, require franchised haulers to deliver C&D debris collected within the City to this facility	• If C&D recycling/diversion standards are established, develop and execute an implementation plan • Evaluate and update technical assistance to businesses and multi-family complexes • Evaluate, update, and implement communications plan to increase full program participation • Continue to monitor and enhance Green City Program	• Contract with private C&D MRF or • Contract for and initiate operating City-owned C&D MRF	38%
	2021		• Continue implementing communications plan • Continue technical assistance to businesses and multi-family complexes • Continue to monitor and enhance Green City Program	• Monitor and implement operational efficiencies at all facilities (mini-MRF, compost facility, C&D facility, transfer station)	40%

Table 6-3: Phase 3 Proposed Action Plan

		Policies	Programs	Facilities	Diversion Target
PHASE 3	2022	Establish recyclable material disposal ban	- Continue implementing communications plan - Continue technical assistance to businesses and multi-family complexes - Continue Green City Program	Monitor and implement operational efficiencies at all facilities (mini-MRF, compost facility, C&D facility, transfer station)	42%
	2023	Establish food waste disposal ban	- Enforce recyclable material disposal ban - Continue implementing communications plan - Continue technical assistance to businesses and multi-family complexes - Continue Green City Program	Monitor and implement operational efficiencies at all facilities (mini-MRF, compost facility, C&D facility, transfer station)	46%
	2024-2025	- Evaluate every other week waste collection and other policies to increase efficiency, lower costs, and encourage waste diversion - Evaluate other policies, such as product bans, that would minimize generation of non-recyclable or non-compostable waste	- Enforce recyclable material and yard waste disposal bans - Continue implementing communications plan - Continue technical assistance to businesses and multi-family complexes - Continue Green City Program	Monitor and implement operational efficiencies at all facilities (mini-MRF, compost facility, C&D facility, transfer station)	50%



CITY OF FAYETTEVILLE, AR SOLID WASTE REDUCTION, DIVERSION, AND RECYCLING MASTER PLAN

SEPTEMBER 2016

Prepared for:

City of Fayetteville
Recycling & Trash Division
1560 S. Happy Hollow Road
Fayetteville, AR 72701



Submitted by:

Kessler Consulting, Inc.
innovative waste solutions
14620 N. Nebraska Ave., Bldg. D
Tampa, FL 33613
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This report has been prepared for the use and benefit of the client for the specific purposes identified in the report. The conclusions, observations, and recommendations contained herein attributed to Kessler Consulting, Inc. constitute the opinions of Kessler Consulting. The services provided by Kessler Consulting and this report are not intended for the benefit of any third party and shall not be relied upon by any third party. To the extent that statements, information, and opinions provided by other third parties have been used in the preparation of this report, Kessler Consulting has relied upon the same to be accurate, and for which no assurances are intended and no representations or warranties are made. Kessler Consulting makes no certification and gives no assurances except as explicitly set forth in this report.

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Section 1

Introduction

1.1 Goals and Objectives

In December 2013, the City Council of the City of Fayetteville, AR (City) passed Resolution No. 260-13, which established a goal to achieve an 80% diversion rate of solid waste generated by residents and businesses within the City to be attained by January 1, 2025. The resolution also called for enlisting a consulting firm to assist in developing a plan to achieve this goal. The City subsequently hired Kessler Consulting, Inc. (KCI) to assist in the planning process and in developing the Master Plan provided herein.

This primary objective of this Master Plan is to provide policy, program, and facility recommendations for the City to develop an efficient, cost-effective solid waste system that maximizes waste reduction and recycling and puts the City on a path to attaining its goal of 80% waste diversion. The Master Plan was developed with a 10-year planning period.

The City is keenly aware of the difference between what is collected for recycling and what is actually recycled. In 2011, the City Council passed Resolution No. 19-11, recommending that the City's Recycling and Trash Collection Division post quarterly reports regarding the volumes of materials collected for recycling and the primary or end-use of those materials. The resolution also acknowledged that technology is constantly changing, and encouraged staff to seek new markets and cost-effective ways to increase the materials diverted from the waste stream.

Although a quantitative statewide recycling goal does not exist, in 1991, the Arkansas Legislature passed Act 749, making it the policy of the state "to encourage and promote recycling in order to conserve natural resources, conserve energy and preserve landfill space." The Arkansas Department of Environmental Quality (ADEQ) prepares an annual State of Recycling report. In 2015, ADEQ reported a statewide recycling rate of 45.5%, an increase over the 2014 rate of 30%.¹

1.2 About Fayetteville

Fayetteville covers a geographic area of 55.2 square miles in northwestern Arkansas. According to the U.S. Census Bureau, the City is the third-largest in the state and the fastest growing with a population of 80,621 (July 2014).² The City is the county seat of Washington County and is part of the Boston Mountain Solid Waste District (SWD), which encompasses Washington and Madison counties.

¹ Arkansas Department of Environmental Quality, *State of Recycling in Arkansas – 2015*, November 2015.

² U.S. Census Bureau, Quick Facts for Fayetteville, AR.

The City is home to the University of Arkansas, the state's largest university, with a student enrollment of 26,754 (Fall 2015) and employment of 1,384 faculty and 2,035 staff.³ The large student population is reflected in the relatively low level of home ownership (41.4%) and high number of housing units with five or more units per structure (34.2%).⁴

In 2016, *US News & World Report* ranked the Fayetteville Metropolitan Statistical Area (MSA) as the third best place to live in the US, noting that the area "has transformed from a small town to a center of higher education, culture, commerce and entrepreneurialism."⁵ In 2015, *Forbes* listed the MSA as one of the 25 best places for business and careers in the US.⁶ Wal-Mart Stores and Tyson Foods are headquartered in the neighboring cities of Bentonville and Springdale, respectively. Hundreds of companies, including Procter & Gamble, Coca-Cola, and Rubbermaid, have offices located in the area to be close to Wal-Mart.

The City boasts numerous amenities, including parks, playgrounds, and walking trails. The Fayetteville Farmers Market draws visitors to the downtown square from April through November.⁷ Dickson Street, running through the center of the City to the University of Arkansas campus, is a hub for shopping and dining. The Walton Arts Center is a first-class performing arts center, which is supplemented by numerous other entertainment venues, festivals, and cultural events.

The City's Recycling and Trash Division provides waste management and recycling services throughout the City. These services are discussed in Section 2.

1.3 Sustainable Materials Management

Sustainable materials management is a systematic approach to using and reusing materials more productively over their entire lifecycles (see Figure 1-1). It is an important concept when striving for 80% waste diversion and is also consistent with the City's participation in the Sustainability Tools for Assessing and Rating (STAR) Communities program.

The STAR program is a voluntary, self-reporting framework for evaluating, quantifying, and improving the livability and sustainability of communities in the United States. Waste minimization is one element of

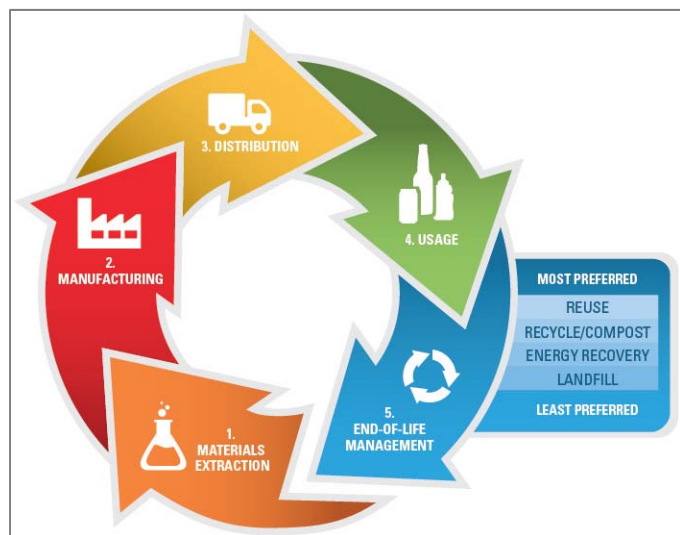


Figure 1-1: US EPA Sustainable Materials Management Diagram

³ <https://admissions.uark.edu/apply/abouttheuofa.php>.

⁴ U.S. Census Bureau, Selected Housing Characteristics for Fayetteville, AR.

⁵ *US News & World Report*, "Best Places to Live" (<http://realestate.usnews.com/places/rankings-best-places-to-live>).

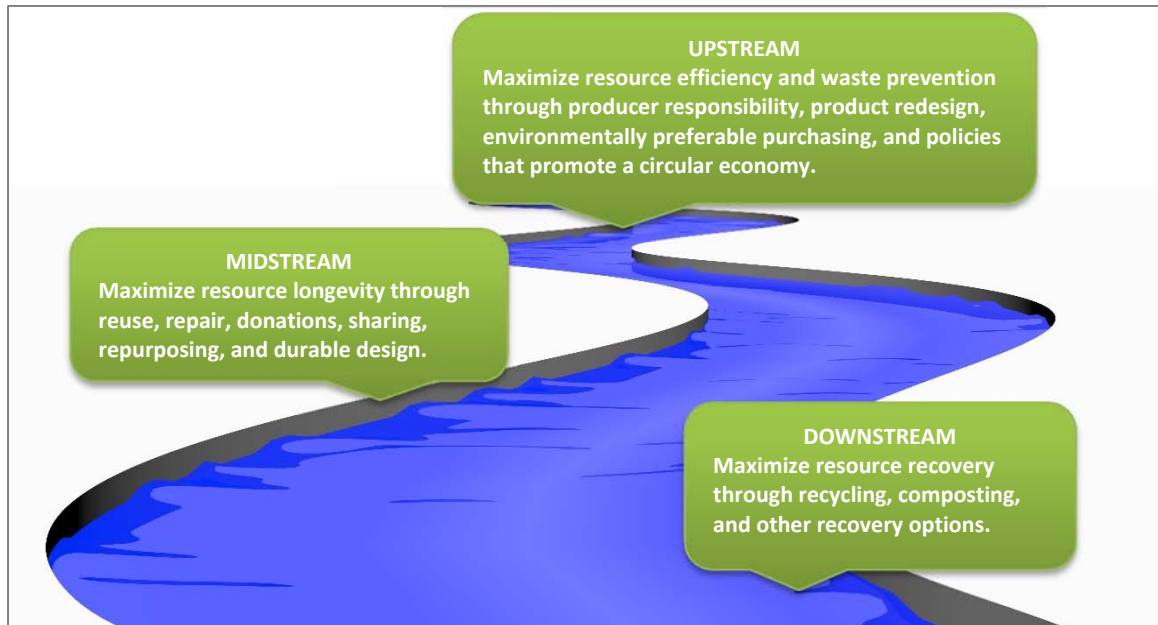
⁶ *Forbes Magazine*, "The Best Places For Business and Careers" (<http://www.forbes.com/best-places-for-business/list/>).

⁷ <http://www.fayettevillefarmersmarket.org/>.

the STAR climate and energy goals. The City has used the STAR structure to measure overall sustainability and as a gap analysis for future initiatives.

Sustainable materials management goes beyond simply recovering materials through recycling and composting practices. It involves all stages of the entire materials management system. Sustainable management strategies are often categorized as upstream, midstream, and downstream to reflect which segment of the material lifecycle is being impacted (see Figure 1-2).

Figure 1-2: Upstream, Midstream, and Downstream Materials Management



- **Upstream** strategies address resource extraction and product or packaging manufacturing. The objective is to conserve resources and prevent downstream waste by effecting actions at this stage. Upstream strategies include producer responsibility, product redesign, environmentally preferable purchasing, and other similar policies.
- **Midstream** strategies address extending the longevity of product use. These strategies include reuse, repair, donations, sharing, and durable design.
- **Downstream** strategies strive to maximize the recovery of resources from the items we discard. These strategies include recycling, composting, and various other material and energy recovery technologies.

Many of the upstream policies are more appropriate for state or national level consideration; therefore, primary focus during the planning process for the Master Plan was placed on midstream and downstream strategies.

Sustainable materials management considers not just the financial costs of collection and disposal, but also what is known in sustainable business practices as the “triple bottom line.”

The triple bottom line incorporates three areas of business performance: financial, social, and environmental (also referred to as the three Ps – people, planet, and profits).

- **Social** factors relate to the standard of living, human health, employment opportunities, education, and community or people.
- **Environmental** factors relate to natural resources, pollution prevention, and the natural environment or planet.
- **Financial** factors relate to the cost of services and facilities, avoided costs, revenues, savings, economic growth, and product development or profits.

When evaluating various waste diversion scenarios, the analysis included not only the financial impacts to the City, but also environmental (e.g., waste diversion). Social measures are difficult to assign appropriate means of measurement, but were considered as well.

1.4 Stakeholder Input

Early on in the planning process, the project team sought input from various stakeholders through meetings and surveys.

1.4.1 Stakeholder Meetings

In April and June of 2015, the project team met with various stakeholders to discuss the planning process and to seek input.

- **Public Meeting:** In April 2015, an advertised public meeting was held at Woodland Junior High School with more than 50 residents in attendance. Following a brief presentation by KCI, the public was encouraged to share their thoughts on current and potential future waste diversion opportunities for the City. Quite a few individuals spoke to the need for more multi-family recycling. Support was expressed for a wide range of recycling options, from more drop-offs to dual stream to single stream recycling, as well as for food waste recovery and recycling in public areas.
- **Multi-Family Property Managers:** Also in April 2015, a meeting was held with multi-family property managers. Although numerous property management companies were notified of the meeting, only five individuals attended. Two individuals were with Lindsey Management, two with Specialized Real Estate Group, and one individual manages various smaller properties. Both of the larger management companies have complexes currently participating in the City's recycling program. Key comments included the following:
 - o The partitioned recycling roll-off container (referred to as the "battleship") requires up to 11 parking spaces (including space needed to service the container), so it needs to be located out of the way, but then it is not convenient.
 - o Having only one container per complex is not convenient, especially in large complexes, and many residents therefore do not use it.

- One company refused to distribute the 6-gallon bins offered by the City for residents to carry recyclables from their apartment to the recycling container, because they felt it would be “one more thing to worry about” during move-outs. The other company includes the bin on a move-out checklist, charging the tenant if the bin is not left behind.
 - Providing recycling can be considered an amenity offered to tenants.
 - At least one individual did not feel that social media and emails were a good way to communicate important information. Some complexes send monthly calendars to tenants.
- **Chamber of Commerce:** The project team also met briefly with the Chamber’s Director of Economic Development to get a business perspective on commercial recycling in the City. The Chamber participates in recycling and promotes it to other businesses. Chamber of Commerce representatives also participated in the regional stakeholder meetings discussed below.
- **University of Arkansas:** In April 2015, the project team met with the University of Arkansas Associate Vice Chancellor for Facilities and representatives from the Office for Sustainability, University Housing, Athletics, and Arkansas Union to discuss results of the University’s waste composition study and the potential for working jointly on waste diversion and organics recovery efforts. University representatives expressed interest in jointly working on food waste composting and later participated in the City’s food waste pilot program, but may also be considering delivering food waste to an anaerobic digestion facility under development in Missouri.
- **City Council:** In June 2015, the project team met one-on-one with interested Council Members to provide an update on the project, gauge interest in conducting commercial food waste and residential single stream recycling pilot programs, and obtain input on what each felt were key solid waste and recycling issues to be addressed in the Master Plan.
- **Regional Stakeholder Meetings:** The project team participated in several meetings with regional stakeholders to gauge interest in regional recycling cooperation, especially as it pertains to developing a state-of-the-art single stream material recovery facility (MRF). In addition to the project team, meetings were attended by representatives from Northwest Arkansas Regional Planning Commission (NWARPC), Boston Mountain SWD, Benton County SWD, Fayetteville Chamber of Commerce, municipal representatives, University of Arkansas, and Closed Loop Fund.

1.4.2 Resident Survey

In April 2015, an online survey was conducted to allow the residents to provide input on existing solid waste practices and future trash diversion and recycling in the City. Responses were received from 447 individuals. For a survey of this type, this is a very high response rate and demonstrates the level of public interest in this topic. Results of the survey are summarized below, with complete results provided in Appendix A.

Approximately 74% of respondents resided in single-family homes, but a number of individuals wrote in comments asking for better opportunities to recycle in apartments and other multi-family complexes. Key responses included the following:

- Respondents expressed broad support for the City's 80% diversion goal (94% strongly support/support).
- The main reasons respondents gave for not recycling more were:
 - Inconvenient (26%)
 - Not sure what items are recyclable (21%)
 - Takes up too much space to store (13%)
 - Don't like having to sort materials (13%)
- The main things that would encourage respondents to recycle more were:
 - Getting an additional or larger recycling container (51%)
 - Rewards or incentive program (45%)
 - Not having to separate recyclable paper from containers (33%)
 - Receiving printed instructions on what to recycle and how (30%)
 - Knowing where to find instructions on the web (20%)
- Respondents' preferred methods for receiving information on recycling were:
 - Internet, such as City website and YouTube videos (54%)
 - Water/utility bill (46%)
 - E-mails (44%)
 - Social media, such as Twitter and Facebook (37%)
 - Printed materials, such as brochures, flyers, and newsletters (22%)
 - Mail (15%)
- The majority of respondents supported or strongly supported utilizing the following policies and programs to help achieve the City's 80% diversion goal:
 - Adding more types of recyclable materials to the curbside program (97%)
 - Construction and demolition debris recycling program (85%)

QUOTES FROM RESIDENT SURVEY

"The biggest barrier to recycling at home...is the need to separate materials. If the process is simple and everything can be placed in one bin to be separated later, I believe more people would participate."

"Getting 3-7 plastics is a huge one for our family. Typically the only trash we are generating are these types of food containers."

"No recycling at our apartment. We're lucky to live near the Marion Orton Recycling Center, but our neighbors are probably not as willing to go through the inconvenience as we are."

"I would suggest putting more recycling bins in public places (ideally, one next to every municipal trash can)."

"We have the ability to be a leader in sustainable practices for the state, and the region. Let's work hard to build upon what we have already done, and show others that it can be done here and it can be done well. "

- o Curbside single stream recycling (81%)
- o Mandatory commercial business recycling (70%)
- o Residential food waste collection program (68%)
- o Banning the use of certain problematic materials, such as retail plastic bags and Styrofoam™-type food ware (62%)
- o Banning the landfilling of certain types of materials such as paper or recyclable containers (60%)
- o Mandatory residential recycling (60%)

1.4.3 Business Survey

Concurrent with the residential survey, a business survey was conducted to enable businesses to provide input on current recycling practices and future commercial waste diversion and recycling in the City. Of the 32 respondents, the majority were professional service/office (39%) and food service (21%) businesses. The remaining respondents were a mix of business types, including retail, manufacturing/warehouse, medical, veterinary, education, multi-family complex, transportation, janitorial, and nonprofit.

A majority (73%) of respondents were already recycling on a regular basis and an additional 20% recycled occasionally.

Results of the business survey are provided in Appendix B. Key responses included the following:

- Business respondents expressed broad support for the City's 80% diversion goal (97% strongly support/support).
- The main reasons business respondents gave for not recycling were:
 - o Inconvenient (60%)
 - o Drop-offs are too inconvenient (60%)
 - o Not enough space (60%)
 - o Have to sort material (20%)
 - o Too costly (20%)
- The main things that would encourage business respondents to recycle or recycle more were:
 - o Free recycling containers (74%)
 - o Recycling service included in basic waste collection fees (48%)
 - o Green Business program to receive recognition for recycling (45%)
 - o Not having to separate recyclable paper from containers (35%)
 - o Various write-in comments were received that related to convenience, including the ability to share recycling receptacles, curbside collection, bigger containers, and Monday pick-ups
- The majority of business respondents (67%) would participate in food waste composting if the City provided and serviced a container, while only 1 respondent indicated a willingness to take food waste to a drop-off center.

- The majority of business respondents supported or strongly supported utilizing the following policies and programs to help achieve the City's 80% diversion goal:
 - Adding more types of recyclable materials to the program (91%)
 - Single stream recycling (87%)
 - Construction and demolition debris recycling program (78%)
 - Commercial food waste collection program (69%)
 - Mandatory commercial recycling (69%)
 - Banning the use of certain problematic materials, such as retail plastic bags and Styrofoam™-type food ware (66%)
 - Banning the landfilling of certain types of materials such as paper or recyclable containers (61%)

1.4.4 Vendor Meetings

The project team met with the companies listed below to discuss the current processing infrastructure in the region and the potential for future partnership with the City on various waste diversion programs.

- **GP Harmon Recycling (GP):** GP operates a recycling facility in Fayetteville, processing about 2,000 tons of commercial recyclables monthly. GP representatives expressed interest in constructing a MRF should the City transition to single stream recycling, as well as a willingness to process single stream recyclables during a pilot program.
- **Waste Management of Arkansas (WMA) and Marck Recycling (Marck):** Marck leases a recycling facility, located in Rogers, from WMA. Marck currently receives single stream recyclables (excluding glass) from various cities (e.g., Springdale, Rogers, Bentonville, and Bella Vista) and processes the material with limited automation. Marck did not indicate having any plans to increase mechanization of its MRF or to accept glass in the future. WMA did not indicate an intent to develop recyclables processing capacity in Northwest Arkansas.
- **Carbon Cycle and Carbon Transport:** Carbon Cycle is developing an anaerobic digestion facility to be constructed near Pineville, MO, approximately 60

QUOTES FROM BUSINESS SURVEY

"We currently transport our recycling to the ONF dumpsters, it is getting to be a hassle, it would be great if we could place provided recycle boxes on curb when the weekly trash is picked up."

"Our school cannot afford additional costs for recycling. Although there are benefits to students learning about recycling, students must give up time in class in order to pick up and sort our recyclables. I am not convinced this is the best use of their time."

"We work on Sunbridge and we would like to establish a shared commercial recycling receptacle for our business area. Let's do this!!"

"Our biggest drawbacks currently are 1) the time and effort it takes as busy business owners 2) flies. We need something more secure than the residential recycling bins, something that closes tightly to minimize flies. "

"Make recycling easier and more efficient."

miles from the City, and was seeking commitments of food waste. Carbon Transport was offering to transport materials to the facility.

1.5 Planning Process

Developing this Master Plan involved an organized process of information review and analysis, input from various stakeholders, and actual piloting of several potential waste diversion programs. Provided below is a summary of the steps involved in this planning process.

- **Waste composition study:** A composition study was conducted of waste received at the City's transfer station for disposal, the results of which are provided in Section 2.3 and Appendix C (Technical Memorandum No. 1) of this plan. This study helped to identify the opportunities for additional material recovery. A waste composition study was also conducted of waste disposed by the University of Arkansas, the results of which were provided in Technical Memorandum No. 2 submitted to the City on April 20, 2015.⁸
- **Baseline and operational assessment of current system:** This step benchmarked existing operations and waste diversion rates, which are summarized in Section 2 of this Master Plan.⁹ KCI also conducted an operational assessment of the City's collection operations and City-owned and operated transfer station, recycling facility, and compost facility. Findings and recommendations were provided in Technical Memorandum No. 4 submitted to the City on May 22, 2015.¹⁰
- **Community input:** Early on in the planning process, community input was obtained through a public meeting and online surveys, as well as meetings with various stakeholder groups and vendors. These meetings and surveys are further discussed in Section 1.4 and Appendices A and B of this plan.
- **Reduction and diversion options:** Based on the waste composition study and analysis of the City's current system, opportunities and options were identified that offered the greatest potential to increase material recovery and waste reduction/diversion. These options are summarized in Section 3 of this plan.
- **Pilot programs:** Two waste diversion options that were initially identified as having the potential to substantially increase waste diversion were single stream recycling and organics recovery. To assist in evaluating the feasibility of these options, commercial food waste composting and residential (curbside and multi-family) single stream recycling pilot programs were developed and implemented. The results of these pilot programs are provided in Section 4 and Appendices D (Technical Memorandum No. 5) and E (Technical Memorandum No. 6) of this plan.

⁸ All technical memoranda developed in conjunction with this project are provided on the City's website (<http://www.fayetteville-ar.gov/1907/Recycling-Master-Plan>). Because the City is not directly involved in collecting or managing the University of Arkansas waste at this time, Technical Memorandum No. 2 is not included as an appendix to this plan.

⁹ The system summary was initially submitted as Technical Memorandum No. 3, which has been updated and is included as Section 2 of this plan.

¹⁰ Technical Memorandum No. 4 can be found on the City's website (<http://www.fayetteville-ar.gov/1907/Recycling-Master-Plan>).

- **Scenario modeling:** Following discussions regarding the various waste diversion options identified, the project team selected diversion scenarios to be further evaluated through modeling. Results of the scenario modeling are presented in Section 5 of this plan.
- **Master Plan:** This Master Plan is the culmination of the tasks outlined above, as well as ongoing review and discussions with City staff. The proposed action plan outlined in Section 6 provides a phased approach toward more sustainable materials management and the City's 80% waste diversion goal.

Section 2

Existing Materials Management System

2.1 Recycling and Trash Division

The City's Recycling and Trash Collection Division (Division) provides solid waste and recyclables collection services to City residents and businesses. All materials are delivered to the City-owned and Division-operated facility located on South Happy Hollow Road where solid waste is transferred for disposal, recyclables are baled or prepared for market, and yard waste and brush is mulched or composted.

Figure 2-1 depicts the sources and quantities of materials received at the City's facility in 2015. This figure includes non-city waste, or waste that is not generated within the City but is accepted and transferred by the City for disposal. Non-city waste represents approximately 18% of all materials received at the facility and 21% of trash/garbage received.

The City has no direct influence or control over waste generated outside of its borders; therefore, discussions in this plan related to waste reduction and recycling generally do not include this non-city waste. However, receipt of non-city waste impacts operations; therefore, this waste was included in the scenario modeling, which is further discussed in Section 5.

The Division operates through an enterprise fund, the Recycling and Trash Collection Fund. Revenues for the fund are derived from fees levied for trash collection, recycling revenue, and container sales and leases. Based on final 2015 financial information provided by the City, Figures 2-2 and 2-3 summarize revenues and expenses for that year. In 2015, operational expenses exceeded revenues by nearly \$1.2 million, which was covered by fund reserves.

In 2015, capital improvements were made totaling \$4,428,262. These improvements included building upgrades, solid waste compactors and containers, and office and transfer station expansion.

Figure 2-1: Materials Managed at City Facilities, 2015

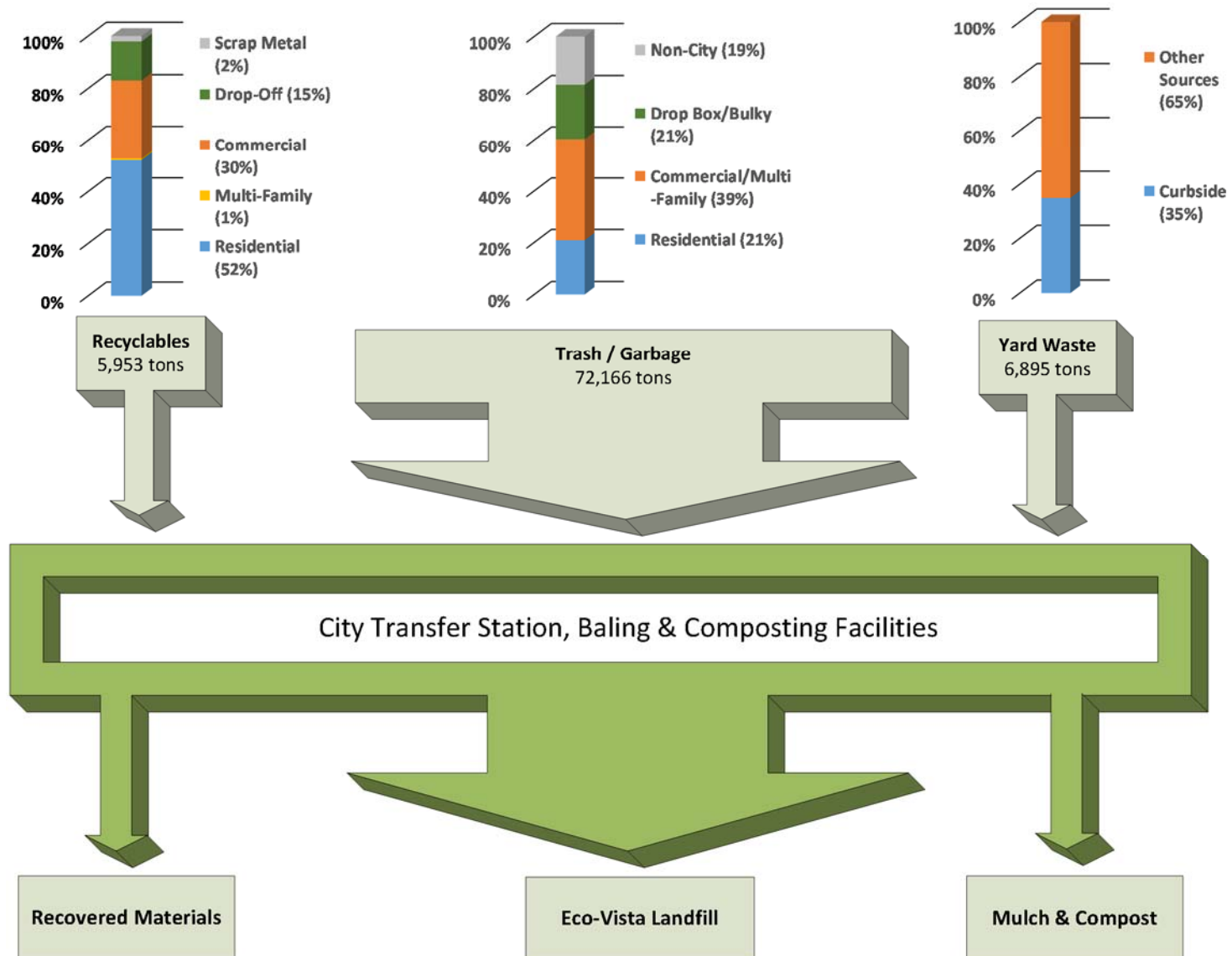


Figure 2-2: Operating Revenues, 2015

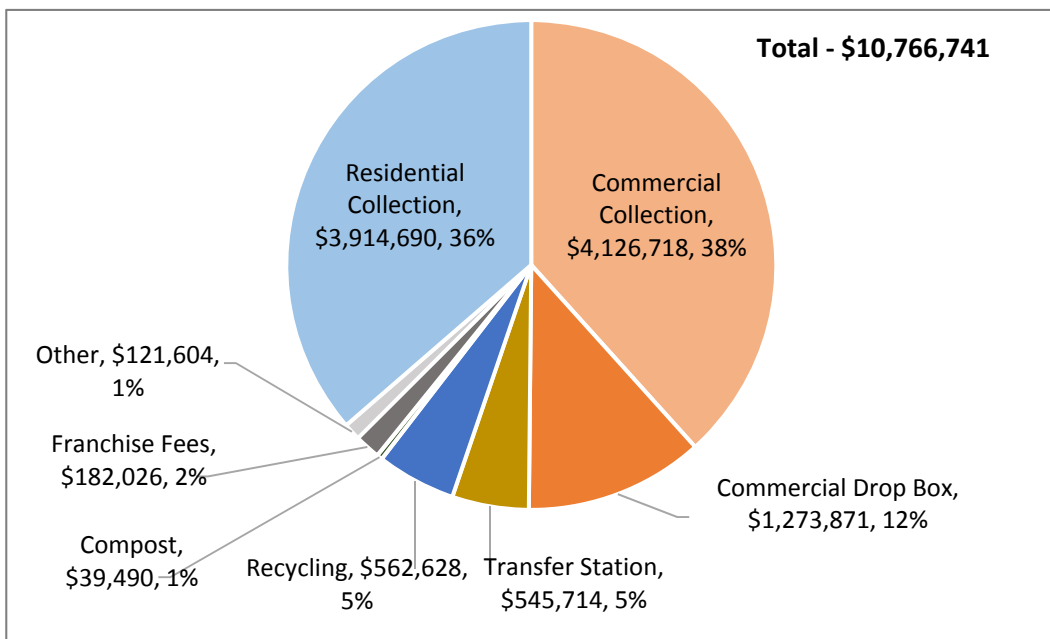
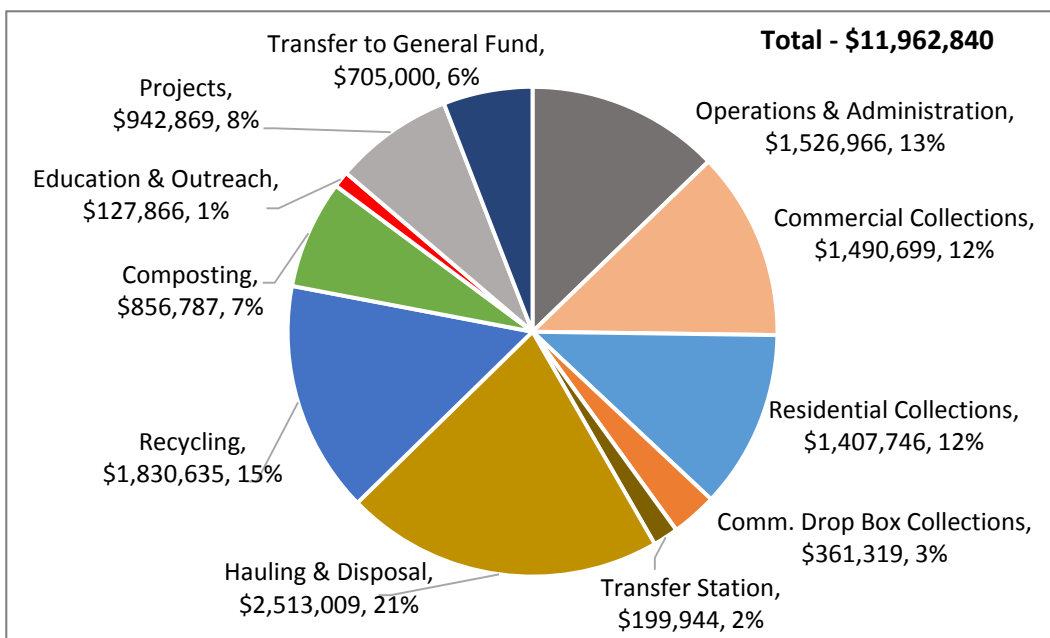


Figure 2-3: Operating Expenses, 2015



2.2 Waste Generation and Diversion

Figure 2-4 provides the quantities of waste landfilled, recycled, or composted by the City during the last 10 years. It does not include non-city waste managed by the City or waste generated in the City but not managed by the City. In 2015, the City managed 71,653 tons of material generated within the City, 5,953 tons of which were recycled (8%), 6,895 tons composted (10%), and the remainder landfilled.¹¹ The waste diversion rate has ranged from 16-20% over the last 10 years, with an 18% diversion rate in 2015.

Figure 2-4: Waste Landfilled, Recycled, and Composted, 2006-2015 (tons)

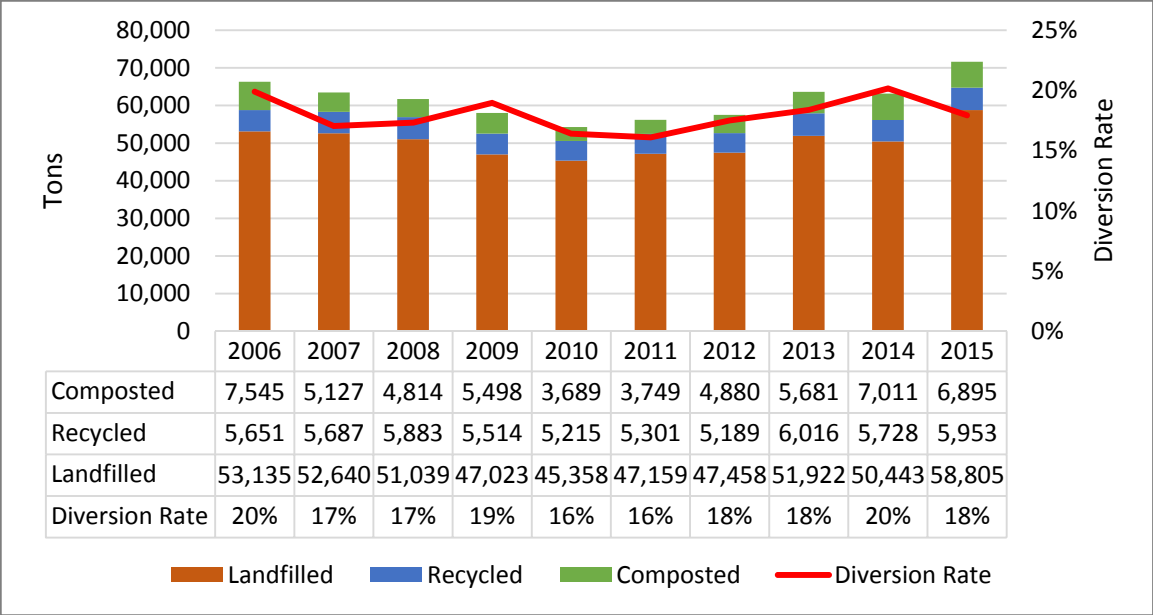
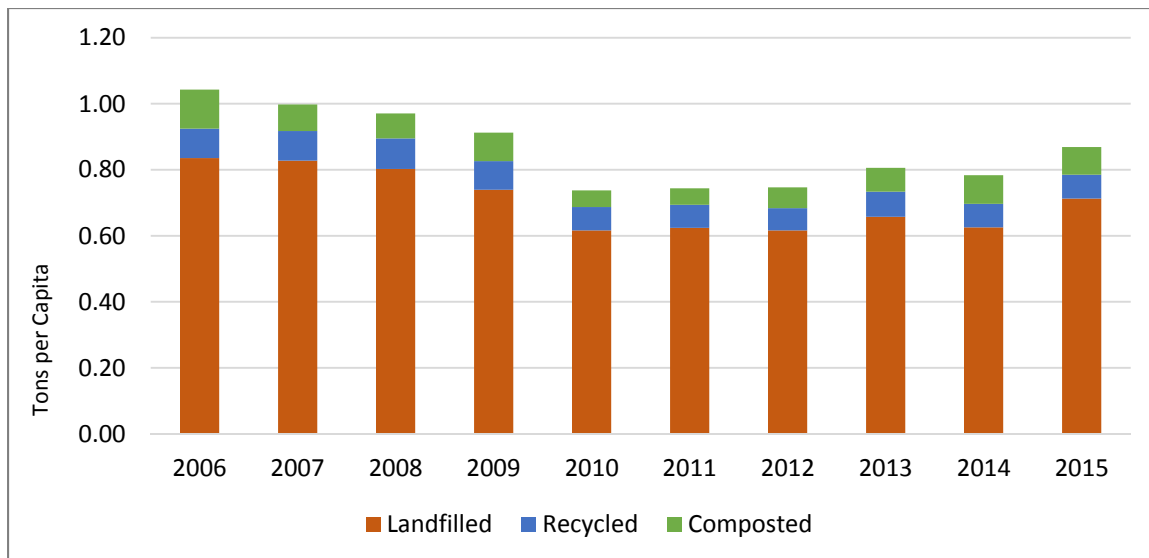


Table Note: Landfilled data does not include non-City waste and, therefore, does not match the Trash/Garbage tons in Figure 2-1.

¹¹ Recycling tonnage is based on materials marketed. Composting tonnage is estimated by the City based on type of materials received, approximate cubic yards, and conversion factors.

Figure 2-5 depicts waste generation (residential and commercial) on a per capita basis during the same time period. Per capita waste generation declined during the recessionary years of 2008 through 2011, which was the trend nationally, and began increasing again in 2012.

Figure 2-5: Tons per Capita Generation



2.3 Waste Composition

As part of the planning process, a waste composition study was conducted in January 2015. Appendix C provides Technical Memorandum No. 1 that details the study results.

Figure 2-6 depicts the composition of residential and commercial/multi-family waste that was landfilled.¹² As can be seen by these pie charts, substantial opportunities exist to increase recycling. These opportunities include recyclable materials that are currently landfilled but could have been collected in the City's existing recycling program (27% of residential waste and 30% of commercial waste). Compostable materials, food waste in particular, also represent an important opportunity to divert additional materials from the landfill.

During the composition study, bulky waste received at the transfer station was visually audited to estimate the types and percentages of materials in this waste stream. Figure 2-7 depicts the composition of construction and demolition (C&D) and bulky waste as a percentage by volume and percentage by weight. Substantial diversion opportunities also exist in bulky waste, with more than half the material by weight consisting of wood waste.

¹² Multi-family waste placed in dumpsters is collected as part of commercial waste.

Figure 2-6: Composition of Materials Landfilled (% by weight)

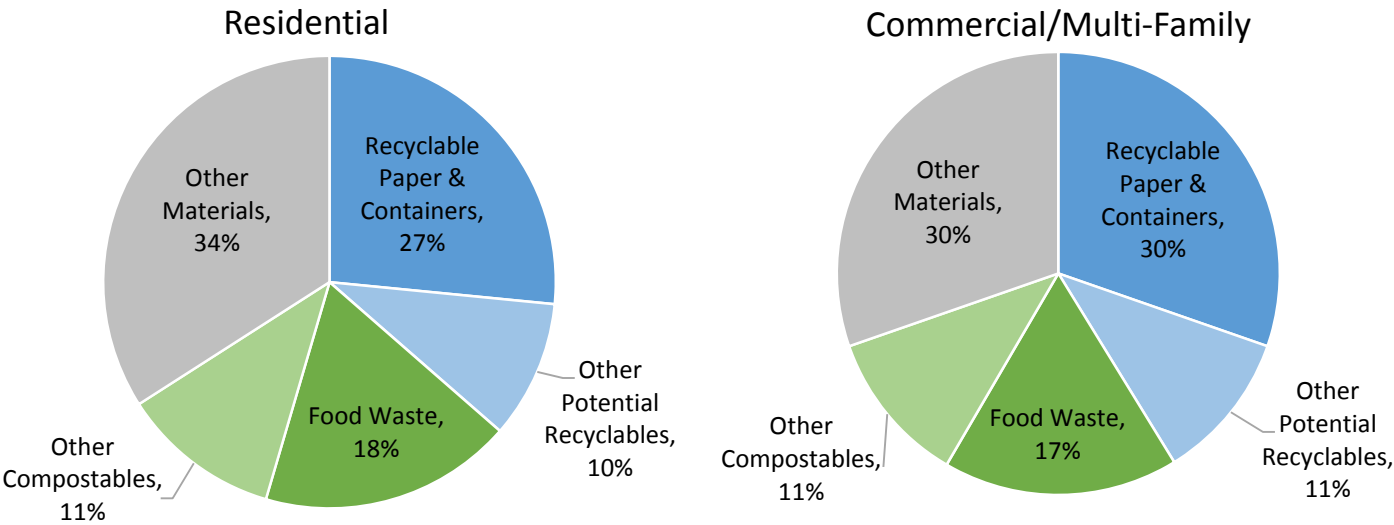
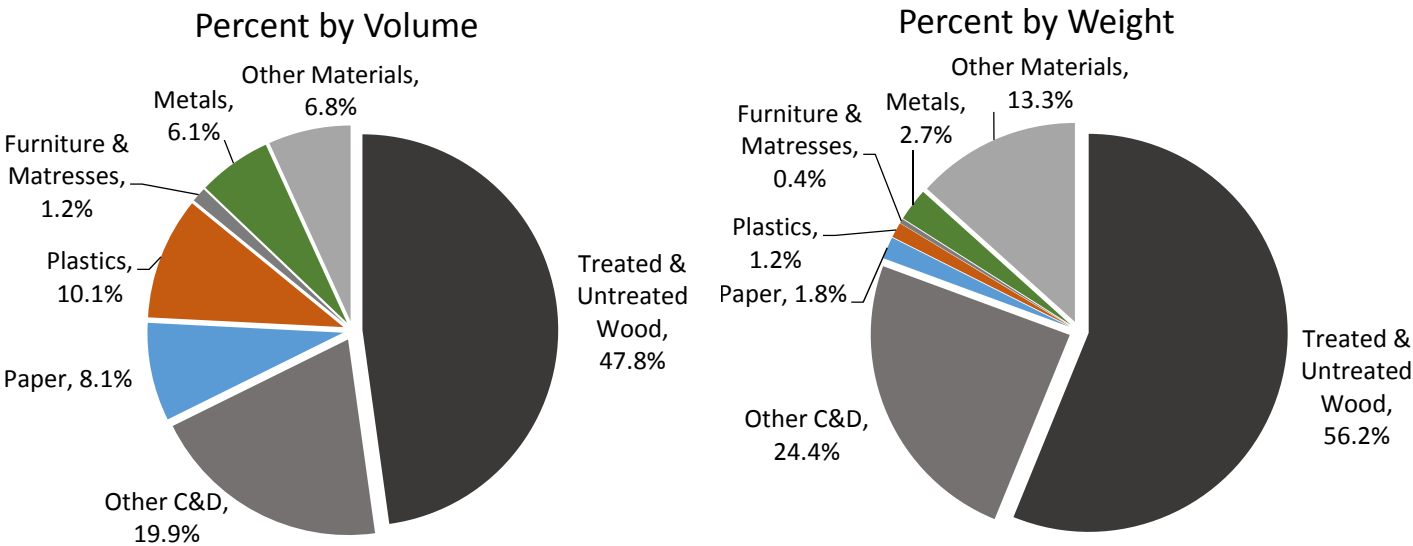


Figure 2-7: Composition of C&D and Bulky Waste Landfilled



2.4 Collection

The City has the exclusive right to collect solid waste and recyclables generated within the City limits, but franchises (grants the right to) private haulers to provide some services.

2.4.1 Residential Curbside Collection

In March 2003, the City implemented a Pay-As-You-Throw (PAYT) curbside residential collection program. Waste, recyclables, and yard waste are collected once per week and on the same day of the week.

- **Waste** – Residents may choose from the following three cart sizes:
 - o 32-gallon - \$9.37 per month service fee
 - o 64-gallon - \$14.30 per month service fee
 - o 95-gallon - \$20.31 per month service fee

Residents may switch to a larger cart size for a \$20 service fee; switching to a smaller size cart may be done at no additional cost. In addition, each residential unit may place up to four additional bags of waste curbside annually for no additional fee, after which they are charged \$6.20 per bag.

- **Recyclables** – Recyclables are collected in 18-gallon plastic recycling bins with lids and manually sorted at the curb into multiple compartments in the collection truck (curb-sort). Materials accepted in the recycling program include newspaper, mixed paper, corrugated cardboard, paperboard or chipboard, plastic #1 and #2 bottles, aluminum cans, steel or tin cans, and glass bottles and jars of all colors. In 2015, the City collected 3,103 tons of recyclables curbside, which averaged approximately 280 pounds per residential unit annually.¹³
- **Yard waste** – Grass clippings and leaves must be bagged in compostable brown paper yard waste bags, not to exceed 50 pounds each, or placed in a trash can visibly marked as “Yard Waste.” Brush must be bundled and tied, and is restricted to no more than 4 feet in length, limbs no greater than 5 inches in diameter, and bundles no more than 50 pounds in weight. Currently, an unlimited amount of yard waste is accepted.



Picture 2-1: Curbside Residential Trash, Recyclables and Yard Waste



Picture 2-2: Sorting Recyclables Curbside

¹³ The number of customer accounts fluctuates throughout the year. This figure is based on the number of active residential accounts (18,150) and number of commercial businesses participating in curbside recycling (276) as of April 2015. Businesses using 18-gallon recycling bins are serviced as part of curbside residential recycling routes.

- **Bulky waste** – Bulky waste is divided into three categories: household, metal, and yard waste. Each residence is offered one free bulky waste pickup per year consisting of no more than 5 items within the same category. Additional bulky waste pickups of up to 5 items within the same category may be scheduled for a fee of \$45. Multiple items in different categories must be picked up on different days and each collection is counted as a separate bulky waste pickup.

Alternatively, residents may self-haul up to 5 accepted bulky items in multiple categories to the City's transfer station in lieu of the free bulky waste pickup. In addition, the City conducts free cleanup events for bulky waste in the 4 wards of the City twice per year, spring and fall. Residents may also deliver yard waste to the City's compost facility for free.

2.4.2 Multi-Family Collection

City crews also collect multi-family residential waste and recyclables.

In the fall of 2011, the City implemented a multi-family recycling program targeting apartment complexes with 100 or more units. The program is dependent on the apartment complex's ability to provide space for a partitioned roll-off container. Residents are required to sort recyclable materials before placing them in the appropriate compartment.

The City has since expanded the multi-family recycling program to smaller complexes as well.

In addition, the City obtained a grant to offer 6-gallon recycling buckets or bags to assist residents in participating complexes with collecting and transporting recyclables to the roll-off container. Six complexes are currently participating in the multi-family recycling program.

In 2015, 40 tons of recyclables were collected from the 6 participating multi-family complexes, which equates to approximately 40 pounds annually per residential unit. Even given the fact that units are not occupied all of the time, this low recovery rate reflects the lack of convenience and therefore participation in this collection system.



Picture 2-3: Partitioned Recycling Roll-off at Multi-Family Complex

2.4.3 Commercial Collection

The City has the exclusive right to collect commercial waste within the City limits, except for collection services franchised to private haulers. The City also provides collection of recyclables.

The City's commercial recycling program consists of 3 key programs as outlined below. Separate routes are run to collect each of these recycling streams, which requires multiple passes by businesses that recycle more than one of these material streams.

- **Cardboard and paper recycling program:** Segregated cardboard collection is a long-standing program and the paper program was implemented in October 2008. The City uses a front-load collection vehicle to service about 175 cardboard dumpsters and 25 paper dumpsters.
- **Curbside recycling program:** Established In 2009, approximately 311 small businesses utilize up to 5 18-gallon recycling bins each, which are serviced by the City in similar manner and on the same routes as the residential curb-sort program.
- **Glass recycling program:** Initiated in July 2013, the City places and services roll carts at businesses in the entertainment district along Dickson Street and several other locations to collect glass. This program was made feasible by the City's contract with Ripple Glass, which allows various colors of glass to be recycled together. Currently, 50 roll carts are in use.



Picture 2-4: Commercial Glass Recycling Carts

The City operates a dropbox program. Six-yard dumpsters are available to rent for small cleanup projects, and 20-40 cubic yard roll-offs are available for large projects such as construction and remodeling.

The City franchises with 3 private companies (Hog Box, Waste Management, and Allied Waste) to provide the services listed below, some of which are provided in competition to the City.

- Collection of solid waste generated from industrial, large commercial, or construction/demolition activities in roll-off containers (open-top or compactors) of 20 cubic yards or greater in size.
- Collection of special waste such as hazardous waste, grease, or any other type of solid waste requiring special handling or disposal.
- Collection of recyclables outside the residential recycling program. Recyclables must be separated by type, with two exceptions. Contractors are allowed to collect commingled recyclables as part of C&D debris and commingled containers collected at University of Arkansas events.

The companies are not required to deliver waste or recyclables to the City's transfer station or recycling facility. They are required to pay franchise fees of 10% of gross revenue received for solid waste hauling services, but not for revenue received for recycling services. The agreements were originally approved in August 2012.

2.4.4 Drop-Off Collection

The City provides two community recycling drop-off sites. The drop-offs are open to everyone, not just Fayetteville residents. The same materials accepted in the residential recycling program are accepted at the drop-off sites.

- Marion Orton Recycling Center (located at 735 W. North Street) – This staffed center is open on Monday through Saturday from 6:00 am – 5:00 pm, except Thursday when it is open until 7:00 pm. It received 311 tons of recyclables in 2015.
- City of Fayetteville Recycling Center (located on Happy Hollow Road near the transfer station) – This center is open 24 hours a day, 7 days per week, and is staffed 25-30 hours per week. It received 549 tons of recyclables in 2015.

The City also services a recycling drop-off center installed by Ozark Natural Foods (1554 N. College Avenue) that is accessible 24 hours per day. Approximately 25 tons of recyclables were collected at this drop-off location in 2015.



Picture 2-5: Happy Hollow Road Drop-Off Recycling Center

2.5 Materials Recovery

2.5.1 Recycling

City collection crews deliver curb-sorted recyclables to the City's recycling facility where they are tipped by material type. Paper is tipped by grade into bunkers located inside of the building. Vehicles then travel outside to a raised platform and tip containers, by type, into roll-offs abutting the platform. The City bales the recovered materials, with the exception of glass.

Once a sufficient quantity of baled material is stockpiled, the City markets the material. The City contracts with Ripple Glass of Kansas City, MO to haul and recycle glass bottles and containers at no cost to the City.



Picture 2-6: Collection Vehicle Tipping Paper at Recycling Facility

In 2011, the City Council passed a resolution recommending that the Division post quarterly reports on the types of materials collected for recycling and the primary or end-use markets for those materials. The Division posts this information on its webpage.

Table 2-1 provides the quantity of each type of recovered material sold annually during the last 10 years. Changes in the amount of certain material types reflect national trends in product packaging and online shopping and news outlets.

For example, the substantial drop in recovered newspaper is likely a result of reduced readership and downsizing of printed newspapers that have been experienced nationwide. The increase in cardboard is likely in part because of increased online shopping, as well as the combining with chipboard. Plastics gradually increased as they claim a greater share of product packaging; however, glass has also been on the rise.



Picture 2-7: Collection Vehicle Tipping Containers at Recycling Facility



Picture 2-8: Baling Paper at Recycling Facility

Table 2-1: Recovered Materials Marketed (tons)

Year	Glass	Alum. Cans	Mixed Paper	News	Card-board (OCC)	Chip-board with OCC	Steel Cans	Plastic Bottles	Scrap Metal	Concrete	E-Waste	Total
2015	1,315	75	951	633	2,507		108	292	124	43	26	6,074
2014	1,297	59	962	722	2,134	69	112	324	75	136	3	5,893
2013	1,357	57	952	754	1,925	206	110	252	68			5,681
2012	1,058	65	932	767	1,160	791	87	267	62			5,189
2011	1,010	73	848	892	1,175	827	110	252	114			5,301
2010	997	70	899	915	1,135	743	112	232	112			5,215
2009	1,144	63	867	1,096	1,113	727	112	266	126			5,514
2008	967	62	880	1,548	1,284	670	92	247	133			5,883
2007	897	48	773	1,749	1,153	718	102	247				5,687
2006	897	74	824	1,580	1,133	799	103	241				5,651
Avg.	1,094	65	889	1,066	1,472	555	105	262	102	89	14	5,609

Table 2-2 summarizes the average revenue received by the City for each material type and Figure 2-8 depicts the variability of pricing for several of these recovered commodities. Market values fluctuate over time and markets for most commodities experienced a significant drop in 2008-2010. Table 3-2 also provides the average commodity market price in the Southeast United States in 2015 according to an industry pricing index (RecyclingMarket.net). The City's revenue exceeded the market index for glass and all fiber commodities, but was slightly less than the index for other container types.

Table 2-2: Average Revenue by Recovered Commodity (\$/ton)

Year	Glass	Aluminum	Mixed Paper	News	Cardboard (OCC)	Chipboard	Steel Cans	Plastic Bottles	Scrap Metal
Avg. 2015 Index*	(\$17.50)	\$1,260.39	\$53.10	\$59.74	\$88.45	no index	\$57.84	\$425.99	\$106.20
2015	\$0.00	\$977.77	\$59.16	\$67.09	\$88.69	with OCC	\$32.00	\$356.58	\$133.93
2014	\$0.00	\$1,559.05	\$50.63	\$70.65	\$92.54	\$49.84	\$221.81	\$400.07	\$204.07
2013	\$0.00	\$1,720.82	\$33.50	\$66.86	\$108.31	\$20.81	\$221.53	\$424.93	\$162.79
2012	\$0.00	\$1,564.12	\$43.62	\$68.42	\$96.94	\$32.91	\$344.72	\$447.04	\$189.71
2011	\$32.94	\$1,404.51	\$78.57	\$112.40	\$127.76	\$81.36	\$240.44	\$585.25	\$175.55
2010	\$36.22	\$1,498.44	\$55.44	\$94.62	\$135.21	\$0.00	\$204.03	\$410.45	\$136.60
2009	\$33.65	\$1,048.03	\$23.50	\$49.97	\$138.59	\$0.00	\$60.23	\$238.69	\$41.64
2008	\$38.26	\$1,686.92	\$54.21	\$107.39	\$168.51	\$0.00	\$264.23	\$423.46	\$62.00
2007	\$33.91	\$1,727.29	\$56.50	\$87.34	\$180.18	\$0.00	\$164.14	\$426.63	-
2006	\$30.70	\$1,637.41	\$29.38	\$70.98	\$138.28	\$0.00	\$80.12	\$371.17	-
Avg.	\$20.57	\$1,482.44	\$48.45	\$79.57	\$127.50	\$20.55	\$183.32	\$408.43	\$138.29

* Pricing based on RecyclingMarkets.net.

Figure 2-8: Average Revenue per Ton for Various Recovered Commodities (\$/ton)

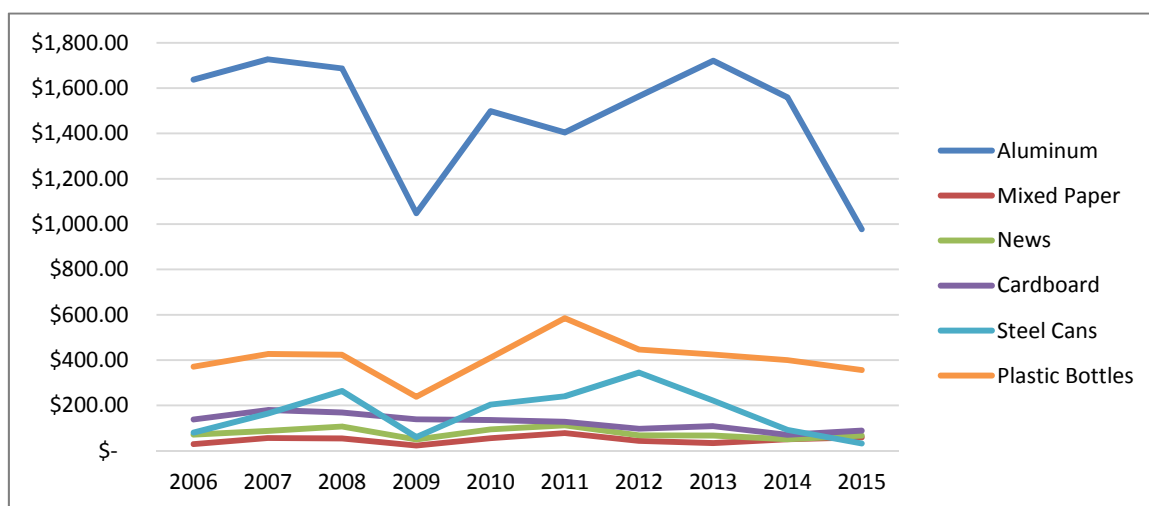


Figure Note: Figure is intended to provide a general understanding of fluctuations in the value of recovered commodities. It does not include all recovered commodities sold by the City because of scale differences.

2.5.2 Composting

The City owns and operates a Class CY Compost Site, meaning it is permitted to receive only yard waste and other woody wastes.¹⁴ The City processes yard waste collected curbside from residents, as well as yard waste delivered directly to the site. City residents may deliver yard waste at no charge; commercial businesses and non-residents are charged a fee.



Picture 2-9: Windrow Turner at Composting Facility

In 2015, the City estimated receiving 6,895 tons of yard waste; however, this is an estimate since no scales are used at the compost facility. The compost facility offers mulch (wood chips) throughout the year for purchase by residents and non-residents. A portion of the organic waste is also composted. The composting process takes approximately 4-6 months and the City has compost samples tested each April by a lab to determine quality of the end-product. Only City residents are allowed to purchase compost and quantities are limited.

2.5.3 Other Related Programs

The City sponsors or participates in other programs to collect and manage solid waste and recyclables, including the following:

- **Festival Recycling:** The City supports recycling programs for festivals by providing recycling guidelines and working with event coordinators to implement recycling. For small events, the City offers ClearStream™ recycling stands at no charge and event organizers deliver bagged recyclables to the City when they return the stands. For

¹⁴ In Arkansas, composting facilities are classified according to the type of waste authorized for composting:

- Type "CY" facilities may accept only yard waste and other woody wastes. Type "CY" facilities qualify for coverage under a general permit in which permit coverage is granted within 30 days of receiving a complete application.
- Type "CO" facilities may accept any source separated organic wastes such as paper, sewage sludge, food processing wastes or other specific organic wastes, including type "CY" wastes.
- Type "CS" facilities may receive all types of suitable solid waste for composting including household garbage, commercial wastes, suitable industrial wastes, and all type "CO" and "CY" wastes.

larger events, the City offers to provide and service carts or other recycling containers for a fee.

- **Household Hazardous Waste (HHW) & Electronics (e-waste):** The Washington County Environmental Affairs Office, located at 2615 Brink Drive in Fayetteville, operates an HHW Collection Center where City residents may drop off HHW for free. In addition, the center accepts household e-waste and tires. Coupons waiving the e-waste fee are available to City residents through the Division. City residents may bring in four passenger tires for free and a \$2.00 fee is charged for each additional tire. In addition, the City began accepting e-waste during the ward cleanups if delivered to the Recycling and Trash Facility on Happy Hollow Road. Boston Mountain SWD provides a trailer for e-waste collection and recycles the collected e-waste through its contractor.
- **Adopt-A-Street:** In this City-sponsored program, individuals or groups adopt a street and are responsible for picking up litter on that street at least four times annually. The City posts a sign displaying the group's name and provides all materials and supplies (e.g., trash bags, gloves, and safety vests) needed for the cleanups. Groups are asked to complete an activity form and record the amount of material collected. Currently, 62 areas covering nearly 40 miles of streets are included in the program.
- **Keep Fayetteville Beautiful (KFB):** KFB is an affiliate of Keep America Beautiful and Keep Arkansas Beautiful. The organization coordinates volunteers for the Adopt-A-Street program, to assist with site cleanup and education at the recycling drop-off centers, and to generally assist with City beautification projects. Each spring and fall, KFB partners with the Lake Fayetteville Watershed Partnership to sponsor a lake cleanup at Lake Fayetteville. In addition, KFB spearheaded an anti-graffiti program in cooperation with the Police Department in which select utility boxes throughout the City are painted.
- **Public School Waste Reduction:** Each public school has dumpsters for paper and cardboard and 18-gallon bins for containers that are serviced by the City. Green Teams at many schools also hand out reusable bags to replace disposable plastic bags and are working to reduce waste in cafeterias. Ten schools have onsite gardens and compost plant debris associated with those gardens.



Picture 2-10: Adopt-A-Street Volunteers

2.6 Transfer and Disposal

The City's transfer station is intended to serve the City and south Washington County and is permitted to receive and transfer 80,000 tons of materials annually. In 2015, the transfer station received 72,166 tons of waste (including 13,361 tons of non-city waste) for an average of about 260 tons per day.

Facility modifications were initiated in 2014 for an additional administration office, a larger reception area with an information center, an expanded break/training room, and more storage.



Picture 2-11: City Transfer Station

City staff operates the transfer station and loads the transfer trailers. The City contracts with Waste Management of Arkansas (WMA) to transport waste from the transfer station and dispose of it at Eco-Vista Landfill located in Tontitown, Arkansas, approximately 15 miles from Fayetteville. WMA provides standard walking floor trailers with a capacity of 115 cubic yards capable of containing at least 20 tons of solid waste. This contract was recently renewed and expires November 2, 2019. In 2015, the City paid WMA \$8.00 per ton to haul waste to the landfill and \$26.80 per ton to dispose of it (total of \$34.80 per ton). In 2016, the haul rate remained the same, but the disposal fee increased to \$27.58 per ton (total of \$35.58 per ton). The City currently charges a tipping fee of \$46.80 per ton.

2.7 Education and Outreach

The City utilizes an array of media to distribute information to residents and businesses regarding recycling and proper waste management, including the following:

- **City Website:** The Division has extensive information on its webpage regarding all aspects of its recycling and solid waste programs. Links are provided to flyers, brochures, instructional videos, and reports.
- **Recycle Something Campaign:** The City's recycling slogan is "Recycle Something." The campaign's website (www.recyclesomething.org) defines the types of recyclables accepted in the City's program, options for collecting them, and other related information. It also includes YouTube videos and printed informational materials.
- **Social Media:** The City has both a Facebook page and a Twitter account on which important information, actions, events, and reminders can be posted.

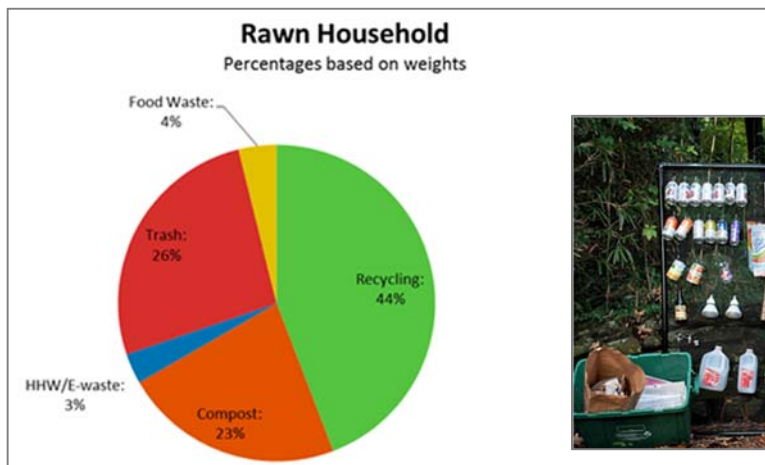


Picture 2-12: Recycle Something Logo

- **Printed Materials:** The City has printed brochures and flyers available to residents covering a variety of topics, including the PAYT program; curbside, apartment, and business recycling; drop-off facilities; yard waste composting; and bulky waste cleanups.
- **Recycling Mascot:** The City has a recycling mascot called Rooty the Recycling Pig. Rooty attends special events, does school programs for pre-school through elementary grades, and periodically walks around town creating recycling awareness.
- **Door-to-Door Recycling Outreach:** In 2012, the City initiated a door-to-door outreach program. This community-based social marketing program includes asking residents to complete a survey and sign a recycling pledge, as well as handing out recycling educational materials. Several door-to-door outreach events have been conducted, including those in the Walnut Grove neighborhoods and the Walker Park area.
- **Waste Saving Campaign:** The City conducted a PAYT Waste-Saving educational campaign. During this program, eight households volunteered to save their household garbage and recycling for a full week. At the end of the week, the waste and recyclables were weighed and categorized. Volunteers were photographed with their waste. The program was designed to encourage residents to think about their waste habits and to inform them of ways to reduce waste and make the most of the PAYT program.



Picture 2-13: Recycling Mascot, Rooty



Picture 2-14: Participating Family in Waste-Saving Educational Campaign



2.8 University of Arkansas

As part of its sustainability goals, the University of Arkansas is striving to become a zero waste institution (90% diversion) by the year 2021. The Office for Sustainability is developing a Zero Waste Action Plan, which will lay out motivations, goals, and strategies for reducing waste within a framework of continual improvement.

The City currently has no direct involvement in managing the waste or recyclables generated at the University. The University contracts with WMA for waste collection services, which does not utilize the City's transfer station.

Razorback Recycling is the University's central recycling operation. They collect cardboard, white paper, mixed paper, aluminum and steel cans, plastic and glass bottles, and organics using a desk-side quad system and a network of outdoor containers. Table 2-3 provides the quantity of University waste that was landfilled, recycled, and composted in 2014, broken down by the 4 primary sectors and based on data provided by University staff. This data does not include C&D debris or other types of special waste such as hazardous waste. In addition, the quantity of waste landfilled is estimated by the contracted haulers and, therefore, might be underestimated.



Picture 2-15: Razorback Recycling Logo

Table 2-3: University of Arkansas Waste Landfilled, Recycled, and Composted, 2014

Sector	Landfilled (tons)	Recycled (tons)	Composted (tons)	Total (tons)	Diversion Rate
Facilities Management	1,412.53	341.77	0.00	1,754.30	19%
Housing	923.89	77.84	1.94	1,003.67	8%
Arkansas Union	245.42	58.65	0.00	304.07	19%
Athletics	305.45	139.81	0.00	445.26	31%
Total Tons/Average Rate	2,887.29	618.07	1.94	3,507.30	18%

As mentioned above, the City currently has no involvement in collecting or managing waste or recyclables generated on the University campus. As the City develops additional recycling and composting infrastructure, opportunities to partner with the University should be explored to take advantage of economies of scale.

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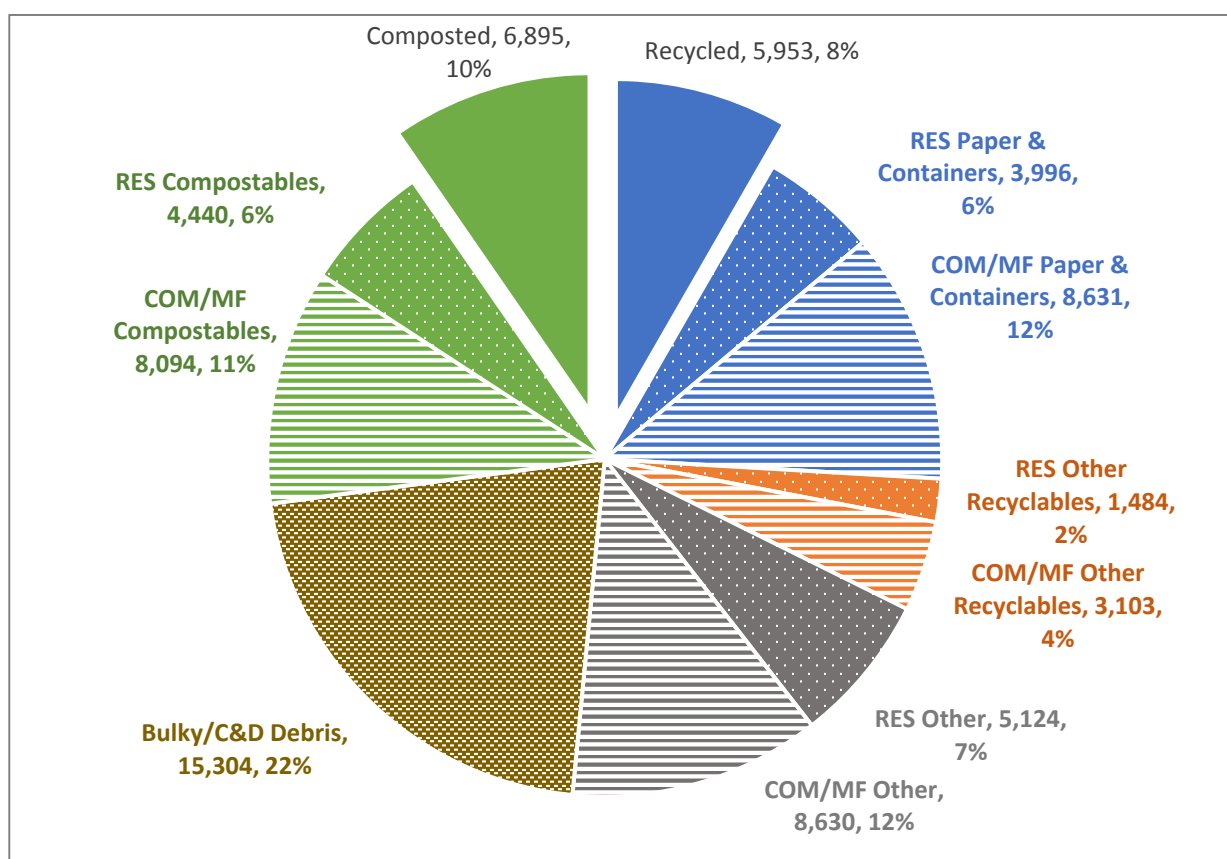
Section 3

Diversion Opportunities and Options

3.1 Overview of Opportunities and Options

Results of the waste composition study were applied to 2015 tonnage data to provide a more comprehensive understanding of the materials managed by the City. Figure 3-1 depicts the overall composition, including materials that were recycled, composted, and landfilled. This figure helps identify the greatest opportunities for increasing waste diversion.

Figure 3-1: Composition of Materials Managed by the City in 2015 (tons, % by weight)



Note: For the purpose of this chart:

- RES=Residential; COM/MF = Commercial/Multi-Family.
- Paper & Containers includes newspaper, corrugated containers, office paper, other recyclable paper, PET and HDPE bottles, tin/steel and aluminum cans, and glass containers.
- Other Recyclables includes aseptic containers, non-bottles plastics #1 and #2, other plastic containers, bulky rigid plastics, EPS food service and packaging, white goods/small appliances, ferrous and nonferrous metals, and electronics.
- Compostables includes low-grade paper, clean wood waste, yard waste, and food waste.
- Waste includes retail bags, plastic film, all other plastics, other glass, textiles, special wastes, household batteries, treated wood waste, tires, and rubber, all other garbage, grit, and liquids.

As depicted in Figure 3-1, the City diverted nearly 18% of materials it managed from disposal in 2015. This includes materials that were recycled or composted (solid blue and green wedges). The greatest opportunities for increasing diversion include the following:

- **Recyclables materials:** Recyclable materials currently accepted by the City in its existing program comprise approximately 18% of waste that was landfilled. Residential recyclables (dotted blue wedge) represent 6% and commercial/multi-family recyclables (striped blue wedge) the remaining 12%.
- **Compostable materials:** Compostable materials comprise approximately 17% of waste that was landfilled. Residential compostables (dotted green wedge) represent 6% and commercial compostables (striped green wedge) represent 11%. More than 60% of this compostable material is food waste. The remaining is low-grade paper, clean wood waste, and yard waste.
- **C&D debris:** C&D and bulky wastes make up about 22% of the material managed by the City. Based on visual audits, more than half of this material consists of wood, in addition to other types of material that are potentially recyclable (e.g., metals, paper, plastic, etc.).
- **Other recyclables:** Other types of materials that could potentially be recycled if the infrastructure were developed to collect and process these materials (dotted and striped orange wedges) represent an additional 6% of waste that was landfilled. This includes various types of plastics, metals, aseptic containers, and electronics.

To progress from 18% to 80% diversion, or even to 50% diversion, in the next 10 years will require a fundamental change in how materials are managed. It will require putting the necessary policies, programs, and facilities in place to bring about this change.

Table 3-1 lists options that were identified as having the potential to divert additional waste from the landfill. These various options and their potential application to the City of Fayetteville are discussed in this section.

Table 3-1: Potential Waste Diversion Options

Residential	Commercial/Multi-Family	Bulky Waste/C&D Debris
• Carted single stream recycling • Expanded organics recovery • Revitalized education and outreach • Incentives • Bans or mandates	• Single stream recycling • Organics recovery • Education and outreach • Technical assistance • Incentives • Green City program (lead by example) • Bans or mandates	• Processing after collection • Source separation prior to collection ○ Incentives ○ Education and technical assistance ○ Bans or mandates

3.2 Single Stream Recycling

Over 2,500 communities servicing more than 75% of the urban American population reportedly utilize single stream recycling. The growth of single stream over the last 20 years is a result of the benefits it provides, including collection efficiencies, customer convenience, and higher material recovery.

According to the five leading MRF equipment manufacturers, nearly all medium- or large-scale MRFs constructed in the United States in last 5 years have been single stream MRFs. In the last 10 years, more than 127 single stream MRFs have been built in the United States.¹⁵ These MRFs vary in terms of the types and sophistication of equipment, which has a direct impact on the recovery of marketable materials and level of processing residue.

Carted (usually wheeled 64- or 96-gallon carts) single stream recycling offers the following advantages:

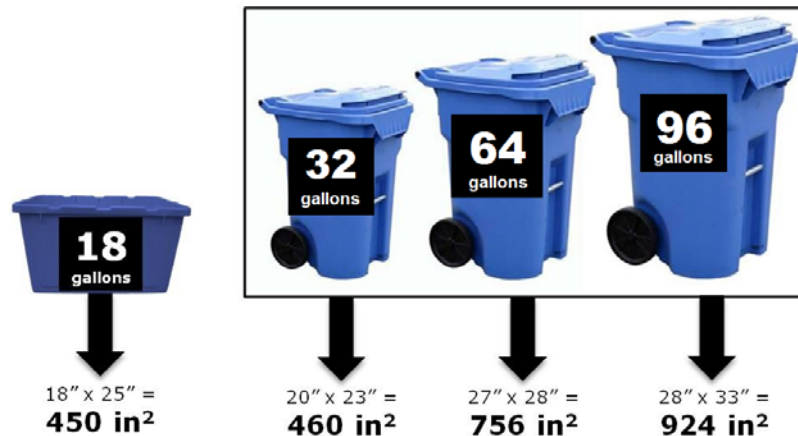
- **Increased recycling tonnage:** Communities that convert to single stream recycling generally report recycling tonnage increases ranging from 25% to more than 100%, depending on the effectiveness of the previously established program. During the City's single stream pilot program, the quantity of recyclables collected curbside increased by 94% and the quantity collected in the multi-family complex that had been participating in the City's recycling program increased by 126% (see Section 4.2). Even adjusting these figures for potential loss due to contamination or processing residue, this still represents at least a 69% increase in curbside recyclables and 83% increase in multi-family recyclables.
- **Enhanced collection efficiency:** Servicing a single cart requires significantly less time than sorting recyclables curbside. This was also clearly demonstrated during the single stream pilot program during which the collection time at each household was reduced from 1 minute during the pre-pilot (curb-sort) to 7 seconds during the pilot (carted single stream). For businesses, single stream allows all recyclables to be collected on the same route, eliminating the need for multiple passes by different vehicles for each material type.
- **Increased worker safety:** Rather than curb-sorting recyclables during all types of weather and traffic conditions, workers can remain inside the truck, which substantially increases worker safety. Sorting recyclables curbside is difficult work resulting in worker injuries and high employee turnover.
- **Increased customer convenience:** For curbside customers, only one trip to the curb is needed and carts are easily rolled to the curb instead of being lifted or carried, which can be difficult for physically challenged or elderly residents. At multi-family complexes, the single large partitioned roll-off can be replaced by other types of smaller collection containers (carts or dumpsters) placed throughout the complex, ideally adjacent to all trash containers, making them more convenient and accessible to residents. Businesses would no longer need to place glass in carts, place paper in one bin and containers in another, and stack cardboard separately; all materials could be commingled in the same containers. In the pilot surveys, 97% of curbside respondents and 100% of the multi-family respondents

¹⁵ Berenyi, Eileen, *Resource Recycling*, "What Comes After Single Stream?" January 2015, p.22.

cited convenience as one of the main benefits they experienced with single stream recycling.

- **Program expansion:** Eliminating the need for separate containers or compartments on the vehicle for each material type enables additional material types to be added to the program, such as plastics #3-7 and aseptic containers. In the pilot program surveys, 92% of curbside respondents and 89% of multi-family respondents considered this a key benefit of single stream.
- **Greater capacity with similar or smaller footprint:** As depicted in Figure 3-2, a 64-gallon cart (the size typically used for curbside recycling) provides nearly double the capacity of two 18-gallon recycling bins, but with a smaller footprint (approximately 756 square inches) than two side-by-side bins (approximately 900 square inches). For businesses, because separate containers are not needed for cardboard, paper, glass, and other containers, less space is required.

Figure 3-2: Recycling Bin and Recycling Cart Volumes and Footprints



- **Improved aesthetics:** For curbside collection, larger standardized carts eliminate multiple and/or overflowing recycling bins. Servicing these carts also creates less noise than sorting materials into the truck at the curb. For businesses, because separate containers are not needed for cardboard, paper, glass, and other containers; less space is required; and material would no longer be piled on the ground, thereby improving street-side aesthetics.

Concerns about the City converting from curb-sorting to single stream recycling have been expressed in public meetings, newspaper articles, and on the internet. Provided below is a discussion of potential disadvantages or challenges with carted single stream recycling, as well as other concerns that have been raised.

- **Contamination:** Customers can become overly exuberant and try to recycle materials that are not accepted in the program. An education campaign and clear instructions are critical. Recycling carts and dumpsters typically are not inspected for contamination prior to collection.

- **Higher processing costs and lower net revenue:** Processing single stream recyclables requires more sophisticated processing equipment; therefore, processing costs will be higher. Once processed in a modern MRF, the sorted material is of comparable quality to the existing program and bears similar revenue on a per ton basis. The net revenue per ton will be lower because of the higher processing costs; however, total revenue will increase because of the substantial increase in tons collected and recovered in a single stream program. If the City contracts with a private processor, the competitive procurement process would determine the processing fee paid and revenue share received by the City.
- **Higher processing residue:** Processing single stream recyclables will result in higher residue levels than the current curb-sort program. Depending on materials collected, level of contamination, and type of processing equipment, processing residue of approximately 15% of inbound material is reasonable in a state-of-the-art single stream MRF. The substantial increase in the quantity of materials collected in a single stream program more than offsets the processing residue, resulting in a significant net increase in the quantity of materials recycled.
- **Cart size:** During the pilot, 88.2% of survey respondents stated the 64-gallon cart was a good size, 8.3% felt it was too big, 2.4% considered it too small, 0.7% had no opinion, and 0.4% preferred the recycling bin. Cart size can be addressed by offering smaller (32-gallon) or larger (96-gallon) carts as options.
- **Safety issues:** Concerns have been raised about worker safety in MRFs. Safety is constantly an issue of concern in all aspects of the solid waste industry (collection, processing, and disposal). In fact, refuse and recyclable material collectors rank fifth among American workers with the highest fatality (27 fatalities in 2014).¹⁶ In 2014, refuse and recyclable material collectors accounted for two-thirds of fatalities in the solid waste industry.¹⁷ While state-of-the-art MRFs utilize equipment for much of the sorting, they also require some manual sorting. Potential dangers to workers can be minimized through personnel training and oversight; personal protective equipment; air filtration/ventilation systems; enclosed, temperature-controlled sorting areas; established health and safety reporting/response procedures; and other similar actions.
- **Worker wages:** MRF operators must follow minimum wage requirements established by the local, state, or federal government. The minimum wage in Arkansas is currently \$8.00 per hour and will increase to \$8.50 per hour on January 1, 2017. This exceeds the federal minimum wage of \$7.25 per hour. Twenty-nine local governments in the United States have established minimum wage requirements that exceed their state minimum wage. That option is available to the City if the state level is considered inadequate to be a living wage.
- **Lack of state-of-the-art processing infrastructure:** No state-of-the-art single stream MRF currently exists in Northwest Arkansas. Therefore, converting to single stream would

¹⁶ U.S. Bureau of Labor Statistics, *News Release: National Census of Fatal Occupational Injuries in 2014*, September 17, 2015. Note: U.S. Bureau of Labor Statistics has not yet released 2015 fatality data. Occupations with higher fatality rates than refuse and recyclable material collectors were logging workers, fishers and related fishing workers, aircraft pilots and flight engineers, and roofers.

¹⁷ Bodamer, David, *Waste 360*, "What the Final 2014 Occupational Fatality Data Means for the Waste & Recycling Industry," April 22, 2016.

require either a competitive procurement to determine private sector interest in developing a regional state-of-the art single stream MRF or development by the City of a small or “mini” single stream MRF to process the recyclables.

To assist in evaluating the viability of single stream recycling, a pilot program was conducted, the results of which are discussed in Section 4.2.

3.3 Organic Material Recovery

Food waste represents one of the greatest opportunities for the City to increase its diversion rate. Nearly 30% of residential and commercial waste collected by the City consists of potentially compostable material (see Table 3-2). As noted in the table, approximately 60% of this compostable material is food waste.

Table 3-2: Potentially Compostable Materials Disposed, 2015

	Residential		Multi-Family/ Commercial	
	% of Waste Disposed	Estimated Tons per Year	% of Waste Disposed	Estimated Tons per Year
Food Waste	18.1%	2,725	17.2%	4,890
Low-Grade Paper	9.4%	1,413	8.6%	2,453
Yard Waste*	1.4%	207	1.0%	294
Clean Wood Waste	0.6%	96	1.6%	456
Total Compostables	29.5%	4,440	28.4%	8,094

*Arkansas law bans the landfilling of yard waste, except for fugitive amounts. This small percentage of yard waste would be considered fugitive.

Source: KCI, Technical Memorandum No. 1: Waste Composition Study, April 20, 2015; applied to 2015 tonnage.

In September 2015, the U.S. Department of Agriculture (USDA) and U.S. Environmental Protection Agency (EPA) announced a national goal to reduce food waste by 50% by 2030. The EPA Food Recovery Hierarchy (Figure 3-3) recommends first reducing the volume of food wasted, followed by feeding hungry people and animals, then options such as composting and digestion, with disposal as the last resort.

Figure 3-3: EPA's Food Recovery Hierarchy



Solutions that prevent or recover edible food from being wasted provide the greatest economic benefit on a per pound basis.¹⁸ A local government's role in prevention and recovery of edible food waste generally takes the form of consumer education and promotion or facilitation of donation programs.

Feed Fayetteville is a local organization founded in 2011 to promote programs to reduce hunger and food insecurity in the Fayetteville area. According to Feed Fayetteville, 27.6% of Arkansas children are food insecure, 37% of Washington County children live in a hungry home, and Washington County has the third highest food insecurity in the State.¹⁹ Fayetteville also has a number of food banks, including Northwest Arkansas Food Bank, Lifesource International, Cooperative Emergency Outreach, and Full Circle Food Pantry on the University of Arkansas campus.

One of the most commonly cited barriers to food donation is the perceived risk of liability. To alleviate this concern, Congress enacted the Bill Emerson Good Samaritan Food Donation Act in 1996, which absolves an entity that donates food from criminal or civil liability except in cases of gross negligence or intentional misconduct.

In 2012, the University of Arkansas Law School, with support from the Women's Giving Circle, initiated the Food Recovery Project to spread awareness of the opportunity of "food recovery as a key tool for waste reduction and hunger amelioration." The project developed two documents on the legal implications of food donations and the Good Samaritan Act: *The Legal Guide to the Bill Emerson Good Samaritan Food Donation Act* and *Food Recovery: A Legal Guide*.

¹⁸ ReThink Food Waste through Economics and Data (ReFED), *A Roadmap to Reduce U.S. Food Wastes by 20 Percent*, 2016.

¹⁹ Feed Fayetteville, Hunger Data: <http://www.feedfayetteville.org/about/hunger-data/>.

Donating edible food can benefit businesses financially. In addition to potential disposal cost savings, Section 170 of the Internal Revenue Code allows some businesses to earn an enhanced tax deduction for donating selected surplus property, including food. The Code provides that wholesome food that is properly saved, donated to an approved agency, and properly receipted is eligible for an enhanced tax deduction.

Opportunities for the City to take a more active role in educating consumers about food waste reduction and facilitating partnerships between commercial edible food waste generators and organizations that accept food to feed people are further covered in the Education and Outreach and Technical Assistance discussions later in this section.

Solutions that recycle food waste offer the highest diversion potential.²⁰ Local governments have a greater role to play in food waste recycling than they do in prevention or recovery. Collection and processing of food waste and other organic materials is increasing throughout the United States. In the past decade, the number of communities in the United States with curbside food waste collection has grown by over 700%, from 24 municipalities in 2005 to 198 in 2014. The number of households these programs serve has increased from less than 600,000 in 2005 to 2.7 million in 2014.²¹

Collecting commercial food waste, especially from large food waste generators, is often the first step in initiating a food waste recycling program. It enables a community to focus on a smaller number of generators and to help ensure a relatively clean stream of source-separated food waste. Residential food waste is generally more challenging to collect than commercial food waste, especially from multi-family units.

Below are a few examples of cities that have implemented comprehensive organics collection programs.

- **Portland, OR:** Portland collects organic materials curbside from single-family and small multi-family (2-4 units) residential properties on a weekly basis using 60-gallon roll carts. Accepted organic materials include all food wastes (including meat and bones), food-soiled or compostable paper (e.g., napkins and paper towels), and yard waste. Certified compostable bags are



Picture 3-1: Trash, Recycling, and Green Waste Containers Placed Curbside in Portland, OR

Certified compostable bags are allowed to line carts or in-home collection containers. The city also collects food waste from multi-family and commercial properties, but not compostable paper or yard waste. Organic materials collected in the residential program are sent to a compost facility that can handle the non-food materials, while commercial food waste is sent to either an anaerobic digestion facility or another compost facility that processes only food waste. By implementing organics collection, the city was able to transition to every-other-week or every-four-week curbside collection of garbage. In addition, Portland has a PAYT rate

²⁰ ReThink Food Waste through Economics and Data (ReFED), *A Roadmap to Reduce U.S. Food Wastes by 20 Percent*, 2016.

²¹ Yepsen, Rhodes, *BioCycle*: "BioCycle Nationwide Survey: Residential Food Waste Collection in the U.S.," January 2015, p. 53.

schedule to incentivize recycling and composting. The residential curbside program collected an average of 1,089 pounds of organics per household in 2014, compared to 815 pounds of garbage and 776 pounds of recyclables per household in the same year.²²

- **Seattle, WA:** In 2014, Seattle banned food waste and food-soiled paper from residential and commercial garbage, in addition to a 1989 ban on yard waste. All residential properties in the city are required to have weekly curbside collection of organic waste, with an exception for approved backyard composting. The city offers 13-, 32-, and 96-gallon carts for \$5.45, \$8.20, and \$10.50/month, respectively. Commercial and multi-family properties with more than 10% food waste in their waste stream must also have organics collection service (64- or 96-gallon carts). Accepted materials include all food waste, food-soiled paper, yard waste, compostable bags, and other certified compostable plastics. Initially, the city was to impose a \$1 fine on single-family residential households and \$50 on commercial and multi-family properties that were found to have more than 10% food waste in their garbage containers upon visual inspection; however, the fine on single-family residents was suspended in early 2015. In 2014, the city reported a recycling rate of 57.1% overall and 71.1% for the single family residential sector.²³ Nearly 137,000 tons of organic material were composted in 2014, which represented approximately 19% of the waste stream.²⁴
- **Austin, TX:** Austin implemented a residential curbside organics collection pilot at 14,000 households as part of its Master Plan to reach zero waste (90% diversion) by 2040. Organics, including all types of food waste, food-soiled paper, and yard waste, are collected weekly in 96-gallon roll carts. The city does not accept any compostable plastics, including compostable bags, but encourages participants to line kitchen collection bins with paper and layer food waste with paper and yard waste in the cart. Austin also has a PAYT rate schedule that helps to incentivize organics diversion. In FY 2015, the pilot collected 4,219 tons of organics²⁵, which equates to approximately 600 pounds per household per year. For commercial and multi-family properties, the city enacted a Universal Recycling Ordinance in 2010 that requires food enterprises with some form of food permit (distributor, processor, retailer, etc.) to implement an organics diversion program on a graduated schedule based on property size, with all applicable properties required to have diversion by 2018. To assist with this, the city offers rebates of up to \$1,800 to reimburse program implementation costs.

The City, with assistance from KCI, conducted a commercial food waste pilot program to evaluate the feasibility of composting food waste at the City's existing facility utilizing the Modified Static Aerobic Pile (MSAP) method, which uses a microbial inoculant to enhance the compost process. The pilot program, results of which are discussed in Section 4.1, was very

²² City of Portland, *Residential Curbside Collection Service Rate Study for Rates Effective July 1, 2015*, 2015 (<https://www.portlandoregon.gov/bps/article/404493>).

²³ Seattle Public Utilities, *2014 Recycling Rate Report*, 2014 (http://www.seattle.gov/Util/cs/groups/public/@spu/@garbage/documents/webcontent/1_040673.pdf).

²⁴ Seattle Public Utilities, *Organics Report, 3rd Quarter 2015*, 2015 (http://www.seattle.gov/Util/cs/groups/public/@spu/@garbage/documents/webcontent/1_039051.pdf).

²⁵ Beniot, Erin, Records, Analyst, Austin Resource Recovery, email communication on March 7, 2016.

successful and the City is in the process of applying for a Type CO permit that will allow co-composting of food waste and yard waste at the compost facility using the MSAP method.

The City has also been approached by a private company that is developing an anaerobic digestion (AD) facility in southern Missouri. AD is a biological process in which microorganisms digest organic material in an oxygen-free environment. AD produces biogas that can be combusted to produce power or refined to produce a compressed biogas for transportation fuel; liquid digestate commonly used as a fertilizer; and solid digestate for subsequent composting and/or beneficial use as a soil amendment.

Based on initial discussion with the company developing this AD facility, they are not able to accept and process yard waste. Therefore, the City would need to continue operating its compost facility to process yard waste. Processing food waste with yard waste at the City's facility is likely more cost-effective, provides economies of scale by more fully utilizing the facility's capacity, and produces a better compost end-product by improving the carbon to nitrogen ratio.²⁶

3.4 Education and Outreach

The City employs a full-time Waste Reduction Coordinator, shares a recycling education position with Washington County, and engages the assistance of Keep Fayetteville Beautiful to conduct waste reduction and recycling education and outreach (E&O). The City utilizes an array of media, from printed materials to electronic media to door-to-door surveys/pledges. The E&O program is more fully discussed in Section 2.7.

Clear and effective E&O is an ongoing and integral part of any successful recycling program. Transition periods, such as initiating new or expanding existing programs, offer ideal times to reinvigorate these campaigns and revamp E&O materials. An effective E&O campaign utilizes a full array of communication tools (audio, video, text, and graphics) and provides multiple "touches" of all affected parties.

For an individual to absorb a message, a general rule of thumb has been that 5-7 touches, or points of information receipt, are required. However, because of the increasing number of sources and types of information we are bombarded with daily, some industry experts believe that 9-12 touches may now be required to impact behavior change.

Opportunities that were identified to enhance E&O efforts include the following:

- **Distribution methods:** The resident survey results in Table 3-3 provide valuable information for prioritizing outreach efforts and program budget. Many residents expressed a preference to have information conveyed to them through internet interfaces such as the City's webpage, social media, and email. While social media provides a useful outlet for reaching more individuals, marketing specialists caution not to abandon the printed word. Approximately 46% of survey respondents expressed a desire to receive information about recycling in their water/utility bill inserts, and 22% expressed interest in other types of printed materials such as brochures, flyers, and newsletters.

²⁶ Food waste provides a valuable nitrogen source to help achieve the ideal carbon to nitrogen ratio of 3:1.

Table 3-3: Resident Preferences for Information Distribution Methods

Information Distribution Method	% of Residents
Internet (City website, YouTube videos)	54%
Water/utility bill	46%
Emails	44%
Social media (Twitter, Facebook)	37%
Printed materials (brochures, flyers, newsletters)	22%
Mail	15%
Television	12%
Newspaper	11%
Radio	10%
Special events	8%
Other (ex., in person, Farmers Market, movie theaters, refrigerator magnets, signage on vehicles and in public places)	6%

Facebook, Instagram, and Twitter offer venues for the City to reach its audience on a daily basis. The City currently utilizes these various social media channels, but could benefit from a scheduled campaign. A well-run Facebook page can generate daily interest in the City's programs. Linking the page to the website and including the page on printed literature will help garner a Facebook audience; however, the best way to increase readership is for your current audience to share City posts with their "friends."

Municipalities that do not have the budget and time to maintain a social media campaign can utilize internship positions to attract young talent. This would be an opportunity for the City to partner with the University of Arkansas. While students might only intern for a semester, as long as the City plans seasonal posts and campaigns ahead of time, the campaign should remain relatively consistent even if the internship position changes each semester.

- **Recycling webpages:** The City has made improvements during the past year to better integrate its recycling website (recyclesomething.org) into the City's main website (fayetteville-ar.gov). In addition, the City's Communication Department is visually redesigning the City website, which is scheduled to launch in February 2017. Possible enhancements to make the website more interactive and better promote recycling include the following:
 - The website should ideally be dynamic with modifications made on a regular basis to continually provide new messages and resources. The website could showcase the ongoing efforts of City staff to increase recycling.
 - Program information such as City waste reduction and recycling goals, current recycling rate, waste composition data, program participation rates, and tonnages (landfilled and recycled) could be provided in a format that visually shows program progress. For example, a visual display of the City's recycling progress could be a feature element of the Recycling & Trash Service main page. When individuals perceive that their

community's recycling program is active and well supported, a greater number of people will want to participate.

- Infographics should be used to the extent possible to visually present data and information.
- A blog or newsletter scroll could highlight new information, popular recycling stories, and featured events.
- **Rebranding:** The City has branded its program with the slogan “Recycle Something: Be Big, Start Small.” This slogan has been effective in raising awareness of recycling and encouraging residents to take the first steps in recycling. However, with an ambitious goal of 80% recycling, this is an opportune time for the City to revitalize its E&O with a slogan that reflects the encompassing nature of the program and desire for residents and businesses to participate in recycling programs to the greatest extent possible. Slogans from Athens-Clark County, GA; Mid-America Regional Council, MO; and the Solid Waste Agency of Lake County, IL are provided in Picture 3-2 as examples that convey a message to maximize recycling and minimize disposal. These communities updated their branding when they launched new recycling campaigns.



Picture 3-2: Recycling Slogan Examples

- **Community-based social marketing:** Community-based social marketing (CBSM) seeks to develop and integrate marketing concepts with other approaches to influence sustainable behaviors that benefit individuals and communities for the greater social good. CBSM principles are more hands-on and grassroot efforts to foster sustainable behavior. CBSM typically requires buy-in from participants that what they are doing will make a change or their action will contribute to an environmental benefit locally. People tend to gravitate to actions that have high benefits and for which there are few barriers. CBSM strategies, such as peer-to-peer education, block leaders, and pledges, while more resource intensive, tend to be more effective than simply information distribution. The City has implemented such strategies through its door-to-door recycling outreach and the Waste Saving Campaign.
- **Food waste education:** Incorporating food waste reduction into the City's E&O campaigns will increase awareness of wasteful practices and help promote an ethic of conscious materials management and sustainability. Numerous resources are available, including the programs and app mentioned below that were developed by EPA and USDA.
 - Food Too Good To Waste (FTGTW; <http://westcoastclimateforum.com/food>) challenge and toolkit – Developed by EPA with input from the West Coast Climate and Materials Management Forum, the FTGTW program is designed for families and individuals to reduce wasted food at home. The toolkit is made up of simple strategies and tips.

- **Foodkeeper App** – This USDA app provides consumers with easy access to clear, scientific information on food storage, proper storage temperatures, food product dating, and expiration dates. It also provides guidance to manufacturers on donating misbranded or sub-spec foods and research on innovative technologies to make reducing food loss and waste cost-effective.

3.5 Technical Assistance

Enlisting more multi-family complexes, businesses, and institutions to participate in recycling will require not only a concerted effort to educate them about recycling, but also a comprehensive technical assistance program to provide the tools and knowledge to help them set up effective recycling systems.

Approximately 34% of the City's housing units are in complexes with five or more units per structure.²⁷ With the presence of the University of Arkansas and its student population, many of these multi-family complexes likely have high turnover rates. The City will need to work with property owners, managers, and tenants on an ongoing basis to actively engage this sector in waste reduction and recycling.

An effective technical assistance program should help establish a simple recycling system with clear instructions and provide property owners/managers with the tools needed to encourage proper participation. Key elements of a technical assistance program include the following:

- **Dedicated staff:** Communities with high-performing multi-family and commercial recycling programs nearly always have in-house staff specifically dedicated to working with these sectors. To develop and implement a comprehensive and effective commercial technical assistance program, a full-time staff person, in addition to the City's full-time Waste Reduction Coordinator, would be needed.
- **Property owner and manager training:** Property owners/managers typically are the individuals responsible for executing the recycling program onsite. Having their buy-in and cooperation is critical to the success of a program.
- **"Toolkit" for recycling program development:** A good toolkit should complement recycling staff's efforts. It should include step-by-step instructions for setting up a recycling program, as well as waste audit instructions, a list of recyclables to target, information on how to request collection service, and sample E&O materials. Toolkits should be available in hard copy or online.
- **"Toolkit" for food waste reduction and recycling:** A toolkit on food waste reduction, donations, and recycling can assist businesses and institutions that generate substantial quantities of food waste. Waste reduction actions that could be encouraged include proper portioning at schools and institutions and selling misshapen or soon-to-expire produce for reduced prices at grocery stores. The toolkit should also educate businesses and institutions about the benefits of making food donations and the liability protection of the Bill Emerson Good Samaritan Food Donation Act.

²⁷ U.S. Census Bureau, Selected Housing Characteristics for Fayetteville, AR.

- **Hands-on technical assistance:** Providing hands-on technical assistance to property owners/managers is generally more effective than training alone. Such assistance might include waste audits, development of in-house collection logistics, and container placement. The City currently provides waste audits for businesses, but is limited by the availability of staff time.
- **Tenant or employee training:** City staff can assist property owners/managers with educating their tenants and employees about the program. This should be structured as a “train the trainer” session, with the understanding that the property owner/manager would be responsible for this in the future.
- **Reusable tote bags or plastic mini-bins:** Providing a small bin or tote bag for multi-family complex residents to accumulate recyclables in the home and transport them to the collection container increases convenience. The City currently provides mini-bins to some participating multi-family complexes. Some property managers consider these bins an integral part of the unit and charge for replacement if a tenant takes the bin during move-out.
- **Food donation facilitation:** The City could proactively work to make connections between businesses with edible food to donate and existing organizations seeking food for human consumption. For example, a list or database could be developed of food banks or other entities looking for food. This could essentially be a digital food clearinghouse and could even be developed as a mobile app for real-time updates on what food is available and what food is needed. For example, Food Connect in Philadelphia has an app that connects donors to people needing food.²⁸
- **Food challenge programs:** Businesses could be encouraged to participate in the U.S. Food Waste Challenge and/or Food Recovery Challenge. The City could lead by example by also joining.
 - o U.S. Food Waste Challenge (FWC; <http://www.usda.gov/oce/foodwaste/index.htm>) – FWC is for organizations in the food chain that create food waste, including producer groups, processors, manufacturers, distributors, retailers, food service, industry groups, nongovernmental organizations, government entities, and Federal agencies. By joining the FWC, organizations and businesses demonstrate their commitment to reducing food waste, helping to feed the hungry in their communities, and reducing the environmental impact of wasted food. The FWC’s inventory of activities help disseminate information about best practices to reduce, recover, and recycle food waste and stimulate development of more of these practices.
 - o EPA Food Recovery Challenge (FRC; <http://www.epa.gov/sustainable-management-food/food-recovery-challenge-frc>) – FRC is part of EPA’s Sustainable Materials Management Program. It provides participants access to data management software and technical assistance to help them quantify and improve their sustainable food management practices. Participants enter goals and report food waste diversion data annually into EPA’s data management system. They then receive an annual climate profile report that translates their food diversion data results into greenhouse gas

²⁸ Food Connect also picks up and delivers food, a role that is not recommended for the City (<http://www.foodconnectgroup.com/>).

reductions, as well as other measures such as “cars off the road,” to help participants communicate the benefits of activities implemented.

- **Right-sizing assistance:** Commercial, institutional, and multi-family trash service is typically based on container size and frequency of service. If a business or complex initiates a recycling program, it then follows that the quantity of trash generated and level (and cost) of trash service needed should decrease. Property owners/managers do not always realize a potential savings exists and may need help in determining a reasonable service adjustment and subsequent savings. The savings in trash collection and disposal can sometimes more than offset the additional cost for recycling.
- **Partnerships with business groups:** Business organizations, such as the local Chamber of Commerce, can be an important ally in encouraging waste reduction and recycling. They can assist in networking within the business community; make businesses aware of the resources and assistance available from the City; and possibly create peer-to-peer mentoring opportunities to set up recycling programs. In 2010, the Fayetteville Chamber of Commerce launched the greenNWay Initiative, a fee-based program that identifies, assesses, and certifies businesses that operate in a sustainable manner. Waste management is one of 6 categories that are examined. Currently, 33 businesses are certified.
- **Program monitoring:** The City should monitor and record waste reduction activities and any recycling conducted by entities other than the City. For example, donating food that would otherwise be discarded is diverting this organic “waste” from the landfill and should therefore be tracked and included in the City’s diversion rate. Likewise, recyclable materials recovered and managed outside of the City’s solid waste system, by the franchised haulers or individual businesses, should also be included in the City’s diversion rate.

3.6 Incentives

Incentives to reduce waste or recycle can take myriad forms and can be financial or non-financial in nature.

3.6.1 Financial Incentives

One of the best types of financial incentives is a Pay-As-You-Throw (PAYT) system, which the City has already implemented. This system could be modified to create an even greater incentive or other incentive tools could be utilized. Examples of these options are discussed below. Some apply to residents and other to businesses and multi-family complexes, and are grouped accordingly.

- **Adjust residential PAYT fee structure:** Various studies indicate that implementing a PAYT system is one of the most effective mechanisms to reduce waste disposal and increase recycling. The difference in service fees between various sizes of carts is believed to impact the resulting level of waste reduction and recycling. One study indicated that fee differentials of at least 50-80% for double the service capacity are most effective, with a bias toward the higher levels, and may result in recycling

increases of 4-8%.²⁹ Table 3-4 provides the City's current pricing structure, indicating that the percentage increase for doubling of capacity is 53% for a 64-gallon cart and 84% for a 96-gallon cart.³⁰ These are total service fees with recycling and yard trash collection services embedded. Table 3-4 also calculates the fees if an 80% increase was applied for each doubling of cart capacity. If an 80% increase were applied, existing service fees for 64-gallon and 96-gallon carts would increase 18% and 16%, respectively. While adjusting the current pricing structure to further increase the fee differential for larger cart sizes would likely provide a greater incentive for residents to reduce waste and recycle, any new service fee structure must continue to provide the necessary revenue to support the Division's operations.

Table 3-4: PAYT Service Fee Analysis

Cart Size (gallons)	Current Fees (\$/month)	% Increase per Doubling of Capacity	Fees Assuming 80% Increase per Doubling of Capacity	% Increase over Current Fees
32	\$9.37		\$9.37	
64	\$14.30	53%	\$16.87	18%
96	\$20.31	84%	\$23.62	16%

Table Note: Above calculations take into account that an increase from 64-gallons to 96-gallons is only a 50% increase in capacity, not a doubling of capacity.

- Privately operated residential recycling rewards program:** Several privately operated recycling rewards programs exist, but perhaps the most well-known is Recyclebank. It rewards residents for recycling with points that can be redeemed for discounts or deals at local businesses and major national brands. Recyclebank's fees vary based on the program type, services provided, and a jurisdiction's negotiating skills. Pricing models vary and may include a flat annual fee, recycling revenue share, disposal avoidance share, or a combination of the three. A survey of Recyclebank programs revealed fees ranging from \$0.30 to \$4.00 per household per month, depending on the services included.³¹ The company reports working in more than 300 communities in the United States and claims to increase recycling rates by 15% in communities that have made no other infrastructure changes.³²

In a comparison study of three Massachusetts cities working simultaneously to increase recycling, one using PAYT and two implementing Recyclebank, the PAYT community realized three times the diversion increase over the communities that implemented Recyclebank.³³ According to a nationwide study, the relative cost per ton of material

²⁹ Skumatz Economic Research Associates, *Getting to More: Review of Options for an Area with Robust Recycling*, December 5, 2014.

³⁰ Note: This calculation takes into account that an increase from 64-gallons to 96-gallons is a 50% capacity increase, not a doubling of capacity.

³¹ Skumatz, Lisa, et. al., *Resource Recycling*, "Recycling Incentives: Part 1," February 2011, p. 20.

³² Recyclebank, *2013 A Year in Review*.

³³ U.S. EPA, *Pay-As-You-Throw Spring 2009 Bulletin*, p. 5.

diverted for a PAYT program ranged from \$0.10 to \$10.00, but the cost per ton diverted in a Recyclebank program ranged from \$6.00 to \$300.00.³⁴

Other rewards programs are also available for purchase, such as Recycling Perks and programs offered by individual collection service providers. A common criticism is that recycling rewards programs establish an expectation that one should be rewarded for recycling and perpetuate the erroneous idea that recycling results in net revenue.

- **City-operated residential recycling rewards program:** Some communities have developed their own monetary rewards program to encourage citizens to recycle. Each week, month, or other specified time interval, a household is randomly selected and rewarded for its recycling efforts. The intent is to encourage residents to participate in recycling weekly in hopes of winning. In addition, coverage of the reward winners provides free advertising through public media such as local newspapers, radio, and television. Numerous examples of municipally run rewards programs exist. For example, Morehead City, NC randomly selects ten customers each month. The first one “caught” recycling is awarded a \$50 cash voucher that is credited to their solid waste bill. At the end of each year, all monthly winners’ names are placed into a hat. The first three names drawn receive \$500, \$200, and \$100 cash prizes, respectively. Although the city could not provide quantitative information regarding the effectiveness of this rewards program, a city representative indicated that converting from recycling bins to biweekly carted collection of single stream recyclables had a far greater impact (approximately 42% increase in recycling tonnage) than the rewards program.³⁵
- **Universal commercial recycling or all-inclusive fee structure:** Similar to universal residential recycling in which all residents pay for collection and processing of recyclables and yard waste as part of their base solid waste fee, recycling fees can be included in the base cost of commercial waste services. Collection cost is thereby eliminated as a factor in deciding whether or not to participate in recycling. All multi-family complexes, businesses, and institutions would pay for recycling service as part of a base service fee.
- **Commercial recycling rebates:** Some communities provide a rebate on solid waste fees to commercial customers that document they are recycling. The structure of rebate systems need to be carefully developed to ensure service fees less rebates are sufficient to cover the cost of service. Rebates are often based on business type, square footage, and/or level of trash service.
- **Commercial advance disposal fee:** Another alternative is to assess an advance disposal fee (ADF) to commercial customers that are not recycling. As with rebates, an ADF would be often based on business type, square footage, and/or service level.

To increase residential recycling, the City would be better served by first focusing on programmatic and infrastructure improvements (e.g., single stream recycling and organics

³⁴ Skumatz, Lisa, et. al., *Resource Recycling*, “Recycling Incentives: Part 1,” February 2011, p. 20.

³⁵ Gollehon, Robin, conversation on August 21, 2015.

recovery) and revitalizing its E&O program. If recycling targets are not achieved, a rewards program might then be pursued.

To increase commercial recycling, programmatic and infrastructure improvements, as well as technical assistance, are critical first steps. However, all businesses care about their financial bottom line. Therefore, an incentive program could help eliminate the perceived financial burden of recycling and increase participation and material recovery. The City has control over collection of commercial recyclables, by providing such services directly or issuing franchises to other companies to provide such service. Therefore, establishing universal commercial recycling (all-inclusive fee structure) might be the most direct approach that would also help ensure sufficient funding for the City to provide commercial recycling services.

3.6.2 Non-Financial Incentives

Some local governments utilize non-financial incentives to encourage businesses to participate in waste reduction and recycling. The Fayetteville Chamber of Commerce greenNWay Initiative, which certifies and acknowledges businesses that operate in a sustainable manner, is a good example of such an incentive program. As mentioned previously, waste management is one of 6 elements that are examined.

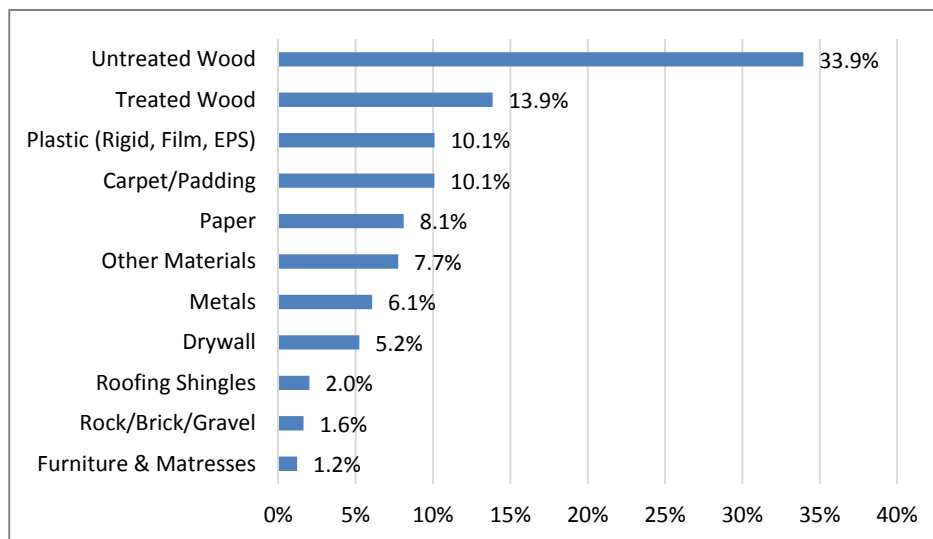
Limited information is available on the effectiveness of these types of incentive programs to substantially increase a community's waste diversion or recycling rate. While some business owners might find operating their business in a sustainable manner a worthy objective, others might only be inclined to do so if a benefit will be realized. Likewise, some consumers might utilize a green business over other businesses, but for many consumers, price may be a greater factor. The City's resources would initially be better utilized pursuing other program and infrastructure options for increasing commercial waste reduction and recycling. However, the City could promote the greenNWay Initiative as part of its technical assistance to businesses.

3.7 C&D Debris Reuse and Recycling

The City collected approximately 15,300 tons of construction and demolition (C&D) and bulky waste in 2015, which represented about 22% of all waste managed in the City's system (see Figure 3-1). This is nearly 60% more C&D and bulky waste than was received in 2014 (9,600 tons). Additional C&D debris is collected by private haulers that have nonexclusive franchises with the City to collect this material. These franchisees likely direct haul the waste to the Eco-Vista Landfill. The City has the potential to control the collection and disposal of C&D debris generated within the City through these nonexclusive collection franchises.

The composition of bulky waste can be highly variable. Figure 3-4 depicts the composition based on the 2015 visual audit. Nearly half of the bulky waste by volume consisted of wood. Various types of plastics, carpet/padding, paper, metals, drywall, roofing shingles, rock/gravel, and mattresses are some of the other materials received that have the potential to be recycled if viable markets exist.

Figure 3-4: Bulky Waste Visual Audit Results (% by volume)



KCI researched local outlets or options for managing C&D debris. Currently, most of the C&D debris generated in the area is disposed at Waste Management's Eco-Vista Class 4 Landfill. A search of the ADEQ facility database revealed only one permitted C&D Recovery Facility in the state, Delta Recycling Services located 250 miles away in Jefferson County. Delta Recycling is a hauler and processor that claims a 70% diversion rate through processing commingled materials and offers discounted rates for source-separated materials.

As of mid-September 2016, the ADEQ facility database listed 2 pending C&D Recovery Facility permit applications in Northwest Arkansas:

- USA Metal Recycling in Lowell
- Kansas E3 LLC in Bentonville

According to ADEQ staff, permits for these facilities will be issued as soon as the required financial assurance is received.

At the Boston Mountain Transfer Station (BMTS) in Prairie Grove, manual labor and loaders are sometimes used to pull pallets, corrugated cardboard, metals, plastics, wood, and other reusable building materials from the tip floor. This occurs only when time permits. BMTS sells the pallets, metals, corrugated cardboard, and plastics, and donates the wood and reusable building materials to the local Habitat for Humanity ReStore.

Recovery of materials from C&D debris can occur by either source-separating recyclable or reusable materials prior to collection or by processing mixed C&D debris after collection. Either approach can be effective, but they require different policies and infrastructure for implementation.

Source-separation places the responsibility on the generator to separate recyclable or reusable materials by type, usually at the job site. The generator can either market these materials individually or hire a single entity to manage them. This deconstruction usually requires more upfront resources (labor and containers) to recover material for reuse and recycling than simple demolition, but can reduce disposal costs.

Alternatively, mixed C&D debris can be processed and materials recovered for recycling/reuse after it is collected. The type of operation depends on the types and quantities of materials received. Small-scale operations can be initiated at any transfer or disposal location by diverting select materials (usually materials that are easily separated and/or have market value) from incoming loads through the use of a small loader and/or manual labor. This requires low capital investment and minimal space requirements; however, recovery rates are generally low, limited by the number of materials targeted and the ability of the operator to recover and market those materials. Larger-scale operations involve some level of mechanized processing, as well as a manual processing line. Capital investment depends on the degree of mechanization. Material recovery rates are substantially higher than with manual operations.

Various policies and programs can be implemented to encourage or require reuse or recycling of C&D debris. They fall into three general categories: education, incentives, or regulation. Table 3-5 summarizes some of the mechanisms used to increase C&D debris recycling under each of these categories.

Table 3-5: Mechanisms Utilized to Increase C&D Debris Reuse and Recycling

Education	Incentives	Regulation
- o Education and technical assistance - o Educate by example through government building projects - o Voluntary Green Building programs	- o Diversion security deposits - o Differential tip fees for segregated materials - o Material exchanges - o Grants or low interest loans	- o Disposal bans - o Mandatory recycling - o Permit requirements - o Require C&D processing facilities meet recycling targets - o Mandatory Green Building standards

Approaches are often combined. For example, a number of large cities (e.g., Portland, OR; San Jose, CA; San Francisco, CA) require C&D debris to be delivered to a certified or registered recycling facility and require these certified/registered C&D recycling facilities to achieve certain material recovery rates. Given the lack of C&D recycling infrastructure in Northwest Arkansas, this type of program is not feasible at this time.

Provided below are just a few examples of how other local governments are striving to increase C&D debris recovery.

- **Lee County, FL:** Lee County requires contractors of significant projects (construction projects greater than \$90,000 and remodels/alterations greater than \$10,000) to submit a C&D management plan prior to construction. Demonstration of diversion/disposal of all C&D materials is required as a check-off prior to final inspection. If 50% of C&D debris has not been recycled, the contractor incurs a diversion fee based on the type and size of the project. In 2015, the county reported a 62% recycling rate for C&D debris, not including clean concrete repurposed as fill.³⁶ Lee County has also constructed a C&D MRF to recover reusable or recyclable materials from mixed loads of C&D debris. While the facility has the capacity to process 500 tons per day (TPD) of C&D debris, it currently processes about 300 TPD operating a single shift 4-5 days per week. Approximately 34% of the material

³⁶ Howard, Keith, Solid Waste Director, Lee County, FL, telephone interview, November 2015.

processed is recovered for recycling or beneficial use and 46% used as fuel for the county's waste-to-energy plant. The facility is projected to meet its return on investment within 5 years.

- **Horry County, SC:** To extend the life of its landfill, Horry County Solid Waste Authority built a basic C&D processing facility in 2012. In fiscal year (FY) 2015, the facility processed just over 14,000 tons of C&D debris and recovered 72% of these materials, more than half of which was wood. The Authority also charges a reduced tipping fee for segregated C&D materials to encourage source-separation. Although the tonnage is relatively low, the Authority reports the operation is breaking even.

Based on the current status of C&D recovery in Northwest Arkansas, approaches the City might consider include the following:

- **Reduced tipping fee for source-separated materials:** The City could establish a lower tipping fee for segregated wood and other recyclable or reusable materials to encourage customers to source-separate these materials prior to delivery to the transfer station. The tipping fee would need to be low enough to not only compete with the Eco-Vista Landfill, but also provide an incentive for contractors to separately collect and haul these materials. The City would then market these materials for recycling or reuse.
- **Diversion targets:** A more proactive approach would be to establish recycling/diversion targets for C&D projects and link these targets to the permitting process. Recycling of materials would become part of the planning process for all construction, demolition, and renovation projects. One of the main benefits of this approach is that it would apply to all building projects regardless of who collects the material or where the material is processed or disposed. Building contractors would potentially have the option of selling source-separated recyclables themselves, hiring the City or one of the City's franchised haulers to collect and market source-separated materials, or hiring the City or a franchised hauler to deliver mixed C&D debris to a C&D Recovery Facility if one is permitted in the area.
- **Contracting for C&D recycling services:** If a pending C&D Recovery Facility permit is issued to one or more of the facilities in Northwest Arkansas, the City could explore the feasibility of delivering C&D debris collected or received by the City to such a facility for processing to recover recyclables. The feasibility would depend on a number of factors, including the ability of the facility to accept third-party materials, processing fees, and transportation costs. This option would be limited to only materials managed by the City and would not impact C&D debris collected by franchised haulers.
- **Manual C&D recovery:** A small-scale recovery operation at the transfer station could be considered, although space is a major constraint. Utilizing a small loader with grapple bucket, staff could separate corrugated cardboard, ferrous and non-ferrous metals, and rigid plastics from incoming bulky waste loads for recycling. Dimensional lumber and reusable building materials could be separated and marketed for reuse.
- **Basic mechanized C&D material recovery:** The 15,000 tons of bulky waste received at the transfer station in 2015 is a marginal amount to warrant a mechanized C&D material recovery system. However, the City could require its franchised haulers to deliver C&D debris generated within the City to a City-owned recycling facility or could secure the

exclusive right to collect C&D debris. Materials that might be recovered include untreated wood waste, which could be reused or composted, and treated wood waste, which could potentially be ground and sold for boiler fuel. Other commodities could be marketed and clean aggregate used as fill material.

3.8 Reuse, Repair and Repurposing

Fostering reuse, repair, and repurposing not only helps reduce overall waste generation, but also engages community members to participate in other waste diversion programs. The City encourages donation programs and partnerships, including the following:

- The Second Chance School Supplies program works with teachers during the summer to collect gently used school supplies, which are then donated to smaller rural schools. The City estimates that 400 pounds of crayons, markers, binders, notebooks, books, and other miscellaneous supplies were donated in 2015.
- The City also helped facilitate a donation relationship between two apartment complexes and Habitat ReStore. When residents move out, they can call the Habitat ReStore directly to pick up unwanted items. Habitat ReStore estimates that 6,000-7,000 pounds of usable furniture and washing machines were collected from this apartment donation/reuse program in 2015.

In addition to Habitat ReStore, Fayetteville is home to other donation and reuse entities, including Salvation Army, Goodwill, and numerous consignment shops. Habitat ReStore accepts donations of household goods, furniture, appliances and building materials. Goodwill and Salvation Army accept household goods, appliances, electronics, automobiles, furniture, clothing, and domestic supplies. They accept textiles of all types, including fabric remnants. Textiles that are not resold in their stores are usually sold to textile recyclers.

Other types of businesses might also accept materials for reuse, such as packing and shipping service companies that accept and reuse cardboard boxes and packaging materials. In addition, repair shops exist for a variety of products.

Substantial quantities of potentially reusable items are likely disposed when students move-in and move-out between semesters. This is common in university towns, but various communities have developed programs to help facilitate reuse of these items. Several examples are provided below.

- **Goodwill Denver:** Goodwill Denver partners with the University of Denver, University of Colorado (Boulder), Regis University, Colorado School of Mines, and Johnson & Wales University to host on-campus donation drives as students move out of their dorms and apartments for the summer. Goodwill donation bins allow students to donate unwanted items instead of disposing of them. In 2013, at the University of Colorado alone, Goodwill collected 31,000 pounds of donations. In 2012, 25% of all donations received by Goodwill Denver came from college campus drives.

- University of Denver:** The University partners with three different non-profit organizations for its move-out program. Goodwill accepts clothes, shoes, furniture, appliances, and other goods. Goodwill provides rolling carts to collect soft goods (clothes, shoes, etc.) and coordinates daily pickups the week of move-out. The Community Ministry Food Bank accepts and sorts through donated food items. St. Francis accepts donated open cleaning supplies and toiletries. By partnering with all three organizations, the University can donate most of the unwanted items generated during move-out. In 2014, more than 15,000 pounds of items were donated.
- Northwestern University:** Every June, the Office of Sustainability offers the “Take it or Leave it” program. Boxes are placed in the lobby/entry of each residential building to collect nonperishable food items, clothing, sheets, and small household items. Food is donated to Campus Kitchen, a student-run kitchen that accepts donated food and turns it into meals for those struggling with food insecurity. Clothing and household items are donated to local charities. “Take it or Leave it” donates more than 10,000 pounds of reusables to charity annually.



Picture 3-3: University of Denver Move-Out Program Sign

Opportunities for the City to encourage or enhance midstream sustainable materials management include the following:

- Promote the use of existing outlets:** At a minimum, the City could promote donation and reuse opportunities in its E&O materials. This would include educating businesses and residents about the benefits of donating gently used goods, and providing a comprehensive list of outlets for these goods.
- Facilitate partnerships:** The City could take a more active role to facilitate partnerships between the University, off-campus student housing locations, and local reuse nonprofits to strengthen the move-out donation drive. Providing collection containers or carts at the move-out location would make reuse a more convenient option.
- Swap shop:** Washington County accepts HHW from county residents and has a reuse shelf at the HHW facility for products that can still be used. The City could strive to increase community awareness of this program through its education and outreach program.

3.9 Supporting Policies

In addition to the opportunities and options already discussed in this section, additional policies were identified that help support or encourage waste reduction and recycling.

- **Nonexclusive franchises:** The City currently has the exclusive right to collect most residential and commercial materials, but franchises several private companies to collect commercial recyclables and waste in large roll-off containers. Commercial recyclables collected by the franchisees are not reported to the City and, therefore, are not included in the City's diversion rate. At a minimum, the City should require these franchisees to report the quantities of materials collected within the City and where these materials are delivered to gain a more complete picture of how all waste generated within the City is managed.
- **Material flow:** Increasing waste diversion will require an investment by the City in equipment and facilities. The City should ensure that sufficient materials are received to ensure full utilization of this investment. Depending on development of future programs and facilities, the City may want to designate facilities to which materials collected by franchisees must be delivered.
- **Building codes:** A common reason for not recycling at multi-family complexes or commercial businesses is a lack of space for recycling containers. To eliminate this concern in new developments, building code requirements should be modified to require new multi-family and commercial developments to provide adequate space and access for recycling.
- **Green City Program:** Green government programs can serve as models to other businesses. This includes establishing comprehensive recycling programs in government facilities, parks, and other public venues and places. For example, "twinning the bins" (pairing all trash containers with recycling containers) in all public buildings and places would ensure that recycling is widely available and always an option. Highly visible recycling in public areas helps instill an ethos of sustainability and encourages recycling at home, work, and play.
- **Environmentally preferable purchasing:** The City adopted an Environmental Purchasing Policy (EPP) in 2008. The EPP established a Task Force to identify opportunities to implement the policy and measure progress. One of the initial priorities defined in the EPP was the purchase of recycled content products. Proactive implementation of the EPP for not only City purchases, but also contractor actions on behalf of the City, is critical for the policy to be effective.
- **Disposal bans:** Statewide disposal bans are common for materials or products that have the potential to cause harm if landfilled or not properly managed. Some states have also banned the landfilling or disposal of certain materials to help drive recovery of these materials. At least 47 states ban the disposal of one or more items.³⁷ Included is Arkansas,

³⁷ The Northeast Recycling Council, Inc. (NERC), *Disposal Bans and Mandatory Recycling in the United States*, June 24, 2011, p.1.

which bans the landfilling of lead-acid batteries and yard waste.³⁸ In addition, 19 states mandate the recycling of at least one commodity.³⁹

Communities with some of the highest reported recycling rates have employed disposal bans or recycling mandates to help them achieve these rates. Examples includes the following:

- **Seattle, WA:** Seattle has banned disposal of residential yard debris since 1989. In 2005, the city passed an ordinance prohibiting single-family and multi-family homes from disposing of “significant amounts” of aluminum, paper, cardboard, glass, plastic bottles, and plastic jars. Before the disposal ban, Seattle reported diverting 58.9% of residential waste from disposal; by 2014, that figure increased to 71.1%. As of January 2015, the city also bans disposal of food waste and compostable paper. Because this ban became effective so recently, its impact has not yet been measured. Violators first receive warnings, but are then subject to fines.
- **Fresno, CA:** Fresno had offered recycling services to commercial customers, but most were not taking advantage of the opportunity. In 2005, the city mandated commercial recycling. Prior to enactment, the citywide diversion rate was 32%. Following implementation of mandatory commercial recycling, the rate climbed to 62%.
- **Lee County, FL:** Lee County implemented mandatory business recycling in 2008. All business owners are required to establish an onsite recycling program that includes a service agreement for recycling collection, internal collection containers, documented education program, and documentation that a minimum of one recyclable material that makes up the largest portion of the business’ waste stream is being recycled. For the first offense of non-compliance, county staff issues a warning and provides educational material and assistance in setting up a recycling program. Upon a second offense, an advance disposal fee (ADF) may be assessed monthly until the business is compliant. The ADF varies based on business classification. Elected officials and business groups, such as the Chamber of Commerce, were supportive of the program. Lee County reports nearly 100% of businesses are in compliance, with the exception of new businesses. To date, the county has not had to assess ADFs.⁴⁰
- **Portland, OR:** Commercial businesses and multi-family complexes of five or more units are required to recycle paper and containers. If found to be in violation, a business has 30 days to come into compliance before fines are issued. Fines are \$200 per month for the first infraction; subsequent infractions increase by \$200 each month. Enforcement has historically been complaint-based and penalties have rarely been levied because businesses typically respond within 30 days. The city estimates that 85-90% of the commercial sector recycles to some extent.⁴¹

Disposal bans and mandates are utilized in jurisdictions with established infrastructure and mature programs if voluntary programs have failed to achieve desired diversion rates. In addition, jurisdictions implementing such bans and mandates also utilize other tools, such

³⁸ NERC, p.10.

³⁹ NERC, p. 1

⁴⁰ Smith, Emory, Lee County, FL, personal communication, January 2016.

⁴¹ Bureau of Planning and Sustainability, *City of Portland 2015 Recycling Program Summary*, 2015.

as single stream recycling, technical assistance, and incentives in support of their recycling programs. Most bans and mandates are phased in over time, preferring to use notifications and technical assistance to encourage compliance first. After an initial grace period, they then utilize Code Enforcement staff to monitor compliance and have the ability to impose fines or fees on non-compliant businesses.

- **Product or packaging bans:** Such bans prohibit or place a fee on the use of certain types of products or packaging. Two products that have been targeted are single-use carryout plastic bags and expanded polystyrene (EPS) food-ware. In addition to recycling challenges, both products have negative impacts to wildlife if released into the environment and ingested. Based on the waste composition study, EPS food-ware and retail plastic bags each constitute approximately 1% of the waste received at the transfer station for disposal. While this may seem inconsequential, it should be noted that other materials, such as aluminum cans and HDPE plastic containers also constitute about 1% of waste disposed. In addition, striving to reach 80% diversion requires incremental gains.
- **Extended producer responsibility (EPR):** EPR legislation and programs place responsibility for managing end-of-life products and packaging on manufacturers, which in turn provides an incentive for them to develop more sustainable products and packaging. EPR legislation is typically enacted at the state level.

Section 4

Pilot Programs

Based on an initial identification of diversion opportunities, two pilot programs were conducted to assist in evaluating potential implications to the City: (1) commercial food waste collection and composting and (2) residential single stream recycling. Provided below are summaries of the results of the pilot programs. More detailed reports regarding the pilots are provided in Appendices D and E.

4.1 Commercial Food Waste Composting Pilot

The purpose of this pilot program was to evaluate the collection logistics and composting of food waste to better determine the feasibility of a citywide commercial food waste program. The City collected food waste from 9 pilot participants during a 21-week period, from January 20, 2016 through June 10, 2016. The participants included 6 restaurants, an elementary school, the Fayetteville Senior Activity and Wellness Center, and University of Arkansas (4 locations). The City provided each participant with an appropriate number of 64-gallon carts and serviced these carts 3 times per week. Several participants were also provided with compostable bags to line the carts; others were requested to rinse the carts regularly to keep them clean.

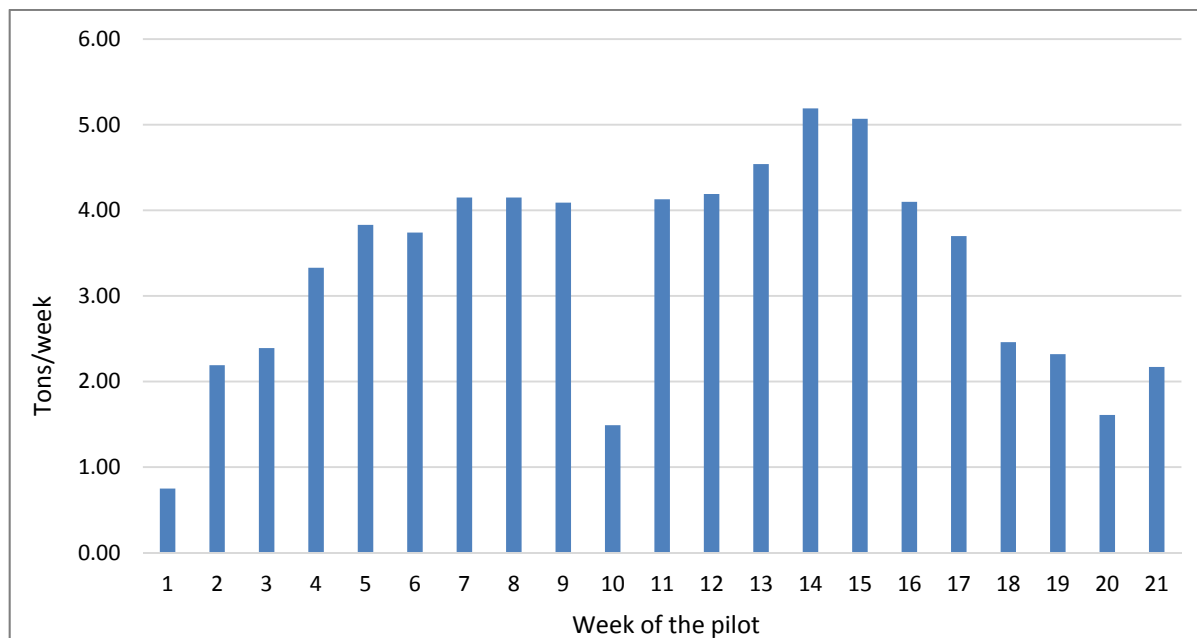
The City obtained permission from ADEQ, through a Memorandum of Agreement, to compost the food waste at the City's compost facility located at 1560 S. Happy Hollow Road. The City used the Modified Static Aerobic Pile (MSAP) composting method, instead of the traditional turned windrow method they had been using for yard waste composting. The MSAP method utilizes a proprietary microbial inoculant that expedites the composting process.

A total of 69.3 tons of food waste was collected during the pilot. Figure 4-1 shows the tonnage collected each week of the pilot. After the initial ramp up during the first few weeks, tonnages remained fairly consistent at 3-5 tons per week, with a few exceptions. A dip occurred in week 10 during spring break at the University. Weekly tonnages declined after week 17, when only minimal food waste was collected from the University as it entered the summer term and several participants were under the impression the pilot had ended and stopped collecting food waste.



Picture 4-1: Food Waste Tipped at Compost Facility

Figure 4-1: Food Waste Collected Weekly (tons)



The pilot demonstrated the effectiveness of the MSAP method for composting commercial food waste at the City's compost facility.

- **Quality compost:** The temperature profiles indicated a healthy compost system and the laboratory tests showed a high quality, clean compost.
- **Faster composting:** The MSAP method provided a faster composting process than the turned windrow method currently used by the City, which requires 4-6 months. Using the MSAP method for composting food waste and yard waste, active compost required only about 60 days. Faster composting time allows more material to be processed on the existing site annually.
- **Less turning:** Because the inoculant pulls air into the windrow, fewer turnings were required compared to the turned windrow method, which requires about 12 turns on average for a full composting cycle. The MSAP method only required 2 turns per cycle.
- **Odor control:** The MSAP method appeared to successfully control odors. The greatest potential for odor release occurs when a windrow is turned. Because the MSAP method only required 2 turnings and the first turning did not occur until after day 30, the potential for odor release was reduced. In addition, the capping layer is intended to act as an in-situ biofilter to prevent releases of odors during active composting.
- **Potential cost savings:** Because of the faster composting time and reduced number of turnings, the MSAP method should result in reduced labor, operational, and maintenance costs than traditional windrow composting, even factoring in the cost of the inoculant.

The pilot also demonstrated the success of the commercial food waste collection system. Feedback was solicited from participants through an online survey, to which all 9 participants responded. Key results are as follows:

- All participants rated their experience as positive or somewhat positive.
- Most participants estimated they decreased the volume of disposed garbage by 25-50% during the pilot, while two participants estimated their waste reduction was more than 50%.
- All participants would continue to collect food waste if it was at no additional cost or if the cost was offset by a decrease in garbage collection costs. Two participants would continue if it cost 10% more.
- All participants would support a citywide mandate requiring food waste separation by businesses generating a substantial amount of food waste.
- Some suggestions from participants to make food waste collection easier included more roll carts, more frequent collection, assistance with employee and customer training and marketing materials, City-provided in-house collection containers, and use of compostable bags.
- Concerns expressed by some participants included not having sufficient space for carts or collection containers, odor, people not properly sorting food waste, having to rinse the carts, or issues with compostable bags.

The pilot also provided valuable information regarding future considerations in developing a citywide food waste collection and composting program. These include the use of compostable bags, potential equipment modifications, controlling contamination, and cost considerations. Based on the overall results of the pilot, pursuing a full-scale citywide food waste program appeared feasible and was therefore modeled as a potential waste diversion program. The success of the pilot was underlined by the fact that the City is in the process of applying for a Typo CO permit for its compost facility that will enable acceptance and composting of food waste. Additional details regarding the food waste pilot program are provided in Appendix D.

QUOTES FROM FOOD WASTE PILOT PARTICIPANTS

"The whole experience was positive for our business. Composting food waste will be nothing but beneficial for the city and the environment. It really is the only smart option."

"We are keeping our fingers crossed that the program can become a permanent part of Fayetteville Waste."

"Thank you for including FPS in the food waste pilot and including the opportunity for students to tour the compost facility! We're hopeful this expands and all schools can participate in the future."

"We would really like this program to continue, please be in touch if there is anything we can do to make this happen."

"Lots of positive feedback from customers on social media, it is well supported in our community."

"They (customers) like that we are a part of the program. They gained a lot of respect for us as a company that we were doing this."

4.2 Residential Single Stream Recycling Pilot

The purpose of the residential single stream pilot was to evaluate the potential impacts of converting from the City's existing recycling program, in which materials are curbsorted by type from recycling bins or collected by individual material stream on separate routes or in partitioned roll-off containers, to single stream recycling. In a single stream program, all recyclables are commingled in the same collection container and then sorted by type at a processing facility. The pilot program included two generator sectors: curbside residential and multi-family residential.

The curbside residential pilot was conducted for 14 weeks, February 18-May 19, 2016. The City selected a curbside route of approximately 1,010 households located in the southeastern part of the City for the pilot. It aligned with an existing garbage route, but combined the majority of 2 existing curbside recycling routes.

The City first gathered 6 weeks of pre-pilot data for this pilot area. The City then provided each residence with a 64-gallon recycling cart with a blue lid to differentiate the cart from the garbage cart. A City sanitation crew serviced the recycling carts each Thursday, the same service day residents were already accustomed to, using automated side-load vehicles. The City notified residents in the pilot area of the pilot program through a direct-mail postcard, utility bill stuffer, newspaper ads, brochure, and the City's website.

The multi-family residential pilot was conducted for 12 weeks, April 5-June 28, 2016. The City selected two apartment complexes to participate in the pilot:

- At The Cliffs II, recycling containers were placed throughout the complex parking lot adjacent to the existing garbage dumpsters. These new recycling containers replaced the single large roll-off recycling container previously located in the parking lot that had separate storage compartments for each type of recyclable material.
- At The Academy at Frisco, the recycling chute was used. Prior to the pilot, the recycling chute was utilized as a second garbage chute. Residents wishing to recycle had to take their recyclables to one of the City's recycling drop-off centers. During the pilot, this chute was clearly labeled for recycling.

City staff met with the property managers at these two complexes several times to discuss the pilot and to provide education on the single stream program. Educational materials were provided, including brochures, posters, and container signs.

Single stream processing could not be evaluated as part of this pilot program because a state-of-the-art single stream MRF that accepts a full range of commingled recyclables does not currently exist in Northwest Arkansas. The City entered into an agreement with GP Harmon to accept and manually sort the single stream recyclables collected during the pilot at GP Harmon's facility located at 1421 E. 15th Street in Fayetteville.

GP Harmon chose to hand sort recyclables off of the tip floor. Recovered materials were weighed and recorded by material type. The remaining residue, which consisted of non-recyclable materials and recyclables that were not recovered by this rudimentary manual sorting system, was also weighed and recorded. To determine what percentage of this residue

consisted of recyclables versus contaminants, GP Harmon staff conducted a second sort of residue from four loads. The residue was placed on a table with a 1.75" x 0.75" screen. Recyclable materials that did not fall through the screen were hand-sorted.

Table 4-1 provides a comparison of the pre-pilot and pilot averages for the metrics that were monitored and recorded for curbside residential collection in the pilot area. Figure 4-2 depicts the percentage of households in the pilot area that placed their recycling cart curbside during each week of the pilot program as compared to the average pre-pilot recycling bin setout rate. Figure 4-3 depicts the quantity of recyclable materials collected during each week of the pilot as compared to the average weekly tonnage during the pre-pilot.

Collection efficiency improved dramatically during the pilot program. Collection times at each household dropped from just over 1 minute during the pre-pilot to an average of 7 seconds during the pilot. Collection time for the entire pilot area dropped from more than 12.5 hours for the curb-sort program to 5.25 hours for automated single stream collection, a 58% reduction.

Table 4-1: Curbside Single Stream Collection Pre-Pilot and Pilot Data

Pilot Metrics	Pre-Pilot Average	Pilot Average	Percent Increase/ (Decrease)
Number of Setouts per Week	444	678	53%
Setout Rate	44%	67%	52%
Tons Collected per Week	2.14	4.20	96%
Pounds/Setout	9.66	12.50	29%
Collection Time per Unit*	0:01:04	0:00:07	(89%)
Time Between Stops*	0:00:38	0:00:21	(44%)
Time In Pilot Area*	12:32:35	5:16:37	(58%)
Total Pilot Households	1,006	1,010.2**	
Average lbs./household/week	4.3	8.3	94%
Average lbs./household/year (est.)	222	433	94%

*Time is recorded as hours, minutes, seconds (i.e., hh:mm:ss).

**Number of households in pilot area increased as additional units became occupied; therefore, an average was used.

The percentage of households placing a recycling container curbside for collection each week increased by nearly 53% and the average quantity of materials collected each week increased by approximately 96%. Extrapolated to an annual basis, conversion to single stream recycling would be expected to increase the quantity of recyclables collected per household in the pilot area from 222 pounds per year to 433 pounds per year, or approximately 94%. This is consistent with reported increases in various other communities that have converted to single stream recycling. In addition, communities striving for high diversion rates often target per household recycling rates of 400-600 pounds per year.

Figure 4-2: Weekly Recycling Container Setout Rates

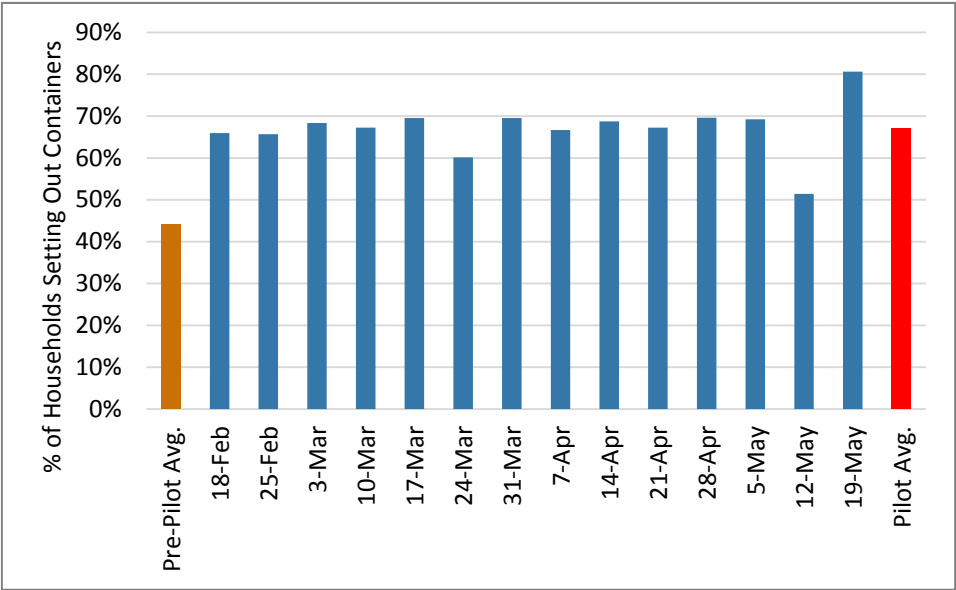


Figure 4-3: Tons of Recyclables Collected per Week

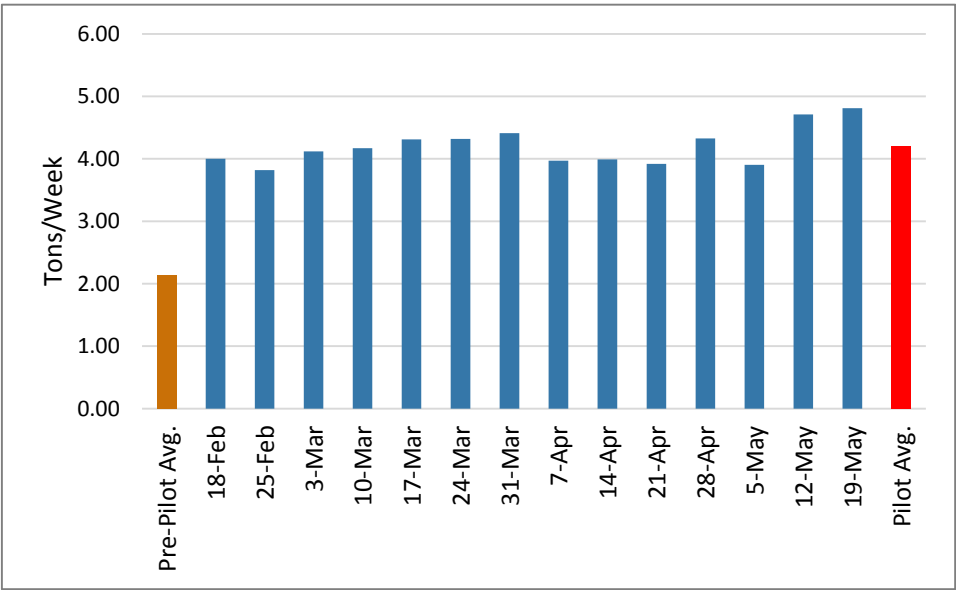


Table 4-2 provides a summary of the data provided by GP Harmon. The table includes the types and percentages of materials recovered from the initial manual floor sort of all materials collected during the pilot. It also provides the total percentage of materials recovered from loads #7-#10 during the initial floor sort and a secondary sort using a rudimentary screen. Although the pilot was not intended to evaluate processing, the initial floor sort recovered an average of 87% of the materials. During the secondary sort, GP Harmon estimated that approximately 90% of the large grit (i.e., materials that did not pass through the screen but was

not manually sorted) consisted of recyclable glass. Therefore, Table 4-2 provides data for Loads #7-#10 in two ways, one counting all large grit as residue and the other counting 90% of large grit as glass.

Table 4-2: Summary of Manual Processing of Curbside Recyclables (% by weight)

Material	All Loads - Initial Sort	Loads #7-#10 - All Grit as Residue	Loads #7-#10 - 90% of Large Grit Recovered
Cardboard	25%	26%	26%
Newspaper	13%	11%	11%
Mixed Paper	18%	20%	20%
#1 PET Bottles	5%	5%	5%
#2 HDPE Bottles	3%	3%	3%
Plastic #3-#7	2%	2%	2%
Aluminum Cans	2%	2%	2%
Steel Cans	3%	3%	3%
Scrap Metal	0%	0%	0%
Mixed Glass	15%	16%	20%
Total Recovered	87%	88%	92%
Unaccepted Materials		3%	3%
Small Grit		5%	5%
Large Grit		4%	0%
Residue	13%	12%	8%
Total Processed	100%	100%	100%

An average residue rate of 15% is realistic to assume for a single stream MRF. Applying a 15% residue rate to the quantity of recyclables collected during the pilot program results in an average of 7.1 pounds per household per week, a net increase of 64% over the existing bin program.

The City conducted a participant survey to obtain feedback about the curbside residential pilot program. Nearly 29% of households in the pilot area responded to the survey (288 responses). These responses reflected overwhelming support for the carted recycling system. Survey results are summarized below:

- Prior to the pilot, only 69% of respondents placed their recycling bins curbside each week and more than 10% stated that they rarely or never placed their bins curbside. During the pilot, 81% placed their cart at the curb every week.
- 92% of respondents stated they recycled more materials during the pilot than they had previously.
- 88% found the 64-gallon cart to be a good size.

- The majority of respondents were excited (72%) or interested (26%) to participate in the single stream pilot.
- When asked what benefits they experienced from single stream recycling:
 - 97% stated convenience, putting all materials into a single cart.
 - 92% stated more recyclables, recycling the additional plastics.
 - 90% stated convenience, cart easier to roll to the curb for collection.
 - 83% stated the larger cart allowed them to recycle more.
 - 69% stated neighborhood aesthetics, no open bins or recyclables lost in the wind.
 - 56% stated collection service was quicker/less bothersome.
- 98% of respondents believe single stream should be available to households citywide.

The survey also requested general comments from respondents and over 200 comments were received, the overwhelming majority of which expressed support for the program. Most of the negative comments raised concerns about contamination levels. The City also received unsolicited comments about the pilot program via email. Just a few of these comments are provided in the sidebar.

Table 4-3 presents the results of the pilot program at the two multi-family residential complexes, as well as pre-pilot data for The Cliffs II and the City's overall multi-family recycling program. Prior to the pilot program, The Cliffs II collected an average of 0.91 pounds of recyclables per unit per week. The City's overall multi-family recycling program averaged 1.11 pound of recyclables per unit per week. This latter figure was increased by more than two-fold during the pilot program. In fact, the tonnage of materials collected from the two complexes during the pilot program was only 100 pounds less than all multi-family recyclables collected in 2015.

Table 4-4 provides a summary of the multi-family materials data provided by GP Harmon, including the types and percentages of materials recovered.

QUOTES FROM SINGLE STREAM PILOT PARTICIPANTS

"Working families where time is severely constrained will benefit since it involves less time and less space to recycle."

"I am a disabled Veteran and it is a lot easier to roll out a bin on rollers than it is to carry out two containers by hand. "

"I recycled significantly more with single stream due to ease of use as well as more materials that were allowed."

"(W)heeled cart is easier to get to the curb than the green box."

"I do miss the early morning sounds of a diesel engine idling, idling, idling away as the bottles and cans crash against the steel sides of the truck. Well OK maybe not."

"I would be unhappy to go back to the old way."

"It was probably safer for the drivers. This road is busy and for people to have to get out of their trucks could be dangerous."

"Now my trash container is way too big!"

Table 4-3: Comparison of Multi-Family Data Results

Pilot Metrics	The Cliffs II Pre-Pilot Average	Multi-Family 2015 Average	Pilot Average
Number of Units	360	1,392	579
Pounds/Week	326	1,548	1,451
Pounds/Unit/Week	0.91	1.11	2.51
Pounds/Unit/Year (est.)	47	58	130

*No pre-pilot data available for The Academy at Frisco

Table 4-4: Summary of Manual Processing of Multi-Family Recyclables (% by weight)

Material	Multi-Family Materials
Cardboard	29%
Newspaper	6%
Mixed Paper	22%
#1 PET Bottles	4%
#2 HDPE Bottles	2%
Plastic #3-#7	2%
Aluminum Cans	1%
Steel Cans	1%
Scrap Metal	0%
Mixed Glass	13%
Total Recovered	81%
Residue	19%
Total Processed	100%

Depending on the level of contamination of inbound material, a state-of-the-art single stream MRF should achieve more than an 81% recovery rate. However, even assuming 19% of the multi-family materials collected were lost as residue, the pilot resulted in an average of 2.03 pounds of recyclables per unit per week, an 83% increase over the 2015 multi-family average.

A survey was also conducted of residents in the participating multi-family complexes. Only 18 surveys were completed, 15 by residents of The Cliffs II and 3 by residents of The Academy at Frisco. Survey results are summarized below:

- Prior to the pilot, 89% of respondents recycled at least once per month. During the pilot, all respondents recycled at least once per month.
- 89% of respondents reported recycling more during the pilot than they had previously.
- Prior to the pilot, 56% utilized the recycling roll-off at The Cliffs II to recycle and 17% utilized the Happy Hollow Recycling Center.

- When asked what benefits they experienced from single stream recycling:
 - o 100% stated convenience, putting all materials into a single container.
 - o 89% stated more recyclables, the additional plastics.
 - o 89% stated convenience, location of containers/recycling chute.
- All respondents (100%) stated that the program should be available to apartment complexes citywide.

Results of both the curbside and multi-family residential pilot programs were very promising in terms of participation, tonnage, and collection efficiencies. These results were utilized to further evaluate and model citywide conversion to single stream recycling and the potential implications to the City. Additional details regarding the single stream pilot program are provided in Appendix E.

Section 5

Scenario Modeling

5.1 Introduction to System Model

Based on the initial assessment of the City's materials management system and results of the waste composition study, various options were identified with the potential to increase waste diversion (see Section 3). Several of these options were further explored through pilot programs (see Section 4). The project team then selected waste diversion scenarios that warranted conceptual modeling to further evaluate the potential waste diversion and economic implications to the City.

System modeling is a tool to estimate and project potential costs, revenues, diversion rates, and other impacts of programmatic and infrastructure changes that may be implemented over the planning period. How these changes are implemented can be highly variable and numerous decisions made throughout the process can significantly alter the end results. Therefore, modeling of this type with so many variables and assumptions is not an exact science, but rather a guide post. Results can provide an understanding of the relative costs of a system and comparisons between options.

Collection, processing/handling, and marketing/disposal are interrelated elements of a materials management system (see Figure 5-1). All three elements have a cost and are critical to maintaining a balanced, sustainable management system. Changes to one of these elements will impact the others; therefore, the model links all three elements to ensure implications to the overall materials management system are factored in.

Figure 5-1: Balancing the Business Components of Materials Management



The system model stratifies the City's various waste streams by collection program (residential, multi-family, commercial, dropbox, and various drop-off options). The change in tonnage calculates the associated operational costs for the collection, processing, hauling, and disposal of the City's various material streams, as well as revenue. Collection infrastructure modules calculate the routes required based on projected tonnage and customers and the associated collection costs. Processing, hauling, and disposal modules identify fixed and variable costs and calculate projected costs based on the shift in materials. Because service rates are policy-driven, the system model only identifies projected revenue based on the sale of recyclable materials, compost, and mulch.

Population and waste generation projections for the 10-year planning period were first calculated. A baseline model of the City's existing system was then developed and served as the foundation for modeling the diversion scenarios listed below.

- Two recyclable materials recovery scenarios:
 - Establishing a network of drop-off centers that would primarily service multi-family residents, businesses, and institutions.
 - Converting to single stream collection and processing for residential, commercial, and institutional recyclable materials.
- Organics recovery: Phasing in collection of food waste and other compostable materials generated by businesses, institutions, and residents with curbside collection service.
- C&D debris processing: Establishing a processing system to recover reusable or recyclable materials from mixed C&D debris collected or received by the City.
- Combined recovery efforts: Combines single stream recycling, organics recovery, and C&D debris processing.

The remainder of this section discusses the results of these analyses and various scenario models.

5.2 Population and Waste Generation Projections

The first step was to project population and waste generation over the 10-year planning period (2016-2025). Figure 5-2 depicts the City's population and total waste generation during the last 10 years and also projects population growth and total waste generation over the next 10 years. Table 5-1 provides the population and waste generation projections for the next 10 years. Population is assumed to increase at 2.3% annually (average rate of increase since the 2010 census) and to exceed 103,500 residents by 2025.⁴²

Per capita waste generation declined during the recessionary years of 2007 through 2010, which was the trend nationally, and began increasing again in 2011. Future waste generation is estimated based on the average per capita waste generation during the last 10 years (0.83 tons

⁴² The Northwest Arkansas Planning Commission estimates the 2025 population of Fayetteville at 97,191 (per communication with Jeff Hawkins, October 28, 2014).

per capita annually). Based on these assumptions, nearly 86,000 tons of materials will be generated in 2025.

Figure 5-2: Population and Waste Generation Data and Projections, 2006-2025

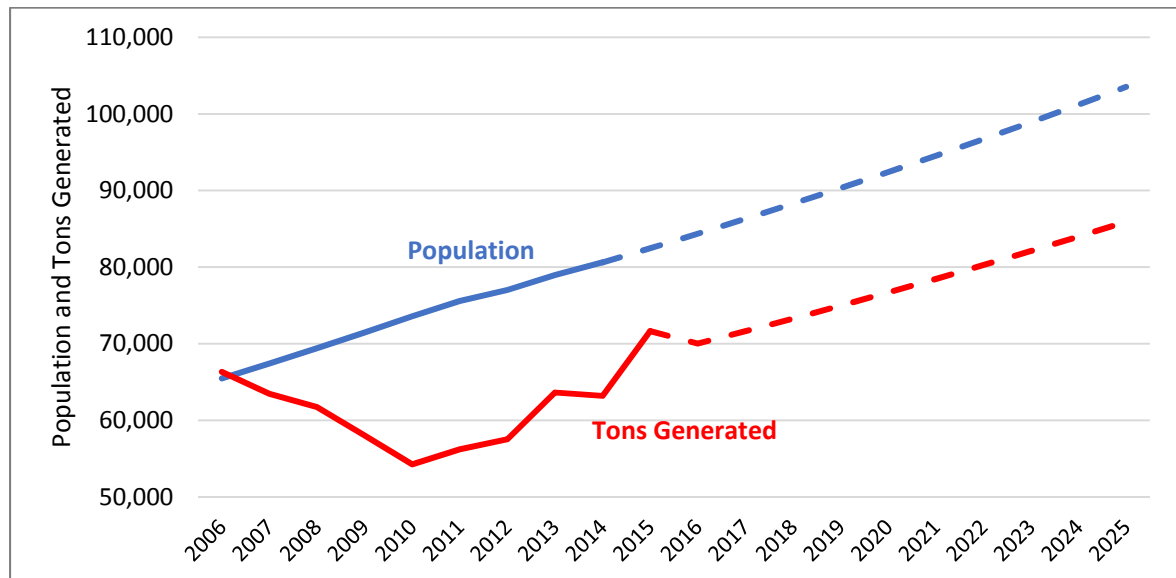


Table 5-1: Projected Population and Waste Generation

Year	Projected Population	Projected Waste Generation (tons)
2016	84,372	70,029
2017	86,313	71,640
2018	88,298	73,287
2019	90,329	74,973
2020	92,407	76,698
2021	94,532	78,462
2022	96,706	80,266
2023	98,930	82,112
2024	101,205	84,000
2025	103,533	85,932

5.3 Baseline

The baseline scenario assumes the status quo is maintained with no program or infrastructure changes other than that required to accommodate population growth and associated increases in waste disposal and material recovery. This scenario is the foundation upon which other scenarios were built and is useful for comparison purposes to understand the impact of the other scenarios throughout the planning period.

Actual expenses and material revenues for 2015 were utilized to develop the baseline and to allocate expenses and revenues by service or line of business. These allocations were made based on how service is provided rather than who is generating the material. The following cost allocations are worth noting and apply to the tables provided in the remainder of this section:

- As noted in Table 5-1, waste generation projections for 2016 and 2017 (70,029 tons and 71,640 tons, respectively) were lower than the actual quantity of waste generated in 2015 (71,653 tons). For modeling purposes, no drop in tonnage was assumed for 2016 or 2017 (71,653 tons were assumed for both years). For subsequent years, the waste generation projections in Table 5-1 were utilized.
- Residential municipal solid waste (MSW) includes waste collected curbside in carts, as well as residential bulk waste collected curbside and commercial solid waste collected in roll carts.
- Commercial/Multi-Family MSW includes commercial and multi-family waste collected in dumpsters or roll-offs and the 6-cubic yard dumpster service, of which approximately 90% was estimated to service residential customers.
- Commercial/Multi-Family Recyclables includes cardboard, mixed paper, and glass collected from businesses; commercial recyclables collected in recycling bins are included in residential curbside recycling.
- Multi-Family Recyclables includes recyclables collected in the partitioned roll-offs placed at multi-family complexes.
- Drop-Off MSW and Organics are solid waste and vegetative waste dropped off at the City's solid waste facility, not the recycling drop-off centers, and therefore do not incur any collection costs.
- Drop-Off Recyclables includes scrap metal delivered to the City's facility and materials collected at Ozark Natural Foods drop-off site in order to capture these additional recyclable materials in the model.
- Dropbox/C&D Debris includes C&D and bulky waste collected by the City through its dropbox program.
- Non-City Collected MSW is included in the model for cost analysis purposes, but is not included in waste diversion calculations.
- A capital reserve for facility improvements was built into the model absorbing some of the building and solid waste improvement costs expended as special projects in 2015.

- Costs associated with administration, education and outreach, special projects, and transfers to the general fund were compiled from direct operational costs. These costs are noted as General and Administrative on the tables provided throughout this section. The net cost per ton for these expenses was calculated based on the total tons managed in the system.

The following assumptions were made in modeling the baseline scenario, and were carried through to all scenarios unless otherwise indicated in subsequent scenario discussions:

- Non-City waste managed by the City's system was estimated using the most recent four-year average, with no increase over time assumed.
- The material compositions for residential curbside recycling and recycling drop-off facilities were calculated based on 2015 actual tonnage. The estimated average market value per ton for each stream was then calculated based on these compositions and the five-year average of an industry-accepted market index for individual commodities. Based on City information, residential curbside recycling was assumed to have a 2.5% contamination rate and recycling drop-offs were assumed to have a 5% contamination rate.
- Compost revenue was based on 2015 actual compost revenue divided by inbound tons of yard waste. Outbound tons, or tons sold, were assumed to be 65% of inbound tons to account for decomposition that occurs during the composting process.
- Education and outreach expenses for 2015 were divided by the estimated population to determine the expenditure per capita (\$1.55 per capita) and increased annually in relationship to population.
- An annual inflation rate of 2.0% was assumed and applied to all costs.

Table 5-2 provides the baseline model results for the planning period, including net costs (estimated expenses less revenues) and net cost per ton by line of business and for the system overall. Based on the cost allocations and assumptions outlined above, key findings of the baseline model include the following:

- The most costly program on a per-ton basis is the multi-family recycling program. This was expected given that these partitioned roll-offs are serviced when one compartment is full; therefore, payload is not maximized. In addition, this program yielded only 40 tons of recyclables in 2015.
- The second most costly program is the curbside residential recycling program primarily because of the time and cost of sorting recyclables at the curb.
- Because the baseline scenario assumes the status quo, no changes in waste diversion are anticipated. Recyclable materials provide an 8% diversion rate and compostable materials a 10% rate, for a total of diversion rate of 18%.

Table 5-2: Baseline Scenario Results

		FY2015	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021	FY2022	FY2023	FY2024	FY2025
NET COSTS												
Residential	MSW	\$1,942,327	\$1,981,174	\$2,020,797	\$2,075,148	\$2,131,307	\$2,189,229	\$2,248,967	\$2,310,595	\$2,374,179	\$2,439,788	\$2,507,502
	Recyclables	\$957,459	\$983,710	\$1,010,486	\$1,032,737	\$1,055,501	\$1,078,834	\$1,102,755	\$1,127,279	\$1,152,425	\$1,178,211	\$1,204,655
	Organics	\$549,647	\$560,916	\$572,411	\$586,280	\$600,551	\$615,219	\$630,296	\$645,796	\$661,733	\$678,120	\$694,974
Commercial/ Multi-Family	MSW	\$2,471,420	\$2,520,848	\$2,571,265	\$2,649,511	\$2,730,708	\$2,814,760	\$2,901,761	\$2,991,838	\$3,085,109	\$3,181,696	\$3,281,741
	Recyclables	\$162,335	\$168,883	\$175,563	\$180,375	\$185,333	\$190,458	\$195,759	\$201,242	\$206,914	\$212,782	\$218,853
	Organics											
Multi-Family	Recyclables	\$18,497	\$18,958	\$19,429	\$19,844	\$20,268	\$20,702	\$21,146	\$21,601	\$22,067	\$22,543	\$23,031
Drop-Off	MSW	\$1,479	\$1,509	\$1,539	\$1,605	\$1,675	\$1,748	\$1,824	\$1,903	\$1,986	\$2,072	\$2,162
	Recyclables	\$106,596	\$110,354	\$114,188	\$117,232	\$120,367	\$123,605	\$126,949	\$130,402	\$133,971	\$137,657	\$141,467
	Organics	\$163,515	\$167,299	\$171,159	\$179,092	\$187,413	\$196,109	\$205,194	\$214,688	\$224,606	\$234,970	\$245,799
Ward Cleanup	MSW	\$38,524	\$39,295	\$40,081	\$41,089	\$42,127	\$43,197	\$44,297	\$45,429	\$46,595	\$47,796	\$49,032
Dropbox/C&D Debris	MSW	\$903,255	\$921,320	\$939,747	\$972,965	\$1,007,594	\$1,043,577	\$1,080,961	\$1,119,812	\$1,160,188	\$1,202,152	\$1,245,777
	Recovered											
Non-City Collected	MSW	\$421,510	\$429,941	\$438,539	\$447,310	\$456,256	\$465,382	\$474,689	\$484,183	\$493,867	\$503,744	\$513,819
General & Admin.	All tons	\$2,944,818	\$3,009,383	\$3,072,700	\$3,137,356	\$3,203,379	\$3,270,798	\$3,339,642	\$3,409,942	\$3,481,729	\$3,555,033	\$3,629,889
Total System Net Costs		\$10,681,382	\$10,913,590	\$11,147,904	\$11,440,545	\$11,742,482	\$12,053,617	\$12,374,241	\$12,704,710	\$13,045,366	\$13,396,564	\$13,758,701
NET COST PER TON												
Residential	MSW	\$131	\$134	\$137	\$137	\$138	\$138	\$139	\$139	\$140	\$141	\$141
	Recyclables	\$309	\$317	\$326	\$325	\$325	\$325	\$325	\$324	\$324	\$324	\$324
	Organics	\$228	\$233	\$238	\$238	\$238	\$239	\$239	\$239	\$240	\$240	\$241
Commercial/ Multi-Family	MSW	\$87	\$89	\$90	\$91	\$92	\$92	\$93	\$94	\$95	\$95	\$96
	Recyclables	\$90	\$94	\$97	\$98	\$98	\$99	\$99	\$100	\$100	\$101	\$101
	Organics											
Multi-Family	Recyclables	\$462	\$474	\$486	\$485	\$484	\$484	\$483	\$482	\$481	\$481	\$480
Drop-Off	MSW	\$39	\$40	\$40	\$41	\$42	\$43	\$44	\$45	\$46	\$47	\$47
	Recyclables	\$106	\$109	\$113	\$114	\$114	\$114	\$115	\$115	\$116	\$116	\$117
	Organics	\$36	\$37	\$38	\$39	\$40	\$41	\$42	\$43	\$44	\$45	\$46
Ward Cleanup	MSW	\$176	\$179	\$183	\$183	\$184	\$184	\$185	\$185	\$186	\$186	\$187
Dropbox/C&D Debris	MSW	\$59	\$60	\$61	\$62	\$63	\$64	\$65	\$65	\$66	\$67	\$68
	Recovered											
Non-City Collected	MSW	\$39	\$40	\$40	\$41	\$42	\$43	\$44	\$45	\$46	\$47	\$47
General & Admin.	All tons	\$36	\$36	\$37	\$37	\$37	\$37	\$37	\$37	\$37	\$37	\$38
Total System Net Cost per Ton		\$130	\$132	\$135	\$136	\$137	\$138	\$139	\$139	\$140	\$141	\$142
ESTIMATED DIVERSION RATE												
Recyclable Materials		8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%
Compostable Materials		10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
C&D Debris		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Total System Estimated Diversion		18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%

5.4 Material Recovery

Capturing recyclable materials that are currently landfilled as part of the City's MSW stream has the potential to increase the City's diversion rate by up to 20%. Following a discussion of various options to increase recovery of these materials, the City requested that two scenarios be modeled:

- **Recycling drop-offs:** This scenario assumes that a network of recycling drop-off centers are developed throughout the City for use primarily by multi-family residents, businesses, and institutions. The City requested this scenario be included because of an apparent interest on the part of some local stakeholders.
- **Single stream recycling:** This scenario assumes that single stream recycling is implemented for residential curbside, multi-family complexes, businesses, and institutions.

5.4.1 Recycling Drop-Offs

The drop-off center scenario assumes that a network of eight additional recycling drop-offs would be established throughout the City, two per ward, and serviced by the City. The model was based on the following assumptions:

- The centers would be developed and constructed in 2017 and would become operational in 2018. Based on information provided by the City, the assumed costs to develop and service the centers were as follows:
 - Capital and site development were assumed at \$500,000 per site, financed over 20 years with a 3% finance rate.
 - Based on the anticipated tonnage of recyclables, each site was assumed to have 5 receiving boxes (roll-offs) with a purchase cost of \$6,500 each, straight-lined over ten years. These roll-offs would be partitioned to accommodate the various types of segregated materials accepted in the program.
 - Operational costs include utilities, lawn service, and container maintenance and replacement costs. The City provided costs for utilities and lawn service; KCI applied industry standard costs for container maintenance and repair.
 - A part-time attendant was assumed at each site.
 - Servicing receiving boxes was estimated based on the percentage of pulls to tons in 2015 for the Marion Orton drop-off and an average round-trip transportation time of two hours, including tipping. This cost included labor, operational expenses, and vehicle replacement cost. It, therefore, factored in the need to purchase another vehicle to service the roll-off containers.
- Curbside recycling would continue; therefore, these drop-offs would primarily be utilized by multi-family residents, businesses, and institutions. It was assumed that approximately 10% of the recyclable materials currently disposed by these generators would be collected through the expanded drop-off network. For multi-family complexes, this would equate to an estimated 61 pounds of recyclables materials

recovered per multi-family unit annually, which exceeds the 58 pounds per unit collected at the multi-family complexes that participated in recycling in 2015. Since use of drop-off centers would be less convenient than a recycling roll-off located on a multi-family complex premises, a 10% recovery rate is likely optimistic.

- It was also assumed that the existing multi-family recycling program (partitioned roll-offs) and commercial recycling program (collection of recyclables by type) would continue at the current level.

Table 5-3 provides the drop-off center model results, including net costs and net cost per ton for each line of business and for the system overall, as well as projected diversion rates. Key findings of the drop-off scenario model include the following:

- Although more drop-off centers increase convenience, they do not offer the convenience of collection at a business or multi-family complex location. Based on industry experience, high participation and recovery rates are not anticipated for a drop-off program in an urban city such as Fayetteville. This scenario is projected to increase the diversion rate to 20%.
- The cost per-ton to operate the drop-off recycling centers (Drop-Off Recyclables) increases substantially in this scenario because of the cost to establish each center and the low participation traditionally associated with drop-off programs. Establishing fewer additional drop-offs would lower costs, but would still result in low recovery rates.

Table 5-3: Drop-Off Center Scenario Results

		FY2015	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021	FY2022	FY2023	FY2024	FY2025
NET COSTS												
Residential	MSW	\$1,942,327	\$1,981,174	\$2,020,797	\$2,064,828	\$2,120,539	\$2,177,992	\$2,237,242	\$2,298,361	\$2,361,413	\$2,426,467	\$2,493,602
	Recyclables	\$957,459	\$983,710	\$1,010,486	\$1,022,229	\$1,044,536	\$1,067,392	\$1,090,816	\$1,114,821	\$1,139,426	\$1,164,647	\$1,190,502
	Organics	\$549,647	\$560,916	\$572,411	\$586,280	\$600,551	\$615,219	\$630,296	\$645,796	\$661,733	\$678,120	\$694,974
Commercial/ Multi-Family	MSW	\$2,471,420	\$2,520,848	\$2,571,265	\$2,473,424	\$2,549,353	\$2,627,984	\$2,709,395	\$2,793,640	\$2,880,977	\$2,971,302	\$3,064,978
	Recyclables	\$162,335	\$168,883	\$175,563	\$172,639	\$177,299	\$182,115	\$187,093	\$192,240	\$197,562	\$203,066	\$208,759
	Organics											
Multi-Family	Recyclables	\$18,497	\$18,958	\$19,429	\$19,708	\$20,127	\$20,555	\$20,992	\$21,440	\$21,899	\$22,368	\$22,849
Drop-Off	MSW	\$1,479	\$1,509	\$1,539	\$1,579	\$1,648	\$1,719	\$1,794	\$1,872	\$1,953	\$2,038	\$2,127
	Recyclables	\$106,596	\$110,354	\$114,188	\$738,392	\$754,760	\$771,587	\$788,766	\$806,429	\$824,512	\$843,068	\$862,075
	Organics	\$163,515	\$167,299	\$171,159	\$179,092	\$187,413	\$196,109	\$205,194	\$214,688	\$224,606	\$234,970	\$245,799
Ward Cleanup	MSW	\$38,524	\$39,295	\$40,081	\$40,936	\$41,968	\$43,030	\$44,123	\$45,248	\$46,406	\$47,598	\$48,826
Dropbox/C&D Debris	MSW	\$903,255	\$921,320	\$939,747	\$962,284	\$996,448	\$1,031,947	\$1,068,825	\$1,107,149	\$1,146,975	\$1,188,365	\$1,231,390
	Recovered											
Non-City Collected	MSW	\$421,510	\$429,941	\$438,539	\$439,921	\$448,719	\$457,693	\$466,847	\$476,184	\$485,708	\$495,422	\$505,330
General & Admin.	All tons	\$2,944,818	\$3,009,383	\$3,349,662	\$3,137,356	\$3,203,379	\$3,270,798	\$3,339,642	\$3,409,942	\$3,481,729	\$3,555,033	\$3,629,889
Total System Net Costs		\$10,681,382	\$10,913,590	\$11,424,865	\$11,838,668	\$12,146,741	\$12,464,141	\$12,791,028	\$13,127,810	\$13,474,898	\$13,832,464	\$14,201,098
NET COST PER TON												
Residential	MSW	\$131	\$134	\$137	\$137	\$137	\$138	\$138	\$139	\$139	\$140	\$141
	Recyclables	\$309	\$317	\$326	\$322	\$322	\$321	\$321	\$321	\$320	\$320	\$320
	Organics	\$228	\$233	\$238	\$238	\$238	\$239	\$239	\$239	\$240	\$240	\$241
Commercial/ Multi-Family	MSW	\$87	\$89	\$90	\$89	\$90	\$90	\$91	\$92	\$92	\$93	\$94
	Recyclables	\$90	\$94	\$97	\$94	\$94	\$94	\$95	\$95	\$96	\$96	\$97
	Organics											
Multi-Family	Recyclables	\$462	\$474	\$486	\$482	\$481	\$480	\$479	\$478	\$478	\$477	\$476
Drop-Off	MSW	\$39	\$40	\$40	\$41	\$41	\$42	\$43	\$44	\$45	\$46	\$47
	Recyclables	\$106	\$109	\$113	\$316	\$316	\$315	\$315	\$315	\$315	\$315	\$315
	Organics	\$36	\$37	\$38	\$39	\$40	\$41	\$42	\$43	\$44	\$45	\$46
Ward Cleanup	MSW	\$176	\$179	\$183	\$183	\$183	\$184	\$184	\$184	\$185	\$185	\$186
Dropbox/C&D Debris	MSW	\$59	\$60	\$61	\$61	\$62	\$63	\$64	\$65	\$65	\$66	\$67
	Recovered											
Non-City Collected	MSW	\$39	\$40	\$40	\$41	\$41	\$42	\$43	\$44	\$45	\$46	\$47
General & Admin.	All tons	\$36	\$36	\$41	\$37	\$37	\$37	\$37	\$37	\$37	\$37	\$38
Total System Net Cost per Ton		\$130	\$132	\$135	\$136	\$137	\$138	\$139	\$139	\$140	\$141	\$142
ESTIMATED DIVERSION RATE												
Recyclable Materials		8%	8%	8%	10%	10%	10%	10%	10%	10%	10%	10%
Compostable Materials		10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
C&D Debris		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Total System Estimated Diversion		18%	18%	18%	20%	20%	20%	20%	20%	20%	20%	20%

5.4.2 Single Stream Recycling

The single stream recycling scenario assumed that recyclable paper and containers would be collected in a single container and sorted by commodity at a single stream MRF and marketed. Single stream recycling would be provided to residents receiving curbside service, multi-family complexes, businesses, and institutions.

The model is based on the following assumptions:

- A state-of-the-art single stream MRF does not currently exist in Northwest Arkansas. Therefore, this scenario was based on the City developing a small-scale MRF designed to process 10-15 tons of recyclables per hour (mini-MRF). If a decision is made to convert to single stream recycling, the City would likely conduct a competitive procurement to determine private sector interest in developing a privately owned, regional, state-of-the-art single stream MRF. If private sector interest does not exist, the City could contract for construction of a City-owned state-of-the-art mini-MRF. For modeling purposes, the costs to develop and operate a mini-MRF could more accurately be estimated. Therefore, it was assumed a mini-MRF would be constructed in 2017 and operational in 2018. The following assumptions were used for mini-MRF development and operation:
 - Capital costs for site and facility development assuming the use of City-owned land ready to develop (\$550,000) and primary equipment (\$2.8 million) were assumed for a total of \$3,350,000, financed over 20 years with a 3% finance rate. In addition, secondary equipment (rolling stock and baler) costs were assumed at \$510,000, financed over 7 years with a 3% finance rate.
 - Operating costs, which included labor, were assumed at a variable rate of \$60.00 per ton, and maintenance and repair costs for the facility, primary equipment, and secondary equipment were assumed at a variable rate of \$6.00 per ton.
- The composition of single stream recyclables was estimated based on KCI's experience conducting municipal single stream recycling composition studies over the past two years. An estimated average per-ton market value for this mix of materials was then calculated based on the five-year average of an industry-accepted market index for individual commodities. The current market index for glass, rather than the 5-year index average, was used for a more conservative estimate. A 15% residue rate was assumed and haul and disposal costs were applied to the residue tonnage.
- Curbside residential recycling was assumed to utilize 65-gallon roll carts at a cost of \$50.00 per cart, which was straight-lined over 10 years. Collection of carted curbside single stream recyclables would be conducted similar to existing collection of carted solid waste. During the single stream pilot, carts were emptied in an average of 7 seconds; however, for modeling purposes a more conservative estimate of 10 seconds was used.
- Multi-family and commercial recyclables would be collected on the same routes. It was assumed that 50% of these recyclables would be collected in carts and 50% in

dumpsters. Carted collection was assumed to use 95-gallon carts at a cost of \$55.00 per cart, which was also straight-lined over 10 years. Servicing carted recyclables at multi-family complexes, businesses, and institutions typically takes longer than servicing residential curbside carts since the carts often need to be rolled out to the truck and the density of customers is lower. Therefore, assumptions were adjusted to reflect the more time-intensive collection.

- The model calculates the number of new vehicles needed to collect single stream recyclables based on the projected quantity of recyclables and number of customers. The cost of these new vehicles was straight-lined over 8 years. In addition, future replacement costs were included in accordance with the City's motor pool replacement calculations. The resale or scrap value of the existing partitioned curbside recycling vehicles was not included in the model, again providing a more conservative cost estimate.
- Education and outreach costs for 2018 and 2019 were increased by 10% to fund a comprehensive campaign for the rollout and implementation of single stream recycling for residential, multi-family, and commercial/institutional customers.
- A commercial recycling coordinator would be hired in 2017 to develop a technical assistance program and assist businesses, institutions, and multi-family complexes with implementing single stream recycling.
- During the single stream pilot, recycling tonnage in the curbside pilot community increased by 94%; however, the model assumed a more conservative estimate of 67% increase in the first year and gradually increased over time.
- The model assumes the City would establish universal commercial recycling in which the base service fee for multi-family complexes and businesses would include recycling service. This is similar to the existing fee structure for curbside residential service. Including recycling service as part of the basic service fee would help minimize cost as a barrier to program participation. The model assumed a voluntary single stream program would grow until approximately 25% of multi-family recyclables and 50% of commercial recyclables were recovered.
- If needed to further increase material recovery, the model assumed that a disposal ban on traditional recyclable materials (e.g., cardboard, paper, containers) would be established in 2022. The disposal ban, along with technical assistance and enforcement, was assumed to recover an additional 25% of multi-family recyclables and an additional 20% of commercial recyclables.

Table 5-4 provides the single stream recycling model results, including net costs and net cost per ton for each line of business and for the system overall, as well as projected diversion rates. Key findings of the single stream recycling scenario model include the following:

- Based on the model, converting to single stream recycling reduced the net per-ton cost of collecting, processing, and marketing curbside recyclables by 40-50%. In other words, the savings of converting from curb-sorting to carted collection more than offset

the additional processing and marketing costs. In addition, the model utilized more conservative assumptions for collecting single stream recyclables than were demonstrated during the pilot program.

- The cost to collect single stream multi-family recyclables, whether in dumpsters or carts, was projected to be less costly on a per-ton basis than the existing system that uses the partitioned roll-offs.
- The per-ton cost to collect single stream commercial recyclables, again whether in dumpsters or carts, was projected to be slightly higher than the baseline. This is primarily because the cost for Commercial Recyclables in the baseline included only collection of paper grades in dumpsters (servicing commercial recycling bins was included with Residential Recyclables in the baseline model).
- Based on the relatively conservative diversion assumptions utilized in the model, voluntary single stream recycling would increase the City's diversion rate to 23% and establishing a disposal ban on recyclable materials would increase that rate to 28%. The 15% processing residue assumption mentioned above was not included in the diversion calculations, but was counted as disposal.

Table 5-4: Single Stream Recycling Scenario Results

		FY2015	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021	FY2022	FY2023	FY2024	FY2025
NET COSTS												
Residential	MSW	\$1,942,327	\$1,981,174	\$2,020,797	\$1,674,577	\$1,703,268	\$1,750,344	\$1,798,919	\$1,828,863	\$1,858,801	\$1,910,401	\$1,963,678
	Recyclables	\$957,459	\$983,710	\$1,010,486	\$970,505	\$988,423	\$1,007,891	\$1,029,012	\$1,046,159	\$1,233,098	\$1,264,089	\$1,297,309
	Organics	\$549,647	\$560,916	\$572,411	\$559,042	\$572,741	\$586,853	\$601,392	\$616,285	\$631,673	\$647,437	\$663,680
Commercial/ Multi-Family	MSW	\$2,471,420	\$2,520,848	\$2,571,265	\$2,335,969	\$2,382,497	\$2,417,663	\$2,462,733	\$2,485,863	\$2,520,898	\$2,555,960	\$2,549,205
	Recyclables	\$162,335	\$168,883	\$175,563	\$231,521	\$277,990	\$326,610	\$333,890	\$382,165	\$433,650	\$489,034	\$549,449
	Organics											
Multi-Family	Recyclables	\$18,497	\$18,958	\$19,429	\$357,060	\$368,272	\$380,583	\$551,195	\$539,284	\$714,177	\$732,983	\$924,453
Drop-Off	MSW	\$1,479	\$1,509	\$1,539	\$1,625	\$1,696	\$1,769	\$1,846	\$1,926	\$2,010	\$2,097	\$2,189
	Recyclables	\$106,596	\$110,354	\$114,188	\$67,747	\$60,192	\$61,041	\$62,039	\$62,213	\$63,117	\$64,733	\$66,575
	Organics	\$163,515	\$167,299	\$171,159	\$179,092	\$187,413	\$196,109	\$205,196	\$214,691	\$224,612	\$234,977	\$245,807
Ward Cleanup	MSW	\$38,524	\$39,295	\$40,081	\$41,138	\$42,182	\$43,257	\$44,364	\$45,502	\$46,675	\$47,884	\$49,127
Dropbox/C&D Debris	MSW	\$903,255	\$921,320	\$939,747	\$976,406	\$1,011,431	\$1,047,797	\$1,085,622	\$1,124,900	\$1,165,764	\$1,208,279	\$1,252,440
	Recovered											
Non-City Collected	MSW	\$421,510	\$429,941	\$438,539	\$449,691	\$458,851	\$468,171	\$477,701	\$487,397	\$497,310	\$507,442	\$517,751
General & Admin.	All tons	\$2,944,818	\$3,009,383	\$3,381,274	\$3,527,710	\$3,600,008	\$3,673,827	\$3,416,260	\$3,486,560	\$3,558,347	\$3,631,652	\$3,706,507
Total System Net Costs		\$10,681,382	\$10,913,590	\$11,456,477	\$11,372,084	\$11,654,965	\$11,961,915	\$12,070,170	\$12,321,810	\$12,950,131	\$13,296,968	\$13,788,168
NET COST PER TON												
Residential	MSW	\$131	\$134	\$137	\$129	\$132	\$133	\$133	\$137	\$141	\$142	\$142
	Recyclables	\$309	\$317	\$326	\$183	\$169	\$169	\$168	\$156	\$169	\$169	\$170
	Organics	\$228	\$233	\$238	\$227	\$227	\$228	\$228	\$228	\$229	\$229	\$230
Commercial/ Multi-Family (dumpsters)	MSW	\$87	\$89	\$90	\$85	\$86	\$87	\$89	\$91	\$93	\$94	\$95
	Recyclables	\$90	\$94	\$97	\$158	\$162	\$165	\$149	\$151	\$154	\$157	\$160
	Organics											
Comm./Multi-Family (carts)	Recyclables	\$462	\$474	\$486	\$185	\$149	\$127	\$155	\$122	\$142	\$130	\$146
Drop-Off	MSW	\$39	\$40	\$40	\$42	\$43	\$43	\$44	\$45	\$46	\$47	\$48
	Recyclables	\$106	\$109	\$113	\$66	\$82	\$82	\$81	\$80	\$79	\$79	\$79
	Organics	\$36	\$37	\$38	\$39	\$40	\$41	\$42	\$43	\$44	\$45	\$46
Ward Cleanup	MSW	\$176	\$179	\$183	\$184	\$184	\$185	\$185	\$185	\$186	\$187	\$187
Dropbox/C&D Debris	MSW	\$59	\$60	\$61	\$62	\$63	\$64	\$65	\$66	\$66	\$67	\$68
	Recovered											
Non-City Collected	MSW	\$39	\$40	\$40	\$42	\$42	\$43	\$44	\$45	\$46	\$47	\$48
General & Admin.	All tons	\$36	\$36	\$41	\$42	\$42	\$42	\$38	\$38	\$38	\$38	\$38
Total System Net Cost per Ton		\$130	\$132	\$139	\$135	\$136	\$137	\$135	\$135	\$139	\$140	\$142
ESTIMATED DIVERSION RATE												
Recyclable Materials		8%	8%	8%	11%	12%	13%	14%	15%	17%	17%	18%
Compostable Materials		10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
C&D Debris		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Total System Estimated Diversion		18%	18%	18%	21%	22%	23%	23%	25%	26%	27%	28%

5.4.3 Comparison of Material Recovery Results

Figure 5-3 compares the net system costs for the baseline and the two material recovery scenarios over the course of the planning period, and Figure 5-4 provides the projected diversion rates for each of the three scenarios. The difference in total system costs between the three scenarios for any given year is less than 10% of the total cost. For a modeling tool of this type, this would not be considered significant. However, the single stream model is projected to achieve a substantially higher diversion rate.

Figure 5-3: Projected System Net Costs for Baseline, Drop-Off, and Single Stream Scenarios

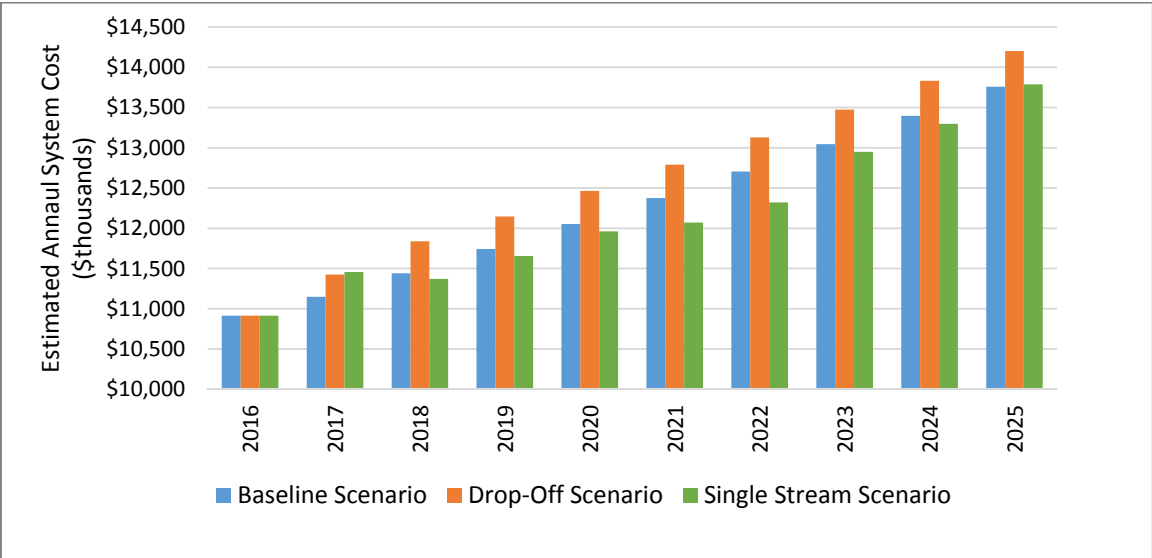
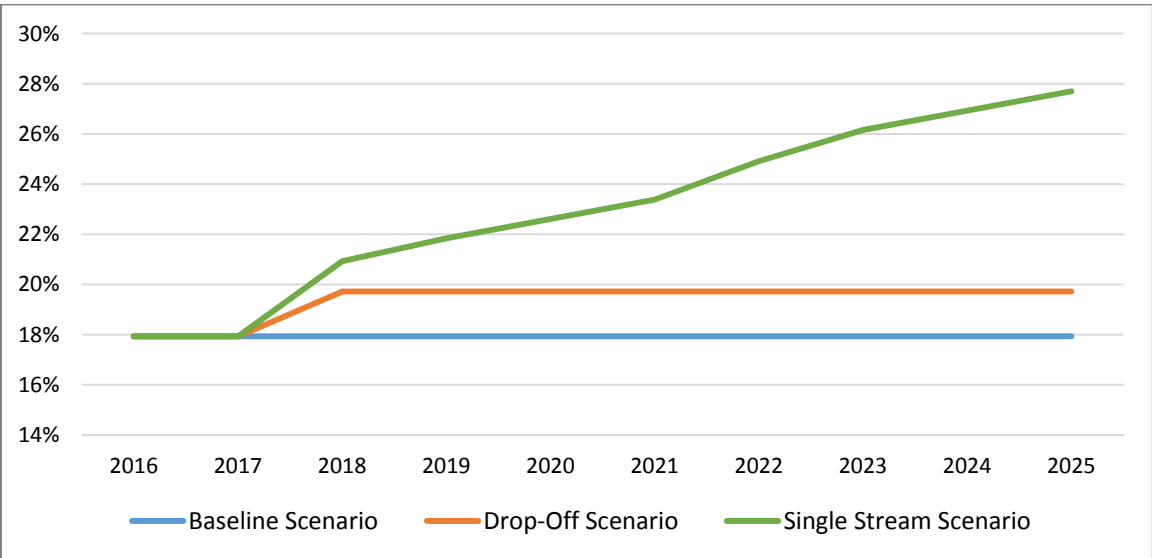


Figure 5-4: Projected Diversion Rates for Baseline, Drop-Off, and Single Stream Scenarios



5.5 Organic Material Recovery

Capturing food waste that is currently landfilled has the potential to increase the City's diversion rate by up to 11%; including other organic materials such as low-grade paper in the recovery program could divert up to an additional 6%. A program and infrastructure to target these organic materials was modeled based on the following assumptions:

- A voluntary recovery program for commercial food waste and low-grade paper would be initiated in 2017. The program would target large commercial and institutional food waste generators, such as schools, supermarkets, and restaurants. A modest recovery rate of 10% of compostable materials was assumed.
- Since the City would likely be focusing on efforts to divert more recyclable materials from disposal during the 2017-2018 timeframe, it was assumed that additional organic material recovery efforts would not be initiated until 2019. At that time, it was assumed that a residential curbside food waste program would be initiated, with food waste and low-grade paper collected curbside with yard waste. A modest recovery rate of 10% of compostable materials generated by curbside residents was also assumed in that year, and was assumed to grow to 30% over time under a voluntary program.
- It was also assumed that service fees for businesses and institutions generating substantial amounts of organic waste would be adjusted in 2019 to include collection and processing of this organic material in the base service fee. As mentioned above under single stream recycling, this fee structure eliminates cost as a factor and encourages participation in the organics recovery program. The model assumes the recovery rate for commercially generated compostable materials would grow to 35% under this voluntary program.
- Curbside yard waste routes were adjusted to accommodate the anticipated increase in participation and tonnage resulting from the addition of food waste and low-grade paper to the collection program.
- It was assumed that commercial customers would use 95-gallon roll carts to collect food waste and other compostable materials. The cost of purchasing and servicing these carts was modeled similar to carted commercial single stream recyclables.
- Based on the very successful pilot program, all food waste would be processed at the City's compost facility using the MSAP composting method (see Sections 3.3 and 4.1). Because the MSAP method composts material in 60 days instead of the 4-6 months required by the current windrow composting process, more material could be composted on the same amount of land. Therefore, the City's existing compost pad was determined to be sufficient to compost the estimated volume of organics collected through 2025.
- No new equipment would be required for composting operations. Replacement costs for existing equipment were accounted for in the existing equipment replacement schedule.
- Operation and maintenance costs for the compost facility were based on standard industry estimates. For a conservative estimate, it was assumed that all operations would be accomplished by 2 full-time employees, although both employees would not be needed at all times. Compost would be tested every other month to ensure quality.

- Yard waste, grass, leaves, food waste, and low-grade paper would be composted and sold as finished compost. As in the baseline model, it was assumed that approximately 50% of outbound tons would be mulch and 50% compost, and that the City would use about 40% of material produced. Premium compost made with food waste could be sold at a higher price point than the City's existing compost made with yard waste only; therefore, anticipated revenue per ton was adjusted accordingly.
- If needed to further increase organics recovery, the model assumed that a disposal ban on curbside residential and commercial yard waste and food waste would be established in 2023. Recovery rates for compostable materials generated by curbside residents was assumed to increase to 50% and that generated by businesses and institutions was assumed to increase to 65%.

Table 5-5 provides the organics recovery model results, including net costs and net cost per ton for each line of business and for the system overall, as well as projected diversion rates. Key findings of the organics recovery scenario model include the following:

- The cost of collecting and processing commercial organics was projected to initially be high because of the relatively small quantity of organics assumed to be collected in the first year, but decreased over time as participation and the quantity of organics recovered increased.
- Likewise, the initial cost of adding food waste and low-grade paper to the curbside yard waste program initially increased the per ton cost, which also dropped as participation and tonnage grew.
- Based on the model, development of a voluntary organics recovery program was projected to increase the diversion rate to 22%. Implementation of a food waste disposal ban was projected to increase that rate to 26%.

Table 5-5: Organics Recovery Scenario Results

		FY2015	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021	FY2022	FY2023	FY2024	FY2025
NET COSTS												
Residential	MSW	\$1,942,327	\$1,981,174	\$1,957,370	\$2,008,976	\$1,872,931	\$1,906,932	\$1,941,033	\$1,993,365	\$2,028,503	\$2,063,541	\$2,119,362
	Recyclables	\$957,459	\$983,710	\$1,010,486	\$1,032,737	\$1,192,453	\$1,212,996	\$1,234,539	\$1,252,693	\$1,274,334	\$1,299,481	\$1,325,733
	Organics	\$549,647	\$560,916	\$553,328	\$558,027	\$923,318	\$944,560	\$1,165,188	\$1,187,356	\$1,413,023	\$1,443,498	\$1,470,126
Commercial/ Multi-Family	MSW	\$2,471,420	\$2,520,848	\$2,429,761	\$2,481,717	\$2,534,477	\$2,598,999	\$2,676,648	\$2,756,924	\$2,802,521	\$2,860,734	\$2,933,263
	Recyclables	\$162,335	\$168,883	\$175,563	\$180,375	\$185,333	\$190,458	\$195,759	\$201,242	\$206,914	\$212,782	\$218,853
	Organics			\$163,492	\$185,103	\$203,969	\$211,851	\$208,662	\$208,378	\$393,566	\$413,875	\$417,884
Multi-Family	Recyclables	\$18,497	\$18,958	\$19,429	\$19,844	\$20,268	\$20,702	\$21,146	\$21,601	\$22,067	\$22,543	\$23,031
Drop-Off	MSW	\$1,479	\$1,509	\$1,380	\$1,439	\$1,502	\$1,567	\$1,635	\$1,706	\$1,779	\$1,857	\$1,937
	Recyclables	\$106,596	\$110,354	\$114,188	\$117,232	\$120,367	\$123,605	\$126,949	\$130,402	\$133,971	\$137,657	\$141,467
	Organics	\$163,515	\$167,299	\$135,624	\$126,479	\$111,902	\$103,826	\$99,711	\$100,335	\$88,636	\$84,467	\$83,924
Ward Cleanup	MSW	\$38,524	\$39,295	\$39,145	\$40,113	\$41,109	\$42,133	\$43,187	\$44,271	\$45,387	\$46,534	\$47,715
Dropbox/C&D Debris	MSW	\$903,255	\$921,320	\$874,098	\$904,475	\$936,127	\$969,003	\$1,003,147	\$1,038,616	\$1,075,463	\$1,113,745	\$1,153,527
	Recovered											
Non-City Collected	MSW	\$421,510	\$429,941	\$392,087	\$399,928	\$407,927	\$416,085	\$424,407	\$432,895	\$441,552	\$450,383	\$459,391
General & Admin.	All tons	\$2,944,818	\$3,009,383	\$3,072,700	\$3,137,356	\$3,203,379	\$3,270,798	\$3,339,642	\$3,409,942	\$3,481,729	\$3,555,033	\$3,629,889
Total System Net Costs		\$10,681,382	\$10,913,590	\$10,938,651	\$11,193,802	\$11,755,063	\$12,013,515	\$12,481,653	\$12,779,725	\$13,409,444	\$13,706,132	\$14,026,103
NET COST PER TON												
Residential	MSW	\$131	\$134	\$132	\$133	\$125	\$128	\$131	\$132	\$135	\$139	\$139
	Recyclables	\$309	\$317	\$326	\$325	\$367	\$365	\$363	\$360	\$358	\$357	\$356
	Organics	\$228	\$233	\$230	\$226	\$306	\$268	\$287	\$286	\$300	\$273	\$271
Commercial/ Multi-Family	MSW	\$87	\$89	\$87	\$89	\$90	\$91	\$92	\$93	\$95	\$97	\$98
	Recyclables	\$90	\$94	\$97	\$98	\$98	\$99	\$99	\$100	\$100	\$101	\$101
	Organics			\$306	\$169	\$121	\$106	\$102	\$99	\$128	\$110	\$100
Multi-Family	Recyclables	\$462	\$474	\$486	\$485	\$484	\$484	\$483	\$482	\$481	\$481	\$480
Drop-Off	MSW	\$39	\$40	\$36	\$37	\$38	\$39	\$39	\$40	\$41	\$42	\$43
	Recyclables	\$106	\$109	\$113	\$114	\$114	\$114	\$115	\$115	\$116	\$116	\$117
	Organics	\$36	\$37	\$30	\$28	\$24	\$22	\$20	\$20	\$17	\$16	\$16
Ward Cleanup	MSW	\$176	\$179	\$179	\$179	\$179	\$180	\$180	\$180	\$181	\$181	\$182
Dropbox/C&D Debris	MSW	\$59	\$60	\$57	\$58	\$58	\$59	\$60	\$61	\$61	\$62	\$63
	Recovered											
Non-City Collected	MSW	\$39	\$40	\$36	\$37	\$38	\$38	\$39	\$40	\$41	\$42	\$42
General & Admin.	All tons	\$36	\$36	\$37	\$37	\$37	\$37	\$37	\$37	\$37	\$37	\$38
Total System Net Cost per Ton		\$130	\$132	\$133	\$133	\$137	\$137	\$140	\$140	\$144	\$145	\$145
ESTIMATED DIVERSION RATE												
Recyclable Materials		8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%
Compostable Materials		10%	10%	10%	11%	13%	13%	14%	14%	16%	17%	17%
C&D Debris		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Total System Estimated Diversion		18%	18%	19%	19%	21%	22%	22%	22%	24%	25%	26%

5.6 C&D Debris Recovery

Approximately 15,000 tons of C&D debris and other bulky wastes were collected and landfilled by the City in 2015. Over the last decade, the quantity of material managed by the City through its dropbox program has averaged nearly 9,500 tons annually, with the 2015 tonnage being the highest of any year. Given the growth of residential and commercial development in Fayetteville and Northwest Arkansas in general,⁴³ the potential exists for C&D debris tonnage to remain high. An unknown quantity of C&D debris is also collected by private haulers franchised by the City.

Based on the visual audit conducted in January 2015, at least 70% of the C&D and bulky waste collected by the City consisted of material that could potentially have been recycled.

As mentioned in Section 3.7, material recovery from C&D debris can occur by source separating materials at the job site prior to collection or recovering materials after collection at a processing facility or through manual floor sorting. Communities that have reported the greatest success with source separation programs generally mandate and/or provide a substantial financial incentive for separating materials. The success of a voluntary program can be highly variable.

Regarding recovery after collection, a permitted C&D recovery facility does not currently exist in Northwest Arkansas and floor sorting of C&D debris typically recovers a relatively small percentage of the inbound waste stream. Therefore, for modeling purposes, it was assumed that the City would establish a very basic C&D processing line. To maximize the throughput and therefore the efficiency of the C&D system, the City could potentially expand its C&D collection services or require franchised haulers to deliver C&D debris to the City's processing site. However, for the purposes of the model, it was assumed that only the current tonnage would be processed by the City, adjusted over time to reflect growth.

The C&D recovery scenario was modeled based on the following assumptions:

- Since the City's priorities are on diverting more residential and commercial MSW from disposal, it was assumed that these would be the primary focus in 2017-2019. To further evaluate the feasibility of a C&D debris processing facility, it was assumed that a manual floor sorting pilot program would be conducted in 2019. It was further assumed that this pilot would be conducted utilizing existing staff and would divert approximately 5% of the C&D debris received.
- Assuming the pilot program is a success, a C&D MRF would then be initiated in 2019 based on the following assumptions:
 - The capital costs for land, site development, facility, and primary equipment were assumed at \$1,750,000, financed over 20 years with a 3% finance rate. Secondary equipment (rolling stock) costs were assumed at \$110,000, financed over 7 years with a 3% finance rate.

⁴³ Souza, Kim, "Northwest Arkansas Construction Permits Up 103% through June," *Talk Business & Politics*, August 1, 2016 (<https://talkbusiness.net/2016/08/northwest-arkansas-construction-permits-up-103-through-june/>).

- o Operating costs, which included labor, were assumed at a variable rate of \$30.00 per ton, and maintenance and repair costs for the facility, primary equipment, and secondary equipment were assumed at a variable rate of \$3.00 per ton.
- Because markets for recovered C&D materials can be highly variable based on local conditions, no revenue was assumed in the model to provide a conservative estimate.
- The model assumed an initial diversion rate of approximately 50% of C&D and bulky waste received, which was increased to 70% over time.

Table 5-6 provides the C&D debris recovery model results, including net costs and net cost per ton for each line of business and for the system overall, as well as projected diversion rates.

Key findings of the C&D debris recovery scenario model include the following:

- Based on the model, the average cost of collecting and processing C&D debris to recover materials ranged from \$82-\$85 per ton (weighted average of Dropbox/C&D MSW and Dropbox/C&D Recovered). This cost was \$14-\$20 more per ton than simply transferring and disposing of this material; however, the model did not attempt to predict revenue for the recovered materials. As mentioned above, revenue for recovered C&D materials would depend on local markets, but average revenue in the range of \$20-30 per ton is not uncommon for a facility of this type.
- The model assumed that the quantity of C&D debris collected or received by the City would continue to grow. If that does not occur, the per-ton cost to process this material would be higher than projected. Alternatively, the per-ton cost would be reduced if a greater amount of C&D debris were processed at the facility. Because the City controls the management of all waste generated within the City, the potential exists to direct additional C&D debris to a City-owned processing facility.
- Based on the material recovery rates assumed in the model, recovery of reusable and recyclable materials from C&D debris was projected to increase the City's diversion rate to 33% over the planning period.

Table 5-6: C&D Debris Recovery Scenario Results

		FY2015	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021	FY2022	FY2023	FY2024	FY2025
NET COSTS												
Residential	MSW	\$1,942,327	\$1,981,174	\$2,020,797	\$2,075,148	\$2,131,307	\$2,189,229	\$2,248,967	\$2,310,595	\$2,374,179	\$2,439,788	\$2,507,502
	Recyclables	\$957,459	\$983,710	\$1,010,486	\$1,032,737	\$1,055,501	\$1,078,834	\$1,102,755	\$1,127,279	\$1,152,425	\$1,178,211	\$1,204,655
	Organics	\$549,647	\$560,916	\$572,411	\$586,280	\$600,551	\$615,219	\$630,296	\$645,796	\$661,733	\$678,120	\$694,974
Commercial/ Multi-Family	MSW	\$2,471,420	\$2,520,848	\$2,571,265	\$2,649,511	\$2,730,708	\$2,814,760	\$2,901,761	\$2,991,838	\$3,085,109	\$3,181,696	\$3,281,741
	Recyclables	\$162,335	\$168,883	\$175,563	\$180,375	\$185,333	\$190,458	\$195,759	\$201,242	\$206,914	\$212,782	\$218,853
	Organics											
Multi-Family	Recyclables	\$18,497	\$18,958	\$19,429	\$19,844	\$20,268	\$20,702	\$21,146	\$21,601	\$22,067	\$22,543	\$23,031
Drop-Off	MSW	\$1,479	\$1,509	\$1,539	\$1,605	\$1,685	\$1,738	\$1,810	\$1,885	\$1,964	\$2,045	\$2,130
	Recyclables	\$106,596	\$110,354	\$114,188	\$117,232	\$120,367	\$123,605	\$126,949	\$130,402	\$133,971	\$137,657	\$141,467
	Organics	\$163,515	\$167,299	\$171,159	\$179,092	\$187,413	\$196,109	\$205,194	\$214,688	\$224,606	\$234,970	\$245,799
Ward Cleanup	MSW	\$38,524	\$39,295	\$40,081	\$41,138	\$42,182	\$43,142	\$44,219	\$45,327	\$46,466	\$47,639	\$48,846
Dropbox/C&D Debris	MSW	\$903,255	\$921,320	\$939,747	\$972,965	\$970,338	\$827,002	\$791,718	\$753,065	\$710,367	\$663,337	\$612,165
	Recovered					\$62,308	\$560,895	\$620,798	\$684,237	\$751,188	\$821,514	\$896,337
Non-City Collected	MSW	\$421,510	\$429,941	\$438,539	\$449,691	\$458,851	\$462,845	\$471,175	\$479,648	\$488,307	\$497,153	\$506,151
General & Admin.	All tons	\$2,944,818	\$3,009,383	\$3,072,700	\$3,137,356	\$3,270,798	\$3,270,798	\$3,339,642	\$3,409,942	\$3,481,729	\$3,555,033	\$3,629,889
Total System Net Costs		\$10,681,382	\$10,913,590	\$11,147,904	\$11,442,975	\$11,837,612	\$12,395,337	\$12,702,191	\$13,017,544	\$13,341,023	\$13,672,488	\$14,013,541
NET COST PER TON												
Residential	MSW	\$131	\$134	\$137	\$137	\$138	\$138	\$139	\$139	\$140	\$141	\$141
	Recyclables	\$309	\$317	\$326	\$325	\$325	\$325	\$325	\$324	\$324	\$324	\$324
	Organics	\$228	\$233	\$238	\$238	\$238	\$239	\$239	\$239	\$240	\$240	\$241
Commercial/ Multi-Family	MSW	\$87	\$89	\$90	\$91	\$92	\$92	\$93	\$94	\$95	\$95	\$96
	Recyclables	\$90	\$94	\$97	\$98	\$98	\$99	\$99	\$100	\$100	\$101	\$101
	Organics											
Multi-Family	Recyclables	\$462	\$474	\$486	\$485	\$484	\$484	\$483	\$482	\$481	\$481	\$480
Drop-Off	MSW	\$39	\$40	\$40	\$41	\$42	\$43	\$44	\$44	\$45	\$46	\$47
	Recyclables	\$106	\$109	\$113	\$114	\$114	\$114	\$115	\$115	\$116	\$116	\$117
	Organics	\$36	\$37	\$38	\$39	\$40	\$41	\$42	\$43	\$44	\$45	\$46
Ward Cleanup	MSW	\$176	\$179	\$183	\$184	\$184	\$184	\$184	\$185	\$185	\$186	\$186
Dropbox/C&D Debris	MSW	\$59	\$60	\$61	\$62	\$63	\$105	\$106	\$107	\$109	\$110	\$112
	Recovered					\$105	\$66	\$67	\$67	\$68	\$69	\$70
Non-City Collected	MSW	\$39	\$40	\$40	\$42	\$42	\$43	\$44	\$44	\$45	\$46	\$47
General & Admin.	All tons	\$36	\$36	\$37	\$37	\$38	\$37	\$37	\$37	\$37	\$37	\$38
Total System Net Cost per Ton		\$130	\$132	\$135	\$136	\$138	\$142	\$142	\$143	\$144	\$144	\$145
ESTIMATED DIVERSION RATE												
Recyclable Materials		8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%
Compostable Materials		10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
C&D Debris		0%	0%	0%	0%	1%	11%	12%	13%	13%	14%	15%
Total System Estimated Diversion		18%	18%	18%	18%	19%	29%	30%	31%	31%	32%	33%

5.7 Combined Scenario Analysis

Based on the results of the various scenarios outlined above, a combined analysis was conducted of those scenarios deemed to be most promising in helping the City strive toward its 80% diversion goal. These included the following;

- Single stream recycling
- Organic material recovery
- C&D debris recovery

The same assumptions for each of these elements was used in this combined scenario analysis as in the individual scenario models. Table 5-7 provides the results of this analysis. Figure 5-5 compares the projected total system net costs and diversion rates for the baseline and combined scenario.

Figure 5-5: Projected System Net Costs of Baseline and Cumulative Scenarios

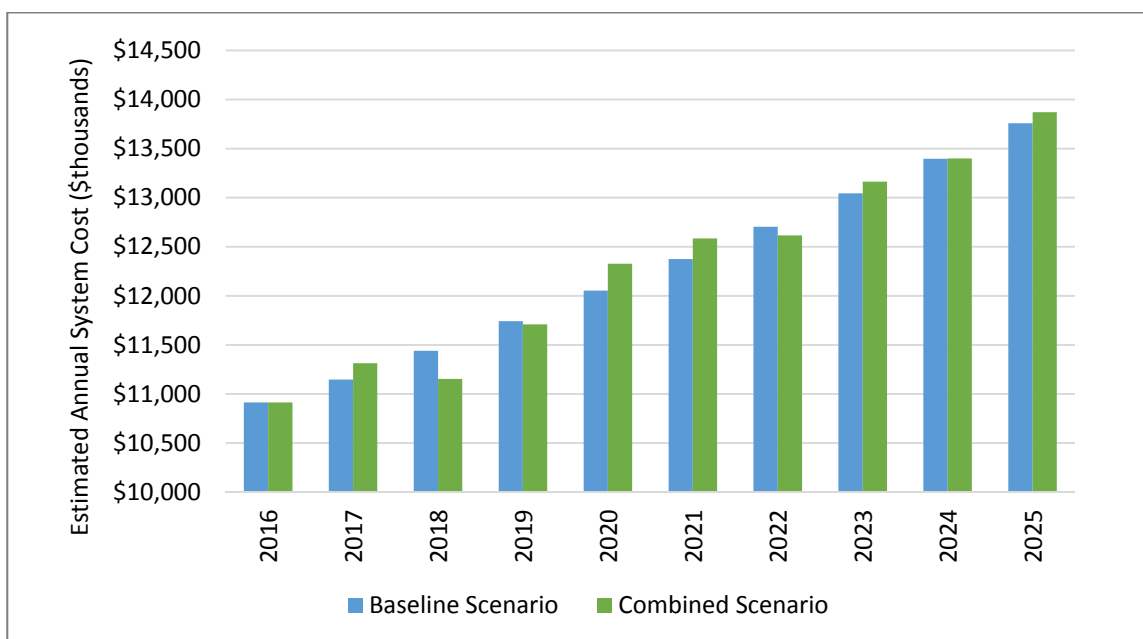


Table 5-7: Combined Single Stream, Organics, and C&D Debris Recovery Scenario Results

		FY2015	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021	FY2022	FY2023	FY2024	FY2025
NET COSTS												
Residential	MSW	\$1,942,327	\$1,981,174	\$1,957,370	\$1,614,853	\$1,472,296	\$1,650,508	\$1,677,091	\$1,543,024	\$1,547,504	\$1,569,346	\$1,611,508
	Recyclables	\$957,459	\$983,710	\$1,010,486	\$970,505	\$988,423	\$1,007,891	\$1,029,012	\$1,046,159	\$1,069,110	\$1,096,821	\$1,126,696
	Organics	\$549,647	\$560,916	\$553,328	\$530,787	\$923,318	\$944,560	\$1,165,188	\$1,187,356	\$1,207,821	\$1,234,193	\$1,256,634
Commercial/ Multi-Family	MSW	\$2,471,420	\$2,520,848	\$2,429,761	\$2,125,497	\$2,144,315	\$2,124,761	\$2,162,553	\$2,139,923	\$2,128,727	\$2,085,813	\$2,094,691
	Recyclables	\$162,335	\$168,883	\$175,563	\$233,116	\$279,795	\$330,709	\$338,071	\$389,148	\$441,098	\$499,808	\$558,112
	Organics			\$163,492	\$185,103	\$203,969	\$211,851	\$208,662	\$208,378	\$393,566	\$413,875	\$417,884
Multi-Family	Recyclables	\$18,497	\$18,958	\$19,429	\$357,060	\$368,272	\$380,583	\$551,195	\$539,284	\$714,177	\$732,983	\$924,453
Drop-Off	MSW	\$1,479	\$1,509	\$1,380	\$1,440	\$1,502	\$1,567	\$1,635	\$1,706	\$1,780	\$1,857	\$1,938
	Recyclables	\$106,596	\$110,354	\$114,188	\$67,748	\$60,192	\$61,041	\$62,039	\$62,213	\$63,117	\$64,733	\$66,575
	Organics	\$163,515	\$167,299	\$135,624	\$126,479	\$111,902	\$103,826	\$99,711	\$100,335	\$88,636	\$84,467	\$83,924
Ward Cleanup	MSW	\$38,524	\$39,295	\$39,145	\$40,113	\$41,109	\$42,134	\$43,188	\$44,272	\$45,387	\$46,535	\$47,716
Dropbox/C&D Debris	MSW	\$903,255	\$921,320	\$939,747	\$972,965	\$970,338	\$818,099	\$786,084	\$750,650	\$710,979	\$666,854	\$618,296
	Recovered					\$62,308	\$560,895	\$620,798	\$684,237	\$751,188	\$821,514	\$896,337
Non-City Collected	MSW	\$421,510	\$429,941	\$392,087	\$399,929	\$407,927	\$416,086	\$424,407	\$432,895	\$441,553	\$450,384	\$459,392
General & Admin.	All tons	\$2,944,818	\$3,009,383	\$3,381,274	\$3,527,710	\$3,673,827	\$3,673,827	\$3,416,260	\$3,486,560	\$3,558,347	\$3,631,652	\$3,706,507
Total System Net Costs		\$10,681,382	\$10,913,590	\$11,312,874	\$11,153,304	\$11,709,494	\$12,328,337	\$12,585,895	\$12,616,140	\$13,162,992	\$13,400,835	\$13,870,663
NET COST PER TON												
Residential	MSW	\$131	\$134	\$132	\$124	\$119	\$135	\$139	\$130	\$138	\$142	\$143
	Recyclables	\$309	\$317	\$326	\$183	\$169	\$169	\$168	\$156	\$146	\$147	\$147
	Organics	\$228	\$233	\$230	\$215	\$306	\$268	\$287	\$286	\$257	\$233	\$232
Commercial/ Multi-Family	MSW	\$87	\$89	\$87	\$80	\$82	\$82	\$84	\$85	\$88	\$89	\$92
	Recyclables	\$90	\$94	\$97	\$159	\$163	\$167	\$151	\$154	\$156	\$160	\$162
	Organics			\$306	\$169	\$121	\$106	\$102	\$99	\$128	\$110	\$100
Multi-Family	Recyclables	\$462	\$474	\$486	\$185	\$149	\$127	\$155	\$122	\$142	\$130	\$146
Drop-Off	MSW	\$39	\$40	\$36	\$37	\$38	\$39	\$39	\$40	\$41	\$42	\$43
	Recyclables	\$106	\$109	\$113	\$66	\$82	\$82	\$81	\$80	\$79	\$79	\$79
	Organics	\$36	\$37	\$30	\$28	\$24	\$22	\$20	\$20	\$17	\$16	\$16
Ward Cleanup	MSW	\$176	\$179	\$179	\$179	\$179	\$180	\$180	\$180	\$181	\$181	\$182
Dropbox/C&D Debris	MSW	\$59	\$60	\$61	\$62	\$63	\$103	\$105	\$107	\$109	\$111	\$113
	Recovered					\$105	\$66	\$67	\$67	\$68	\$69	\$70
Non-City Collected	MSW	\$39	\$40	\$36	\$37	\$38	\$38	\$39	\$40	\$41	\$42	\$42
General & Admin.	All tons	\$36	\$36	\$41	\$42	\$43	\$42	\$38	\$38	\$38	\$38	\$38
Total System Net Cost per Ton		\$130	\$132	\$137	\$133	\$136	\$141	\$141	\$138	\$142	\$141	\$143
ESTIMATED DIVERSION RATE												
Recyclable Materials		8%	8%	8%	11%	12%	13%	14%	15%	17%	17%	18%
Compostable Materials		10%	10%	10%	11%	13%	13%	14%	14%	16%	17%	17%
C&D Debris		0%	0%	0%	0%	1%	11%	12%	13%	13%	14%	15%
Total System Estimated Diversion		18%	18%	19%	22%	26%	38%	40%	42%	46%	49%	50%

Key findings of this combined scenario model include the following:

- The combined scenarios of single stream recycling, organics recovery, and C&D debris processing resulted in projected total system costs that were comparable to the baseline. Significant savings would be realized in some collection programs, most notably eliminating sorting residential recyclables at the curb and use of partitioned roll-offs to service multi-family complexes. These savings were projected to offset the costs of processing single stream materials.
- The combined scenario projected achieving approximately 40% diversion through voluntary programs with an increase to at least 50% should disposal bans on select materials be established. These diversion rates are based on the relatively conservative assumptions utilized in the model. Depending on how programs are implemented, the effectiveness of education and outreach, and the efficiency of recovery facilities that are established, higher diversion should be achievable.

System models, such as that utilized to evaluate these various diversion scenarios, are tools for planning purposes. They estimate and project potential costs, revenues, and diversion rates based on a set of variables and assumptions derived from industry knowledge and standards. System models are not intended to take the place of more detailed implementation plans for specific programs and facilities the City might wish to develop. Decisions made during the planning and implementation process will determine the overall costs and effectiveness of the resulting recovery program or facility.

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Section 6

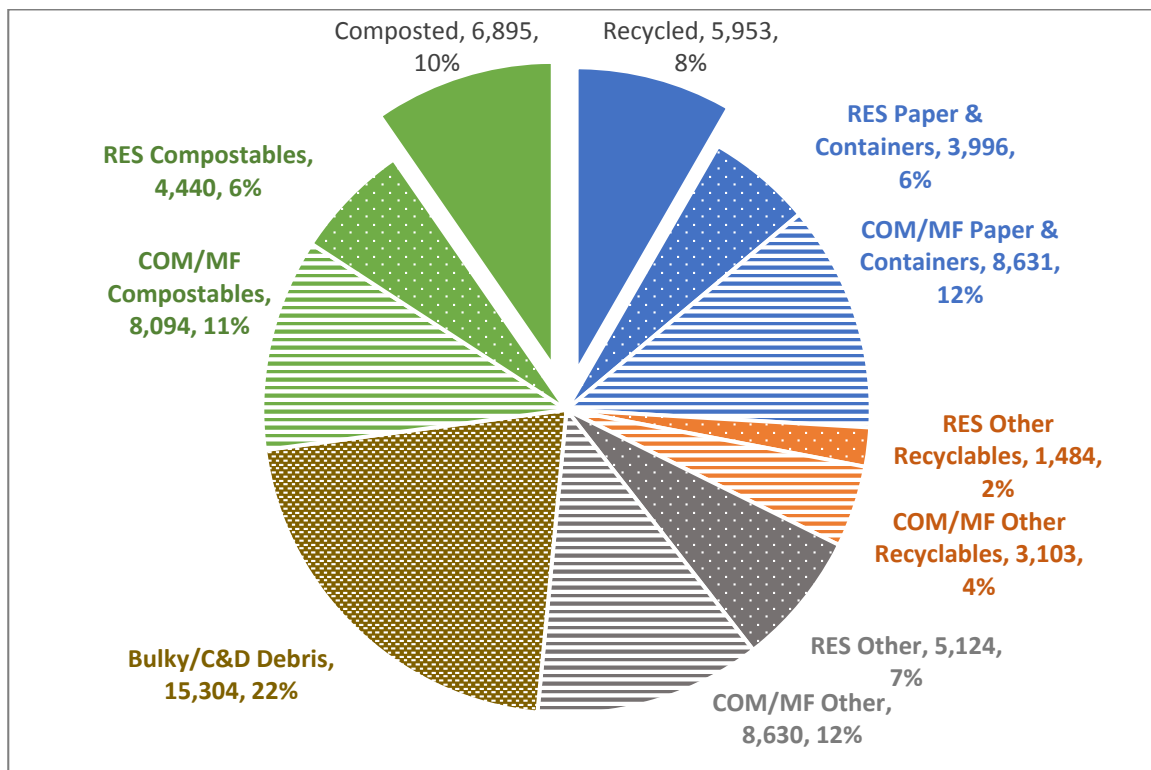
Proposed Action Plan

6.1 Phased Plan

Figure 6-1 depicts the quantities and types of material streams managed by the City in 2015, excluding out-of-city waste received at the transfer station. Approximately 18% of the materials managed was recycled or composted and the remaining 82% was landfilled. The figure also breaks down the landfilled materials by type, based on results of a waste composition study, to identify the greatest opportunities for the City to strive toward its goal of 80% diversion. These key opportunities are as follows:

- 1) Commercial and multi-family residential recyclables materials (blue and orange striped slices) – up to 11,734 tons (16% increased diversion potential)
- 2) Organic materials (green dotted and striped slices) – up to 12,534 tons (17% increased diversion potential)
- 3) C&D debris (brown slice) – up to 10,713 tons, assuming 70% of bulky waste/C&D debris consists of recyclable material (15% increased diversion potential)

Figure 6-1: Composition of Materials Managed by the City in 2015 (tons, % by weight)



RES=Residential; COM/MF = Commercial/Multi-Family

During the planning process, various diversion options were identified, pilot programs to evaluate a commercial food waste program and single stream recycling were conducted, and various diversion scenarios were modeled. In addition, stakeholder input was obtained through surveys; public meetings; and meetings with property managers, private sector companies, interested citizens, and elected officials.

The results of this planning process are summarized in this document and have resulted in the proposed plan of action outlined in this section. A phased plan is proposed in order to focus on specific generator sectors and material streams to make incremental progress toward the 80% diversion goal.

The three phases of the proposed plan are as follows:

- Phase 1 focuses on establishing the facilities, programs, and policies needed to more effectively and efficiently recover recyclable materials from businesses and residents, as well as to establish an organics program that includes food waste and other compostable materials.
- Phase 2 continues to build upon and grow the Phase 1 programs, and also targets recovering recyclable materials in the C&D and bulky waste stream.
- Phase 3 offers policy options to further incentivize material recovery should the City's goals not be met, as well as policies to help ensure the long-term financial viability of infrastructure developed by the City.

The policies, programs, and facilities envisioned in each phase of the plan are detailed in Tables 6-1, 6-2, and 6-3, with additional discussion and explanation in the remainder of this section. This is intended to be a dynamic plan. Various decisions will need to be made when implementing each element of the plan. These decisions have the potential to affect other elements of the plan. System effectiveness should continuously be monitored, progress toward accomplishing City goals evaluated, and adjustments made as needed.

Table 6-1: Phase 1 Proposed Action Plan

		Policies	Programs	Facilities	Diversion Target
PHASE 1	2017	- Require new multi-family and commercial developments to provide adequate space and access for recycling - Require franchised haulers to report source, tonnage, and recycling/disposal of all materials collected in the City	- Hire commercial/multi-family recycling program coordinator - Implement voluntary commercial organics recovery program, focusing on large food waste generators - Develop and initiate new communications plan - Develop technical assistance materials for businesses and multi-family complexes - Initiate Green City Program	- Obtain Type CO permit for compost facility - Implement MSAP composting method and begin accepting commercial organics - RFP/contract for single stream processing services; if sufficient interest does not exist, then RFP for mini-MRF development	19%
	2018	- Establish universal commercial and multi-family recycling (base service fee includes the cost of recycling service) - If City mini-MRF is developed, require franchised haulers to deliver recyclables collected within the City to the MRF	- Implement residential and commercial/multi-family single stream recycling; add material types - Provide technical assistance to businesses and multi-family complexes to implement universal recycling - Continue to expand commercial organics recovery - Expand Green City Program - Continue implementing communications plan	Deliver recyclables to private single stream MRF or initiate processing single stream recyclables at City-owned mini-MRF	22%
	2019	Establish universal commercial organics recovery for large commercial food waste generators (base service fee includes the cost of organics recovery)	- Implement voluntary curbside residential organics recovery - Provide technical assistance to implement universal commercial organics recovery - Continue Green City Program - Continue implementing communications plan - Possibly conduct C&D debris recovery pilot program	- Begin composting residential organics at compost facility - Evaluate status of regional C&D recovery facilities - RFP for C&D debris recycling (by contractor or develop facility)	26%

Table 6-2: Phase 2 Proposed Action Plan

		Policies	Programs	Facilities	Diversion Target
PHASE 2	2020	- If City does not develop a C&D MRF, establish recycling/diversion standards for C&D projects and link them to permitting process - If City develops a C&D MRF, require franchised haulers to deliver C&D debris collected within the City to this facility	- If C&D recycling/diversion standards are established, develop and execute an implementation plan - Evaluate and update technical assistance to businesses and multi-family complexes - Evaluate, update, and implement communications plan to increase full program participation - Continue to monitor and enhance Green City Program	- Contract with private C&D MRF or - Contract for and initiate operating City-owned C&D MRF	38%
	2021		- Continue implementing communications plan - Continue technical assistance to businesses and multi-family complexes - Continue to monitor and enhance Green City Program	Monitor and implement operational efficiencies at all facilities (mini-MRF, compost facility, C&D facility, transfer station)	40%

Table 6-3: Phase 3 Proposed Action Plan

		Policies	Programs	Facilities	Diversion Target
PHASE 3	2022	Establish recyclable material disposal ban	- Continue implementing communications plan - Continue technical assistance to businesses and multi-family complexes - Continue Green City Program	Monitor and implement operational efficiencies at all facilities (mini-MRF, compost facility, C&D facility, transfer station)	42%
	2023	Establish food waste disposal ban	- Enforce recyclable material disposal ban - Continue implementing communications plan - Continue technical assistance to businesses and multi-family complexes - Continue Green City Program	Monitor and implement operational efficiencies at all facilities (mini-MRF, compost facility, C&D facility, transfer station)	46%
	2024-2025	- Evaluate every other week waste collection and other policies to increase efficiency, lower costs, and encourage waste diversion - Evaluate other policies, such as product bans, that would minimize generation of non-recyclable or non-compostable waste	- Enforce recyclable material and yard waste disposal bans - Continue implementing communications plan - Continue technical assistance to businesses and multi-family complexes - Continue Green City Program	Monitor and implement operational efficiencies at all facilities (mini-MRF, compost facility, C&D facility, transfer station)	50%

6.2 Implementation of Key Elements

This section summarizes the key elements in the three-phase plan aimed at maximizing material recovery and reducing the amount of waste landfilled. The proposed facilities, programs, and policies to implement each of these key elements are discussed.

6.2.1 Single Stream Recycling

Based on the pilot program and industry trends nationally, single stream recycling is a key element to capture additional recyclable materials generated by all sectors. It is therefore included in Phase 1 of the plan.

Converting to single stream recycling will allow more efficient and effective collection of recyclables from businesses and multi-family complexes. It will enable the City to implement more cohesive and comprehensive commercial and multi-family recycling programs that do not present the burden of multiple or partitioned containers or the inconvenience of having to separate recyclables by type. In addition, the single stream pilot program demonstrated that participation and recovered material tonnage in the curbside residential program will also increase. At the same time, curbside collection efficiency and worker safety will be significantly improved compared to the existing curb-sort system. Additional discussion of single stream recycling is provided in Section 3.2 and results of the single stream pilot program can be found in Section 4.2.

Facility

Because a state-of-the-art single stream MRF does not currently exist in Northwest Arkansas, developing such a facility would be the first step if a



Picture 6-1: Example of 10 TPH Mini-MRF in Maryland

decision is made to pursue single stream recycling. The City would likely want to first explore private sector interest in developing a privately owned, regional, state-of-the-art single stream MRF through a Request for Proposals (RFP) process. If a private sector option is not viable, the City could then pursue developing a City-owned modern mini-MRF. A mini-MRF is designed to process approximately 10-15 tons of recyclables per hour (20,000-30,000 tons per year with 1 shift), which would provide sufficient capacity for the City to more than quadruple the quantity of recyclables currently collected.

If the City chooses to build a mini-MRF, it will be the first modern single stream MRF in Northwest Arkansas. Therefore, the City should be able to source materials from other communities through inter-local agreements to fully utilize MRF capacity. A second shift could be added to increase capacity if needed.

Programs

More detailed program plans will need to be developed and implemented for the three primary generator sectors: curbside residents, multi-family complex residents, and businesses/institutions. These plans will more clearly define equipment and vehicle needs, implementation schedules, communication strategies, and technical assistance to customers. Summarized below are some of the main items that should be addressed in these program plans.

- 1) Curbside residents: Converting curbside residents to single stream recycling should be fairly straight-forward since a curbside recycling program is already in place. Key items in the program plan include the following:

- o Existing curb-sort collection vehicles will need to be sold or traded in, and additional automated side-load vehicles purchased.
- o Recycling carts will need to be purchased, assembled, and distributed.
- o New collection routes will need to be developed to service more houses per routes. These routes could potentially be aligned with trash routes.
- o A communications strategy for notifying residents of the new system will be a critical component of the program plan.



Picture 6-2: Trash and Recycling Carts during Fayetteville Pilot

The City could potentially phase in single stream recycling, but this would need to be balanced against providing sufficient tonnage for MRF operations. In addition, once carts are distributed in one neighborhood, residents in other neighborhoods typically start asking for them.

- 2) Businesses/institutions: The program plan for rolling out single stream recycling to businesses and institutions should strive to provide this service to all entities that generate recyclable materials. As mentioned below under policies, universal commercial recycling is proposed in which the base service fee for businesses and institutions would include the cost of recycling. Therefore, the program plan should encourage and assume high participation. Key items to address in the program plan include the following:
 - o A technical assistance program to assist property owners or managers in establishing recycling programs will be critical. The technical assistance program, which is discussed in greater detail in Section 3.5, should include helping entities to right-size their waste collection services once an effective recycling program is established.
 - o A full-time commercial/multi-family recycling coordinator is called for in the plan to develop and implement the hands-on technical assistance program.

- o Additional collection containers will be needed. Some combination of carts and dumpsters will likely be utilized for collection depending on the size, type, and space availability of the business or institution.
 - o Some additional collection vehicles might be needed; however, right-sizing trash collection services should help keep this to a minimum. The quantity of materials collected is not changing, just the manner in which they are sorted and collected.
 - o Commercial/institutional recycling and trash routes will need to be reconfigured to maximize efficiency.
- 3) Multi-family complexes: Establishing effective recycling programs for multi-family complexes is especially challenging. As with businesses, the program plan should envision working with property owners or managers of individual complexes to identify appropriate containers and container placement. Recycling containers should ideally be placed adjacent to waste containers for resident convenience. Space limitations are often a factor, which makes right-sizing waste containers especially important. Educating a diverse and often transient population about the recycling program is critical to its success. The program plan for multi-family complexes will include the same elements as the commercial plan. It should be developed concurrently with the commercial plan since collection services will likely be provided on the same routes.

Policies

The decision to convert to single stream recycling is in itself a policy decision to be made by the City Council. Additional policies that are proposed to support the recycling program include the following:

- 1) Modify building codes to require new commercial and multi-family developments to provide adequate space and access for recycling. Lack of space for recycling containers is a reason often given by businesses and complexes for not recycling. Space and access for recycling should be an integral part of all new developments.
- 2) Establish universal recycling for businesses, institutions, and multi-family complexes in which the cost of recycling service is included in the base service fee. This is similar to residential pricing in that all residents pay for collection and processing of recyclables and yard waste as part of their base solid waste fee. This would eliminate cost as a factor in deciding whether or not to participate in recycling.
- 3) Revise and reissue nonexclusive franchises. Franchise agreements with private companies allowing them to collect commercial recyclables and waste in large roll-off containers should be updated and reissued. Two suggested revisions include (a) requirement to report services provided within the City, quantity of materials collected, and facility to which materials were delivered for recycling or disposal and (b) authority for the City to designate facilities for material delivery if so desired. The first revision will provide the City with a more complete understanding of how all waste generated within the City is managed, as well as help ensure that all waste diversion is being counted. The latter revision will enable the City to direct materials to facilities that might be developed by the City, such as the mini-MRF mentioned above. Increasing

waste diversion will require an investment by the City in equipment and facilities; therefore, the City should ensure that sufficient materials are received to fully utilize this investment.

6.2.2 Organics Program

A program to divert food waste and other organics from disposal and to compost these materials using the modified static aerobic pile (MSAP) method at the City compost facility is another key element of the proposed plan. This is also included in Phase 1.

The food waste pilot program demonstrated the feasibility of utilizing the MSAP method to compost food waste along with yard waste at the facility. Because of the shorter composting time required with the MSAP method (60 days versus 4-6 months with the existing windrow composting system), more material can be composted on the same amount of land. The estimated capacity of the City's 3.2-acre composting pad using the MSAP method should be more than adequate to manage the additional organic materials anticipated if the City expands its organics program to include food waste and other compostable materials. The pilot program also demonstrated the feasibility of collecting food waste from businesses and institutions utilizing roll carts.

Facility

The first step is to obtain a Type CO permit to allow composting of food waste and other organic materials at the City's compost facility. The City has already initiated the permit application process. Because the existing facility would be utilized, no new equipment should be required for composting operations, and existing equipment would be replaced on the previously established schedule. An operational plan has already been developed for the permit application. Food stock generally produces a higher quality compost, so the City should explore additional markets for this finished product to maximize revenue.



Picture 6-3: Food Waste in Compost Pile during Fayetteville Pilot



Picture 6-4: Turning Food Waste into Compost Pile

Programs

As with single stream recycling, more detailed program plans will need to be developed and implemented for the three main generator sectors. Because the City's compost facility is established and operational, the plan proposes initiating a commercial and institutional food waste program fairly quickly.

- 1) Commercial sector: The initial focus of a food waste program should be on large commercial food waste generators, such as supermarkets, restaurants, and institutions. The proposed plan includes initiating a voluntary commercial food waste and low-grade paper collection and composting program in 2017. The program plan should initially focus on these large generators, but also include a strategy for expanding the program over time.

The technical assistance program mentioned above should be a comprehensive program that works with property owners and managers to establish not only recycling, but also organics collection programs. Likewise, the full-time commercial/multi-family recycling coordinator mentioned above will lead this effort. Food waste is typically collected in carts.

- 2) Curbside residents: Roll-out of a residential food waste program is proposed for 2019 after single stream recycling has been established. This timeframe can be adjusted based on the City's priorities. To minimize collection costs, the plan proposes collecting food waste and low-grade paper with yard waste in compostable bags or resident-provided containers. The City could also consider providing carts for organic materials. The organics program will need to be an integral part of the communications plan and education materials provided to residents.
- 3) Multi-family complexes: The plan does not include collecting food waste from multi-family complexes because of the inherent difficulties in educating an often transient population to ensure a clean material stream for composting.

Policies

The proposed policies to support the organics program are similar to those outlined above for single stream recycling. They include the following:

- 1) Modify building codes to require new commercial developments that are expected to generate substantial quantities of food waste to provide adequate space and access for food waste collection containers.



Picture 6-5: Screening Finished Compost

- 2) Establish universal organics recovery for commercial businesses and institutions that generate substantial quantities of food waste in which the cost of organic materials collection and composting would be included in the base service fee.
- 3) Require private haulers of segregated food waste to report to the City. During the food waste pilot program, several businesses indicated they were already collecting food waste which was being collected by a private company for use as animal feed. City Code (Section 50.29) prohibits emptying garbage or trash receptacles or conveying garbage or trash on the streets or public thoroughfares of the City without the City's authorization. Therefore, these companies likely require some form of authorization or franchise from the City. At a minimum, the City should require these private companies to report the quantities of food waste collected within the City and where it is delivered so this material can be included in the City's diversion rate.

6.2.3 C&D Debris Processing

In 2015, the City managed approximately 15,000 tons of C&D debris and other bulky waste, more than 70% of which consisted of materials that could potentially be recycled based on a visual audit. Development within the City has been increasing, which gives reason to believe that this tonnage may remain at this level or continue to increase. Additional C&D debris is collected by private companies franchised by the City. These franchisees typically do not deliver C&D debris to the City's transfer station.

The proposed plan places priority on residential and commercial recycling and composting programs first, after which C&D debris is addressed. This prioritization can be adjusted as needed and as Division staff is able to expand its focus.

The C&D material recovery industry is evolving in Northwest Arkansas. Although no C&D MRF is currently operating, permits are pending for 2 privately owned facilities. The City should monitor the activities of these facilities and any other local or regional C&D MRFs that might develop to determine the best course of action when ready to address C&D debris.

The proposed plan considers 2 approaches depending on whether private C&D material processing capacity develops in the region or if the City decides to develop a C&D MRF.

- If the City does not develop a C&D MRF but private processing capacity exists, the proposed plan recommends establishing C&D debris recycling and waste diversion (includes reduction and reuse) standards, and linking these standards to the permitting process.
- If the City develops a C&D MRF, the proposed plan recommends establishing policies that would help ensure the financial viability and operational efficiency of such a facility.

These approaches are not mutually exclusive, but both might not be needed depending on the policies the City is willing to establish to implement each approach. This is further discussed below.

Facility

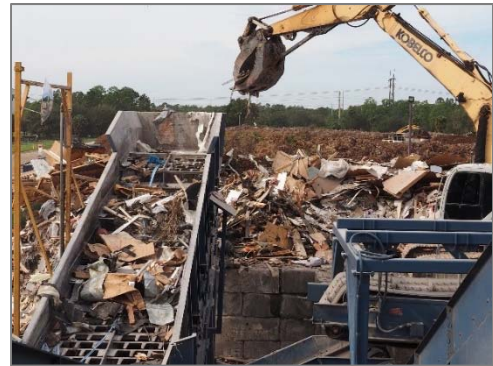
If one or more privately owned C&D MRFs become permitted and operational in Northwest Arkansas, the City should meet with facility representatives to determine the role each might play in maximizing recycling of C&D debris generated in the City. An analysis would be needed regarding the feasibility of contracting with a private C&D MRF to process C&D and bulky waste collected or received by the City. Factors such as facility location and transportation and processing fees would need to be considered.

If no privately owned C&D MRF becomes permitted, the City should consider developing a City-owned facility. Under this option, the proposed plan includes a C&D debris recycling pilot program in 2019 to manually recover recyclable materials at the transfer station. This pilot would provide a more accurate understanding of the types and quantities of materials in the C&D and bulky waste received at the transfer station.

Should the pilot confirm the presence of substantial quantities of recyclable materials, the plan includes development of a basic C&D MRF. Although the quantity of C&D and bulky waste collected by the City is relatively low to justify this investment, the City has the potential to grow this business or to designate, through its collection franchises, where C&D debris collected by franchisees is delivered (see policies below).

C&D MRFs utilize a combination of equipment and manual labor. Generally the larger the tonnage throughput, the more financially viable to have a more highly mechanized system. Depending on the composition of the infeed materials and local markets, recovery rates of at least 70% are typically achieved.

While specific equipment varies, a basic C&D debris processing line utilizes screening/separating equipment to sort material by size; a conveyor with bunks for manually sorting recyclable materials such as scrap metal, wood, yard waste, shingles, cardboard, etc.; and a magnetic separator to recover ferrous metals. The City currently has markets for metals and cardboard, but would need to identify markets for wood and other recovered materials. Clean, untreated wood could be reused, with the remainder potentially ground for fuel.



Picture 6-6: Vibrating Finger Screen at C&D MRF



Picture 6-7: Manual Sorting Line at C&D MRF

Programs

If the City does not develop a C&D MRF, the proposed plan recommends developing a program to implement C&D recycling and waste diversion standards (as discussed in the policies below). The program would establish a system for those seeking permits to submit diversion plans for review, define the documentation needed to demonstrate diversion, and set fees if diversion standards are not met. It would also involve working with the franchised haulers to inform them of the C&D diversion standards and program.

C&D diversion standards could be established even if the City develops a C&D MRF; however, an alternate approach would be to establish policies that direct C&D generated within the City to the City's MRF (see policies below), which would ensure all C&D debris would be processed for material recovery.

Policies

If the City does not develop a C&D MRF, the proposed plan recommends establishing C&D recycling and waste diversion standards to be met by all projects requiring a permit for construction, demolition, or renovation. Permittees could segregate materials at the work site or contract with the City or a franchised hauler to collect mixed C&D debris and deliver it to a C&D MRF for processing. Permittees would need to document how the material was handled and how much was reused, recycled, and disposed.

If the City develops a C&D MRF, policies to help maximize the operational efficiency and ensure the financial viability of the facility include the following:

- Designation of a processing facility for C&D debris in collection franchises: The City could increase tonnage to the MRF by revising its franchise agreements to require delivery of all C&D debris collected within the City to the MRF.
- Lower tipping fee for source-separated C&D materials: To further enhance material recovery and improve operational efficiencies, the City could offer a lower tipping fee for source-segregated C&D materials such as wood, metals, etc. This would encourage do-it-yourselfers and contractors to separate materials prior to delivery to the City. It would also provide the City with materials that require minimal processing prior to marketing.
- Lower tipping fee for C&D debris: If the City does not wish to require franchised haulers to deliver C&D debris to a City-owned MRF, the City could offer a lower tipping fee for C&D debris to entice private haulers to deliver C&D debris to the City's facility rather than to the landfill. A more detailed analysis would be needed to determine a viable tipping fee that attracts more material, but also ensures the financial stability of the facility and program.

6.2.4 Communications and Technical Assistance

A well-planned and executed communications plan is an integral part of any effective materials management program. The plan should utilize an array of communication tools

(audio, video, text, graphics, social media). For an individual to absorb a message, a general rule of thumb has been that 5-7 touches, or points of information receipt, were required. However, because of the increasing number and types of sources of information we are bombarded with daily, some industry experts believe that 9-12 touches may be required to impact behavior change.

Specific recommendations on enhancing the City's existing communications program are provided in Section 3.4.

A technical assistance program goes hand-in-hand with a communications plan. Owners or managers of businesses, institutions, and multi-family complexes will require not only a concerted effort to educate them about recycling, but also a comprehensive technical assistance program to provide the tools and knowledge to help them set up effective recycling and organics recovery systems. Key elements of a technical assistance program are outlined in Section 3.5. The City will need to work with property owners, managers, and tenants on an ongoing basis to actively engage this sector in waste reduction and recycling.

To develop and implement an effective communications plan and technical assistance program will require a commitment of resources by the City. Therefore, the plan proposes a designated commercial/multi-family recycling coordinator.

6.2.5 Green City Program – Lead by Example

Initiating a progressive Green City Program that includes comprehensive recycling and organics recovery programs at City-owned or operated facilities will demonstrate the City's commitment to maximizing waste diversion, as well as serve as models for other businesses and institutions. Establishing comprehensive recycling programs in parks and at public events, venues, and areas instills an ethos of sustainability and encourages recycling at home, work, and play. For example, coupling recycling and trash receptacles (twinning the bins) in all public buildings and places would ensure that recycling is widely available and always an option.

Green City Programs usually extend beyond recycling to include broader sustainability policies, such as environmentally preferable purchasing (EPP), which entails establishing purchasing policies that include environmental considerations (e.g., recycled-content, product longevity, etc.) in addition to price when making purchasing decisions. Leveraging the purchasing power of governments can stimulate demand for greener products and has the potential to encourage and drive market innovation.

A Green City Program would require establishing a City policy to initiate the program and developing a detailed program plan and schedule. It should complement other sustainability efforts initiated by the City. The education and technical assistance materials previously discussed could be utilized for this program as well.

6.2.6 Supporting Policies

The key program elements outlined previously in this section have included recommended policies pertaining to that specific element. Should implementation of these action plan elements fail to achieve the City's desired diversion goals, the City may wish to implement additional policies that further encourage or incentivize waste reduction and recycling. Some of the various policies utilized by other local governments were discussed in Section 3.9. Outlined below are several policies that are included in the proposed plan:

- 1) Disposal bans: At least 47 states ban the disposal of one or more items, including Arkansas, which bans the landfilling of lead-acid batteries and yard waste.⁴⁴ Communities reporting some of the highest recycling rates have employed disposal bans for items such as recyclable materials, yard waste, food waste, and unprocessed C&D debris. Such bans generally apply to entities that generate substantial quantities of the targeted material. Bans are usually phased in with a grace period prior to enforcement or fines. The plan proposes the City consider disposal bans on recyclable materials included in the City program, yard waste, and food waste should diversion goals not be achieved. Any such ban would need to be carefully developed and executed.
- 2) Every other week trash collection: Once food waste is captured with the organics stream and the quantity of trash generated by residents is significantly reduced through recycling, trash should no longer need to be collected on a weekly basis. Some progressive communities with effective organics recovery programs offer residents the option of every other week or even monthly trash collection (organic materials continue to be collected weekly). Should the City wish to implement this policy, it would also need to be carefully planned and executed. While collecting trash on a biweekly basis would lower costs and further encourage waste reduction and recycling participation, the City would need to ensure all putrescible materials are collected on a weekly basis.

As the City progresses in implementing changes to its materials management system, additional policies will undoubtedly warrant consideration. For example, product bans for items such as expanded polystyrene food service ware and retail plastic bags were considered during the planning process. Once an effective infrastructure is established for recovering and managing greater quantities of recyclable and compostable materials, consideration might then be given to policies that discourage generation of waste products that cannot be reused, recycled, or composted.

6.3 Next Steps

The primary objective of this Master Plan is to provide policy, program, and facility recommendations for the City to develop an efficient, cost-effective materials management

⁴⁴ The Northeast Recycling Council, Inc. (NERC), *Disposal Bans and Mandatory Recycling in the United States*, June 24, 2011, p.1.

system that maximizes waste reduction and recycling and puts the City on a path to attaining its goal of 80% waste diversion.

The planning process included a baseline and operational analysis of the City's existing waste management system, waste composition study, meetings and surveys to obtain community and stakeholder input, evaluation of potential waste reduction and diversion options, two pilot programs to gain City-specific experience with several of these options, and modeling of various waste diversion options. This Master Plan provides the results of these various tasks, as well as a proposed action plan based on these results to strive to maximize waste diversion.

Combined, the key elements of the proposed action plan work synergistically. A scenario model that included these key elements resulted in a 50% diversion rate by the end of the 10-year planning period. Actual results may vary depending on the commitment of resources and decisions made during implementation. If the various elements of the proposed action plan are optimized by establishing supportive policies and incentives, a diversion rate exceeding 50% should be feasible. However, achieving the City's stated goal of 80% diversion will likely require more aggressive actions, such as policies that discourage the use of products resulting in waste that cannot be recycled or composted or programs to recover hard-to-recycle materials.

Achieving even a 50% waste diversion rate requires a nearly three-fold increase in the City's current rate of 18%. Change of this magnitude will require an intentional consciousness on the part of elected officials and City staff to commit to and bring about this change. This commitment will need to be communicated to residents and businesses to engage them and bring about behavioral change.

A three-fold increase in waste diversion will also require transformation of all facets of the City's existing materials management system, including facilities, operations, programs, public and business outreach, policies, and fee structures. The proposed action plan outlined in this section is intended to help bring about these changes. Outlined on the next page are the first steps recommended to initiate implementation of the proposed action plan.

The proposed plan is intended to be dynamic. As key elements are implemented, programs should continuously be evaluated and enhanced, facilities monitored and optimized, and additional supporting policies considered.

In conclusion, this Master Plan provides a roadmap to assist the City in significantly increasing its waste diversion rate and to put the City on a path toward 80% diversion. This plan identifies the greatest opportunities to divert additional waste from being landfilled, evaluates options for targeting these materials, and then provides a proposed action plan to implement the key diversion elements considered most applicable and beneficial to the City. The success of the plan will ultimately depend on the City's commitment to its waste diversion goal and proactive implementation of key waste diversion elements of the plan.

RECOMMENDED INITIAL IMPLEMENTATION STEPS

To develop an environmentally and economically sustainable materials management system that maximizes waste diversion and minimizes waste disposal, the following steps are recommended to initiate implementation of the proposed action plan:

1. Provide conceptual approval of the proposed action plan with implementation of key elements dependent on acceptance of detailed implementation plans.
2. Approve a policy to pursue conversion to single stream recycling.
3. Conduct an RFP process to either contract for single stream processing services at a privately developed regional state-of-the-art single stream MRF or to develop a City-owned single stream mini-MRF. Identify potential sites for development of a City-owned facility.
4. Develop a detailed single stream conversion plan and schedule.
5. Obtain a Type CO permit for the City's compost facility.
6. Develop a detailed plan and schedule for initiating a voluntary organics recovery program, focusing initially on large food waste generators and schools.
7. Hire a commercial/multi-family recycling coordinator to provide the technical, educational, and oversight support necessary to implement effective recycling programs.
8. Develop a communications plan to announce the City's commitment to waste diversion and to get buy-in to new initiatives.
9. Develop a technical assistance program to inform businesses, institutions, and multi-family complexes of the City's waste diversion commitment and help them prepare for new recycling initiatives.
10. Adopt a Green City Initiative directing all City-owned or operated buildings to establish comprehensive recycling, organics recovery, and environmentally preferable purchasing programs.
11. Modify City building codes to require new commercial and multi-family developments to provide adequate space and access for recycling and organics recovery (for large commercial food waste generators).
12. Revise and reissue nonexclusive franchise agreements to (a) require reporting to City regarding types, quantities, and deposition of all materials collected within the City and (b) enable the City to designate a facility if it so chooses.



TECHNICAL MEMORANDUM NO. 1

DATE: April 20, 2015
TO: Jeff Cole, Recycling and Trash Collection Director
City of Fayetteville, AR
FROM: Robin Mitchell, Project Manager
SUBJ: Waste Composition Study
PROJ #: 173-00.00

1. Introduction

This technical memorandum provides the results of the Waste Composition Study (WCS) conducted by Kessler Consulting, Inc. (KCI) for the City of Fayetteville (City). The purpose of the WCS was to determine the percentage by weight of various types of materials found in solid waste disposed by the City's residents and businesses. In addition, the WCS included roadside litter samples as well as out-of-city materials received at the City's transfer station for disposal. It did not include waste collected by franchisees and delivered to facilities other than the City's transfer station. This information will assist in identifying opportunities for expanding and enhancing waste diversion.

Field work took place at the City's transfer station from January 26-30, 2015. During the study, KCI pulled and manually hand-sorted samples from 32 loads of City-collected residential and commercial solid waste, 6 loads of out-of-city waste, and 4 litter samples. In addition, KCI conducted visual audits of 24 loads of drop box waste received at the transfer station. Drop box waste is primarily bulky waste and construction and demolition (C&D) debris collected in roll-off containers. Because of size and weight, drop box waste is not conducive to hand-sorting.

KCI also conducted a WCS of waste disposed by the University of Arkansas. The results of this study will be provided in a separate technical memorandum.

2. Methodology

KCI worked with City staff to develop a list of 36 material categories into which waste would be sorted (see Attachment A). To develop this list of material categories, KCI considered the following:

- Recyclable materials accepted in the City's recycling program.
- Additional types of materials that might potentially be recovered for recycling or composting in the future.

KCI provided a Study Supervisor, Sorting Supervisor, additional labor to assist with sorting activities, all sorting equipment, and safety gear. The City's transfer station staff provided the services of a loader and operator to pull samples at the direction of the Study Supervisor and remove waste upon

completion of sorting activities. KCI prepared and City staff reviewed and approved a site safety plan and sampling and sorting protocol, which were followed throughout the field work.

Four generator sectors were included in the manual sort: residential, commercial, out-of-city, and litter. Residential loads of waste included waste from multi-family residents using carts and commercial loads included waste from multi-family residents with dumpster service.

KCI determined the number of samples to be pulled from each generator sector based on scale house records for the period of October 20 – November 1, 2014 (see Table 1). During the 5-day sorting event, KCI pulled and manually sorted a total of 42 representative samples.

Table 1: Number of Samples by Generator Sector

Generator Sector (scale house code)	Tons	% of Sector tons	% of all MSW tons	# Samples
City Residential (100)	522.54	100.0%	26.9%	14
Residential Totals	522.54	100.0%	26.9%	12
City Commercial (110)	1020.04	98.2%	52.5%	19
City High School (514)	9.42	0.9%	0.5%	1
Trinity MF (545)	4.75	0.5%	0.2%	0
Domain Apartments (591)	4.05	0.4%	0.2%	0
Commercial Totals	1038.26	100.0%	53.4%	20
4D Sanitation (522)	131.21	34.3%	6.8%	1
Trash Away (512)	103.2	27.0%	5.3%	3
Cash Customers (000)	87.7	22.9%	4.5%	0
Madison County (515)	42.82	11.2%	2.2%	2
Courtesy Sanitation (County) (508)	13.89	3.6%	0.7%	0
Backwoods Trash (County) (531)	3.93	1.0%	0.2%	0
Out-of-City Totals	382.75	100.0%	19.7%	6
Total Waste Received	1943.55		100.0%	38
Roadside Litter Clean-up				4
Total Samples				42

Following the field work, KCI analyzed the data as outlined in the *ASTM Standard Test Method for Determination of the Composition of Unprocessed Municipal Solid Waste (D5231-92; reapproved 2008)* to determine the percentage, by weight, of each material category for each of the four generator sectors. In addition to the weighted average, the 90 percent confidence interval was calculated for each material category. The confidence interval indicates that, with a 90 percent level of confidence, the actual arithmetic mean (the arithmetic mean obtained if an infinite number of samples were sorted) is within the upper and lower limits shown. This provides an understanding of how much variation occurred in the quantity of that material category in the samples sorted. Generally, the more homogeneous the waste stream and the greater the number of samples sorted, the higher the level of accuracy achieved and the narrower the margin between the upper and lower bounds of the confidence interval.

Data for the residential and commercial generator sectors was then combined, based on the quantity of waste each contributed to the waste stream in 2014, to calculate the overall composition of the City waste that is disposed, excluding drop box waste. This is referred to throughout this memorandum as the City Aggregate Waste.

In addition to the manual sorting activities, visual characterizations were made of 24 loads of drop box waste over the course of the 5 days of field work. The same person conducted all of the visual characterizations to ensure consistency. These audits were also conducted as specified in the sampling and sorting protocol approved by City staff.

The visual characterization data was then analyzed to calculate the volumetric average of each material category, as well as the 90 percent confidence interval using a standard statistical t-test. The percent by volume of each material type present in the samples was then converted to percent by weight using industry-accepted conversion factors.

3. Results

The following tables and figures present the results of the manual sorting event for each individual generator sector, as well as for the City Aggregate Waste. Material categories are grouped by their potential to be recycled through the City's existing recycling program, other potentially recyclable materials, organics, and all other waste.

- **Residential Waste** (Table 2 and Figure 1; Attachment B provides the individual sample data) – More than 26 percent of residential waste consisted of paper and containers that could be recycled through the City's existing program. The percentages of newspaper (2.2 percent), recyclables containers (8.4 percent), and yard waste (1.4 percent) were lower than what is typically found in the residential waste stream. Seasonality likely played a factor; fewer cold drinks are generally consumed in colder weather and less yard waste is generated. Food waste comprised 18 percent of residential waste, and other types of potentially compostable material made up an additional 11 percent.
- **Commercial Waste** (Table 3 and Figure 2; Attachment C provides the individual sample data) – More than 30 percent of commercial waste consisted of paper and containers that are readily recycled. Food waste comprised 17 percent of commercial waste, and other types of potentially compostable material made up an additional 11 percent.
- **City Aggregate Waste** – Table 4 presents the combined composition of City residential and commercial waste disposed based on the relative amount of each stream disposed in 2014, as well as the estimated tons of each material type disposed in 2014.
- **Out-of-City Waste** (Table 5 and Figure 3; Attachment D provides the individual sample data) – Out-of-city waste received at the transfer station also contained significant quantities of materials that could potentially be recycled or composted; however, the City does not have direct control over this waste until it is received at the transfer station.
- **Litter** (Table 6 and Figure 4; Attachment E provides the data for the individual samples) – The litter sorted during the study consisted of materials collected by road crews. This table also contains the results of the October 2014 litter sort conducted by the City during the Lake Fayetteville clean-up. Both this study and the October study revealed substantial quantities of recyclable containers (27 percent and 23 percent respectively), the majority, by weight, of which was glass. Litter sorted during this study contained larger quantities of paper and yard waste,

whereas litter from the Lake Fayetteville clean-up contained more tires and rubber and plastic bags, reflective of the different sources of the litter.

Table 7 and Figure 5 provide the results of the visual characterization of the drop box waste. Attachment F provides the data from individual samples. Untreated and treated wood waste comprised the largest amount, both by volume and by weight, of drop box waste audited. Nearly 75 percent by weight of drop box waste audited has the potential to be recycled, including untreated wood, drywall, roofing shingles, corrugated cardboard and other paper, carpet and padding, metals and appliances, rigid plastics, and rock/brick/gravel. The composition of C&D debris and bulky waste can vary significantly over time; therefore, the City might want to periodically conduct additional visual audits.

Specific loads in particular offered the potential for diverting materials from disposal. A load from McBride Distributors consisted of 10.5 tons of expired beer in aluminum cans and glass bottles. Another load from Pinnacle Foods contained several Gaylord boxes of new aluminum catering trays.

Figure 6 depicts the overall composition of materials discarded in the City in 2014 based on tonnage data provided by City staff and results of the WCS. It includes materials that were recycled, composted, and disposed. As mentioned previously, some material categories might be underestimated due to seasonality. For example, more yard waste and recyclable containers would likely be found during warmer months. The City might want to consider a second composition study in the spring or summer, even if it is shorter or more limited in scope.

Even with the potential effect of seasonality, Figure 6 identifies the greatest opportunities for increasing waste diversion. Based on this analysis, if all recyclable paper and containers (19 percent of waste generated), other potentially recyclable materials (7 percent), compostable materials (19 percent), and potentially recyclable materials in the bulky waste stream (75 percent of 15 percent, or 11 percent) were diverted from disposal, the City would achieve a 76 percent diversion rate. This demonstrates the tremendous effort and progressive programs and policies that will be needed for the City to strive to achieve its 80 percent waste diversion goal.

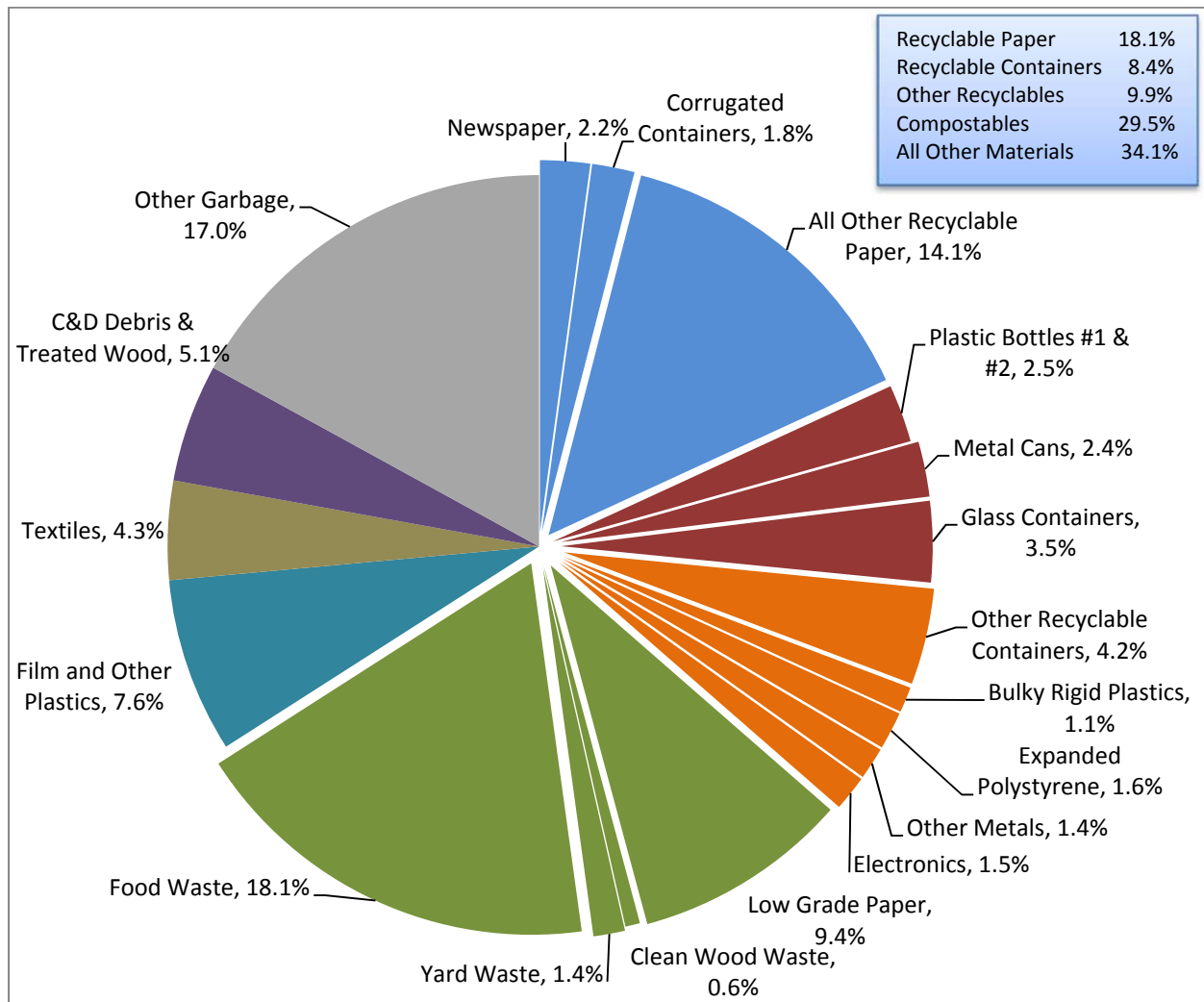
The results of this WCS will be further utilized and applied in the analysis of recycling opportunities as part of the broader Master Plan process.

Table 2: Composition of the City's Residential Waste Disposed (% by weight)

Material Category		Weighted Average	90% Confidence Interval	
			Lower Bounds	Upper Bounds
1	Newspaper	2.2%	1.2%	3.1%
2	Corrugated Containers	1.8%	1.2%	2.4%
3	Office Paper	3.8%	1.9%	5.7%
4	Other Recyclable Paper	10.3%	9.1%	11.6%
Total Accepted Recyclable Paper		18.1%		
7	PET Bottles	1.5%	1.3%	1.8%
8	HDPE Bottles	1.0%	0.6%	1.3%
15	Tin/Steel Cans	1.5%	1.1%	1.8%
18	Aluminum Cans	0.9%	0.5%	1.3%
20	Glass Containers	3.5%	2.1%	4.9%
Total Accepted Recyclable Containers		8.4%		
6	Aseptic Containers	0.3%	0.2%	0.5%
9	Other Non-Bottle Plastics #1 and #2	1.7%	1.2%	2.1%
10	Other Plastic Containers (#3-#7)	2.2%	1.8%	2.5%
11	Bulky Rigid Plastics	1.1%	0.7%	1.5%
13A	EPS Food Service	1.2%	1.0%	1.4%
13B	EPS Packaging	0.5%	0.4%	0.6%
16	White Goods/Small Appliances	0.3%	-0.2%	0.9%
17	Other Ferrous	0.7%	0.4%	1.0%
19	Other Non-Ferrous	0.4%	0.3%	0.5%
24	Electronics	1.5%	0.7%	2.4%
Total Potentially Recyclable Materials		9.9%		
5	Low Grade Paper	9.4%	8.0%	10.8%
26	Clean Wood Waste	0.6%	0.1%	1.1%
30	Yard Waste	1.4%	-0.1%	2.9%
31	Food Waste	18.1%	15.6%	20.6%
Total Organics		29.5%		
12A	Retail Bags	1.2%	0.8%	1.5%
12B	Non-Rigid Plastic Film	5.6%	4.6%	6.6%
14	All Other Plastics	0.8%	0.5%	1.1%
21	Other Glass	0.4%	0.2%	0.5%
22	Textiles	4.3%	2.9%	5.7%
23	Special Wastes	0.2%	-0.1%	0.5%
25	Household Batteries	0.2%	0.0%	0.3%
27	Treated Wood Waste	0.8%	0.4%	1.3%
28	C&D Debris	4.3%	0.8%	7.9%
29	Tires and Rubber	0.1%	0.0%	0.2%
32	All Other Garbage	10.8%	8.6%	13.0%
33	Liquids	0.6%	0.2%	1.1%
34	Grit	4.8%	2.9%	6.7%
Total All Other Materials		34.1%		
TOTALS		100.0%		

Note: Columns might not appear to add correctly due to rounding.

Figure 1: Composition of the City's Residential Waste Disposed (% by weight)



Note: For the purpose of this chart:

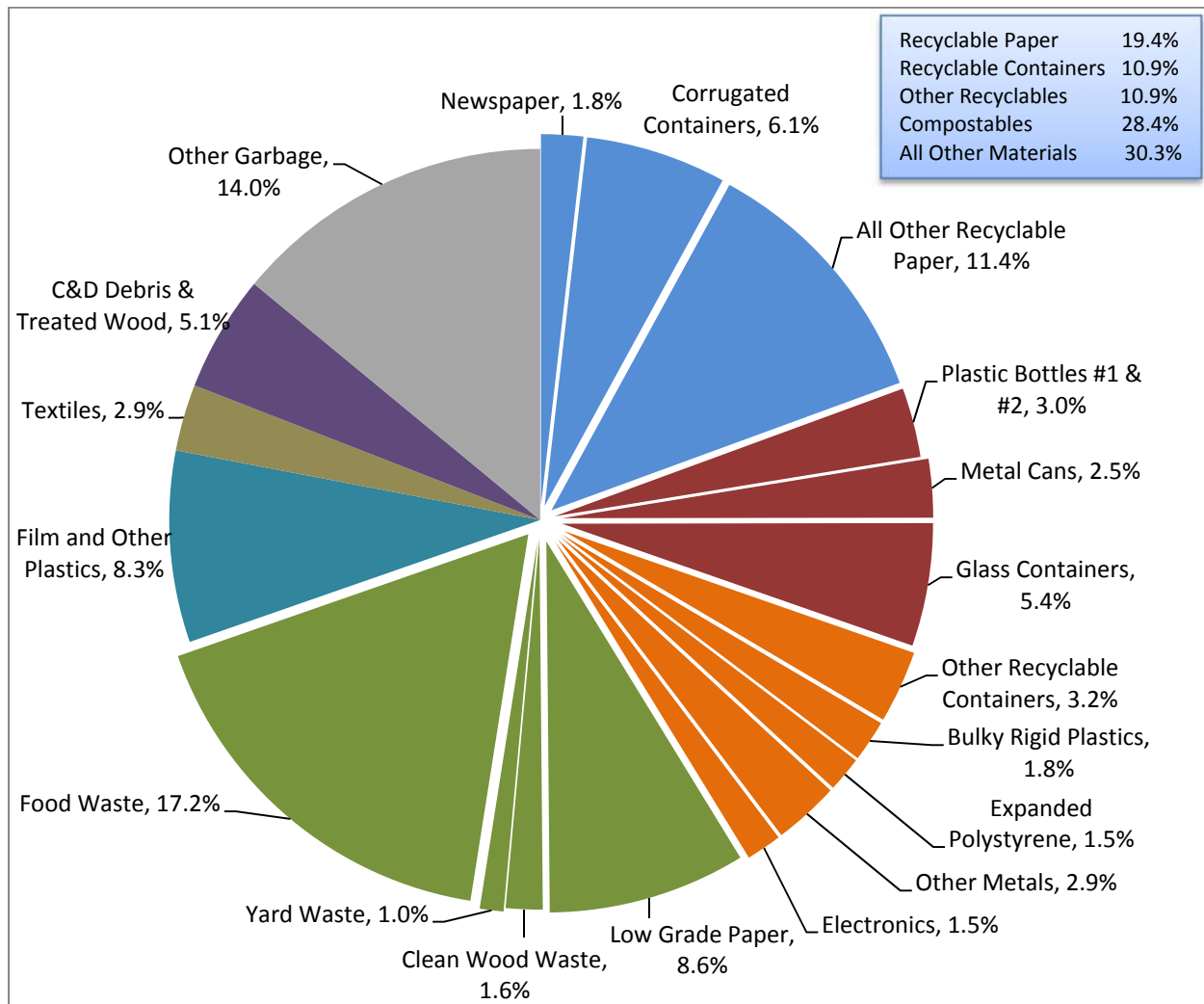
- All Other Recyclable Paper includes the categories of Office Paper and Other Recyclable Paper.
- Plastic Bottles #1 & #2 includes the categories of PET Bottles and HDPE Bottles.
- Metal Cans includes the categories of Aluminum Cans and Tin/Steel Cans.
- Other Recyclable Containers includes the categories of Aseptic Containers, Other Non-Bottle Plastics #1 and #2, and Other Plastic Containers (#3-#7).
- Expanded polystyrene includes the categories of EPS Food Service and EPS Packaging.
- Other Metals includes the categories of White Goods/Small Appliances, Other Ferrous, and Other Non-Ferrous.
- Film and Other Plastics includes the categories of Retail Bags, Non-Rigid Plastic Film, and All Other Plastics.
- Other Garbage includes the categories of Other Glass, Special Wastes, Household Batteries, Tires and Rubber, All Other Garbage, Grit, and Liquids.

Table 3: Composition of the City's Commercial Waste Disposed (% by weight)

Material Category		Weighted Average	90% Confidence Interval	
			Lower Bounds	Upper Bounds
1	Newspaper	1.8%	1.1%	2.5%
2	Corrugated Containers	6.1%	2.7%	9.6%
3	Office Paper	3.0%	2.0%	4.0%
4	Other Recyclable Paper	8.4%	5.6%	11.3%
Total Accepted Recyclable Paper		19.4%		
7	PET Bottles	1.7%	1.2%	2.2%
8	HDPE Bottles	1.4%	1.0%	1.7%
15	Tin/Steel Cans	1.5%	0.9%	2.2%
18	Aluminum Cans	1.0%	0.8%	1.2%
20	Glass Containers	5.4%	1.0%	9.7%
Total Accepted Recyclable Containers		10.9%		
6	Aseptic Containers	0.4%	0.2%	0.5%
9	Other Non-Bottle Plastics #1 and #2	1.0%	0.8%	1.3%
10	Other Plastic Containers (#3-#7)	1.8%	1.3%	2.2%
11	Bulky Rigid Plastics	1.8%	0.6%	3.1%
13A	EPS Food Service	1.1%	0.6%	1.6%
13B	EPS Packaging	0.4%	0.3%	0.5%
16	White Goods/Small Appliances	0.0%	0.0%	0.0%
17	Other Ferrous	1.2%	1.1%	1.3%
19	Other Non-Ferrous	1.6%	1.5%	1.7%
24	Electronics	1.5%	-4.2%	7.3%
Total Potentially Recyclable Materials		10.9%		
5	Low Grade Paper	8.6%	3.1%	14.1%
26	Clean Wood Waste	1.6%	1.6%	1.6%
30	Yard Waste	1.0%	1.0%	1.0%
31	Food Waste	17.2%	14.9%	19.5%
Total Organics		28.4%		
12A	Retail Bags	0.7%	0.5%	0.9%
12B	Non-Rigid Plastic Film	6.9%	5.3%	8.6%
14	All Other Plastics	0.7%	0.3%	1.2%
21	Other Glass	0.5%	0.3%	0.7%
22	Textiles	2.9%	2.6%	3.2%
23	Special Wastes	1.7%	1.7%	1.7%
25	Household Batteries	0.0%	0.0%	0.0%
27	Treated Wood Waste	1.9%	0.9%	3.0%
28	C&D Debris	3.1%	1.2%	5.1%
29	Tires and Rubber	0.3%	0.2%	0.4%
32	All Other Garbage	6.3%	4.9%	7.8%
33	Liquids	2.0%	1.7%	2.2%
34	Grit	3.2%	2.5%	3.9%
Total All Other Materials		30.3%		
TOTALS		100.0%		

Note: Columns might not appear to add correctly due to rounding.

Figure 2: Composition of City's Commercial Waste Disposed (% by weight)



Note: For the purpose of this chart:

- All Other Recyclable Paper includes the categories of Office Paper and Other Recyclable Paper.
- Plastic Bottles #1 & #2 includes the categories of PET Bottles and HDPE Bottles.
- Metal Cans includes the categories of Aluminum Cans and Tin/Steel Cans.
- Other Recyclable Containers includes the categories of Aseptic Containers, Other Non-Bottle Plastics #1 and #2, and Other Plastic Containers (#3-#7).
- Expanded polystyrene includes the categories of EPS Food Service and EPS Packaging.
- Other Metals includes the categories of White Goods/Small Appliances, Other Ferrous, and Other Non-Ferrous.
- Film and Other Plastics includes the categories of Retail Bags, Non-Rigid Plastic Film, and All Other Plastics.
- Other Garbage includes the categories of Other Glass, Special Wastes, Household Batteries, Tires and Rubber, All Other Garbage, Grit, and Liquids.

Table 4: Composition of City Aggregate Waste Disposed

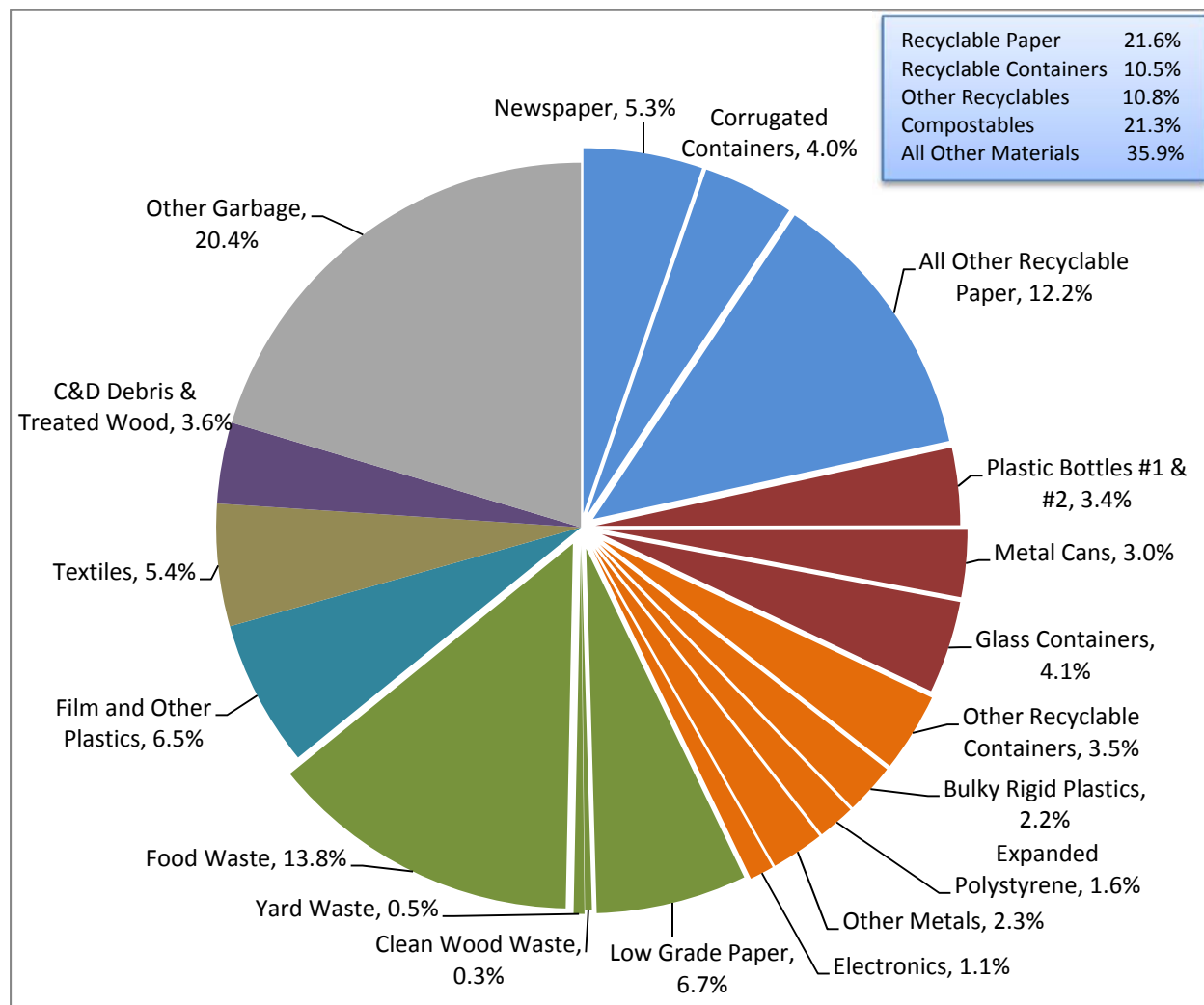
Material Category		Average % by Weight			Estimated Tons/Year (2014)		
		Residential	Commercial	Aggregate	Residential	Commercial	Aggregate
1	Newspaper	2.2%	1.8%	1.9%	307	487	794
2	Corrugated Containers	1.8%	6.1%	4.6%	261	1,635	1,896
3	Office Paper	3.8%	3.0%	3.3%	539	800	1,339
4	Other Recyclable Paper	10.3%	8.4%	9.1%	1,462	2,247	3,709
Total Accepted Recyclable Paper		18.1%	19.4%	19.0%	2,570	5,168	7,738
7	PET Containers	1.5%	1.7%	1.6%	216	443	658
8	HDPE Containers	1.0%	1.4%	1.2%	139	362	502
15	Tin/Steel Cans	1.5%	1.5%	1.5%	212	410	622
18	Aluminum Cans	0.9%	1.0%	1.0%	127	266	393
20	Glass Containers	3.5%	5.4%	4.7%	498	1,425	1,923
Total Accepted Recyclable Containers		8.4%	10.9%	10.0%	1,193	2,906	4,099
6	Aseptic Containers	0.3%	0.4%	0.4%	47	100	146
9	Other Non-Bottle Plastics #1 and #2	1.7%	1.0%	1.3%	238	276	514
10	Other Plastic Containers (#3-#7)	2.2%	1.8%	1.9%	308	466	775
11	Bulky Rigid Plastics	1.1%	1.8%	1.6%	156	480	637
13	EPS Food Service	1.2%	1.1%	1.1%	166	297	463
13B	EPS Packaging	0.5%	0.4%	0.4%	66	113	179
16	White Goods/Small Appliances	0.3%	0.0%	0.1%	46	11	57
17	Other Ferrous	0.7%	1.2%	1.0%	95	326	421
19	Other Non-Ferrous	0.4%	1.6%	1.2%	58	423	482
24	Electronics	1.5%	1.5%	1.5%	217	410	627
Total Potentially Recyclable Materials		9.9%	10.9%	10.5%	1,397	2,903	4,300
5	Low Grade Paper	9.4%	8.6%	8.9%	1,330	2,295	3,625
26	Clean Wood Waste	0.6%	1.6%	1.3%	90	427	517
30	Yard Waste	1.4%	1.0%	1.2%	195	275	470
31	Food Waste	18.1%	17.2%	17.5%	2,565	4,574	7,140
Total Organics		29.5%	28.4%	28.8%	4,180	7,571	11,752
12	Retail Bags	1.2%	0.7%	0.8%	164	183	346
12B	Non-Rigid Plastic Film	5.6%	6.9%	6.5%	799	1,840	2,638
14	All Other Plastics	0.8%	0.7%	0.8%	115	197	312
21	Other Glass	0.4%	0.5%	0.4%	53	129	182
22	Textiles	4.3%	2.9%	3.4%	609	771	1,381
23	Special Wastes	0.2%	1.7%	1.2%	27	451	478
25	Household Batteries	0.2%	0.0%	0.1%	28	12	40
27	Treated Wood Waste	0.8%	1.9%	1.6%	118	517	635
28	C&D Debris	4.3%	3.1%	3.5%	610	835	1,445
29	Tires and Rubber	0.1%	0.3%	0.2%	12	85	97
32	All Other Garbage	10.8%	6.3%	7.9%	1,528	1,687	3,215
33	Liquids	0.6%	2.0%	1.5%	87	520	608
34	Grit	4.8%	3.2%	3.7%	676	845	1,521
Total All Other Materials		34.1%	30.3%	31.6%	4,825	8,073	12,898
TOTALS		100.0%	100.0%	100.0%	14,165	26,621	40,786

Table 5: Composition of Out-of-City Waste Received at the City Transfer Station (% by weight)

Material Category		Weighted Average	90% Confidence Interval	
			Lower Bounds	Upper Bounds
1	Newspaper	5.3%	-0.1%	10.6%
2	Corrugated Containers	4.0%	1.1%	7.0%
3	Office Paper	3.9%	0.4%	7.4%
4	Other Recyclable Paper	8.3%	5.8%	10.9%
Total Accepted Recyclable Paper		21.6%		
7	PET Bottles	2.1%	1.4%	2.8%
8	HDPE Bottles	1.3%	0.7%	2.0%
15	Tin/Steel Cans	2.2%	1.5%	2.8%
18	Aluminum Cans	0.8%	0.6%	1.1%
20	Glass Containers	4.1%	2.5%	5.7%
Total Accepted Recyclable Containers		10.5%		
6	Aseptic Containers	0.6%	-0.1%	1.4%
9	Other Non-Bottle Plastics #1 and #2	1.2%	0.8%	1.6%
10	Other Plastic Containers (#3-#7)	1.7%	0.7%	2.6%
11	Bulky Rigid Plastics	2.2%	-1.1%	5.6%
13A	EPS Food Service	1.2%	0.3%	2.2%
13B	EPS Packaging	0.4%	0.2%	0.7%
16	White Goods/Small Appliances	0.5%	-0.5%	1.5%
17	Other Ferrous	1.4%	0.0%	2.9%
19	Other Non-Ferrous	0.4%	0.2%	0.6%
24	Electronics	1.1%	0.1%	2.0%
Total Potentially Recyclable Materials		10.8%		
5	Low Grade Paper	6.7%	4.6%	8.7%
26	Clean Wood Waste	0.3%	-0.1%	0.7%
30	Yard Waste	0.5%	-0.2%	1.2%
31	Food Waste	13.8%	12.0%	15.6%
Total Organics		21.3%		
12A	Retail Bags	1.1%	0.6%	1.7%
12B	Non-Rigid Plastic Film	4.8%	3.0%	6.5%
14	All Other Plastics	0.6%	0.5%	0.8%
21	Other Glass	4.5%	-2.3%	11.3%
22	Textiles	5.4%	1.2%	9.6%
23	Special Wastes	0.0%	0.0%	0.1%
25	Household Batteries	0.2%	0.0%	0.3%
27	Treated Wood Waste	0.4%	0.2%	0.6%
28	C&D Debris	3.2%	-0.8%	7.2%
29	Tires and Rubber	2.0%	-0.6%	4.6%
32	All Other Garbage	7.4%	5.0%	9.8%
33	Liquids	1.9%	0.0%	3.7%
34	Grit	4.4%	2.1%	6.8%
Total All Other Materials		35.9%		
TOTALS		100.0%		

Note: Columns might not appear to add correctly due to rounding.

Figure 3: Composition of Out-of-City Waste Received at the City Transfer Station (% by weight)



Note: For the purpose of this chart:

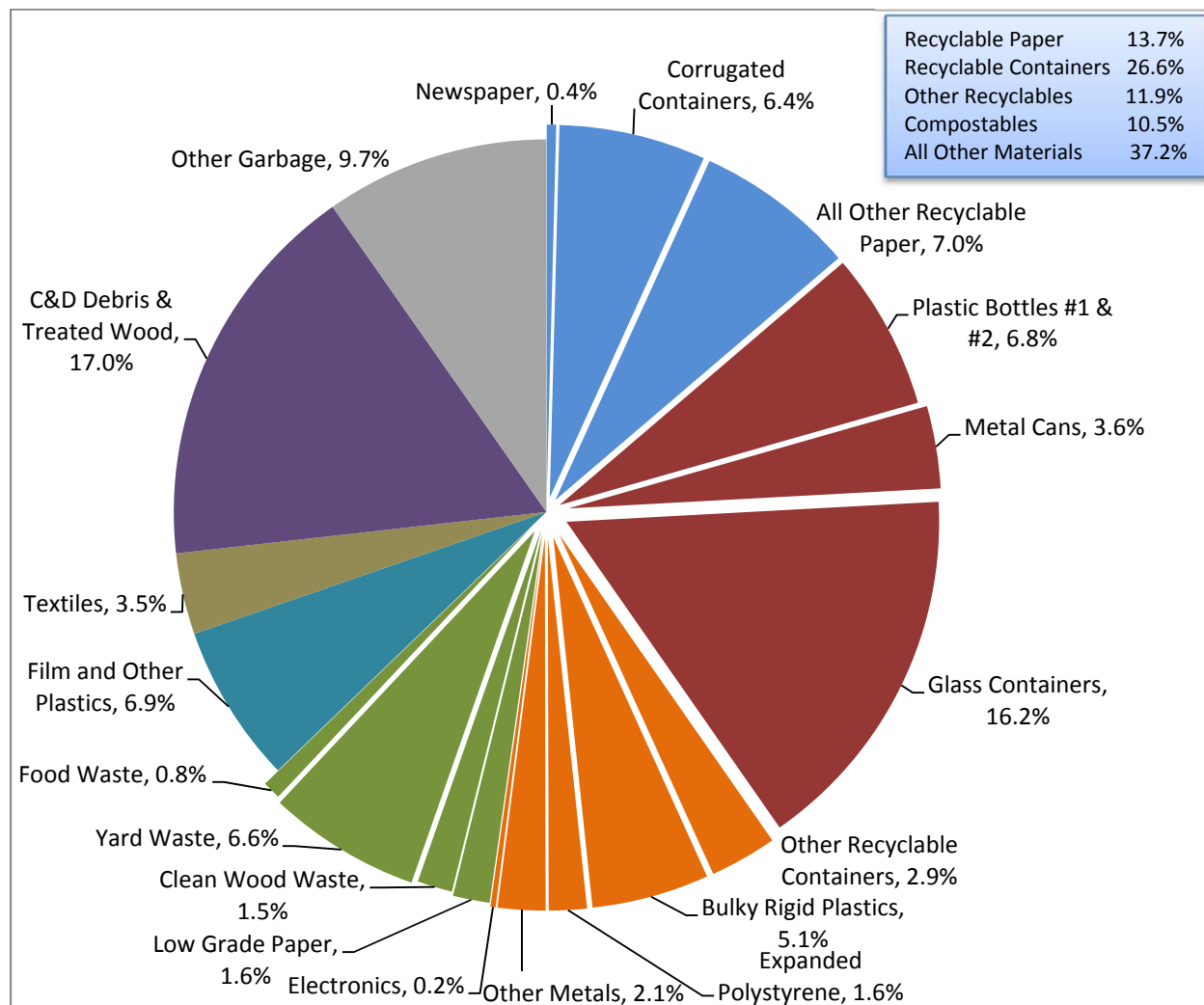
- All Other Recyclable Paper includes the categories of Office Paper and Other Recyclable Paper.
- Plastic Bottles #1 & #2 includes the categories of PET Bottles and HDPE Bottles.
- Metal Cans includes the categories of Aluminum Cans and Tin/Steel Cans.
- Other Recyclable Containers includes the categories of Aseptic Containers, Other Non-Bottle Plastics #1 and #2, and Other Plastic Containers (#3-#7).
- Expanded polystyrene includes the categories of EPS Food Service and EPS Packaging.
- Other Metals includes the categories of White Goods/Small Appliances, Other Ferrous, and Other Non-Ferrous.
- Film and Other Plastics includes the categories of Retail Bags, Non-Rigid Plastic Film, and All Other Plastics.
- Other Garbage includes the categories of Other Glass, Special Wastes, Household Batteries, Tires and Rubber, All Other Garbage, Grit, and Liquids.

Table 6: Composition of the Litter Stream (% by weight)

Material Category		Weighted Average	90% Confidence Interval		October 2014 Litter Sort (% by weight)
			Lower Bounds	Upper Bounds	
1	Newspaper	0.4%	0.0%	0.8%	0.0%
2	Corrugated Containers	6.4%	1.7%	11.0%	0.0%
3	Office Paper	1.2%	0.2%	2.2%	0.0%
4	Other Recyclable Paper	5.8%	3.7%	7.9%	0.0%
Total Accepted Recyclable Paper		13.7%			0.0%
7	PET Bottles	6.3%	5.9%	6.8%	7.5%
8	HDPE Bottles	0.5%	0.1%	0.9%	0.9%
15	Tin/Steel Cans	0.4%	0.1%	0.7%	0.0%
18	Aluminum Cans	3.1%	2.1%	4.2%	3.3%
20	Glass Containers	16.2%	14.1%	18.2%	11.0%
Total Accepted Recyclable Containers		26.6%			22.7%
6	Aseptic Containers	0.1%	0.0%	0.3%	0.0%
9	Other Non-Bottle Plastics #1 and #2	0.6%	0.5%	0.8%	0.0%
10	Other Plastic Containers (#3-#7)	2.1%	1.7%	2.6%	2.2%
11	Bulky Rigid Plastics	5.1%	-2.1%	12.3%	2.8%
13A	EPS Food Service	1.3%	1.0%	1.6%	5.0%
13B	EPS Packaging	0.4%	0.0%	0.7%	
16	White Goods/Small Appliances	0.0%	0.0%	0.0%	0.0%
17	Other Ferrous	1.9%	-0.1%	3.9%	0.2%
19	Other Non-Ferrous	0.1%	0.1%	0.2%	0.3%
24	Electronics	0.2%	-0.1%	0.5%	0.0%
Total Potentially Recyclable Materials		11.9%			10.5%
5	Low Grade Paper	1.6%	-0.7%	3.9%	2.1%
26	Clean Wood Waste	1.5%	-1.6%	4.7%	0.0%
30	Yard Waste	6.6%	5.2%	8.0%	0.0%
31	Food Waste	0.8%	-0.3%	1.9%	0.0%
Total Organics		10.5%	10.5%		2.1%
12A	Retail Bags	1.2%	-0.4%	2.9%	12.5%
12B	Non-Rigid Plastic Film	4.7%	3.2%	6.2%	
14	All Other Plastics	1.0%	0.2%	1.7%	2.7%
21	Other Glass	1.4%	-0.7%	3.5%	0.0%
22	Textiles	3.5%	1.2%	5.9%	2.7%
23	Special Wastes	0.1%	-0.1%	0.2%	0.4%
25	Household Batteries	0.0%	0.0%	0.0%	0.0%
27	Treated Wood Waste	12.0%	-13.4%	37.5%	17.2%
28	C&D Debris	5.0%	-4.0%	14.1%	0.7%
29	Tires and Rubber	0.4%	-0.1%	0.8%	16.6%
32	All Other Garbage	4.7%	2.1%	7.2%	11.9%
33	Liquids	3.1%	-1.4%	7.6%	0.0%
34	Grit	0.1%	-0.1%	0.3%	0.0%
Total All Other Materials		37.2%			64.7%
TOTALS		100.0%			100.0%

Note: Columns might not appear to add correctly due to rounding.

Figure 4: Composition of the Litter Stream (% by weight)



Note: For the purpose of this chart:

- All Other Recyclable Paper includes the categories of Office Paper and Other Recyclable Paper.
- Plastic Bottles #1 & #2 includes the categories of PET Bottles and HDPE Bottles.
- Metal Cans includes the categories of Aluminum Cans and Tin/Steel Cans.
- Other Recyclable Containers includes the categories of Aseptic Containers, Other Non-Bottle Plastics #1 and #2, and Other Plastic Containers (#3-#7).
- Expanded polystyrene includes the categories of EPS Food Service and EPS Packaging.
- Other Metals includes the categories of White Goods/Small Appliances, Other Ferrous, and Other Non-Ferrous.
- Film and Other Plastics includes the categories of Retail Bags, Non-Rigid Plastic Film, and All Other Plastics.
- Other Garbage includes the categories of Other Glass, Special Wastes, Household Batteries, Tires and Rubber, All Other Garbage, Grit, and Liquids.

Table 7: Composition of the Drop Box Waste Disposed

Material Category	Weighted Average (% by volume)	90% Confidence Interval		Volume (cy)	Density (lbs./cy)	Estimated Weight (lbs.)	Weighted Average (% by weight)	Estimated Tons/Year (2014)
		Lower Bounds	Upper Bounds					
C&D - Untreated Wood	33.9%	24.6%	43.2%	236	400	94,209	39.9%	3,852
C&D - Treated Wood	13.9%	8.2%	19.5%	96	400	38,457	16.3%	1,572
C&D - Carpet/Padding	10.1%	5.0%	15.2%	70	84	5,880	2.5%	240
C&D - Drywall	5.2%	1.3%	9.1%	36	600	21,786	9.2%	891
C&D - Roofing Shingles	2.0%	0.2%	3.8%	14	731	10,173	4.3%	416
C&D - Rock/Brick/Gravel	1.6%	-1.9%	5.1%	11	1500	16,950	7.2%	693
C&D - Bagged Waste	0.7%	-0.6%	2.0%	5	150	691	0.3%	28
C&D - Ceramic Tiles	0.3%	-	-	2	1214	2,257	1.0%	92
Total C&D Debris	67.7%			469.7		190,403	80.6%	7,785
Paper - OCC	7.4%	4.3%	10.6%	52	50	2,585	1.1%	106
Paper - Other	0.7%	-12.2%	13.5%	5	363	1,649	0.7%	67
Total Paper	8.1%			56		4,234	1.8%	173
Plastic - Rigid	7.1%	3.7%	10.5%	49	50	2,467	1.0%	101
Plastic - Film	2.0%	-1.7%	5.8%	14	23	327	0.1%	13
Plastic - EPS/Insulation	0.9%	-3.2%	5.1%	7	17	111	0.0%	5
Total Plastics	10.1%			70		2,905	1.2%	119
Furniture - Mattresses	0.6%	-8.3%	9.5%	4	55	224	0.1%	9
Furniture - Furniture	0.6%	-8.3%	9.5%	4	145	631	0.3%	26
Total Furniture	1.2%			8		855	0.4%	35
Metal - Non Ferrous	5.9%	-1.2%	13.0%	41	150	6,118	2.6%	250
Metal - Ferrous	0.1%	-1.0%	1.2%	1	150	117	0.0%	5
Metal - Major Appliances	0.0%	-	-	0	145	46	0.0%	2
Metal - HVAC Ducting	0.0%	-	-	0	47	10	0.0%	0
Total Metal	6.1%			42		6,291	2.7%	257
Other - Glass Containers	2.6%	n/c	n/c	18	600	10,667	4.5%	436
Other - Bagged Waste	1.7%	-3.3%	6.7%	12	150	1,800	0.8%	74
Other - Yard Waste	0.9%	-3.1%	4.8%	6	300	1,834	0.8%	75
Other - Liquids	1.5%	n/c	n/c	11	1600	17,067	7.2%	698
Other - Textiles	0.1%	0.1%	0.1%	1	175	126	0.1%	5
Total Other Materials	6.8%			47		31,492	13.3%	1,288
TOTALS	100.0%	-	-	693.8	-	236,181	100.0%	9,657

Note: Columns might not appear to add correctly due to rounding.

Figure 5: Composition of Drop Box Waste Disposed

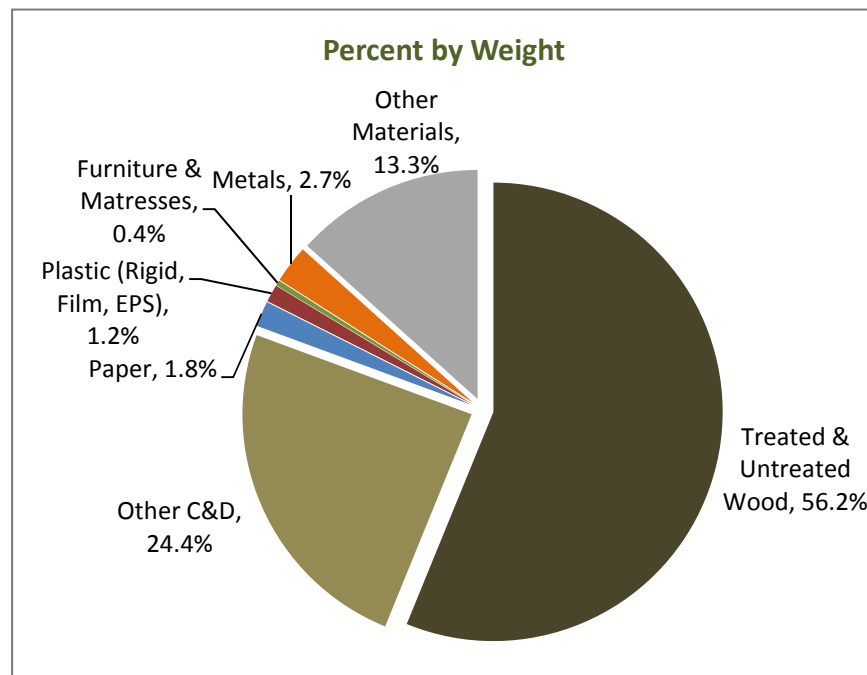
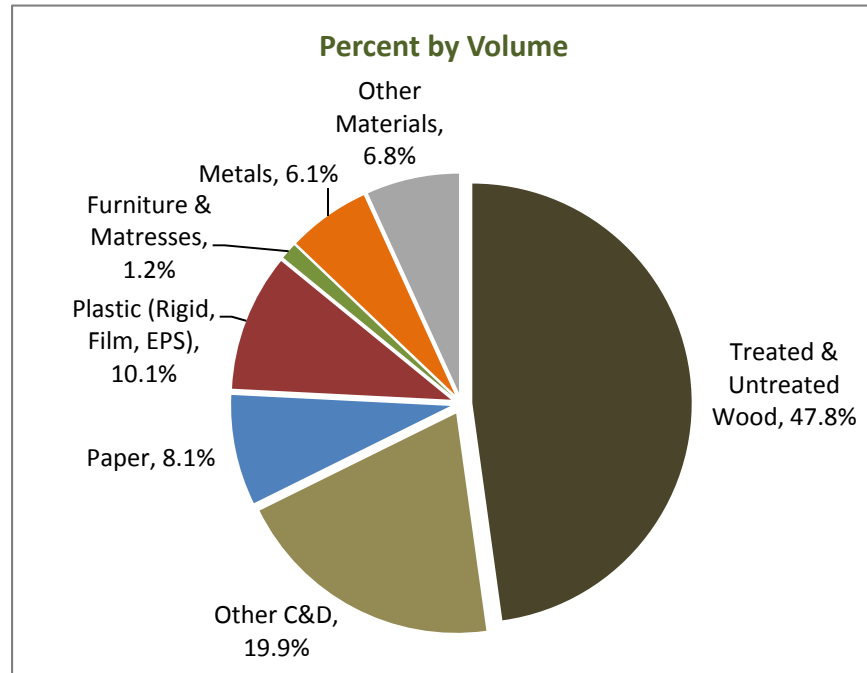
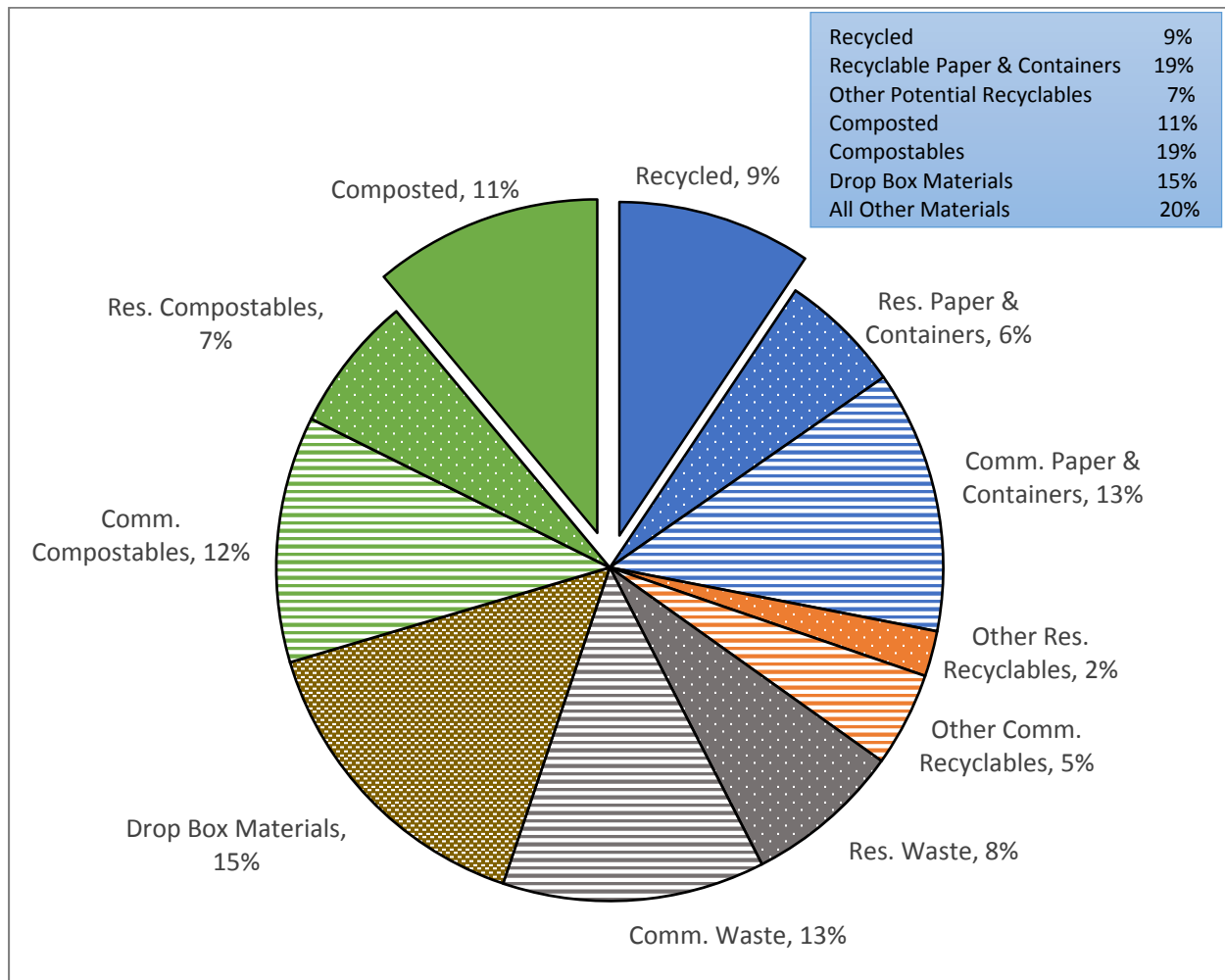


Figure 6: Composition of the Materials Discarded in the City, 2014 (% by weight)



Note: Columns might not appear to add correctly due to rounding.

Note: For the purpose of this chart:

- Paper & Containers includes the categories of Newspaper, Corrugated Containers, Office Paper, Other Recyclable Paper, PET Bottles, HDPE Bottles, Tin/Steel Cans, Aluminum Cans, and Glass Containers.
- Other Recyclables includes the categories of Aseptic Containers, Other Non-Bottles Plastics #1 and #2, Other Plastic Containers, Bulky Rigid Plastics, EPS Food Service, EPS, Packaging, White Goods/Small Appliances, Other Ferrous, Other Non-Ferrous, and Electronics.
- Compostables includes the categories of Low Grade Paper, Clean Wood Waste, Yard Waste, and Food Waste.
- Waste includes Retail Bags, Non-Rigid Plastic Film, All Other Plastics, Other Glass, Textiles, Special Wastes, Household Batteries, Treated Wood Waste, C&D Debris, Tires and Rubber, All Other Garbage, Grit, and Liquids found in residential and commercial waste (not including Drop Box waste).

ATTACHMENT A – Material Category Descriptions

#	Material Categories	Description of Categories
1	Newspaper	Newspaper (loose, tied, or shredded) including other paper normally distributed inside newspaper such as ads, flyers, etc.
2	Corrugated Cardboard (OCC)	Uncoated brown "cardboard" boxes with a wavy core (no plastic liners, waxy coatings).
3	Office Paper	Printed or unprinted paper typically generated in an office environment including white, colored, coated and uncoated papers, and manila and pastel colored file folders.
4	Other Recyclable Paper	All magazines, catalogs, paperboard, chipboard, brown paper bags, telephone books, and other printed material on glossy and non-glossy paper.
5	Low Grade Paper	All remaining paper not categorized in other paper categories, including waxy cardboard and contaminated paper (i.e., napkins, pizza boxes, paper towels, fast-food wrappers, etc.).
6	Aseptic Containers	Gable top milk cartons, juice boxes, and other similar containers.
7	Polyethylene terephthalate (PET) Bottles (SPI #1)	Clear and colored bottles or jars coded PET #1 such as soda bottles, water bottles, etc. These bottles/jars will typically have a screw-on lid or cap.
8	High-density polyethylene (HDPE) Bottles (SPI #2)	Clear/natural and pigmented bottles or jars coded HDPE #2 such as milk jugs, detergent bottles, etc. These bottles/jars will typically have a screw-on lid or cap.
9	Other Non-Bottle Plastics #1 and #2	Clear and colored plastic items labeled PET #1 such as clamshell containers, frozen food trays, disposable cups, and other items labeled PET #1. Also includes wide-mouthed tubs and containers labeled HDPE #2 including lids. Examples include yogurt cups, margarine tubs, Cool Whip® tubs, and other non-bottle HDPE items.
10	Other Recyclable Plastic Containers	All other plastic containers and cups, sometimes coded #3-#7.
11	Bulky Rigid Plastics	Consists of non-container rigid plastic items such as plastic drums, crates, buckets, baskets, toys, refuse totes, lawn furniture, flower pots, laundry baskets, and other large plastic items. <i>Does not include electronic toys.</i>
12 A	Retail Plastic Bags	Grocery bags, retail checkout bags, and other bags associated with the retail service industry.
12 B	Other Non-rigid Plastic Film	Garbage bags, bread bags, zipper-lock bags, plastic sheeting, saran wrap, visqueen, etc.
13 A	Expanded Polystyrene Foam (EPS) (Food Service)	Disposable coffee cups, to-go boxes, plates and other items associated with food service.
13 B	Expanded Polystyrene Foam (EPS) (Packaging)	Disposable packaging materials, which are typically white and are made of expanded polystyrene beads.
14	All Other Plastics	Any plastic materials not categorized above, such as deodorant cases, toothpaste tubes, tooth brushes, broom heads, etc.
15	Tin/Steel Cans	Tin-plated steel cans, usually food containers, and aerosol cans.
16	White Goods	Household appliances such as refrigerators, stoves, and salvageable items such as machinery.

ATTACHMENT A – Material Category Descriptions (continued)

#	Material Categories	Description of Categories
17	Other Ferrous	Steel, clothes hangers, sheet metal products, pipes, miscellaneous metal scraps, and other magnetic metal items.
18	Aluminum Cans	Aluminum soft drink, beer, and some food cans.
19	Other Non-Ferrous	Scrap aluminum, aluminum foil, and catering trays, and other non-magnetic metal, copper wiring and tubing, and brass fixtures.
20	Glass Containers	Clear, Brown, and Green glass bottles and containers.
21	Other Glass	Window panes, mirrors, ceramics, and drinking glasses.
22	Textiles	Clothing apparel, rags, leather, blankets, curtains, shoes, wallets, purses, belts, and scrap leather.
23	Special Wastes	Cleaners, oil, pool chemicals, fluorescent lights, medical waste, solvents, etc., that are considered household hazardous waste.
24	Electronics (E-waste)	Electronic devices such as televisions, computers, cell phones, cordless telephones, PDA, handheld devices, rechargeable batteries, etc.
25	Household Batteries	Household batteries including AA, AAA, C, D, 9-volt, and button types.
26	Clean Wood Waste	Untreated and unpainted lumber, pallets and dimensional lumber. Also includes untreated/unpainted wood furniture including chairs, cabinets, dressers, etc.
27	Treated Wood Waste	Treated and painted lumber, pallets, and dimensional lumber. Also includes treated/painted wood furniture including chairs, cabinets, dressers, etc.
28	C&D Debris	Construction and demolition debris that includes concrete, carpet, drywall, insulation, and roofing materials.
29	Tires and Rubber	Small and large tires and other items made of rubber.
30	Yard Waste	Shrub and brush prunings, household bedding plants, weeds, leaves, grass clippings, and other landscaping and gardening wastes.
31	Food Waste	Meat and vegetable waste (includes coffee grinds and tea bags).
32	All Other Garbage	All other wastes not included in the above categories, including diapers and products that are composite of materials such as frozen juice cans, binders, Pringle's can, chip bags, etc.
33	Liquids	All liquids found in containers will be emptied here.
34	Grit	Indistinguishable items less than 1-inch in diameter.

ATTACHMENT B – City Residential – Individual Sample Results

Hauler/Location		Residential Truck 4011 Monday Jan 26	Residential Truck 4010 Monday Jan 26	Residential Truck 4014 Monday Jan 26	Residential Truck Tuesday Jan 27
	Material Categories sample #	7	8	9	16
1	Newspaper	0.58%	1.12%	2.87%	1.17%
2	Corrugated Containers	1.37%	2.65%	1.09%	1.33%
3	Office Paper	13.65%	5.79%	3.09%	3.20%
4	Other Recyclable Paper	9.09%	11.64%	9.80%	10.41%
5	Low Grade Paper	5.37%	12.48%	11.25%	11.06%
6	Aseptic Containers	0.20%	0.00%	0.27%	0.80%
7	PET Bottles	0.63%	1.84%	1.42%	2.27%
8	HDPE Bottles	0.66%	0.91%	0.25%	1.14%
9	Other Non-Bottle Plastics #1 and #2	0.96%	0.87%	1.73%	4.07%
10	Other Plastic Containers (#3-#7)	1.97%	1.44%	2.25%	3.47%
11	Bulky Rigid Plastics	1.71%	1.03%	0.78%	0.00%
12A	Retail Bags	0.96%	1.18%	3.10%	1.11%
12B	Non-Rigid Plastic Film	6.30%	5.81%	3.24%	10.60%
13A	Styrofoam Food Service	0.66%	0.96%	0.75%	1.88%
13B	Styrofoam Packaging	0.53%	0.46%	0.25%	0.39%
14	All Other Plastics	2.00%	2.09%	0.27%	0.66%
15	Tin/Steel Cans	0.58%	0.67%	0.74%	2.78%
16	White Goods/Small Appliances	0.00%	0.00%	0.00%	0.00%
17	Other Ferrous	0.47%	0.77%	0.37%	0.17%
18	Aluminum Cans	0.17%	0.59%	0.58%	1.39%
19	Other Non-Ferrous	0.40%	0.00%	0.50%	0.61%
20	Glass Containers	1.30%	0.80%	1.37%	0.73%
21	Other Glass	0.58%	0.00%	0.00%	0.00%
22	Textiles	7.36%	4.12%	0.65%	1.44%
23	Special Wastes	0.06%	0.00%	0.00%	0.00%
24	Electronics	1.10%	1.88%	6.32%	1.74%
25	Household Batteries	0.00%	1.00%	0.00%	0.00%
26	Clean Wood Waste	1.00%	0.45%	3.01%	0.00%
27	Treated Wood Waste	1.97%	2.49%	0.00%	0.00%
28	C&D Debris	0.00%	0.00%	19.12%	0.00%
29	Tires and Rubber	0.07%	0.00%	0.00%	0.00%
30	Yard Waste	10.24%	1.03%	0.00%	0.00%
31	Food Waste	10.20%	22.40%	17.61%	14.36%
32	All Other Garbage	12.42%	13.54%	7.31%	9.43%
33	Liquids	0.00%	0.00%	0.00%	0.00%
34	Grit	5.48%	0.00%	0.00%	13.81%
	TOTALS	100.00%	100.00%	100.00%	100.00%

ATTACHMENT B – City Residential – Individual Sample Results (continued)

Hauler/Location		Residential Truck 4015 Tuesday Jan 27	Residential Truck 4021 Tuesday Jan 27	Residential Truck 4013 Wednesday Jan 28	Residential Truck 25 Wednesday Jan 28
	Material Categories sample #	17	18	24	25
1	Newspaper	5.36%	4.51%	1.84%	0.56%
2	Corrugated Containers	1.91%	4.89%	2.33%	1.00%
3	Office Paper	2.73%	1.19%	1.56%	0.89%
4	Other Recyclable Paper	9.60%	13.34%	7.65%	14.23%
5	Low Grade Paper	12.98%	8.61%	7.35%	13.08%
6	Aseptic Containers	0.20%	0.07%	0.25%	0.39%
7	PET Bottles	1.80%	1.75%	0.78%	1.74%
8	HDPE Bottles	1.33%	2.96%	0.60%	1.38%
9	Other Non-Bottle Plastics #1 and #2	1.21%	1.57%	2.02%	1.27%
10	Other Plastic Containers (#3-#7)	0.91%	1.87%	2.89%	2.02%
11	Bulky Rigid Plastics	0.94%	2.64%	1.07%	1.14%
12A	Retail Bags	0.78%	1.50%	0.80%	0.81%
12B	Non-Rigid Plastic Film	5.14%	6.04%	3.98%	3.39%
13A	Styrofoam Food Service	1.33%	1.25%	0.73%	1.34%
13B	Styrofoam Packaging	0.00%	0.80%	0.56%	0.65%
14	All Other Plastics	0.88%	0.43%	0.22%	0.44%
15	Tin/Steel Cans	1.52%	1.46%	1.53%	1.97%
16	White Goods/Small Appliances	3.79%	0.00%	0.00%	0.00%
17	Other Ferrous	0.00%	1.33%	0.11%	0.10%
18	Aluminum Cans	0.44%	2.66%	0.38%	0.81%
19	Other Non-Ferrous	0.60%	0.49%	0.29%	0.26%
20	Glass Containers	4.41%	4.33%	3.84%	5.73%
21	Other Glass	0.86%	0.22%	0.63%	0.41%
22	Textiles	6.01%	3.07%	2.80%	7.41%
23	Special Wastes	1.76%	0.00%	0.00%	0.00%
24	Electronics	0.00%	0.00%	0.53%	0.96%
25	Household Batteries	0.02%	0.49%	0.11%	0.02%
26	Clean Wood Waste	0.00%	0.00%	0.00%	1.14%
27	Treated Wood Waste	0.00%	1.72%	1.16%	0.51%
28	C&D Debris	1.46%	3.12%	17.84%	1.75%
29	Tires and Rubber	0.00%	0.46%	0.00%	0.38%
30	Yard Waste	0.00%	0.80%	0.00%	0.00%
31	Food Waste	15.81%	13.28%	15.05%	19.90%
32	All Other Garbage	12.20%	7.16%	15.19%	10.07%
33	Liquids	0.00%	0.83%	1.29%	1.14%
34	Grit	4.00%	5.15%	4.62%	3.11%
TOTALS		100.00%	100.00%	100.00%	100.00%

ATTACHMENT B – City Residential – Individual Sample Results (continued)

Hauler/Location		Residential Truck 4015 Wednesday Jan 28	Residential Truck 4010 Thursday Jan 29	Residential Truck 4022 Thursday Jan 29	Residential Truck 4013 Thursday Jan 29	Weighted Average
	Material Categories sample #	26	36	39	40	
1	Newspaper	0.58%	1.12%	2.87%	1.17%	2.17%
2	Corrugated Containers	1.37%	2.65%	1.09%	1.33%	1.85%
3	Office Paper	13.65%	5.79%	3.09%	3.20%	3.81%
4	Other Recyclable Paper	9.09%	11.64%	9.80%	10.41%	10.32%
5	Low Grade Paper	5.37%	12.48%	11.25%	11.06%	9.39%
6	Aseptic Containers	0.20%	0.00%	0.27%	0.80%	0.33%
7	PET Bottles	0.63%	1.84%	1.42%	2.27%	1.52%
8	HDPE Bottles	0.66%	0.91%	0.25%	1.14%	0.98%
9	Other Non-Bottle Plastics #1 and #2	0.96%	0.87%	1.73%	4.07%	1.68%
10	Other Plastic Containers (#3-#7)	1.97%	1.44%	2.25%	3.47%	2.18%
11	Bulky Rigid Plastics	1.71%	1.03%	0.78%	0.00%	1.10%
12A	Retail Bags	0.96%	1.18%	3.10%	1.11%	1.16%
12B	Non-Rigid Plastic Film	6.30%	5.81%	3.24%	10.60%	5.64%
13A	Styrofoam Food Service	0.66%	0.96%	0.75%	1.88%	1.17%
13B	Styrofoam Packaging	0.53%	0.46%	0.25%	0.39%	0.46%
14	All Other Plastics	2.00%	2.09%	0.27%	0.66%	0.81%
15	Tin/Steel Cans	0.58%	0.67%	0.74%	2.78%	1.50%
16	White Goods/Small Appliances	0.00%	0.00%	0.00%	0.00%	0.33%
17	Other Ferrous	0.47%	0.77%	0.37%	0.17%	0.67%
18	Aluminum Cans	0.17%	0.59%	0.58%	1.39%	0.90%
19	Other Non-Ferrous	0.40%	0.00%	0.50%	0.61%	0.41%
20	Glass Containers	1.30%	0.80%	1.37%	0.73%	3.52%
21	Other Glass	0.58%	0.00%	0.00%	0.00%	0.37%
22	Textiles	7.36%	4.12%	0.65%	1.44%	4.30%
23	Special Wastes	0.06%	0.00%	0.00%	0.00%	0.19%
24	Electronics	1.10%	1.88%	6.32%	1.74%	1.53%
25	Household Batteries	0.00%	1.00%	0.00%	0.00%	0.20%
26	Clean Wood Waste	1.00%	0.45%	3.01%	0.00%	0.64%
27	Treated Wood Waste	1.97%	2.49%	0.00%	0.00%	0.84%
28	C&D Debris	0.00%	0.00%	19.12%	0.00%	4.31%
29	Tires and Rubber	0.07%	0.00%	0.00%	0.00%	0.08%
30	Yard Waste	10.24%	1.03%	0.00%	0.00%	1.38%
31	Food Waste	10.20%	22.40%	17.61%	14.36%	18.11%
32	All Other Garbage	12.42%	13.54%	7.31%	9.43%	10.79%
33	Liquids	0.00%	0.00%	0.00%	0.00%	0.61%
34	Grit	5.48%	0.00%	0.00%	13.81%	4.77%
TOTALS		100.00%	100.00%	100.00%	100.00%	

ATTACHMENT C – City Commercial – Individual Sample Results

Hauler/Location		Commercial Truck 4025 Monday Jan 26	Commercial Truck 4019 Monday Jan 26	Commercial Truck 4002 Monday Jan 26	Commercial Truck 4024 Monday Jan 26	Commercial Truck 4024 Tuesday Jan 27	Commercial Truck 4008 Tuesday Jan 27
	Material Categories Sample #	1	2	3	5	11	12
1	Newspaper	0.81%	0.61%	1.38%	3.07%	2.41%	6.45%
2	Corrugated Containers	5.02%	7.96%	4.02%	5.86%	7.88%	4.85%
3	Office Paper	0.47%	0.72%	1.22%	2.99%	0.54%	4.58%
4	Other Recyclable Paper	11.80%	7.59%	9.45%	14.18%	3.82%	9.10%
5	Low Grade Paper	7.83%	2.45%	13.88%	8.68%	2.99%	5.53%
6	Aseptic Containers	0.73%	0.00%	0.32%	0.68%	0.02%	0.33%
7	PET Bottles	2.22%	0.59%	1.62%	1.94%	3.55%	1.73%
8	HDPE Bottles	1.54%	1.37%	1.41%	1.77%	0.71%	1.45%
9	Other Non-Bottle Plastics #1 and #2	1.31%	0.00%	0.69%	1.29%	0.59%	1.39%
10	Other Plastic Containers (#3-#7)	2.80%	2.43%	1.32%	0.70%	1.03%	1.22%
11	Bulky Rigid Plastics	1.22%	0.75%	1.72%	2.58%	4.12%	1.26%
12A	Retail Bags	1.50%	0.23%	0.75%	0.57%	0.39%	0.63%
12B	Non-Rigid Plastic Film	5.36%	10.96%	9.22%	8.29%	4.87%	7.74%
13A	Styrofoam Food Service	0.92%	2.66%	1.00%	0.80%	0.71%	1.17%
13B	Styrofoam Packaging	1.19%	0.00%	1.03%	0.26%	0.48%	0.83%
14	All Other Plastics	0.94%	0.14%	0.85%	1.51%	0.66%	1.50%
15	Tin/Steel Cans	1.19%	0.31%	0.84%	1.21%	1.23%	2.51%
16	White Goods/Small Appliances	0.00%	0.00%	0.00%	0.00%	0.88%	0.00%
17	Other Ferrous	0.42%	0.52%	0.36%	2.53%	1.77%	0.38%
18	Aluminum Cans	0.65%	0.38%	1.42%	1.62%	0.83%	0.66%
19	Other Non-Ferrous	0.25%	0.23%	0.13%	0.39%	0.37%	0.33%
20	Glass Containers	6.55%	0.17%	3.58%	2.12%	5.40%	0.52%
21	Other Glass	0.76%	0.00%	0.00%	0.09%	1.53%	0.46%
22	Textiles	7.00%	0.81%	2.35%	0.89%	1.73%	5.71%
23	Special Wastes	0.00%	0.00%	0.02%	0.00%	3.19%	0.00%
24	Electronics	0.34%	0.00%	0.86%	0.40%	2.21%	0.00%
25	Household Batteries	0.02%	0.00%	0.00%	0.02%	0.00%	0.00%
26	Clean Wood Waste	2.89%	0.09%	3.16%	2.92%	1.71%	3.03%
27	Treated Wood Waste	0.00%	0.23%	1.23%	1.36%	4.16%	3.19%
28	C&D Debris	2.91%	0.00%	0.00%	1.94%	12.62%	0.00%
29	Tires and Rubber	0.00%	0.00%	0.00%	0.11%	2.49%	0.70%
30	Yard Waste	0.00%	0.00%	6.54%	0.87%	10.97%	0.00%
31	Food Waste	14.54%	48.75%	14.43%	20.01%	5.30%	27.45%
32	All Other Garbage	7.62%	10.04%	9.09%	4.32%	3.96%	2.09%
33	Liquids	2.47%	0.00%	1.28%	1.48%	2.88%	0.00%
34	Grit	6.74%	0.00%	4.83%	2.57%	2.03%	3.24%
	TOTALS	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

ATTACHMENT C – City Commercial – Individual Sample Results (continued)

Hauler/Location		Commercial Truck 484 Tuesday Jan 27	Commercial Truck 4008 Tuesday Jan 27	Commercial Truck 4008 Wednesday Jan 28	Commercial Truck 4019 Wednesday Jan 28	Commercial Truck 484 Wednesday Jan 28	Commercial Truck 4007 Wednesday Jan 28
	Material Categories Sample #	13	14	19	20	21	23
1	Newspaper	4.42%	1.78%	1.93%	1.42%	0.41%	0.64%
2	Corrugated Containers	9.45%	8.87%	10.38%	4.75%	8.63%	1.57%
3	Office Paper	7.22%	2.50%	3.38%	3.77%	2.89%	8.17%
4	Other Recyclable Paper	3.90%	7.33%	7.77%	6.57%	4.58%	10.86%
5	Low Grade Paper	8.59%	14.20%	10.24%	13.99%	7.99%	22.71%
6	Aseptic Containers	0.11%	0.34%	0.41%	0.55%	0.36%	0.85%
7	PET Bottles	0.78%	1.29%	1.65%	1.25%	0.00%	2.94%
8	HDPE Bottles	0.66%	0.82%	1.75%	0.89%	2.68%	1.06%
9	Other Non-Bottle Plastics #1 and #2	0.44%	0.73%	1.61%	0.29%	0.41%	2.09%
10	Other Plastic Containers (#3-#7)	1.69%	1.08%	2.01%	1.04%	1.26%	1.17%
11	Bulky Rigid Plastics	1.13%	3.24%	2.70%	1.76%	2.84%	2.27%
12A	Retail Bags	0.13%	0.59%	0.54%	0.36%	1.27%	0.55%
12B	Non-Rigid Plastic Film	4.73%	4.27%	6.31%	12.57%	7.47%	6.24%
13A	Styrofoam Food Service	1.16%	1.29%	1.34%	3.37%	0.13%	0.73%
13B	Styrofoam Packaging	2.50%	0.22%	0.08%	0.06%	0.00%	0.64%
14	All Other Plastics	1.23%	1.19%	0.41%	0.85%	0.73%	0.42%
15	Tin/Steel Cans	0.22%	1.58%	2.16%	1.38%	1.18%	0.64%
16	White Goods/Small Appliances	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
17	Other Ferrous	1.09%	0.31%	2.84%	0.28%	0.45%	0.38%
18	Aluminum Cans	0.01%	0.60%	0.70%	1.12%	0.84%	0.62%
19	Other Non-Ferrous	0.72%	0.18%	0.09%	0.06%	0.00%	0.55%
20	Glass Containers	0.83%	11.22%	0.32%	3.20%	0.00%	5.49%
21	Other Glass	0.00%	0.49%	1.92%	0.00%	0.00%	0.00%
22	Textiles	0.26%	0.77%	8.04%	2.89%	2.76%	5.03%
23	Special Wastes	30.87%	0.00%	0.41%	0.00%	0.00%	0.33%
24	Electronics	0.05%	14.86%	0.32%	0.00%	0.00%	0.07%
25	Household Batteries	0.03%	0.00%	0.14%	0.00%	0.00%	0.07%
26	Clean Wood Waste	1.57%	0.11%	2.39%	1.18%	0.53%	0.02%
27	Treated Wood Waste	0.00%	2.70%	0.94%	0.78%	0.00%	0.29%
28	C&D Debris	0.00%	4.95%	0.40%	2.25%	19.80%	0.00%
29	Tires and Rubber	0.07%	0.29%	1.23%	1.38%	0.00%	0.00%
30	Yard Waste	0.00%	0.00%	0.17%	1.19%	0.00%	0.00%
31	Food Waste	9.82%	6.01%	7.37%	8.61%	18.13%	17.14%
32	All Other Garbage	4.36%	3.78%	10.89%	13.96%	6.32%	1.93%
33	Liquids	0.00%	0.58%	1.81%	4.01%	7.75%	2.72%
34	Grit	1.95%	1.87%	5.36%	4.24%	0.61%	1.83%
	TOTALS	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

ATTACHMENT C – City Commercial – Individual Sample Results (continued)

Hauler/Location		Commercial Truck 484 Thursday Jan 29	Commercial Truck 4024 Thursday Jan 29	Commercial Truck 4019 Thursday Jan 29	Commercial Truck 4002 Thursday Jan 29	Commercial Truck 4024 Friday Jan 30	Commercial Truck 4019 Friday Jan 30
	Material Categories Sample #	28	29	31	32	41	42
1	Newspaper	4.20%	0.23%	1.29%	2.40%	2.22%	0.74%
2	Corrugated Containers	8.05%	2.41%	3.77%	5.45%	3.72%	16.49%
3	Office Paper	8.96%	1.68%	4.32%	1.86%	2.55%	0.43%
4	Other Recyclable Paper	9.41%	8.04%	5.38%	6.81%	18.13%	9.51%
5	Low Grade Paper	9.82%	5.60%	7.68%	3.91%	5.70%	3.53%
6	Aseptic Containers	0.37%	0.34%	0.11%	0.33%	0.44%	0.56%
7	PET Bottles	0.92%	1.06%	1.06%	1.55%	1.42%	3.43%
8	HDPE Bottles	0.20%	1.62%	0.42%	0.91%	0.94%	1.61%
9	Other Non-Bottle Plastics #1 and #2	1.55%	1.30%	0.70%	0.86%	2.51%	0.55%
10	Other Plastic Containers (#3-#7)	3.26%	1.69%	1.53%	1.23%	1.83%	0.81%
11	Bulky Rigid Plastics	0.46%	1.05%	0.71%	2.68%	1.38%	1.26%
12A	Retail Bags	0.45%	0.34%	0.60%	0.83%	1.34%	0.54%
12B	Non-Rigid Plastic Film	5.29%	6.39%	10.85%	4.51%	4.44%	4.87%
13A	Styrofoam Food Service	0.63%	0.80%	0.75%	1.24%	0.47%	0.81%
13B	Styrofoam Packaging	0.28%	0.11%	0.12%	0.41%	0.00%	0.42%
14	All Other Plastics	0.40%	0.28%	0.39%	0.79%	0.75%	0.29%
15	Tin/Steel Cans	0.82%	5.93%	0.96%	1.74%	2.04%	0.82%
16	White Goods/Small Appliances	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
17	Other Ferrous	0.21%	0.69%	10.57%	0.83%	1.38%	0.21%
18	Aluminum Cans	0.25%	0.71%	0.28%	1.69%	0.72%	2.93%
19	Other Non-Ferrous	0.12%	25.37%	0.32%	1.18%	0.02%	0.07%
20	Glass Containers	0.62%	3.93%	2.42%	3.86%	4.85%	3.67%
21	Other Glass	0.11%	0.10%	0.45%	0.52%	1.36%	0.94%
22	Textiles	0.34%	1.43%	1.05%	3.76%	6.41%	4.11%
23	Special Wastes	0.15%	0.00%	0.00%	0.00%	0.00%	0.00%
24	Electronics	0.62%	0.24%	0.13%	2.31%	4.07%	0.91%
25	Household Batteries	0.00%	0.00%	0.48%	0.00%	0.00%	0.00%
26	Clean Wood Waste	0.06%	0.00%	0.42%	10.05%	0.00%	0.00%
27	Treated Wood Waste	1.19%	1.73%	0.97%	17.95%	1.09%	2.43%
28	C&D Debris	1.71%	2.68%	1.42%	2.92%	2.94%	1.28%
29	Tires and Rubber	0.00%	0.00%	0.47%	0.00%	0.00%	0.00%
30	Yard Waste	0.00%	0.00%	0.77%	0.33%	0.00%	1.04%
31	Food Waste	22.71%	8.93%	28.96%	7.85%	13.61%	27.56%
32	All Other Garbage	12.45%	3.69%	5.33%	5.42%	11.80%	4.57%
33	Liquids	2.39%	2.55%	4.30%	1.68%	0.00%	1.74%
34	Grit	2.00%	9.07%	1.04%	2.12%	1.86%	1.90%
	TOTALS	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

ATTACHMENT C – City Commercial – Individual Sample Results (continued)

Hauler/Location		Commercial Truck 484 Thursday Jan 29	Commercial Truck 4024 Thursday Jan 29	Weighted Average
	Material Categories Sample #	43	44	
1	Newspaper	0.00%	0.27%	1.83%
2	Corrugated Containers	1.18%	3.12%	6.14%
3	Office Paper	1.63%	0.36%	3.00%
4	Other Recyclable Paper	10.21%	2.19%	8.44%
5	Low Grade Paper	8.76%	7.96%	8.62%
6	Aseptic Containers	0.40%	0.22%	0.37%
7	PET Bottles	3.99%	0.67%	1.66%
8	HDPE Bottles	3.18%	2.01%	1.36%
9	Other Non-Bottle Plastics #1 and #2	1.39%	0.82%	1.04%
10	Other Plastic Containers (#3-#7)	2.54%	4.51%	1.75%
11	Bulky Rigid Plastics	1.11%	1.80%	1.80%
12A	Retail Bags	1.63%	0.22%	0.69%
12B	Non-Rigid Plastic Film	9.43%	4.94%	6.91%
13A	Styrofoam Food Service	1.84%	0.60%	1.12%
13B	Styrofoam Packaging	0.00%	0.00%	0.42%
14	All Other Plastics	0.66%	0.67%	0.74%
15	Tin/Steel Cans	2.60%	1.09%	1.54%
16	White Goods/Small Appliances	0.00%	0.00%	0.04%
17	Other Ferrous	0.00%	0.34%	1.23%
18	Aluminum Cans	2.47%	1.80%	1.00%
19	Other Non-Ferrous	0.37%	0.43%	1.59%
20	Glass Containers	16.48%	31.93%	5.35%
21	Other Glass	0.00%	1.13%	0.49%
22	Textiles	1.49%	0.85%	2.90%
23	Special Wastes	0.00%	0.00%	1.69%
24	Electronics	0.00%	0.50%	1.54%
25	Household Batteries	0.00%	0.24%	0.05%
26	Clean Wood Waste	0.00%	3.37%	1.60%
27	Treated Wood Waste	0.00%	0.00%	1.94%
28	C&D Debris	0.00%	3.12%	3.13%
29	Tires and Rubber	0.00%	0.00%	0.32%
30	Yard Waste	0.00%	0.43%	1.03%
31	Food Waste	16.57%	18.07%	17.18%
32	All Other Garbage	5.27%	0.27%	6.34%
33	Liquids	1.07%	0.86%	1.96%
34	Grit	5.73%	5.22%	3.18%
	TOTALS	100.00%	100.00%	100.00%

ATTACHMENT D – Out-of-City – Individual Sample Results

Hauler/Location		Madison County Truck 7 Monday Jan 26	Trash Away Truck 66 Monday Jan 26	4D Truck 115 Tuesday Jan 27	Trash Away Tuesday Jan 27	Madison County Truck 7 Wednesday Jan 28	Trash Away Thursday Jan 29	Weighted Average
	Material Categories Sample #	4	6	10	15	22	34	
1	Newspaper	4.25%	18.03%	1.36%	3.30%	0.01%	5.03%	5.28%
2	Corrugated Containers	2.11%	0.68%	9.07%	3.39%	1.12%	7.99%	4.05%
3	Office Paper	2.19%	12.62%	2.29%	2.01%	1.65%	2.74%	3.88%
4	Other Recyclable Paper	11.08%	4.05%	5.88%	9.53%	7.50%	12.08%	8.35%
5	Low Grade Paper	11.20%	5.32%	6.95%	6.36%	6.36%	3.75%	6.68%
6	Aseptic Containers	0.36%	0.00%	2.36%	0.03%	0.75%	0.32%	0.64%
7	PET Bottles	2.41%	1.17%	3.31%	2.56%	1.24%	1.87%	2.11%
8	HDPE Bottles	1.75%	0.25%	1.91%	1.87%	1.70%	0.31%	1.31%
9	Other Non-Bottle Plastics #1 and #2	2.04%	0.73%	1.12%	1.53%	0.68%	1.08%	1.20%
10	Other Plastic Containers (#3-#7)	0.60%	1.11%	2.23%	3.01%	0.30%	2.61%	1.66%
11	Bulky Rigid Plastics	0.69%	0.00%	0.24%	1.18%	10.51%	0.90%	2.24%
12A	Retail Bags	1.32%	0.68%	2.24%	1.23%	0.84%	0.33%	1.12%
12B	Non-Rigid Plastic Film	5.02%	2.94%	8.63%	4.59%	2.82%	4.44%	4.75%
13A	Styrofoam Food Service	0.91%	0.00%	2.99%	2.16%	0.30%	0.85%	1.22%
13B	Styrofoam Packaging	0.71%	0.70%	0.00%	0.62%	0.21%	0.25%	0.42%
14	All Other Plastics	0.43%	0.87%	0.57%	0.71%	0.82%	0.35%	0.62%
15	Tin/Steel Cans	2.73%	1.34%	3.44%	1.52%	2.17%	1.86%	2.18%
16	White Goods/Small Appliances	3.03%	0.00%	0.00%	0.00%	0.00%	0.00%	0.50%
17	Other Ferrous	1.14%	0.63%	5.01%	0.24%	1.05%	0.59%	1.44%
18	Aluminum Cans	1.38%	0.87%	0.75%	0.71%	0.53%	0.74%	0.83%
19	Other Non-Ferrous	0.43%	0.25%	0.36%	0.84%	0.25%	0.17%	0.39%
20	Glass Containers	5.14%	1.71%	1.97%	6.25%	3.66%	5.75%	4.10%
21	Other Glass	0.88%	21.36%	1.07%	2.08%	1.65%	0.12%	4.49%
22	Textiles	7.31%	0.32%	1.94%	3.94%	14.73%	4.40%	5.42%
23	Special Wastes	0.00%	0.00%	0.11%	0.00%	0.01%	0.00%	0.02%
24	Electronics	0.00%	0.00%	1.78%	2.98%	1.02%	0.41%	1.07%
25	Household Batteries	0.47%	0.00%	0.00%	0.29%	0.20%	0.18%	0.19%
26	Clean Wood Waste	0.71%	0.00%	0.00%	0.00%	1.13%	0.00%	0.30%
27	Treated Wood Waste	0.30%	0.66%	0.00%	0.63%	0.44%	0.41%	0.41%
28	C&D Debris	0.56%	5.46%	0.47%	0.43%	0.38%	12.45%	3.19%
29	Tires and Rubber	0.00%	3.60%	0.00%	0.63%	7.72%	0.00%	1.97%
30	Yard Waste	0.00%	0.00%	0.71%	0.00%	2.17%	0.00%	0.48%
31	Food Waste	15.29%	11.93%	11.84%	17.35%	12.55%	13.65%	13.81%
32	All Other Garbage	7.09%	2.73%	10.95%	9.35%	5.88%	8.17%	7.40%
33	Liquids	0.00%	0.00%	0.00%	4.90%	4.27%	1.85%	1.87%
34	Grit	6.45%	0.00%	8.43%	3.81%	3.36%	4.37%	4.42%
	TOTALS	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

ATTACHMENT E – Litter – Individual Sample Results

Hauler/Location		Litter	Litter	Litter	Litter	Weighted Average
Material Categories	Sample #	28	29	31	32	
1 Newspaper		0.00%	0.84%	0.36%	0.49%	0.41%
2 Corrugated Containers		1.19%	8.80%	5.29%	9.90%	6.37%
3 Office Paper		2.07%	1.95%	0.69%	0.40%	1.20%
4 Other Recyclable Paper		3.30%	7.10%	7.06%	5.58%	5.76%
5 Low Grade Paper		0.85%	4.46%	0.00%	1.61%	1.59%
6 Aseptic Containers		0.00%	0.17%	0.19%	0.22%	0.15%
7 PET Bottles		6.10%	6.80%	6.52%	5.97%	6.32%
8 HDPE Bottles		0.00%	0.39%	0.80%	0.75%	0.51%
9 Other Non-Bottle Plastics #1 and #2		0.41%	0.71%	0.75%	0.64%	0.63%
10 Other Plastic Containers (#3-#7)		1.53%	2.30%	2.20%	2.46%	2.14%
11 Bulky Rigid Plastics		0.76%	3.78%	0.84%	13.68%	5.09%
12A Retail Bags		0.41%	3.40%	0.86%	0.65%	1.23%
12B Non-Rigid Plastic Film		4.28%	2.92%	5.08%	5.95%	4.68%
13A Styrofoam Food Service		1.15%	1.18%	1.65%	1.11%	1.28%
13B Styrofoam Packaging		0.09%	0.39%	0.80%	0.16%	0.37%
14 All Other Plastics		0.33%	0.58%	1.77%	1.11%	0.99%
15 Tin/Steel Cans		0.11%	0.68%	0.41%	0.55%	0.43%
16 White Goods/Small Appliances		0.00%	0.00%	0.00%	0.00%	0.00%
17 Other Ferrous		1.15%	3.49%	0.00%	3.21%	1.92%
18 Aluminum Cans		3.11%	2.87%	4.35%	2.21%	3.14%
19 Other Non-Ferrous		0.06%	0.20%	0.12%	0.19%	0.14%
20 Glass Containers		16.60%	17.50%	17.31%	13.74%	16.17%
21 Other Glass		0.00%	1.74%	3.77%	0.09%	1.41%
22 Textiles		1.25%	3.00%	3.19%	6.12%	3.53%
23 Special Wastes		0.00%	0.00%	0.27%	0.00%	0.07%
24 Electronics		0.00%	0.00%	0.46%	0.36%	0.23%
25 Household Batteries		0.00%	0.00%	0.00%	0.00%	0.00%
26 Clean Wood Waste		0.00%	0.00%	0.00%	5.36%	1.53%
27 Treated Wood Waste		44.96%	0.88%	3.22%	1.27%	12.02%
28 C&D Debris		0.49%	0.00%	16.13%	1.96%	5.02%
29 Tires and Rubber		0.67%	0.00%	0.00%	0.72%	0.36%
30 Yard Waste		4.97%	6.94%	6.62%	7.80%	6.63%
31 Food Waste		0.65%	2.26%	0.62%	0.00%	0.79%
32 All Other Garbage		3.50%	7.55%	2.68%	5.45%	4.68%
33 Liquids		0.00%	7.14%	6.00%	0.00%	3.12%
34 Grit		0.00%	0.00%	0.00%	0.29%	0.08%
TOTALS		100.00%	100.00%	100.00%	100.00%	100.00%

ATTACHMENT F – City Bulky Waste – Individual Sample Results

Sample Number	1	2	3	4
Date	1/26/2015	1/26/2015	1/26/2015	1/26/2015
Hauler	City	City	City	City
Type of Vehicle	Roll-off	Roll-off	Roll-off	Roll-off
Cubic Yards	30	30	30	30
Truck Number	4003	4007	4003	4003
Time of Day	before 7:26 AM	7:26 AM	8:15 AM	10:24 AM
Paper - OCC	1%	30%	10%	
Paper - Other				
Metal - Major Appliances				
Metal - HVAC Ducting				
Metal - Non Ferrous				
Metal - Ferrous				
Plastic - Film		20%		9%
Plastic - EPS/Insulation				
Plastic - Rigid		20%	10%	1%
C&D - Treated Wood	14.9%	15%	4%	5%
C&D - Untreated Wood	84.2%	15%	8%	86%
C&D - Carpet/Padding			40%	
C&D - Drywall			24%	
C&D - Roofing Shingles			4%	
C&D - Rock/Brick/Gravel				
C&D - Bagged Waste				
C&D - Ceramic Tiles				
C&D - Porcelain Toilets/Sinks				
Furniture - Furniture				
Furniture - Mattresses				
Other - Bagged Waste				
Other - Yard Waste				
Other - Glass Containers				
Other - Textiles				
Other - Liquids				
TOTAL	100%	100%	100%	100%
<i>Comments</i>	Dunkin Construction Waste	Fairview High School	Butterfield Trails	
Net Weight (Tons)	1.81	1.80	3.75	3.00

ATTACHMENT F – City Bulky Waste – Individual Sample Results

Sample Number	5	6	7	8
Date	1/26/2015	1/26/2015	1/27/2015	1/27/2015
Hauler	City	City	City	City
Type of Vehicle	Roll-off	Roll-off	Roll-off	Roll-off
Cubic Yards	30	30	30	30
Truck Number	4003	4007	4007	4003
Time of Day	12:41 PM	12:55 PM	7:00 AM	7:09 AM
Paper - OCC		10%		2%
Paper - Other				
Metal - Major Appliances				
Metal - HVAC Ducting	1%			
Metal - Non Ferrous	4%			3%
Metal - Ferrous		5%		
Plastic - Film				3%
Plastic - EPS/Insulation			2%	1.0%
Plastic - Rigid		15%		1.0%
C&D - Treated Wood	38%	24%	24%	
C&D - Untreated Wood	38%	36%	48%	85%
C&D - Carpet/Padding				
C&D - Drywall				
C&D - Roofing Shingles			8%	
C&D - Rock/Brick/Gravel	19%			
C&D - Bagged Waste		10%		2.5%
C&D - Ceramic Tiles				
C&D - Porcelain Toilets/Sinks				
Furniture - Furniture				
Furniture - Mattresses				
Other - Bagged Waste				2.5%
Other - Yard Waste			18%	
Other - Glass Containers				
Other - Textiles				
Other - Liquids				
TOTAL	100%	100%	100%	100%
<i>Comments</i>	163 Hillstreet House Demo			apartments
Net Weight (Tons)	6.32	2.22	3.96	4.94

ATTACHMENT F – City Bulky Waste – Individual Sample Results

Sample Number	9	10	11	12
Date	1/27/2015	1/27/2015	1/27/2015	1/27/2015
Hauler	City	City	City	City
Type of Vehicle	Roll-off	Roll-off	Roll-off	Roll-off
Cubic Yards	30	30	30	30
Truck Number	4007	4003	4003	4007
Time of Day	after 7:00 AM	10:07 AM	12:48 PM	1:26 PM
Paper - OCC	30%	2%		
Paper - Other				
Metal - Major Appliances				
Metal - HVAC Ducting				
Metal - Non Ferrous	30%			
Metal - Ferrous				
Plastic - Film		1%		
Plastic - EPS/Insulation				
Plastic - Rigid				
C&D - Treated Wood			45%	58.8%
C&D - Untreated Wood			45%	34.3%
C&D - Carpet/Padding				
C&D - Drywall				
C&D - Roofing Shingles			10%	
C&D - Rock/Brick/Gravel				4.9%
C&D - Bagged Waste				
C&D - Ceramic Tiles				
C&D - Porcelain Toilets/Sinks				
Furniture - Furniture		54%		
Furniture - Mattresses		36%		
Other - Bagged Waste		2%		
Other - Yard Waste				2.0%
Other - Glass Containers	25%			
Other - Textiles		5%		
Other - Liquids	15%			
TOTAL	100%	100%	100%	100%
<i>Comments</i>	McBride Distillery, expired beer	Salvation Army		1845 Darling House Demo
Net Weight (Tons)	10.56	1.10	2.48	9.74

ATTACHMENT F – City Bulky Waste – Individual Sample Results

Sample Number	13	14A	14B	15
Date	1/27/2015	1/28/2015	1/29/2015	1/29/2015
Hauler	City	City	City	City
Type of Vehicle	Claw Truck	Roll-off	Roll-off	Roll-off
Cubic Yards	4	30	30	30
Truck Number	762	4007	4003	4007
Time of Day	1:58 PM	10:58 AM	9:06 AM	9:20 AM
Paper - OCC		1.0%	5%	10%
Paper - Other				
Metal - Major Appliances				
Metal - HVAC Ducting				
Metal - Non Ferrous				10%
Metal - Ferrous				
Plastic - Film				30%
Plastic - EPS/Insulation			5%	
Plastic - Rigid		1.0%	5%	
C&D - Treated Wood	10%	4.850%	8.40%	10%
C&D - Untreated Wood		92.150%	58.80%	
C&D - Carpet/Padding			8.40%	
C&D - Drywall			8.40%	
C&D - Roofing Shingles				
C&D - Rock/Brick/Gravel				
C&D - Bagged Waste		0.50%		
C&D - Ceramic Tiles			1%	
C&D - Porcelain Toilets/Sinks				
Furniture - Furniture	18%			
Furniture - Mattresses	72%			
Other - Bagged Waste		0.50%		40%
Other - Yard Waste				
Other - Glass Containers				
Other - Textiles				
Other - Liquids				
TOTAL	100%	100%	100%	100%
<i>Comments</i>	call in request			Pinnacle Foods
Net Weight (Tons)	0.29	3.51	4.16	2.13

ATTACHMENT F – City Bulky Waste – Individual Sample Results

Sample Number	16	17	18	19
Date	1/29/2015	1/29/2015	1/29/2015	1/30/2015
Hauler	City	City	City	City
Type of Vehicle	Roll-off	Roll-off	Roll-off	Roll-off
Cubic Yards	30	30	30	30
Truck Number	4003	4003	4003	4007
Time of Day	10:29 AM	11:15 AM	2:07 PM	7:25 AM
Paper - OCC	2%	10%	5%	14%
Paper - Other				56%
Metal - Major Appliances				
Metal - HVAC Ducting				
Metal - Non Ferrous				
Metal - Ferrous				
Plastic - Film			1.5%	25%
Plastic - EPS/Insulation			2%	
Plastic - Rigid	30%	20%	1.5%	
C&D - Treated Wood	6.8%		17.6%	
C&D - Untreated Wood	20.4%	26.0%	52.8%	
C&D - Carpet/Padding	40.8%	26%	8.8%	
C&D - Drywall		13%	8.8%	
C&D - Roofing Shingles				
C&D - Rock/Brick/Gravel				
C&D - Bagged Waste		2.5%	2%	
C&D - Ceramic Tiles				
C&D - Porcelain Toilets/Sinks				
Furniture - Furniture				
Furniture - Mattresses				
Other - Bagged Waste		2.5%		5%
Other - Yard Waste				
Other - Glass Containers				
Other - Textiles				
Other - Liquids				
TOTAL	100%	100%	100%	100%
<i>Comments</i>	720 East Mills Street			
Net Weight (Tons)	12.10	9.43	4.26	0.87

ATTACHMENT F – City Bulky Waste – Individual Sample Results

Sample Number	20	21	22	23	Weighted Average (% by volume)
Date	1/30/2015	1/30/2015	1/30/2015	1/30/2015	
Hauler	City	City	City	City	
Type of Vehicle	Roll-off	Roll-off	Roll-off	Roll-off	
Cubic Yards	30	30	30	30	
Truck Number	4003	4007	4003	4007	
Time of Day	8:40 AM	8:50 AM	9:53 AM	10:21 AM	
Paper - OCC	5%	10%		16%	7.4%
Paper - Other				4%	0.7%
Metal - Major Appliances	4.50%				0.0%
Metal - HVAC Ducting					0.0%
Metal - Non Ferrous		50%			5.9%
Metal - Ferrous	0.5%				0.1%
Plastic - Film	8%	6%	1%		2.0%
Plastic - EPS/Insulation	32%		5%		0.9%
Plastic - Rigid		4%	4%		7.1%
C&D - Treated Wood			9%		13.9%
C&D - Untreated Wood	20%	12.5%	27%	37.5%	33.9%
C&D - Carpet/Padding			18%		10.1%
C&D - Drywall			18%	37.5%	5.2%
C&D - Roofing Shingles		12.5%	18%		2.0%
C&D - Rock/Brick/Gravel					1.6%
C&D - Bagged Waste					0.7%
C&D - Ceramic Tiles				5%	0.3%
C&D - Porcelain Toilets/Sinks					0.0%
Furniture - Furniture					0.6%
Furniture - Mattresses					0.6%
Other - Bagged Waste	25%	5%			1.7%
Other - Yard Waste					0.9%
Other - Glass Containers					2.6%
Other - Textiles	5%				0.1%
Other - Liquids					1.5%
TOTAL	100%	100%	100%	100%	100.0%
<i>Comments</i>	AT&T				
Net Weight (Tons)	1.04	4.55	4.35	4.69	



TECHNICAL MEMORANDUM NO.2

DATE: April 20, 2015

TO: Jeff Cole, Recycling and Trash Collection Director
City of Fayetteville, AR

Carlos Ochoa, Sustainability Director
University of Arkansas

FROM: Robin Mitchell, Project Manager

SUBJ: **University of Arkansas Waste Composition Study**

PROJ #: 173-00.00

1. Introduction

This technical memorandum provides the results of the University of Arkansas (University) Waste Composition Study (WCS) conducted by Kessler Consulting, Inc. (KCI) for the City of Fayetteville (City) and the University. The purpose of the WCS was to determine the percentage by weight of various types of materials found in solid waste disposed at the University. The results of the WCS will assist in identifying opportunities for expanding and enhancing waste diversion programs at the University.

Field work took place at Waste Management's Eco-Vista Landfill in Tontitown, AR from February 2-4, 2015. During the study, KCI pulled and manually hand-sorted 20 samples of solid waste, 5 samples from each of 4 generator sectors: Facilities Management, Housing, Arkansas Union, and Athletics.

The study included only waste collected in dumpsters, compactors, and roll-offs by the two contracted haulers, Waste Management and Deffenbaugh. It does not include debris from construction, demolition, or renovation projects; hazardous wastes; or other special segregated waste streams. Also worth noting is that no home athletic game occurred during the time the field work was conducted.

2. Methodology

KCI worked with City and University staff to develop a list of 36 material categories into which waste would be sorted (see Attachment A). To develop this list of material categories, KCI considered the following:

- Recyclable materials accepted in the University's recycling program.
- Additional types of materials that might potentially be recovered for recycling or composting in the future.

KCI prepared and City and University staff reviewed and approved a site safety plan and sampling and sorting protocol, which were followed throughout the field work. KCI provided a Study Supervisor,

Sorting Supervisor, additional labor to assist with sorting activities, all sorting equipment, and safety gear.

Several modifications were made to the initial scope of work and sampling and sorting protocol, as outlined below, to accommodate the University's objectives and successfully complete the study. These modifications required an additional level of effort, which were absorbed by KCI.

- KCI expanded the scope to include four generator sectors (Facilities Management, Housing, Arkansas Union, and Athletics) rather than three.
- The scope of work anticipated working with a single point of contact at the University; however, KCI was asked to directly contact representatives from each generator sector and their contracted service providers to obtain the necessary information for planning the WCS.
- KCI anticipated conducting the sorting event at the same location as the City's WCS, but was asked to change locations to the Eco-Vista Landfill to accommodate the contracted haulers. This required breakdown and re-mobilization of sorting equipment.
- The sampling and sorting protocol indicated that University staff from each generator sector would be responsible for coordinating with their respective contracted service provider to schedule the collection and delivery of waste to the sorting location. KCI assumed some of this responsibility to ensure delivery of the waste.
- Five samples from each generator sector were pulled instead of six samples. Because of harsh weather conditions and the open nature of the requested sorting location (working face of the landfill), sorting activities were suspended during the first day of the study. We do not believe this modification altered the validity of the study results. Table 1 provides the final sampling schedule.

Table 1: University Sampling Schedule

Generator Sector	Hauler	Collection Type	Delivery Schedule	Total Samples
Athletics	Waste Management	5 Open-Top Roll-Offs	One (1) Roll-off on Monday, February 2	3
			One (1) Roll-off on Tuesday, February 3	2
Facilities	Deffenbaugh	Several Carts/Dumpsters	Split Dumpster Route on Monday, February 2	5
Housing	Deffenbaugh	13 Compactors	One (1) Compactor on Tuesday, February 3	2
		Several Carts/Dumpsters	Split Dumpster Route on Monday, February 2	3
Student Union	Waste Management	1 Compactor	Wednesday, February 4	5
Total Samples				20

Following the field work, KCI analyzed the data as outlined in the *ASTM Standard Test Method for Determination of the Composition of Unprocessed Municipal Solid Waste (D5231-92; reapproved 2008)* to determine the percentage, by weight, of each material category for each of the four generator sectors. In addition to the weighted average, the 90 percent confidence interval was calculated for each

material category. The confidence interval indicates that, with a 90 percent level of confidence, the actual arithmetic mean (the arithmetic mean obtained if an infinite number of samples were sorted) is within the upper and lower limits shown. This provides an understanding of how much variation occurred in the quantity of that material category in the samples sorted. Generally, the more homogeneous the waste stream and the greater the number of samples sorted, the higher the level of accuracy achieved and the narrower the margin between the upper and lower bounds of the confidence interval.

Data for the four generator sectors was then combined, based on the quantity of waste each contributed to the waste stream in 2014 (as provided by University staff), to calculate the overall composition of University waste that is disposed. This is referred to throughout this memorandum as the University Aggregate Waste.

3. Results

The following tables and figures present the study results for each individual generator sector, as well as for the University Aggregate Waste. Material categories are grouped by their potential to be recycled through the University's existing recycling program, other potentially recyclable materials, organics, and all other waste.

- **Facilities Management** (Table 2 and Figure 1; Attachment B provides the individual sample data) – More than 35 percent of Facilities Management waste consisted of paper and containers that could be recycled. Low-grade paper, food waste, and other potentially compostable material comprised over 32 percent of the waste, while other potentially recyclable materials contributed nearly 14 percent to the waste.
- **Housing** (Table 3 and Figure 2; Attachment C provides the individual sample data) – More than 44 percent of Housing waste consisted of paper and containers that could be recycled. Food waste comprised more than 16 percent of the waste stream, and other compostable materials comprised nearly 11 percent. Other potentially recyclable materials contributed another 9 percent to the waste.
- **Arkansas Union** (Table 4 and Figure 3; Attachment D provides the individual sample data) – More than 51 percent of the Arkansas Union's waste was compostable, with low-grade paper and food waste contributing 28 and 23 percent, respectively. Recyclable paper and containers comprised nearly 21 percent of disposed waste.
- **Athletics** (Table 5 and Figure 4; Attachment E provides the individual sample data) – More than 40 percent of Athletics' waste consisted of compostable materials, with food waste and low-grade paper contributing 21 percent and nearly 19 percent, respectively. Recyclable paper and containers comprised over 32 percent.
- **University Aggregate Waste** – Table 6 and Figure 5 present the combined composition of the University waste from the 4 generator sectors based on the relative amount of each stream disposed in 2014. Nearly 37 percent of the University Aggregate Waste consisted of recyclable paper and containers and 33 percent was comprised of potentially compostable materials. Tables 7 and 8 convert these percentages to estimated metric tons and short tons, respectively, of each material type disposed in 2014. It should be noted that the quantity of waste disposed in dumpsters is estimated by the haulers; therefore, the accuracy is uncertain.

Figure 6 depicts the overall composition of materials generated at the University in 2014, based on data provided by University staff and results of the WCS. While no recycling program captures 100 percent of targeted materials, expanding and enhancing the University's existing paper and container recycling programs has the potential to increase its waste diversion rate by up to 30 percent. Facilities Management and Housing offer the greatest opportunity to recover additional tons of these materials (see Figure 7). Developing comprehensive programs to capture other types of potentially recyclable materials (scrap metals, all plastic containers and packaging, bulky rigid plastics, electronics, and aseptic containers) has the potential to increase the diversion rate by an additional 9 percent. The addition of these materials depends on the availability of viable end-users or markets.

Implementing a comprehensive food waste recovery program has the potential to increase the University's diversion rate by up to 13 percent. Facilities Management and Housing also generate the largest quantities of food waste. Expanding the composting program to include other types of biodegradable materials, primarily low-grade paper, could potentially divert an additional 14 percent of waste from disposal.

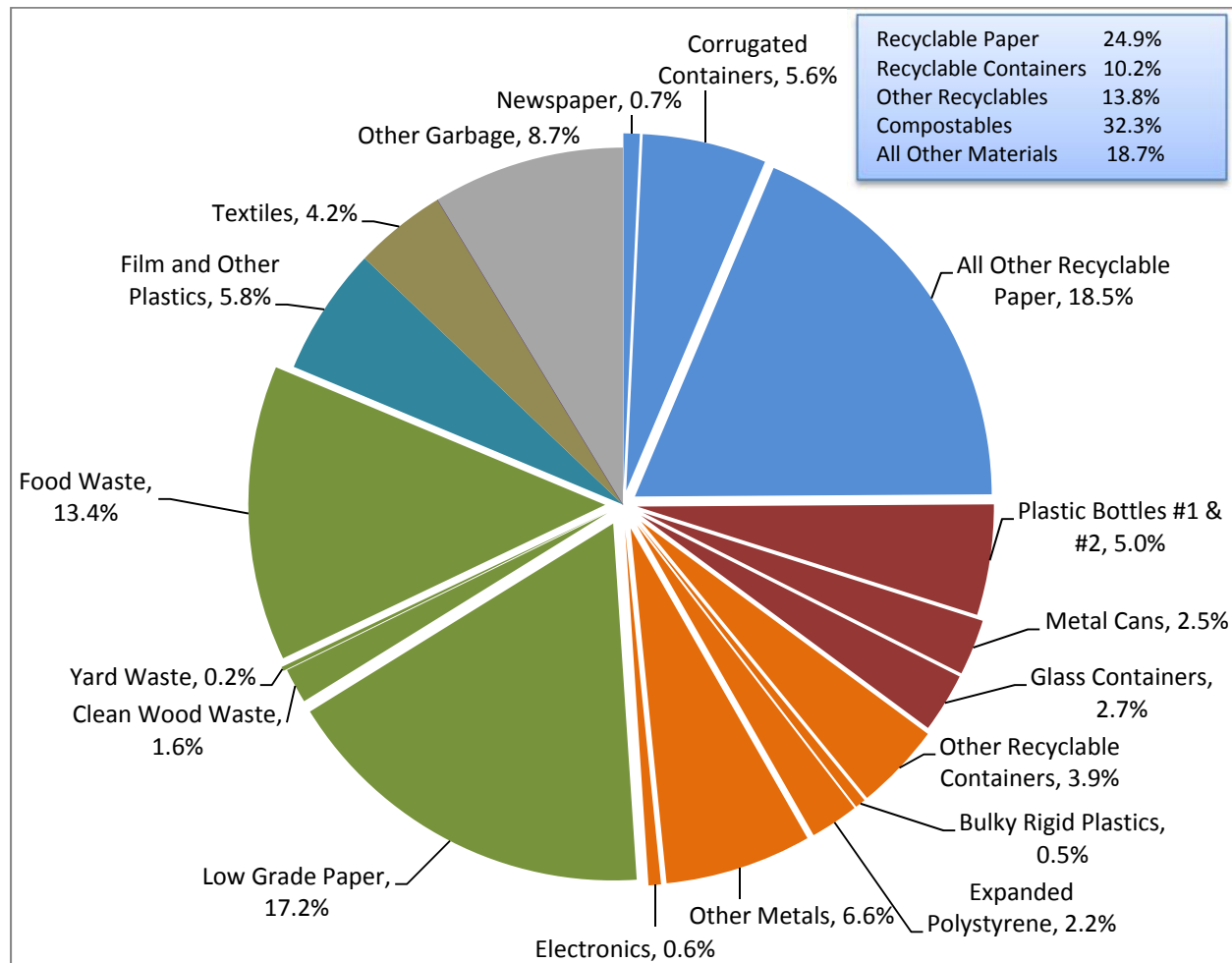
As can be seen by Figure 6, striving to achieve the University's zero waste goal (90 percent diversion) by 2021 would require aggressive policies, programs, and infrastructure to maximize the recovery of potentially recyclable or compostable materials. KCI appreciates the opportunity to conduct this study for the University and is available to assist as the results of the study are used to target each sector for increased diversion.

Table 2: Composition of Facilities Management's Disposed Waste (% by weight)

Material Category		Weighted Average	90% Confidence Interval	
			Lower Bounds	Upper Bounds
1	Newspaper	0.7%	0.2%	1.3%
2	Corrugated Containers	5.6%	2.3%	8.9%
3	Office Paper	3.3%	1.6%	4.9%
4	Other Recyclable Paper	15.3%	8.7%	21.9%
Total Accepted Recyclable Paper		24.9%		
7	PET Bottles	4.0%	0.6%	7.5%
8	HDPE Bottles	1.0%	0.4%	1.6%
15	Tin/Steel Cans	1.0%	0.6%	1.4%
18	Aluminum Cans	1.5%	0.0%	3.0%
20	Glass Containers	2.7%	-0.3%	5.7%
Total Accepted Recyclable Containers		10.2%		
6	Aseptic Containers	0.2%	0.0%	0.4%
9	Other Non-Bottle Plastics #1 and #2	0.8%	0.0%	1.6%
10	Other Plastic Containers (#3-#7)	3.0%	0.8%	5.1%
11	Bulky Rigid Plastics	0.5%	-0.2%	1.2%
13A	EPS Food Service	0.9%	0.5%	1.3%
13B	EPS Packaging	1.3%	-0.6%	3.2%
16	White Goods/Small Appliances	0.0%	0.0%	0.0%
17	Other Ferrous	6.4%	-3.4%	16.1%
19	Other Non-Ferrous	0.3%	0.0%	0.5%
24	Electronics	0.6%	-0.7%	1.8%
Total Potentially Recyclable Materials		13.8%		
5	Low Grade Paper	17.2%	10.8%	23.6%
26	Clean Wood Waste	1.6%	-1.6%	4.8%
30	Yard Waste	0.2%	-0.2%	0.6%
31	Food Waste	13.4%	9.3%	17.4%
Total Organics		32.3%		
12A	Retail Bags	0.7%	0.6%	0.9%
12B	Non-Rigid Plastic Film	4.0%	1.6%	6.4%
14	All Other Plastics	1.1%	0.7%	1.4%
21	Other Glass	0.1%	-0.1%	0.3%
22	Textiles	4.2%	-2.5%	10.9%
23	Special Wastes	1.4%	-1.8%	4.7%
25	Household Batteries	0.0%	0.0%	0.0%
27	Treated Wood Waste	0.0%	0.0%	0.0%
28	C&D Debris	0.0%	0.0%	0.0%
29	Tires and Rubber	0.0%	0.0%	0.0%
32	All Other Garbage	5.2%	2.1%	8.3%
33	Liquids	2.0%	0.5%	3.5%
34	Grit	0.0%	0.0%	0.0%
Total All Other Materials		18.7%		
TOTAL		100.0%		

Note: Columns might not appear to add correctly due to rounding.

Figure 1: Composition of Facilities Management's Disposed Waste (% by weight)



Note: For the purpose of this chart:

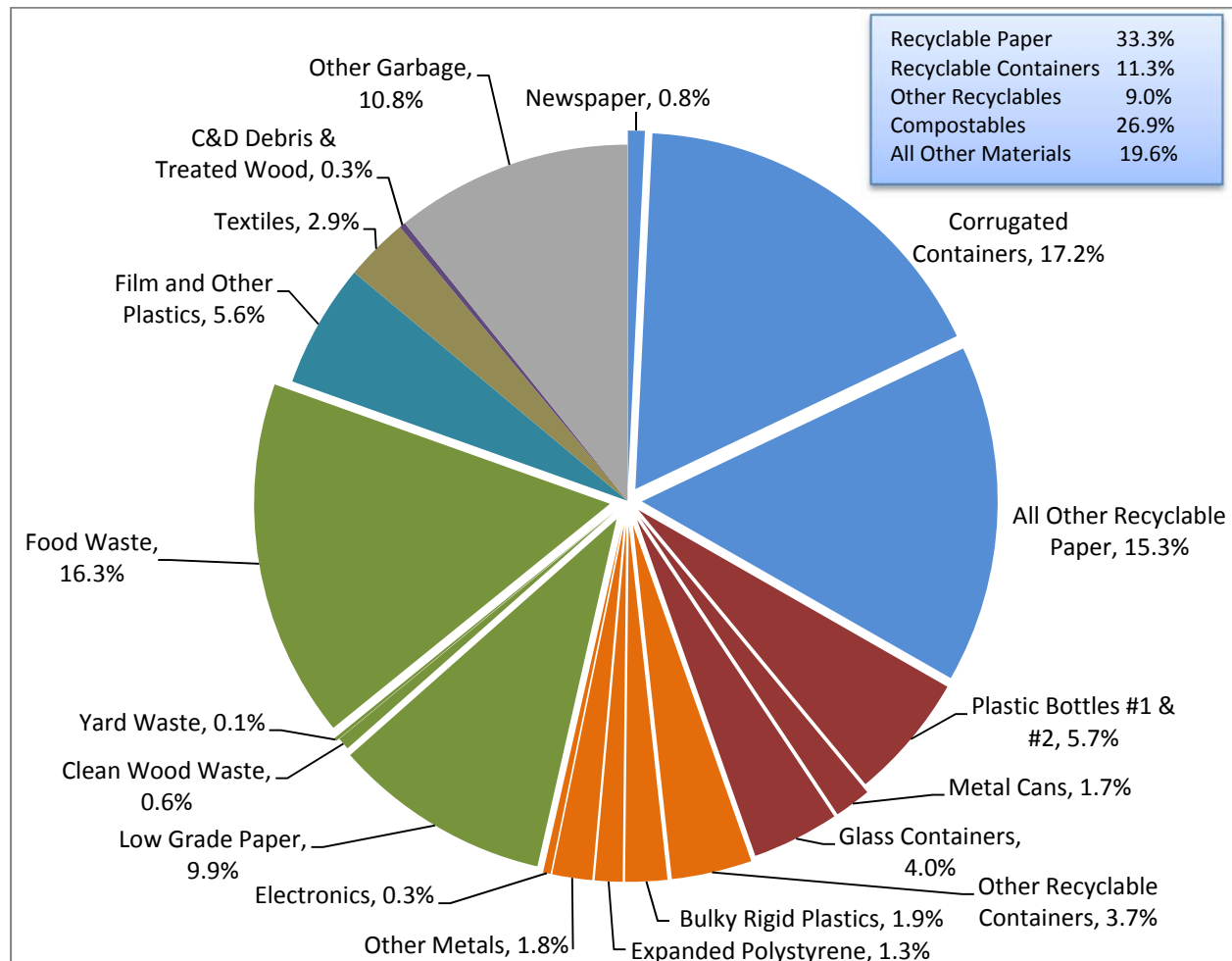
- All Other Recyclable Paper includes the categories of Office Paper and Other Recyclable Paper.
- Plastic Bottles #1 & #2 includes the categories of PET Bottles and HDPE Bottles.
- Metal Cans includes the categories of Aluminum Cans and Tin/Steel Cans.
- Other Recyclable Containers includes the categories of Aseptic Containers, Other Non-Bottle Plastics #1 and #2, and Other Plastic Containers (#3-#7).
- Expanded polystyrene includes the categories of EPS Food Service and EPS Packaging.
- Other Metals includes the categories of White Goods/Small Appliances, Other Ferrous, and Other Non-Ferrous.
- Film and Other Plastics includes the categories of Retail Bags, Non-Rigid Plastic Film, and All Other Plastics.
- Other Garbage includes the categories of Other Glass, Special Wastes, Household Batteries, Tires and Rubber, All Other Garbage, Grit, and Liquids.

Table 3: Composition of Housing's Disposed Waste (% by weight)

Material Category		Weighted Average	90% Confidence Interval	
			Lower Bounds	Upper Bounds
1	Newspaper	0.8%	0.4%	1.1%
2	Corrugated Containers	17.2%	1.6%	32.7%
3	Office Paper	4.9%	3.2%	6.5%
4	Other Recyclable Paper	10.5%	2.5%	18.4%
Total Accepted Recyclable Paper		33.3%		
7	PET Bottles	3.9%	2.6%	5.2%
8	HDPE Bottles	1.9%	0.2%	3.5%
15	Tin/Steel Cans	1.1%	0.6%	1.5%
18	Aluminum Cans	0.6%	0.5%	0.7%
20	Glass Containers	4.0%	2.3%	5.6%
Total Accepted Recyclable Containers		11.3%		
6	Aseptic Containers	0.5%	0.2%	0.7%
9	Other Non-Bottle Plastics #1 and #2	1.1%	0.4%	1.9%
10	Other Plastic Containers (#3-#7)	2.0%	1.6%	2.4%
11	Bulky Rigid Plastics	1.9%	1.0%	2.8%
13A	EPS Food Service	0.9%	0.4%	1.3%
13B	EPS Packaging	0.4%	0.0%	0.7%
16	White Goods/Small Appliances	0.0%	0.0%	0.0%
17	Other Ferrous	1.4%	-0.4%	3.3%
19	Other Non-Ferrous	0.4%	0.2%	0.6%
24	Electronics	0.3%	0.1%	0.6%
Total Potentially Recyclable Materials		9.0%		
5	Low Grade Paper	9.9%	6.5%	13.2%
26	Clean Wood Waste	0.6%	-0.2%	1.3%
30	Yard Waste	0.1%	-0.1%	0.4%
31	Food Waste	16.3%	9.1%	23.4%
Total Organics		26.9%		
12A	Retail Bags	1.1%	0.1%	2.0%
12B	Non-Rigid Plastic Film	3.3%	2.2%	4.5%
14	All Other Plastics	1.3%	0.7%	1.8%
21	Other Glass	0.7%	0.1%	1.2%
22	Textiles	2.9%	0.8%	5.0%
23	Special Wastes	2.1%	-2.1%	6.3%
25	Household Batteries	0.2%	0.0%	0.4%
27	Treated Wood Waste	0.1%	-0.1%	0.4%
28	C&D Debris	0.2%	-0.2%	0.5%
29	Tires and Rubber	0.1%	-0.1%	0.3%
32	All Other Garbage	4.0%	3.4%	4.6%
33	Liquids	2.0%	0.0%	4.0%
34	Grit	1.6%	0.2%	3.1%
Total All Other Materials		19.6%		
TOTALS		100.0%		

Note: Columns might not appear to add correctly due to rounding.

Figure 2: Composition of Housing's Disposed Waste (% by weight)



Note: For the purpose of this chart:

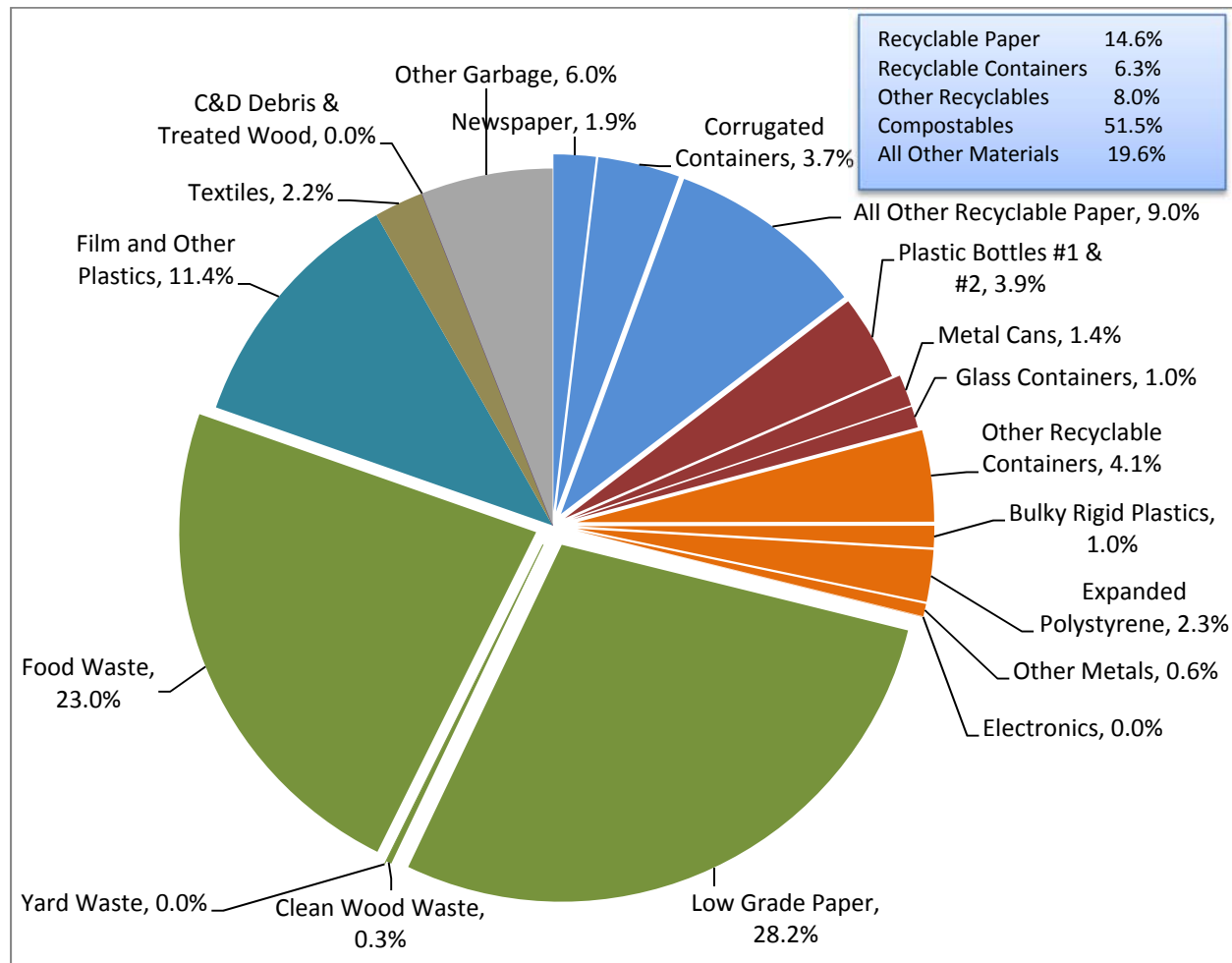
- All Other Recyclable Paper includes the categories of Office Paper and Other Recyclable Paper.
- Plastic Bottles #1 & #2 includes the categories of PET Bottles and HDPE Bottles.
- Metal Cans includes the categories of Aluminum Cans and Tin/Steel Cans.
- Other Recyclable Containers includes the categories of Aseptic Containers, Other Non-Bottle Plastics #1 and #2, and Other Plastic Containers (#3-#7).
- Expanded polystyrene includes the categories of EPS Food Service and EPS Packaging.
- Other Metals includes the categories of White Goods/Small Appliances, Other Ferrous, and Other Non-Ferrous.
- Film and Other Plastics includes the categories of Retail Bags, Non-Rigid Plastic Film, and All Other Plastics.
- Other Garbage includes the categories of Other Glass, Special Wastes, Household Batteries, Tires and Rubber, All Other Garbage, Grit, and Liquids.

Table 4: Composition of Arkansas Union's Disposed Waste (% by weight)

Material Category		Weighted Average	90% Confidence Interval	
			Lower Bounds	Upper Bounds
1	Newspaper	1.9%	0.0%	3.8%
2	Corrugated Containers	3.7%	2.2%	5.2%
3	Office Paper	2.3%	1.1%	3.4%
4	Other Recyclable Paper	6.7%	5.0%	8.4%
Total Accepted Recyclable Paper		14.6%		
7	PET Bottles	2.2%	0.8%	3.6%
8	HDPE Bottles	1.7%	0.8%	2.5%
15	Tin/Steel Cans	1.1%	0.6%	1.6%
18	Aluminum Cans	0.4%	0.1%	0.6%
20	Glass Containers	1.0%	0.1%	1.8%
Total Accepted Recyclable Containers		6.3%		
6	Aseptic Containers	0.2%	0.0%	0.4%
9	Other Non-Bottle Plastics #1 and #2	2.5%	1.2%	3.7%
10	Other Plastic Containers (#3-#7)	1.4%	1.1%	1.8%
11	Bulky Rigid Plastics	1.0%	0.3%	1.6%
13A	EPS Food Service	2.1%	1.3%	3.0%
13B	EPS Packaging	0.2%	-0.1%	0.5%
16	White Goods/Small Appliances	0.0%	0.0%	0.0%
17	Other Ferrous	0.3%	-0.2%	0.7%
19	Other Non-Ferrous	0.3%	0.0%	0.6%
24	Electronics	0.0%	0.0%	0.1%
Total Potentially Recyclable Materials		8.0%		
5	Low Grade Paper	28.2%	20.5%	36.0%
26	Clean Wood Waste	0.3%	0.0%	0.5%
30	Yard Waste	0.0%	0.0%	0.0%
31	Food Waste	23.0%	14.5%	31.5%
Total Organics		51.5%		
12A	Retail Bags	0.5%	-0.1%	1.1%
12B	Non-Rigid Plastic Film	8.5%	7.5%	9.4%
14	All Other Plastics	2.4%	1.4%	3.5%
21	Other Glass	0.0%	0.0%	0.1%
22	Textiles	2.2%	0.4%	4.1%
23	Special Wastes	0.1%	-0.1%	0.2%
25	Household Batteries	0.0%	0.0%	0.1%
27	Treated Wood Waste	0.0%	0.0%	0.0%
28	C&D Debris	0.0%	0.0%	0.0%
29	Tires and Rubber	0.0%	0.0%	0.0%
32	All Other Garbage	3.2%	2.0%	4.5%
33	Liquids	2.3%	1.1%	3.4%
34	Grit	0.3%	-0.4%	1.1%
Total All Other Materials		19.6%		
TOTALS		100.0%		

Note: Columns might not appear to add correctly due to rounding.

Figure 3: Composition of Arkansas Union's Disposed Waste (% by weight)



Note: For the purpose of this chart:

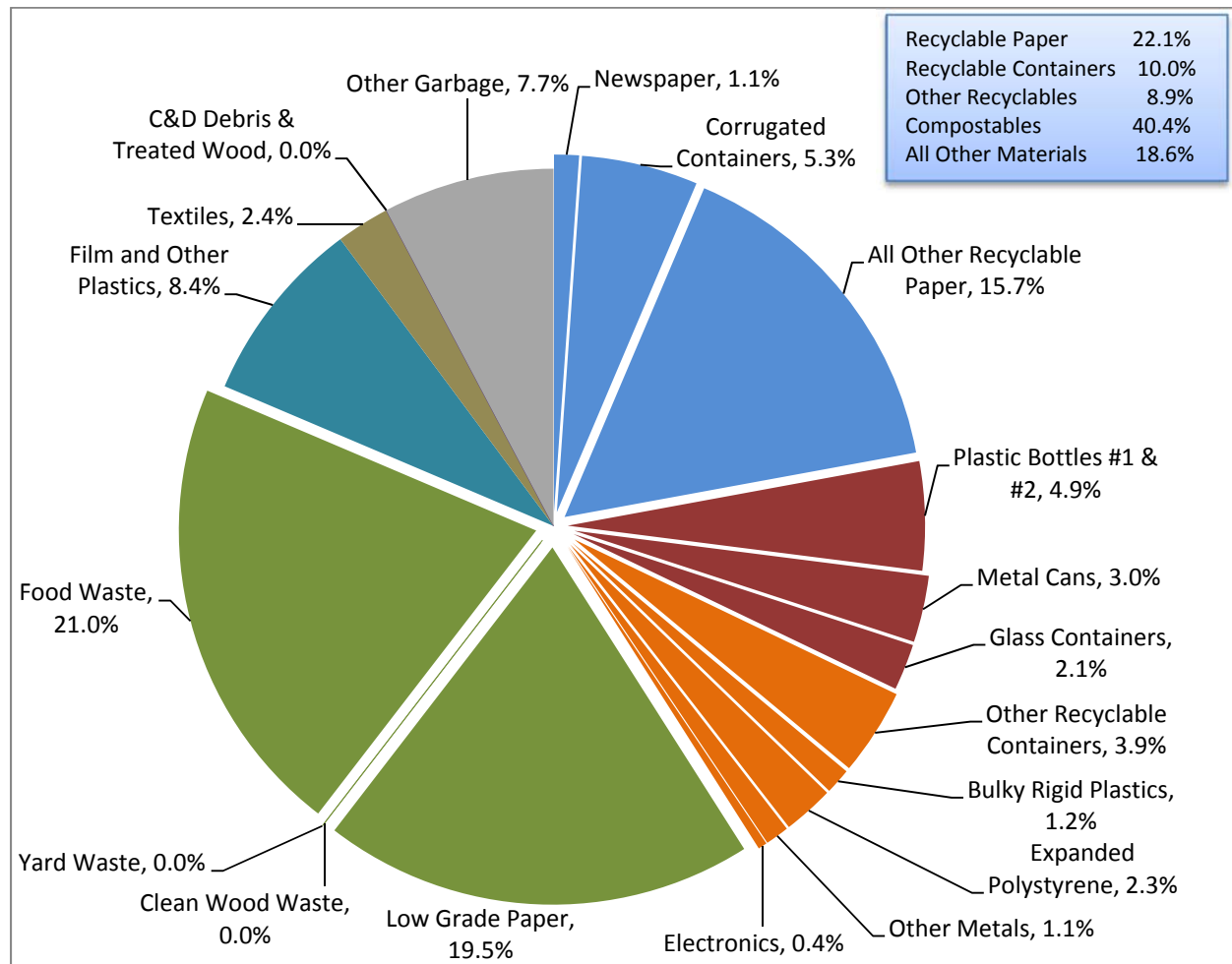
- All Other Recyclable Paper includes the categories of Office Paper and Other Recyclable Paper.
- Plastic Bottles #1 & #2 includes the categories of PET Bottles and HDPE Bottles.
- Metal Cans includes the categories of Aluminum Cans and Tin/Steel Cans.
- Other Recyclable Containers includes the categories of Aseptic Containers, Other Non-Bottle Plastics #1 and #2, and Other Plastic Containers (#3-#7).
- Expanded polystyrene includes the categories of EPS Food Service and EPS Packaging.
- Other Metals includes the categories of White Goods/Small Appliances, Other Ferrous, and Other Non-Ferrous.
- Film and Other Plastics includes the categories of Retail Bags, Non-Rigid Plastic Film, and All Other Plastics.
- Other Garbage includes the categories of Other Glass, Special Wastes, Household Batteries, Tires and Rubber, All Other Garbage, Grit, and Liquids.

Table 5: Composition of Athletics' Disposed Waste (% by weight)

Material Category		Weighted Average	90% Confidence Interval	
			Lower Bounds	Upper Bounds
1	Newspaper	1.1%	0.3%	2.0%
2	Corrugated Containers	5.3%	1.9%	8.6%
3	Office Paper	7.2%	1.1%	13.2%
4	Other Recyclable Paper	8.5%	6.4%	10.6%
Total Accepted Recyclable Paper		22.1%		
7	PET Bottles	3.5%	1.3%	5.7%
8	HDPE Bottles	1.4%	0.4%	2.4%
15	Tin/Steel Cans	0.8%	0.2%	1.5%
18	Aluminum Cans	2.2%	-0.3%	4.6%
20	Glass Containers	2.1%	0.4%	3.8%
Total Accepted Recyclable Containers		10.0%		
6	Aseptic Containers	0.2%	0.0%	0.5%
9	Other Non-Bottle Plastics #1 and #2	1.1%	0.1%	2.2%
10	Other Plastic Containers (#3-#7)	2.6%	1.6%	3.5%
11	Bulky Rigid Plastics	1.2%	-0.5%	2.8%
13A	EPS Food Service	1.4%	1.0%	1.8%
13B	EPS Packaging	0.9%	-0.4%	2.2%
16	White Goods/Small Appliances	0.0%	0.0%	0.0%
17	Other Ferrous	0.4%	-0.4%	1.2%
19	Other Non-Ferrous	0.7%	0.5%	0.9%
24	Electronics	0.4%	-0.2%	1.0%
Total Potentially Recyclable Materials		8.9%		
5	Low Grade Paper	19.5%	11.2%	27.7%
26	Clean Wood Waste	0.0%	0.0%	0.0%
30	Yard Waste	0.0%	0.0%	0.0%
31	Food Waste	21.0%	14.8%	27.1%
Total Organics		40.4%		
12A	Retail Bags	0.4%	0.0%	0.7%
12B	Non-Rigid Plastic Film	6.7%	6.1%	7.3%
14	All Other Plastics	1.3%	0.9%	1.8%
21	Other Glass	0.0%	0.0%	0.0%
22	Textiles	2.4%	0.5%	4.4%
23	Special Wastes	0.2%	-0.2%	0.6%
25	Household Batteries	0.1%	-0.1%	0.2%
27	Treated Wood Waste	0.0%	0.0%	0.0%
28	C&D Debris	0.0%	0.0%	0.0%
29	Tires and Rubber	0.0%	0.0%	0.0%
32	All Other Garbage	3.3%	2.0%	4.7%
33	Liquids	4.0%	2.2%	5.8%
34	Grit	0.2%	-0.2%	0.6%
Total All Other Materials		18.6%		
TOTALS		100.0%		

Note: Columns might not appear to add correctly due to rounding.

Figure 4: Composition of Athletics' Disposed Waste (% by weight)



Note: For the purpose of this chart:

- All Other Recyclable Paper includes the categories of Office Paper and Other Recyclable Paper.
- Plastic Bottles #1 & #2 includes the categories of PET Bottles and HDPE Bottles.
- Metal Cans includes the categories of Aluminum Cans and Tin/Steel Cans.
- Other Recyclable Containers includes the categories of Aseptic Containers, Other Non-Bottle Plastics #1 and #2, and Other Plastic Containers (#3-#7).
- Expanded polystyrene includes the categories of EPS Food Service and EPS Packaging.
- Other Metals includes the categories of White Goods/Small Appliances, Other Ferrous, and Other Non-Ferrous.
- Film and Other Plastics includes the categories of Retail Bags, Non-Rigid Plastic Film, and All Other Plastics.
- Other Garbage includes the categories of Other Glass, Special Wastes, Household Batteries, Tires and Rubber, All Other Garbage, Grit, and Liquids.

Table 6: Composition of University Aggregate Waste Disposed (% by weight)

Material Category		Facilities Management	Housing	Arkansas Union	Athletics	University Aggregate
1	Newspaper	0.7%	0.8%	1.9%	1.1%	0.9%
2	Corrugated Containers	5.6%	17.2%	3.7%	5.3%	9.1%
3	Office Paper	3.3%	4.9%	2.3%	7.2%	4.1%
4	Other Recyclable Paper	15.3%	10.5%	6.7%	8.5%	12.3%
Total Accepted Recyclable Paper		24.9%	33.3%	14.6%	22.1%	26.4%
7	PET Containers	4.0%	3.9%	2.2%	3.5%	3.8%
8	HDPE Containers	1.0%	1.9%	1.7%	1.4%	1.4%
15	Tin/Steel Cans	1.0%	1.1%	1.1%	0.8%	1.0%
18	Aluminum Cans	1.5%	0.6%	0.4%	2.2%	1.2%
20	Glass Containers	2.7%	4.0%	1.0%	2.1%	2.9%
Total Accepted Recyclable Containers		10.2%	11.3%	6.3%	10.0%	10.2%
6	Aseptic Containers	0.2%	0.5%	0.2%	0.2%	0.3%
9	Other Non-Bottle Plastics #1 and #2	0.8%	1.1%	2.5%	1.1%	1.1%
10	Other Plastic Containers (#3-#7)	3.0%	2.0%	1.4%	2.6%	2.5%
11	Bulky Rigid Plastics	0.5%	1.9%	1.0%	1.2%	1.0%
13A	EPS Food Service	0.9%	0.9%	2.1%	1.4%	1.1%
13B	EPS Packaging	1.3%	0.4%	0.2%	0.9%	0.9%
16	White Goods/Small Appliances	0.0%	0.0%	0.0%	0.0%	0.0%
17	Other Ferrous	6.4%	1.4%	0.3%	0.4%	3.6%
19	Other Non-Ferrous	0.3%	0.4%	0.3%	0.7%	0.3%
24	Electronics	0.6%	0.3%	0.0%	0.4%	0.4%
Total Potentially Recyclable Materials		13.8%	9.0%	8.0%	8.9%	11.2%
5	Low Grade Paper	17.2%	9.9%	28.2%	19.5%	16.0%
26	Clean Wood Waste	1.6%	0.6%	0.3%	0.0%	1.0%
30	Yard Waste	0.2%	0.1%	0.0%	0.0%	0.1%
31	Food Waste	13.4%	16.3%	23.0%	21.0%	15.9%
Total Organics		32.3%	26.9%	51.5%	40.4%	33.1%
12A	Retail Bags	0.7%	1.1%	0.5%	0.4%	0.8%
12B	Non-Rigid Plastic Film	4.0%	3.3%	8.5%	6.7%	4.5%
14	All Other Plastics	1.1%	1.3%	2.4%	1.3%	1.3%
21	Other Glass	0.1%	0.7%	0.0%	0.0%	0.3%
22	Textiles	4.2%	2.9%	2.2%	2.4%	3.4%
23	Special Wastes	1.4%	2.1%	0.1%	0.2%	1.4%
25	Household Batteries	0.0%	0.2%	0.0%	0.1%	0.1%
27	Treated Wood Waste	0.0%	0.1%	0.0%	0.0%	0.0%
28	C&D Debris	0.0%	0.2%	0.0%	0.0%	0.0%
29	Tires and Rubber	0.0%	0.1%	0.0%	0.0%	0.0%
32	All Other Garbage	5.2%	4.0%	3.2%	3.3%	4.4%
33	Liquids	2.0%	2.0%	2.3%	4.0%	2.2%
34	Grit	0.0%	1.6%	0.3%	0.2%	0.6%
Total All Other Materials		18.7%	19.6%	19.6%	18.6%	19.0%
TOTALS		100.0%	100.0%	100.0%	100.0%	100.0%

Note: Columns might not appear to add correctly due to rounding.

Table 7: Estimated Metric Tons of University Aggregate Waste Disposed, 2014

Material Category		Facilities Management	Housing	Arkansas Union	Athletics	University Aggregate
1	Newspaper	10	7	5	3	26
2	Corrugated Containers	79	159	9	16	263
3	Office Paper	46	45	6	22	119
4	Other Recyclable Paper	216	97	16	26	355
Total Accepted Recyclable Paper		352	307	36	67	762
7	PET Containers	57	36	5	11	108
8	HDPE Containers	14	17	4	4	40
15	Tin/Steel Cans	14	10	3	3	29
18	Aluminum Cans	22	6	1	7	35
20	Glass Containers	38	37	2	6	83
Total Accepted Recyclable Containers		145	105	15	31	295
6	Aseptic Containers	2	4	1	1	8
9	Other Non-Bottle Plastics #1 and #2	11	10	6	3	31
10	Other Plastic Containers (#3-#7)	42	19	4	8	72
11	Bulky Rigid Plastics	7	18	2	4	30
13A	EPS Food Service	13	8	5	4	31
13B	EPS Packaging	18	4	0	3	25
16	White Goods/Small Appliances	0	0	0	0	0
17	Other Ferrous	90	13	1	1	105
19	Other Non-Ferrous	4	4	1	2	10
24	Electronics	8	3	0	1	12
Total Potentially Recyclable Materials		195	83	20	27	325
5	Low Grade Paper	243	91	69	59	463
26	Clean Wood Waste	22	5	1	0	28
30	Yard Waste	3	1	0	0	4
31	Food Waste	189	150	57	64	460
Total Organics		457	248	126	123	955
12A	Retail Bags	10	10	1	1	22
12B	Non-Rigid Plastic Film	57	31	21	21	129
14	All Other Plastics	15	12	6	4	37
21	Other Glass	1	6	0	0	8
22	Textiles	59	27	6	7	99
23	Special Wastes	20	19	0	1	40
25	Household Batteries	0	2	0	0	2
27	Treated Wood Waste	0	1	0	0	1
28	C&D Debris	0	1	0	0	1
29	Tires and Rubber	0	1	0	0	1
32	All Other Garbage	73	37	8	10	128
33	Liquids	28	19	6	12	65
34	Grit	0	15	1	1	17
Total All Other Materials		264	181	48	57	550
TOTALS		1,413	924	245	304	2,886

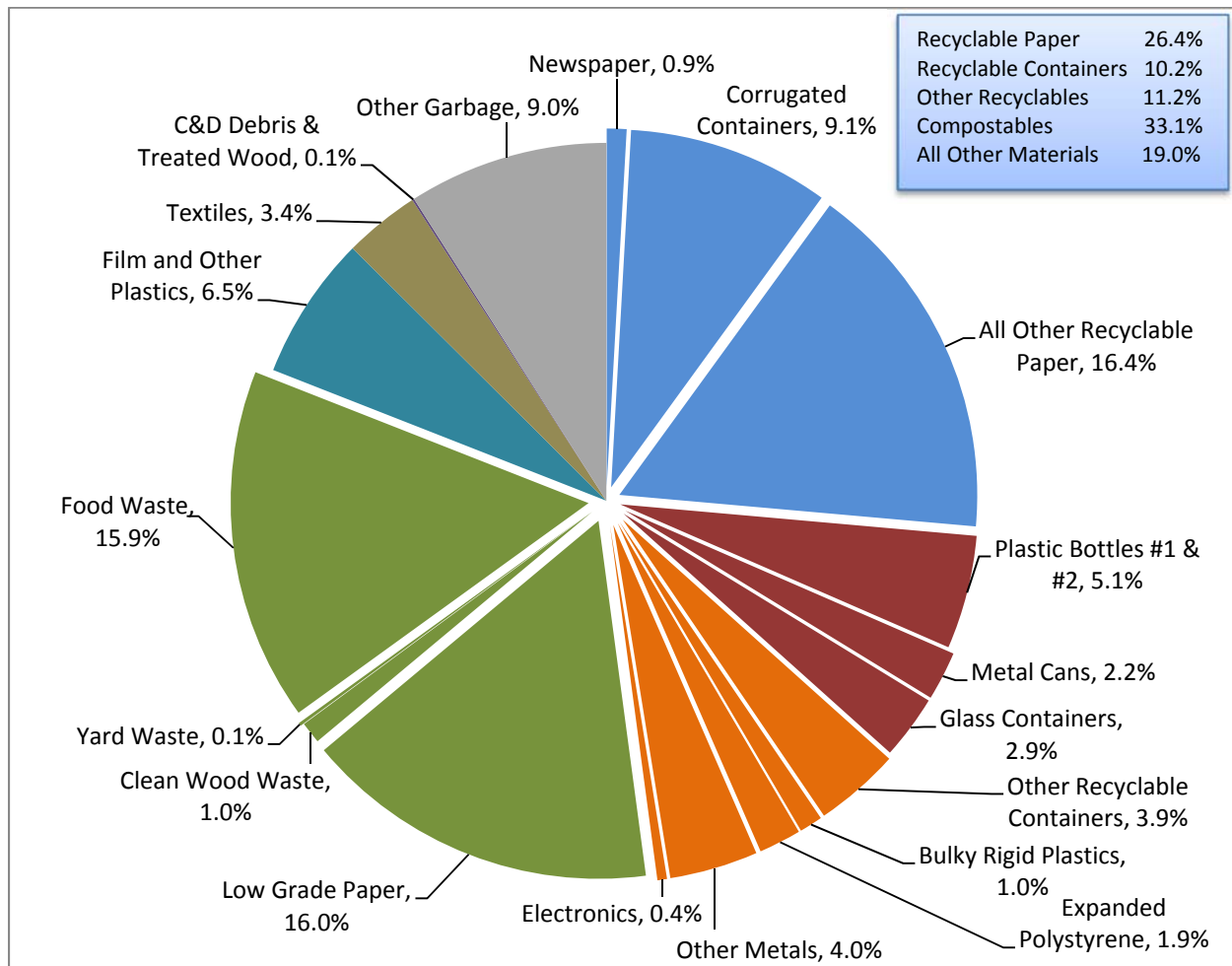
Note: Columns might not add correctly due to rounding.

Table 8: Estimated Short Tons of University Aggregate Waste Disposed, 2014

Material Category		Facilities Management	Housing	Arkansas Union	Athletics	University Aggregate
1	Newspaper	12	8	5	4	28
2	Corrugated Containers	87	175	10	18	290
3	Office Paper	51	50	6	24	131
4	Other Recyclable Paper	238	107	18	29	391
Total Accepted Recyclable Paper		388	339	39	74	840
7	PET Containers	62	39	6	12	120
8	HDPE Containers	16	19	5	5	44
15	Tin/Steel Cans	16	11	3	3	32
18	Aluminum Cans	24	6	1	7	38
20	Glass Containers	42	40	3	7	92
Total Accepted Recyclable Containers		159	116	17	34	326
6	Aseptic Containers	2	5	1	1	9
9	Other Non-Bottle Plastics #1 and #2	13	12	7	4	35
10	Other Plastic Containers (#3-#7)	46	21	4	9	80
11	Bulky Rigid Plastics	7	19	3	4	33
13A	EPS Food Service	14	9	6	5	34
13B	EPS Packaging	20	4	1	3	27
16	White Goods/Small Appliances	0	0	0	0	0
17	Other Ferrous	99	15	1	1	116
19	Other Non-Ferrous	4	4	1	2	11
24	Electronics	9	4	0	1	14
Total Potentially Recyclable Materials		215	91	22	30	358
5	Low Grade Paper	268	101	76	65	510
26	Clean Wood Waste	25	6	1	0	31
30	Yard Waste	3	1	0	0	4
31	Food Waste	208	166	62	70	507
Total Organics		504	274	139	136	1,052
12A	Retail Bags	11	11	1	1	25
12B	Non-Rigid Plastic Film	62	34	23	23	142
14	All Other Plastics	17	13	7	4	41
21	Other Glass	2	7	0	0	8
22	Textiles	65	29	6	8	109
23	Special Wastes	22	21	0	1	44
25	Household Batteries	0	2	0	0	2
27	Treated Wood Waste	0	1	0	0	1
28	C&D Debris	0	2	0	0	2
29	Tires and Rubber	0	1	0	0	1
32	All Other Garbage	81	41	9	11	141
33	Liquids	31	21	6	13	71
34	Grit	0	17	1	1	18
Total All Other Materials		291	199	53	62	606
TOTALS		1,557	1,018	271	336	3,182

Note: Columns might not appear to add correctly due to rounding.

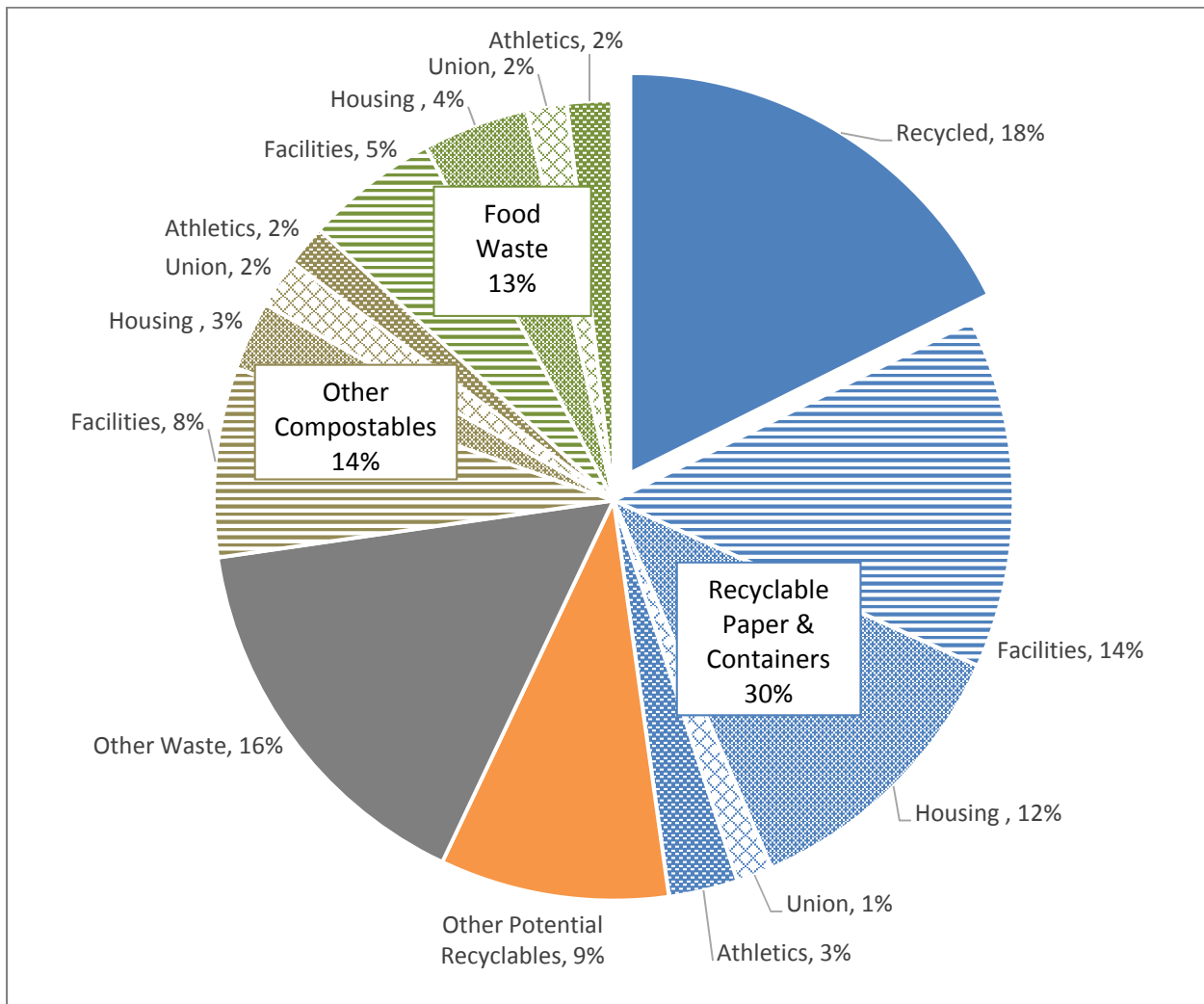
Figure 5: Composition of University Aggregate Waste Disposed (% by weight)



Note: For the purpose of this chart:

- All Other Recyclable Paper includes the categories of Office Paper and Other Recyclable Paper.
- Plastic Bottles #1 & #2 includes the categories of PET Bottles and HDPE Bottles.
- Metal Cans includes the categories of Aluminum Cans and Tin/Steel Cans.
- Other Recyclable Containers includes the categories of Aseptic Containers, Other Non-Bottle Plastics #1 and #2, and Other Plastic Containers (#3-#7).
- Expanded polystyrene includes the categories of EPS Food Service and EPS Packaging.
- Other Metals includes the categories of White Goods/Small Appliances, Other Ferrous, and Other Non-Ferrous.
- Film and Other Plastics includes the categories of Retail Bags, Non-Rigid Plastic Film, and All Other Plastics.
- Other Garbage includes the categories of Other Glass, Special Wastes, Household Batteries, Tires and Rubber, All Other Garbage, Grit, and Liquids.

Figure 6: Composition of Materials Generated at the University, 2014 (% by weight)



Note: For the purpose of this chart:

- Recyclable Paper & Containers includes the categories of Newspaper, Corrugated Containers, Office Paper, Other Recyclable Paper, PET Bottles, HDPE Bottles, Tin/Steel Cans, Aluminum Cans, and Glass Containers.
- Other Potential Recyclables includes the categories of Aseptic Containers, Other Non-Bottles Plastics #1 and #2, Other Plastic Containers, Bulky Rigid Plastics, EPS Food Service, EPS, Packaging, White Goods/Small Appliances, Other Ferrous, Other Non-Ferrous, and Electronics.
- Other Compostables includes the categories of Low Grade Paper, Clean Wood Waste, and Yard Waste.
- Other Waste includes Retail Bags, Non-Rigid Plastic Film, All Other Plastics, Other Glass, Textiles, Special Wastes, Household Batteries, Treated Wood Waste, C&D Debris, Tires and Rubber, All Other Garbage, Grit, and Liquids found in residential and commercial waste (not including Drop Box waste).

ATTACHMENT A – Material Category Descriptions

#	Material Categories	Description of Categories
1	Newspaper	Newspaper (loose, tied, or shredded) including other paper normally distributed inside newspaper such as ads, flyers, etc.
2	Corrugated Cardboard (OCC)	Uncoated brown "cardboard" boxes with a wavy core (no plastic liners, waxy coatings).
3	Office Paper	Printed or unprinted paper typically generated in an office environment including white, colored, coated and uncoated papers, and manila and pastel colored file folders.
4	Other Recyclable Paper	All magazines, catalogs, paperboard, chipboard, brown paper bags, telephone books, and other printed material on glossy and non-glossy paper.
5	Low Grade Paper	All remaining paper not categorized in other paper categories, including waxy cardboard and contaminated paper (i.e., napkins, pizza boxes, paper towels, fast-food wrappers, etc.).
6	Aseptic Containers	Gable top milk cartons, juice boxes, and other similar containers.
7	Polyethylene terephthalate (PET) Bottles (SPI #1)	Clear and colored bottles or jars coded PET #1 such as soda bottles, water bottles, etc. These bottles/jars will typically have a screw-on lid or cap.
8	High-density polyethylene (HDPE) Bottles (SPI #2)	Clear/natural and pigmented bottles or jars coded HDPE #2 such as milk jugs, detergent bottles, etc. These bottles/jars will typically have a screw-on lid or cap.
9	Other Non-Bottle Plastics #1 and #2	Clear and colored plastic items labeled PET #1 such as clamshell containers, frozen food trays, disposable cups, and other items labeled PET #1. Also includes wide-mouthed tubs and containers labeled HDPE #2 including lids. Examples include yogurt cups, margarine tubs, Cool Whip® tubs, and other non-bottle HDPE items.
10	Other Recyclable Plastic Containers	All other plastic containers and cups, sometimes coded #3-#7.
11	Bulky Rigid Plastics	Consists of non-container rigid plastic items such as plastic drums, crates, buckets, baskets, toys, refuse totes, lawn furniture, flower pots, laundry baskets, and other large plastic items. <i>Does not include electronic toys.</i>
12A	Retail Plastic Bags	Grocery bags, retail checkout bags, and other bags associated with the retail service industry.
12B	Other Non-rigid Plastic Film	Garbage bags, bread bags, zipper-lock bags, plastic sheeting, saran wrap, visqueen, etc.
13A	Expanded Polystyrene Foam (EPS) (Food Service)	Disposable coffee cups, to-go boxes, plates and other items associated with food service,
13B	Expanded Polystyrene Foam (EPS) (Packaging)	Disposable packaging materials, which are typically white and are made of expanded polystyrene beads.
14	All Other Plastics	Any plastic materials not categorized above, such as deodorant cases, toothpaste tubes, tooth brushes, broom heads, etc.
15	Tin/Steel Cans	Tin-plated steel cans, usually food containers, and aerosol cans.
16	White Goods	Household appliances such as refrigerators, stoves, and salvageable items such as machinery.

ATTACHMENT A – Material Category Descriptions (continued)

#	Material Categories	Description of Categories
17	Other Ferrous	Steel, clothes hangers, sheet metal products, pipes, miscellaneous metal scraps, and other magnetic metal items.
18	Aluminum Cans	Aluminum soft drink, beer, and some food cans.
19	Other Non-Ferrous	Scrap aluminum, aluminum foil, and catering trays, and other non-magnetic metal, copper wiring and tubing, and brass fixtures.
20	Glass Containers	Clear, Brown, and Green glass bottles and containers.
21	Other Glass	Window panes, mirrors, ceramics, and drinking glasses.
22	Textiles	Clothing apparel, rags, leather, blankets, curtains, shoes, wallets, purses, belts, and scrap leather.
23	Special Wastes	Cleaners, oil, pool chemicals, fluorescent lights, medical waste, solvents, etc., that are considered household hazardous waste.
24	Electronics (E-waste)	Electronic devices such as televisions, computers, cell phones, cordless telephones, PDA, handheld devices, rechargeable batteries, etc.
25	Household Batteries	Household batteries including AA, AAA, C, D, 9-volt, and button types.
26	Clean Wood Waste	Untreated and unpainted lumber, pallets and dimensional lumber. Also includes untreated/unpainted wood furniture including chairs, cabinets, dressers, etc.
27	Treated Wood Waste	Treated and painted lumber, pallets, and dimensional lumber. Also includes treated/painted wood furniture including chairs, cabinets, dressers, etc.
28	C&D Debris	Construction and demolition debris that includes concrete, carpet, drywall, insulation, and roofing materials.
29	Tires and Rubber	Small and large tires and other items made of rubber.
30	Yard Waste	Shrub and brush prunings, household bedding plants, weeds, leaves, grass clippings, and other landscaping and gardening wastes.
31	Food Waste	Meat and vegetable waste (includes coffee grinds and tea bags).
32	All Other Garbage	All other wastes not included in the above categories, including diapers and products that are composite of materials such as frozen juice cans, binders, Pringle's can, chip bags, etc.
33	Liquids	All liquids found in containers will be emptied here.
34	Grit	Indistinguishable items less than 1-inch in diameter.

ATTACHMENT B –Facilities Management– Individual Sample Results

Hauler/Location		Facilities #1	Facilities #2	Facilities #3	Facilities #4	Facilities #5	Weighted Average
	Material Categories sample #	1	2	3	4	5	
1	Newspaper	0.00%	1.42%	1.15%	0.41%	0.70%	0.74%
2	Corrugated Containers	2.86%	7.10%	1.51%	10.20%	6.04%	5.62%
3	Office Paper	4.03%	3.17%	0.73%	5.35%	3.00%	3.26%
4	Other Recyclable Paper	9.86%	15.53%	10.65%	26.79%	12.09%	15.27%
5	Low Grade Paper	12.89%	25.43%	8.21%	20.21%	19.45%	17.21%
6	Aseptic Containers	0.00%	0.00%	0.36%	0.00%	0.40%	0.15%
7	PET Bottles	4.76%	0.80%	8.52%	0.00%	6.27%	4.01%
8	HDPE Bottles	1.57%	1.11%	0.95%	0.00%	1.54%	1.00%
9	Other Non-Bottle Plastics #1 and #2	1.00%	0.47%	0.58%	0.00%	2.18%	0.81%
10	Other Plastic Containers (#3-#7)	6.87%	3.17%	1.75%	1.03%	2.60%	2.98%
11	Bulky Rigid Plastics	0.00%	0.00%	1.62%	0.00%	0.70%	0.47%
12A	Retail Bags	0.65%	0.95%	0.73%	0.58%	0.75%	0.73%
12B	Non-Rigid Plastic Film	2.17%	5.23%	2.99%	1.97%	8.02%	4.00%
13A	Styrofoam Food Service	0.72%	1.11%	0.85%	0.46%	1.56%	0.93%
13B	Styrofoam Packaging	0.00%	0.00%	0.95%	4.65%	0.26%	1.27%
14	All Other Plastics	1.14%	1.54%	0.55%	0.99%	1.25%	1.08%
15	Tin/Steel Cans	0.54%	1.54%	1.40%	0.83%	0.70%	1.01%
16	White Goods/Small Appliances	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
17	Other Ferrous	7.75%	0.00%	23.55%	0.00%	0.00%	6.39%
18	Aluminum Cans	4.36%	1.11%	0.69%	0.53%	1.25%	1.53%
19	Other Non-Ferrous	0.21%	0.00%	0.73%	0.00%	0.31%	0.25%
20	Glass Containers	8.14%	1.34%	1.62%	0.00%	3.10%	2.70%
21	Other Glass	0.00%	0.00%	0.47%	0.00%	0.00%	0.10%
22	Textiles	0.65%	0.00%	2.29%	16.35%	0.00%	4.19%
23	Special Wastes	7.62%	0.00%	0.00%	0.00%	0.00%	1.42%
24	Electronics	0.00%	0.00%	0.00%	0.00%	3.00%	0.56%
25	Household Batteries	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
26	Clean Wood Waste	0.00%	0.00%	7.54%	0.00%	0.00%	1.58%
27	Treated Wood Waste	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
28	C&D Debris	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
29	Tires and Rubber	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
30	Yard Waste	0.00%	0.93%	0.00%	0.00%	0.00%	0.18%
31	Food Waste	12.15%	18.08%	14.23%	7.03%	16.08%	13.37%
32	All Other Garbage	10.05%	5.97%	3.91%	1.19%	5.67%	5.19%
33	Liquids	0.00%	3.98%	1.51%	1.44%	3.08%	1.99%
34	Grit	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	TOTALS	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

ATTACHMENT C –Housing– Individual Sample Results

Hauler/Location		Housing #1	Housing #2	Housing #3	Housing #4	Housing #5	Weighted Average
	Material Categories sample #	6	7	11	12	13	
1	Newspaper	0.96%	1.16%	0.43%	0.28%	1.02%	0.77%
2	Corrugated Containers	5.60%	10.07%	1.46%	40.45%	26.83%	17.17%
3	Office Paper	4.64%	4.24%	7.43%	5.49%	2.62%	4.87%
4	Other Recyclable Paper	24.95%	7.42%	9.61%	4.22%	6.06%	10.46%
5	Low Grade Paper	11.51%	11.86%	12.30%	3.81%	10.22%	9.90%
6	Aseptic Containers	0.38%	0.26%	0.46%	0.37%	0.87%	0.48%
7	PET Bottles	5.38%	3.08%	5.38%	2.83%	2.68%	3.87%
8	HDPE Bottles	0.83%	0.36%	4.11%	0.54%	3.25%	1.85%
9	Other Non-Bottle Plastics #1 and #2	2.39%	0.58%	1.16%	0.48%	1.00%	1.13%
10	Other Plastic Containers (#3-#7)	2.76%	1.69%	1.86%	1.96%	1.94%	2.05%
11	Bulky Rigid Plastics	1.05%	3.08%	1.66%	1.07%	2.72%	1.90%
12A	Retail Bags	2.80%	0.74%	0.65%	0.48%	0.58%	1.05%
12B	Non-Rigid Plastic Film	2.15%	4.05%	5.08%	2.53%	2.93%	3.32%
13A	Styrofoam Food Service	0.96%	1.64%	0.64%	0.54%	0.67%	0.87%
13B	Styrofoam Packaging	0.48%	0.94%	0.17%	0.39%	0.00%	0.38%
14	All Other Plastics	1.97%	1.69%	1.26%	0.96%	0.50%	1.26%
15	Tin/Steel Cans	0.74%	0.87%	1.39%	0.48%	1.75%	1.06%
16	White Goods/Small Appliances	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
17	Other Ferrous	0.38%	1.06%	0.41%	4.88%	0.40%	1.43%
18	Aluminum Cans	0.53%	0.63%	0.73%	0.76%	0.40%	0.61%
19	Other Non-Ferrous	0.33%	0.26%	0.50%	0.20%	0.62%	0.39%
20	Glass Containers	2.80%	5.01%	6.62%	2.85%	2.71%	3.96%
21	Other Glass	0.37%	0.00%	0.45%	1.57%	0.87%	0.67%
22	Textiles	2.36%	2.12%	6.70%	2.35%	0.92%	2.88%
23	Special Wastes	0.00%	0.00%	0.00%	0.00%	9.88%	2.10%
24	Electronics	0.48%	0.00%	0.65%	0.48%	0.10%	0.35%
25	Household Batteries	0.37%	0.40%	0.13%	0.10%	0.00%	0.20%
26	Clean Wood Waste	0.48%	0.00%	0.00%	0.24%	1.94%	0.56%
27	Treated Wood Waste	0.00%	0.00%	0.00%	0.63%	0.00%	0.13%
28	C&D Debris	0.00%	0.00%	0.00%	0.76%	0.00%	0.16%
29	Tires and Rubber	0.00%	0.41%	0.00%	0.00%	0.27%	0.13%
30	Yard Waste	0.00%	0.00%	0.00%	0.00%	0.67%	0.14%
31	Food Waste	15.24%	27.85%	19.77%	9.69%	10.26%	16.27%
32	All Other Garbage	4.68%	4.63%	3.25%	3.74%	3.70%	3.99%
33	Liquids	1.05%	0.82%	5.74%	1.52%	1.02%	2.03%
34	Grit	1.36%	3.08%	0.00%	3.34%	0.60%	1.65%
	TOTALS	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

ATTACHMENT D –Arkansas Union– Individual Sample Results

Hauler/Location		Union #1	Union #2	Union #3	Union #4	Union #5	Weighted Average
	Material Categories sample #	16	17	18	19	20	
1	Newspaper	0.71%	1.25%	1.01%	1.03%	5.49%	1.90%
2	Corrugated Containers	3.00%	6.18%	4.30%	3.16%	1.95%	3.70%
3	Office Paper	1.43%	1.66%	2.17%	1.69%	4.42%	2.28%
4	Other Recyclable Paper	6.90%	6.70%	4.31%	6.27%	9.37%	6.72%
5	Low Grade Paper	41.68%	22.09%	23.11%	29.48%	23.95%	28.22%
6	Aseptic Containers	0.00%	0.44%	0.40%	0.24%	0.00%	0.21%
7	PET Bottles	4.72%	2.05%	1.32%	1.16%	1.65%	2.21%
8	HDPE Bottles	1.63%	2.59%	0.46%	1.15%	2.48%	1.66%
9	Other Non-Bottle Plastics #1 and #2	3.45%	1.95%	1.92%	4.18%	0.94%	2.49%
10	Other Plastic Containers (#3-#7)	1.16%	1.66%	1.75%	1.69%	0.92%	1.43%
11	Bulky Rigid Plastics	0.00%	1.52%	0.59%	1.08%	1.71%	0.97%
12A	Retail Bags	0.00%	0.32%	0.31%	0.37%	1.53%	0.51%
12B	Non-Rigid Plastic Film	7.45%	10.00%	8.63%	7.83%	8.48%	8.46%
13A	Styrofoam Food Service	2.48%	1.17%	1.13%	3.12%	2.76%	2.14%
13B	Styrofoam Packaging	0.00%	0.00%	0.00%	0.23%	0.77%	0.20%
14	All Other Plastics	2.23%	1.12%	1.84%	3.21%	3.81%	2.45%
15	Tin/Steel Cans	0.64%	1.03%	0.55%	1.84%	1.30%	1.06%
16	White Goods/Small Appliances	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
17	Other Ferrous	0.00%	0.32%	0.00%	0.98%	0.00%	0.25%
18	Aluminum Cans	0.00%	0.68%	0.47%	0.34%	0.30%	0.35%
19	Other Non-Ferrous	0.00%	0.32%	0.70%	0.54%	0.00%	0.31%
20	Glass Containers	0.00%	1.78%	1.75%	1.35%	0.00%	0.96%
21	Other Glass	0.00%	0.00%	0.00%	0.10%	0.00%	0.02%
22	Textiles	0.00%	2.05%	2.13%	1.74%	5.38%	2.25%
23	Special Wastes	0.00%	0.00%	0.00%	0.00%	0.31%	0.06%
24	Electronics	0.00%	0.00%	0.09%	0.00%	0.00%	0.02%
25	Household Batteries	0.00%	0.20%	0.00%	0.00%	0.00%	0.04%
26	Clean Wood Waste	0.00%	0.32%	0.55%	0.00%	0.42%	0.26%
27	Treated Wood Waste	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
28	C&D Debris	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
29	Tires and Rubber	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
30	Yard Waste	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
31	Food Waste	14.33%	27.86%	36.10%	21.25%	16.27%	23.03%
32	All Other Garbage	5.27%	2.88%	3.14%	3.04%	1.71%	3.23%
33	Liquids	2.91%	1.86%	1.27%	1.20%	4.07%	2.28%
34	Grit	0.00%	0.00%	0.00%	1.74%	0.00%	0.34%
	TOTALS	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

ATTACHMENT E –Athletics– Individual Sample Results

Hauler/Location		Athletics #1	Athletics #2	Athletics #3	Athletics #4	Athletics #5	Weighted Average
	Material Categories sample #	8	9	10	14	15	
1	Newspaper	0.00%	1.62%	0.60%	1.14%	2.28%	1.12%
2	Corrugated Containers	2.83%	1.28%	5.01%	10.04%	7.43%	5.27%
3	Office Paper	1.92%	1.53%	6.33%	9.35%	16.95%	7.18%
4	Other Recyclable Paper	5.57%	10.37%	10.96%	8.60%	7.41%	8.54%
5	Low Grade Paper	24.12%	27.96%	23.84%	14.54%	6.66%	19.46%
6	Aseptic Containers	0.00%	0.00%	0.50%	0.42%	0.29%	0.24%
7	PET Bottles	0.17%	3.04%	5.74%	5.86%	2.98%	3.50%
8	HDPE Bottles	0.48%	1.32%	0.36%	2.00%	2.95%	1.41%
9	Other Non-Bottle Plastics #1 and #2	2.79%	1.53%	0.53%	0.74%	0.00%	1.14%
10	Other Plastic Containers (#3-#7)	2.66%	3.84%	2.73%	2.49%	1.07%	2.55%
11	Bulky Rigid Plastics	0.00%	0.00%	3.79%	2.17%	0.00%	1.16%
12A	Retail Bags	0.00%	0.00%	0.65%	0.46%	0.77%	0.37%
12B	Non-Rigid Plastic Film	6.53%	7.02%	7.67%	5.98%	6.48%	6.74%
13A	Styrofoam Food Service	1.57%	1.21%	2.00%	1.24%	0.95%	1.39%
13B	Styrofoam Packaging	0.00%	0.00%	0.00%	3.12%	1.49%	0.90%
14	All Other Plastics	1.92%	1.29%	0.72%	0.94%	1.68%	1.32%
15	Tin/Steel Cans	0.00%	0.82%	0.72%	0.69%	1.98%	0.84%
16	White Goods/Small Appliances	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
17	Other Ferrous	0.00%	0.00%	0.00%	0.00%	1.89%	0.38%
18	Aluminum Cans	6.53%	2.32%	0.76%	0.42%	0.57%	2.18%
19	Other Non-Ferrous	1.04%	0.72%	0.76%	0.43%	0.50%	0.69%
20	Glass Containers	3.83%	1.74%	3.94%	0.00%	0.84%	2.10%
21	Other Glass	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
22	Textiles	1.94%	5.68%	1.00%	3.05%	0.50%	2.42%
23	Special Wastes	0.00%	0.91%	0.00%	0.00%	0.00%	0.18%
24	Electronics	0.20%	0.00%	1.39%	0.46%	0.00%	0.40%
25	Household Batteries	0.24%	0.00%	0.00%	0.00%	0.00%	0.05%
26	Clean Wood Waste	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
27	Treated Wood Waste	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
28	C&D Debris	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
29	Tires and Rubber	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
30	Yard Waste	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
31	Food Waste	26.65%	19.98%	13.20%	16.23%	28.01%	20.95%
32	All Other Garbage	4.44%	1.53%	2.45%	3.19%	4.98%	3.34%
33	Liquids	4.57%	4.31%	3.32%	6.44%	1.34%	3.98%
34	Grit	0.00%	0.00%	1.02%	0.00%	0.00%	0.20%
	TOTALS	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%



TECHNICAL MEMORANDUM NO.3

DATE: April 30, 2015
TO: Jeff Coles, Recycling and Trash Collection Director
City of Fayetteville, AR
FROM: Robin Mitchell, Project Manager
SUBJ: Baseline of Existing Waste Management System
PROJ #: 173-00.00

Kessler Consulting, Inc. (KCI) was contracted by the City of Fayetteville, Arkansas (City) to assist in developing a Solid Waste Reduction, Diversion, and Recycling Master Plan (Plan). The first step in developing this Plan was to review and analyze available information about the existing solid waste and recycling system, as provided by City staff. This technical memorandum provides a summary of the current system, which will serve as a baseline for future comparison, analysis, and recommendations.

1. Introduction

Fayetteville covers a geographic area of 55.2 square miles in northwestern Arkansas. It is the third-largest city in Arkansas with a population of 78,960 (2013).¹ The City is the county seat of Washington County and is part of the Boston Mountain Solid Waste District (District), which encompasses Washington and Madison counties.

The City is home to the University of Arkansas (U of A), which has approximately 22,000 undergraduate and 4,000 graduate students. U of A also employs about 1,200 faculty and 3,000 staff members. The large student population is reflected in the relatively low level of home ownership (41.5 percent) and high level of housing units in multi-unit structures (46.3 percent).²

The City participates in the Sustainability Tools for Assessing and Rating (STAR) Communities program, a voluntary, self-reporting framework for evaluating, quantifying, and improving the livability and sustainability of U.S. communities. Waste minimization is one element of the STAR climate and energy goals. The City has used the STAR structure to measure overall sustainability and as a gap analysis for future initiatives.

The City has a robust solid waste and recycling collection, processing, and disposal system, as further discussed in this memorandum. The City's Recycling and Trash Division (Division) is funded through an enterprise fund with service fees and recycling revenue covering the cost of services provided. Solid waste fees are billed by the City and included on the customer's utility bill.

¹ U.S. Census Bureau estimate.

² U.S. Census Bureau.

2. Waste Generation

Figure 1 provides the quantity of waste generated within the City that was disposed, recycled, or composted during the last 10 years. In 2014, 63,415 tons of material were generated, 5,961 tons of which were recycled (9 percent), 7,011 tons composted (11 percent), and the remainder landfilled.³ The waste diversion rate has ranged from 16-20 percent over the last 10 years, with a 20 percent diversion rate in 2014.

Figure 1: Waste Disposed, Recycled, and Composted, 2005-2014 (tons)

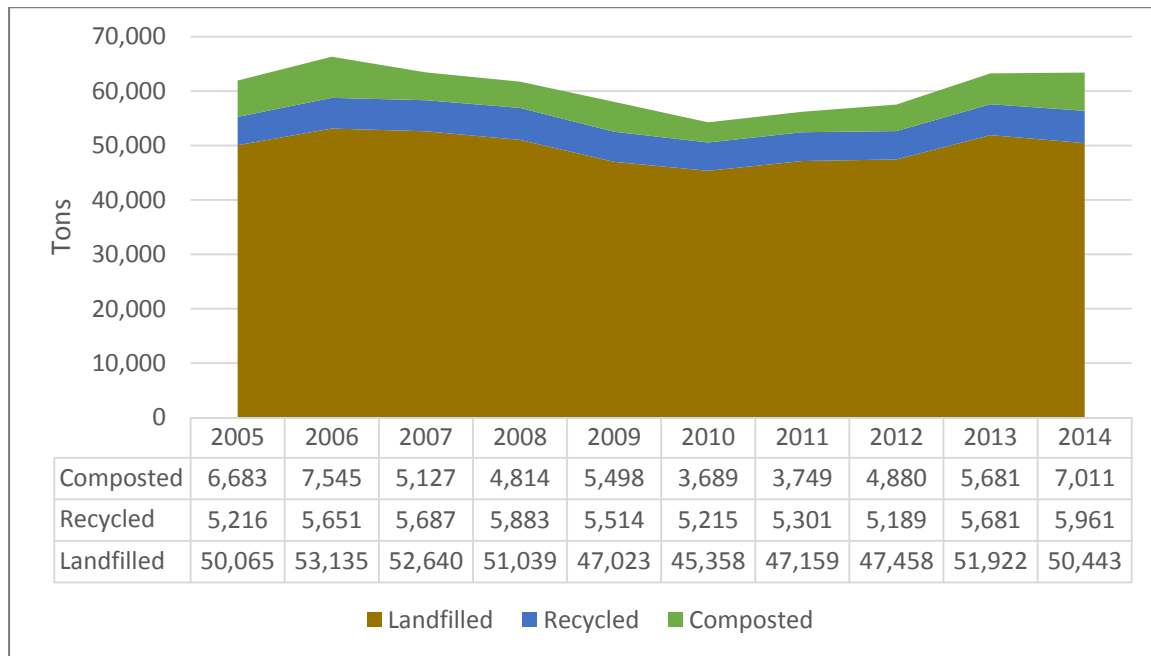


Figure 2 depicts per capita waste generation during the same time period and also projects population growth and total waste generation over the next 10 years. Population is assumed to increase at 1.9 percent annually (average rate of increase since the 2010 census) and to exceed 97,000 residents by 2025.⁴

Per capita waste generation declined during the recessionary years of 2008 through 2011, which was the trend nationally, and began increasing again in 2012. Future waste generation is estimated based on the average per capita waste generation during the last 10 years (0.85 tons per capita annually). Based on these assumptions, nearly 83,000 tons of materials will be generated in 2025.

Table 1 provides the waste generation projections during the next 10 years, as well as the quantity of materials disposed, recycled, or composted assuming no changes are made to the existing waste management system.

³ Recycling tonnage is based on materials marketed. Composting tonnage is estimated by the City based on type of materials received, approximate cubic yards, and conversion factors.

⁴ The Northwest Arkansas Planning Commission estimates the 2025 population of Fayetteville at 97,191 (per communication with Jeff Hawkins, October 28, 2014).

Figure 2: Population and Waste Generation Projections, 2005-2025

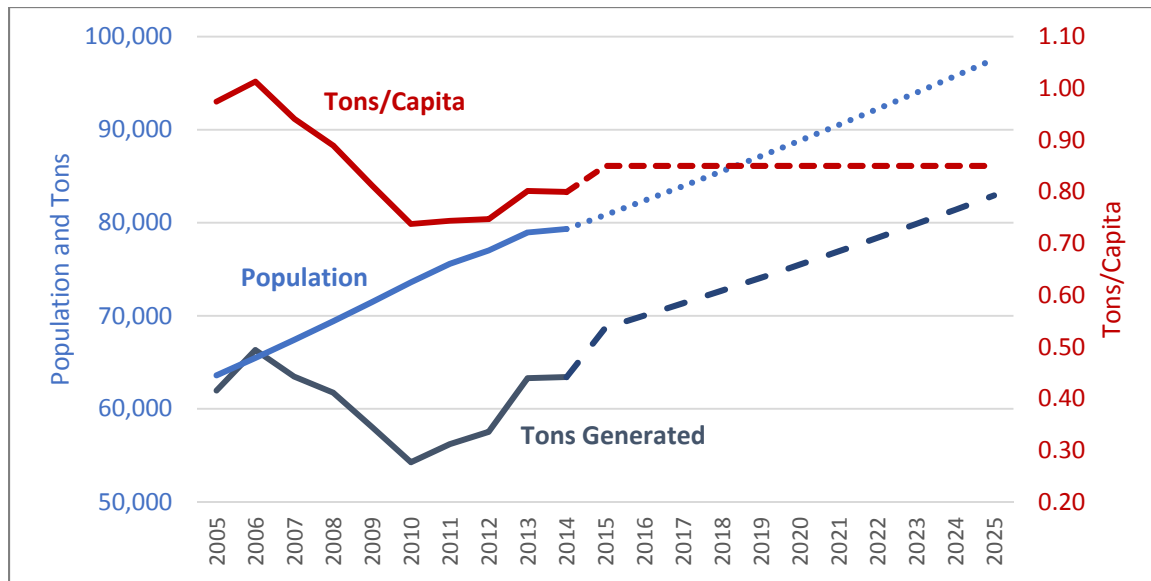
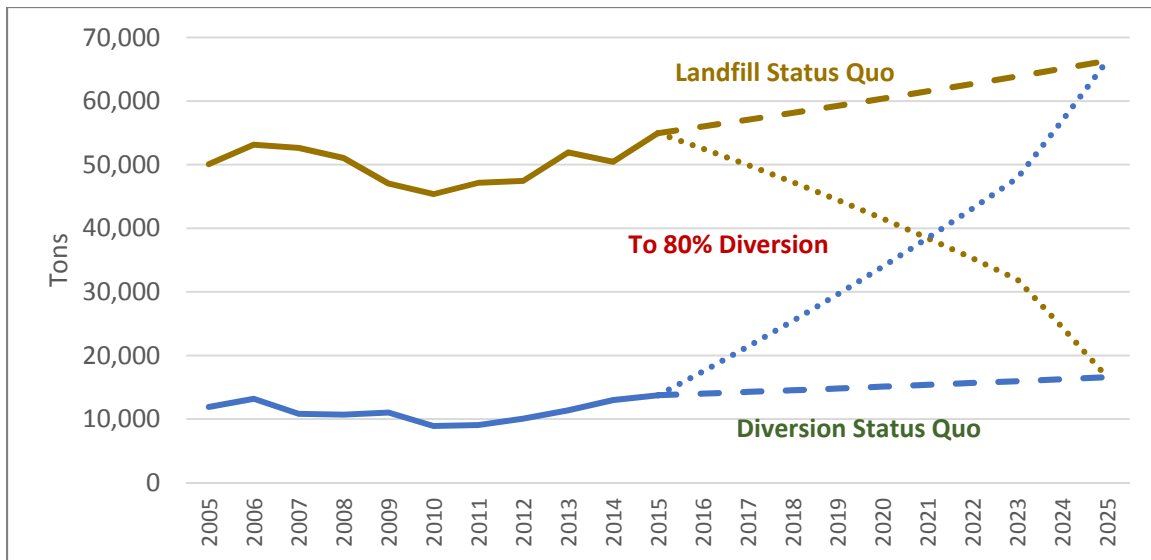


Table 1: Waste Generation and Management Projections Assuming Status Quo (tons)

Year	Generation	Disposal	Recycling	Composting
2015	68,716	54,973	6,184	7,559
2016	70,022	56,017	6,302	7,702
2017	71,352	57,082	6,422	7,849
2018	72,708	58,166	6,544	7,998
2019	74,089	59,271	6,668	8,150
2020	75,497	60,397	6,795	8,305
2021	76,931	61,545	6,924	8,462
2022	78,393	62,714	7,055	8,623
2023	79,882	63,906	7,189	8,787
2024	81,400	65,120	7,326	8,954
2025	82,947	66,357	7,465	9,124

Figure 3 graphically depicts the drastic shift that will be required for the City to achieve its goal of 80 percent waste diversion by 2025. A fundamental change in how waste is perceived will be needed – rethinking what traditionally has been regarded as garbage and treating all materials as resources instead of discards. Instead of recycling just 20 percent of the waste stream, that is all that would be disposed.

Figure 3: Waste and Resource Management Projections – Status Quo versus 80% Diversion



3. Collection

The City has the exclusive right to collect solid waste and recyclables generated within the City limits, but franchises with private haulers to provide some services.

In March 2003, the City implemented a Pay-As-You-Throw (PAYT) curbside residential collection program. The program includes the services outlined below. Waste, recyclables, and yard trash are collected once per week and on the same day of the week.

- Waste – Residents may choose from the following three cart sizes:
 - o 32-gallon - \$9.37 per month service fee
 - o 64-gallon - \$14.30 per month service fee
 - o 95-gallon - \$20.31 per month service fee

Residents may switch to a larger cart size for a \$20 service fee; switching to a smaller size cart may be done at no additional cost. In addition, each residential unit may place up to four additional bags of waste curbside annually for no additional fee, after which they are charged \$6.20 per bag.

- Recyclables – Recyclables are collected in 18-gallon plastic recycling bins with lids and manually sorted at the curb into multiple compartments in the collection truck (curb-



sort). Materials accepted in the recycling program include newspaper, mixed paper, corrugated cardboard, paperboard or chipboard, plastic #1 and #2 bottles, aluminum cans, steel or tin cans, and glass bottles and jars of all colors. In 2014, the City collected 3,213 tons of recyclables curbside, which averages approximately 350 pounds per customer annually.⁵

- Yard trash – Grass clippings and leaves must be bagged in compostable brown paper yard waste bags, not to exceed 50 pounds each, or placed in a trash can visibly marked as “Yard Waste.” Brush must be bundled and tied, and is restricted to no more than 4 feet in length, limbs no greater than 5 inches in diameter, and bundles no more than 50 pounds in weight. Currently, an unlimited amount of yard trash is accepted.
- Bulky waste – Bulky waste is divided into three categories: household, metal, and yard trash. Each residence is offered one free bulky waste pickup per year consisting of no more than 5 items within the same category. Additional bulky waste pickups of up to 5 items within the same category may be scheduled for a fee of \$45. Multiple items in different categories must be picked up on different days and each collection is counted as a separate bulky waste pickup.

Alternatively, residents may self-haul up to 5 accepted bulky items in multiple categories to the City’s Transfer Station in lieu of the free bulky waste pickup. In addition, the City conducts free cleanup events for bulky waste in the 4 wards of the City twice per year, spring and fall. Residents may also deliver yard trash to the City’s Compost Facility for free.

City sanitation crews also collect multi-family and commercial waste and recyclables.

In the fall of 2011, the City implemented a multi-family recycling program targeting apartment complexes with 100 or more units. The program is dependent on the apartment complex’s ability to provide space for a compartmentalized roll-off container. Residents are required to sort recyclable materials before placing them in the appropriate compartment.



The City has since expanded the multi-family recycling program to smaller complexes as well. In addition, the City obtained a grant to offer 6-gallon recycling buckets or bags to assist residents in participating multi-family complexes with collecting and transporting recyclables to the roll-off container. Six complexes are currently participating in the multi-family recycling program.

The City’s commercial recycling program consists of 3 key programs:

- Cardboard and paper recycling program – Segregated cardboard collection is a long-standing program and the paper program was implemented in October 2008. The City uses a front-load collection vehicle to service about 175 cardboard dumpsters and 25 paper dumpsters.

⁵ The number of customer accounts fluctuates throughout the year. This figure is based on the number of active residential accounts (18,150) and number of commercial business participating in curbside recycling (276) as of April 2015.

- Curbside recycling program – Established In 2009, approximately 276 small businesses utilize up to 5 18-gallon recycling bins each, which are serviced by the City in similar manner as the residential curb-sort program.
- Glass recycling program – Initiated in July 2013, the City places and services roll carts at businesses in the entertainment district along Dickson Street to collect glass. This program was made feasible by the City's contract with Ripple Glass, which allows various colors of glass to be recycled together. Currently, 50 roll carts are in use.



The City provides two community recycling drop-off sites. The drop-offs are open to everyone, not just Fayetteville residents. The same materials accepted in the residential recycling program are accepted at the drop-off sites.

- Marion Orton Recycling Center (located at 735 North Street) – This staffed center is open on Monday through Saturday from 6:00 am – 5:00 pm, except Thursday when it is open until 7:00 pm. It received an average of 0.9 tons per day in 2014.
- City of Fayetteville Recycling Center (located on Happy Hollow Road near the Transfer Station) – This center is open 24 hours per day, 7 days per week, and is staffed 25-30 hours per week. It received an average of 1.8 tons per day in 2014.



The City also services a recycling drop-off center installed by Ozark Natural Foods and accessible 24 hours per day.

The City operates a drop-box program. Six yard dumpsters are available to rent for small clean-up projects, and 20-40 yard roll-offs are available for large projects such as construction and remodeling.

The City franchises with 4 private companies (Deffenbaugh Industries, Hog Box, Waste Management, and Allied Waste) to provide the services listed below, some of which are provided in competition to the City.

- Collection of solid waste generated from industrial, large commercial, or construction/demolition activities in roll-off containers (open-top or compactors) of 20 cubic yards or greater in size.
- Collection of special waste such as hazardous waste, grease, or any other type of solid waste requiring special handling or disposal.

- Collection of recyclables outside the residential recycling program. Recyclables must be separated by type, with two exceptions. Contractors are allowed to collect unseparated recyclables as part of construction and demolition (C&D) debris and the U of A event commingled containers.

The companies are not required to deliver waste to the City's Transfer Station. They are required to pay franchise fees of 10 percent of gross revenue received for solid waste hauling services, but not for revenue received for recycling services. The agreements were originally approved in August 2012.

4. Transfer Station and Disposal

The City owns and operates a Transfer Station and Materials Recovery Facility (MRF), which are housed in the same building. The facility is intended to serve the City and south Washington County. It is permitted to receive and transfer 80,000 tons of materials annually. In 2014, the Transfer Station received an average of 216 tons per day and the MRF received an average 23 tons daily, for a combined annual total of 65,791 tons (includes 9,661 tons of out-of-city waste).



Operating hours are as follows:

- Open for operation to City crews Monday-Friday 6:00 a.m.-2:00 p.m. and Saturday 6:00 a.m.-10:00 a.m.
- Open to public Monday-Friday 7:00 a.m.-2:00 p.m. and Saturday 7:00 a.m.-10:00 a.m.
- Hours may be adjusted if necessary to complete loading, transporting, and disposing of received solid waste within the required 24 hour timeframe.
- Closed New Year's Day, MLK Day, President's Day, Memorial Day, Independence Day, Labor Day, Veteran's Day, Thanksgiving Day, and Christmas. Reduced schedule the Friday after Thanksgiving and Christmas Eve day if it falls within the same week as Christmas of 6:00 a.m.-12:00 p.m.

Facility modifications were initiated in 2014 for an additional administration office, a larger reception area with an information center, an expanded break/training room, and more storage. In addition, the scale house is to be renovated and ingress and egress improved.

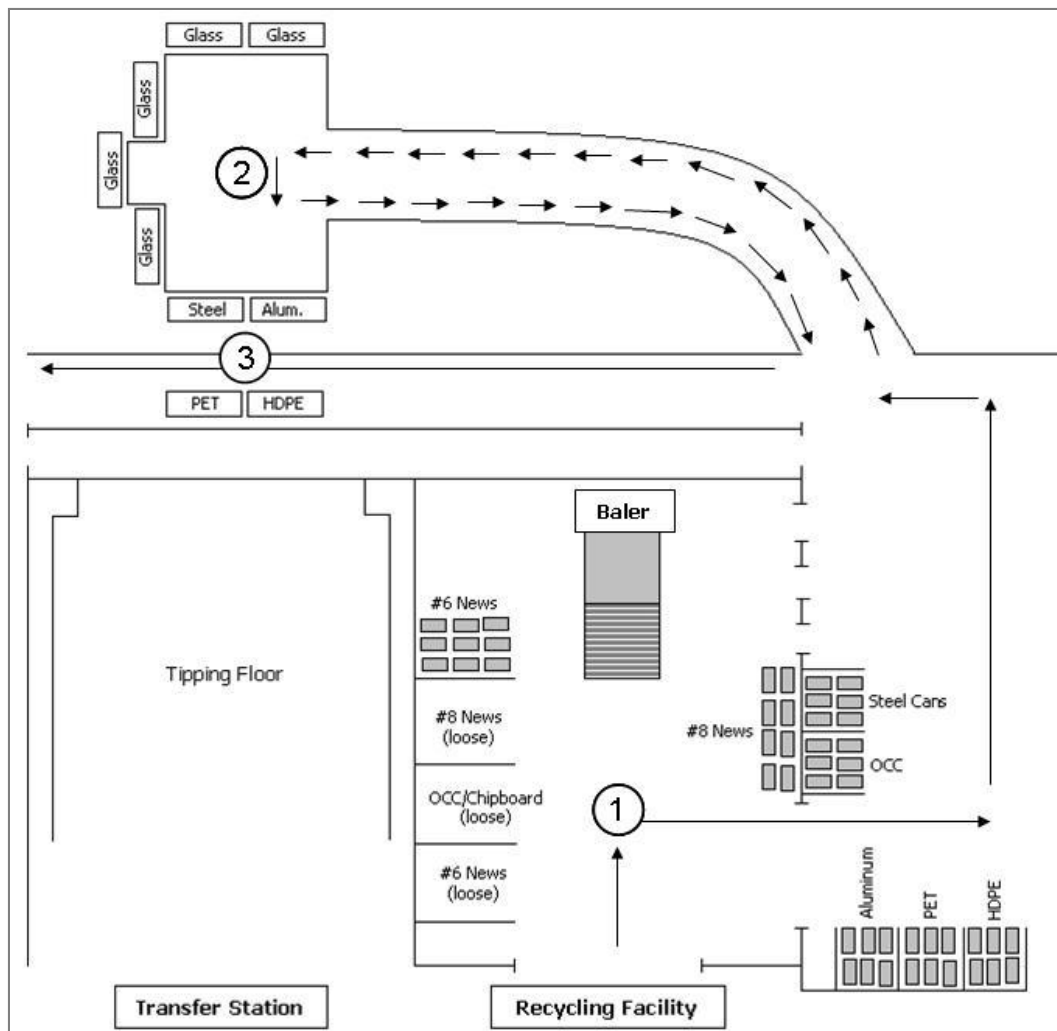
City staff operates the Transfer Station and loads the transfer trailers. The City contracts with Waste Management of Arkansas (WMA) to transport waste from the transfer station and dispose of it at Eco-Vista Landfill located in Tontitown, Arkansas, approximately 15 miles from Fayetteville. WMA provides standard walking floor trailers with a capacity of 115 cubic yards capable of containing at least 20 tons of solid waste. This contract was recently renewed and expires November 2, 2019. The City currently pays WMA \$8.00 per ton for transport and \$26.80 for disposal (\$34.80 per ton total). The City charges a tipping fee of \$45.20 per ton.

5. Materials Recovery

City collection crews deliver curb-sorted recyclables to the MRF and tip them by material type as indicated in the diagram in Figure 4. Paper is tipped by grade into bunkers located inside of the building. Vehicles then travel outside to a raised platform and tip containers, by type, into roll-offs abutting the platform. The City bales the recovered materials, with the exception of glass. According to a 2009 study, the baler is being utilized at 30 percent of its capacity.⁶



Figure 4: Diagram of Recycling Vehicle Movement through MRF



⁶ R.W. Beck, *Recycling Program Study*, April 2009.

Once a sufficient quantity of baled material is stockpiled, the City sells the material on the spot market. The City contracts with Ripple Glass of Kansas City, MO to haul and recycle glass bottles and containers at no cost to the City. In 2011, the City Council passed a resolution recommending that the Division post quarterly reports on the types of materials collected for recycling and the primary or end-use of markets for those materials. The Division posts this information on its webpage.

Table 2 provides the quantity of each type of recovered materials sold annually during the last 10 years, and Table 3 summarizes the average revenue received by the City for each material type.⁷ The substantial drop in recovered newspaper is likely a result of reduced readership and downsizing of printed newspapers that have been experienced nationwide. As can be seen in Table 3 and Figure 5, market values fluctuate over time and markets for most commodities experienced a significant drop in 2008-2010. Table 3 also provides the average commodity market price in the Southeast U.S. in 2014 according to an industry accepted pricing index (RecyclingMarket.net). The City's revenue exceeded the market index for all commodities except mixed paper and cardboard.



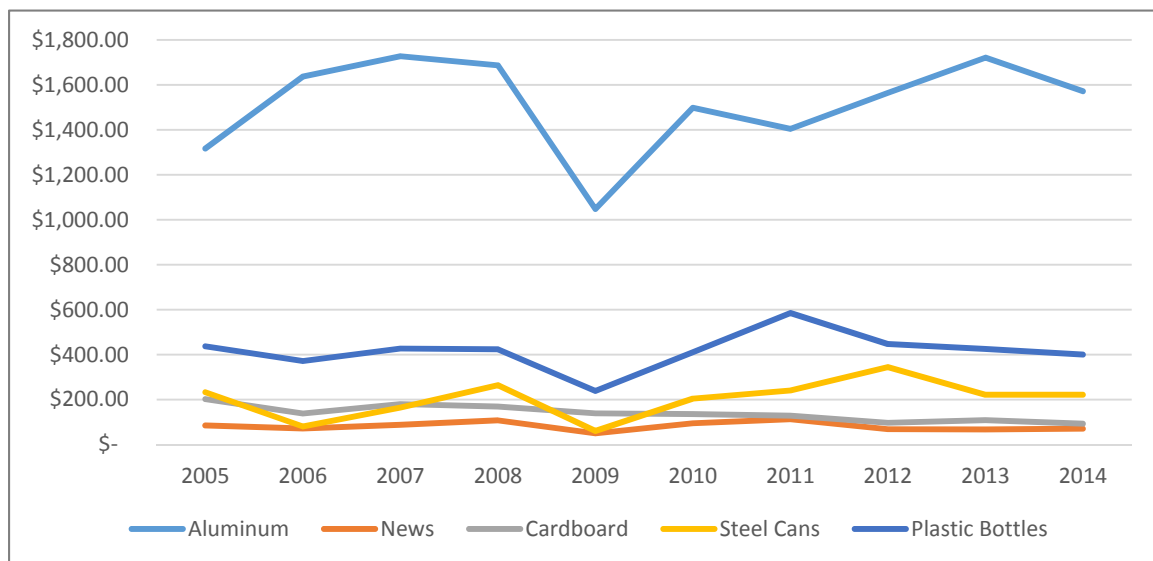
Table 2: Recovered Materials Marketed (tons)

Year	Glass	Aluminum	Mixed Paper	News	Cardboard	Chipboard	Steel Cans	Plastic Bottles	Scrap Metal	Total
2014	1,365	59	962	722	2,134	69	112	324	75	5,823
2013	1,357	57	952	754	1,925	206	110	252	68	5,681
2012	1,058	65	932	767	1,160	791	87	267	62	5,189
2011	1,010	73	848	892	1,175	827	110	252	114	5,301
2010	997	70	899	915	1,135	743	112	232	112	5,215
2009	1,144	63	867	1,096	1,113	727	112	266	126	5,514
2008	967	62	880	1,548	1,284	670	92	247	133	5,883
2007	897	48	773	1,749	1,153	718	102	247	-	5,687
2006	897	74	824	1,580	1,133	799	103	241	-	5,651
2005	824	56	665	1,615	846	861	124	225	-	5,216
Average	1,052	63	860	1,164	1,306	641	106	255	99	5,516

⁷ Tables do not include concrete and electronic waste that was recycled.

Table 3: Average Revenue by Commodity (\$/ton)

Year	Glass	Aluminum	Mixed Paper	News	Cardboard	Chipboard	Steel Cans	Plastic Bottles	Scrap Metal
2014 Index	(\$11.32)	\$1,542.84	\$52.50	\$65.46	\$106.85	NA	\$115.00	NA	\$125.00
2014	\$0.00	\$1,571.73	\$50.64	\$70.64	\$92.52	\$49.84	\$221.59	\$400.25	\$205.35
2013	\$0.00	\$1,720.82	\$33.50	\$66.86	\$108.31	\$20.81	\$221.53	\$424.93	\$162.79
2012	\$0.00	\$1,564.12	\$43.62	\$68.42	\$96.94	\$32.91	\$344.72	\$447.04	\$189.71
2011	\$32.94	\$1,404.51	\$78.57	\$112.40	\$127.76	\$81.36	\$240.44	\$585.25	\$175.55
2010	\$36.22	\$1,498.44	\$55.44	\$94.62	\$135.21	\$0.00	\$204.03	\$410.45	\$136.60
2009	\$33.65	\$1,048.03	\$23.50	\$49.97	\$138.59	\$0.00	\$60.23	\$238.69	\$41.64
2008	\$38.26	\$1,686.92	\$54.21	\$107.39	\$168.51	\$0.00	\$264.23	\$423.46	\$62.00
2007	\$33.91	\$1,727.29	\$56.50	\$87.34	\$180.18	\$0.00	\$164.14	\$426.63	NA
2006	\$30.70	\$1,637.41	\$29.38	\$70.98	\$138.28	\$0.00	\$80.12	\$371.17	NA
2005	\$31.10	\$1,316.73	\$49.56	\$84.38	\$202.18	\$0.00	\$232.49	\$436.72	NA
Average	\$20.50	\$1,517.60	\$47.49	\$81.30	\$138.85	\$18.49	\$203.35	\$416.46	\$139.09

Figure 5: Average Revenue by Commodity (\$/ton)

6. Composting

The City owns and operates a Class CY Compost Site, meaning it is permitted to receive only yard waste and other woody wastes.⁸ The City processes yard waste collected curbside from residents, as well as yard waste delivered directly to the site. City residents may deliver yard waste at no charge; commercial businesses and non-residents are charged a fee.



The site is permitted to receive 6,683 tons of waste annually. In 2014, the City estimated receiving slightly more than 7,000 tons of yard waste; however, this is an estimate since no scales are used at the facility. The capacity to handle additional tonnage is limited to how much can be stored, ground, and processed.

The Compost Facility offers mulch (wood chips) throughout the year for purchase by residents and non-residents. A portion of the organic waste is also composted. The compost process takes approximately 4-6 months and the City has compost samples tested each April by a lab to determine quality of the end product. Only City residents are allowed to purchase compost and quantities are limited.

7. Other Related Programs

The City sponsors or participates in other programs to collect and manage solid waste and recyclables, including the following:

- **Festival Recycling:** The City supports recycling programs for festivals by offering stands for collecting recyclables, providing recycling guidelines, and working with event coordinators to implement recycling.

⁸ In Arkansas, composting facilities are classified according to the type of waste authorized for composting:

- Type "CY" facilities may accept only yard wastes and other woody wastes. Type "CY" facilities qualify for coverage under a general permit in which permit coverage is granted within 30 days of receiving a complete application.
- Type "CO" facilities may accept any source separated organic wastes such as paper, sewage sludge, food processing wastes or other specific organic wastes, including type "CY" wastes.
- Type "CS" facilities may receive all types of suitable solid waste for composting including household garbage, commercial wastes, suitable industrial wastes, and all type "CO" and "CY" wastes.

- **Household Hazardous Waste (HHW) & Electronics (e-waste):** The Washington County Environmental Affairs Office, located at 2615 Brink Drive in Fayetteville, operates a Household Hazardous Waste (HHW) Collection Center where City residents may drop off HHW for free. In addition, the center accepts household e-waste and tires. Coupons waiving the e-waste fee are available to City residents through the Division. City residents may bring in four passenger tires for free and a \$2.00 fee is charged for each additional tire. In addition, the City began accepting e-waste during the ward clean-ups, but only if delivered to the Recycling and Trash Facility on Happy Hollow Road.
- **Adopt-A-Street:** In this City-sponsored program, individuals or groups adopt a street and are responsible for picking up litter on that street at least four times annually. The City posts a sign displaying the group's name and provides all materials and supplies (e.g., trash bags, gloves, and safety vests) needed for the clean-ups. Groups are asked to complete an activity form and record the amount of material collected. Currently, 62 areas covering nearly 40 miles of streets are included in the program.
- **Keep Fayetteville Beautiful (KFB):** KFB is an affiliate of Keep America Beautiful and Keep Arkansas Beautiful. The organization coordinates volunteers for the Adopt-A-Street program, to assist with site clean-up and education at the recycling drop-off centers, and to generally assist with city beautification projects. Each spring and fall, KFB partners with the Lake Fayetteville Watershed Partnership to sponsor a lake clean-up at Lake Fayetteville. In addition, KFB spearheaded an anti-graffiti program in cooperation with the Police Department in which utility boxes in the entertainment district were painted.
- **Public School Waste Reduction:** Each public school has dumpsters for paper and cardboard and 18-gallon bins for containers that are serviced by the City. Green Teams at many schools also hand out Habitote bags to replace disposable plastic bags and are working to reduce waste in cafeterias. Ten schools have onsite gardens and compost plant debris associated with those gardens.



8. Education and Outreach

The City utilizes an array of media to distribute information to residents and businesses regarding recycling and proper waste management, including the following:

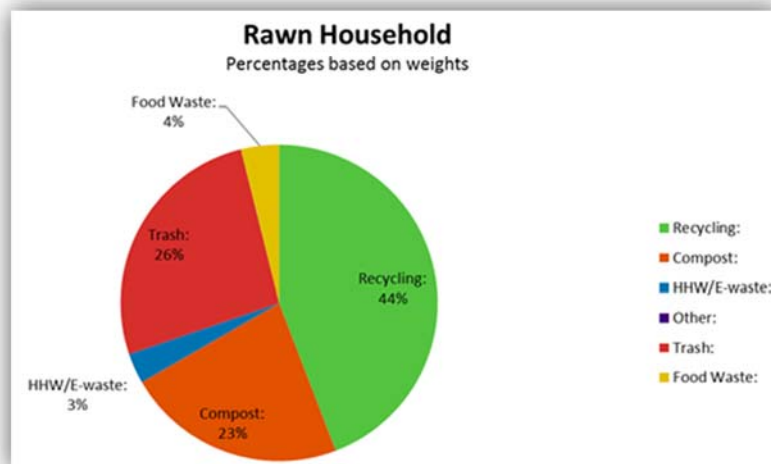
- **City Website:** The Division has extensive information on its webpage regarding all aspects of its recycling and solid waste programs. Links are provided to flyers, brochures, instructional videos, and reports.



- **Recycle Something Campaign:** The Division initiated a Recycle Something campaign. The campaign's website (www.recyclesomething.org) defines the types of recyclables accepted in the City's program, options for collecting them, and other related information. It also includes YouTube videos and printed informational materials.
- **Social Media:** The City has both a Facebook page and a Twitter account on which important information, actions, events, and reminders can be posted.
- **Printed Materials:** The City has printed brochures and flyers available to residents covering a variety of topics, including the Pay-As-You-Throw program; curbside, apartment, and business recycling; drop-off facilities; yard waste composting; and bulky waste clean-ups.
- **Recycling Mascot:** The City has a recycling mascot called Rooty the Recycling Pig. Rooty attends special events, does school programs for pre-school through elementary grades, and periodically walks around town creating recycling awareness.
- **Door-to-Door Recycling Outreach:** In 2012, the City initiated a door-to-door outreach program. This community-based social marketing program includes asking residents to complete a survey and sign a recycling pledge, as well as handing out recycling educational materials. The program is currently focusing on the Walker Park area.



- **Waste Saving Campaign:** The City recently conducted a PAYT Waste-Saving educational campaign. During this program, eight households volunteered to save their household garbage and recycling for a full week. At the end of the week, the waste and recyclables were weighed and categorized. The volunteers were photographed with their waste. The program was designed to encourage residents to think about their waste habits and to inform them of ways to reduce waste and make the most of the PAYT program.



9. University of Arkansas

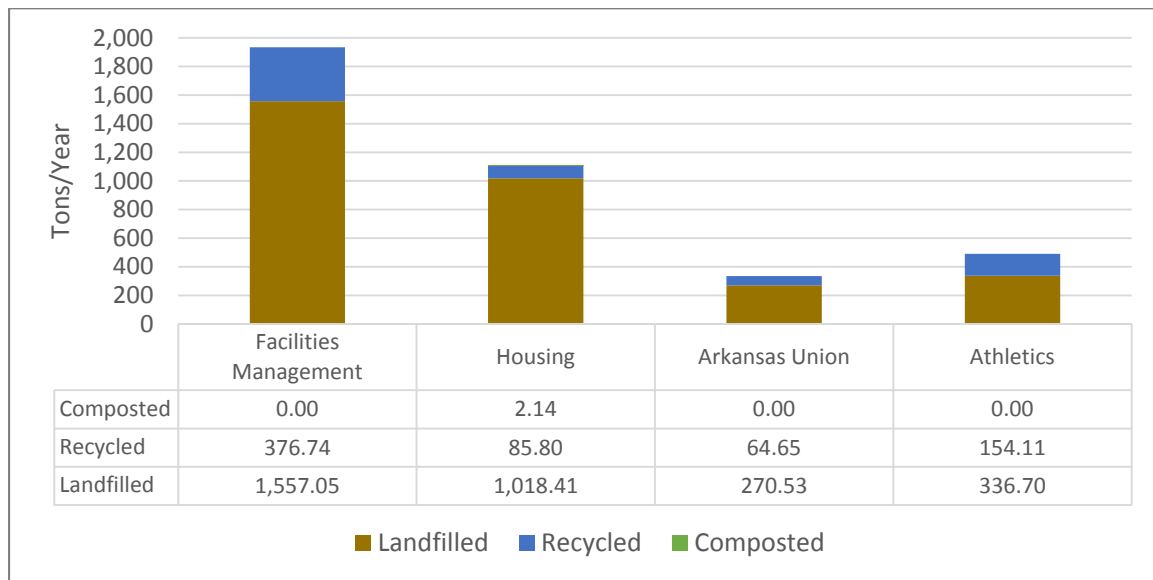
As part of its sustainability goals, U of A is striving to become a zero waste institution (90 percent diversion) by the year 2021. The Office for Sustainability is in the process of creating a Zero Waste Action Plan, which will lay out motivations, goals, and strategies for reducing waste within a framework of continual improvement.

The City currently has no direct involvement in managing the waste or recyclables generated at U of A. U of A contracts with Deffenbaugh Industries (Deffenbaugh) to collect waste from Facilities Management and Housing, and with WMA to service the Arkansas Union and Athletics. These companies utilize their own transfer stations or directly haul the waste to Eco-Vista Landfill.



Razorback Recycling is the University's central recycling operation. They collect cardboard, white paper, mixed paper, aluminum and steel cans, plastic and glass bottles, and organics using a desk-side quad system and a network of outdoor containers. Figure 6 provides the quantity of U of A waste that was landfilled, recycled, and composted in 2014, broken down by the 4 primary sectors and based on data provided by U of A staff. This data does not include C&D debris or other types of special waste such as hazardous waste. In addition, the quantity of waste landfilled is estimated by the contracted haulers and, therefore, may be underestimated.

Figure 6: U of A Waste Disposed, Recycled, and Composted, 2014



Based on the information provided, the overall 2014 diversion rate was 18 percent; diversion rates for each sector were as follows:

- Facilities Management – 19%
- Housing – 8%
- Arkansas Union – 19%
- Athletics – 31%

The U of A Bookstore accepts rechargeable and non-rechargeable batteries, printer and toner cartridges, and cell phones for recycling. In addition, on the second Friday of every month, the U of A Computer Store accepts personal computer equipment, parts, and other obsolete e-waste for recycling.

10. Financial Summary

The Division operates through an enterprise fund, the Recycling and Trash Collection Fund. Revenues for the fund are derived from fees levied for trash collection, recycling revenue, and containers sales and leases. Figure 7 summarizes the revenue sources for 2015 and Figure 8 provides expenses. Solid waste fees comprise the largest source of revenue; however, \$2,731,000 is being used from the reserve fund, primarily for capital improvements. These improvements, estimated at \$1,759,000, include container maintenance building upgrades, solid waste compactors and containers, and office and Transfer Station expansion.

Figure 7: Sources of Funds for 2015

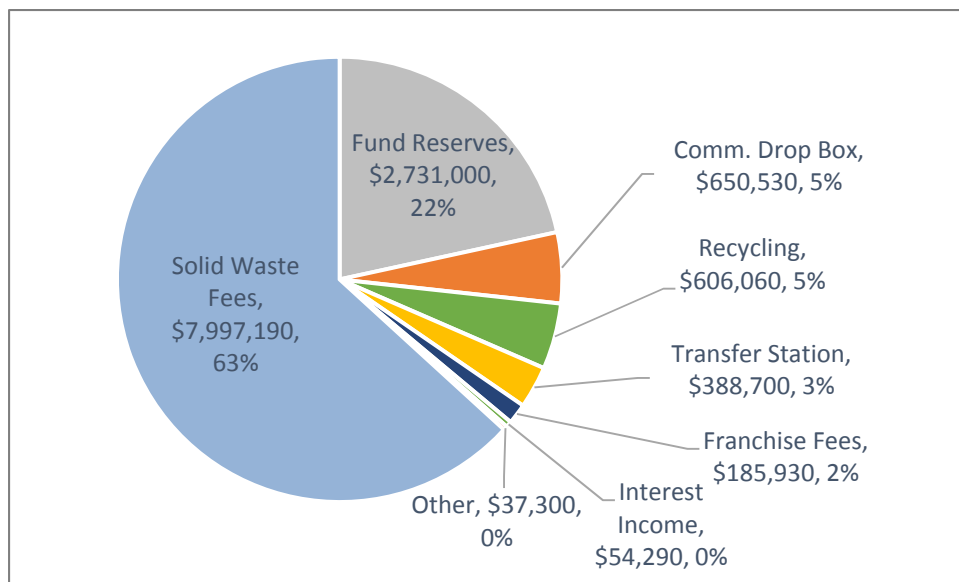
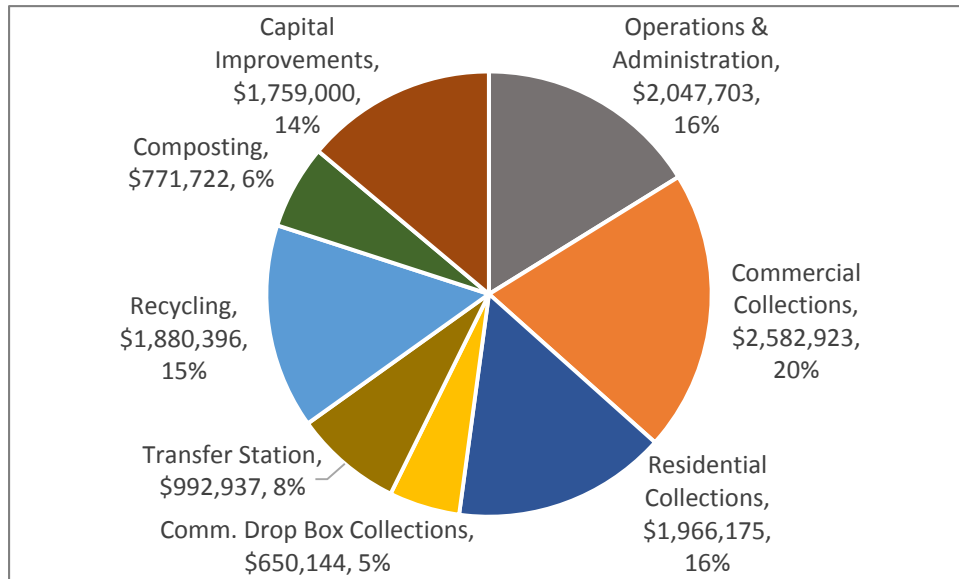


Figure 8: Expenses Budgeted for 2015



11. Summary

This technical memorandum provides a summary of the City's existing solid waste and recyclables management system. It will serve as a baseline for analysis and comparison throughout the remainder of the master planning project. KCI also conducted an operational assessment of the City's solid waste system, which will be provided in a separate memorandum.



TECHNICAL MEMORANDUM NO.4

DATE: May 22, 2015
TO: Jeff Coles, Recycling and Trash Collection Director
City of Fayetteville, AR
FROM: Robin Mitchell, Project Manager
SUBJ: Operational Assessment
PROJ #: 173-00.00

Kessler Consulting, Inc. (KCI) was contracted by the City of Fayetteville, Arkansas (City) to assist in developing a Solid Waste Reduction, Diversion, and Recycling Master Plan (Plan). One of the initial steps was to conduct an operational assessment of the Recycling and Trash Collection Division (Division) and its collection, processing, and transfer operations. The purpose of this technical memorandum is to provide the results and findings of this assessment. Background information regarding the City's existing solid waste management system is provided in Technical Memorandum No. 3 and, therefore, is not repeated in this memorandum.

1. Introduction

The operational assessment was conducted in three parts: 1) advance data request and review, 2) two-person physical site visit, and 3) follow-up analysis of data and observations.

In advance of the site visit, KCI developed a request for information from Division staff. The information was used to conduct various preliminary analyses and stress tests in order for KCI to better understand the breadth and width of the Division's scope of services. Data requested was typical of other assessments KCI has conducted and the Division's cooperation in its timely completion was greatly appreciated.

Using the tonnage data, vehicle specifications, personnel information, and customer counts provided, KCI determined that the service levels being provided were reasonable for the equipment and staffing levels described. Further analysis would be conducted during and following the site visit, but having this data in advance allowed KCI to evaluate the reasonableness of the Division's system and to develop a strategic approach for the in-person assessment so that KCI staff time was maximized while in Fayetteville.

KCI conducted a site visit from January 19-23, 2015 to meet with Division staff to discuss the existing system, inspect equipment and facilities, and observe active collection operations. This visit provided first-hand insight into the operation. It allowed KCI staff to view and understand the culture among the collection staff, to verify the advance data collected, and to better understand the level of efficiency at which the Division operated. Various tasks performed during this visit included the following:

- Validation of previously requested data.
- Group meetings with Division staff to discuss roles, responsibilities, issues facing the Division, and existing operations.
- Interviews with operational staff including Managers, Supervisors, and frontline personnel.
- Collection of route audit-based data from Division records and on-route observations.
- Observations of transfer station, compost, and recycling processing operations.
- Compilation of baseline findings.
- Identification and review of system elements and program components.

Based on these activities, KCI evaluated the Division's current operations and developed recommendations for consideration. The following sections outline KCI's observations and discusses the Division's strengths, weaknesses, and opportunities. They include the Division's overall organization, collection services, Transfer Station and Material Recovery Facility operations, composting operations, and fleet services.

2. Organization

Division staff appears to function very effectively together. The staff consists of 57 full-time equivalent (FTE) employees as shown in Table 1. Average tenure for the Division is impressive at slightly more than 10 years (10.6) per employee. A consistent work force with longevity lends itself to high levels of service, low frequency rate of accidents and injuries, and limited misuse and abuse to equipment. All are the case within the Division.

Table 1: Division of Labor

Department	FTEs
Administration	5
Residential	10
Commercial	11.5
Drop Box	2.5
Transfer Station	2.5
Recycling	18.5
Composting	7

KCI conducted a number of meetings, both individually and as a group, during which employees proved to be knowledgeable, confident, and capable at their assigned duties. There is a general willingness to learn and share among the employees at every level and open communication was a standard during the KCI site visit. The Division strongly encourages its employees to grow and learn with a goal of constant improvement across the organization.

The Division's management team has been largely promoted from within the organization. In some cases, this can lead to leadership roles being filled by underqualified former frontline employees, but this is not the case in the Division. Not only are the Division's supervisors and managers well-versed in their jobs, they have a solid understanding of current solid waste events of other progressive cities across the country, and they possess the critical thinking skills necessary to make positive change a priority. Over the course of KCI's week-long visit, every employee understood the purpose of the project and was fully accommodating to provide any requested information. They

approached the visit enthusiastically, offered opinions open and freely, and accepted feedback willingly.

Leadership should focus on maintaining its positive work atmosphere. The Division appears to foster a culture of happiness among its employees. High morale and job satisfaction will have a large payoff for the organization; positive employees are more dedicated and produce better results. As the Division has demonstrated, the foundation for maintaining high morale is effective communication and cooperation from management.

The Division places an emphasis on delivering a high level of service with its employees. No service requires a greater commitment from employees than residential curbside recycling. These one-person route employees perform the duties of driver and processor, sorting recyclables into eight categories, curbside. The Division has adopted a program whereby every new employee starts as a residential recycling driver. In fact, most of the current supervisors started their careers with the Division as residential recycling drivers. As a result of this ground-up process, a service work ethic and commitment to the job proliferates through the organization.

Beyond promoting employees from within, the Division also regularly rotates its route drivers among different routes. This is considered an industry best practice that, despite the best efforts in many organizations, is never actually implemented. Having a team of drivers that have route knowledge beyond that of their assigned route is invaluable and the Division has managed to ensure that drivers constantly learn other routes and remain stimulated despite the repetitive nature of waste and recyclables collection. It is highly recommended that this practice continues and is expanded as needed.

3. Collection Services

The Division provides comprehensive collection service for its residents and businesses. Curbside service is provided to residential customers, frontend-load container service is provided to businesses, and roll-off container and compactor service is provided to larger commercial and industrial customers. All systems collect both garbage and recyclables; additionally yard and bulky waste collection is provided to residents. Table 2 summarizes the types and number of routes operating daily to better visualize the distribution of assets across collection days.

Table 2: Route Matrix

Route Type	Number of Operating Routes						Route Days
	Mon	Tue	Wed	Thu	Fri	Sat	
Residential Garbage	6	7	7	7	N/A	N/A	27
Residential Recycling	10	10	10	10	N/A	N/A	40
Residential Yard Waste	2	2	2	2	N/A	N/A	8
Residential Bulk Waste	as needed	as needed	as needed	as needed	as needed	N/A	
Commercial Garbage (FEL)	6	6	6	6	6	2	32
Commercial Recycling (FEL)	1	1	1	1	1	N/A	5
Roll-off/Industrial	as needed	as needed	as needed	as needed	as needed	as needed	

FEL = Frontend-load

3.1. Residential Garbage

Despite many cities in the South opting to provide twice-weekly residential garbage collection, the Division performs once-weekly collection. This progressive measure creates a leaner operational structure with fewer resource requirements, and has proven to be satisfactory to residents. In addition, the City has a pay-as-you-throw (PAYT) program in which residents choose between three cart sizes and pay a service fee based on the size selected. This is also a progressive program that encourages waste reduction and recycling.

Residential employees are scheduled for 10-hours, 4 days per week (Monday through Thursday). Fridays are reserved for weeks with holiday service interruption when collection occurs one day later. A drawback to a 4-day work week is providing recovery service (i.e., missed or late set-out pickups). Currently the Division utilizes its commercial crews on Friday to assist with residential service calls. This shift in responsibility is sometimes perceived as “having to do someone else’s job” and could lead to animosity between employee groups. This was not evident during our site visit, but it would be prudent to clearly define job responsibilities by allocating some portion of a Friday crew member’s time to residential recovery service.

The Division utilizes automated side-load (ASL) collection vehicles and 95-gallon roll-carts for its curbside residential collection. The Division is divided into 27 routes; six on Monday and seven on each of the other three collection days. Based on account information provided by staff, route size currently averages 672 residential accounts per route, which does not include commercial roll-cart customers. Based on the number of residential and commercial roll-carts in service as of October 2014, route size averages 817 roll-carts per route.¹ Based on KCI’s knowledge of the City and approximate density of residential units, an opportunity may exist to increase route size. More detailed analysis using a route optimization process would be needed to confirm and quantify this opportunity.

KCI conducted a route audit during the site visit to identify any items that might impact the efficient running of the operation. During the ride-along audit, the driver was interviewed and work activities observed. Information gained during the route audit was consistent with information provided by staff, as well as through other on-site observations conducted by KCI. The driver was positive in his demeanor, took service and safety very seriously, and was diligent in tracking extra bag set-outs for billing purposes.

KCI did identify a need for route planning assistance. Over time, routes evolve and shift as new homes are added and waste generation patterns change. When drivers make decisions on-route regarding collection patterns without planning or optimization assistance, they find themselves driving through areas that have already been serviced or are forced to back up on-route to change direction. Both of these activities were observed by KCI, as well as multiple trucks serving the same neighborhoods.

Prior to the inception of computer-based optimization, route planning was typically a time-consuming process where lead drivers or supervisors used maps and highlighters to identify route paths. Figure 1 illustrates an example of hand-drawn routes from another city. Figure 2 provides an example of a modern route optimization system that uses algorithms to route vehicles in order to limit driven miles while also balancing generation rates, truck volume, and collection time.

¹ This figure includes unit counts provided by Division staff of 21,308 residential roll-carts and 751 commercial roll-carts. Some customers have more than one roll-cart.

Supervisors acknowledged that access to route optimization tools could improve the Division's operation. KCI can assist the Division with its route optimization efforts either as a service bureau conducting the optimization or as a software provider, trainer, and support mechanism.

Figure 1: Example of Hand-Drawn Routing

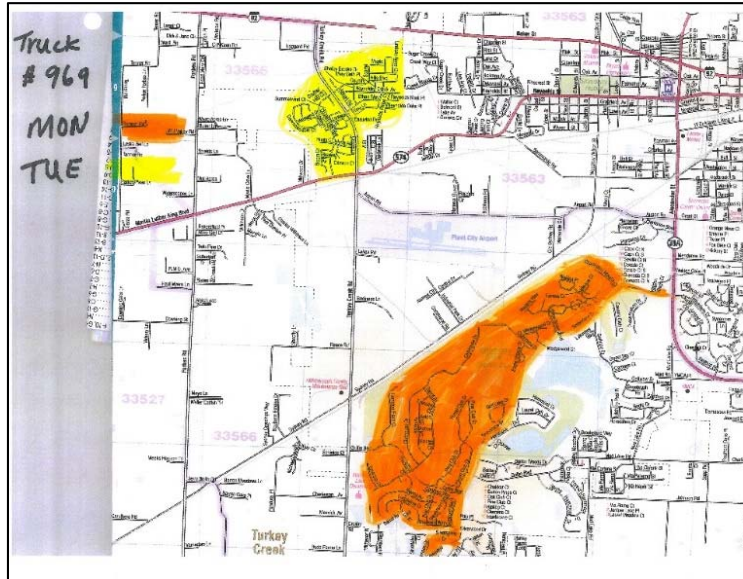
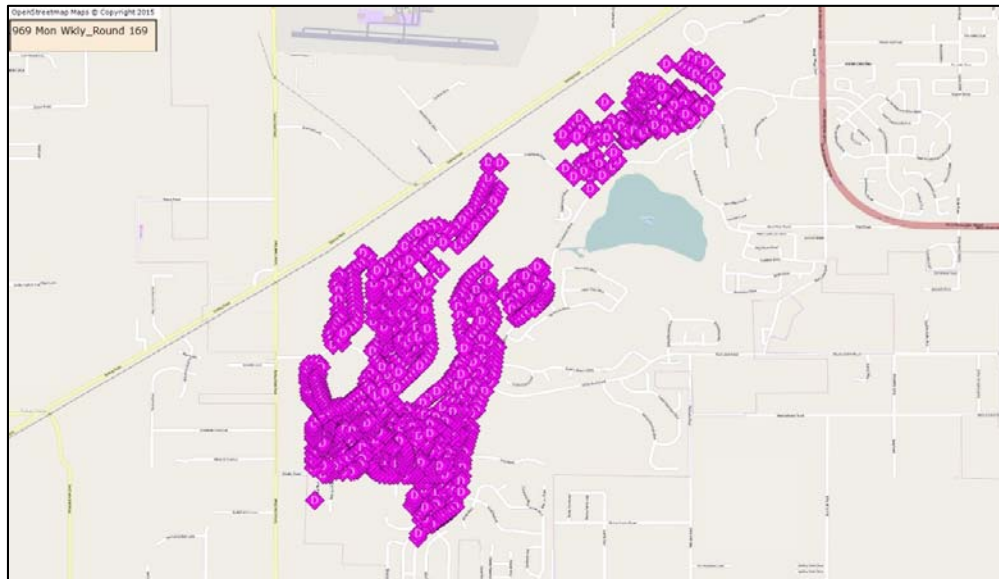


Figure 2: Example of Computerized Route Optimization



Generally, KCI found that residential garbage collection operators are proficient with the use of their assigned ASL collection vehicle and utilize the vehicle as the manufacturer intended. The units observed operated mechanically as designed. As noted earlier, drivers were observed diligently tracking bags placed outside of carts for the City's additional charge program, but drivers are required to manually track this information. KCI believes that the application of on-vehicle Radio

Frequency Identification tools (RFID) and automated vehicle location (AVL) systems can enhance this process by making it more efficient while improving accuracy.

KCI has designed RFID systems that associate assigned roll-carts to residential addresses, verifies collection service, and allows for driver input to collect relevant data that applies to that address or residential account. Such a system could be used to identify extra bags placed outside the roll-cart to the address with a button push (Figure 3) at the time of collection, sending that information electronically to the administrative office for customer billing.

Figure 3: RFID Driver Input Buttons



Once garbage routes are complete, waste is delivered to the City's Transfer Station on Happy Hollow Road. Because of the Transfer Station design, storage capacity, and throughput, waste delivery can be delayed at times. This delay forces drivers to park vehicles for extended periods of time in order to wait until transfer trailers are available and waste can be trans-loaded. Transfer operations are discussed later in the report, but improvements in design will reduce downtime.

3.2. Residential Recyclables

Residential recyclables are manually collected curbside using 18-gallon bins where drivers sort materials into eight separate compartments in the collection vehicle. Separating recyclables is required because of the material processing system currently in place. Recyclables are delivered to the City's Material Recovery Facility (MRF), adjacent to its transfer station, where materials are tipped separately and stored until baling. Operations staff are eager to explore other potential processing options because of the opportunity to improve collection efficiencies.



On route, drivers are required to remove lids from bins, which can be difficult at times and slows the collection process. Drivers estimate that less than half of the bins at the curb have lids in place when they arrive. Lidded bins help limit blowing items and litter while keeping fiber materials dry during inclement weather. They serve a limited purpose, especially when half the residents do not use

them; therefore, the City should consider their continued viability. As a result of single stream processing, the industry has generally shifted to roll-carts with integrated lids for recyclables.

The collection and curbside sorting of recyclables is a time-consuming process. Drivers spend more time sorting materials into truck compartments than they do actually driving. As a result, recycling route sizes are considerably smaller (average of 454 households per route) than their garbage counterparts (672 households per route) despite set-out rates being lower than on garbage routes. Because of smaller route sizes, more vehicles are required to service recycling routes. Compared to the 27 scheduled garbage routes, recycling requires 40 separate routes across the same 4 collection days.

Division staff monitors recycling set-out rates each fall by manually recording the number of households setting out recycling bins on each route during a 3-week period. Table 3 averages the percentage of households on each route that set out recyclables weekly from October 20-November 6, 2014. According to this data, the recycling set-out percentages ranged from a low of 49 percent (Thursday Route 30) to a high of 99 percent (Thursday Route 38), with an overall average of 68 percent.

Table 3: Average Daily Recycling Set-Out Percentages by Route

Route Number	Monday	Tuesday	Wednesday	Thursday
30	81%	55%	53%	49%
31	62%	79%	59%	77%
32	82%	61%	55%	63%
33	69%	74%	71%	62%
34	87%	52%	58%	53%
35	70%	69%	78%	79%
36	81%	62%	68%	63%
37	73%	64%	73%	54%
38	78%	80%	66%	99%
39	69%	58%	50%	67%
Average	68%			

These averages are indicative of a well-received program with high participation; however, based on KCI's experience, a set-out rate of 99 percent seems exceedingly high. Even if 99 percent of residents on the route participate in recycling, it is unlikely that all would place recyclables curbside each and every week. Manually recording set-out data can be challenging because of inconsistencies in methodology and variables effecting human behavior such as driving distractions, multi-tasking, and the perception of real or perceived project objectives. RFID technology can also be used to collect and analyze this type of field data and can be adapted to curbside bins or roll-carts, although the majority of new programs are cart-based. KCI has worked with data management software and hardware providers, as well as collection vehicle manufacturers, to help develop tools and systems to make field data collection more accurate and reliable.

Because of the collection vehicle (Kann CurbSorter) design and the required separation of recyclables, a lengthy sequence of events occurs when tipping at the MRF. Each of the eight commodities must be emptied separately into its corresponding bunker or container. Fiber

materials, including cardboard, newspaper, and mixed paper, are tipped and stored inside the building. Containers, including aluminum cans, tin and steel cans, glass, and two types of plastics (PET and HDPE), are emptied into 40-yard roll-off containers for transfer at a later time.

The baling facility is not conducive to vehicle reposition, and space is also constrained when bunkers are full of material. Drivers have to essentially turn the vehicle around inside the small building in order to tip materials in or near the appropriate material bunker. Typically a supervisor, in the role of spotter, assists drivers with vehicle positioning and verifying materials have been fully discharged. Compartment partitions within the vehicle body frequently become dislodged and commodities can be accidentally mixed on the tipping floor. Although it is a time-consuming process, supervisors, through careful observation, attempt to prevent this cross-contamination.



Table 4 lists the cycle times, in seconds, to empty each recyclable material. A total of 486 seconds (8.1 minutes) was required to empty the vehicle, not including time required to reposition the vehicle between each tipping area or to move the vehicle from inside the building to the container unloading area, approximately 500 feet to the rear of the MRF.

Table 4: Recorded Times to Tip Various Recyclable Materials

Material	Time (seconds)
Cardboard	79
Newspaper	53
Mixed Paper	67
Aluminum	53
Tin/Steel	56
Glass	61
PET	42
HDPE	75
Total	486

Despite the time-consuming curb-sorting of recyclables and the additional time necessary to keep the 8 streams of recyclables separated for processing at the MRF, the residential program continues to grow. The Division regularly receives orders for new curbside bin deliveries, including 300 new bin orders during the week prior to the KCI site visit. Staff delivered more than 50 bins each day that week to residents.

As part of the master planning process, KCI will be evaluating options for enhancing recovery of recyclables. As part of this analysis, we will consider how alternative programs might also improve the efficiency and cost-effectiveness of the Division's collection and material processing operations.

3.3. Commercial Collection

The City provides commercial collection service for both garbage and recyclable materials to more than 4,000 commercial customer accounts. These accounts include the following service types:

- Commercial waste cart
- Commercial waste dumpster
- Multi and individual meter multi-family complexes
- Drop box
- Cardboard and paper dumpster
- Commercial recycling bin
- Commercial glass cart
- Multi-family recycling roll-off

Commercial service is provided using a variety of container and vehicle types in order to accommodate the specific needs of the individual customer and the volumes and types of materials generated. The Division is diversified and provides the same service levels and types as that of a typical private hauler using container sizes ranging from a roll-cart to a 40 yard roll-off container. The majority of commercial service is provided using frontend-load (FEL) “dumpster” style containers.

KCI reviewed and analyzed commercial dumpster service data provided by Division staff. The Division utilizes seven FEL vehicles Monday through Friday and two on Saturdays. Six of the seven routes collect garbage, while one unit collects cardboard five days each week. The two Saturday routes collect garbage at customer locations that typically require six day collection or have a specific need for a Saturday pickup. The Division does not collect on Sundays. Table 5 provides metrics for the Division’s commercial FEL garbage collection routes.

Table 5: Commercial Frontend-Load Route Metrics (Garbage)

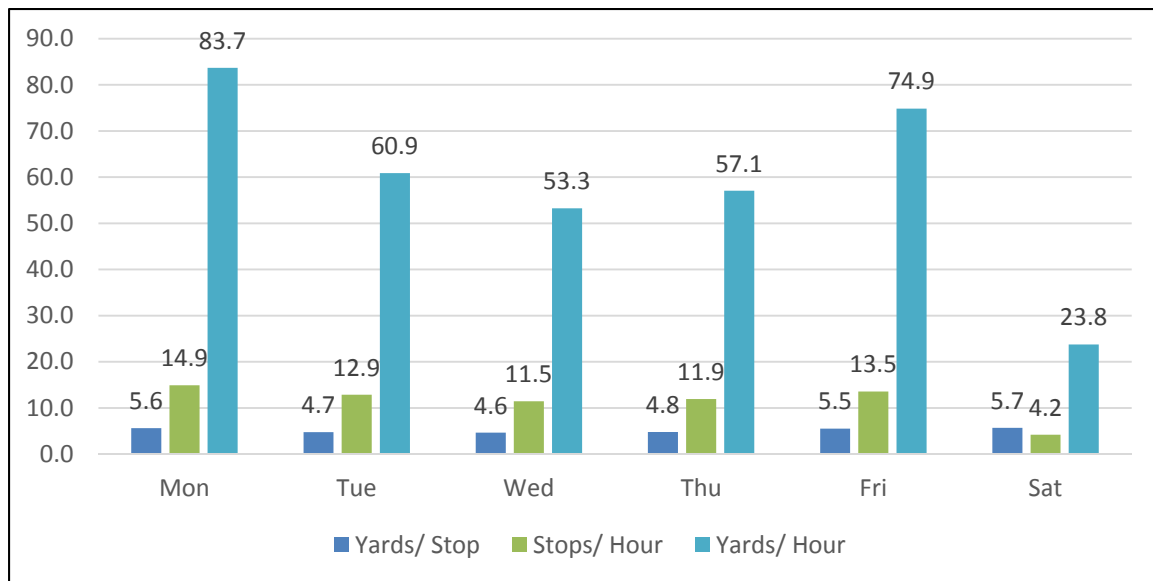
Day	# Routes	Total Stops/ Day	Total Yards/ Day	Average Yards/ Route	Stops/ Route	Yards/ Stop	Stops/ Hour	Yards/ Hour
Mon	6	715	4017	670	119	5.6	14.9	83.7
Tue	6	617	2922	487	103	4.7	12.9	60.9
Wed	6	550	2556	426	92	4.6	11.5	53.3
Thu	6	573	2739	457	96	4.8	11.9	57.1
Fri	6	650	3593	599	108	5.5	13.5	74.9
Sat	2	67	380	190	34	5.7	4.2	23.8

The data in Table 5 is consistent with a commercial customer base where levels of service are regularly maintained for efficient operations. Routes are relatively balanced throughout the week with the highest total yards scheduled on Mondays and Fridays and only essential work is scheduled for Saturday. Although this surge is common on Mondays and Fridays in other programs KCI has reviewed and is typical throughout the industry, the second test for identifying efficient commercial collection is the average number of yards per stop or lift.

The Division averages 5.1 cubic yards per stop for all garbage routes and all days of collection with the average being greater than 5.5 on Mondays, Fridays, and Saturdays. Yards per stop or lift should be above a weekly average of 5.0 with a goal of 5.5 or greater. In most of KCI's collection assessments, we identify operations with an average yards per lift well below 5.0 and as a result a wholesale program revision and re-route is necessary to improve efficiencies and asset utilization. That is not the case with the Division and KCI conducted a deeper level analysis to explore potential savings opportunities.

Figure 4 graphically illustrates the commercial collection workload throughout an average week. As noted above, the Division has clearly demonstrated that bigger containers are successfully being utilized on Mondays, Fridays, and Saturdays when the yards per stop average 5.5 compared to a weekly average of 5.1. The stops per hour indicate that productivity increases on Mondays and Fridays as well. This is typical of a greater workload for the same scheduled hours, and indicates a demonstrated performance metric that can be established as an attainable goal for container size and production rates.

Figure 4: Weekly Commercial Front-Load Workload Analysis (Garbage)



This figure illustrates a possible improvement opportunity, albeit incremental, on Tuesdays, Wednesdays, and Thursdays. An increase in the average yards on these midweek days from 4.7 to 5.1 (average for the week) will result in 132 fewer pickups required to collect the same amount of yardage. That represents the elimination of at least one route day each week, and possibly more considering the average route size is 92 stops per route. Increasing the average container size (yards/lift) further to 5.5 (Monday, Friday, Saturday average) has the potential to eliminate nearly 3 (2.7) route days weekly. Using a standard industry figure of \$80 per hour for FEL vehicle operating costs and 8.0 hours per work day, this adjustment alone would result in an estimated savings of \$90,000 annually. Further analysis of this type can be conducted for other days and individual routes and a greater level of detail and accuracy can be found through route optimization tools.

During the site visit, KCI conducted a route audit of the commercial cardboard FEL collection route, which confirmed a number of the advance data assumptions. On Wednesday, January 21, 2015, KCI

observed the complete second load of the route starting at 6:09 AM and finishing at 9:35 AM. The first load is designated as office paper and the second load is designated as cardboard (OCC). Table 6 is a matrix of route performance metrics collected. KCI observed a productive, safe, collection system where stops averaged 7 yards per lift. The Division has made efforts to pick up the largest containers possible as infrequently as possible, which is a best management practice.

KCI evaluated the time portion of the on-route metrics and identified that time between customers (3 minutes, 37 seconds) was higher than expected. This indicates that customers are approximately 0.68 miles apart (at a standard 25 MPH), illustrating a possible opportunity for route optimization by improving customer density. However, a detailed study of customers serviced for each day of collection would be needed to estimate the savings opportunity.

Table 6: Cardboard Route Metrics

Total Container Yards:	246
Average Container Size (yards ³):	7.0
Average pounds per loose yard ³ :	21.4
Stops per Route Hour:	10.2
Yards per Route Hour:	71.7
Route Hours including Disposal (hh:mm):	3.43
Time to and from Route (hh:mm):	0:11
Total Time @ Customers (hh:mm:ss):	1:08:08
Average Time @ Customers (hh:mm:ss):	0:01:57
Time between Customers (hh:mm:ss):	0:03:37
Disposal and Trip Time per Customer (hh:mm:ss):	00:00:53
Total Time per Customer (hh:mm:ss):	00:06:45

Based on route observations, KCI also recommends the Division implement an “Arms Stowed While Traveling” (ASWT) policy for FEL operators. In an arms down position, the driver’s vision is obstructed and the loading mechanism defeats certain safety features of the truck chassis (e.g., the arm blocks the front bumper).

Early generation FEL vehicles could not travel between customers with ASWT because early designs did not provide for a legal height condition (under 13 feet, 6 inches). The industry standards group ANSI and its mobile equipment committee, of which KCI is a member, establishes the safety protocols and equipment designs used by haulers in the U.S. Based on reviews of incidents involving FEL arms in the work position (down), ANSI identified the need for a ASWT design and manufacturers complied. Standard commercial FEL bodies manufactured in the last 15 years have been designed to allow for ASWT.

For units that are still in service that do not meet an ASWT design, internal safety policies were developed to allow for unobstructed views while traveling. These Arms Above Windshield (AAW) policies include measuring overall height of loading systems, identifying safe positions for arms while traveling, and training operators on the practice. Figure 5 depicts an arms down position compared to ASWT and AAW.

Figure 5: Arms Down, Arms Up While Traveling, and Arms Above Windshiled Positions²

Arms Down (While Working)



Arms Stowed While Traveling (ASWT)



Arms Above Windshield (AAW)

KCI can assist with the development or review of this policy, which should include a review of overall height of all Division FEL vehicles in both the work and stowed positions, an evaluation of what policy (ASWT or AAW) applies to which vehicle, corresponding driver training, and follow-up observations and enforcement.

KCI also audited the once-weekly commercial glass collection route on January 21, 2015 and observed a total of 14 stops encompassing 17 carts and 4 rear-load dumpsters. From start to finish, the route took 1.5 hours. The route serviced just over nine stops per hour; a productive figure for rear-load systems; however, customer participation might not warrant a dedicated route and specialized container system. Glass is the only material type currently utilizing rear-load containers, and inventory of and maintenance for this container type supports very few customers.



The Division has since modified its glass collection program and now utilizes only roll-carts, which are serviced on Mondays using the spare ASL vehicle that is not utilized for a residential garbage route that day of the week. The master planning project will further evaluate glass recovery rates, future recycling policies, and processing options.

3.4. Roll-Off Collection

Roll-off service is a much smaller segment of the Division's commercial collection business. The system utilizes two trucks to service temporary and permanent roll-off containers. The Division competes with the four private haulers the City has franchised to provide and service roll-off containers greater than 20 cubic yards. The City currently does not have access to customer activity for the private haulers.

² Arms Up Photo: <http://orlando.ebayclassifieds.com>. ASWT Photo: <http://www.municipalequipment.com/sanitation.html>. AAW Photo: http://en.wikipedia.org/wiki/Garbage_truck.

In addition to servicing open-top and compactor commercial accounts, the roll-off system also supports the City's recycling drop-off program, where residents and businesses can deliver recyclable materials to partitioned containers staged at two community recycling sites, Ozark Natural Foods, and several (currently six) multi-family complexes throughout the City. These recycling roll-offs are hauled to the City's MRF where the separate commodities are emptied into storage bunkers in much the same way the curbside recycling trucks are emptied.



Most days, one of the roll-off trucks is available for use by the MRF staff. These three staff members rotate driving responsibilities and, throughout the day, utilize the roll-off truck to move the 40- and 50-yard roll-offs, used for onsite storage of recyclables at the MRF, to the baler.

Because roll-off service represents a smaller segment of the Division's collection operation, KCI did not conduct a field-level route audit. KCI did, however, meet with Maury Nelson, Commercial Sales Representative, to discuss other details of the roll-off system. The Commercial Sales Representative is responsible for conducting telephone and in-person sales calls for both commercial FEL and roll-off work. Because roll-off service is primarily an on-call business, the majority of Maury's time is spent on roll-off service, either talking with customers or dispatching drivers.

The Division should consider shifting roll-off dispatch responsibilities to an operational supervisor or dispatcher rather than a sales representative. Operational supervisors or dispatchers can better manage and coordinate operations-related resources. The ability to quickly reassign drivers, respond to equipment breakdowns, or manage emergency situations such as accidents or injuries is critical. Roll-off drivers were observed in the sales office looking for work or trying to obtain additional customer guidance from the Sales Representative. The sales order should be booked and documented, and then subsequently forwarded to operations for the work to be completed. This provides an internal check and balance process and frees up time to allow sales staff to generate additional business opportunities.

Temporary roll-off pricing includes no rental charges for the first month. If the container is not emptied after the first 30 days, a \$3.00 per day rental fee assessed. A best industry practice is to base rental on container availability. As containers become less available due to use, rental fees should increase to encourage containers to be emptied and/or removed. A rule of thumb is free rental for the first week or two and a per day rental fee for periods after that, unless the container is emptied, at which point the rental resets. Shortening the current rental period by two weeks would result in additional rental revenue or, more importantly, an increase in available container inventory.

Also discussed was the possibility of expanding roll-off service to Springdale. The City would need to acquire a permit and pay a fee to operate, but staff indicates that capacity is available to serve the area. The Northwest Arkansas market area is currently in flux with the recent acquisition of Deffenbaugh by Waste Management. The merged companies reportedly will be forced to divest assets in the area because it may be viewed as monopolistic. This market shift could create an opportunity for the Division to grow its business; however, City decision-makers should decide if business development is a role they want to play and whether they want to undertake these efforts.

Furthermore, there could be an increase in competition in a solid waste market shift where companies divest and acquire assets. This increase could create an unstable condition for the City if it were to invest in additional assets or resources for a Springdale expansion.

Division staff also mentioned the lack of construction and demolition (C&D) debris recycling opportunities in the local market area. Although this will be further addressed in the forthcoming planning work, it is important to note that the Sales Representative believes that a C&D recycling processing option could create a competitive opportunity for future roll-off sales.

3.5. General Route Observations

On route, KCI observed that curbside recycling, residential garbage, and commercial collection is productive. Drivers provide a high quality, safe service to the City's customers. They each demonstrated their ability to safely and properly operate the vehicle, had good knowledge of their route, and were positive about the work they do and the Division they work in.

Once off-route however, KCI noted that drivers have a fair amount of downtime prior to clocking out each day. One reason for this downtime is the time required to tip, both because of delays and congestion at the Transfer Station and the involved tipping procedure at the MRF. This is discussed later in the report. Other factors contributing to downtime may include proper route sizing, availability of other work beyond regularly scheduled routes, and employee versatility and cross-training.

KCI's scope did not include a detailed route-by-route analysis, but data provided by the Division lead us to believe that route sizes could be increased. On average, residential routes are scheduled to service approximately 817 roll-carts per day. This varies based on day of the week, route density, and scheduled service days. However, by increasing the average route size by 125 homes, less than one hour of on-route time, the Division could eliminate an estimated four route days, or one collection vehicle and driver. There may be mitigating factors KCI is unaware of that could prevent this from occurring, but the exercise should be explored. This route adjustment does not take into consideration the opportunity for route optimization discussed earlier, which can further contribute to operational improvements. This same exercise should also be reviewed for commercial FEL and curbside recycling where other opportunities may exist.

4. Transfer Station and MRF Operation

The City's Transfer Station, located at the Happy Hollow Road complex, is approximately 15,000 square feet. It is divided in half, with one side serving as a transfer station for garbage disposal and the other side housing the City's MRF, which is essentially a bailing operation rather than a true materials processing operation. The facility is operated by Division staff and long-haul truck transfer of waste and recyclables is subcontracted.

The tipping floor for waste is approximately 7,500 square feet. Two vehicles, and sometimes three, can be emptied simultaneously. The space available is limited but adequate provided that the surge of waste is managed properly and consistently trans-loaded throughout the day. Limited space is available for any amount of waste storage or surge capacity.

One of the unloading bays is typically dedicated for “hand unload” vehicles, i.e., those customers who haul their own materials and whose vehicles do not self-dump. The process to empty these vehicles is time-consuming and can also present safety issues. Customers are physically walking on the tip floor and manually lifting and moving waste from the vehicle to the station floor.



Personal protective equipment (PPE) was not consistently observed in use by hand-unloaders. A PPE policy should be developed and enforced for anyone that utilizes the Transfer Station. Additionally, it is a best industry practice to reduce unnecessary persons from being outside of vehicles at disposal facilities, especially the



disposal facilities, especially the untrained public. Transfer station tipping floors are considered high-risk environments. They typically have poor lighting, wet surfaces, high levels of noise, and large equipment operating with limited operator visibility. The City’s Transfer Station is consistent with these conditions.

The remaining bays are reserved for the unloading of self-dumping vehicles, including the Division’s vehicles. In a typical push pit configuration, similar to the City’s facility, self-unloading vehicles back straight to the rear and empty their loads from the rear of the building to the front. KCI observed the loader operator directing Division drivers to tip their loads from right to left, horizontally across the rear of the station floor. It was time-consuming for the driver to position the vehicle in this fashion, and waste was then blocking the length of the loading pit. When asked why, staff indicated that it was more conducive to trans-loading because the waste was arranged to more easily load trailers. At other times, trucks were observed unloading rear to front.

Based on KCI’s experience, the wheel loader used to trans-load garbage was somewhat undersized, and may contribute to the need for more precise load positioning by delivering drivers. A smaller loader requires significantly more time to move material as compared to a larger machine, and positioning waste closer to the final delivery point could be considered a time-saver.

Staff indicated that waste movement and station operations depend heavily on the availability of transfer trailers. The City’s operating permit requires that all waste be trans-loaded by the close of

business daily. Waste Management (WM) is contracted to provide transport services, which they subcontract to a third party. This same operator services other WM locations with the same resources forcing the Division to halt transfer operations while waiting for transfer trucks to arrive.

As noted earlier in the collection section, drivers have notable downtime when returning from routes. One of the contributing factors is having to wait to unload their vehicles because of either tipping floor delays or insufficient transfer trailers. Drivers queue their vehicles and then wait in the break room until they can tip their trucks. Depending on trailer availability, these delays could be lengthy at times.

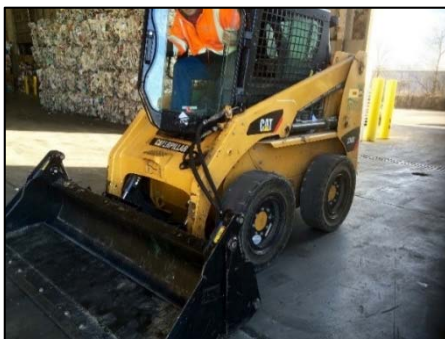
Overall, the operation is well run for a small facility. The building's size is constraining, as are the permit requirements, machine size, and the fact that inexperienced, hand-unloading vehicle drivers share the tipping floor with high-capacity, mechanized waste collection vehicles. The biggest limitation, however, is the availability of transfer trailers.

The City's service contract with WM requires the contractor to "provide an adequate number of vehicles, trailers and back up equipment ... to insure the daily systematic and orderly performance of all services specified in the contract within the required time frame." (Section 2(b)) The Division should conduct a waste surge analysis to identify peak times for inbound materials, as well as the pattern of the outbound flow of waste. The Division should let WM know what time transfer trailers are to be delivered so that inbound and outbound flows are better aligned. A trailer should be ready to back in when a full one pulls out, even if it requires WM to commit more resources. This change will positively impact collection operations by reducing driver downtime caused by delays in tipping.

The MRF portion of the building is comprised of material storage bunkers, bale storage areas, an infeed conveyor, and an eight-year-old, two-ram baler. The facility bales clean recyclable materials delivered from the City's curbside collection program, drop-off program, and commercial routes. Three employees rotate operating the baler, skid steer loader, and roll-off truck to produce high-quality, mill-ready product.

Operators have been experiencing downtime with both the baler and infeed conveyor. KCI conducted ancillary research and provided Division staff with preliminary pricing for replacing the conveyor. The baler could be considered slow compared to the newest models currently available and the movement of materials from the various roll-off containers on site is time-consuming. Material, from the point of generation to the final bale, is handled multiple times as a result of the source separated collection program. The Division would benefit from adding hydraulic grapple tines to the skid steer loader bucket. This type of tool increases loader operator production and is versatile for floor sorting of materials (see Figure 6).

Figure 6: Existing Skid Steer Bucket and Recommended Grapple Attachment



5. Composting Operations

KCI conducted the site visit in January. While the facility appeared to be in good working order, further observation may be warranted at other times of the year, such as the spring and summer, when higher material volumes and more putrescible materials such as grass clippings are generated.

Yard waste, the sole feedstock, is ground at the adjacent drop-off property and transferred onto the active composting pad for the duration of the process. The pad itself is newer concrete with an area of approximately 3.1 acres and able to accommodate more than 20 230-foot windrows. The Division's windrow turning machine is very effective at maintaining well-structured windrows. During the site visit, the facility was at capacity and was waiting until finished compost is screened and removed before accepting newly-ground materials.



Division personnel reportedly monitor temperatures on a daily basis. Because the facility currently composts only yard waste, daily temperature monitoring is typically not necessary. Two to three times weekly is sufficient to monitor the yard waste composting process.

The composting process takes approximately six months to complete the cycle from windrow construction to curing, although the duration varies across each windrow. The facility is not sufficiently sized to handle all yard waste currently collected and processed by the Division. The six-month compost cycle is causing a backlog of yard waste at the grinding site.



The Division successfully piloted the composting of food waste from grocery stores, but reached a point where the Arkansas Department of Environmental Quality required the City to either modify its permit or discontinue the process. At the time, the decision was made to discontinue operations because of the small volume being collected.

Composting facility operations and future composting options will be further evaluated as part of the master planning process. However, KCI offers several recommendations. In an effort to reduce compost operating costs and to help minimize the potential for malodors, KCI recommends

conducting a pilot test of the Modified Static Aerated Pile (MSAP) composting method. This method utilizes a specialized inoculant and reduces the turning frequency significantly. In addition to less turning, more consistent temperatures, and a reduction in odor, the method is also well-suited for facilities that handle highly putrescible materials like food residuals. KCI can immediately assist the Division with establishing an MSAP pilot and providing access to inoculant materials.

KCI further recommends that the Division incorporate food waste collection and processing as part of the pilot. Because the City controls its own collection system, a pilot food residuals recovery program at select supermarkets, institutions, and/or restaurants could be quickly implemented. While the additional material will increase the volume composted, the addition of more nitrogenous organics materials can reduce the composting time, thereby enabling the facility to handle more yard waste.

6. Fleet Services

The Division's fleet is comprised of 51 pieces of equipment, including 38 collection trucks and various ancillary equipment. Of the Division's collection equipment trucks, 32 are considered frontline units and 6 are classified as spares. Table 7 provides key metrics of the vehicle fleet.

The ratios of frontline to spares are within appropriate ranges, with high-maintenance equipment types (e.g., ASL) having higher ratios than low-maintenance vehicles. The overall spare ratio (19 percent) is slightly above average because vehicle types are not interchangeable across service types. At this time, KCI does not recommend revising spare ratios. Should a roll-cart program for recycling be introduced, a greater number of routed ASLs will be required, which can be interchanged with its residential garbage counterparts and the ASL spare ratio can be addressed.

Table 7: Collection Vehicle Fleet Metrics

Vehicle Type	Total Quantity	Routed Vehicles	Spare Ratio	Average Age	Useful Life (years)	Average Monthly Fleet Cost	Average Monthly Fuel Cost	Average In Service Date
Automated Side Loader	9	7	29%	2.7	7 - 9	\$ 661.37	\$ 1,147	8/7/2012
Manual Curb-Sort Recycle	12	10	20%	6.4	10 - 12	\$ 704.12	\$ 565	10/29/2008
Commercial Front-Load	9	7	29%	2.7	8 - 10	\$ 1,047.59	\$ 1,017	8/1/2012
Roll-off	3	2	50%	5.1	10 - 12	\$ 840.50	\$ 896	3/1/2010
Container Delivery	1	1	0%	6.7	10 - 12	\$ 406.13	\$ 372	7/24/2008
Flat Deck/Claw	1	1	0%	6.6	10 - 12	\$ 295.98	\$ 352	8/25/2008
Van Body & Lift Gate Pickup	2	2	0%	4.6	10 - 12	\$ 148.92	\$ 200	9/14/2010
Total Collection Fleet:	37	30	23%	4.4				11/9/2010

The collection fleet has an average age of less than five years, which is a sign that vehicle replacement is occurring as planned or even slightly ahead of schedule. This is a result of five ASL vehicles being replaced in the same year (2013) and five commercial FEL vehicles being replaced in the previous two years. In most cases, the reason for replacing the majority of a vehicle type in the same year is a program change such as converting to roll-cart service. When feasible and over time, these replacements should begin to be spread back out for a more balanced capital replacement program.

In general, KCI recommends a replacement schedule of 8-10 years for FEL vehicles; 7-9 years for ASL vehicles; and 10-12 years for rear-load, roll-off, manual curb-sort recycling, and support vehicles.

Prior to replacing any vehicle, the unit should be reviewed to determine if maintenance expenses are tracking as planned. If a unit falls below the average spending for similar vehicle type, the useful life might be extended. On the other hand, high maintenance expenses are an indicator that a unit might need to be replaced sooner than planned. Should the situation of early replacement arise, an examination of vehicle procurement specifications, warranty, and driver misuse and abuse should be conducted to prevent a reoccurrence.

Based on KCI's experience, the Division's average monthly maintenance costs for ASL vehicles is below average. This is likely due to the average age being less than three years, but could also be an indication of a lack of preventative maintenance, either on the daily operator-serviceable items (arms and lifters) or the fleet-serviceable items (chassis, motor, etc.). ASL units are high-duty cycle machines that require significant preventative maintenance by both the drivers and Fleet Services. KCI did not conduct a unit-by-unit analysis, but as a general rule, average monthly costs for an FEL vehicle should not exceed that of an ASL for a similarly aged fleet, and FEL costs appeared to be in line with average use.

Currently, nearly all of the residential manual curb-sort recycling trucks are 2006 or 2007 models and are, therefore, approaching the end of their useful lives. If possible, it may be in the Division's best interest to postpone their replacement until future potential programmatic changes are evaluated. A program change, such as a transition to roll-carts and automation, will have a significant impact on new vehicle specifications and unit quantities.

KCI conducted interviews with the Fleet Superintendent and his staff in an attempt to identify any issues or concerns they may be having with the Division. The Division has an excellent working relationship with its Fleet Repair Facility (Fleet). The two organizations have an open communication process that is necessary to maintain acceptable levels of vehicle downtime. According to Fleet, the Division's workers have become much more diligent in caring for their vehicles in recent years, with drivers reporting problems at the conclusion of their routes.

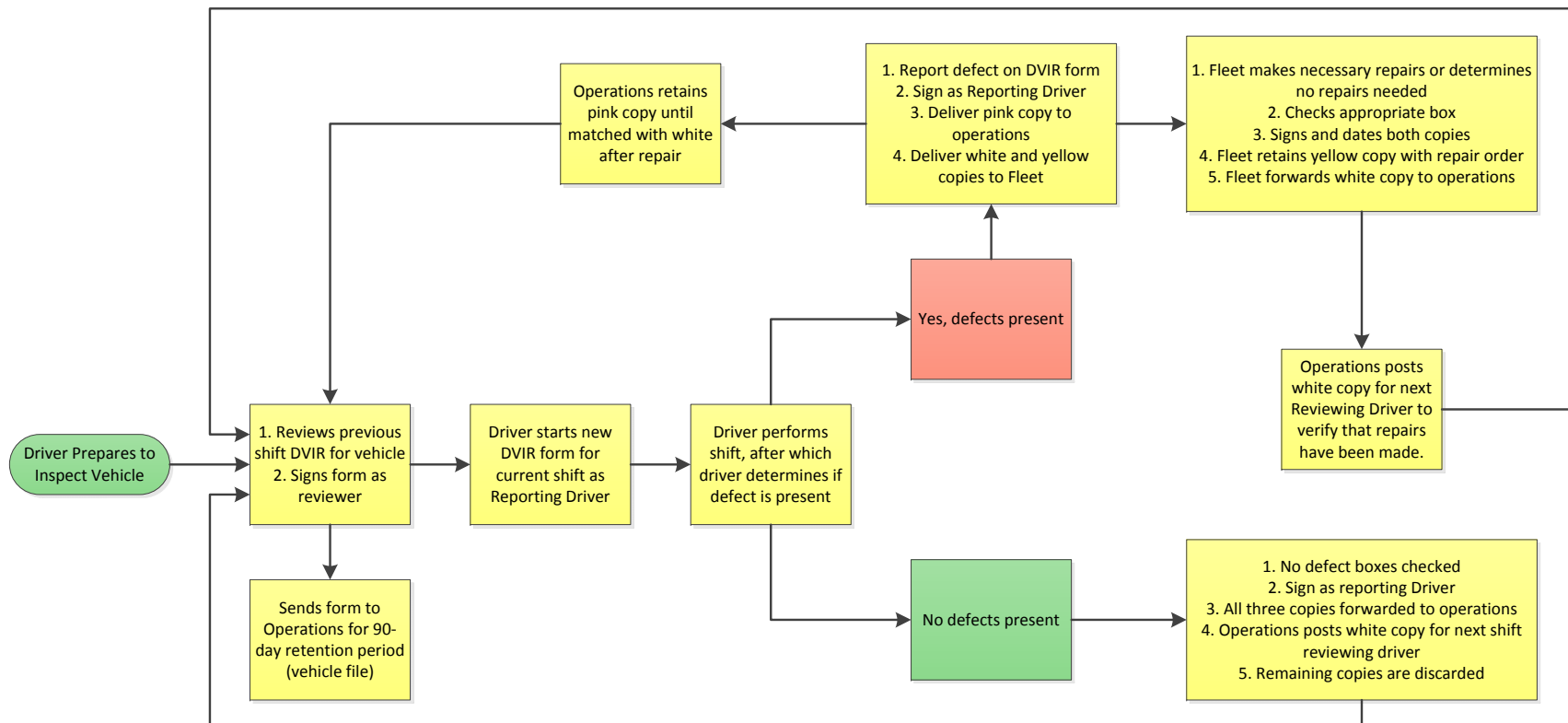
The clear reason for Fleet's ability to maintain the Division's vehicles is its night shift. Maintenance ideally occurs when vehicles are not normally in use. The availability of a vehicle for maintenance service should not be contingent on having surplus equipment or high spare ratios, which would require significant capital investment for those extra vehicles.

Fleet has reported some indications that not all drivers are thoroughly inspecting vehicles before and after each route. This is evident by small problems that have gone unnoticed and have subsequently grown into larger issues. KCI noted that a robust Driver Vehicle Inspection Report (DVIR) policy was not in place. Although drivers are required to inspect their vehicles and document any necessary repairs, supervisors confirmed the process was inconsistent and needed attention.

Solid waste drivers are required by the U.S. Department of Transportation to complete a DVIR every day. This document indicates that the driver has conducted both a pre- and post-trip safety inspection of the vehicle and authorizes that the vehicle is safe to operate. Figure 7 illustrates the DVIR process and how the reporting driver, reviewing driver, and Fleet Services communicate for vehicle roadworthiness. An example of the three-part DVIR form, as well the inspection procedure, is attached. All defects should be corrected prior to departure. Most defects identified by drivers can be repaired by the Fleet Services night shift in advance of the next route day.

Figure 7: Driver Vehicle Inspection Report Process Flow

Driver Vehicle Inspection Report (DVIR) Process Flow



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7. Conclusion

The Division's solid waste operation is a well-run, cohesive operation. Employee morale is high and is demonstrated through considerable department longevity. The Division has developed and implemented a number of best practices seen in other high-performing solid waste organizations, including developing employee career paths through promotion from within, cross-training, and continuing education through industry training and events. The Division's equipment is in good working order and replacement cycles are adhered to. Following is a list of items KCI believes the Division should consider for incremental system improvement. We are available to assist with any of these items or any additional technical assistance the Division may require.

All Collection Services

- Consider route optimization tools for more efficient collection, reduced driven miles, and possible route reductions.
- Review and reduce any unnecessary downtime. Delays at the Transfer Station are a key contributor to this downtime, which are addressed below.
- Implement a more standardized Driver Vehicle Inspection Report (DVIR) process.

Residential Collection

- Consider Radio Frequency Identification (RFID) tools and Automated Vehicle Location (AVL) service verification systems to manage assets, improve customer service, automate extra bag billing, monitor recycling participation, and target recycling education and outreach efforts.
- Continue to aggressively promote growth of the recycling program by promoting bin distribution and other education and outreach efforts.
- Delay replacement of compartmentalized curb-sort recycling vehicles until KCI has completed the Master Plan work and a decision has been made regarding future recyclables collection and processing. If such a delay might jeopardize the safety or integrity of collection operations, then KCI recommends exploring the feasibility of leasing vehicles in the interim.
- Conduct a single stream recycling pilot program to better evaluate the operational and financial implications specific to Fayetteville.

Commercial Collection

- Continue to focus on the highest possible average yards per lift.
- Develop and implement an Arms Stowed While Traveling (ASWT) Safety Policy.

Roll-Off Collection

- Shift dispatch from sales to operations.
- Review container rental policy and adjust based on current inventories.

Transfer Station and MRF

- Develop and implement a Personal Protection Equipment policy.

- Conduct a waste surge analysis to identify peak times for inbound materials and the pattern of outbound waste flow. Based on the results, specify times that Waste Management should deliver transfer trailers so that inbound and outbound flows are better aligned.
- Designate a transfer operator or route driver to empty all trucks queued to dump rather than having a number of drivers waiting to unload. Drivers could rotate throughout the week.
- Consider an alternative hand-unload area to eliminate these vehicles from the tip floor.
- If hand-unload vehicles are shifted away from tip floor, the Division can consider acquisition of a larger wheel loader for more efficient waste movement.
- Consider acquisition of a grapple for the skid steer loader.

Compost Operations

- Reduce daily temperature monitoring of yard waste to two or three times weekly.
- Conduct a pilot to test the Modified Static Aerated Pile (MSAP) composting method to significantly reduce the turning frequency and minimize the potential for malodors. Incorporate food residuals recovery into the pilot program, focusing on supermarkets, institutions, and/or restaurants. The addition of food waste will increase the volume composted and add more nitrogenous organics materials to reduce the composting time and increase throughput.

Broader programmatic, infrastructure, and policy opportunities will be further explored and evaluated as the master planning project proceeds. The various options being evaluated will have operational implications. For example, residential recycling program modifications have the potential to alter collection and processing efficiencies. Likewise, exploring C&D debris recycling opportunities has the potential to reduce disposal costs and expand the roll-off service sector. The recommendations outlined above are intended to provide the City with more immediate suggestions for enhancing the efficiency and cost-effectiveness of current operations, as well as to pilot certain program changes that are under consideration.

Appendix A – Driver Vehicle Inspection Form

DRIVER'S INSPECTION REPORT – (See reverse side for pre-trip procedure)

CHECK DEFECTS ONLY. Explain under REMARKS
COMPLETION OF THIS REPORT REQUIRED BY FEDERAL LAW, 49CFR 396.11 & 396.13

Truck or Tractor No. _____ Trailer No. _____
Start _____ Mileage End _____ Start _____ Hour Meter End _____
ATA/VMRS System Code Numbers for Shop Use Only Fuel: _____ gal.

POWER UNIT			
GENERAL CONDITION	IN-CAB	EXTERIOR	
☐ 02 Cab/Doors/Windows	☐ 03 Gauges/Warning Indicators	☐ 34 lights	
☐ Oil Leak	☐ 02 Windshield Wipers/Washers	☐ 34 Reflectors	
☐ Hydraulic Leak	☐ 54 Horn(s)	☐ 16 Suspension	
☐ 42 Coolant Leak	☐ 01 Heater/Defroster	☐ 17 Tires # of Flats	
☐ 44 Fuel Leak	☐ 02 Mirrors	☐ 18 Wheels/Rims/Lugs	
☐ 31 Charging System	☐ 15 Steering	☐ 32 Battery	
☐ 42 Cooling System	☐ 23 Clutch	☐ 43 Exhaust	
☐ 26 Transmission	☐ 13 Service Brakes	☐ 13 Brakes	
☐ 24 Drive Line	☐ 13 Parking Brake	☐ 13 Air Lines	
☐ 22 Rear Axle	☐ 53 Triangles/Flares	☐ 34 Light Line	
☐ 41 Frame / Frame Bolts	☐ 53 Fire Extinguisher	☐ 48 Fifth-Wheel	
☐ 51 Vehicle Paperwork/Stickers	☐ 02 Seat Belts	☐ 49 Coupling Devices	
☐ NO DEFECTS			
SPECIAL BODY			
☐ 65 Hydraulic System	☐ 71 Hopper Cover	☐ 55 Packer Blade	☐ 71 Side Shields
☐ 55 Lift Arms	☐ 71 Body Metal	☐ 58 Winch	☐ 58 Cable
☐ 55 Chains	☐ 55 Rollers	☐ NO DEFECTS	
TOWED UNIT(S)			
☐ 71 Body/Doors	☐ 16 Suspension	☐ 77 Landing Gear	☐ 79 Rear-End Protection
☐ 71 Tarps	☐ 17 Tires	☐ 59 Kingpin/Upper Plate	☐ 65 Hydraulic Valve
☐ 34 Lights	☐ 18 Wheels/Rims/Lugs	☐ 77 Walking Floor/Pistons	
☐ 34 Reflectors	☐ 13 Brakes	☐ 59 Coupling Devices	☐ NO DEFECTS
REMARKS: _____			
REPORTING DRIVER: Date _____			
Name _____ Emp. No. _____		MAINTENANCE ACTION: Date _____	
		Repairs Made ☐ No Repairs Needed ☐	
REVIEWING DRIVER: Date _____		Further Work Scheduled ☐	
Name _____ Emp. No. _____		Mechanics Name _____	
SHOP REMARKS: _____			

WHITE: Original (retain for 90 days) • CANARY: Fleet Service (retain with work order) • PINK: Operations

DVIR Form Instructions (reverse of form)

1. Approaching vehicle note general condition. Look for leakage of water, fuel or lubricants under vehicle.
2. Under hood check water and crankcase oil levels. Check fan and compressor belts for cracks and excessive slack and wear. Note general condition of engine space.
3. Start engine and set at fast idle for warm-up. Check for abnormal engine noise. Check gauges for normal readings (pilot lights, if equipped), <LOW AIR> warning should operate if air pressure is below 60 pounds. Anti-lock warning light should light briefly and then go out (vehicles with operable anti-lock).
4. Check emergency equipment, horn(s), and windshield wipers. Turn on all lights including 4-way flasher switch for turn signals. Check steering wheel action.
5. Leave cab to check headlights and turn signals. Switch headlights on and check both beams, then turn off headlights only. Leave all other lights on.
6. Check front clearance and identification lights.
7. Check left and right front wheels, tires, lugs or studs. Check for leaks around hubs.
8. Check right side of cab, door, mirrors, etc. and check lights and reflectors along right side as inspection progresses.
9. Check right rear tractor tires, wheels, lugs or studs. Note any thrown lubricant.
10. Check trailer light and brake lines for secure connections. Be sure manual petcocks are open. Be sure lines are properly secured to prevent entangling or chafing.
11. Check hook-up: fifth-wheel, jaws, release lever on tractor-trailer, pintle hook, towbar, safety chains, converter gear on full-trailer unit (if applicable).
12. Check right trailer tires, wheels, lugs or studs. Check for thrown lubricant (if applicable).
13. Check rear of body, mud flaps, rear light (clearance and identification, stop, tail, turn signals), rear reflectors, rear end protection.
14. Check left trailer tires, wheels, lugs or studs. Check lights and reflectors on left side as inspection progresses.
15. Check left rear tractor tires, wheels, lugs or studs. Check for thrown lubricant.
16. Re-enter cab. Re-check all gauges. Air pressure should be at maximum.
17. Check parking brake.
18. With fully-charged system, check air brakes as follows:
 - a. Be sure Trailer Air Supply valve is “in” and that trailer brake air system(s) are charged. Apply and release brakes with treadle valve (if applicable).
 - b. Pull out Trailer Air Supply valve to check manual application of trailer brakes.
 - c. Reduce air pressure by rapid application and release of treadle foot valve. “LOW AIR” warning should operate when primary needle reaches 60 psi. Brake should apply automatically when secondary needle reaches a point between 45 and 20 psi.
 - d. Recharge trailer air system to check for leaks. With engine idling, apply treadle foot valve and hold for 1 minute. After initial drop of 5-10 psi, air pressure should not drop more than 4 psi. If audible leaks or rapid pressure drop are noted, have repairs made before departure.
19. Turn-off 4-way flasher and actuate left and right turn signals. Proper operation of turn signals can be ascertained by checking front ones.
20. Make a test stop before leaving yard. Drain air tanks daily. Check tires twice daily or every 100 miles.

Use DVIR form to report vehicle condition at end of run.



TECHNICAL MEMORANDUM NO.5

DATE: June 29, 2016

TO: Jeff Coles, Recycling and Trash Collection Director
City of Fayetteville, AR

FROM: Robin Mitchell, Project Manager

SUBJ: Commercial Food Waste Pilot

PROJ #: 173-00.00

1. Introduction

Kessler Consulting, Inc. (KCI) was contracted by the City of Fayetteville, Arkansas (City) to assist in developing a Solid Waste Reduction, Diversion, and Recycling Master Plan (Master Plan) with the objective of diverting 80% of the waste stream from the landfill. As part of this Master Plan, KCI assisted the City in planning and conducting a commercial food waste composting pilot (Pilot) to determine the feasibility of a citywide commercial food waste collection and composting program.

Specific goals of the Pilot included:

- Evaluate food waste collection logistics, including both onsite collection and transportation to the compost facility.
- Evaluate the Modified Static Aerobic Pile (MSAP) method for composting food waste at the City's compost facility.

2. Methodology

2.1. Pilot Site

This City owns and operates a 3.1-acre composting facility, which prior to this Pilot was composting only residential and commercial yard waste. In 2015, the City estimated it processed nearly 7,000 tons of yard waste. All food waste collected in the Pilot was transported to this facility for composting. This site was sufficient in size and infrastructure for conducting the Pilot without any physical modifications.

2.2. Operating Plan and State Approval

Prior to implementing the Pilot, KCI and the City prepared an Operating Plan as specified under Arkansas Pollution Control and Ecology Commission Regulation 22, Chapter 8. The City submitted the Operating Plan to Arkansas Department of Environmental Quality (ADEQ) seeking approval to

temporarily operate its Type Y (yard waste) composting facility as a Type O (source separated organic waste) composting facility.

In November 2015, the City and ADEQ signed a Memorandum of Agreement (MOA) to allow for 90 day operation of a Type O facility for the Pilot. This was later extended to 180 days following an inspection by ADEQ personnel, during which no issues were found. The MOA required all material to be moved offsite by 30 days after the 180-day pilot period.

The Pilot was limited to 10 tons of food waste per week. Food waste was collected over 21 weeks, from January 20, 2016 through June 10, 2016. This allowed sufficient time for all material to be composted, screened, cured, and moved offsite by August 17, 2016.

2.3. Participants

The City reached out to a number of commercial food waste generators to voluntarily participate in the Pilot. Table 1 shows the list of participants in the Pilot. At some locations, collection of both pre- and post-consumer food waste was not logistically feasible.

Table 1: Pilot Participants

Business/Institution	Sector Type	Types of food waste collected	Carts provided
University of Arkansas*	University	Pre- and Post-consumer	10
Happy Hollow Elementary School	School	Post-consumer	3
Greenhouse Grill**	Restaurant	Pre- and Post-consumer	1
Woodstone Pizza**	Restaurant	Pre- and Post-consumer	1
Khana Indian Grill	Restaurant	Pre- and Post-consumer	2
Farmer's Table	Restaurant	Pre- and Post-consumer	1
Starbucks	Restaurant	Pre- and Post-consumer	1
Arsagas	Restaurant	Pre- and Post-consumer	1
Fayetteville Senior Activity and Wellness Center (Senior Center)	Recreational Center	Pre-consumer	1

*Food waste was collected from 4 locations at the University of Arkansas: Fulbright/Northwest Quad, Pomfret Hall, Union Kitchen, and Brough Commons.

**Food waste from Greenhouse Grill and Woodstone Pizza was collected together.

2.4. Collection

The City worked with each participant to ensure they had the infrastructure in place for their staff and/or customers/students to source separate the food waste in their kitchen and/or dining room for. In most cases, participants used buckets, garbage cans, or other large containers for in-house collection containers. The City also designed and produced a poster to educate staff and customers/students about the Pilot and what can and cannot be included in the food waste (Figure

1). For this Pilot, food waste included any pre- and post-consumer food waste (except for raw meat) and compostable or food-soiled paper.

Figure 1: Educational Poster for the Pilot



The City provided each participant with 64-gallon roll carts for collecting food waste from the in-house containers. The number of carts provided to each participant is shown in Table 1 and was based on the volume of waste estimated at each location and feedback from the participant. The City serviced these carts 3 times per week using an automated side-load truck. At each stop, the driver estimated the volume of food waste collected based on the percentage of each cart that was filled. The driver also monitored for contamination (i.e. non-compostable material) and rejected carts with excessive contamination.

To maintain cleanliness and reduce odor, participants either rinsed the carts or used compostable bags to line their carts. The Senior Center and Happy Hollow Elementary did not have the capabilities to rinse the carts, so the City provided them with 64-gallon and 96-gallon compostable bags for their carts. KCI obtained the bags from 4 different manufacturers (Biobag, Natur-Tec, Bio-Tuf, and Ecosafe), as samples at no cost, all of which are certified compostable by the Biodegradable Products Institute (BPI). Starbucks and Khana Indian Grill provided their own compostable bags to line the carts. Khana Indian Grill used bags from Biobag, while Starbucks used compostable bags from IPS Industries, which to the best of KCI's knowledge is not listed by BPI. City staff monitored how well the bags composted.

2.5. Participant Survey

The City and KCI developed a survey to receive participants' feedback on the Pilot. Towards the end of the Pilot, the survey was emailed to each participant via Survey Monkey.

2.6. Composting

All food waste collected from participants was transported to the City's compost facility located at 1560 South Happy Hollow Road.

For the Pilot, KCI worked with the City to implement the MSAP composting method, instead of the traditional turned windrow method they had been using for yard waste composting. The MSAP method was developed by Harvest Quest International, and relies on a proprietary microbial inoculant that expedites the composting process and minimizes turning requirements.

In the MSAP method, the City first laid down a bed of ground yard waste, on top of which it tipped the food waste collected that day (Figure 2).

Figure 2: Tipping Food Waste at the Compost Facility



Photo credit: City of Fayetteville

Additional fresh yard waste was added to obtain a ratio of 3 parts yard waste to 1 part food waste. The City's windrow turner then mixed the material (Figure 3), which also broke open the compostable bags to facilitate their decomposition.

Figure 3: Windrow Turner Mixing Food Waste and Yard Waste



Photo credit: Russell Cothren, Edible Ozarkansas

After mixing, a front-end loader began constructing the pile (Figure 4). Because of the limited amount of food waste collected in the Pilot, the City constructed weekly pile rather than elongated windrows.

Figure 4: Pile Construction



Photo credit: City of Fayetteville

On Friday, after the third collection of the week, the inoculant was added on top of the mixed material (Figure 5).

Figure 5: Adding Inoculant onto the Pile



Photo credit: Russell Cothren, Edible Ozarkansas

Then a 6-inch capping layer of ground yard waste was added on top of the pile, which essentially acts as an insulating blanket to facilitate the growth of the inoculant and maintain high temperatures throughout the pile (Figure 6).

Figure 6: Adding the Capping Layer onto the Pile

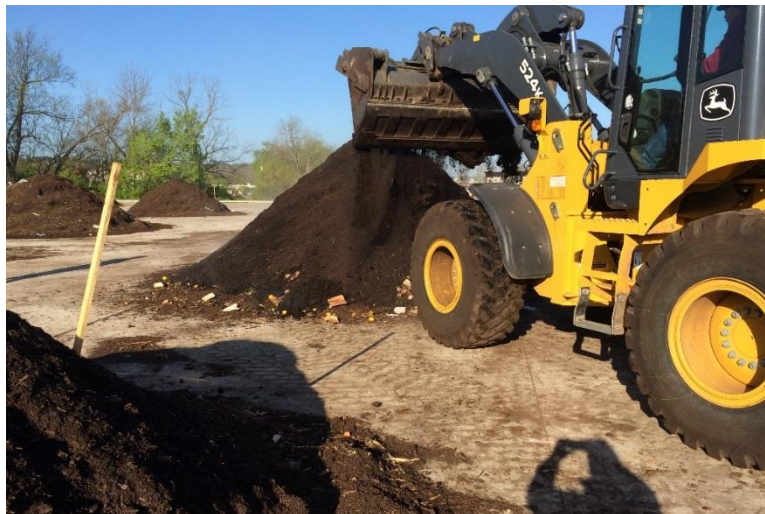


Photo credit: City of Fayetteville

After capping, the inoculant spread across the surface of the pile underneath the capping layers. As the microorganisms in the inoculant grow and multiply, they siphon air into the pile, biologically simulating mechanical aeration of a static pile. The pile remained static for 30 days, at which point the City turned it with a front-end loader (Figure 7). The pile was then static for an additional 15 days until it was turned a second time. After 15 more days, the composted material was screened.

The screened compost then cured for an additional 14 days before distribution. Screen overs were then returned to be used in future piles as the base layer or capping layer.

Figure 7: Mixing the Pile



Photo credit: Russell Cothren, Edible Ozarkansas

2.7. Monitoring

The primary indicator of effective active composting is high temperatures. High temperatures are also required to meet state and federal regulatory requirements for pathogen reduction. With the MSAP composting method, the surface of the compost (i.e. below the cap) must be above 131°F for 3 consecutive days and for 15 consecutive days in the interior of the pile. City staff monitored temperatures daily using a 4' manual temperature probe (Figure 8). Temperatures were recorded at depths of 12", 24", 36", and 48".

Figure 8: Manual Temperature Probe



Photo credit: Russell Cothren, Edible Ozarkansas

Odor was monitored empirically by City staff while onsite. Any odor issues were identified and recorded by type, strength, and possible source.

2.8. Testing

Approximately halfway through the Pilot, the City pulled samples of finished (screened and cured) compost to submit to Midwest Laboratories for quality and regulatory testing using the procedures outlined in the Operating Plan. Pursuant to state regulations, Type O compost must be tested for the following parameters:

- Soluble salts (electrical conductivity)
- Fecal coliform
- Salmonella
- pH
- Arsenic
- Cadmium
- Chromium
- Copper
- Lead
- Mercury
- Molybdenum
- Nickel
- Selenium
- Zinc

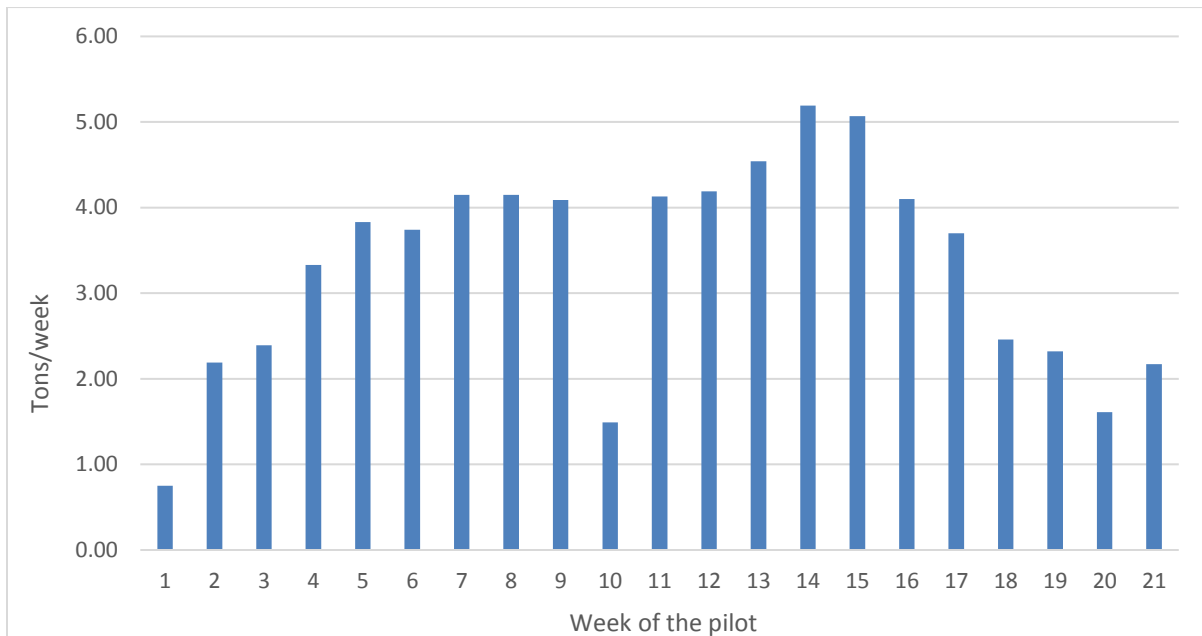
For the Pilot, the City tested the finished compost following the United States Composting Council (USCC) Seal of Testing (STA) program guidelines. This included testing for the above parameters as well as a number of other compost quality parameters.

The City also pulled samples of fresh feedstock material (food waste and ground yard waste) to test for fecal coliform.

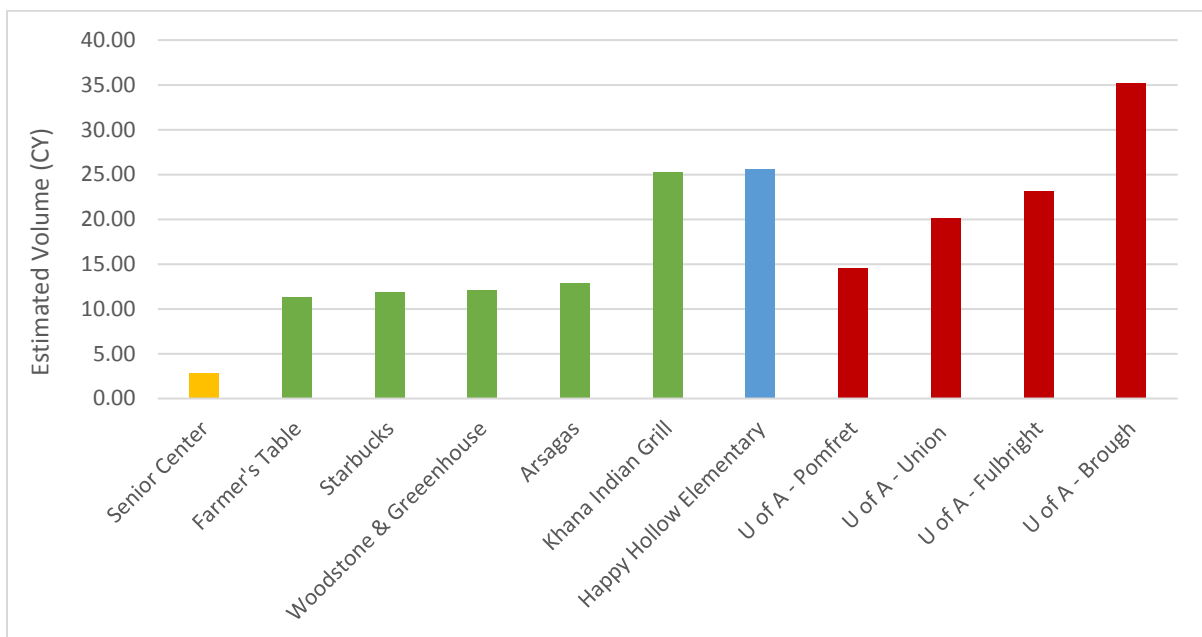
3. Results

3.1. Collection Results

A total of 69.3 tons of food waste was collected during the Pilot, as measured by the City's scale house. Figure 9 shows the total tonnage of food waste collected during each week of the Pilot. After the initial ramp up in tonnage during the first few weeks, tonnages remained fairly consistent at 3-5 tons/week, with a few exceptions. A dip occurred in week 10 during spring break at the University. Weekly tonnages declined after week 17, when only minimal food waste was collected from the University as it entered the summer term. Concurrently, in early May, Arsagas and Starbucks were no longer collecting food waste, as they were under the impression the Pilot had ended.

Figure 9: Weekly Tonnage of Food Waste Collected During the Pilot

Approximately 195 cubic yards (CY) of food waste was collected during the Pilot, as estimated by the City's driver during collection. Figure 10 shows the cumulative estimated volume of food waste collected from each participant. The University of Arkansas had the largest volume of food waste collected with a total of 93 CY for all four locations, the most significant volume coming from Brough Commons (35 CY). Happy Hollow Elementary School and Khana Indian Grill both had the second largest volumes of food waste (25 CY each), while between 11 and 13 CY were each collected from the other restaurants. The smallest volume was collected from the Senior Center (3 CY).

Figure 10: Cumulative Estimated Food Waste Collection by Participant During the Pilot

Notes: U of A = University of Arkansas. Colors represent type of participant.

The driver noted that carts occasionally contained garbage and did not collect these carts. Out of a total of 682 potential pickups in the pilot, 16 incidents occurred where carts were rejected due to contamination. Most of these incidents were early in the Pilot and were corrected by communicating with the participant.

The City collected food waste 3 times per week to ensure sufficient service to the participants. Some participants did not require this frequency of service. For example, the Senior Center on average only placed their cart out once per week.

3.2. Participant Survey Results

The City received responses from all 9 participants in the Pilot. Below is a summary of the results of this survey:

- All participants rated their experience as positive or somewhat positive.
- While most participants experienced no issues with the Pilot, a few participants expressed minor issues, including needing more carts, not having sufficient space for carts or collection containers, odor, people not properly sorting food waste, having to rinse carts, or issues with the compostable bags.
- Some suggestions from participants to make food waste collection easier included more roll carts, more frequent collection, assistance with employee and customer training and marketing materials, City-provided in-house collection containers, and use of compostable bags.
- Nearly all participants received positive feedback from their employees, including:
 - “They are all very excited for this program to start full-time.”
 - “They have talked about how easy it is and how much they like that this compost material is staying out of a landfill.”
 - “Very user friendly.”
- More than half of the participants noticed a change in their employees’ behavior and greater awareness of food waste.
- Nearly all participants advertised the Pilot to their customers or students, mostly with a poster, sign, or by word of mouth. Some advertised on their website or social media.
- Most of the participants received positive feedback from their customers, including:
 - “Lots of positive feedback from customers on social media, it is well supported in our community.”
 - “They like that we are a part of the program. They gained a lot of respect for us as a company that we were doing this.”
 - “Very educational for the students.”
- Two participants said some customers were confused about the compost program.
- One restaurant noticed more customers using take-out containers.
- Most participants estimated they decreased the volume of disposed garbage by 25-50% during the Pilot, while two participants estimated their waste reduction was more than 50%.

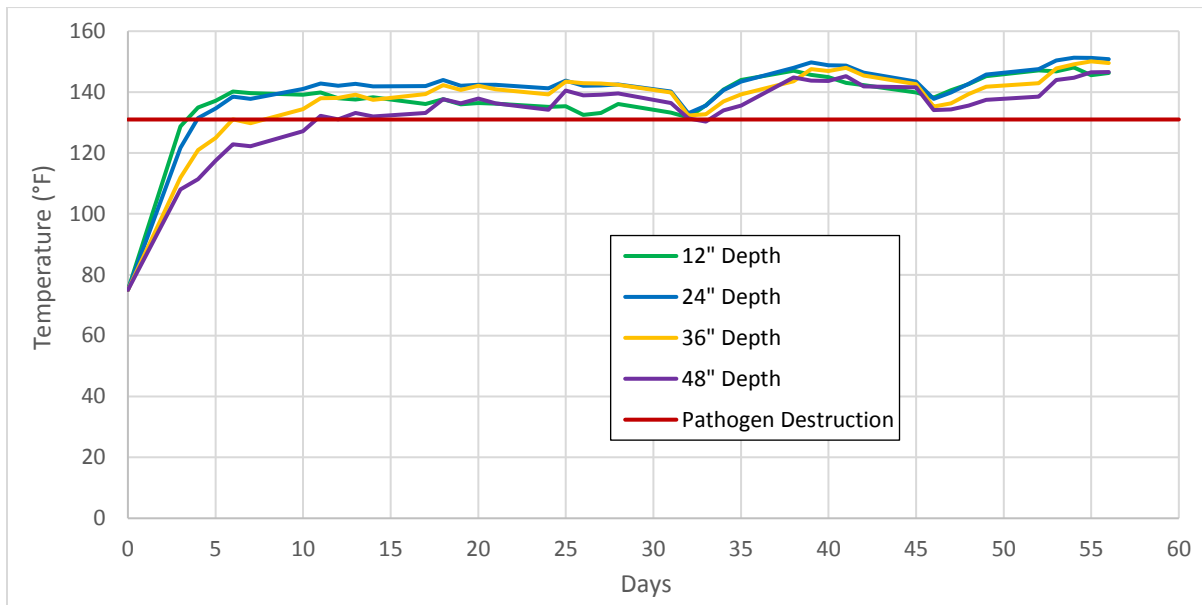
- All participants would continue to collect food waste if it was at no additional cost or if the cost was offset by a decrease in garbage collection costs. Two participants would continue if it cost 10% more.
- All participants would support a citywide mandate requiring food waste separation by businesses generating a substantial amount of food waste.
- Some additional feedback from the survey, included:
 - “The whole experience was positive for our business. Composting food waste will be nothing but beneficial for the city and the environment. It really is the only smart option.”
 - “We are keeping our fingers crossed that the program can become a permanent part of Fayetteville Waste.”
 - “Thank you for including FPS in the food waste Pilot and including the opportunity for students to tour the compost facility! We're hopeful this expands and all schools can participate in the future.”
- After the survey, participants provided additional comments through email, including:
 - “I just wanted to say thanks for all your efforts in initiating this Pilot Program. We're keeping our fingers crossed that commercial food waste collection can become a permanent part of the Compost Program; we need it and the city and citizens of Fayetteville need it too.”
 - “We would really like this program to continue, please be in touch if there is anything we can do to make this happen.”

3.3. Compost and Monitoring Results

Because of the volume of food waste collected weekly during the Pilot, the composting operation outlined in the Operating Plan was slightly modified. Instead of constructing windrows of 35-40 feet in length, the 3-5 tons of food waste that was collected weekly was placed in round piles approximately 15-20 feet in diameter at the base. Turning these piles with the windrow turner was not feasible; therefore a front-end loader was used.

The modified operations did not appear to affect the compost process. The City was able to achieve a mix ratio of approximately 3 parts ground yard waste to 1 part food waste by volume in most piles, which is the ideal mixing ratio for the MSAP process.

Additionally, all piles met regulatory temperatures for pathogen reduction, which indicates robust composting conditions. Figure 11 shows the average temperature at each depth across all piles. This figure also clearly shows the spike in temperature after turning the pile at 30 and 45 days, indicating that using the front-end loader provided sufficient mixing.

Figure 11: Average Temperatures for all Piles in the Pilot

Throughout the Pilot, only one incident of major contamination (2 bags of trash) occurred onsite. The contamination was removed and disposed of. The City also reported a few occasions of soda cans in the food waste; these were easily removed by hand prior to composting. This low amount of contamination can be accredited to both the willingness of the participants to train their employees and customers/students and the drivers monitoring for contamination at the point of collection.

The City experienced minor issues with the compostable bags at the compost facility. When the windrow turner was used to mix the fresh material, the City noticed that the bags were not easily shredded by the turner and some bags became tangled on the drum of the turner. These needed to be periodically removed from the turner. The City also observed some remnants of bags when the compost was screened. Possible reasons for the last issue include:

- Participants used bags that were not certified compostable.
- Participants inadvertently placed plastic bags in their food waste carts that were not caught by the collection driver or at the facility.
- Certified compostable bags did not break down. This could potentially have resulted from the small pile size in the Pilot, which had more surface area than a larger windrow. A larger surface area means more bags could be at the surface of the pile and not break down as quickly. Also, because the piles were turned with a front-end loader rather than a windrow turner, the bags were not shredded to a great extent in the subsequent turnings.

No remnants of bags were found in the finished compost, indicating the screening process effectively removed these bag remnants.

City staff reported only minor odor issues. Near piles #3 and #4, the City experienced some ammonia odors during composting, which are often an indication of low carbon to nitrogen (C:N) ratios. In fact, these two piles had the lowest yard waste to food waste ratios in the Pilot (2.74 and 2.38, respectively), which could have resulted in low C:N ratios. No odors were detected offsite and no odors were at a severity to be problematic or require corrective actions.

3.4. Laboratory Test Results

Table 2 shows the results of the laboratory test for pathogens in the fresh feedstock and finished compost. Fecal coliform and *Salmonella* levels were below detection limits in the finished compost, clearly indicating that the MSAP compost process effectively eliminated pathogens.

Table 2: Test Results for Pathogens in Fresh Feedstock and Finished Compost

Parameter	Units	Fresh feedstock	Pilot food waste compost	Allowable limits
<i>Salmonella</i>	MPN/4g dry weight	Not tested	<0.01	3
Fecal Coliform	MPN/g dry weight	95,000	<0.2	1,000

MPN = most probable number. Allowable limits are from Table 2 of ADEQ Reg. 22 for Type O and S compost.

Table 3 shows the heavy metal concentrations in the compost. These heavy metal levels were significantly below the allowable state regulatory limits.

Table 3: Test Results for Heavy Metals in Finished Compost

Parameter	Pilot food waste compost	Allowable limits
Arsenic	3.03	41
Cadmium	None detected	39
Chromium	14.3	1200
Copper	19.4	1500
Lead	12.8	300
Mercury	None detected	17
Molybdenum	None detected	54
Nickel	6.0	420
Selenium	None detected	36
Zinc	81.9	2800

All units are in mg/kg dry weight. Allowable limits are from Table 2 of ADEQ Reg. 22 for Type O and S compost.

Table 4 shows the test results for nutrient concentrations in the finished compost both on an as is and dry weight basis. The macro and micro nutrient levels indicate a nutrient rich compost product. Most of the nutrient levels fall within the acceptable range for garden compost as defined by Woods End Laboratory.

Table 4: Nutrient Analysis of Finished Compost

Parameter	Pilot food waste compost (as is)	Pilot food waste compost (dry weight)	Accepted range (dry weight)
Nitrogen	1.20%	2.56%	1.0 - 4.0%
Organic Nitrogen	1.18%	2.51%	N/A
Ammonium Nitrogen	0.025%	0.053%	<0.03%
Nitrate Nitrogen	<0.01%	-	0.01 - 0.25%
Phosphorus (as P₂O₅)*	0.30	0.64	0.2 - 2.3%
Potassium (as K₂O)*	0.49	1.05	0.1 - 2.4%
Sulfur	0.11%	0.23%	N/A
Calcium	1.74%	3.71%	0.5 - 10.0%
Magnesium	0.14%	0.30%	0.1 - 1.0%
Sodium	0.90%	0.19%	< ½ of potassium
Iron	2,500 ppm	5,333 ppm	< 12,000 ppm
Manganese	477 ppm	1,017 ppm	<1,000 ppm
Boron	<20 ppm		N/A
Copper	9.1 ppm	19.4 ppm	<350 ppm
Zinc	38.4 ppm	81.9 ppm	400 - 2,800 ppm

*Fertilizer labeling expresses % phosphorus and % potassium as %P₂O₅ and %K₂O, respectively, but these nutrients are not necessarily in this chemical form in the product.

Accepted ranges are derived from the compost matrix scorecard for garden compost provided by Woods End Laboratory.

Table 5 shows various agronomic parameters of the finished compost, as well as preferred and acceptable ranges according to the USCC's Consumer Compost Use Program. Most parameters were within the preferred or acceptable range. The only unfavorable result was a low percent of seed emergence. While there are a number of reasons why the emergence may be low, this should not present any serious problems with the compost given the positive results with every other parameter. Simply curing the compost for additional time may resolve this low emergence number.

Table 5: Agronomic Parameters Analysis

Parameter	Units	Pilot food waste compost	Preferred	Acceptable	Notes
Stability	mg CO ₂ -C per g OM per day	0.29	<2	<4	The lower the number, the more completely composted the product.
Maturity	% seed emergence & vigor	50% emergence 97% vigor	90-100%	80-100%	The higher the percentage, the more versatile the product.
Moisture Content	% wet weight basis	53.12%	40-50%	35-65%	Products with higher moisture content may be used. They may simply be more difficult to apply.
Organic Matter	% dry weight basis	69.97%	≥35%	≥25%	Creating a soil containing 5%-10% organic matter is desirable in typical, well drained soils.
Particle Size	Screen size to pass through	3/8"	See note	See note	Desired particle size depends on usage: • Lawn topdressing: 1/4"-3/8" • Planting: 3/8"-1/2" • Mulch: 1"-2"
pH	pH units	7.8	6.0-7.5	5.5-8.5*	Modify soil pH, if necessary, based on soil testing results.
Soluble Salts (Electrical Conductivity)	dS/m (mmhos/com) dry weight basis	3.0	<5.0	<15.0	Keep in mind that most soluble salts are also plant nutrients. Compost containing a higher soluble salt content should be applied at lower application rates and watered in well.
Physical Contaminants	% dry weight basis	None detected	<0.5%	<1.0%	Small stones may be deemed more acceptable than man-made inerts (e.g. plastic)

* Table 2 of ADEQ Reg. 22 requires pH to be between 5.5 and 8.5 for Type O and S compost.

The above table is derived from information developed for the USCC's Consumer Compost Use Program.

Table 6 shows comparisons between the test results of food waste compost produced during the Pilot and the City's yard waste-only compost for parameters that were tested on both composts. The food waste compost had lower heavy metals, higher phosphorus, higher organic matter, and more neutral pH compared to the yard waste compost. Seed emergence was higher in the yard waste compost, but, as mentioned previously, this was likely due to the food waste compost needing to cure for longer. Direct comparison is cautioned, however, because these are single sampling times and the composts were tested at different laboratories.

Table 6: Comparison between Food/Yard Waste and Yard Waste Only Compost

Parameter	Units	Pilot food waste compost	Yard waste compost
Cadmium	mg/kg dry weight	None detected	6.1
Chromium	mg/kg dry weight	14.3	105.2
Copper	mg/kg dry weight	19.4	40
Nickel	mg/kg dry weight	6	20.1
Zinc	mg/kg dry weight	81.9	142
Nitrogen	%	2.56%	2.34%
Phosphorus (as P₂O₅)	%	0.64%	0.38%
Potassium (as K₂O)	%	1.05%	1.42%
Calcium	%	3.71%	6.44%
Magnesium	%	0.30%	0.37%
Sodium	%	0.19%	0.07%
Iron	ppm	5,333	4,963
Manganese	ppm	1,017	254
Maturity	% seed emergence & vigor	50% emergence 97% vigor	93% emergence 96% vigor
Organic Matter	% dry weight basis	69.97%	58.80%
pH	pH units	7.8	8.25
Soluble salts (Electrical Conductivity)	dS/m (mm-hos/cm) dry weight basis	2.98	1.8

4. Findings and Conclusions

The Pilot demonstrated the effectiveness of the MSAP method for composting commercial food waste at the City's compost facility.

- **Quality compost:** The temperature profiles indicated a healthy compost system and the laboratory tests showed a high quality, clean compost.
- **Faster composting:** The MSAP method provided a faster composting process than the turned windrow method currently used by the City, which requires 4-6 months. Using the MSAP method for composting food waste and yard waste, active compost required only about 60 days. Faster composting time allows more material to be processed on the existing site.
- **Less turning:** Because the inoculant pulls air into the windrow, fewer turnings were required compared to the turned windrow method, which requires about 12 turns on average for a full composting cycle. The MSAP method only required 2 turns per cycle.
- **Odor control:** The MSAP method appeared to successfully control odors. Turning a windrow often has the highest potential to release odors. Because the MSAP method only required 2 turnings and the first turning did not occur until after day 30, the potential for odor release was reduced. In addition, the capping layer is intended to act as an in-situ biofilter to prevent releases of odors during active composting.

- **Potential cost savings:** The cost of the MSAP inoculant should be more than offset by the reduced labor, operational, and maintenance costs as compared to traditional turned windrow composting. Potential costs savings will be examined by KCI in a forthcoming financial analysis.

The Pilot provided valuable information and important considerations regarding composting operations when implementing a permanent food waste composting program.

- **Compostable bags:** To avoid having to clean out food waste containers, many businesses will likely want to use some form of compostable bag as a container liner. During the Pilot, some bag remnants were found in the compost prior to screening. Full-scale operation with larger windrows (less surface area) and additional shredding by using the windrow turner instead of a front-end loader to turn the piles should help minimize these remnants. Additional actions to reduce bag remnants include: 1) ensure only certified compostable bags or bags that are proven to be compostable at the City's facility are used and 2) ensure adequate participant/employee education and training to prevent plastic bags from being placed in the carts.
- **Windrow turner:** While the City's windrow turner is acceptable for the MSAP method, a larger turner may be beneficial. The larger turner will create larger windrows to allow more compost material on the current site. Larger windrows will generate more heat, thereby enhancing the compost process. In addition, a windrow turner with a larger diameter drum might be less likely to have compostable bags tangle on it.
- **Thermometer:** Temperature monitoring is required to meet state requirements for Type O composting facilities. In the Pilot, the City was using a manual thermometer, which required a dedicated staff member for monitoring. An automated temperature monitoring system could significantly reduce labor costs associated with temperature monitoring.
- **USCC's STA program:** The STA program is a voluntary, nationally recognized testing certification program that gives assurance to the end-user that the compost is tested using certified methods at a certified laboratory. Under the program, compost would need to be tested either once per quarter or every other month, depending on the amount of compost produced. While the City is not currently a participant in the STA program, joining the program could be beneficial. Labeling the compost as STA-certified could enhance the marketability and value of the compost. If the City establishes a full-scale food waste composting program, the quantity of compost produced will increase, and the STA program could help the City to distribute and sell this compost.

The Pilot also provided valuable information regarding collection of food waste.

- **Controlling contamination:** This is undoubtedly the most important and challenging aspect of a food waste collection program. As demonstrated by the Pilot, it will require appropriate education and training for participants, as well as possibly assisting participants in training employees. In addition, it would be helpful for collection crews to spot check for contamination, especially at the start of the program and for new customers, and reject carts with excessive contamination.
- **Customized service level:** As with commercial waste collection service, the number and size of containers and frequency of food waste collection will need to be tailored to the customers' needs. Businesses that generate food waste throughout the week will likely want multiple collections weekly.

- **Collection costs:** Cost is clearly a factor in determining whether a business will participate in a food waste composting program. Providing food waste collection has a cost. The cost to a business can be offset to some extent by right-sizing the business' waste collection service, and the cost of this service, to reflect the smaller amount of non-putrescible waste to be collected after food waste is removed. Another option is to develop an "all-in" rate structure that includes all services to be provided to businesses, e.g., garbage, recycling, and food waste collection.
- **Focus on large food waste generators:** Large commercial food waste generators should be targeted first if the City decides to implement a permanent food waste composting program. This would include grocery stores, restaurants, and schools. During the Pilot, Happy Hollow School was one of the best participants with regular cart set-out, no contamination issues, and high volumes of material. The University of Arkansas was the largest food waste generator in the Pilot, but has indicated they may be making other arrangements for collection and processing of their food waste.

In conclusion, the Pilot was successful in meeting all of its objectives. It demonstrated the success of the commercial food waste collection system and the effectiveness of the MSAP method in composting these materials. Based on the Pilot results, pursuing a full-scale program appears warranted and will be further evaluated as part of the Master Plan process. The City now has staff trained in both collecting food waste and using the MSAP process to compost food waste. The success of this Pilot is underlined by the fact that the City is already in the process of applying for a Typo O permit for its compost facility that will enable the acceptance and composting of food waste.



TECHNICAL MEMORANDUM NO.6

DATE: July 29, 2016
TO: Jeff Coles, Recycling and Trash Collection Director
City of Fayetteville, AR
FROM: Robin Mitchell, Project Manager
SUBJ: Single Stream Recycling Pilot Program
PROJ #: 173-00.00

1. Introduction

Following an initial evaluation of the City's existing solid waste management system and completion of a waste composition study, Kessler Consulting, Inc. (KCI) identified waste diversion opportunities that warranted further evaluation, which included single stream recycling. With KCI's assistance, the City conducted a single stream recycling pilot program to evaluate first-hand the potential impacts of such a program, as well as to provide city-specific data on which to model citywide conversion to single stream recycling.

Results of the waste composition study revealed that more than 26% of residential waste and 29% of commercial/multi-family waste disposed consists of recyclable paper and containers that are not being captured in the current recycling programs. In addition, the City's current system of curb-sorting recyclables is highly inefficient because of the time spent at each individual residence, and places significant physical strain on the workers who sort the materials curbside. The purpose of the curbside residential single stream pilot was to evaluate changes in (1) recycling participation, (2) material recovery, and (3) collection efficiency.

The need to sort recyclables by type prior to collection has also been an impediment to expanding multi-family recycling; therefore, a multi-family residential single stream pilot was also conducted to gauge the impact on material recovery and obtain participant feedback at two apartment complexes.

2. Methodology

2.1. Curbside Residential Pilot

City staff identified a route in the southeastern part of the City in which to conduct the pilot program. The route aligned with an existing garbage route, but combined the majority of two existing curbside recycling routes. These curbside recycling routes were considered representative of the City in terms of recycling participation and demographics. The pilot route initially consisted of 1,006 households, but increased to 1,011 during the pilot as additional residences were occupied.

To obtain pre-pilot collection data for the curbside residential program, the City outfitted two curb-sort vehicles with an Automatic Vehicle Location (AVL) system that allowed the City to track the

collection vehicle on a real-time basis. The AVL system was designed to track and record the number of setouts (i.e., the number of recycling bins on the curb), the time to sort materials at each household, the time to drive to the next participating residence, and the time to collect the entire pilot area. The AVL system collected pre-pilot data for six weeks, January 7-February 11, 2016. The tonnage of recyclable materials collected in the pilot area during the same period was recorded by the City.

The City notified residents in the pilot area of the pilot program through a direct-mail postcard, utility bill stuffer, newspaper ads, brochure, and the City's website. Copies of these outreach materials are provided in Attachment A.

The City utilized existing inventory and acquired additional 64-gallon carts, which were fitted with blue lids to differentiate them from the carts used for garbage collection. All lids were equipped with a sticker explaining the types of materials accepted in the program.

On Saturday February 13, 2016, the City delivered a 64-gallon cart to each home in the pilot area, along with a brochure asking residents to place aluminum and steel cans, glass bottles and jars, cardboard and paperboard, newspaper, mixed paper, and plastics bottles and containers #1-#7 in the cart for recycling. During the pilot, participants were able to recycle plastics #3-#7, which are not accepted in the City's existing bin program.

The pilot program was conducted for 14 weeks, February 18-May 19, 2016. A City sanitation crew serviced the recycling carts each Thursday, the same service day residents were already accustomed to, using automated side-load vehicles equipped with AVL systems to monitor collection metrics. The quantity of material collected during each week of the pilot was also recorded. At the conclusion of the pilot program, all recycling carts were retrieved by City staff.

The following metrics were recorded and analyzed to evaluate the curbside residential single stream pilot:

- Number of Setouts – the number of bins/carts placed curbside for service each week.
- Setout Rate – the percent of households in the pilot area that placed bins/carts curbside for service per week.
- Tons Collected per Week – the total weight of materials collected from the pilot area per week.
- Pounds per Setout – the average pounds collected per bin/cart.
- Collection Time per Stop – the average time the collection vehicle took to service each curbside bin/cart.
- Time Between Stops – the average drive time between curbside bins/carts.
- Time in Pilot Area – the total time it took to service all curbside bins/carts in the pilot area.
- Average Pounds per Household per Week – average pounds collected per week divided by the total number of households in the pilot area.
- Average Pounds per Household per Year – Average Pounds per Household per Week times 52 weeks per year.

The City also conducted an online participant survey between March 20 and May 26, 2016 to obtain resident feedback regarding the pilot program. Participants were notified by the City about the survey via the City's website and a direct-mail postcard sent to all residences in the pilot area on April 13, 2016.

2.2. Multi-Family Residential Pilot

The City piloted single stream recycling at two apartment complexes, one that had been participating in the City's multi-family recycling program through the use of a partitioned roll-off in the parking lot and another that was not participating. Different collection systems were utilized during the pilot program.

- At The Cliffs II, recycling containers were placed throughout the complex parking lot adjacent to the existing garbage dumpsters. These new recycling containers replaced the single large roll-off recycling container previously located in the parking lot that had separate storage compartments for each type of recyclable material.
- At The Academy at Frisco, the recycling chute was used. Prior to the pilot, the recycling chute was utilized as a second garbage chute. Residents wishing to recycle had to take their recyclables to one of the City's recycling drop-off centers. During the pilot, this chute was clearly labeled for recycling.

City staff met with the property managers at these two complexes several times to discuss the pilot and to provide education on the single stream program. Educational materials were produced for the apartment pilot, including brochures, posters, and container signs. Copies of these educational materials are provided in Attachment B. An online survey was also conducted to garner feedback.

The multi-family pilot was designed to measure increases in recycling tonnage, benchmark participation, and gather feedback from pilot residents. The multi-family residential pilot ran from April 5 through June 28, 2016.

2.3. Material Processing

A state-of-the-art single stream material recovery facility (MRF) that accepts a full range of commingled recyclables does not currently exist in Northwest Arkansas; therefore, single stream processing could not be evaluated as part of the pilot program.

To recycle materials collected in the pilot program and to gain an understanding of the relative quantities of materials and contamination collected as single stream recyclables, KCI and the City enlisted the assistance of GP Harmon. The City and GP Harmon entered into an agreement for GP Harmon to accept the City's single stream recyclables at GP Harmon's facility, located at 1421 East 15th Street in Fayetteville, and manually sort and market them. While GP Harmon recorded all quantities of materials received and marketed, all parties realized that this process in no way replicated the operation of a state-of-the-art single stream MRF.

GP Harmon chose to hand sort recyclables off of the tip floor. Recovered materials were weighed and recorded by material type. The remaining residue, which consisted of non-recyclable materials and recyclables that were not recovered by this rudimentary manual sorting system, was also weighed and recorded. To determine what percentage of this residue consisted of recyclables versus contaminants, GP Harmon staff conducted a second sort of residue from four loads. The residue was placed on a table with a 1.75" x 0.75" screen. Recyclable materials that did not fall through the screen were hand-sorted.

3. Pilot Results

3.1. Curbside Residential Results

Table 1 provides a comparison of the pre-pilot and pilot averages for the metrics that were monitored and recorded for curbside residential collection in the pilot area. Figure 1 depicts the percentage of households in the pilot area that placed their recycling cart curbside during each week of the pilot program as compared to the average pre-pilot recycling bin setout rate. Figure 2 depicts the quantity of recyclable materials collected during each week of the pilot as compared to the average weekly tonnage during the pre-pilot. More detailed data regarding the pilot program is provided in Attachment C.

Collection efficiency improved dramatically during the pilot program. Collection times at each household dropped from just over 1 minute during the pre-pilot to an average of 7 seconds during the pilot. Collection time for the entire pilot area dropped from more than 12.5 hours for the curbsort program to 5.25 hours for automated single stream collection, a 58% reduction in collection time. This reduction in collection time should result in nearly a 40% reduction in curbside recycling collection costs even including the cost of carts. This potential savings to the City will be further evaluated in the scenario modeling.

Table 1 – Curbside Single Stream Collection Pre-Pilot and Pilot Data

Pilot Metrics	Pre-Pilot Average	Pilot Average	Percent Increase/ (Decrease)
Number of Setouts per Week	444	678	53%
Setout Rate	44%	67%	52%
Tons Collected per Week	2.14	4.20	96%
Pounds/Setout	9.66	12.48	29%
Collection Time per Stop*	0:01:04	0:00:07	(89%)
Time Between Stops*	0:00:38	0:00:21	(44%)
Time In Pilot Area*	12:32:35	5:16:37	(58%)
Total Pilot Households	1,006	1,010.2**	
Average lbs./household/week	4.3	8.3	94%
Average lbs./household/year (est.)	222	433	94%

*Time is recorded as hours, minutes, seconds (i.e., hh:mm:ss)

**Number of households in pilot area increased as additional units became occupied; therefore, an average was used.

The percentage of households placing a recycling container curbside for collection each week increased by nearly 53% and the average quantity of materials collected each week increased by approximately 96%. Extrapolated to an annual basis, conversion to single stream recycling would be expected to increase the quantity of recyclables collected per household in the pilot area from 222 pounds per year to 433 pounds per year, or approximately 94%. This is consistent with KCI's experience, as well as reported increases in various other communities that have converted to single stream recycling. In addition, communities striving for high diversion rates often target per household recycling rates of 400-600 pounds per year.

Figure 1 – Weekly Recycling Container Setout Rates

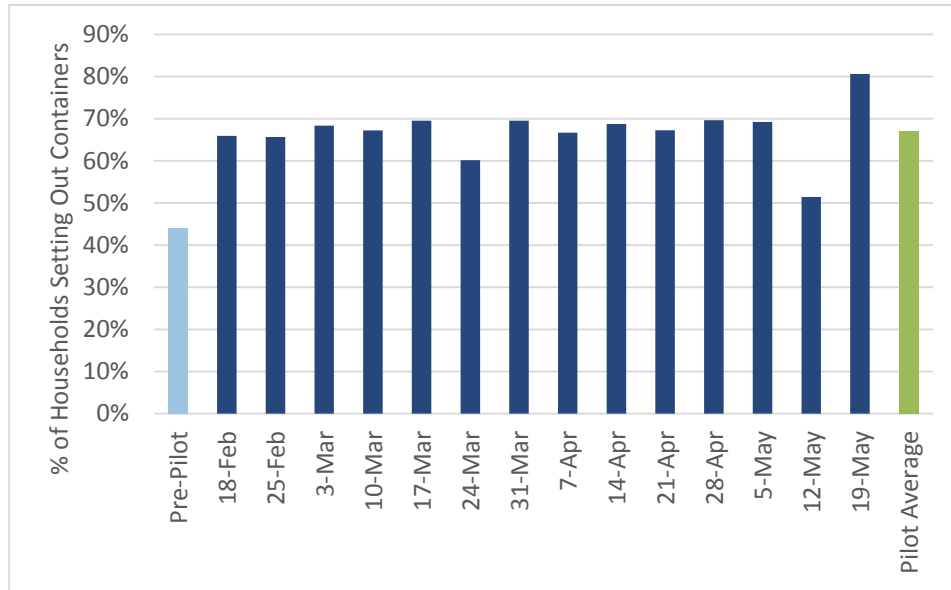
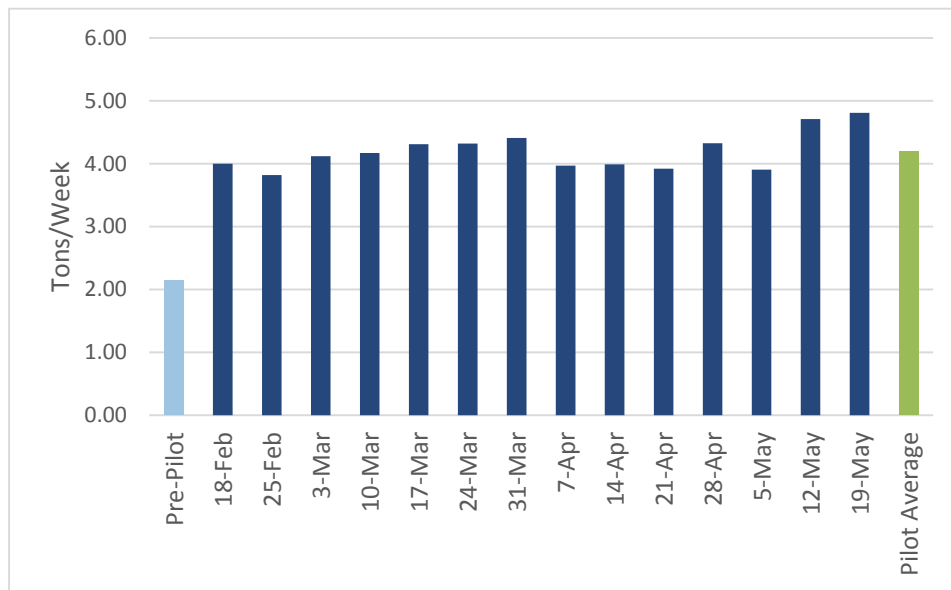


Figure 2 – Tons of Recyclables Collected per Week



As mentioned previously, the pilot was not intended to evaluate processing because a state-of-the-art single stream MRF was not available. However, Table 2 provides a summary of the data provided by GP Harmon. The table includes the types and percentages of materials recovered from the initial manual floor sort of all materials collected during the pilot. It also provides the total percentage of materials recovered from loads #7-#10 during the initial floor sort and a secondary sort using a rudimentary screen. During the secondary sort, GP Harmon estimated that approximately 90% of the large grit (i.e., materials that did not pass through the screen but were not manually sorted) consisted of recyclable glass. Therefore, Table 2 provides data for Loads #7-#10 in two ways, one counting all large grit as residue and the other counting 90% of large grit as glass. Additional details regarding data reported by GP Harmon is provided in Attachment C.

Table 2 – Summary of Manual Processing of Curbside Recyclables (% by weight)

Material	All Loads - Initial Sort	Loads #7-#10 - All Grit as Residue	Loads #7-#10 - 90% of Large Grit as Glass
Cardboard	25%	26%	26%
Newspaper	13%	11%	11%
Mixed Paper	18%	20%	20%
#1 PET Bottles	5%	5%	5%
#2 HDPE Bottles	3%	3%	3%
Plastics #3-#7	2%	2%	2%
Aluminum Cans	2%	2%	2%
Steel Cans	3%	3%	3%
Scrap Metal	0%	0%	0%
Mixed Glass	15%	16%	20%
Total Recovered	87%	88%	92%
Unaccepted Materials		3%	3%
Small Grit		5%	5%
Large Grit		4%	0%
Residue	13%	12%	8%
Total Processed	100%	100%	100%

Note: Columns may not appear to calculate correctly due to rounding.

With effective education to minimize contamination and a state-of-the-art single stream MRF, a 10-15% residue rate is reasonable to expect. Applying this range of potential residue to the quantity of recyclables collected during the pilot program results in an average of 7.1-7.5 pounds of recyclables per household per week, an increase of 65-74% over the existing bin program.

Nearly 29% of residents in the pilot area responded to the survey (288 responses). These responses reflected overwhelming support for the carted recycling system. Highlights of the survey are provided below; full survey results are included in Attachment D.

- Prior to the pilot, only 69% of respondents placed their recycling bins curbside each week and more than 10% stated that they rarely or never placed their bins curbside. During the pilot, 81% placed their cart at the curb every week.
- 92% of respondents stated they recycled more materials during the pilot than they had previously.
- 88% found the 64-gallon cart to be a good size.
- The educational brochure, postcard, and utility bill stuffer were the most successful in terms of letting respondents know about the pilot study.
- 95% of respondents found the educational brochure to contain useful information regarding the new program and how to use the new recycling cart correctly.
- The majority of respondents were excited (72%) or interested (26%) to participate in the single stream pilot.
- When asked what benefits they experienced from single stream recycling:
 - 97% stated convenience, putting all materials into a single cart.
 - 92% stated more recyclables, recycling the additional plastics.
 - 90% stated convenience, cart easier to roll to the curb for collection.
 - 83% stated the larger cart allowed them to recycle more.
 - 69% stated neighborhood aesthetics, no open bins or recyclables lost in the wind.
 - 56% stated collection service was quicker/less bothersome.
- 98% of respondents believe single stream should be available to households citywide.

The survey also requested general comments from respondents and over 200 comments were received, the overwhelming majority of which expressed support for the program (see Attachment D). In addition, the City received unsolicited comments about the pilot program via email, which are provided in the sidebar.

Unsolicited Resident Comments on Single Stream Recycling

"I am writing about the recycle program that ended today. I am very happy with the rolling bins that have been tested the last few months. Another thing to consider is that I am a disabled Veteran and it is a lot easier to roll out a bin on rollers than it is to carry out two containers by hand. I would love to see the city continue with the rolling bins. Thank you for your consideration."

"I just delivered my blue lid recycle bin to the curb for the last time - just wanted to let you know how much I love this program and was glad to be a part of the pilot – I sure hope that the City decides to adopt the blue lid in the very near future."

"Please tell me you'll be bringing back the single stream recycling program. It was far easier for me, because I have a bad back, but it also made some of my neighbors who never recycled much if any before do it."

"The current blue lid container is much too big for our family of 2. Can you coordinate the size with our general garbage container? Otherwise this is a good plan."

3.2. Multi-Family Residential Results

Table 3 presents the results of the pilot program at the two multi-family residential complexes, as well as pre-pilot data for The Cliffs II and the City's overall multi-family recycling program. Prior to the pilot program, The Cliffs II collected an average of 0.91 pounds of recyclables per unit per week. The City's overall multi-family recycling program averaged 1.11 pounds of recyclables per unit per week. During the pilot program, the pounds of recyclables collected per unit more than doubled. In fact, the tonnage of materials collected from the two complexes during the pilot program was only 100 pounds less than all multi-family recyclables collected in 2015.

Table 3 – Comparison of Multi-Family Data Results

Pilot Metrics	The Cliffs II Pre-Pilot Average	Multi-Family 2015 Average	Pilot Average
Number of Units	360	1,392	579
Pounds/Week	326	1,548	1,451
Pounds/Unit/Week	0.91	1.11	2.51
Pounds/Unit/Year (est.)	47	58	130

**No pre-pilot data available for the Academy at Frisco.*

Materials collected during the multi-family pilot were floor sorted by GP Harmon; no secondary sort of the residue using a screen was conducted. Table 4 provides a summary of the data provided by GP Harmon, including the types and percentages of materials recovered. Additional details regarding data reported by GP Harmon is provided in Attachment E.

Table 4 – Summary of Manual Processing of Multi-Family Recyclables (% by weight)

Material	Multi-Family Materials
Cardboard	29%
Newspaper	6%
Mixed Paper	22%
#1 PET Bottles	4%
#2 HDPE Bottles	2%
Plastics #3-#7	2%
Aluminum Cans	1%
Steel Cans	1%
Scrap Metal	0%
Mixed Glass	13%
Total Recovered	81%
Residue	19%
Total Processed	100%

Note: Column may not appear to calculate correctly due to rounding.

Recyclable materials collected in multi-family complexes generally have a higher degree of contamination than curbside recyclables. Because a secondary sort of the multi-family residue was not conducted, the amount of contaminants versus unrecovered recyclable materials contained in the residue is not known. A state-of-the-art single stream MRF would likely have recovered some additional recyclable materials from the residue stream. However, even assuming 19% of the collected materials were lost as residue, the pilot resulted in an average of 2.03 pounds of recyclables per unit per week, an 83% increase over the 2015 multi-family average.

Only 18 surveys were completed by multi-family residents in the participating complexes. Of those, 15 were residents of The Cliffs II and 3 were residents of the Academy at Frisco. Full survey results, including participant comments, are provided in Attachment F. Highlights of the survey are provided below.

- Prior to the pilot, 89% of respondents recycled at least once per month. During the pilot, all respondents recycled at least once per month.
- 89% of respondents reported recycling more during the pilot than they had previously.
- Prior to the pilot, 56% utilized the recycling roll-off at The Cliffs II to recycle and 17% utilized the Happy Hollow Recycling Center.
- The new containers (78%), posters in the buildings (61%), and the apartment managers (44%) were the most successful at letting residents know about the pilot.
- When asked what benefits they experienced from single stream recycling:
 - 100% stated convenience, putting all materials into a single container.
 - 89% stated more recyclables, the additional plastics.
 - 89% stated convenience, location of containers/recycling chute.
- All respondents (100%) stated that the program should be available to apartment complexes citywide.

4. Conclusion

The single stream pilot program was successful in evaluating (1) recycling participation, (2) material collection, and (3) collection efficiency of converting to curbside single stream recycling in lieu of the City's current curb-sort program. It was also successful in providing material collection and participation information for multi-family single stream recycling as compared to the partitioned recycling roll-offs that are currently utilized.

The results for both the curbside and multi-family residential pilot programs were very promising in terms of participation, tonnage, and collection efficiencies. These results will be utilized to further evaluate and model citywide conversion to single stream recycling and the potential implications to the City, both in waste diversion, collection efficiency, and cost. The pilot results provide city-specific data on which to base this further analysis. The decision of whether or not to implement single stream recycling will be a policy decision made by the City.

ATTACHMENT A – CURBSIDE RESIDENTIAL PILOT EDUCATION AND OUTREACH MATERIALS

Cart Sticker



RECYCLE SOMETHING
FAYETTEVILLE, ARKANSAS
★ BE BIG → ★
START SMALL

City of Fayetteville
SINGLE STREAM
RECYCLING PILOT PROGRAM
THANK YOU FOR PARTICIPATING!

WHAT CAN I RECYCLE?



ALL the recyclables go into this cart.
No sorting necessary!

PLEASE REINFLATE BALLS, BOTTLE & JARS

PLASTIC BOTTLES AND CONTAINERS NUMBERED 1 THROUGH 7 WILL BE ACCEPTED IN THE PROGRAM!

City of Fayetteville Recycling and Trash Collection Division
Give us a call or drop us a line. We love to talk trash!
479.575.8398 // recyclingandtrash@fayetteville-ar.gov

RecycleSomething.org

Utility Bill Stuffer (see Cart Sticker for reverse)



RECYCLE SOMETHING
FAYETTEVILLE, ARKANSAS
★ BE BIG → ★
START SMALL

Single Stream Recycling Pilot Program

Xxx XX –
Xxx XX, XXXX



The City Council has set a goal of diverting 80% of our waste from the landfill by 2025. As part of the long-term Solid Waste Reduction, Diversion and Recycling Master Plan, the Recycling and Trash Collection Division has selected your neighborhood for studying alternative methods for collecting household recycling. Specifically, your household is being asked to participate in a pilot program that will generate data to evaluate the effectiveness of single stream recycling collection. This means, that for a period of time, the City asks you to store your current recycle bin and instead, use a new City-provided cart for recycling. The City will provide an on-line communication and feedback mechanism for your comments and input during this pilot program (approximately 1,000 participating households).

Please see the other side for important details!

Here's How it Works:

- Your household will receive one wheeled roll-cart to use during the pilot program. ALL the recyclables will go into this cart — no sorting necessary!
- Your household's trash and recycling collection day will remain the same. Continue to recycle the same items your household currently recycles. Find a list of what the City recycles at fayetteville-ar.gov/recycle.

NOTE:
Plastic bottles and containers numbered 1 through 7 will be accepted in the program!



Please keep your smaller recycling bins (use as recycling stations around your home). Your household will resume using the bins when the pilot program is over.

Questions? We love to talk trash. Recycling and Trash Collection Division:
479.575.8398 or recyclingandtrash@fayetteville-ar.gov

RecycleSomething.org

Educational Brochure



Single Stream Recycling Pilot Program

Xxx XX —
Xxx XX, 2016

Thank you for your participation in the Single Stream Recycling Pilot Program!

The City Council has set a goal of diverting 80% of our waste from the landfill by 2025. As part of the long-term Solid Waste Reduction, Diversion and Recycling Master Plan, the Recycling and Trash Collection Division has selected your neighborhood for studying alternative methods for collecting household recycling.

Specifically, your household is being asked to participate in a pilot program that will generate data to evaluate the effectiveness of single stream recycling collection. This means, that for a period of time, the City asks you to store your current recycle bin and instead, use a new City-provided cart for recycling.

The City will provide an online communication and feedback mechanism for your comments and input during this pilot program (approximately 1,000 participating households).

Take a moment to review the Q&A and cart placement diagrams on the inside of this brochure



ALL the recyclables go into this cart. No sorting necessary!

PLASTIC BOTTLES AND CONTAINERS NUMBERED 1 THROUGH 7 WILL BE ACCEPTED IN THE PROGRAM. PLEASE FINISH ALL CANS, BOTTLES AND JARS.

BE BIG → START SMALL

CITY OF Fayetteville ARKANSAS

Recycling and Trash Collection Division
1560 S. Happy Hollow Road
Fayetteville, AR 72701

Phone: 479.575.8398
E-mail: recyclingandtrash@fayetteville-ar.gov

RecycleSomething.org

City of Fayetteville
SINGLE STREAM RECYCLING PILOT PROGRAM




WHY PARTICIPATE?
Recycling can help lower your monthly cost for trash service through our Pay As You Throw trash collection program. The more you recycle the more likely you can get a smaller trash cart and save money each month! By treating trash service just like electricity, gas and other utilities you can save yourself money by doing what's best for the environment. So be big, start small. Recycle Something today!

WHY A PILOT PROGRAM?
The pilot program is being conducted in your neighborhood to test a new system and gather data on its effectiveness. If successful, the program may be expanded in the future.

HOW DOES IT WORK?
Instead of separating your recyclables, you can put them all in one cart for automated collection. This type of collection is similar to your weekly trash collection that uses automated trucks to service the carts. It is safer and more efficient.

WILL MY COLLECTION DAY CHANGE? No, your collection day will remain the same.

CAN I USE MY EXISTING GREEN BIN? No, only the carts can be used for this program. Please keep your regular recycling bins. You will go back to using them once the pilot is over.

WHERE SHOULD I PLACE THE CART?
It is very important that you place your cart properly at the curb so the automated arm can lift it. Keep a clearance area of 3 feet around the cart, away from mailboxes, parked cars, trash carts or trees. Please make sure that the handle of the cart faces away from the street and that the lid is closed.

WHAT ABOUT BIG BOXES?
Flatten your boxes and put them in the cart IF there is room. If your boxes don't fit in the cart, break them down and place them beside the cart.

PROPER CURBSIDE PLACEMENT



Place cart a few inches from the curb with wheels and handle facing away from the street. The lid should remain closed. Choose as level a surface as possible.



Proper cart placement makes the automated collection process easy and fast.



Do not place carts near parked cars. There should be a 3 foot clearance area around the cart to allow for pickup.



Do not place carts too close to mailboxes or other objects or too close to low-hanging branches.

ATTACHMENT B – MULTI-FAMILY PILOT EDUCATION AND OUTREACH MATERIALS

Chute Sign at The Academy at Frisco



Dumpster Sign at The Cliffs II



The Academy at Frisco Recycling Brochure



Single Stream Recycling Pilot Program

March 28 — May 20 2016

Thank you for your participation in the Single Stream Recycling Pilot Program!

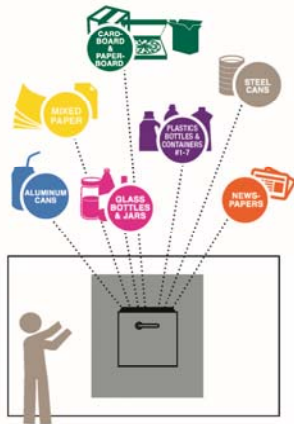
The City Council has set a goal of diverting 80% of Fayetteville's waste from the landfill by 2025. As part of the long-term Solid Waste Reduction, Diversion and Recycling Master Plan, the City's Recycling and Trash Collection Division has selected your apartment complex to participate in a pilot program studying alternative methods for collecting recyclables.

The pilot program will generate data to evaluate the effectiveness of single stream recycling collection. ALL recyclables go into the same designated recycling chute, no sorting necessary.

For the duration of the pilot program, the City asks you to bring your recyclables to the trash room located on each floor and place the recyclables into the chute that is marked for recycling.

The City will collect data via an online survey from participants. If you don't have access to a computer, please contact the Recycling and Trash Collection Division's office.

Take a moment to review the Q&A and cart placement diagrams on the inside of this brochure



NOW ACCEPTING ALL PLASTIC CONTAINERS LABELED #1-#7, SUCH AS #5 MARGARINE TUBS AND YOGURT CUPS. Please rinse all cans, bottles and jars and empty and flatten all boxes

BE BIG → START SMALL

CITY OF Fayetteville ARKANSAS

Recycling and Trash Collection Division
1560 S. Happy Hollow Road
Fayetteville, AR 72701

Phone: 479.575.8398
E-mail: recyclingandtrash@fayetteville-ar.gov

RecycleSomething.org

City of Fayetteville
RECYCLING PILOT PROGRAM
for THE ACADEMY AT FRISCO




PROGRAM FAQ'S

WHY A PILOT PROGRAM?
The pilot program is being conducted in your apartment complex to test a new system and gather data on its effectiveness. If successful, the program may be expanded in the future.

WHY PARTICIPATE?
Recycling in Fayetteville is now easier than ever! Save time, valuable resources and help your city out by separating your recyclables from your trash and putting them into the designated recycling chute located in the trash rooms on each floor. Sending waste to the landfill costs us much more than recycling good materials. So Be Big, Start Small. Recycle Something today!

WHAT ARE THE BENEFITS OF A SINGLE STREAM RECYCLING PROGRAM FOR APARTMENT COMPLEXES?
A single stream recycling program provides an increase in acceptable materials which provides a convenience to the consumer. This results in increased participation and available tonnage to recycle.

HOW DOES IT WORK?
Throughout the week, we ask that you collect recyclables listed on the back of this brochure in the recycling bin provided by the City. As needed, you may bring the recyclables to the trash room and place them in the designated chute for recycling.

WHAT ARE NEWLY ACCEPTED MATERIALS?
This single stream recycling pilot accepts ALL plastic containers labeled #1-#7. Some common examples include #5 margarine tubs and yogurt cups. Please rinse all bottles and containers.

WHAT ABOUT BIG BOXES?
Flatten your boxes and put them in the designated recycling chute located in the trash room on each floor. Boxes might need to be torn apart to fit into the chute.

HOW LONG IS THE PILOT PROGRAM?
The pilot program will begin March 28th and end May 20th.

HOW CAN I PROVIDE FEEDBACK ABOUT THE PROGRAM?
Two apartment complexes (The Cliffs and The Academy at Frisco) are participating in this pilot program and will be able to provide feedback at <https://www.surveymonkey.com/r/apartmentrecycle>

HOW WILL DATA COLLECTED BE USED BY THE CITY?
The City will collect information on collection costs and efficiency, and contamination rates with the recyclables to determine if single stream recycling collection for apartment complexes is a viable option for the City of Fayetteville.

RECYCLING TIPS

WHAT CAN I RECYCLE?



✓ Look for the poster like this in each trash room and place recyclables into that chute.

✓ Inside your apartment, use a reusable shopping bag, bucket or recycling bin like pictured here to collect your recyclables.

✗ Plastic bags are NOT accepted in the red single stream recycling dumpster.

BE BIG → START SMALL

Recycle Something Today!

The Cliffs II Recycling Brochure



Single Stream Recycling Pilot Program

March 28 — May 20 2016

Thank you for your participation in the Single Stream Recycling Pilot Program!

The City Council has set a goal of diverting 80% of Fayetteville's waste from the landfill by 2025. As part of the long-term Solid Waste Reduction, Diversion and Recycling Master Plan, the City's Recycling and Trash Collection Division has selected your apartment complex to participate in a pilot program studying alternative methods for collecting recyclables.

The pilot program will generate data to evaluate the effectiveness of single stream recycling collection. ALL recyclables go into the same recycling dumpster, no sorting necessary.

For the duration of the pilot program, the City asks you to bring your recyclables to the red-colored single stream dumpster located next to a trash dumpster in your complex.

The City will collect data via an online survey from participants. If you don't have access to a computer, please contact the Recycling and Trash Collection Division's office.

Take a moment to review the Q&A and cart placement diagrams on the inside of this brochure



NOW ACCEPTING ALL PLASTIC CONTAINERS LABELED #1-#7, SUCH AS #5 MARGARINE TUBS AND YOGURT CUPS.
Please rinse all cans, bottles and jars and empty and flatten all boxes

BE BIG → START SMALL

CITY OF Fayetteville ARKANSAS

Recycling and Trash Collection Division
1560 S. Happy Hollow Road
Fayetteville, AR 72701

Phone: 479.575.8398
E-mail: recyclingandtrash@fayetteville-ar.gov

RecycleSomething.org

City of Fayetteville
RECYCLING PILOT PROGRAM
for THE CLIFFS




PROGRAM FAQ'S

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WHY PARTICIPATE?
Recycling in Fayetteville is now easier than ever! Save time, valuable resources, and help your city out by separating your recyclables from your trash and putting them into the red recycling dumpster next to the trash dumpster. Sending waste to the landfill costs us much more than recycling good materials. So Be Big, Start Small. Recycle Something today!

WHAT ARE THE BENEFITS OF A SINGLE STREAM RECYCLING PROGRAM FOR APARTMENT COMPLEXES?
A single stream recycling program provides an increase in acceptable materials which provides a convenience to the consumer. This results in increased participation and available tonnage to recycle.

HOW DOES IT WORK?
Throughout the week, we ask that you collect recyclables listed on the back of this brochure in a receptacle of your choice. Reusable shopping bags or buckets make good containers that don't take up too much room. As needed, you may place recyclables into the red recycling dumpster located next to the trash dumpster.

WHAT ARE NEWLY ACCEPTED MATERIALS?
This single stream recycling pilot accepts ALL plastic containers labeled #1-#7. Some common examples include #5 margarine tubs and yogurt cups. Please rinse all bottles and containers.

WHAT ABOUT BIG BOXES?
Flatten your boxes and put them in the red recycling dumpster. If the recycling dumpster is full please place them in another recycling dumpster in your complex.

HOW LONG IS THE PILOT PROGRAM?
The pilot program will begin March 28th and end May 20th.

HOW CAN I PROVIDE FEEDBACK ABOUT THE PROGRAM?
Two apartment complexes (The Cliffs and The Academy at Frisco) are participating in this pilot program and will be able to provide feedback at <https://www.surveymonkey.com/r/apartmentrecycle>

HOW WILL DATA COLLECTED BE USED BY THE CITY?
The City will collect information on collection costs and efficiency, and contamination rates with the recyclables to determine if single stream recycling collection for apartment complexes is a viable option for the City of Fayetteville.

RECYCLING TIPS



Look for the red recycling dumpster in The Cliffs outdoor trash areas.



Inside your apartment, use a reusable shopping bag, bucket or recycling bin like pictured here to collect your recyclables.



Plastic Bags are NOT accepted in the red single stream recycling dumpster.

BE BIG → START SMALL

Recycle Something Today!

ATTACHMENT C – CURBSIDE RESIDENTIAL DATA**Table C-1 – Curbside Residential Pre-Pilot Data**

Pre- Pilot Metrics	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Pre-Pilot Average
	1/7/2016	1/14/2016	1/21/2016	1/28/2016	2/4/2016	2/11/2016	
Setouts	393	414	402	481	491	482	443.8
Setout Percentage	39.1%	41.2%	40.0%	47.8%	48.8%	47.9%	44.1%
Tons Collected	1.89	1.84	1.98	2.34	2.38	2.43	2.14
Pounds Per Setout	9.6	8.9	9.9	9.7	9.7	10.1	9.7
Collection Time	0:00:57	0:01:04	0:01:02	0:01:05	0:01:07	0:01:06	0:01:04
Time Between Stops	0:00:41	0:00:34	0:00:40	0:00:39	0:00:42	0:00:33	0:00:38
Time In Pilot Area	10:47:41	11:36:32	11:02:42	13:46:46	14:08:04	13:53:47	12:32:35
Total Pilot Households	1006	1006	1006	1006	1007	1007	1006
Average lbs./household	3.8	3.7	3.9	4.7	4.7	4.8	4.3

Table C-2 –Curbside Residential Pilot AVL and Tonnage Data

Pilot Metrics	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8
	02/18/16	02/25/16	03/03/16	03/10/16	03/17/16	03/24/16	03/31/16	04/07/16
Setouts	664	662	689	679	703	608	703	674
Setout Percentage	65.9%	65.7%	68.4%	67.2%	69.5%	60.1%	69.5%	66.7%
Tons Collected	4.00	3.82	4.12	4.17	4.31	4.32	4.41	3.97
Pounds Per Setout	12.05	11.54	11.96	12.28	12.26	14.21	12.26	11.78
Collection Time	0:00:07	0:00:07	0:00:07	0:00:07	0:00:07	0:00:08	0:00:07	0:00:07
Time Between Stops	0:00:20	0:00:22	0:00:20	0:00:20	0:00:19	0:00:23	0:00:24	0:00:20
Time In Pilot Area	5:02:52	5:25:35	5:07:48	5:12:03	5:00:30	5:09:02	5:17:33	5:01:32
Total Pilot Households	1007	1008	1008	1010	1011	1011	1011	1011
Average lbs./household	7.9	7.6	8.2	8.3	8.5	8.5	8.7	7.9

Pilot Metrics	Week 9	Week 10	Week 11	Week 12	Week 13	Week 14	Pilot Average
	04/14/16	04/21/16	04/28/16	05/05/16	05/12/16	05/19/16	
Setouts	695	680	704	700	520	815	678
Setout Percentage	68.7%	67.3%	69.6%	69.2%	51.4%	80.6%	67.1%
Tons Collected	3.99	3.92	4.37	3.90	4.71	4.81	4.20
Pounds Per Setout	11.48	11.53	12.41	11.14	18.12	11.80	12.48
Collection Time	0:00:07	0:00:07	0:00:07	0:00:07	0:00:07	0:00:07	0:00:07
Time Between Stops	0:00:21	0:00:21	0:00:21	0:00:23	0:00:25	0:00:20	0:00:21
Time In Pilot Area	5:17:06	5:22:17	5:25:22	5:47:27	4:30:25	6:13:13	5:16:37
Total Pilot Households	1011	1011	1011	1011	1011	1011	1010.2
Average lbs./household	7.9	7.8	8.6	7.7	9.3	9.5	8.3

Notes:

Households in the pilot area increased during the pilot due to new occupancies within the pilot area.

Time is recorded as hours, minutes, seconds (i.e., hh:mm:ss)

Table C-3 – Curbside Residential Pilot Data for Initial Manual Floor Sort (pounds)

Material	18-Feb	25-Feb	3-Mar	10-Mar	17-Mar	24-Mar	31-Mar	7-Apr	14-Apr	21-Apr	28-Apr	5-May	12-May	19-May	Total	Percent
Cardboard	1,927	2,153	2,086	2,103	2,425	2,285	2,142	2,038	2,103	2,115	2,158	1,859	2,014	2,402	29,810	25%
Newspaper	1,560	821	1,235	932	1,261	1,194	1,001	765	864	846	1,076	889	1,259	1,038	14,741	13%
Mixed Paper	1,293	1,284	1,315	1,672	1,406	1,579	1,758	1,638	1,548	1,270	1,542	1,605	1,908	1,795	21,613	18%
#1 PET Bottles	350	412	437	332	445	376	493	349	419	444	491	383	403	551	5,885	5%
#2 HDPE Bottles	262	269	283	271	308	263	264	286	299	254	291	287	242	350	3,929	3%
Plastics #3-#7	140	101	78	106	79	71	85	112	166	181	231	240	380	372	2,342	2%
Aluminum Cans	165	148	159	187	174	151	184	162	143	168	169	179	152	207	2,348	2%
Steel Cans	240	207	259	222	219	188	292	230	190	217	239	223	200	413	3,339	3%
Scrap Metal	0	0	0	0	37	0	0	0	0	3	20	40	57	0	157	0%
Mixed Glass	1,473	1,557	1,608	1,545	1,674	996	889	1,211	1,145	1,234	1,288	939	1,282	1,214	18,055	15%
Total Recovered	7,410	6,952	7,460	7,370	8,028	7,103	7,108	6,791	6,877	6,732	7,505	6,644	7,897	8,342	102,219	87%
Residue	590	688	780	970	592	1,537	1,712	1,149	1,103	1,108	1,235	1,156	1,523	1,278	15,421	13%
Total Processed	8,000	7,640	8,240	8,340	8,620	8,640	8,820	7,940	7,980	7,840	8,740	7,800	9,420	9,620	117,640	100%

Note: Column may not appear to calculate correctly due to rounding.

Table C-4 – Curbside Residential Pilot Data for Combined Initial and Secondary Sort (pounds)

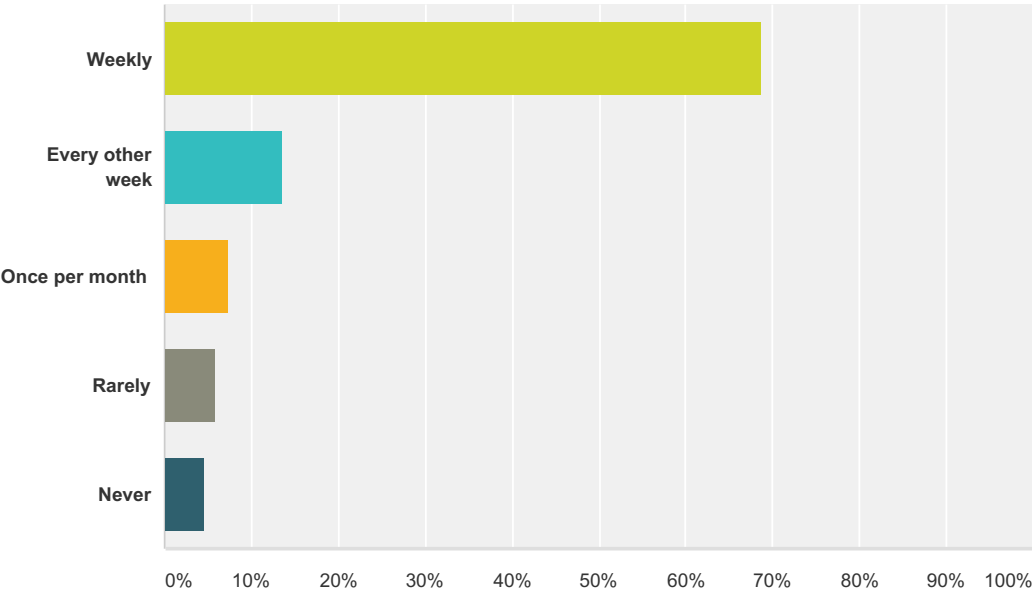
Material	31-Mar	7-Apr	14-Apr	21-Apr	All Grit as Residue		90% of Large Grit as Glass	
					Total	Percent	Total	Percent
Cardboard	2,142	2,038	2,103	2,115	8,398	26%	8,398	26%
Newspaper	1,001	765	864	846	3,476	11%	3,476	11%
Mixed Paper	1,798	1,661	1,567	1,346	6,372	20%	6,372	20%
#1 PET Bottles	505	354	422	446	1,727	5%	1,727	5%
#2 HDPE Bottles	278	289	301	256	1,124	3%	1,124	3%
Plastics #3-#7	102	124	174	207	607	2%	607	2%
Aluminum Cans	185	164	145	169	663	2%	663	2%
Steel Cans	304	242	197	220	963	3%	963	3%
Scrap Metal	0	0	0	3	3	0%	3	0%
Mixed Glass	1,154	1,409	1,323	1,357	5,243	16%	6,501	20%
Total Recovered	7,469	7,046	7,096	6,965	28,576	88%	29,834	92%
Unaccepted Materials	336	178	167	192	873	3%	873	3%
Small Grit	548	429	427	329	1,733	5%	1,733	5%
Large Grit	467	287	290	354	1,398	4%	140	0%
Total Processed	8,820	7,940	7,980	7,840	32,580	100%	32,580	100%

Note: Column may not appear to calculate correctly due to rounding.

ATTACHMENT D – CURBSIDE RESIDENTIAL SURVEY RESULTS

Q1 Prior to the pilot program, how often did you typically place your recycling bin curbside for collection?

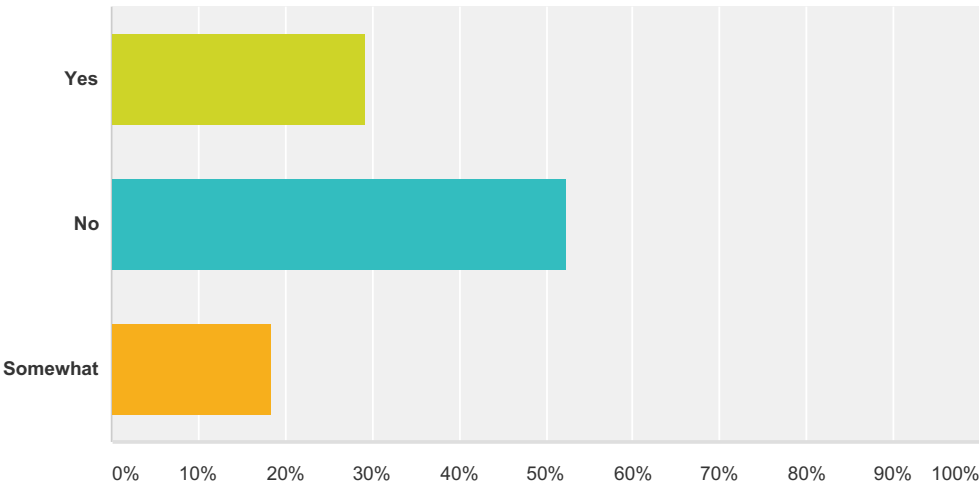
Answered: 288 Skipped: 0



Answer Choices	Responses	
Weekly	68.75%	198
Every other week	13.54%	39
Once per month	7.29%	21
Rarely	5.90%	17
Never	4.51%	13
Total		288

Q2 Prior to the pilot program, did you know what single stream recycling was?

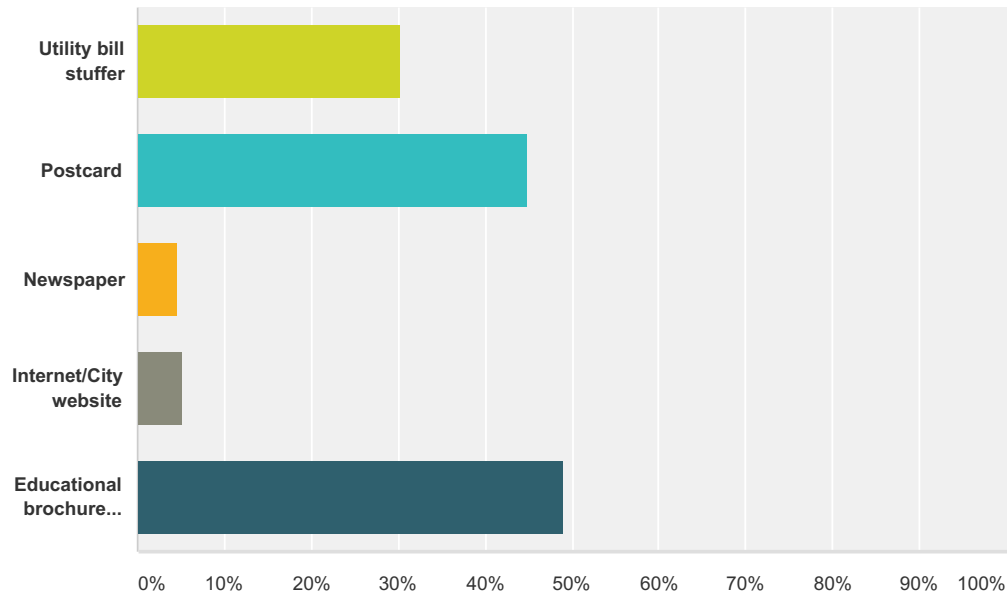
Answered: 288 Skipped: 0



Answer Choices	Responses	
Yes	29.17%	84
No	52.43%	151
Somewhat	18.40%	53
Total		288

Q3 How did you learn that you would be part of the pilot program? (select all that apply)

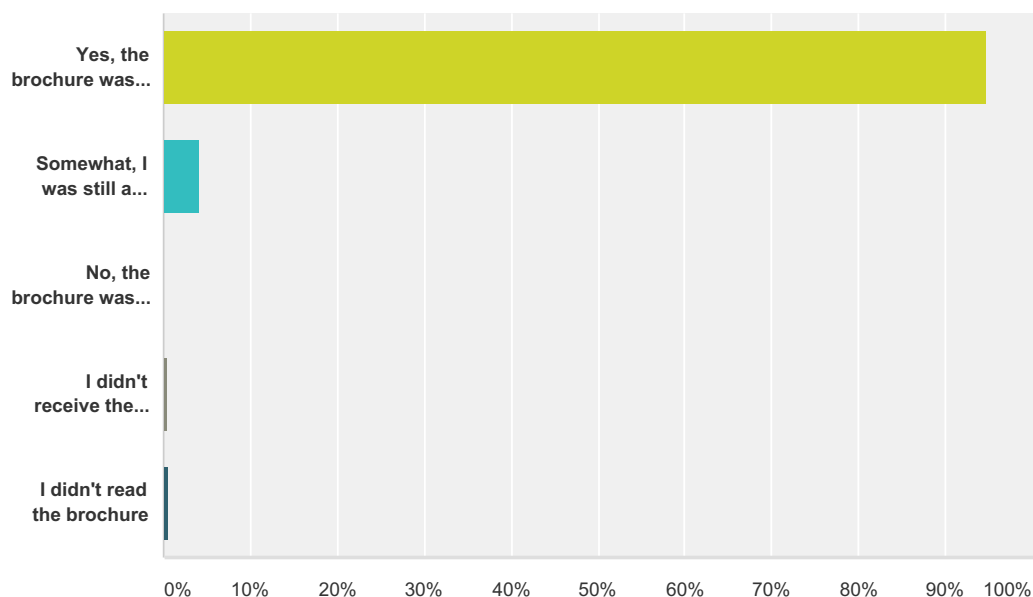
Answered: 288 Skipped: 0



Answer Choices	Responses	
Utility bill stuffer	30.21%	87
Postcard	44.79%	129
Newspaper	4.51%	13
Internet/City website	5.21%	15
Educational brochure attached to cart	48.96%	141
Total Respondents: 288		

Q4 When you received your recycling cart, did the educational brochure provide you with enough information about the program and how to correctly use your new recycling cart?

Answered: 288 Skipped: 0



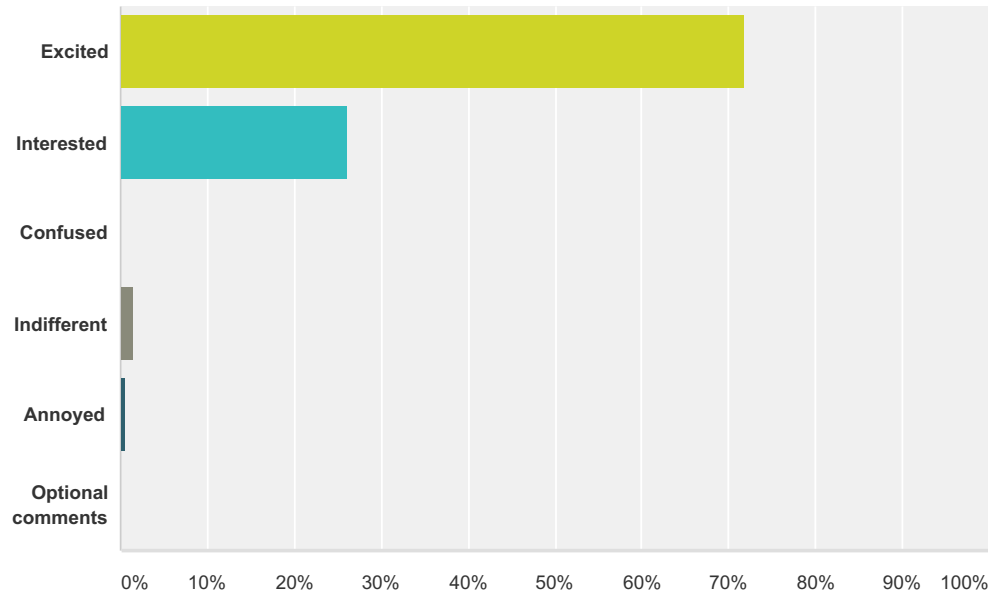
Answer Choices	Responses
Yes, the brochure was informational	94.79% 273
Somewhat, I was still a little confused	4.17% 12
No, the brochure was not helpful to me	0.00% 0
I didn't receive the brochure	0.35% 1
I didn't read the brochure	0.69% 2
Total	288

#	Optional comments	Date
1	Leared a lot about what all could be recycled. Awesome!!!	6/3/2016 12:55 PM
2	Love the new program!	5/22/2016 10:29 PM
3	I think the program is great. It really helps us recycle.	5/19/2016 4:48 PM
4	was not sure if paper had to be placed in a paper bag inside bin or not	5/13/2016 10:40 AM
5	I was not sure about how to fill with newspaper and junk mail, whether to put in loose or in a bag.	5/10/2016 3:21 PM
6	I knew what to do and was beyond excited to recycle things I usually cannot.	5/10/2016 2:24 PM
7	not enough clarity on what is and is not recycled	5/10/2016 9:33 AM
8	It could provide more information about plastic bags and what kind can be recycled	5/9/2016 7:19 PM
9	Ample easy to understand information was available in many locations.	5/9/2016 3:08 PM

10	We were confused about items with mixed materials, such as paper milk cartons with plastic spouts and lids or coffee cans made of both paper and tin. Can we recycle those? Also, what about plastics that don't have the triangle and number? Clarification on how to recycle mixed materials would be appreciated.	4/22/2016 5:40 PM
11	Hoping the city of Fayetteville continue program.	4/20/2016 4:01 PM
12	I personally didn't read it so not sure about the information. My husband just told me about it because he read it.	4/20/2016 1:48 PM
13	My house was skipped on the Sat. they brought the blue lids. However, workers for recycling brought me a blue lid and explained how it worked.	4/17/2016 2:15 PM
14	Can I recycle plastics that don't have a number or a plastic like salads come in from grocery stores?	4/16/2016 2:01 PM
15	I would be unhappy to go back to the old way.	4/16/2016 12:02 PM
16	This makes recycling very easy	4/16/2016 7:56 AM
17	We were also home when they dropped off the bin and they discussed the program with us	4/16/2016 7:38 AM
18	The first couple of times we put trash with the recycle till we got notification not to do it. We thought that because one place we lived did it that way. It did not work I think.	4/15/2016 8:06 PM
19	I was hoping the information would be more specific with information about styrofoam, bubble wrap, plastic wrap etc.	4/15/2016 3:56 PM
20	It's not complicated9	4/15/2016 1:39 PM
21	the brochure was clear and concise.	4/15/2016 12:15 PM
22	The brochure was VERY informative. When does this project end? Also, the brochure needs to highlight the survey monkey website for feedback.	3/12/2016 4:02 PM

Q5 What was your first impression of carted, single stream recycling when you heard you were selected for participation in the pilot study?

Answered: 288 Skipped: 0

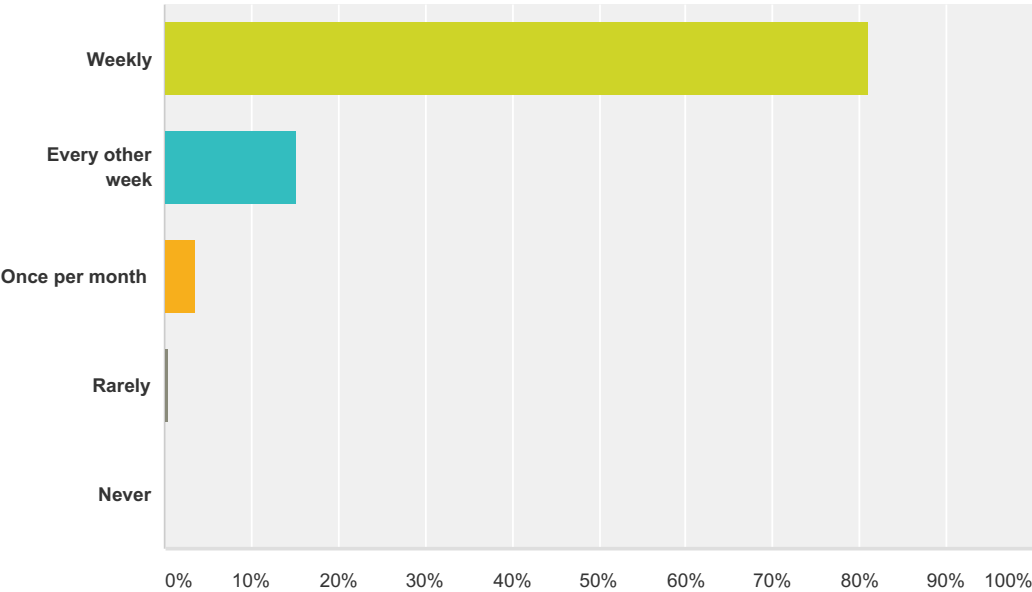


Answer Choices	Responses
Excited	71.88%207
Interested	26.04%75
Confused	0.00%0
Indifferent	1.39%4
Annoyed	0.69%2
Optional comments	0.00%0
Total	288

#	Optional comments	Date
	There are no responses.	

Q6 During the pilot program, how often did you typically place your recycling cart curbside for collection?

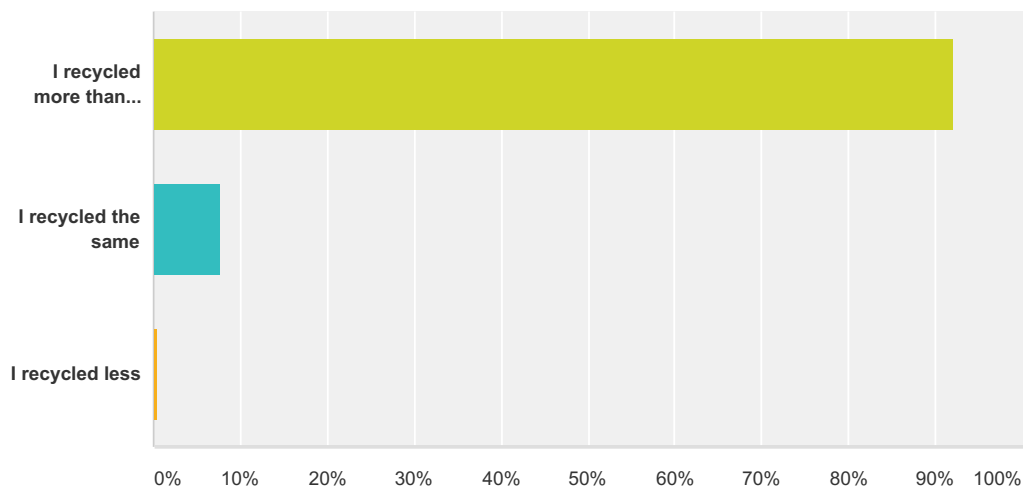
Answered: 288 Skipped: 0



Answer Choices	Responses	
Weekly	80.90%	233
Every other week	15.28%	44
Once per month	3.47%	10
Rarely	0.35%	1
Never	0.00%	0
Total		288

Q7 Regarding the quantity of materials you recycled during the pilot, did your recycling habits change?

Answered: 288 Skipped: 0



Answer Choices	Responses
I recycled more than previously	92.01% 265
I recycled the same	7.64% 22
I recycled less	0.35% 1
Total	288

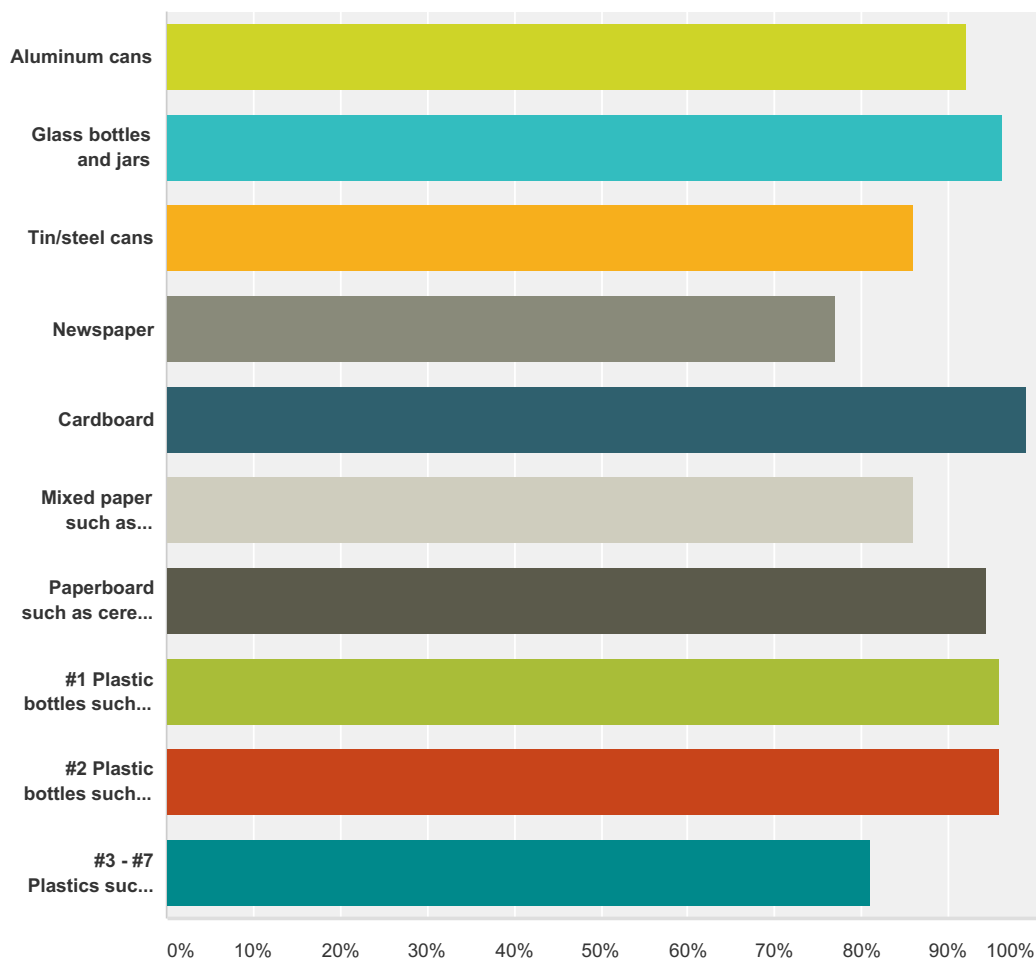
#	Optional comments	Date
1	A larger container was helpful. I did not need to take it out to the curvb every single week.	6/26/2016 7:20 PM
2	I RECYCLED A GREAT DEAL MORE!	6/6/2016 5:12 PM
3	So easy!!	6/3/2016 6:02 PM
4	A few plastics were added through that time.	6/3/2016 3:25 PM
5	We recycled much more than we had been with the LITTLE bins. Our kids helped more with the program too	6/3/2016 12:55 PM
6	Recycled probably twice as much	6/3/2016 11:02 AM
7	I loved that I could put plastics 1-7 in the containers	6/3/2016 10:41 AM
8	Recycled more mainly because more plastic was accepted.	5/23/2016 4:24 PM
9	I really like not having to sort recyclables.	5/22/2016 10:29 PM
10	much more old program was too much trouble	5/15/2016 9:51 AM
11	loved being able to recycle more plastics	5/14/2016 2:03 PM
12	we were told we could recycle more plastics than before	5/13/2016 10:40 AM
13	With this program we recycle more than we throw away	5/12/2016 9:49 PM
14	I no longer made trips to the recycling center	5/12/2016 1:49 PM
15	It was much easier under the new system.	5/12/2016 1:37 PM
16	I've always recycled everything that I could.	5/12/2016 9:40 AM

17	MUCH MORE	5/11/2016 4:21 PM
18	This made recycling SO much easier!	5/11/2016 10:31 AM
19	with time, filled cart more and more	5/10/2016 9:37 PM
20	We recycle so much more with a large container that doesn't require sorting types of plastics for recycling	5/10/2016 5:15 PM
21	Never recycled prior to this program. I love it, please please please don't do away with it!!!	5/10/2016 2:24 PM
22	Being able to put all the plastics from 1-7 in made me so happy. I was mailing my #5 plastics to a place in New Hampshire.	5/10/2016 2:24 PM
23	I could recycle so much more!	5/10/2016 2:18 PM
24	Some items were not acceptable before, but were under streaming.	5/9/2016 6:40 PM
25	recycled more due to acceptance of more items	5/9/2016 4:11 PM
26	I recycled a lot more because the other bins only took numbers 1 and 2	5/9/2016 4:08 PM
27	More only because you began accepting plastics 3-7	5/9/2016 4:06 PM
28	This program was so much easier	5/9/2016 3:08 PM
29	There were more items we could recycle (e.g., yogurt cups)	5/8/2016 3:16 PM
30	I recycled much more than before	4/28/2016 11:48 AM
31	Did not have to sort like I did before	4/25/2016 9:21 PM
32	bin accepted more plastics; also brought recyleables from work	4/25/2016 8:20 AM
33	Recycled more plastics	4/22/2016 12:29 PM
34	Additional types of plastic accepted	4/22/2016 9:20 AM
35	We requested 2 bins previously and the big cart is much easier.	4/20/2016 1:48 PM
36	I had more room to recycle more	4/20/2016 10:51 AM
37	Much, much more...not even close	4/18/2016 7:44 AM
38	I loved being able to put everything in the same bin, and it has decreased the amount of trash I put out.	4/17/2016 2:15 PM
39	I added the additional acceptable plastic items	4/17/2016 12:27 PM
40	I got my office to recycle stuff!	4/17/2016 10:08 AM
41	The container is way too big and difficult to store.	4/17/2016 8:03 AM
42	It was nice to be able to recycle butter bowls and additional materials that are not taken at the recycling center	4/17/2016 6:33 AM
43	I recycled significantly more with single stream due to ease of use as well as more materials that were allowed to be collected	4/16/2016 10:12 PM
44	We recycle everthing. It is awesome	4/16/2016 8:35 PM
45	I could now recycle plastics with 3-7, before I could not	4/16/2016 8:34 PM
46	I recycled more because the program accepted more items	4/16/2016 3:21 PM
47	We recycled everything we were allowed to! Our trash bin was never as full as the recycling bin.	4/16/2016 12:39 PM
48	Less confusion- no trouble	4/16/2016 12:02 PM
49	More plastic options available	4/16/2016 11:15 AM
50	I enjoyed the ability to do all types of plastic	4/16/2016 7:38 AM
51	more different numbered plastic.	4/15/2016 8:06 PM
52	We recycled a lot more types of plastic.	4/15/2016 7:44 PM
53	I love that we could recycle all plastis especially all of the clamshells	4/15/2016 7:39 PM
54	It seems more items were allowed, such as sour cream tubs and lids (that have the recycle symbol).	4/15/2016 5:38 PM
55	My regular garbage is much less and my recycle bin if more full.	4/15/2016 3:56 PM

56	Mostly mixed paper and some plastics	4/15/2016 3:55 PM
57	I hardly have any trash with the new program.	4/15/2016 3:51 PM
58	more plastic recycled that could not recycle before	4/15/2016 2:17 PM
59	We recycled at least triple the amount we used to.	4/15/2016 1:49 PM
60	It's way easier, and the wheeled cart is easier to get to the curb than the green box.	4/15/2016 1:38 PM
61	this is great	4/15/2016 12:08 PM
62	Working families where time is severely constrained will benefit since it involves less time and less space to recycle. I observed that our throw-out landfill trash has gone down, since the project was enacted.	3/12/2016 4:02 PM

Q8 During the pilot program, what types of recyclables did you place in your cart? (select all that apply)

Answered: 288 Skipped: 0

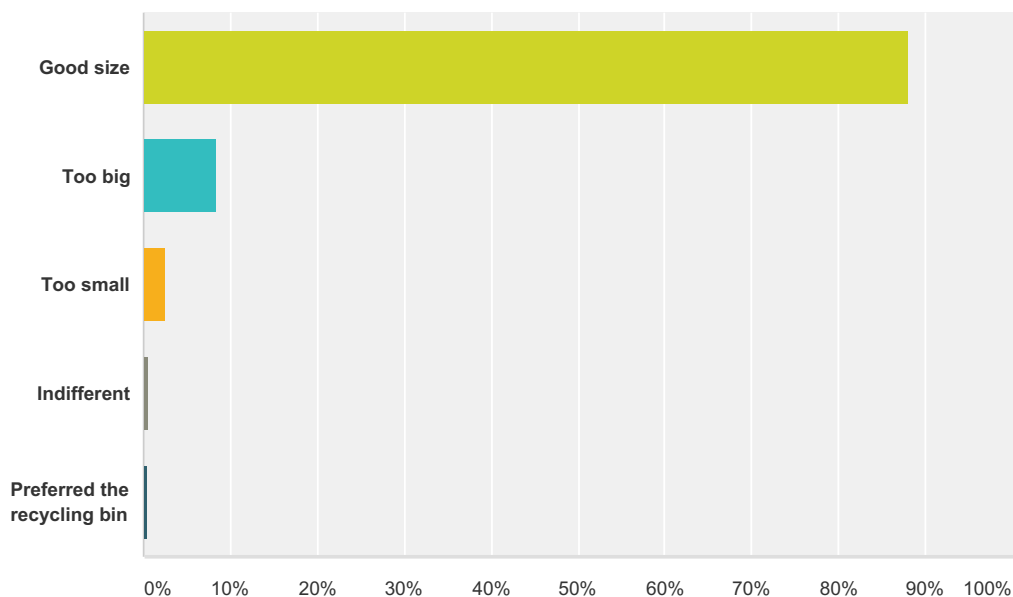


Answer Choices	Responses
Aluminum cans	92.01% 265
Glass bottles and jars	96.18% 277
Tin/steel cans	86.11% 248
Newspaper	77.08% 222
Cardboard	98.96% 285
Mixed paper such as magazines, junk mail, printer paper, and phone books	86.11% 248
Paperboard such as cereal boxes and shoe boxes	94.44% 272
#1 Plastic bottles such as water bottles and 2-liter soda bottles	95.83% 276
#2 Plastic bottles such as 1-gallon milk/water jugs and detergent bottles	95.83% 276
#3 - #7 Plastics such as pill bottles, yogurt/plastic cups, and tubs/lids	80.90% 233

Total Respondents: 288

Q9 What did you think of the size of the cart you received for recycling service?

Answered: 288 Skipped: 0



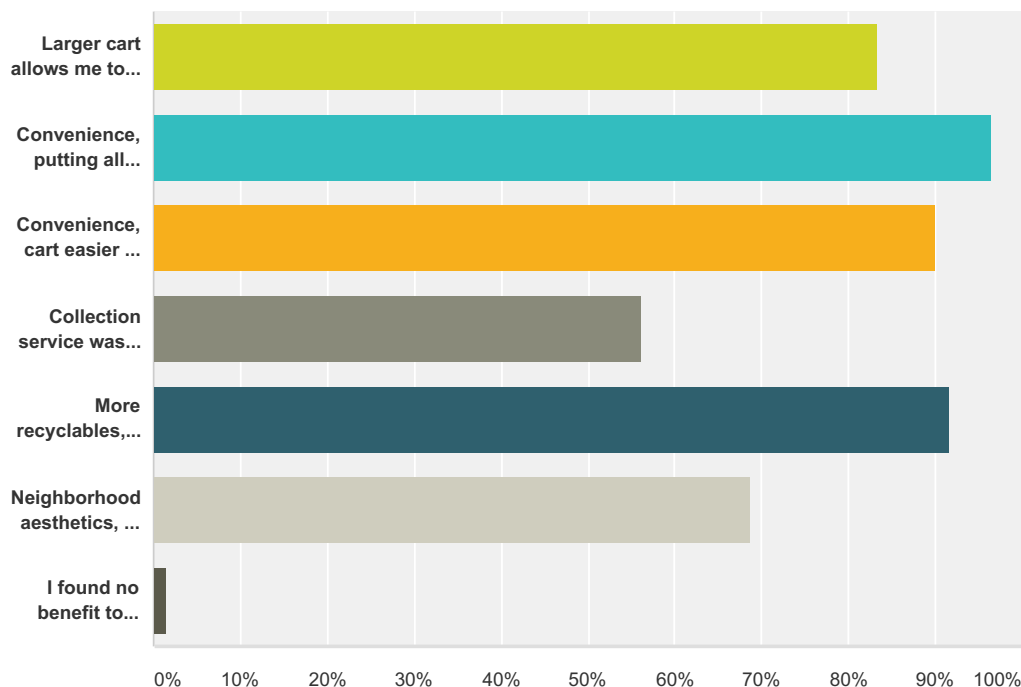
Answer Choices	Responses
Good size	88.19% 254
Too big	8.33% 24
Too small	2.43% 7
Indifferent	0.69% 2
Preferred the recycling bin	0.35% 1
Total	288

#	Optional comments	Date
1	Larger size made it possible to put the cart out every other week, usually.	6/3/2016 3:25 PM
2	Please allow us to use these all the time!!!	6/3/2016 12:55 PM
3	Loved the size. It was much more convenient	6/3/2016 11:02 AM
4	I appreciate the ability whell the cart to the curb and not having to pick up the recycling bin.	5/22/2016 10:29 PM
5	This is a tricky question. For weekly pick-up, the bin was too large. But it was fine if we only placed it on the curb every other week.	5/20/2016 9:47 AM
6	I like the size because we could put it out every other week instead of once a week and it was nice to be able to roll the cart out rather than having to carry it out	5/13/2016 10:40 AM
7	Need bigger Blue Lid carts.	5/12/2016 9:49 PM
8	Perfect size!	5/12/2016 3:40 PM
9	Great size!!	5/11/2016 3:58 PM
10	My family of 6 filled it to the top every week.	5/11/2016 9:54 AM
11	can't go back to the bin!	5/10/2016 9:37 PM

12	It is great for cardboard	5/10/2016 3:21 PM
13	I filled it every week. We were moving into the house when it started, so I had LOTS of paper and cardboard, old magazines, etc.	5/10/2016 2:24 PM
14	About twice as big as needed. Takes up too much room in my garage	5/10/2016 9:33 AM
15	Held about what one old bin held.	5/9/2016 6:40 PM
16	adjusted storage space in garage but never full per wk	5/9/2016 4:06 PM
17	Afraid bottles will break because they fall so far down. Cannot get anything back out.	5/8/2016 3:16 PM
18	It's nice not having to take our recyclables to the road every week. Now we typically only have to do so every 3 weeks.	5/3/2016 9:59 AM
19	Too big for single person households	4/28/2016 11:48 AM
20	Perfect Size	4/27/2016 4:27 PM
21	I love that the cart is on wheels and is large enough for all of the recyclables.	4/24/2016 5:51 PM
22	At times a little too small because we recycle so much more now than before because it is so much easier	4/24/2016 2:26 PM
23	So much easier to get to the curb!!	4/23/2016 8:32 AM
24	I wouldn't go smaller!	4/20/2016 11:42 AM
25	There are only 2 people in our household so we don't make as much waste as a typical family.	4/18/2016 8:55 AM
26	Could be a little larger	4/17/2016 12:27 PM
27	Cart is way too big. Really annoying.	4/17/2016 8:03 AM
28	I never filled it to capacity, but I appreciated the size because my big cat litter plastics can fit in it	4/16/2016 7:38 AM
29	With a garbage cart and a big recycle cart, it takes up too much space in our garage.	4/15/2016 8:06 PM
30	My wife orders daily, it appears, from Amazon. We have TONS of cardboard boxes to recycle.	4/15/2016 7:44 PM
31	Love it!	4/15/2016 5:40 PM
32	Single person household, need smaller bin	4/15/2016 4:41 PM
33	I am single	4/15/2016 3:55 PM
34	Bigger than I needed, but using this has taken the amount of trash I throw away down.... This is a Great program.	4/15/2016 3:08 PM
35	The size allows me to wait an additional week, if I don't have enough that week	4/15/2016 2:15 PM
36	mine could be smaller, but I don't mind the large size. I just wheel it to the curb every other week.	4/15/2016 12:15 PM
37	Now my trash container is way too big!	3/19/2016 9:32 AM
38	we love the size. there are times when we ran out of room ad had to either save the recycling to the next week, or ,on occasion, I'd make special trips to the recycling center. I can see others not doing this and just throwing any overflow recycling in the trash, which is a waste/lost opportunity.	3/12/2016 4:02 PM
39	Too big for storing in garage. Not enough room on driveway for both carts.	2/18/2016 10:48 AM

Q10 After participating in the pilot program, do you see any benefits of carted, single stream recycling? (select all that apply)

Answered: 288 Skipped: 0



Answer Choices	Responses
Larger cart allows me to recycle more	83.33% 240
Convenience, putting all materials into a single cart	96.53% 278
Convenience, cart easier to roll to curb for collection	89.93% 259
Collection service was quicker/less bothersome	56.25% 162
More recyclables, I like recycling the additional plastics	91.67% 264
Neighborhood aesthetics, no open bins or recyclables lost in the wind	68.75% 198
I found no benefit to single stream.	1.39% 4
Total Respondents: 288	

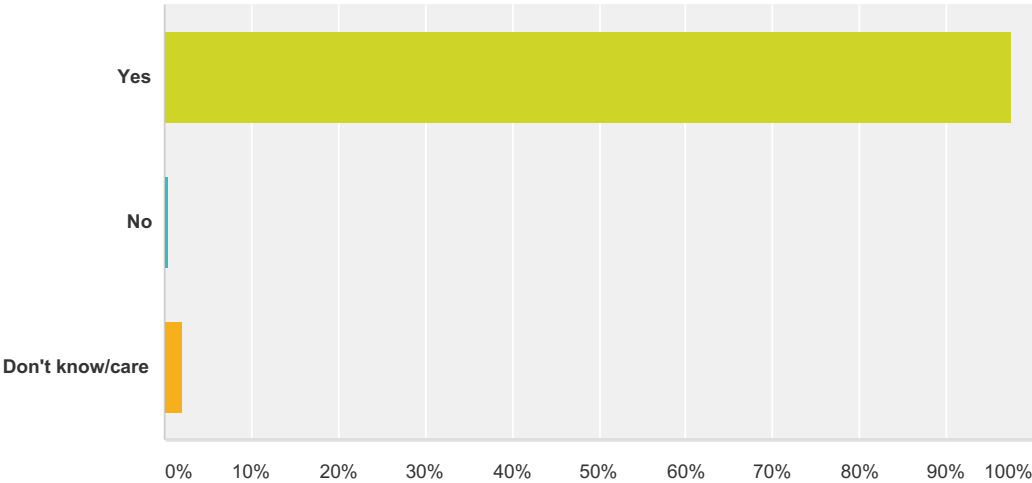
#	Optional comments	Date
1	I would like the trial to become permanent.	6/26/2016 7:20 PM
2	what a much better system. Even if one compares the idea that there are more, perhaps, items that are not recyclable in the single stream, convenience is king these days. So i made an actual effort to recycle via single stream. So much better and more convenient.	6/6/2016 5:12 PM
3	Loved it!!!! So much better than the little bins	6/3/2016 12:55 PM
4	Bring the carts back!! :)	6/3/2016 11:11 AM
5	I would like for styrofoam recycling to be added as well	5/23/2016 4:24 PM

6	Please switch to the blue lid program.	5/22/2016 10:29 PM
7	It also reduced the amount of garbage placed in my garbage bin.	5/20/2016 9:47 AM
8	Too much contamination in single stream	5/16/2016 12:27 PM
9	do we really have to stop? this was fantastic!	5/14/2016 2:03 PM
10	I found the new system to be very convenient and easy	5/13/2016 10:40 AM
11	do hope this program is implemented	5/12/2016 3:34 PM
12	I LOVED the single stream recycling and hope we can do this again!	5/11/2016 3:58 PM
13	don't stop this program	5/11/2016 10:01 AM
14	I would like to see neighbors store their trash carts out of sight or in garage . Not in front of the garage door all week . Is there an ordinance against doing this ?	5/10/2016 7:33 PM
15	We love it!!! Cut our trash down significantly!	5/10/2016 6:09 PM
16	LOVE the program. I hope we get to continue with this service!	5/10/2016 4:36 PM
17	This is awesome!	5/10/2016 3:21 PM
18	I will miss this terribly!	5/10/2016 2:24 PM
19	Loved it.	5/10/2016 12:39 PM
20	no sorting	5/10/2016 9:33 AM
21	Mainly more recyclables.	5/9/2016 6:40 PM
22	Loved it!	5/9/2016 6:33 PM
23	This size bin was VERY convenient, I am elderly and being able to roll the cart was extremely helpful	5/9/2016 5:01 PM
24	I would be interested in a smaller can.	5/8/2016 3:16 PM
25	Love it!	5/3/2016 9:59 AM
26	I think this is truly a cool deal and am excited about this moving across fayetteville	4/27/2016 4:27 PM
27	I love the new program.	4/22/2016 12:29 PM
28	Sometimes I confused my trash and recycling bins, maybe make it all blue.	4/20/2016 8:53 PM
29	This is the best program to recycle. In previously lived in Litle a Rock with the same blue lid single stream and more neighbors recycled with the single source can. Please please make this program permanent.	4/19/2016 10:45 AM
30	I LOVE this program!	4/18/2016 9:02 AM
31	I hope we keep this program. I especially like the collection service.	4/17/2016 2:15 PM
32	LOVE IT!!!	4/17/2016 12:27 PM
33	Loved it!	4/17/2016 10:08 AM
34	Didn't really change for me.	4/17/2016 8:03 AM
35	It was probably safer for the drivers. This road(Hwy 16) is busy and for people to have to get out of their trucks could be dangerous.	4/17/2016 6:33 AM
36	Love IT saves so much from regular trash	4/16/2016 8:35 PM
37	love this system. I had it in Conway, AR before I moved to Fayetteville. Loved it there.	4/16/2016 8:34 PM
38	The drivers no longer throw items in the yard that they couldn't take and lids don't end up in storm drains	4/16/2016 3:21 PM
39	Great idea for once!	4/16/2016 12:02 PM
40	I love the ease of using this program.	4/16/2016 9:40 AM
41	I found it very easy and convenient.	4/16/2016 7:41 AM
42	Please continue this program - I've wondered why we don't have this for a while!	4/16/2016 7:38 AM
43	Helps neighbors that were not recycling to recycle.	4/15/2016 8:06 PM
44	coworker said he would be happy if this extended to his neighborhood too.	4/15/2016 6:26 PM

45	Those old bins can be cumbersome and too heavy for me. Please don't make me go back to using them.	4/15/2016 5:40 PM
46	I believe this greatly reduces the garbage going to the landfill	4/15/2016 3:56 PM
47	I love this new program. Please do not take it away.	4/15/2016 3:51 PM
48	OUTSTANDING... I really like this program. I hope you will keep it. I recycle more, and I do not have to burn gas to take materials you would not previously take. If you make it this convenient to recycle, it will reduce my trash usage. Again, this is a great program that I hope you will keep.	4/15/2016 3:08 PM
49	I love my new cart. I have a bad back and it's so much easier to wheel the cart to the curb instead of lifting. It's also so much easier to just throw in the recyclables than have to bend over and arrange. Who has time for that anyway ;)	4/15/2016 12:15 PM
50	I love the service. Love it!!	4/12/2016 10:51 PM
51	I LOVE single streaming. I am willing to pay a small ammount more on my bill if it will allow for us to continue this service. I believe in recycling as I have a 4 and 5 year old and if the city can make more money off of the plastics, cans, steel, and paper, then it's a win-win.	3/12/2016 4:02 PM

Q11 Do you think that carted, single stream recycling should be available to households citywide?

Answered: 288 Skipped: 0



Answer Choices	Responses	
Yes	97.57%	281
No	0.35%	1
Don't know/care	2.08%	6
Total		288

Q12 What is the name of the street you live on?

Answered: 286 Skipped: 2

#	Responses	Date
1	Liberty Dr.	6/26/2016 7:20 PM
2	Huntsville Rd.	6/22/2016 5:21 PM
3	Oakmont Drive	6/9/2016 8:34 AM
4	St. Andrews	6/8/2016 9:01 PM
5	Black Canyon Street	6/8/2016 10:34 AM
6	Pumpkin Ridge Dr	6/6/2016 8:05 PM
7	Oakmont	6/6/2016 5:12 PM
8	S River Meadows Drive	6/5/2016 5:11 PM
9	South Pumpkin Ridge Drive	6/5/2016 2:38 PM
10	E Eastpoint Drive	6/4/2016 10:54 PM
11	Black Canyon St.	6/4/2016 5:44 PM
12	Pumpkin ridge dr.	6/3/2016 7:53 PM
13	River Meadows Dr.	6/3/2016 6:23 PM
14	Pumpkin Ridge	6/3/2016 6:17 PM
15	Pumpkin Ridge	6/3/2016 6:02 PM
16	River Meadows Drive	6/3/2016 5:51 PM
17	S River Meadows	6/3/2016 3:25 PM
18	Eastpoint Drive	6/3/2016 3:22 PM
19	Doral drive	6/3/2016 12:55 PM
20	S river meadows dr	6/3/2016 12:54 PM
21	Cherry Hills Drive	6/3/2016 11:51 AM
22	Doral	6/3/2016 11:46 AM
23	Pumpkin Ridge	6/3/2016 11:29 AM
24	E Spanish bay	6/3/2016 11:11 AM
25	Pumpkin Ridge	6/3/2016 11:05 AM
26	oakmont	6/3/2016 11:02 AM
27	South Pumpkin Ridge Dr	6/3/2016 10:58 AM
28	Cherry Hills	6/3/2016 10:46 AM
29	Pumpkin Ridge	6/3/2016 10:41 AM
30	E Black Canyon St	6/1/2016 10:52 AM
31	S Apollo Dr	5/30/2016 8:00 PM
32	east troon	5/28/2016 2:39 PM
33	River Meadows Drive	5/26/2016 3:38 PM
34	E Cattail Ct.	5/23/2016 4:24 PM

35	Baldwin	5/22/2016 10:29 PM
36	Troon	5/21/2016 9:56 AM
37	E Spyglass Hill Drive	5/20/2016 9:47 AM
38	Falcon	5/19/2016 4:48 PM
39	Tallgrass	5/19/2016 11:33 AM
40	S Pumpkin Ridge Dr	5/19/2016 11:12 AM
41	Cherry Hill Dr.	5/19/2016 9:23 AM
42	River Meadows Dr	5/17/2016 10:03 AM
43	Falcon Dr.	5/17/2016 8:46 AM
44	Lawndale Drive	5/16/2016 8:44 PM
45	S. Eastview Dr	5/16/2016 8:25 PM
46	S River Meadows Dr.	5/16/2016 12:27 PM
47	Highbush Ave.	5/15/2016 6:06 PM
48	Pebble Beach Dr	5/15/2016 10:38 AM
49	Baldwin Avenue	5/15/2016 9:51 AM
50	Pumpkin Ridge Dr.	5/14/2016 2:03 PM
51	Pumpkin Ridge Drive	5/14/2016 11:01 AM
52	E. Oakmont Drive	5/13/2016 12:03 PM
53	Cherry Hills Drive	5/13/2016 10:40 AM
54	Spyglass Hill	5/13/2016 7:58 AM
55	E Country RDG	5/12/2016 9:49 PM
56	Highbush	5/12/2016 4:31 PM
57	Oakmont Dr	5/12/2016 3:40 PM
58	Oakmont	5/12/2016 3:34 PM
59	E Huntsville Rd	5/12/2016 1:49 PM
60	River Meadows	5/12/2016 1:43 PM
61	Spanish Bay Pl	5/12/2016 1:37 PM
62	Milo way	5/12/2016 11:20 AM
63	S. Pebble Beach Dr	5/12/2016 10:50 AM
64	S St Andrews Circle	5/12/2016 9:40 AM
65	S. Cherry Hills Drive	5/12/2016 7:54 AM
66	Eastview	5/11/2016 9:43 PM
67	Doral	5/11/2016 6:57 PM
68	E Country Ridge	5/11/2016 4:28 PM
69	Oakmont	5/11/2016 4:21 PM
70	Tallgrass	5/11/2016 3:58 PM
71	Pumpkin Ridge Dr	5/11/2016 2:32 PM
72	Cherry Hills Dr.	5/11/2016 2:18 PM
73	Spyglass Hill Dr	5/11/2016 1:52 PM
74	E River Bluff Cove	5/11/2016 10:31 AM
75	Tall grass Drive	5/11/2016 10:15 AM

76	River Meadows	5/11/2016 10:01 AM
77	Steeple Chase	5/11/2016 9:55 AM
78	St. Andrews Cir	5/11/2016 9:54 AM
79	Cherry hills drive	5/11/2016 9:07 AM
80	E. Spyglass Hill Dr.	5/11/2016 8:40 AM
81	Doral Drive	5/11/2016 7:06 AM
82	Oakmont	5/10/2016 9:37 PM
83	Pumpkin Ridge Drive	5/10/2016 9:37 PM
84	Pumpkin Ridge Drive	5/10/2016 8:51 PM
85	River Meadows	5/10/2016 8:46 PM
86	tallgrass	5/10/2016 8:14 PM
87	spyglass hill drive	5/10/2016 7:45 PM
88	River meadows	5/10/2016 7:33 PM
89	E. Black Canyon St.	5/10/2016 6:19 PM
90	S Blue Willow Ave	5/10/2016 6:14 PM
91	Pumpkin Ridge Drive	5/10/2016 6:09 PM
92	Colonial Drive	5/10/2016 5:15 PM
93	Cherry hills drive	5/10/2016 4:36 PM
94	River meadows	5/10/2016 4:12 PM
95	Pebble Beach Dr.	5/10/2016 3:49 PM
96	St Andrews Circle	5/10/2016 3:21 PM
97	Oakmont Drive	5/10/2016 3:19 PM
98	Oakmont Dr	5/10/2016 3:06 PM
99	Spyglass Hill Drive	5/10/2016 2:24 PM
100	River Meadows	5/10/2016 2:24 PM
101	Saint Andrew Circle	5/10/2016 2:20 PM
102	Oakmont Drive	5/10/2016 2:18 PM
103	St. Andrews Circle	5/10/2016 1:57 PM
104	Oakmont Drive	5/10/2016 1:57 PM
105	East Troon Drive	5/10/2016 12:39 PM
106	River Meadows Dr	5/10/2016 9:33 AM
107	Lake Sequoyah Dr	5/10/2016 8:45 AM
108	E SPYGLASS HILL DR	5/9/2016 8:39 PM
109	Deerfield Way	5/9/2016 7:19 PM
110	Huntsville Rd	5/9/2016 6:43 PM
111	Highbush Ave.	5/9/2016 6:40 PM
112	Highbush	5/9/2016 6:33 PM
113	S Tallgrass Dr	5/9/2016 5:50 PM
114	sonoma falls	5/9/2016 5:40 PM
115	River Meadows Dr.	5/9/2016 5:13 PM
116	Keen lane	5/9/2016 5:01 PM

117	lawndale dr	5/9/2016 4:12 PM
118	river meadows	5/9/2016 4:11 PM
119	E Black Canyon St	5/9/2016 4:10 PM
120	S. Sag Harbor Ave.	5/9/2016 4:08 PM
121	Saint Andrews	5/9/2016 4:06 PM
122	S. River Meadows Dr.	5/9/2016 3:59 PM
123	River Bluff Cove	5/9/2016 3:15 PM
124	Pumpkin Ridge	5/9/2016 3:14 PM
125	E Oakmont Dr	5/9/2016 3:08 PM
126	Tally Ho Dr.	5/9/2016 2:45 PM
127	River Meadows	5/9/2016 2:15 PM
128	S. River Meadows Dr.	5/9/2016 2:07 PM
129	Lawndale	5/9/2016 11:37 AM
130	South Pinnacle	5/9/2016 11:25 AM
131	Ed Edwards Rd	5/8/2016 3:16 PM
132	Steeple chase dr	5/7/2016 6:31 PM
133	River Meadows Dr.	5/7/2016 5:08 AM
134	Doral Drive	5/5/2016 4:44 PM
135	south liberty	5/5/2016 3:25 AM
136	S. Highbush ave.	5/3/2016 9:59 AM
137	Saint Andrews Circle	4/30/2016 2:48 PM
138	Tallgrass	4/30/2016 12:50 PM
139	S. Pumpkin Ridge Dr.	4/29/2016 7:09 PM
140	Antlers Ct	4/29/2016 8:02 AM
141	Steeple Chase Dr	4/28/2016 11:48 AM
142	Baldwin Avenue	4/27/2016 4:27 PM
143	River Meadows Dr.	4/27/2016 12:43 PM
144	Spritz	4/25/2016 11:39 PM
145	Talon Trail	4/25/2016 9:21 PM
146	south paradise ln	4/25/2016 4:57 PM
147	Deerfield Way	4/25/2016 1:10 PM
148	E Spyglass Hill Dr	4/25/2016 8:20 AM
149	Parkwood Drive	4/24/2016 10:06 PM
150	Laurel Landing	4/24/2016 5:51 PM
151	Highbush	4/24/2016 2:26 PM
152	Tallgrass Drive	4/23/2016 4:35 PM
153	Tallgrass	4/23/2016 8:32 AM
154	Laurel Landing	4/22/2016 5:40 PM
155	Regency Dr.	4/22/2016 12:29 PM
156	Huntsville Rd	4/22/2016 9:20 AM
157	S Pebble Beach Drive	4/22/2016 8:56 AM

158	Lake Sequoyah	4/21/2016 4:54 PM
159	Regency	4/21/2016 4:53 PM
160	Lake Sequoyah Dr	4/21/2016 12:41 PM
161	Cattail Court	4/21/2016 10:23 AM
162	Black canyon Street.	4/20/2016 8:53 PM
163	Huntsville Rd	4/20/2016 7:33 PM
164	APOLLO DR.	4/20/2016 4:01 PM
165	eastpoint dr	4/20/2016 2:48 PM
166	Tallgrass	4/20/2016 2:30 PM
167	East Talon Trail	4/20/2016 1:48 PM
168	Hunt Lane	4/20/2016 12:56 PM
169	Ed Edwards Road	4/20/2016 12:19 PM
170	huntsville (Hwy 16 east)	4/20/2016 11:42 AM
171	Blue willow	4/20/2016 10:51 AM
172	South Deerfield Way	4/20/2016 8:59 AM
173	S. Sinclair Avenue	4/19/2016 8:14 PM
174	TALLGRASS	4/19/2016 5:01 PM
175	River Meadows	4/19/2016 4:56 PM
176	Ed Edwards Rd	4/19/2016 1:20 PM
177	Doral Dr	4/19/2016 10:45 AM
178	E Black Canyon St.	4/19/2016 10:17 AM
179	norman murphy rd	4/19/2016 10:03 AM
180	Doral	4/19/2016 6:30 AM
181	River meadows Dr	4/18/2016 7:37 PM
182	S. Blue Willow Ave	4/18/2016 3:19 PM
183	Paradise Ln	4/18/2016 2:37 PM
184	Keen Lane	4/18/2016 11:53 AM
185	South Monarch Ave	4/18/2016 9:39 AM
186	E Troon Dr	4/18/2016 9:16 AM
187	S. River Meadows Dr.	4/18/2016 9:02 AM
188	South Doral Drive	4/18/2016 8:55 AM
189	s. river meadows drive	4/18/2016 8:49 AM
190	Pumpkin Ridge Dr	4/18/2016 7:44 AM
191	Troon	4/17/2016 10:15 PM
192	River Meadows	4/17/2016 7:59 PM
193	Huntsville Rd.	4/17/2016 5:09 PM
194	Blue Willow Avenue	4/17/2016 3:09 PM
195	South Sinclair	4/17/2016 2:15 PM
196	E. Milo Way	4/17/2016 12:27 PM
197	Spyglass Hill Dr	4/17/2016 12:19 PM
198	Baldwin Ave.	4/17/2016 12:10 PM

199	Mally Wagon	4/17/2016 10:38 AM
200	Broomsage Drive	4/17/2016 10:16 AM
201	Tally Ho	4/17/2016 10:08 AM
202	Harding Pl	4/17/2016 9:49 AM
203	Pumpkin Ridge Dr	4/17/2016 9:47 AM
204	South regency dr	4/17/2016 9:29 AM
205	Lake Sequoyah Dr.	4/17/2016 8:38 AM
206	1654 river meadows	4/17/2016 8:03 AM
207	Ed Edward	4/17/2016 7:41 AM
208	East Huntsville Road	4/17/2016 6:33 AM
209	S. Tallgrass	4/16/2016 10:46 PM
210	River meadows	4/16/2016 10:12 PM
211	Cherry Hills Drive	4/16/2016 8:35 PM
212	E. Antlers Court	4/16/2016 8:34 PM
213	East Spanish Bay Place	4/16/2016 8:28 PM
214	Milo Way	4/16/2016 7:37 PM
215	S Saint Andrews Circle	4/16/2016 3:21 PM
216	Keen Lane	4/16/2016 2:41 PM
217	Huntsville Road	4/16/2016 2:01 PM
218	tallgrass	4/16/2016 2:01 PM
219	Parkwood Dr	4/16/2016 1:04 PM
220	East Lawndale Drive	4/16/2016 12:39 PM
221	blue willow	4/16/2016 12:19 PM
222	Danita St.	4/16/2016 12:13 PM
223	Lake Sequoyah Dr.	4/16/2016 12:02 PM
224	Pebble Beach Dr.	4/16/2016 11:40 AM
225	Tallgrass	4/16/2016 11:30 AM
226	River Meadows	4/16/2016 11:15 AM
227	Tallgrass Dr	4/16/2016 11:13 AM
228	Cherry Hills Drive	4/16/2016 9:50 AM
229	Lake Sequoyah Drive	4/16/2016 9:42 AM
230	S Sinclair	4/16/2016 9:40 AM
231	River Meadows Drive	4/16/2016 9:35 AM
232	S Pumpkin Ridge Dr	4/16/2016 8:48 AM
233	St. Andrews	4/16/2016 7:56 AM
234	regency drive	4/16/2016 7:46 AM
235	S Harding Pl	4/16/2016 7:41 AM
236	Eastview Drive	4/16/2016 7:38 AM
237	Cherry Hills Drive	4/16/2016 7:27 AM
238	huntsville road	4/16/2016 7:09 AM
239	Lake Sequoyah Dr	4/15/2016 8:44 PM

240	Tallgrass Drive	4/15/2016 8:34 PM
241	E Eastpoint Dr	4/15/2016 8:24 PM
242	Fescue Ct.	4/15/2016 8:06 PM
243	highbush	4/15/2016 7:59 PM
244	Tallgrass Drive	4/15/2016 7:45 PM
245	East Oakmont Dr.	4/15/2016 7:44 PM
246	Oakmont Drive	4/15/2016 7:39 PM
247	Regency	4/15/2016 7:28 PM
248	Mally Wagon	4/15/2016 6:46 PM
249	East Country Ridge Ct.	4/15/2016 6:38 PM
250	Lake Sequoyah Drive	4/15/2016 6:26 PM
251	South Colonial Drive	4/15/2016 6:17 PM
252	East Falcon Drive	4/15/2016 5:40 PM
253	S. Saint Andrews Cir.	4/15/2016 5:38 PM
254	S Doral Drive	4/15/2016 5:26 PM
255	Oakmont	4/15/2016 5:21 PM
256	Country Ridge	4/15/2016 4:41 PM
257	Highbush Ave	4/15/2016 4:25 PM
258	blue Willow ave	4/15/2016 4:24 PM
259	> River Meadows Dr.	4/15/2016 4:15 PM
260	Spyglass Hill Drive	4/15/2016 3:56 PM
261	Parkwood	4/15/2016 3:56 PM
262	Lake Sequoyah Dr.	4/15/2016 3:55 PM
263	Spyglass Hill Drive	4/15/2016 3:51 PM
264	Cherry Hills Dr.	4/15/2016 3:08 PM
265	Huntsville Rd	4/15/2016 2:49 PM
266	Milo Way	4/15/2016 2:48 PM
267	Cherry hills drive	4/15/2016 2:44 PM
268	E Spanish Bay Pl	4/15/2016 2:33 PM
269	river neadows	4/15/2016 2:17 PM
270	Spyglass Hill Dr.	4/15/2016 2:15 PM
271	Regency	4/15/2016 1:49 PM
272	Lake Sequoyah	4/15/2016 1:39 PM
273	Ed Edwards Road	4/15/2016 1:38 PM
274	Broomsage Drive	4/15/2016 1:36 PM
275	Baldwin	4/15/2016 12:55 PM
276	River Meadows	4/15/2016 12:36 PM
277	S Sinclair Ave.	4/15/2016 12:24 PM
278	S PARKWOOD DR	4/15/2016 12:15 PM
279	Sonoma Falls St.	4/15/2016 12:15 PM
280	tallgrass	4/15/2016 12:09 PM

281	E. Danita st	4/15/2016 12:08 PM
282	S. Regency Dr	4/15/2016 12:08 PM
283	Milo Way	4/12/2016 10:51 PM
284	River Bluff Cove	3/19/2016 9:32 AM
285	Pumpkin Ridge Drive	3/12/2016 11:02 PM
286	East Broomsage	3/12/2016 4:02 PM

Q13 If you have any additional comments, please use the space below.

Answered: 201 Skipped: 87

#	Responses	Date
1	I loved it. Could fit all of my recycling in one bin. Less trips to the recycling station.	6/22/2016 5:21 PM
2	Loved it! Was very sad when they came and took the carts away.	6/9/2016 8:34 AM
3	Please bring it back	6/8/2016 9:01 PM
4	bring back the recycling bins .	6/6/2016 8:05 PM
5	I was so sad when we had to give the bin back and return to our regular recycling. I LOVED the single stream recycling program with the ability to recycle many other materials and want it to come back.	6/5/2016 2:38 PM
6	Please go to the larger recycle bins permanently. I recently moved from Springdale where I'm accustomed to having bi-weekly large container collection, and we used the entire bin.	6/4/2016 10:54 PM
7	I hope to see this brought back. It was very convenient and helped us recycle more. We also noticed that our trash can was utilized less.	6/4/2016 5:44 PM
8	Please implement the single stream recycling, it was Awesome!!!! We miss this program.	6/3/2016 7:53 PM
9	I really enjoyed the big blue recycling bin as well as being able to recycle additional items.	6/3/2016 6:23 PM
10	Loved the convenience	6/3/2016 6:02 PM
11	I loved it! Hope it will be back soon!	6/3/2016 5:51 PM
12	I believe I understand the disadvantages to the city; I think more education, to the citizens, about how to avoid contamination, etc., would be helpful. Also, I would be willing to have a small add-on charge, to offset any additional cost.	6/3/2016 3:25 PM
13	Please bring these back!!!!	6/3/2016 12:55 PM
14	We used a system similar to this in Illinois where we are from and feel we definitely helping the Eco system	6/3/2016 11:51 AM
15	Absolutely loved this program! Glad we were able to try it out. PLEASE BRING IT BACK!!	6/3/2016 11:46 AM
16	Please bring them back we LOVED having the larger bin!!!!	6/3/2016 11:29 AM
17	Please bring back the single stream recycling!	6/3/2016 11:05 AM
18	Please, please bring single stream back!	6/3/2016 11:02 AM
19	Please bring the single system back!	6/3/2016 10:58 AM
20	I think that this program should be available everywhere! It was so great to be able to put all of our recyclables in one container. It was very convenient!	6/3/2016 10:41 AM
21	I'm so sad to go back to the bin. My trash has reduced significantly while my recycled tripled. Please bring them back!!!!	5/26/2016 3:38 PM
22	Thank you for selecting me to participate in this pilot program. I encourage the city to move forward adopting the single stream recycling program as I found it to be easier and more efficient to recycle.	5/22/2016 10:29 PM
23	We LOVE the single stream recycling. It's very convenient for two working parents with 2 small kids!	5/21/2016 9:56 AM
24	I loved the additional items that we could recycle. If we want to be effective, we should keep all of these items in our recycling efforts.	5/20/2016 9:47 AM
25	I think the program is great. The ease of recycling in a single, rollable container is very convenient.	5/19/2016 4:48 PM
26	Too bad it is ending. Only annoying thing about this program was recycling larger cartons. On the older bin style, you can just place the bin on top of the carton if it was too big to fit. I really liked how we can recycle more besides #1 and #2 plastic.	5/19/2016 11:33 AM
27	I would absolutely LOVE for this to continue!!!	5/19/2016 11:12 AM

28	This was the best idea that I have seen for recycling. Before, I really didn't recycle because of the containers. Frankly, I found them a real pain in the butt. This changed my whole outlook on recycling, even though I try to think of myself as environmentally literate. I'm older, and this made it very easy.	5/19/2016 9:23 AM
29	Absolutely loved this program. Hope it continues.	5/16/2016 8:25 PM
30	Single stream creates more contamination than it recycles. Bad idea!	5/16/2016 12:27 PM
31	Please keep the blue lid single stream recycling program.	5/15/2016 6:06 PM
32	Please continue this! It's so convenient and easy! All of my neighbors love it, and they all recycle more than they did previously.	5/15/2016 10:38 AM
33	I did not recycle using the bins, but i recycled everything using the single stream program. will not continue to use the bins.	5/15/2016 9:51 AM
34	this was great, and I'm sad that the pilot is ending.	5/14/2016 2:03 PM
35	I especially liked the expanded plastics list with specific numbers.	5/14/2016 11:01 AM
36	I absolutely love the single stream recycling cart. We recycle a lot and often don't have enough room in our two bins meaning some recycle has to be placed in the trash.	5/13/2016 12:03 PM
37	Maybe single stream is not best for every neighborhood but it seemed to work well for residents of Stonebridge Meadows and I spoke to several of them about this.	5/13/2016 10:40 AM
38	We love this system and it encourages us to recycle more, takes up less space in our garage, takes less time out of our day (to separate items the night before pick up) so we can spend it with our family. We will miss the cart until it comes back because we know it should!	5/13/2016 7:58 AM
39	Single Stream Recycling is a great idea for the city of Fayetteville. I highly encourage this method of recycle collection. The impacts of this investment in the short and long term will pay dividends to the residents, community, city and the beautiful state of Arkansas. The Blue Lid program needs to be a highly visible and an active program for the Recycling & Trash Collection Division. Also, make the Blue Lid cans bigger. One last thing, if you have any doubts that this program can be value added, just look at Conway Sanitation Dept in Conway, AR. ((Need to also look at the city's yard waste program!))	5/12/2016 9:49 PM
40	These bins have encouraged recycling throughout our neighborhood and I hope we can continue to use them in the future!	5/12/2016 3:40 PM
41	please strongly consider implementing this blue lid project	5/12/2016 3:34 PM
42	I hope to continue this	5/12/2016 1:49 PM
43	I really hope the city continues and expands this program. The ease got our entire household excited about recycling.	5/12/2016 1:43 PM
44	I loved the program and hope it continues. My only complaint was being unsure about which plastics to run cycle. The program made me more willing to recycle and contribute less trash to the landfill. Excellent idea!! Easy and convenient mine and makes so much such new. Keep up the great work!!	5/12/2016 11:20 AM
45	I hope we get to keep this type of recycling. I liked it very much.	5/12/2016 9:40 AM
46	Really enjoyed the new system. It made recycling much easier.	5/12/2016 7:54 AM
47	I felt like this program was awesome and I hope it is implemented all over Fayetteville. My kids got involved with recycling too.	5/11/2016 6:57 PM
48	Please don't take my cart away!!! I LOVE it!!!	5/11/2016 4:21 PM
49	Please please please bring this back! I loved being able to recycle more plastic container and not having to worry about sorting things out. We LOVED it!	5/11/2016 3:58 PM
50	PLEASE KEEP THIS!!!!	5/11/2016 2:18 PM
51	We want to keep our new blue lid cans. they are so much better than the green bins	5/11/2016 1:52 PM
52	Please continue this! My volume of trash decreased. It made recycling so much easier and I was able to recycle so much more. I dont look forward to returning to splitting up my recyclables between three bins and toting them back and forth from garage to curb.	5/11/2016 10:31 AM
53	Please don't end the program, it was great!	5/11/2016 10:15 AM
54	We do not want to go back to using bins!	5/11/2016 10:01 AM

55	I previously used this system in another city for years and was extremely disappointed when I moved to Fayetteville. Our household garbage would be the size of a Wal-Mart bag while the recycle bin was full. Before this program we had a large trash bin that was full of 13 gallon bags of trash. I hope Fayetteville continues with this program as it is in line with the 80% reduction goal the city has set.	5/11/2016 9:54 AM
56	As a resident participant in the pilot recycling program, I want to commend the city's recycling services. I think this is an excellent program with a positive impact. We, as citizens, need to be more informed of what to recycle and develop better habits which will pay off for everyone in the long run. I hope the city can implement the program. I do not want to return to the small bin! As the pilot program progressed, I noticed I filled the large bin up more and more. Surely, this would make a difference and help reach goals of healthier environment and waste reduction. Thanks to all for their efforts.	5/10/2016 9:37 PM
57	I want single stream recycling to continue. The 18 gallon bins are heavy to carry, the lids end up down the street, and are a chore to move back to the garage. The wheeled blue lid cart was easy to roll out and back, plus had the added advantage of being able to recycle more items.	5/10/2016 8:51 PM
58	please don't take my cart away I love it!	5/10/2016 8:14 PM
59	We LOVED the single stream recycling We hope to see this as a permanent thing in Fay. Have never recycled more than we did with the pilot program. 5 stars!	5/10/2016 7:45 PM
60	I would love to see this single stream implemented right away ! Most helpful and lot less actual trash accumulation .	5/10/2016 7:33 PM
61	My household is disappointed to lose our single stream recycle bin. We have reduced our trash by half just by using the new recycle bin. We hope that you will bring the bin back soon and make the single stream recycle permanent.	5/10/2016 6:14 PM
62	Please keep this program! It is amazing and helps the environment!	5/10/2016 6:09 PM
63	Please keep this program!!!	5/10/2016 5:15 PM
64	Thanks for letting us participate. Please bring it back to our neighborhood. Thx.	5/10/2016 4:36 PM
65	Would like assurances that all materials are being recycled.	5/10/2016 4:12 PM
66	Please allow us to keep the rolling carts and continue recycling this way!	5/10/2016 3:49 PM
67	So many other cities have been using this method for years, great to be able to use and educate on ways to keep landfill down.	5/10/2016 3:21 PM
68	We love the blue lid carts! Please don't take ours away!	5/10/2016 3:19 PM
69	Loved it!!! Please don't take my cart!!!! :)	5/10/2016 3:06 PM
70	This program was amazing, and after talking with my neighbors they all feel the same way. I noticed so many more people with the recycle bins out than with the other smaller bins. The amount of trash in my regular trash can was significantly decreased because I caught myself recycling so many things I never thought of recycling before. Please keep this program!	5/10/2016 2:24 PM
71	I just hope that people did not put trash in and ruin the whole thing. I worry that the pick-up not being seen by humans will cause more people to put non-recyclables in. I really want to be able to recycle everything that can be recycled, but I do not want to be producing the wrong kind of waste or having the recyclables be contaminated by trash.	5/10/2016 2:24 PM
72	We like the new cart.	5/10/2016 2:20 PM
73	Please, please, please continue to provide the single stream recycling or at least allow us to recycle all of the plastics we were able to recycle during the test. I HATE throwing all that plastic away!!	5/10/2016 2:18 PM
74	Very sad to have to return to the old system	5/10/2016 1:57 PM
75	So sad to see the large cart go - we recycled so much more with it! The small bins seem like such a pain to go back to.	5/10/2016 1:57 PM
76	Worked very well. Hate to see it stopped.	5/10/2016 12:39 PM
77	Love it, don't want it to end	5/9/2016 7:19 PM
78	If necessary, I would pay more for collection.	5/9/2016 6:40 PM
79	Great idea. Hopefully it will work for the city.	5/9/2016 6:33 PM
80	I have done more recycling and I am sure others have too.	5/9/2016 5:50 PM
81	Only disadvantage to me, the cart took up so much more space in garage. It was easier to get to curb. The old bin gets kinda heavy I liked being part of the single steam program. Thanks	5/9/2016 5:13 PM

82	Love it, love it, love it!!!!!!!	5/9/2016 5:01 PM
83	please let us keep them :)	5/9/2016 4:12 PM
84	please bring back single stream.....do not like small tub approach	5/9/2016 4:10 PM
85	I loved using the big cart to recycle. I truly dread using the small bins. So much more stuff can be recycled instead of throwing them in the trash	5/9/2016 4:08 PM
86	Plus: larger bin holds bulky boxes & cardboard. Minus: Have concern about contamination & loss	5/9/2016 4:06 PM
87	I liked the program. I believe it would be most beneficial it were to continue.	5/9/2016 3:59 PM
88	Really liked rolling the container and the convenience of everything going into one container.	5/9/2016 3:15 PM
89	Great program. Please continue it!	5/9/2016 3:14 PM
90	No rejected recyclables left in my yard or on the road with this program. It's frustrating to try to recycle conscientiously and then come home to find yard trashed.	5/9/2016 3:08 PM
91	Please continue this program. I HATE separating the recyclables. I would rather pay a little more each month than have to separate.	5/9/2016 2:15 PM
92	Please continue with this.	5/9/2016 2:07 PM
93	I hope that the city of Fayetteville adopts this program permanently for everyone.	5/9/2016 11:25 AM
94	Loved it! Wish it wouldn't stop.	5/7/2016 6:31 PM
95	I understand that people are putting trash items in which defeats the purpose of this method. I hope that does not kill the program entirely. I love this opportunity and hope it continues if it truly further reduces the amount of trash going into landfills.	5/7/2016 5:08 AM
96	I absolutely LOVE the program! A great program everyone should be apart of.	5/5/2016 4:44 PM
97	I really like single stream and I certainly hope it becomes a continued program for Fayetteville.	5/3/2016 9:59 AM
98	Let us keep doing single stream!!!	4/29/2016 7:09 PM
99	I love this program and hope it continues.	4/29/2016 8:02 AM
100	I do miss the early morning sounds of a diesel engine idling, idling, idling away as the bottles and cans crash against the steel sides of the truck. Well OK maybe not.	4/28/2016 11:48 AM
101	I am so excited for fayetteville to join in the big city approach to recycling. I think this will GREATLY reduce landfill and also make it easier for folks to recycle which i think will encourage more recycling... and the green arrows will keep turning.!!! Yah Fayetteville	4/27/2016 4:27 PM
102	Thank you.	4/27/2016 12:43 PM
103	I have honestly loved the program and will be sad to see it go.	4/25/2016 11:39 PM
104	Like to see more items to recycle	4/25/2016 9:21 PM
105	I love the streamline recycling. I am able to recycle more and have seen a large decrease in trash waste. I am looking forward to this hopefully continuing and improving our city.	4/25/2016 1:10 PM
106	really hope this program comes back around	4/25/2016 8:20 AM
107	We love, love, love the program! Please don't stop!	4/24/2016 10:06 PM
108	I love the ease of use with the carted single stream recycling program. I also love that I can just toss everything in including more plastic numbers.	4/24/2016 5:51 PM
109	Single stream recycling definitely needs to be made permanent and city wide. It will entice many people who don't normally recycle to start recycling.	4/24/2016 2:26 PM
110	Please keep this program!!!	4/23/2016 4:35 PM
111	LOVE THESE BINS!	4/23/2016 8:32 AM
112	As noted about, we would like to see directions on how to recycle products that have more than one recyclable component. Also, we would like direction on how to handle plastics with no recyclable designations. Other than that, we love the program and want to see it continue.	4/22/2016 5:40 PM
113	I hope that this program continues. Love recycling the extra plastics. Would love to see the ability to recycle plastic bags and styrofoam in the future.	4/22/2016 12:29 PM

114	More info on #3-7 plastics would be helpful. For example, is styrofoam accepted?	4/22/2016 9:20 AM
115	I do like being able to place all items together and not worry about sorting. We are not filling the can.. so they could be smaller, but then maybe that would not allow the trucks to pick them up. I like that the items are not thrown into truck separately.. we always heard glass breaking and there would be items left in the road and blowing around into peoples yards with the previous green box system. I would really like to continue with the new system.	4/22/2016 8:56 AM
116	This is awesome. Please don't take it away.	4/21/2016 4:54 PM
117	I LOVE the single stream recycling. Its so much easier to put everything in one bin instead of having to sort myself then having to have the recycling truck come back and sort even further. It's so much easier to get it to the curb, I can roll it out the morning of and not have to worry about trying to sort stuff before taking it out. I'm already dreading going back to the old way to do it and hope this program sticks around!	4/21/2016 4:53 PM
118	I bought a trashcan for the house for recycling only. Now, all I do is dump it into the cart and move on. Made it easier.	4/21/2016 10:23 AM
119	Single stream recycling helps in that you don't have to wait till the small bin gets full before you dump it, therefore, it's not as heavy to lift. Also saves a trip to Happy Hollow to recycle newspapers in bulk. I really hope we get to continue this mode of recycling. I'm all for keeping it out of the landfills.	4/20/2016 7:33 PM
120	This would be a good thing for Fayetteville.	4/20/2016 4:01 PM
121	I would like a list of items I can't recycle. What type of plastics for example.	4/20/2016 1:48 PM
122	Cannot stack cardboard boxes under either container due to uneven rocky driveway and windy conditions. Would like once a year pick-up of defective and large appliances, and other unrecalible items in regular carts.	4/20/2016 12:56 PM
123	PLEASE KEEP THIS PROGRAM!!!!	4/20/2016 12:19 PM
124	We like this program. We're using the trash less.	4/20/2016 11:42 AM
125	Love the program. Hope it stays around	4/20/2016 10:51 AM
126	We hope the program continues.	4/20/2016 8:59 AM
127	I think this is a fantastic service and I hope it continues. Thanks for the opportunity to be involved!	4/19/2016 5:01 PM
128	Please make this pilot program into reality in Fayetteville. The time is now to recycle and this makes it easier on everyone. Plus we are able to recycle so much more plastic. City of Fayetteville-This is a no brainier!!!	4/19/2016 10:45 AM
129	it should be optional like a flyer in the water bill asking if u want it or not BEFORE purchasing the bins. they can be purchased as more people hopefully see them and want to participate. i love it! hope eveyone does!	4/19/2016 10:03 AM
130	Loved it, I want to keep the larger bin!	4/19/2016 6:30 AM
131	Would love to see this implemented	4/18/2016 11:53 AM
132	Love it!!	4/18/2016 9:39 AM
133	I am not a huger fan of the extra large can but the benefits FAR outweigh the storage of the can. I hope you continue the use of this program and I hope the rest of the city is able to participate. GREAT JOB!!	4/18/2016 9:02 AM
134	Single stream is much easier than the bins. However, I would not be in favor of continuing the program if the cost outweighed the benefits.	4/18/2016 8:55 AM
135	I think with the size of the wheeled cart, the city could save money by picking up the recycling on only even weeks.	4/18/2016 8:49 AM
136	I think it is a wonderful program and I think the city should make it the permanent means for recycling.	4/18/2016 7:44 AM
137	I still don't really understand how the recycleables are separated. I love the convenience, but it confuses me.	4/17/2016 7:59 PM
138	I really like having a larger recycling cart, but these are too large. Ideal size would be the size of the smaller trash bins.	4/17/2016 3:09 PM
139	I think this is a wonderful program with many more benefits than the usual recycle bins.	4/17/2016 2:15 PM
140	I hope this will be put into effect city wide SOON	4/17/2016 12:27 PM
141	Please continue this process much more convenient and I notice more neighbors participating.	4/17/2016 12:19 PM
142	Absolutely love this idea!! It works so well. I love being able to recycle all the necessary items. With the big trash bin having the lid, it keeps all of my paper and plastic and cardboard from flying everywhere! I love this so so so much.	4/17/2016 12:10 PM
143	We love the new stream line process!!! Hope it stays!!!	4/17/2016 10:38 AM
144	Having identical trash/recycling bins is beneficial. I hope the city chooses to implement this city wide.	4/17/2016 10:16 AM

145	It will be difficult to go back to the bins after using the carts. So handy and if my husband thinks of stuff to recycle....it's a success!	4/17/2016 10:08 AM
146	I love this new program	4/17/2016 9:29 AM
147	Should have varying size containers so household could select based on their size.	4/17/2016 8:03 AM
148	We were recycling before by taking our things to the recycling center. We did not mind doing that if it kept the collection cleaner. We didn't recycle here before because we did not ever go get the little green bins. They seemed too small for all we recycle. We moved here from Bentonville, so we were familiar with the single stream. I think people should have a choice because some people are really against the single stream because of cross contamination. We are careful what we put in, but I can't promise that others are. It is also difficult to believe the the city can't make money on sorted recycling in when Bella Vista does, but the two cities have different demographics and volunteers to run their recycling center. For us, we will continue recycling no matter what the city decides.	4/17/2016 6:33 AM
149	Love this.	4/16/2016 10:46 PM
150	It is amazing how much our general trash has been reduced. We have the largest bin. We used to almost always fill it. Now it is a little as a third. We also recycled before but this is so much better and easier.	4/16/2016 8:35 PM
151	i hope that Fayetteville moves to this program. It is easier to use, and provides effective recycling of plastics 3-7. thank you for this trial.	4/16/2016 8:34 PM
152	I am curious to know if the sorting of the materials is time consuming for the employees once the trucks deliver the recycled items.	4/16/2016 7:37 PM
153	How can paper and rinsed containers be in same bin with this program when we had to have two separate bins before?	4/16/2016 3:21 PM
154	Love the fact that my regular trash has diminished by about 2/3!	4/16/2016 2:41 PM
155	I loved this! Please keep doing it. So much easier to roll the cart rather than carry the bins. Felt like I could fit much more in the cart than previously with the bins. Bin lids over time would break and crack. The carts are so stable and make it easy to recycle.	4/16/2016 1:04 PM
156	We love single stream recycling! It's going to be weird going back to the old way of recycling. I don't see how single stream recycling could be a bad thing. It's easier for the community as a whole because the collectors don't have sort through it and you don't have to put much thought into what you're recycling! I know before I lived in this house, they didn't recycle because they said it seemed like "too much work." We haven't had to put our trash can out as often because a majority of the "trash" was able to be recycled through the single stream recycling program. Please bring it back for good to Fayetteville!!!	4/16/2016 12:39 PM
157	I loved the new recycle bin. It makes it more encouraging to recycle and more can be put in their. Now I recycle all my water bottles as before with the green bins I had to choose what I recycled because not everything would fit, Plus the neighborhood benefits because cardboard can be put in the bins and not blown everywhere. Also I know many peoples lids that got ran over and wouldn't fit anymore with the green bins. The blue lid is the way to go I believe! If we use the big green trash cans why not do the same with the blue lid instead of bins? Recycling is so important to our world and it encourages me to put more I their and fill it up not like before because of the limited space with the green bins.	4/16/2016 12:19 PM
158	It's a great service to the community! Please keep it going.	4/16/2016 12:13 PM
159	The idea of roadside sorting in harsh conditions is absurd.	4/16/2016 12:02 PM
160	Yes. I come from a city that used same system and I'm glad you decided to try it. I hope it becomes permanent.	4/16/2016 11:40 AM
161	I really like being able to throw all of my recyclables into one bin and not worry about sorting. Makes recycling much easier and also my family has started helping more.	4/16/2016 11:30 AM
162	I would like to see the numbers on this program and how they may impact my future billing.	4/16/2016 11:13 AM
163	LOVE IT! Please keep it. Saves me time with putting all in one container and not having to look for the number on the plastics.	4/16/2016 9:42 AM
164	I hope the City makes the decision to provide citizens with single stream recycling. More people will recycle more trash because it is acceptable and easy.	4/16/2016 9:40 AM
165	Program should be permanent and offered city-wide	4/16/2016 8:48 AM
166	really enjoy the fact that we aren't listening to the recyclables being sorted curbside at 5 am. allows the carts to be set out the morning of pickup in lieu of the night before so that the overnight weather doesn't blow the bins around and get all the paper wet. so much more convenient. only one question: will it cost us more than the old bin system? thanks.	4/16/2016 7:46 AM

167	Please don't take it away. This is a really nice way and I cannot stand those little bins.	4/16/2016 7:41 AM
168	One of the best things about Fayetteville is the commitment to recycling. Making it as easy as possible ensures all citizens will participate. I think this works toward that goal both by increasing the number of recyclables included and making the delivery to curbside easier (especially for the elderly).	4/16/2016 7:38 AM
169	We love it & are recycling more items than before. Keep it going!	4/16/2016 7:27 AM
170	I love it! I really like not having to separate everything.	4/15/2016 8:34 PM
171	Outstanding program would love to keep it.	4/15/2016 7:45 PM
172	We are familiar with the program from previous participation in a larger metro area (Minneapolis - St. Paul). Keep it rolling.	4/15/2016 7:44 PM
173	Please continue! I love to recycle all of the plastics. My garbage is much smaller now. It is so easy. If we can no longer recycle all plastics in our trash, could we at least have somewhere to take them?	4/15/2016 7:39 PM
174	I found that the larger bin is easier and more convenient to recycle. The smaller tubs are very limited to how much you can put in there. It is also more convenient that it rolls to the curb instead of carrying it. I hope that this program gets adopted and stays.	4/15/2016 7:28 PM
175	We want to recycle as much as possible. I think the carts will encourage people to recycle more.	4/15/2016 6:46 PM
176	I have less trash now, and more recyclables now	4/15/2016 6:38 PM
177	My coworker said he'd like to see it in his neighborhood in Fayetteville, and my neighbor actually put it out more often than he put the usual recycle containers out.	4/15/2016 6:26 PM
178	This single stream program actually got my household to work at recycling, where before it was more miss than hit.	4/15/2016 6:17 PM
179	This has been so great! So much easier, especially for the elderly. I really hope we can continue to use the carts.	4/15/2016 5:40 PM
180	We were very excited to be a part of this program! We moved up here from the DFW Texas area last year, where we had been doing the single stream recycling for many years. I feel like it really encourages folks to recycle even more so than with the green bins, as everything can be placed in one container.	4/15/2016 5:26 PM
181	This is an incredible program and should be adopted throughout our city. It has increased our consciousness about recycling and reduced our trash.	4/15/2016 4:25 PM
182	Please keep this program	4/15/2016 4:24 PM
183	I am pleased that the city of Fayetteville is forward thinking and taking the necessary steps to reduce the amount of garbage in the landfill. I hope this program is going to expand.	4/15/2016 3:56 PM
184	This program is easy to follow. It makes me feel good that I am doing something for my city.	4/15/2016 3:51 PM
185	Great program... I like it, and I have heard other positive comments from neighbors. I hope they all take the time to respond to this survey.	4/15/2016 3:08 PM
186	The cart I received lid does not fit properly and wind will blow it open. I have to keep paper and cardboard inside till it's time for pick up,	4/15/2016 2:49 PM
187	Wind still blows the cart over. Trash goes all over street when this happens. We need a tighter lid and weight on bottom.	4/15/2016 2:48 PM
188	I just think it's a great idea	4/15/2016 2:44 PM
189	Love it....please continue!	4/15/2016 2:33 PM
190	Single stream is pretty easy	4/15/2016 2:17 PM
191	Fayetteville is the first city I've lived in that didn't already offer this service. I found the bin system absurd.	4/15/2016 1:49 PM
192	Free hat	4/15/2016 1:39 PM
193	I really like it. I don't want to go back to the green tub! Thanks!	4/15/2016 1:38 PM
194	Awesome program!!	4/15/2016 12:55 PM
195	I loved the single stream recycling. & so did my wife. We thought it was awesome	4/15/2016 12:36 PM
196	I like it a lot. I really don't want to give it up. How can I help?	4/15/2016 12:15 PM
197	We hope you continue this program, I think it will encourage more people in the city to participate in recycling.	4/15/2016 12:08 PM

198	Please keep this service. My regular trash can volume has decreased considerably and my recycling has increased enormously. I love this program!!	4/12/2016 10:51 PM
199	We have loved the single stream recycling program! We are looking forward to this becoming standard for all of Fayetteville.	3/12/2016 11:02 PM
200	Please keep this service going for our household. I can see the larger size saving labor on the collection process. Additionally, the larger bins allow for consumers to recycle more, rather than throw overflow into trash. I believe single stream eliminates barriers to not recycling and will result in less being thrown in the landfill. I LOVE this program and am willing pay additional costs (within reason) to keep this project going. Fayetteville stands out as a leader of recycling policies and programs for the state. I appreciate our local leaders pushing for recycling goals and will do my support them in this effort... When does this project end? Thanks again!	3/12/2016 4:02 PM
201	Please don't end the program. Love it.	2/14/2016 2:06 PM

THE REMAINING PAGES OF THE SURVEY HAVE BEEN REDACTED TO ENSURE THE PRIVACY OF THE 163 PARTICIPANTS THAT PROVIDED EMAIL ADDRESSES TO THE CITY FOR FUTURE RECYCLING PROGRAM UPDATES.

ATTACHMENT E – MULTI-FAMILY RESIDENTIAL PILOT DATA FOR MANUAL FLOOR SORT

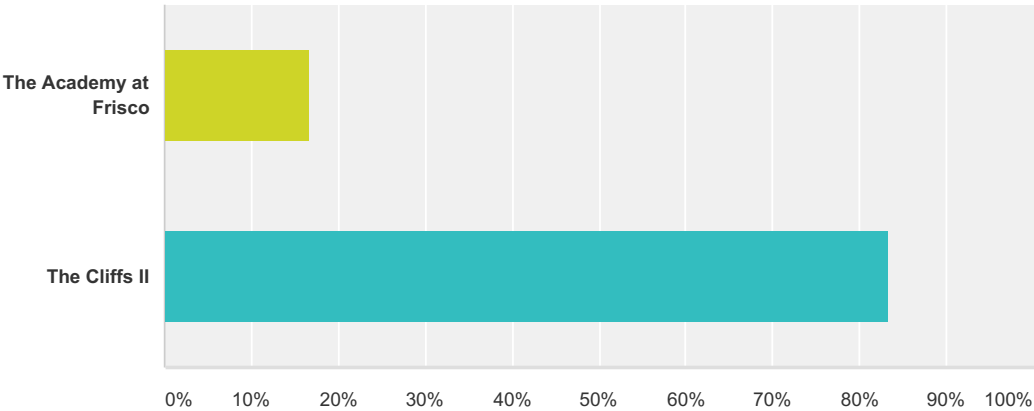
Material	5-Apr	12-Apr	19-Apr	26-Apr	3-May	10-May	17-May	24-May	31-May	7-Jun	14-Jun	21-Jun	Total	Percent
Cardboard	488	392	251	346	523	313	898	399	468	329	478	251	5,136	29.5%
Newspaper	178	118	0	235	0	0	249	281	0	0	0	0	1,061	6.1%
Mixed Paper	319	194	156	221	269	244	776	258	282	283	691	180	3,873	22.2%
#1 PET Bottles	46	52	38	47	64	44	88	51	59	25	79	60	653	3.8%
#2 HDPE Bottles	36	24	34	17	38	21	42	25	48	27	41	40	393	2.3%
Plastics #3-#7	0	6	9	18	63	13	86	30	41	13	43	0	322	1.8%
Aluminum Cans	23	12	0	27	17	12	38	16	23	7	28	13	216	1.2%
Steel Cans	25	18	10	12	31	6	33	22	13	10	20	15	215	1.2%
Scrap Metal	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Mixed Glass	132	150	138	143	242	99	408	188	139	91	369	147	2,246	12.9%
Total Recovered	1,247	966	636	1,066	1,247	752	2,618	1,270	1,073	785	1,749	706	14,115	81.1%
Residue	133	244	64	54	596	128	862	210	247	115	511	134	3,298	18.9%
Total Processed	1,380	1,210	700	1,120	1,843	880	3,480	1,480	1,320	900	2,260	840	17,413	100.0%

Note: Column may not appear to calculate correctly due to rounding.

ATTACHMENT F – MULTI-FAMILY SURVEY RESULTS

Q1 In which complex do you currently live?

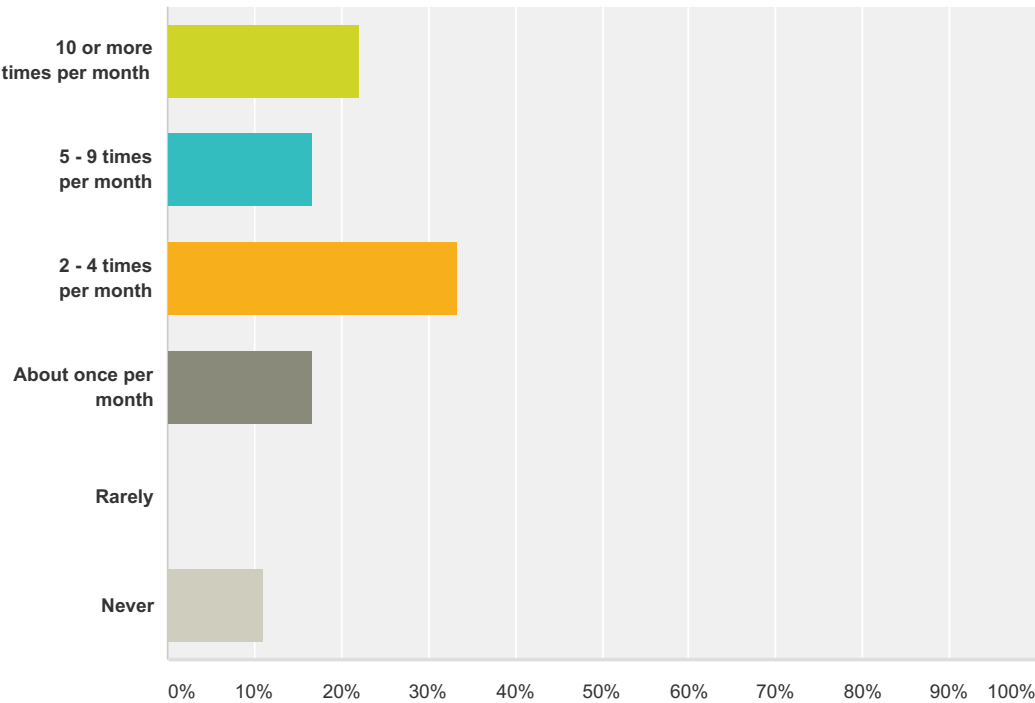
Answered: 18 Skipped: 0



Answer Choices	Responses	
The Academy at Frisco	16.67%	3
The Cliffs II	83.33%	15
Total		18

Q2 Prior to the pilot program, how often did you actively recycle?

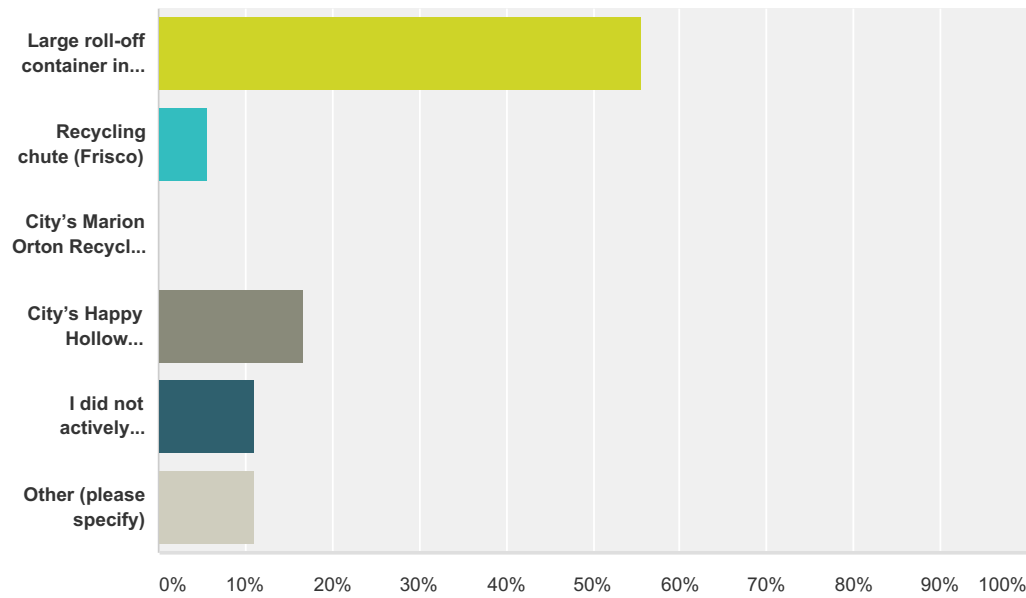
Answered: 18 Skipped: 0



Answer Choices	Responses	
10 or more times per month	22.22%	4
5 - 9 times per month	16.67%	3
2 - 4 times per month	33.33%	6
About once per month	16.67%	3
Rarely	0.00%	0
Never	11.11%	2
Total		18

Q3 If you previously recycled, where did you take your recyclables?

Answered: 18 Skipped: 0

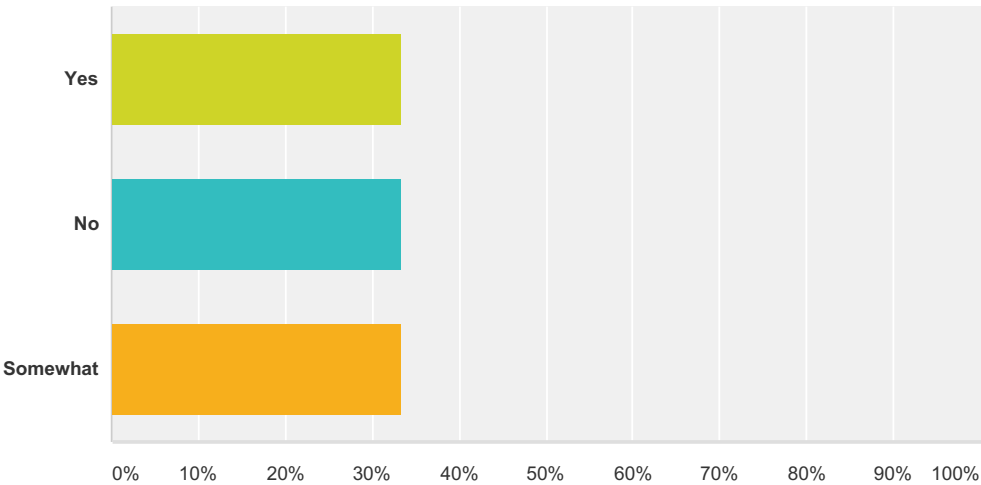


Answer Choices		Responses	
Large roll-off container in the parking lot (Cliffs II parking lot)		55.56%	10
Recycling chute (Frisco)		5.56%	1
City's Marion Orton Recycling Center (735 W. North Street)		0.00%	0
City's Happy Hollow Recycling Center (1420 S. Happy Hollow Road)		16.67%	3
I did not actively recycle		11.11%	2
Other (please specify)		11.11%	2
Total			18

#	Other (please specify)	Date
1	Before this pilot program I recycled in both Fayetteville Recycling Centers depending on where I was in Fayetteville at the time. I loved having the the large container in the parking lot though.	6/24/2016 7:10 PM
2	Grocery store	2/19/2016 10:52 AM

Q4 Prior to the pilot program, did you know what single stream recycling was?

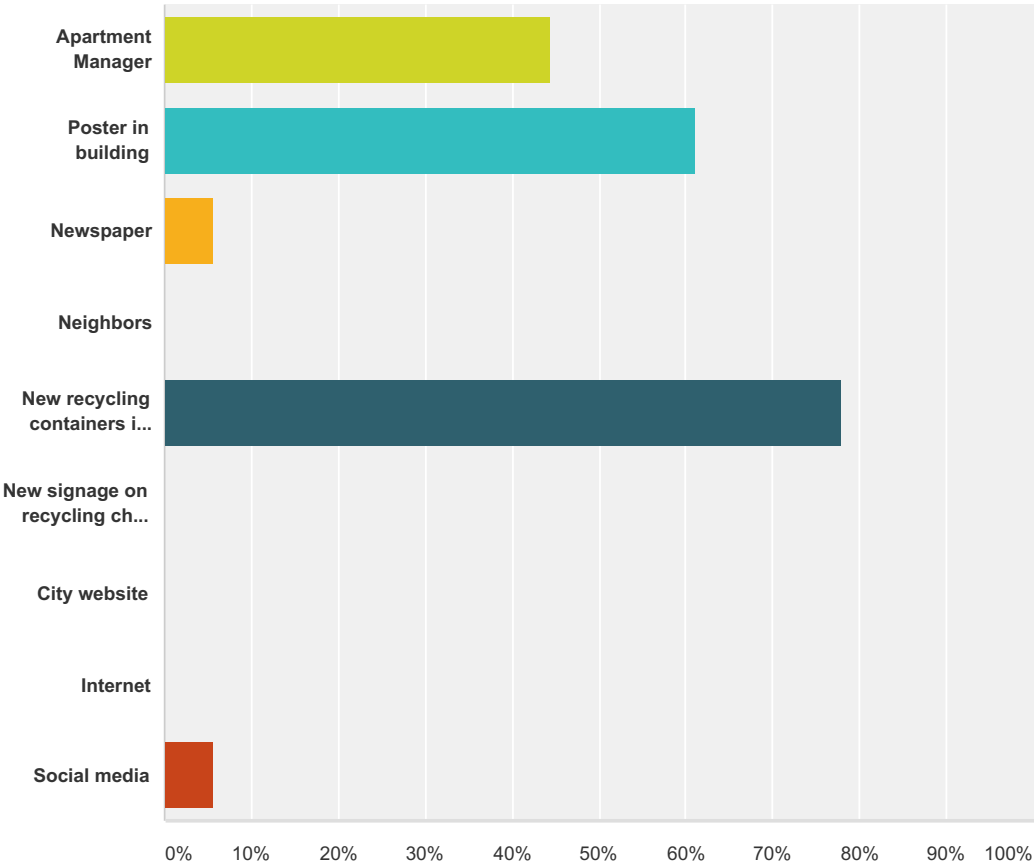
Answered: 18 Skipped: 0



Answer Choices	Responses	
Yes	33.33%	6
No	33.33%	6
Somewhat	33.33%	6
Total		18

Q5 How did you learn that you would be part of the pilot program? (select all that apply)

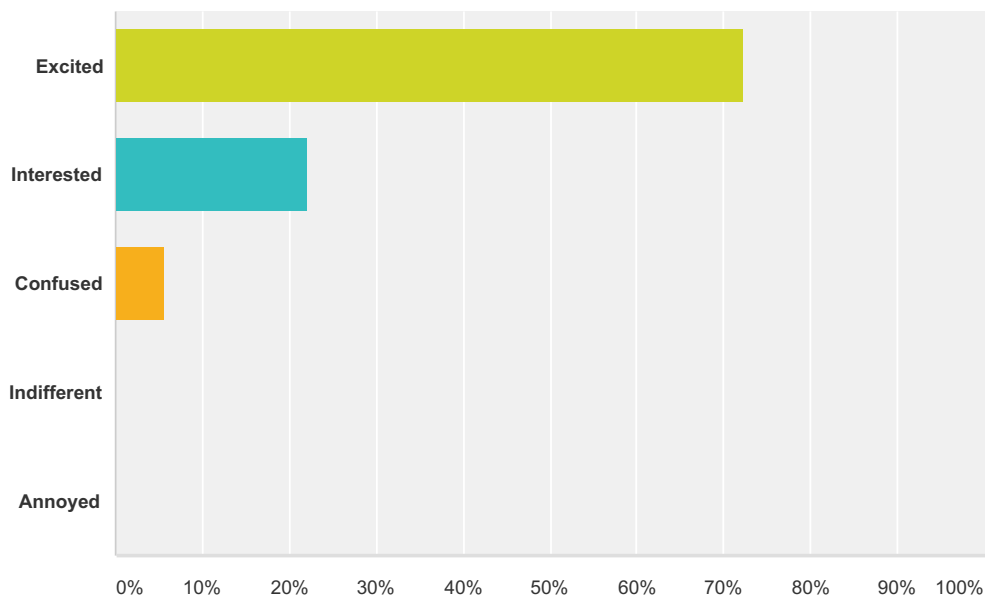
Answered: 18 Skipped: 0



Answer Choices	Responses	
Apartment Manager	44.44%	8
Poster in building	61.11%	11
Newspaper	5.56%	1
Neighbors	0.00%	0
New recycling containers in parking lot (Cliffs II)	77.78%	14
New signage on recycling chute (Academy at Frisco)	0.00%	0
City website	0.00%	0
Internet	0.00%	0
Social media	5.56%	1
Total Respondents: 18		

Q6 What was your first impression of single stream recycling when you heard that your complex was selected for participation in the pilot study?

Answered: 18 Skipped: 0

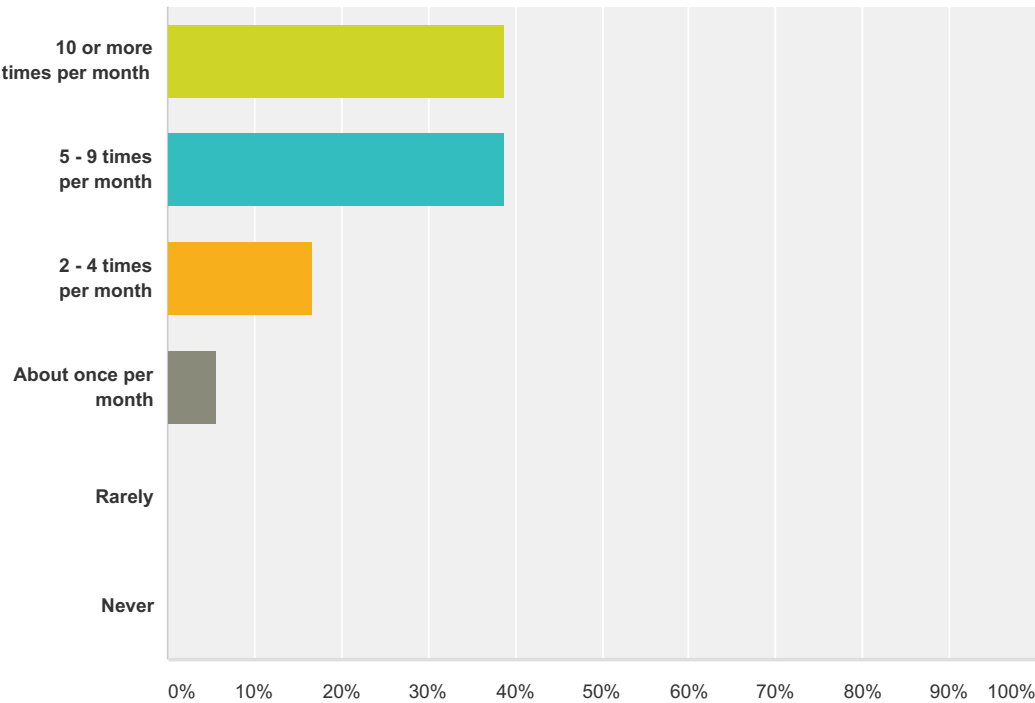


Answer Choices	Responses
Excited	72.22% 13
Interested	22.22% 4
Confused	5.56% 1
Indifferent	0.00% 0
Annoyed	0.00% 0
Total	18

#	Optional comments	Date
1	Why not sooner and standard practice.	6/26/2016 10:57 AM
2	I loved the program! I really hope the program stays. I think it is great for the environment and for Fayetteville. I hope that the program expands to include all apartments in Fayetteville.	6/24/2016 7:10 PM
3	I actually live at Cliffs 1, the adjacent complex, but I have been taking my recycling to the large roll-off container in Cliffs 2. The new, smaller recycling containers are much more convenient for me, as well. I can recycle more often, and also recycle things I was previously unable to recycle.	5/18/2016 10:53 AM
4	was wondering about why single container, if city had the ability to recycle 1-7 on plastics	5/14/2016 3:32 PM
5	It makes it much easier! It really encouraged me to really think about what I could recycle.	5/9/2016 3:54 PM

Q7 During the pilot program, how often did you actively recycle?

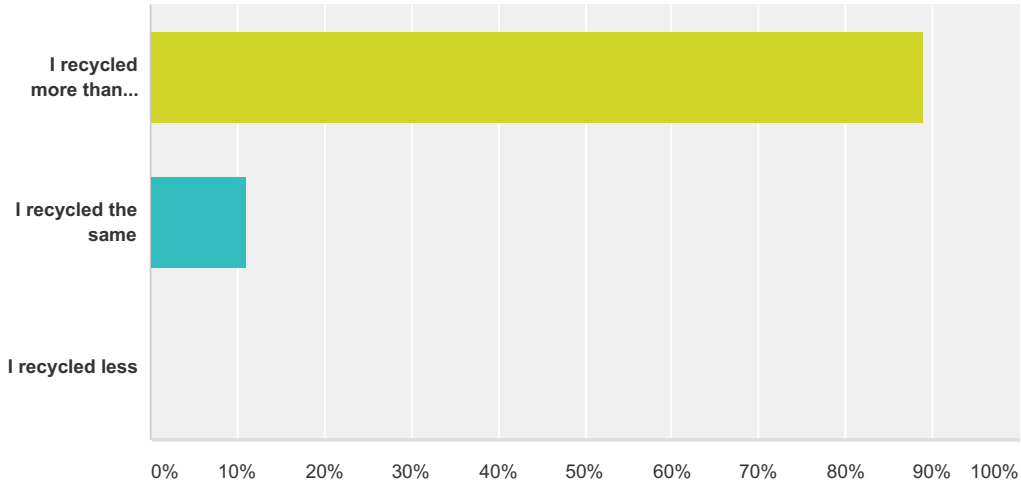
Answered: 18 Skipped: 0



Answer Choices	Responses	
10 or more times per month	38.89%	7
5 - 9 times per month	38.89%	7
2 - 4 times per month	16.67%	3
About once per month	5.56%	1
Rarely	0.00%	0
Never	0.00%	0
Total		18

Q8 Regarding the quantity of materials you recycled during the pilot, did your recycling habits change?

Answered: 18 Skipped: 0

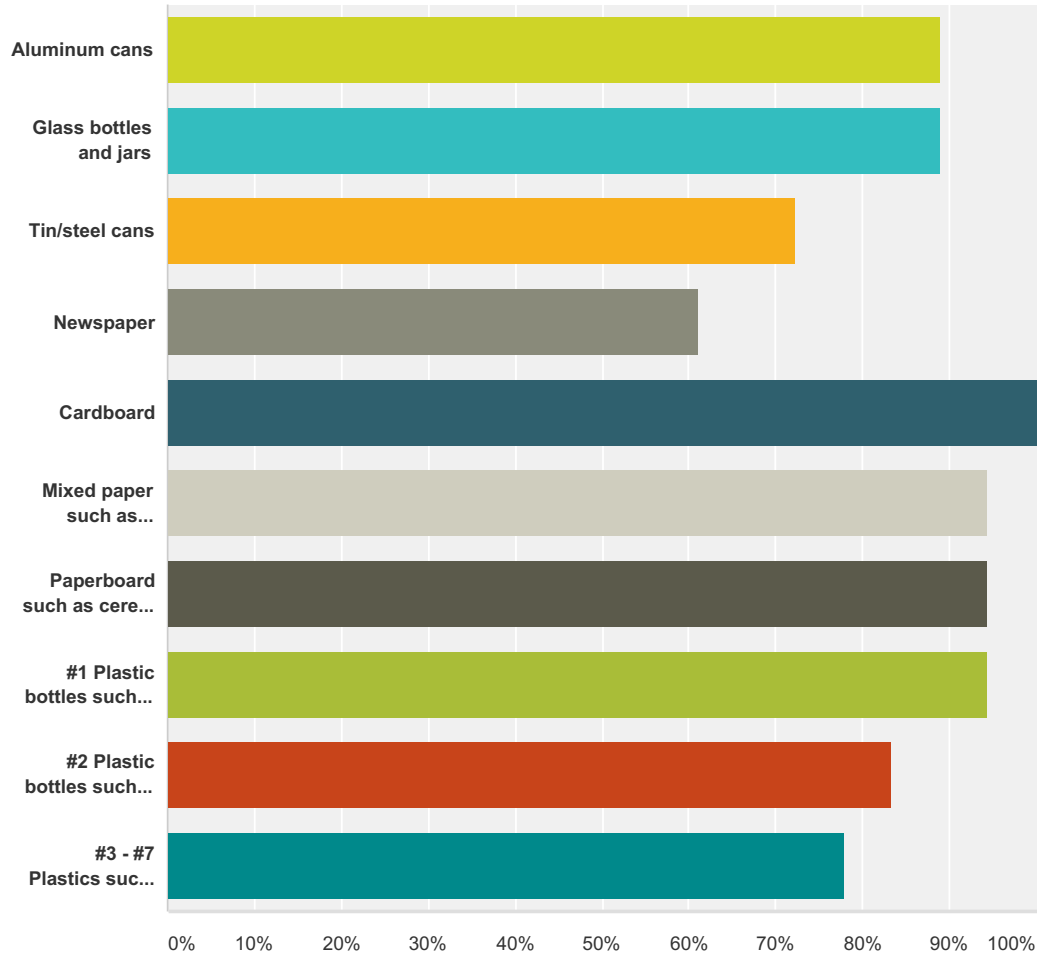


Answer Choices	Responses
I recycled more than previously	88.89%16
I recycled the same	11.11%2
I recycled less	0.00%0
Total	18

#	Optional comments	Date
1	With the new recycling containers now taking more plastics and glass, we were able to recycle more than previously, out of convenience.	6/23/2016 7:11 PM
2	The single stream bins allow me to recycle glass, and many types of plastics	5/22/2016 11:54 AM
3	now I can recycle all my plastics & my glass here	5/14/2016 3:32 PM

Q9 During the pilot program, what types of materials did you recycle? (select all that apply)

Answered: 18 Skipped: 0

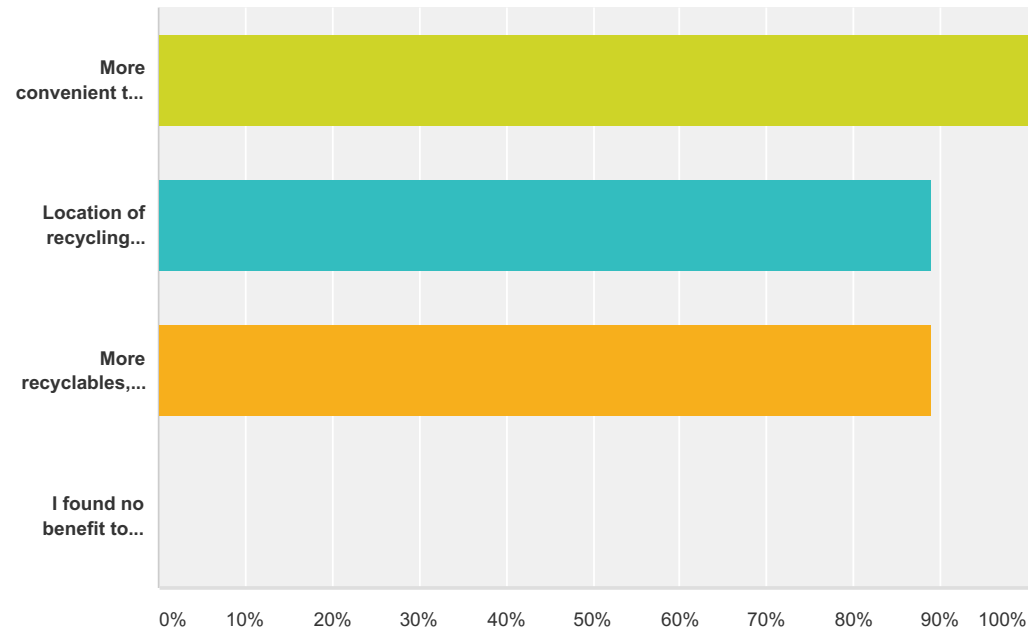


Answer Choices	Responses
Aluminum cans	88.89% 16
Glass bottles and jars	88.89% 16
Tin/steel cans	72.22% 13
Newspaper	61.11% 11
Cardboard	100.00% 18
Mixed paper such as magazines, junk mail, printer paper, and phone books	94.44% 17
Paperboard such as cereal boxes and shoe boxes	94.44% 17
#1 Plastic bottles such as water bottles and 2-liter soda bottles	94.44% 17
#2 Plastic bottles such as 1-gallon milk/water jugs and detergent bottles	83.33% 15
#3 - #7 Plastics such as pill bottles, yogurt/plastic cups, and tubs/lids	77.78% 14

Total Respondents: 18	
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Q10 After participating in the pilot program, do you see any benefits of the program?
(select all that apply)

Answered: 18 Skipped: 0

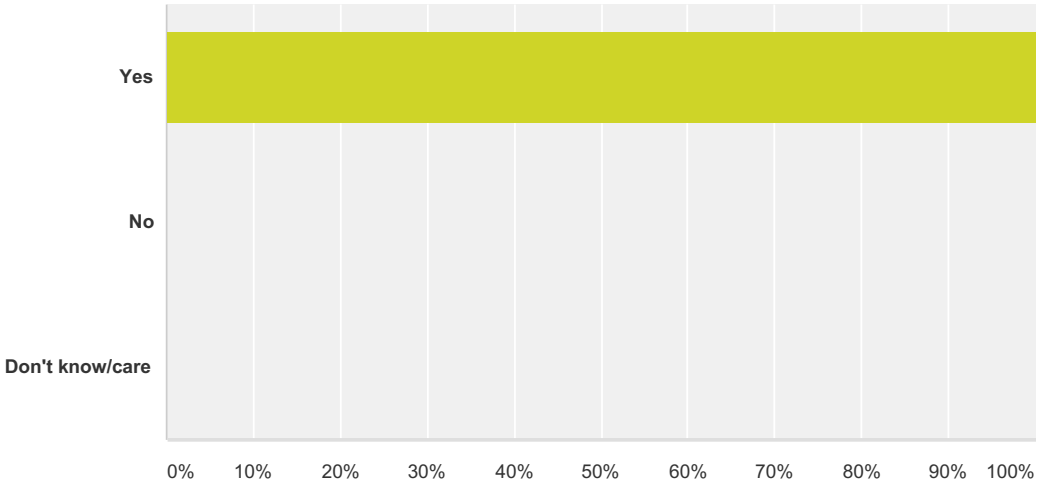


Answer Choices	Responses	
More convenient to commingle recyclables instead of sorting them by type	100.00%	18
Location of recycling containers/recycling chute more convenient	88.89%	16
More recyclables, I like recycling the additional plastics	88.89%	16
I found no benefit to single stream	0.00%	0
Total Respondents: 18		

#	Optional comments	Date
1	The other plastics are SO important!	6/24/2016 8:03 PM
2	I really liked the ability to recycle so many more things from my home! The convenience of having the recycling right next to our dumpster was great! We used to have to walk to the other side of the apartment complex to recycle.	6/23/2016 7:11 PM
3	I really like that I don't have to sort it and I don't have to drive out of the way to recycle. I can take it down when I take the trash down. It's so much more convenient!	5/17/2016 9:25 AM

Q11 Do you think that single stream recycling should be available to apartment complexes citywide?

Answered: 18 Skipped: 0



Answer Choices	Responses	
Yes	100.00%	18
No	0.00%	0
Don't know/care	0.00%	0
Total		18

Q12 If you have any additional comments, please use the space below.

Answered: 10 Skipped: 8

#	Responses	Date
1	We loved the single stream recycling and would like to see it become a permanent fixture at the Cliffs III!	7/1/2016 5:14 PM
2	Recycling should be a part of everyday life and Fayetteville should make a larger effort to reduce landfill contributions from the city.	6/26/2016 10:57 AM
3	I really liked these!!! It was nice to be able to recycle at the same time I was taking out the normal trash and to not have to drive to the city facility like I did before. I definitely did more recycling with this	6/26/2016 8:49 AM
4	I am glad this was done. Many containers are of #3-7 plastic and there is no where to take them. Single stream also makes recycling easier and therefore more are likely to recycle.	6/24/2016 8:03 PM
5	All I can say is that the program is great and should continue as well as expand. The program made recycling convenient for everyone in the apartment much like how the green recycling containers provided by the city makes it convenient for homeowners. When it comes to recycling, I feel that the best way to get people to start recycling is to make it convenient.	6/24/2016 7:10 PM
6	This is a GREAT program and I hope it continues!	6/23/2016 8:02 PM
7	I really like the single stream bins, they are very convenient and being able to recycle more items than the sorted bins is great!	5/22/2016 11:54 AM
8	Please keep the single stream bin at cliffs 2!!!	5/22/2016 11:47 AM
9	Thank you for implementing this program. Cliffs 1 residents hope to see single stream recycling at our apartment complex soon!	5/18/2016 10:53 AM
10	I really hope you keep this program at the cliffs! I can tell that it really increased the amount I recycled	5/9/2016 3:54 PM

THE REMAINING PAGES OF THE SURVEY HAVE BEEN REDACTED TO ENSURE THE PRIVACY OF THOSE PARTICIPANTS THAT PROVIDED EMAIL ADDRESSES TO THE CITY FOR FUTURE RECYCLING PROGRAM UPDATES.

RESOLUTION NO. 260-13

A RESOLUTION TO DEVELOP A REQUEST FOR QUALIFICATIONS OR PROPOSALS FOR THE PLANNING OF A 10-YEAR EXPANSION OF SOLID WASTE SERVICES TO ATTAIN A DIVERSION RATE OF 80% AND TO DELAY THE SCHEDULED RATE STUDY OF SOLID WASTE SERVICES UNTIL ITS COMPLETION AND ADOPTION OR REJECTION

WHEREAS, the City of Fayetteville has adequate reserves in the Solid Waste Fund to plan for an expansion of Solid Waste services and to fund a substantial portion of any expansion without negatively impacting current service levels; and

WHEREAS, the City of Fayetteville residents have shown support for an expansion of recycling services to multifamily and commercial properties; and

WHEREAS, other cities have shown that a compostables program can be operated so that it is at least revenue-neutral, if not revenue-positive; and

WHEREAS, an internal report concluded that an increase in recyclables volume would result in an increase in revenue for the city and a reduction in hauling fees; and

WHEREAS, the purity of recyclable commodity products is paramount to ensure high value on commodity markets; and

WHEREAS, any significant expansion of services taking place after the currently scheduled rate study will necessitate a second rate study.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF FAYETTEVILLE, ARKANSAS:

Section 1: That the City Council of the City of Fayetteville, Arkansas hereby sets a goal to achieve an 80% diversion rate of solid waste generated by residents and businesses within the City to be attained by January 1, 2025; and

Section 2: That the City Council of the City of Fayetteville, Arkansas hereby delays the scheduled solid waste rate study until the conclusion of the above plan and its adoption or rejection by the Council and furthermore encumbers the associated funds in order to maintain their availability for a rate study at that time; and

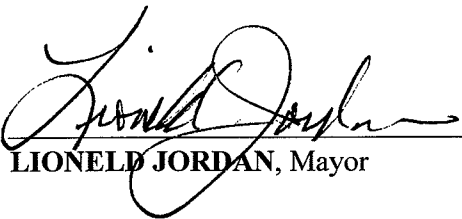
Section 3: That the City Council of the City of Fayetteville, Arkansas hereby asks the administration to advertise a Request for Qualifications or Proposals to develop a 10-year, phased expansion of solid waste services to meet said goal, to be funded from the Solid Waste Fund reserves and to include, but not be limited to, modifications to the existing solid waste ordinance and with feasibility and cost benefit analyses of:

1. a comprehensive waste reduction education program; and

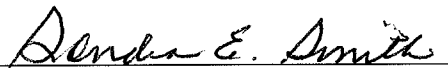
2. a dual-stream, curb-sort model for single-family and multi-family residential recycling; and
3. a container deposit program for glass containers; and
4. a compostables pick up program with emphasis on commercial customers; and
5. the resale and/or donation of reusable items collected through bulky waste dropoffs; and
6. a city- or sole-source-operated facility for construction and demolition waste recycling.

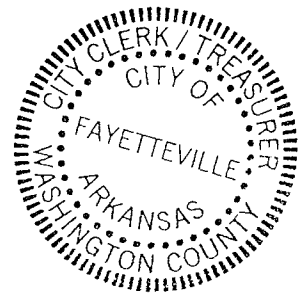
PASSED and APPROVED this 17th day of December, 2013.

APPROVED:

By: 
LIONEL JORDAN, Mayor

ATTEST:

By: 
SONDRA E. SMITH, City Clerk/Treasurer



AGENDA REQUEST

FOR: COUNCIL MEETING OF December 17, 2013

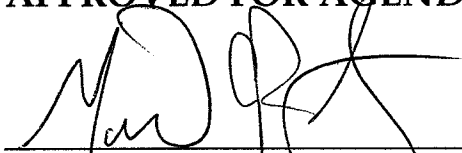
FROM:

ALDERMAN MATTHEW PETTY
ALDERMAN MARK KINION

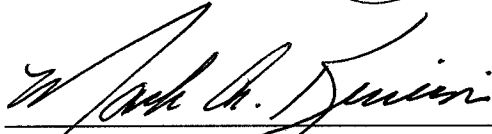
ORDINANCE OR RESOLUTION TITLE AND SUBJECT:

A RESOLUTION TO DEVELOP A REQUEST FOR QUALIFICATIONS OR PROPOSALS FOR THE PLANNING OF A 10-YEAR EXPANSION OF SOLID WASTE SERVICES TO ATTAIN A DIVERSION RATE OF 80% AND TO DELAY THE SCHEDULED RATE STUDY OF SOLID WASTE SERVICES UNTIL ITS COMPLETION AND ADOPTION OR REJECTION

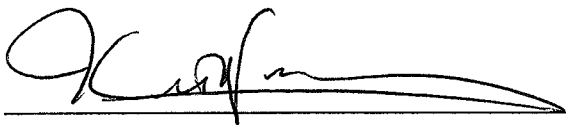
APPROVED FOR AGENDA:


Alderman Matthew Petty

12-19-2013
Date


Alderman Mark Kinion

12/19/2013
Date


City Attorney Kit Williams
(as to form)

Dec 5, 2013
Date

RESOLUTION NO. _____

A RESOLUTION TO DEVELOP A REQUEST FOR QUALIFICATIONS OR PROPOSALS FOR THE PLANNING OF A 10-YEAR EXPANSION OF SOLID WASTE SERVICES TO ATTAIN A DIVERSION RATE OF 80% AND TO DELAY THE SCHEDULED RATE STUDY OF SOLID WASTE SERVICES UNTIL ITS COMPLETION AND ADOPTION OR REJECTION

WHEREAS, the City of Fayetteville has adequate reserves in the Solid Waste Fund to plan for an expansion of Solid Waste services and to fund a substantial portion of any expansion without negatively impacting current service levels; and

WHEREAS, the City of Fayetteville residents have shown support for an expansion of recycling services to multifamily and commercial properties; and

WHEREAS, other cities have shown that a compostables program can be operated so that it is at least revenue-neutral, if not revenue-positive; and

WHEREAS, an internal report concluded that an increase in recyclables volume would result in an increase in revenue for the city and a reduction in hauling fees; and

WHEREAS, the purity of recyclable commodity products is paramount to ensure high value on commodity markets; and

WHEREAS, any significant expansion of services taking place after the currently scheduled rate study will necessitate a second rate study.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF FAYETTEVILLE, ARKANSAS:

Section 1: That the City Council of the City of Fayetteville, Arkansas hereby sets a goal to achieve an 80% diversion rate of solid waste generated by residents and businesses within the City to be attained by January 1, 2025; and

Section 2: That the City Council of the City of Fayetteville, Arkansas hereby delays the scheduled solid waste rate study until the conclusion of the above plan and its adoption or rejection by the Council and furthermore encumbers the associated funds in order to maintain their availability for a rate study at that time; and

Section 3: That the City Council of the City of Fayetteville, Arkansas hereby asks the administration to advertise a Request for Qualifications or Proposals to develop a 10-year, phased expansion of solid waste services to meet said goal, to be funded from the Solid Waste Fund reserves and to include, but not be limited to, modifications to the existing solid waste ordinance and feasibility analyses of

1. a comprehensive waste reduction education program; and

2. a dual-stream, curb-sort model for single-family and multi-family residential recycling; and
3. a container deposit program for glass containers; and
4. a compostables pick up program with emphasis on commercial customers; and
5. the resale and/or donation of reusable items collected through bulky waste dropoffs; and
6. a city- or sole-source-operated facility for construction and demolition waste recycling.

PASSED and APPROVED this 17th day of December, 2013.

APPROVED:

ATTEST:

By: _____
LIONELD JORDAN, Mayor

By: _____
SONDRA E. SMITH, City Clerk/Treasurer

Smith, Sondra

From: matt@matthewpetty.org on behalf of Matthew Petty - Fayetteville Ward 2
<citycouncil@matthewpetty.org>
Sent: Wednesday, December 04, 2013 2:33 PM
To: Smith, Sondra
Cc: Mark Kinion; Marr, Don
Subject: Solid Waste resolution for next agenda
Attachments: SolidWasteExpansion.docx

Hi Sondra,

Would you please include this in the next agenda?

Would you also leave an extra space on the agenda request form? Alderman Kinion is just seeing this, but he's considering cosponsoring it so I want to make sure he has the opportunity to sign it after he's seen it.

Thanks,

M

A RESOLUTION TO DEVELOP A REQUEST FOR
QUALIFICATIONS OR PROPOSALS FOR THE
PLANNING OF A 10-YEAR EXPANSION OF
SOLID WASTE SERVICES TO ATTAIN A
DIVERSION RATE OF 80% AND TO DELAY THE
SCHEDULED RATE STUDY OF SOLID WASTE
SERVICES UNTIL ITS COMPLETION AND
ADOPTION OR REJECTION

WHEREAS, the City of Fayetteville has adequate reserves in the Solid Waste Fund to plan for an expansion of Solid Waste services and to fund a substantial portion of any expansion without negatively impacting current service levels; and

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WHEREAS, other cities have shown that a compostables program can be operated so that it is at least revenue-neutral, if not revenue-positive; and

WHEREAS, an internal report concluded that an increase in recyclables volume would result in an increase in revenue for the city and a reduction in hauling fees; and

WHEREAS, the purity of recyclable commodity products is paramount to ensure high value on commodity markets; and

WHEREAS, any significant expansion of services taking place after the currently scheduled rate study will necessitate a second rate rate study;

NOW, THEREFORE, BE IT RESOLVED BY THE
CITY COUNCIL OF THE CITY OF
FAYETTEVILLE, ARKANSAS, THAT

Section 1: the City Council of the City of Fayetteville hereby sets a goal to achieve an 80% diversion rate of solid waste generated by residents and businesses within the City to be attained by January 1, 2025; and

Section 2: the City Council of the City of Fayetteville hereby delays the scheduled solid waste rate study until the conclusion of the above plan and its adoption or rejection by the Council and furthermore encumbers the associated funds in order to maintain their availability for a rate study at that time; and

Section 3: the City Council of the City of Fayetteville hereby asks the administration to advertise a Request for Qualifications or Proposals to develop a 10-year, phased expansion of solid waste services to meet said goal, to be funded from the Solid Waste Fund reserves and to include, but not be limited to, modifications to the existing solid waste ordinance and feasibility analyses of

1. a comprehensive waste reduction education program; and

2. a dual-stream, curb-sort model for single-family and multi-family residential recycling;
and
3. a container deposit program for glass containers; and
4. a compostables pick up program with emphasis on commercial customers; and
5. the resale and/or donation of reusable items collected through bulky waste dropoffs; and
6. a city- or sole-source-operated facility for construction and demolition waste recycling.

RESOLUTION NO. 171-14

A RESOLUTION TO AUTHORIZE A CONTRACT WITH KESSLER CONSULTING, INC. OF TAMPA, FLORIDA FOR THE DEVELOPMENT OF A TEN YEAR SOLID WASTE MASTER PLAN IN AN AMOUNT NOT TO EXCEED \$264,890.00, AND TO APPROVE A BUDGET ADJUSTMENT

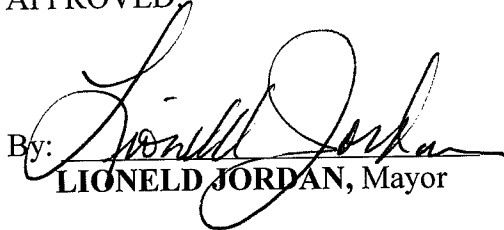
BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF FAYETTEVILLE, ARKANSAS:

Section 1: That the City Council of the City of Fayetteville, Arkansas hereby authorizes Mayor Jordan to sign a contract with Kessler Consulting, Inc. of Tampa, Florida for the development of a ten year solid waste master plan in an amount not to exceed \$264,890.00.

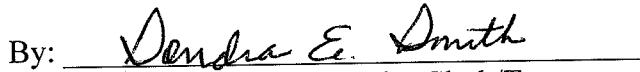
Section 2. That the City Council of the City of Fayetteville, Arkansas hereby approves a budget adjustment, a copy of which is attached as Exhibit "A".

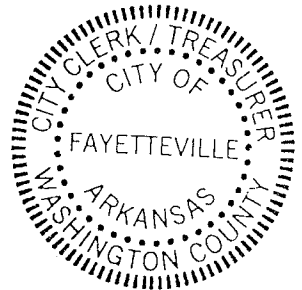
PASSED and APPROVED this 16th day of September, 2014.

APPROVED:

By: 
LIONELD JORDAN, Mayor

ATTEST:

By: 
SONDRA E. SMITH, City Clerk/Treasurer



Budget Year	Division: Sustainability & Resilience	Adjustment Number
2014	Dept.: Chief of Staff	
	Requestor: Serina Tustin	

\$264,890 for Solid Waste Reduction, diversion and Recycling Master Plan. Funds are adequate in Solid Waste fund balance for this adjustment.

v.20140716

EXHIBIT
A

City of Fayetteville Staff Review Form

2014-0396

Legistar File ID

9/16/2014

City Council Meeting Date - Agenda Item Only
N/A for Non-Agenda Item

Leif Olson

8/29/2014

Sustainability & Resilience /
Chief of Staff

Submitted By

Submitted Date

Division / Department

Action Recommendation:

Staff recommends approval of a Resolution to contract with Kessler Consulting in the amount of \$264,890 to complete a Master Plan to achieve an efficient and cost effective solid waste system that maximizes solid waste reduction, diversion and recycling and puts the City on the path to achieve our goal of 80% waste diversion. Approval of a Budget Adjustment.

Budget Impact:

5500.5080.5314.00

5500 - Solid Waste

Account Number

Fund

14019.1

Solid Waste Reduction/Recycling Master Plan

Project Number

Project Title

Budgeted Item? No

Current Budget \$ -

Funds Obligated \$ -

Current Balance \$ -

Does item have a cost? Yes

Item Cost \$ 264,890.00

Budget Adjustment Attached? Yes

Budget Adjustment \$ 264,890.00

Remaining Budget \$ -

Previous Ordinance or Resolution # 260-13

V20140710

Original Contract Number: _____

Approval Date: _____

Comments:

9/3/14



Paul G. Butler 2014 9-10-14
Don Gilman 9-3-14
Paul G. Butler

CITY COUNCIL AGENDA MEMO

MEETING OF SEPTEMBER 16, 2014

TO: Mayor Jordan and City Council

THRU: Peter Nierengarten, Sustainability and Resilience Director *PW*

CC: Jeff Coles, Recycling and Trash Collection Director

FROM: Leif Olson, Associate Planner

DATE: August 28, 2014

SUBJECT: Solid Waste Reduction, Diversion and Recycling Master Plan

RECOMMENDATION:

Approval of a Resolution to contract with Kessler Consulting in the amount of \$264,890 to complete a Master Plan to achieve an efficient and cost effective solid waste system that maximizes solid waste reduction, diversion and recycling and puts the City on the path to achieve our goal of 80% waste diversion.

BACKGROUND:

The City Council passed Resolution Number 260-13 in December 17, 2013 to develop a Request for Qualifications to hire a consultant to develop a 10 year solid waste master plan in order to attain a waste diversion rate of 80%. Staff developed a detailed project scope and received a total of five project proposals from qualified consulting firms. A selection committee made up of City Staff reviewed the proposals and interviewed the top three firms. Kessler Consulting Inc. was selected by the committee to be the most qualified to develop the master plan. Staff worked extensively with Kessler to develop a final scope of work that includes:

- A baseline operational assessment of the current system,
- A waste audit and litter composition study with an option to partner with the University to assess their solid waste generation and composition,
- An analysis of waste reduction and diversion options,
- Recovery scenarios modeling and financial evaluation,
- Policy recommendations,
- Development of the final solid waste master plan, and
- Master plan project coordination, community input process and final presentation.

The consultant will present the final master plan and recommendations to the City Council at the conclusion of the planning process.

BUDGET/STAFF IMPACT:

Kessler Consulting is proposing completing the master plan within a 12 month timeline at a total cost of \$249,930 to the City of Fayetteville. Inclusion of the University of Arkansas' waste composition study raises the total cost of the project to \$264,890. The University will reimburse the City \$14,960 for the cost of their waste composition study. This project will be paid for with Recycling and Trash Division Enterprise Funds.

RESOLUTION NO. _____

A RESOLUTION TO AUTHORIZE A CONTRACT WITH KESSLER CONSULTING, INC. OF TAMPA, FLORIDA FOR THE DEVELOPMENT OF A TEN YEAR SOLID WASTE MASTER PLAN IN AN AMOUNT NOT TO EXCEED \$264,890.00, AND TO APPROVE A BUDGET ADJUSTMENT

BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF FAYETTEVILLE, ARKANSAS:

Section 1: That the City Council of the City of Fayetteville, Arkansas hereby authorizes Mayor Jordan to sign a contract with Kessler Consulting, Inc. of Tampa, Florida for the development of a ten year solid waste master plan in an amount not to exceed \$264,890.00.

Section 2. That the City Council of the City of Fayetteville, Arkansas hereby approves a budget adjustment, a copy of which is attached as Exhibit "A".

PASSED and APPROVED this 16th day of September, 2014.

APPROVED:

ATTEST:

By: _____
LIONELD JORDAN, Mayor

By: _____
SONDRA E. SMITH, City Clerk/Treasurer

City of Fayetteville - Purchase Order Request (PO)										Requisition No.:	Date: 8/29/2014
(Not a Purchase Order) All PO Requests shall be scanned to the Purchasing e-mail: Purchasing@fayetteville-ar.gov . Purchase shall not be made until an actual PO has been issued.										P.O Number:	
Vendor #:	24798	Vendor Name:	Kessler Consulting, Inc.			Legistar#:	2014-0396		Expected Delivery Date:		
Address:	14620 N. Nebraska, Ave., Bldg. D		FOB Point:		n/a	Taxable		☐ Yes ☒ No ☐ Yes ☒ No		n/a	
City:	Tampa	State:	FL	Zip Code:	33613	Ship to code:	☒ Yes ☐ No ☐ Yes ☐ No				
Requester:	Leif Olson		Requester's Employee #:		2364	Extension:		8269			
Item	Description	Quantity	Unit of Issue	Unit Cost	Extended Cost	Account Number	Project Sub#	Inventory #	Fixed Asset #		
1	Solid Waste Reduction, Diversion and Recycling Master Plan	1	each	264,890.00	\$264,890.00	5500.5080.5314.00	14019.1				
2					\$0.00						
3					\$0.00						
4					\$0.00						
5					\$0.00						
6					\$0.00						
7					\$0.00						
8					\$0.00						
9					\$0.00						
10					\$0.00						
*	Shipping/Handling		Lot		\$0.00						
Special Instructions:											
Subtotal: \$264,890.00 Tax: \$0.00 Total: \$264,890.00											
Approvals: Mayor: _____ Chief Financial Officer: _____ Dispatch Manager: _____ Department Director: _____ Budget Director: _____ Utilities Manager: _____ Purchasing Manager: _____ IT Director: _____ Other: _____											

**CONTRACT FOR
SOLID WASTE CONSULTING SERVICES**

THIS CONTRACT, made this 10 day of September 2014, is by and between the City of Fayetteville, Arkansas ("City"), whose address is 113 West Mountain Street, Fayetteville, Arkansas 72701, and Kessler Consulting, Inc. ("KCI"), a Florida corporation whose address is 14620 N. Nebraska Avenue, Building D, Tampa, FL 33613.

I. SCOPE

For and in consideration of timely payment by the City of the compensation set forth below, KCI shall provide the Scope of Services ("Services") specified in Exhibit A, which is attached hereto and incorporated herein by reference, subject to the other terms and conditions set forth in this contract. The Services to be provided may be changed by the mutual agreement of the parties hereto. The City shall promptly provide KCI with any and all documents and information needed by KCI to provide the Services. It is expressly agreed that KCI is an independent contractor of the City.

The City reserves the right to request additional services from KCI. When approved by the City as an amendment of the contract and authorized in writing prior to work, KCI shall provide such additional requirements as may become necessary.

Changes, modifications, or amendments in scope, price, or fees to the contract shall not be allowed without a prior formal contract amendment approved by the Mayor and the City Council in advance of the change in scope, cost, or fees.

II. TERM OF AGREEMENT

The initial contract period shall commence on the date this contract is executed by the City and KCI, whichever date is later, and shall terminate two (2) years after the commencement date, unless extended by mutual agreement of the parties hereto.

III. COMPENSATION

The compensation to be paid by the City to KCI for providing the Services shall be as stated in Exhibit B, which is attached hereto and incorporated herein by reference. The City shall pay KCI for completion of Services on a time-and-materials basis for an amount not to exceed that specified in Exhibit B without prior approval by the Mayor and City Council. Labor shall be invoiced based on the hourly rates specified in Exhibit B and expenses shall be invoiced at cost, without mark-up. Labor rates may be adjusted if the contract is extended beyond the initial two (2) years upon approval of a formal contract amendment by the Mayor and the City Council.

If requested to provide additional services pursuant to Section I, compensation for these additional services shall be as negotiated between the City and KCI, as approved by the Mayor and City Council.

IV. METHOD OF BILLING AND PAYMENT

KCI may submit monthly invoices to the City requesting payment for services accomplished during each calendar month. Monthly invoices will include breakdown of employees and hours worked, description of activities performed, and reimbursable costs and expenses incurred. All invoices shall be due and payable by the City to KCI within thirty (30) days of invoice receipt. Failure to pay compensation to KCI, as and when required, shall entitle KCI to immediately cease all services, and to terminate this

contract as set forth below. Any failure by the City to pay any sums due and owing KCI shall be a material breach of this contract.

V. RIGHT TO AUDIT

The City reserves the privilege of auditing KCI's records as such records relate to purchases between the City and KCI.

VI. FREEDOM OF INFORMATION ACT

City contracts and documents prepared while performing city contractual work are subject to the Arkansas Freedom of Information Act (FOIA). If a FOIA request is presented to the City, KCI will do everything possible to provide the documents in a prompt and timely manner as prescribed in the Arkansas FOIA (A.C.A §25-19-101 et. seq.). Only legally authorized photocopying costs pursuant to FOIA may be assessed for this compliance.

VII. JURISDICTION AND VENUE

Legal jurisdiction to resolve any disputes shall be Arkansas with Arkansas law applying to the case. Venue for any legal dispute shall be Washington County, Arkansas.

VIII. TERMINATION

- A. The City reserves the right to cancel this contract without cause by giving sixty (60) days prior notice to KCI in writing of the intention to cancel or with cause if at any time KCI fails to fulfill or abide by any of the terms or conditions specified.
- B. Failure of KCI to comply with any of the provisions of this contract shall be considered a material breach of contract and shall be cause for immediate termination of the contract at the discretion of the City.
- C. In addition to all other legal remedies available to the City, the City reserves the right to cancel and obtain from another source, any items and/or services which have not been delivered within the period of time from the date of order as determined by the City.
- D. In the event sufficient budgeted funds are not available for a new fiscal period, the City shall notify KCI of such occurrence and the contract shall terminate of the last day of the current fiscal period without penalty or expense to the City.
- E. If this contract is terminated for any reason, the City shall compensate KCI for all services completed through the date of termination, together with all reimbursable costs and expenses. Such payment to KCI shall be considered a payment on account, and shall not constitute payment in full of all sums owed to KCI pursuant to this contract or otherwise.

IX. INSURANCE

KCI shall procure and maintain throughout the term of this contract the following insurance limits and coverage and shall, upon executing this contract, provide the City with certificates of insurance evidencing same, showing other party as Additional Insured on all coverage except workers' compensation and professional liability. Such insurance shall include appropriate clauses and/or endorsements pursuant to which the insurance companies shall waive its right of subrogation against the City.

- A. Workers' Compensation Insurance and Employer's Liability Insurance, in accordance with Chapter 440, Florida statutes, and/or any other applicable law requiring workers' compensation, of not less than the following:

Workers' Compensation	\$1,000,000.00 limit	each accident
Employer's Liability	\$1,000,000.00 limit	disease aggregate
	\$1,000,000.00 limit	disease each employee

- B. Commercial General Liability Insurance, on forms no more restrictive than the latest edition of the Commercial General Liability policy (CG 00 01) of the Insurance Services Office, in the amount of not less than \$1,000,000.00 per occurrence to protect against claims for damages for bodily injury, including wrongful death, as well as from claims of property damages, which may arise from any operations under this contract, whether such operation be by KCI or by the City or anyone directly employed by or contracting with KCI or the City.
- C. Comprehensive Automobile Liability Insurance in the amount of not less than \$100,000.00 combined single limit for bodily injury and property damage liability to protect both parties from claims for damages for bodily injury, including the ownership, use, or maintenance of owned and non-owned automobiles, including rented automobiles whether such operations be by KCI or the City or by anyone directly or indirectly employed by KCI or the City.
- D. Professional Liability Insurance in the amount of not less than \$1,000,000 per occurrence.

Any subconsultants shall provide certificates of insurance evidencing coverage and terms in accordance with the insurance requirements outlined above.

X. ASSIGNMENT, SUBCONTRACTING, ACQUISITIONS AND/OR MERGERS

- A. KCI and any subconsultants identified in KCI's proposal to the City shall perform services pursuant to this contract. No other assignment or subcontracting shall be allowed without prior written consent of the City.
- B. In the event of a corporate acquisition and/or merger, KCI shall provide written notice to the City within thirty (30) calendar days of KCI's notice of such action or upon the occurrence of said action, whichever occurs first. The right to terminate this contract, which shall not be unreasonably exercised by the City, shall include, but not be limited to, instances in which a corporate acquisition and/or merger represent a conflict of interest or are contrary to any local, state, or federal laws.

XI. DISPUTE RESOLUTION

If a dispute arises out of or relates to this contract, or the breach thereof, the parties will attempt to settle the matter through amicable discussion.

XII. ATTORNEY'S FEES

In the event of any demand, action or proceeding between the parties arising out of or relating to this contract, the prevailing party shall be entitled to recover any and all costs, including attorney's fees and court costs, incurred in any investigations, actions, trials, appeals, mediations, arbitrations, bankruptcy proceedings, collection proceedings, collection efforts, and supplementary proceedings.

XIII. UNCONTROLLABLE CIRCUMSTANCES

KCI will not be liable in any way to the City for any delay or non-performance resulting from or arising out of any act(s) of God, severe weather, strike, civil disorder, earthquake, any law, order, proclamation, regulation, ordinance, demand or requirement of any governmental agency, or any other condition or occurrence whatsoever beyond KCI's sole control.

XIV. SEVERENCE

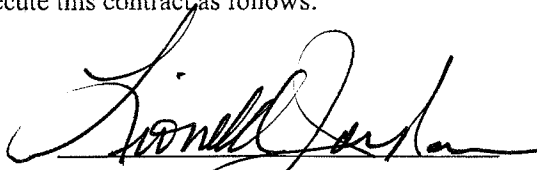
In the event a portion of this contract is found by a court of competent jurisdiction to be invalid or unenforceable, the provisions not having been found by a court of competent jurisdiction to be invalid or unenforceable shall continue to be effective.

XV. ENTIRETY OF AGREEMENT

This contract embodies the entire agreement and understanding between the City and KCI, and there are no other agreements and understandings, oral or written, with reference to the subject matter hereof that are not merged herein and superseded hereby. No alteration, change or modification of the terms of the contract, or any attachments, shall be valid unless made in writing signed by both parties hereto.

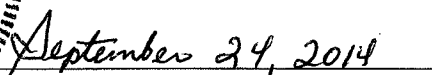
IN WITNESS WHEREOF, the City and the KCI execute this contract as follows:

CITY OF FAYETTEVILLE


LIONELD JORDAN, Mayor




Sandra E. Smith, City Clerk/Treasurer


Date

KESSLER CONSULTING, INC.


MITCH KESSLER, President

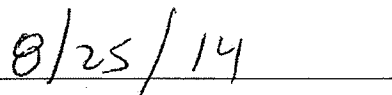

Date

EXHIBIT A

City of Fayetteville, AR

Solid Waste Reduction, Diversion, and Recycling Master Plan

Scope of Work

Outlined herein is Kessler Consulting, Inc.'s (KCI) scope of work to assist the City of Fayetteville (City) in developing a Master Plan aimed at achieving an efficient, cost-effective solid waste system that maximizes waste reduction and recycling and puts the City on a path to attaining its goal of 80 percent waste diversion. Achieving this goal will require new and expanded programs, innovative policies, productive partnerships, and/or implementation of new technologies. It will require a fundamental shift from waste management to resource management.

KCI anticipates subcontracting with the University of Arkansas Applied Sustainability Center (ASC) to assist with discreet tasks and activities. In particular, we will seek to engage student participation in the project, primarily in assisting with the waste composition study and stakeholder meeting logistics. In addition, ASC will provide local knowledge and assist in exploring opportunities for collaboration between the City and the University.

Scope of Services

Task 1 Baseline and Operational Assessment of Current System

Purpose: In this initial task, KCI will examine, inventory, and benchmark for future comparison the City's existing solid waste programs and operations. We will review studies recently completed for the City to avoid duplication of efforts. KCI will also conduct operational assessments of the City's collection operations and the City-owned and operated transfer station, recycle center, and compost facility. We will review any existing information and performance metrics provided by the City, complemented by field observations as needed. Analyzing existing solid waste and recycling systems will lay the foundation for all future planning activities.

Activities:

1. Participate in a kick-off call with City staff to initiate the project and clearly define project objectives.
2. Review and evaluate relevant information and data including, but not limited to, the following:
 - Tonnage of solid waste, recyclables materials, yard waste, construction and demolition debris (CDD), white goods, household hazardous waste, etc. generated by source (i.e., residential, commercial, etc.) and final disposition of these wastes and recycling streams, whether at public or private facilities.
 - Current solid waste contracts.
 - Current facility permits and operating plans.
 - Solid waste system budgets and actual revenues and expenditures.
 - Recordkeeping, data management, revenue assurance systems, and user fee structure.
 - Current bond covenants.
 - Current organizational chart of solid waste department.
 - City Ordinances and other policies pertaining to solid waste and any recent planning documents regarding solid waste.
 - Inter-local agreements with Washington County or other municipalities, if applicable.

- Existing education and outreach materials.
3. Develop population and waste generation projections for a 10-year period, and identify factors that will affect population growth and waste generation.
 4. Conduct an onsite assessment, anticipated to last five days, to observe collection operations and operations at the transfer station, recycle center, and compost facility. The assessment will include the following:
 - Group meeting with operational employees to gain a clear understanding of operations and engage front-line staff in the evaluation process.
 - Field-level observations, ride-alongs, and route-based data collection in cooperation with front-line staff.
 - Use of proprietary wireless and web-based technology to collect real-time, on-route data and measure route performance and to estimate recycling participation.
 5. Analyze labor requirements, production, and current workforce levels in order to develop staffing recommendations.
 6. Analyze equipment replacement schedules.
 7. Compare findings with industry standards.
 8. Identify program components and options that could potentially lower costs, improve efficiency, or otherwise help the City meet its objectives.
 9. Identify tools to assist the City in measuring improvement progress over time.
 10. Prepare a summary of Task 1 results and findings.

Deliverable: Technical memorandum summarizing the current solid waste system, results and findings of the operational assessment, and 10-year population and waste generation projections.

Task 2 Waste and Litter Composition Study

Purpose: KCI will conduct a study to determine the composition of waste generated within the City that is delivered to the City's transfer station for disposal. Understanding the types and quantities of materials contained in the waste stream is critical to developing effective systems to divert these resources for recycling or composting. Waste composition data also serves as a benchmark for comparing future system changes. Concurrently, KCI will conduct a study to determine the composition of litter collected from various locations throughout the City. The budget provided herein is for one sampling and sorting event lasting five days in duration. The City may wish to conduct additional sorting events to account for seasonal variability in waste composition.

The University of Arkansas (UA) has expressed interest in participating in the waste composition study while KCI's team is mobilized for the City's study. The option of including UA's waste as part of the study is discussed in Task 2A below.

Activities:

1. Request from the City and review four weeks of scale house data regarding inbound vehicles to the transfer station, including source, vehicle number, time of arrival, and tonnage.
2. Request from the City and review the windshield litter survey conducted by City staff.
3. Develop a list of material categories into which waste will be sorted, ensuring that these categories are consistent with the City's existing recycling program and any previous composition studies.

4. Identify the generator sectors (e.g., residential, commercial, litter) that will be targeted in the waste composition study.
5. Develop a sampling schedule, sampling and sorting protocol, and site safety plan for review by City staff. KCI will work closely with City staff to develop the sampling schedule for litter since the City will be responsible for mobilizing staff or volunteers to collect the litter from specified areas, mark it, and deliver it to the sorting area.
6. Work with City staff to identify an appropriate sampling and sorting area. The City will be asked to provide a covered area (an existing structure or a tent) under which the sorting team will work and a loader and operator to pull samples, as directed by KCI's Sampling Supervisor, and deliver them to the sorting area.
7. Obtain the necessary equipment for conducting the sorting event. The City will be asked to provide four six-foot folding tables and recycling bins and other containers into which materials will be sorted. KCI will provide all other safety and sorting equipment and a calibrated platform scale.
8. Mobilize for the sorting event. KCI will provide a Sort Supervisor, Sampling Supervisor, and up to seven sorters. KCI is working with ASC to hire students as the sorters, which will provide a rare hands-on learning opportunity for the students.
9. Execute the sorting event. KCI's Sampling Supervisor will work with the loader operator to pull representative samples from selected incoming loads of waste in accordance with the sampling schedule. Samples will be transferred to the sorting area and stored on tarps until sorted. All samples will be sorted into the defined material categories and weighed. KCI's Sort or Sampling Supervisor will conduct all data recording. To ensure quality and safety, KCI will conduct a training session, prior to starting work each day, to review safety and sorting procedures.
10. Analyze the data from the sorting event to calculate the percentage by weight of each material category for each generator sector, as well as for the City's overall waste stream. Data analysis will follow the *ASTM Standard Test Method for Determination of the Composition of Unprocessed Municipal Solid Waste* (D5231-92; reapproved 2008).
11. Prepare a technical memorandum summarizing the results and findings of the study.

Deliverables:

- Material categories list, sampling and sorting protocol, sampling schedule, and site safety plan.
- Technical memorandum providing the results of the waste composition study.

Task 2A UA Waste Composition Study (optional task)

Purpose: This optional task will entail sampling and sorting waste generated on the UA campus. KCI anticipates adding three additional days of field work, which will enable the KCI team to sample and sort at least 24 samples of UA waste. To ensure the statistical validity of this data, no more than three separate UA generator sectors will be included. Specific generator sectors will be determined based on discussions with UA staff, but might include classrooms, dormitories, and food service areas.

Activities:

1. Request from UA staff and review waste tonnage data, collection schedules, and other relevant, available information needed to develop the sampling schedule.
2. Confirm with UA staff that the material categories list developed for Task 2 is acceptable.
3. Identify the generator sectors that will be targeted in the waste composition study.

4. Develop a sampling schedule and provide the schedule and sampling and sorting protocol developed in Task 2 to UA staff for review.
5. Work with UA staff to ensure the necessary loads of waste will be directed to the sorting area for sampling in accordance with the sampling schedule.
6. Execute the sorting event.
7. Analyze the data from the sorting event to calculate the percentage by weight of each material category for each generator sector, as well as for UA's overall waste stream (all generators combined).
8. Incorporate the results of the UA study into the Task 2 technical memorandum.

Deliverables:

- Material categories list, sampling and sorting protocol, and sampling schedule.
- Section of Task 2 technical memorandum providing the results of the UA waste composition study.

Task 3 Reduction and Diversion Options Analysis

Purpose: The purpose of this task is to evaluate proven recovery technologies and programmatic approaches, and to identify those that offer the greatest potential material recovery and waste reduction/diversion opportunities to the City. For example, collection options might include wet/dry collection, dual stream recycling, cart-based single stream recycling, compressed natural gas (CNG) collection vehicles, incentive-based contracts, and rewards programs such as Recycling Perks. Processing technologies to capture or utilize material resources include single stream, mixed waste, and wet/dry material processing, organics processing technologies, and other emerging technologies that seek to minimize the disposal of waste.

Activities:

1. Identify and conduct an initial evaluation of material recovery technologies and programs to identify those most viable or having the greatest materials recovery and waste reduction/diversion potential. Such evaluation will include reviewing recognized regional and national programs, analyzing the potential applicability to the City, and conducting an initial analysis of the economic feasibility.
2. Evaluate potential public and private strategic partnerships for leveraging expertise and economies of scale.
3. Prepare a summary of this evaluation and identify material recovery technologies and programs that warrant further consideration. Scenarios for future consideration may include modifications to existing contracts and programs, as well as implementation of new technologies and programs.

Deliverable: Technical memorandum of this initial evaluation of technology and program options.

Task 4 Recovery Scenarios Modeling and Financial Evaluation

Purpose: KCI will use a proprietary spreadsheet-based model to conduct a more detailed analysis of high-recovery, integrated materials management system scenarios that the City desires to consider further. This interactive model takes into consideration that changes in one system component will have operational and financial impacts on other system components. Based on a set of City-specific assumptions, the model will estimate the

capital and operating cost of each scenario, potential revenues, potential waste diversion (material recovery), and site requirements. An appropriate fee structure will be linked to the anticipated costs and benefits of new or expanded services to ensure a healthy and sustainable enterprise fund. The scenario modeling and financial evaluation will also consider the intrinsic value of the selected scenarios as it relates to the triple bottom line so that the City has a comprehensive foundation for decision-making.

Activities:

1. Based on the results of Tasks 4, conduct a work session with City staff to identify material recovery scenarios for further analysis.
2. Develop and confirm assumptions that will be used in the model.
3. Evaluate the identified scenarios using KCI's comparative model.
4. Conduct a financial analysis of the implications of selected scenarios to the City's existing solid waste business model.
5. Prioritize the model results based on waste reduction/diversion potential and cost-effectiveness to the City.
6. Review the model results with City staff to identify selected scenarios for inclusion in the Master Plan.
7. Develop rate structure modifications for scenarios selected by the City that will ensure the long-term viability of the solid waste system and enterprise fund, as well as incentivize increased recycling or waste diversion.
8. Develop recommendations for inclusion in the draft Master Plan, including a consolidated rate structure and potential modifications to the City's solid waste business model.

Deliverable: Technical memorandum that includes the results of the detailed analysis of selected scenarios and associated rate structure as recommendations for inclusion in the draft Master Plan.

Task 5 Policy Recommendations

Purpose: The purpose of this task is to identify policies to implement and support the various technology and program options selected in Task 5. Policies are the principles and guidelines by which the City will reach its solid waste and resource management goals. These policies will influence future decisions regarding the solid waste system, thereby translating these policies into compatible actions and programs. Examples of policies for consideration include residential and/or commercial recycling mandates, disposal bans on specific types of recyclable or compostable materials, bans of the use of certain types of products (e.g., plastics bags, polystyrene containers), source separation standards, minimum service standards, private sector participation, and regional cooperation.

Activities:

1. Define and evaluate policies that would encourage specific behaviors and/or complement the technologies and programs selected in Task 5.
2. Identify policy recommendations that will best help guide the City toward meeting its goals and objectives, while also ensuring the long-term financial viability of the solid waste system.
3. Review the draft policy recommendations with City staff and revise as needed.

Deliverable: Technical memorandum identifying policy recommendations.

Task 6 Solid Waste Master Plan Development

Purpose: The results of the previous tasks and technical memoranda developed as part of these tasks will be incorporated into a Master Plan. Based on review and discussions with City staff, KCI will develop near-term and long-term recommendations deemed cost-effective and operationally feasible on the scale required by the City.

Activities:

Develop a draft Master Plan that includes or addresses the following:

1. **Baseline Summary:**
 - Summary of the City's current solid waste system, including waste and recyclables tonnage, flow, and management.
 - Population and waste generation projections over a 10-year period and summary of factors that affect these projections.
 - Operational assessments of City collection operations and City-owned and operated facilities, along with initial recommendations for improvements.
2. **Reduction and Diversion Options Evaluation:**
 - Evaluation of proven material recovery technologies and programs.
 - Results of the more detailed analysis of selected scenarios, prioritizing scenarios based on waste reduction/diversion potential and cost-effectiveness.
 - Potential opportunities for partnership.
 - Discussion of impacts on the City's business model and recommended modifications.
3. **Short-, Medium- and Long-Term Recommendations:**
 - **Policies:** Policy recommendations that provide the framework that derives sustainable materials recovery and guides decision-making, program and facility development, stakeholder engagement, and systems financing.
 - **Programs:** Program recommendations that are cost-effective and deemed most viable to substantially increase waste reduction and diversion, taking into account the availability of sustainable markets for the recovered resources.
 - **Facilities:** Proven technology and facility recommendations that are effective in recovering material from the waste stream, have been demonstrated on a scale commensurate with the City, and are financially viable.
 - **Education:** Recommended marketing strategy and programs that will complement and help ensure the success of the various policy, program, and facility recommendations. Emphasis will be placed on strategies for affecting changes in behavior. A summary of all community input (Task 8) will be included.
4. **Financial Analysis:**
 - Proposed business plan and financial implications (ranges from high to low) of the Master Plan recommendations.
 - Proposed rate structure intended to preserve the health and sustainability of the enterprise fund.

Deliverable: Draft and final Master Plan integrating the technical memoranda from all other tasks.

Task 7 Project Coordination, Community Input, and Presentations

Purpose: Throughout this project, KCI will maintain frequent communication with City staff regarding project status and technical aspects of the work. We also will seek stakeholder input through a variety of mechanisms including, but not limited to, workshops, meetings, and surveys. Whenever possible, we will include a web-based option for providing input, such as on-line access to town hall type meetings and on-line surveys. In addition, KCI will present the final Master Plan to elected officials, the public, or other stakeholders.

Activities:

1. Participate in monthly project team calls.
2. Prepare a monthly summary of activities.
3. Coordinate and participate in up to three days of workshops and/or meetings with stakeholder groups, the general public, and/or elected officials. KCI will arrange for stakeholders to have a web-based option to provide input whenever feasible.
4. Develop and execute a stakeholder survey in a variety of formats, including a web-based survey tool such as Survey Monkey.
5. Participate in up to two days of one-on-one and/or public meetings with City management and elected officials, as deemed appropriate, to present, review, and discuss the final Master Plan.

Deliverables:

- Monthly summary of activities.
- Participation in up to three stakeholder workshops, meetings, or focus groups.
- Survey instrument.
- Technical memorandum summarizing survey results and other stakeholder input.
- Presentation of Master Plan.

Budget and Timeline

Because of the nature of this project and the potential variability in the level of effort required, KCI proposes to conduct this scope of work on a time-and-materials basis for an amount not to exceed \$249,930, excluding Task 2A. The budget for Task 2A is \$14,960. A detailed budget breakdown by task is provided in Attachment B. Services will be invoiced at the rates indicated, which include all overhead and direct and indirect costs. Expenses (travel, etc.) will be billed at cost without markup. KCI will submit monthly invoices with a written explanation of activities completed that month.

KCI will initiate work upon notice to proceed. A proposed timeline is provided herein, which may be modified as the project progresses.

KCI looks forward to assisting the City in developing a comprehensive Solid Waste Reduction, Diversion, and Recycling Master Plan that seeks to maximize waste diversion while maintaining the long-term financial viability of the City's solid waste and resource management system.

Proposed Timeline

Tasks	Month											
	1	2	3	4	5	6	7	8	9	10	11	12
1 Baseline and Operational Assessment												
2 Waste and Litter Composition Study												
3 Reduction and Diversion Options Analysis												
4 Recovery Scenarios Modeling and Financial Evaluation												
5 Policy Recommendations												
6 Solid Waste Master Plan Development												
7 Project Coordination, Community Input, and Presentations												

EXHIBIT B

City of Fayetteville, AR Solid Waste Reduction, Diversion, and Recycling Master Plan Proposed Budget

CATEGORY (NAME)	HOURLY RATE	Task 1	Task 2	Task 2A	Task 3	Task 4	Task 5	Task 6	Task 7	With Task 2A		Without Task 2A	
		Baseline & Operational Assessment	Waste & Litter Composition Study	Optional UA Waste Composition Study	Reduction & Diversion Options Analysis	Recovery Scenario Modeling & Financial Evaluation	Policy Recommendation's	Solid Waste Master Plan Development	Project Coordination, Community Input & Presentation	TOTAL HOURS	TOTAL DOLLARS	TOTAL HOURS	TOTAL DOLLARS
LABOR													
Project Director	\$185.00	10.0	4.0	2.0	10.0	10.0	8.0	20.0	50.0	114.0	\$21,090	112.0	\$20,720
Project Manager	\$140.00	48.0	16.0	8.0	40.0	40.0	40.0	60.0	60.0	312.0	\$43,680	304.0	\$42,560
Senior Consultant	\$125.00	110.0	0.0	0.0	40.0	40.0	10.0	20.0	8.0	228.0	\$28,500	228.0	\$28,500
Consultant	\$100.00	80.0	20.0	10.0	170.0	170.0	72.0	110.0	60.0	692.0	\$69,200	682.0	\$68,200
Consultant	\$95.00	0.0	150.0	50.0	0.0	0.0	0.0	0.0	0.0	200.0	\$19,000	150.0	\$14,250
Consultant	\$85.00	140.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	140.0	\$11,900	140.0	\$11,900
Research Analyst	\$80.00	0.0	16.0	12.0	80.0	80.0	40.0	80.0	20.0	328.0	\$26,240	316.0	\$25,280
Office Manager/Technical Support	\$60.00	14.0	68.0	24.0	10.0	10.0	10.0	10.0	10.0	156.0	\$9,360	132.0	\$7,920
SUBTOTAL LABOR HOURS		402.0	274.0	106.0	350.0	350.0	190.0	300.0	208.0	2170.0	\$228,970	2064.0	\$219,330
SUBTOTAL LABOR DOLLARS		\$43,060	\$24,590	\$9,640	\$36,450	\$36,450	\$19,330	\$32,600	\$26,850		\$228,970		\$219,330
DIRECT COSTS													
TRAVEL		\$3,700	\$3,700	\$2,300		\$2,000			\$6,000		\$17,700		\$15,400
SUPPLIES			\$1,000	\$500							\$1,500		\$1,000
CONTRACTED LABOR			\$4,200	\$2,520							\$6,720		\$4,200
SUBCONTRACTOR		\$1,000	\$2,000		\$500		\$500	\$1,000	\$5,000		\$10,000		\$10,000
SUBTOTAL DIRECT COST		\$4,700	\$10,900	\$5,320	\$500	\$2,000	\$500	\$1,000	\$11,000		\$35,920		\$30,600
TOTAL PROJECT BUDGET													
LABOR + DIRECT COST		\$47,760	\$35,490	\$14,960	\$36,950	\$38,450	\$19,830	\$33,600	\$37,850		\$264,890		\$249,930

City of Fayetteville Staff Review Form

2014-0408

Legistar File ID

N/A

City Council Meeting Date - Agenda Item Only

N/A for Non-Agenda Item

Leif Olson

9/10/2014

Sustainability & Resilience /
Chief of Staff

Submitted By

Submitted Date

Division / Department

Action Recommendation:

Administrative approval of a Memorandum of Understanding with the University of Arkansas Facilities Management Department to contract with Kessler Consulting to complete a Waste Composition Study of 24 selected waste samples from no more than three separate UofA generator sectors.

Budget Impact:

Account Number		Fund	
Project Number		Project Title	
Budgeted Item?	NA	Current Budget	\$ -
		Funds Obligated	\$ -
		Current Balance	\$ -
Does item have a cost?	No	Item Cost	
Budget Adjustment Attached?	No	Budget Adjustment	
		Remaining Budget	\$ -

V20140710

Previous Ordinance or Resolution # 171-14

Original Contract Number:

Comments:



Approval Date: 9-22-14



TO: Mayor Jordan
Don Marr, Chief of Staff
Paul Becker, Finance Director

THRU: Peter Nierengarten, Sustainability and Resilience Director

CC: Jeff Coles, Recycling and Trash Collection Division Director

FROM: Leif Olson, Associate Planner

DATE: September 19, 2014

SUBJECT: Memorandum of Understanding – Recycling Master Plan with University of Arkansas

RECOMMENDATION:

Administrative approval of a Memorandum of Understanding with the University of Arkansas Facilities Management Department to contract with Kessler Consulting to complete a Waste Composition Study of 24 selected waste samples from no more than three separate UofA generator sectors. Generator sectors may include classrooms, dormitories and food service areas.

BACKGROUND:

The City Council passed Resolution Number 171-14 on September 16, 2014 to hire Kessler Consulting to develop a 10 year solid waste master plan in order to attain a waste diversion rate of 80%. One critical component of a solid waste and recycling plan is to conduct a waste composition study in order to determine the precise makeup of the waste materials that are being discarded in the landfill. This is accomplished by pulling sample waste containers from different waste generating sectors and measuring the type and volume of the waste that is currently being landfilled. Kessler Consulting will perform waste composition studies for both the University and the City in order to provide quantifiable data on the type and volume of waste generated by all sectors within the City.

BUDGET/STAFF IMPACT:

This Memorandum of Understanding prescribes that the University of Arkansas will reimburse The City of Fayetteville \$14,960 for the cost of their waste composition study.

MEMORANDUM OF UNDERSTANDING
between
THE UNIVERSITY OF ARKANSAS
FACILITIES MANAGEMENT DEPARTMENT
and
THE City of Fayetteville, AR
FY 2015

This Memorandum of Understanding (MOU) is entered into and executed on the date indicated beside the signature blocks, by and between the University of Arkansas Facilities Management Department and the City of Fayetteville, Arkansas.

I. PURPOSE

The City of Fayetteville (City) is contracting with Kessler Consulting, Inc. (KCI) of Tampa, FL to provide a Solid Waste Reduction, Diversion and Recycling Master Plan for the City. The Master Plan is aimed at achieving an efficient, cost-effective solid waste system that maximizes waste reduction and recycling and puts the City on a path to attaining its goal of 80 percent waste diversion. The City's Contract with KCI includes a task for a University of Arkansas (UA) Waste Composition Study which entails sampling and sorting waste generated on the UA campus.

The purpose of this MOU is to establish the contractual relationship (scope, deliverables schedule and price) between the City and UA to enable KCI to perform this work on behalf of the UA.

Regarding this agreement contact people for the City of Fayetteville will be:

Peter Nierengarten	479.575.8272 / pnierengarten@fayetteville-ar.gov	Primary contact
name	ph#/email	
Jeff Coles	479.444.3499 / jcoles@fayetteville-ar.gov	Alternate contact
name	ph#/email	

Contact people at FMD are:

Carlos Ochoa	5-2405 / cochoajr@uark.edu	Primary contact
name	ph#/email	
Peggy Cromer	5-6593 / pbcomer@uark.edu	Alternate contact
name	ph#/email	

II. SCOPE

KCI anticipates the UA Waste Composition Study requiring three days of fieldwork, which will enable the KCI team to sample and sort at least 24 samples of UA waste. To ensure the statistical validity of this data, no more than three separate UA generator sectors will be included. Specific generator sectors will

be determined based on discussions with UA staff, but might include classrooms, dormitories, and food service areas.

Activities

1. Request from UA staff and review waste tonnage data, collection schedules, and other relevant, available information needed to develop the sampling schedule.
2. Confirm with UA staff that the material categories list developed for Task 2 is acceptable.
3. Identify the generator sectors that will be targeted in the waste composition study.
4. Develop a sampling schedule and provide the schedule and sampling and sorting protocol developed in Task 2 to UA staff for review.
5. Work with UA staff to ensure the necessary loads of waste will be directed to the sorting area for sampling in accordance with the sampling schedule.
6. Execute the sorting event.
7. Analyze the data from the sorting event to calculate the percentage by weight of each material category for each generator sector, as well as for UA's overall waste stream (all generators combined).
8. Incorporate the results of the UA study into the Task 2 technical memorandum.

III. DELIVERABLES

- Material categories list, sampling and sorting protocol, and sampling schedule.
- Technical memorandum providing the results of the City and UA waste composition studies.

VI. SCHEDULE

The UA waste composition study will be completed as part of task 2 of the City's Solid Waste Reduction, Diversion and Recycling Master Plan. That plan is scheduled to begin in October 2014 and to follow the propose time line below.

Tasks	Month											
	1	2	3	4	5	6	7	8	9	10	11	12
1 Baseline and Operational Assessment												
2 Waste and Litter Composition Study												
3 Reduction and Diversion Options Analysis												
4 Recovery Scenarios Modeling and Financial Evaluation												
5 Policy Recommendations												
6 Solid Waste Master Plan Development												
7 Project Coordination, Community Input, and Presentations												

V. PRICE

The total task budget for the UA Waste Composition Study is \$14,960.

IV. TERMINATION OF SERVICES

Should either Party decide to terminate this MOU, a Notice of Discontinuation of Services must be sent to the other party in writing at least 60 days prior to the date of termination. Included in the notice should be the reason for the termination with a list of any discrepancies noted. Any equipment/materials purchased with University of Arkansas monies or transferred from the City of Fayetteville to Facilities Management to use during the waste assessment, will be returned to the City of Fayetteville in their current condition/status.

This Memorandum of Understanding supersedes any previous agreement(s). This MOU is effective upon signature and shall remain in effect until December 31, 2015, or such time as a Notice of Discontinuation of Services is executed by either party hereunto.

By: M.R. Johnson Date 9/17/14
M. R. Johnson, Associate Vice Chancellor for Facilities
University of Arkansas Facilities Management Department

CITY OF FAYETTEVILLE

By: Lionel Jordan Date 9/22/14
Lionel Jordan, Mayor

Attest:

By: Sondra E. Smith Date 9/23/14
Sondra E. Smith, City Clerk/Treasurer



RESOLUTION NO. 136-15

A RESOLUTION TO APPROVE AMENDMENT NO. 1 TO THE CONTRACT WITH KESSLER CONSULTING, INC. IN THE AMOUNT OF \$39,980.00 FOR ASSISTANCE WITH THE DESIGN AND IMPLEMENTATION OF A COMMERCIAL FOOD WASTE PILOT PROGRAM AND A SINGLE STREAM RECYCLING PILOT PROGRAM, AND TO APPROVE A BUDGET ADJUSTMENT

BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF FAYETTEVILLE, ARKANSAS:

Section 1: That the City Council of the City of Fayetteville, Arkansas hereby approves Amendment No. 1 to the contract with Kessler Consulting, Inc. in the amount of \$39,980.00 for assistance with the design and implementation of a commercial food waste pilot program and a single stream recycling pilot program.

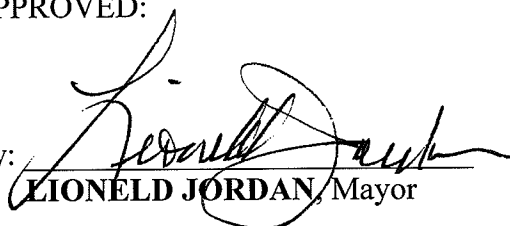
Section 2: That the City Council of the City of Fayetteville, Arkansas hereby approves a budget adjustment, a copy of which is attached to this Resolution.

PASSED and APPROVED this 4th day of August, 2015.

APPROVED:

ATTEST:

By:


LIONELD JORDAN, Mayor

By:


SONDRA E. SMITH, City Clerk Treasurer





City of Fayetteville, Arkansas

113 West Mountain Street
Fayetteville, AR 72701
(479) 575-8323

Text File

File Number: 2015-0308

Agenda Date: 8/4/2015

Version: 1

Status: Agenda Ready

In Control: City Council Meeting

File Type: Resolution

Agenda Number: C. 1

KESSLER CONSULTING AMENDMENT NO. 1

A RESOLUTION TO APPROVE AMENDMENT NO. 1 TO THE CONTRACT WITH KESSLER CONSULTING, INC. IN THE AMOUNT OF \$39,980.00 FOR ASSISTANCE WITH THE DESIGN AND IMPLEMENTATION OF A COMMERCIAL FOOD WASTE PILOT PROGRAM AND A SINGLE STREAM RECYCLING PILOT PROGRAM, AND TO APPROVE A BUDGET ADJUSTMENT

BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF FAYETTEVILLE, ARKANSAS:

Section 1: That the City Council of the City of Fayetteville, Arkansas hereby approves Amendment No. 1 to the contract with Kessler Consulting, Inc. in the amount of \$39,980.00 for assistance with the design and implementation of a commercial food waste pilot program and a single stream recycling pilot program.

Section 2: That the City Council of the City of Fayetteville, Arkansas hereby approves a budget adjustment, a copy of which is attached to this Resolution.

City of Fayetteville Staff Review Form

2015-0308

Legistar File ID

8/4/2015

City Council Meeting Date - Agenda Item Only
N/A for Non-Agenda Item

Brian Pugh

7/14/2015

Recycling & Trash Collection /
Transportation Services Department

Submitted By

Submitted Date

Division / Department

Action Recommendation:

Approval of a Resolution to amend the scope of services with Kessler Consulting, Inc. to assist the City in conducting a commercial food waste pilot and a single stream recycling pilot and to approve a budget adjustment of \$39,980.

Budget Impact:

5500.5080.5314.00

Recycling and Trash

Account Number

Fund

14019 / 1

Waste Reduction and Recycling Plan

Project Number

Project Title

Budgeted Item? No

Current Budget \$ 258,653.00

Funds Obligated \$ 258,652.50

Current Balance \$ 0.50

Does item have a cost? Yes

Item Cost \$ 39,980.00

Budget Adjustment Attached? Yes

Budget Adjustment \$ 39,980.00

Remaining Budget \$ 0.50

V20140710

Previous Ordinance or Resolution # _____

Original Contract Number: _____

Approval Date: August 4, 2015

Comments:



CITY COUNCIL AGENDA MEMO

MEETING OF AUGUST 4TH, 2015

TO: Mayor and City Council

THRU: Peter Nierengarten, Sustainability and Resilience Director
Jeff Coles, Recycling and Trash Division Director

FROM: Leif Olson, Associate Planner

DATE: July 1, 2015

SUBJECT: Food Waste Composting and Single Stream Recycling Pilot Programs

RECOMMENDATION:

Approval of a Resolution to amend the scope of services with Kessler Consulting, Inc. to assist the City in conducting a commercial food waste pilot and a single stream recycling pilot and to approve a budget adjustment of \$39,980.

BACKGROUND:

The City Council passed Resolution Number 171-14 on September 16, 2014 to contract with Kessler Consulting, Inc. (KCI) to develop a 10 year solid waste master plan in order to attain a waste diversion rate of 80%. Staff worked extensively with KCI to develop a final scope of work that included:

- A baseline operational assessment of the current system,
- A waste audit and litter composition study with an option to partner with the University to assess their solid waste generation and composition,
- An analysis of waste reduction and diversion options,
- Recovery scenarios modeling and financial evaluation,
- Policy recommendations,
- Development of the final solid waste master plan, and
- Master plan project coordination, community input process and final presentation.

DISCUSSION:

KCI, working with Recycling and Trash Division Staff, have completed the baseline operational assessment and the waste composition study. Currently, KCI is working through waste reduction and diversion options. At this time, Kessler Consulting is recommending that the City develop two pilot programs to demonstrate the viability of commercial food waste composting and single stream recycling as waste diversion options. Food waste and recyclables combine to make up 45% of Fayetteville's waste stream. Conducting the pilot programs now will provide the City with specific data on which to model the potential impacts of full-scale programs and also enable the City to start seeing tangible results.

BUDGET/STAFF IMPACT:

Kessler Consulting is proposing completing the two pilot projects for an amount not to exceed \$39,980. This project will be paid for with Recycling and Trash Division Enterprise Funds.

Attachments:

- Amendment 1 Kessler Contract
- Food Waste Composting and Single Stream Recycling Pilots Scope of Work
- Resolution 171-14 – Resolution Authorizing a Contract with Kessler Consulting for a 10 Year Solid Waste Plan
- PO Kessler Pilot Waste Reduction and Recycling Plan

**AMENDMENT #1 TO CONTRACT FOR
SOLID WASTE CONSULTING SERVICES BETWEEN
THE CITY OF FAYETTEVILLE AND
KESSLER CONSULTING, INC.**

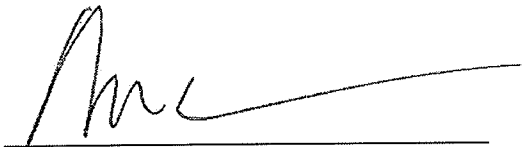
BE IT KNOWN TO ALL:

That the City of Fayetteville, Arkansas (the "City") and Kessler Consulting, Inc. ("KCI"), on this 4th day of August, 2015, hereby agree that the Contract for Solid Waste Consulting Services dated September 24, 2014, shall be amended to adopt and incorporate the "City of Fayetteville, AR Food Waste Composting and Single Stream Recycling Pilots Scope of Work", a copy of which is attached hereto as Exhibit "A" and made a part hereof, in order for KCI to assist the City in conducting a commercial food waste pilot program and a single stream recycling pilot program with the cost of the services not to exceed \$39,980.00.

The parties agree and understand that this Amendment is supplemental to their Contract dated September 24, 2014, and that it does not alter, amend or abridge any of the rights, obligations, or duties of the parties not expressly addressed herein.

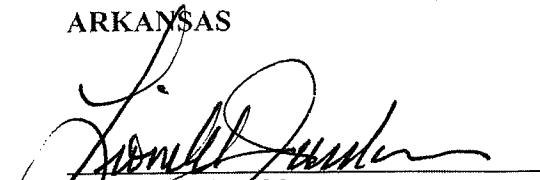
IN WITNESS WHEREOF, the parties hereto have caused their signatures to be set by their authorized representative effective the date set forth herein above.

KESSLER CONSULTING, INC.



Mitch Kessler, President

**CITY OF FAYETTEVILLE,
ARKANSAS**



Lioneld Jordan, Mayor

ATTEST:



Sondra E. Smith, City Clerk-Treasurer



Exhibit A

City of Fayetteville, AR

Food Waste Composting and Single Stream Recycling Pilots

Scope of Work

Following an initial evaluation of the City's existing solid waste management system and completion of a waste composition study, Kessler Consulting, Inc. (KCI) identified waste diversion opportunities that we believe merit further evaluation through pilot programs. Conducting the pilot programs now, rather than waiting for completion of the Master Plan, will provide city-specific data on which to model the potential impacts of full-scale programs and also enable the City to start seeing tangible results. This scope of work is to assist the City in conducting two pilots programs, one for commercial food waste and the other for single stream recycling.

Scope of Services

Task 1 Food Waste Pilot

Purpose: Food waste makes up approximately 17% of commercial waste disposed, which is the single largest component of the waste stream. The purpose of this pilot is to evaluate the feasibility of using a Modified Static Aerated Pile (MSAP) composting system to incorporate food waste into the City's existing yard waste composting operation, as well as to evaluate a commercial food waste collection system.

Activities:

1. Review State requirements applicable to food waste composting pilot program.
2. Develop operations plan, implementation timeline, and other necessary documentation to obtain ADEQ approval.
3. Provide technical assistance to City staff with collection logistics, as needed, including the following:
 - Selection of pilot participants.
 - Estimating anticipated tonnage.
 - Selection of appropriate collection containers.
 - Development of education and outreach materials.
 - Educating pilot participants.
4. Provide technical assistance to City staff with MSAP composting logistics, as needed, including the following:
 - Identifying site requirements, equipment, and labor needs.
 - Identifying any site preparation needs.
 - Training and technical assistance for composting operations personnel.
5. Provide inoculant for the MSAP composting.
6. Provide technical assistance to City staff with monitoring requirements, as needed, including the following:
 - Identification of data to be collected during the pilot.
 - Training composting operations personnel regarding data collection.

- Guidance on compost analysis.
 - Surveying/obtaining feedback from pilot participants.
7. Analyze pilot results and evaluate estimated cost and potential implications of full-scale facility and operations.

Deliverable: Technical memorandum summarizing results of the food waste pilot and evaluating the potential implications of full-scale implementation.

Task 2 Single Stream Recycling Pilot

Purpose: More than 26% of residential waste and 29% of commercial waste disposed consists of recyclable paper and containers. In addition, the City's current system of curb-sorting recyclables is highly inefficient from a collection perspective. The need to sort recyclables by type prior to collection has also been an impediment to expanding multi-family and commercial recycling. The purpose of this pilot is to evaluate the potential impacts of converting to carted single stream recycling on recycling participation, tons of materials collected, and collection efficiency.

Activities:

1. Work with City staff to develop the overall framework and timeline for the pilot.
2. Provide technical assistance to City staff with collection logistics, as needed, including the following:
 - Selection of pilot participants, including curbside routes, multi-family complexes, and commercial customers.
 - Estimating anticipated tonnage.
 - Routing and collection logistics.
 - Identifying options for obtaining collection carts with RFID.
 - Identifying options for obtaining RFID readers or other monitoring devices.
 - Development of education and outreach materials.
 - Educating pilot participants.
3. Assist City staff with processing logistics, as needed, including the following:
 - Identifying processor.
 - Negotiating terms of agreement with private sector processor for term of the pilot.
 - Developing the agreed upon scope of work for inclusion in the agreement.
4. Provide technical assistance to City staff with monitoring requirements, as needed, including the following:
 - Identifying data to be collected during the pilot.
 - Training City personnel regarding data collection.
 - Surveying/obtaining feedback from pilot participants.
5. Analyze pilot results, as well as evaluate estimated cost and potential implications of full-scale implementation of single stream recycling.

Deliverables:

- Technical memorandum summarizing the results of the single stream recycling program and evaluating the potential implications of full-scale implementation.

Budget and Timeline

Because of the nature of this project and the potential variability in the level of effort required, KCI proposes to conduct this scope of work on a time-and-materials basis for an amount not to exceed \$39,980. A budget breakdown by task is provided below. Services will be invoiced at the rates indicated, which include all overhead and direct and indirect costs. Expenses (travel, etc.) will be billed at cost without markup. KCI will submit monthly invoices with a written explanation of activities completed that month.

KCI will initiate work upon notice to proceed. A proposed timeline will be developed, in conjunction with City staff, for each pilot project.

CATEGORY (NAME)	HOURLY RATE	Task 1	Task 2	TOTAL HOURS	TOTAL DOLLARS
		Food Waste Pilot	Single Stream Pilot		
LABOR					
Project Director	\$185.00	8.0	12.0	20.0	\$3,700
Project Manager	\$140.00	30.0	42.0	72.0	\$10,080
Senior Consultant	\$125.00	10.0	22.0	32.0	\$4,000
Consultant/Associate	\$95.00	56.0	76.0	132.0	\$12,540
Research Analyst	\$80.00	56.0	0.0	56.0	\$4,480
Office Manager/Technical Support	\$60.00	4.0	4.0	7.0	\$480
SUBTOTAL LABOR HOURS		164.0	156.0	320.0	
SUBTOTAL LABOR DOLLARS		\$16,970	\$18,310		\$35,280
DIRECT COSTS					
TRAVEL		\$2,400	\$1,500		\$3,900
SUPPLIES		\$800			\$800
CONTRACTED LABOR					\$0
SUBCONTRACTOR					\$0
SUBTOTAL DIRECT COST		\$3,200	\$1,500		\$4,700
TOTAL PROJECT BUDGET					
LABOR + DIRECT COST		\$20,170	\$19,810		\$39,980

KCI looks forward to assisting the City in conducting the pilot projects, which will provide valuable, city-specific information on which to base future program recommendations.

RESOLUTION NO. 171-14

A RESOLUTION TO AUTHORIZE A CONTRACT WITH KESSLER CONSULTING, INC. OF TAMPA, FLORIDA FOR THE DEVELOPMENT OF A TEN YEAR SOLID WASTE MASTER PLAN IN AN AMOUNT NOT TO EXCEED \$264,890.00, AND TO APPROVE A BUDGET ADJUSTMENT

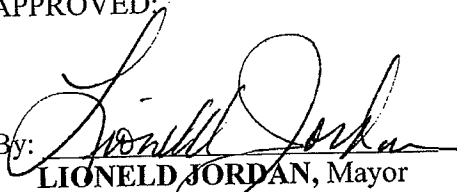
BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF FAYETTEVILLE, ARKANSAS:

Section 1: That the City Council of the City of Fayetteville, Arkansas hereby authorizes Mayor Jordan to sign a contract with Kessler Consulting, Inc. of Tampa, Florida for the development of a ten year solid waste master plan in an amount not to exceed \$264,890.00.

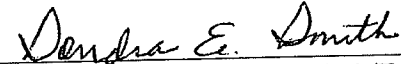
Section 2. That the City Council of the City of Fayetteville, Arkansas hereby approves a budget adjustment, a copy of which is attached as Exhibit "A".

PASSED and APPROVED this 16th day of September, 2014.

APPROVED:

By: 
LIONELD JORDAN, Mayor

ATTEST:

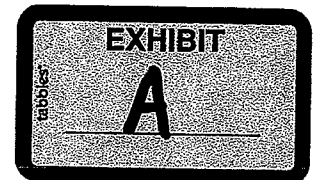
By: 
SONDRA E. SMITH, City Clerk/Treasurer



Budget Year	Division: Sustainability & Resilience	Adjustment Number
2014	Dept.: Chief of Staff	
	Requestor: Serina Tustin	

\$264,890 for Solid Waste Reduction, diversion and Recycling Master Plan. Funds are adequate in Solid Waste fund balance for this adjustment.

RESOLUTION/ORDINANCE

[illegible]

City of Fayetteville Staff Review Form

2014-0396

Legistar File ID

9/16/2014

City Council Meeting Date - Agenda Item Only

N/A for Non-Agenda Item

Leif Olson

8/29/2014

Sustainability & Resilience /
Chief of Staff

Submitted By

Submitted Date

Division / Department

Action Recommendation:

Staff recommends approval of a Resolution to contract with Kessler Consulting in the amount of \$264,890 to complete a Master Plan to achieve an efficient and cost effective solid waste system that maximizes solid waste reduction, diversion and recycling and puts the City on the path to achieve our goal of 80% waste diversion. Approval of a Budget Adjustment.

Budget Impact:

5500.5080.5314.00

5500 - Solid Waste

Account Number

Fund

14019.1

Solid Waste Reduction/Recycling Master Plan

Project Number

Project Title

Budgeted Item? No

Current Budget \$ -

Funds Obligated \$ -

Current Balance \$ -

Does item have a cost? Yes

Item Cost \$ 264,890.00

Budget Adjustment Attached? Yes

Budget Adjustment \$ 264,890.00

Remaining Budget \$ -

Previous Ordinance or Resolution # 260-13

V20140710

Original Contract Number:

Approval Date:

Comments:

9/13/14

Paul G. Bailey 2014 9-10-14
Dan Gilman 9-3-14
Frank J. ...





CITY COUNCIL AGENDA MEMO

MEETING OF SEPTEMBER 16, 2014

TO: Mayor Jordan and City Council

THRU: Peter Nierengarten, Sustainability and Resilience Director *PW*

CC: Jeff Coles, Recycling and Trash Collection Director

FROM: Leif Olson, Associate Planner

DATE: August 28, 2014

SUBJECT: Solid Waste Reduction, Diversion and Recycling Master Plan

RECOMMENDATION:

Approval of a Resolution to contract with Kessler Consulting in the amount of \$264,890 to complete a Master Plan to achieve an efficient and cost effective solid waste system that maximizes solid waste reduction, diversion and recycling and puts the City on the path to achieve our goal of 80% waste diversion.

BACKGROUND:

The City Council passed Resolution Number 260-13 in December 17, 2013 to develop a Request for Qualifications to hire a consultant to develop a 10 year solid waste master plan in order to attain a waste diversion rate of 80%. Staff developed a detailed project scope and received a total of five project proposals from qualified consulting firms. A selection committee made up of City Staff reviewed the proposals and interviewed the top three firms. Kessler Consulting Inc. was selected by the committee to be the most qualified to develop the master plan. Staff worked extensively with Kessler to develop a final scope of work that includes:

- A baseline operational assessment of the current system,
- A waste audit and litter composition study with an option to partner with the University to assess their solid waste generation and composition,
- An analysis of waste reduction and diversion options,
- Recovery scenarios modeling and financial evaluation,
- Policy recommendations,
- Development of the final solid waste master plan, and
- Master plan project coordination, community input process and final presentation.

The consultant will present the final master plan and recommendations to the City Council at the conclusion of the planning process.

BUDGET/STAFF IMPACT:

Kessler Consulting is proposing completing the master plan within a 12 month timeline at a total cost of \$249,930 to the City of Fayetteville. Inclusion of the University of Arkansas' waste composition study raises the total cost of the project to \$264,890. The University will reimburse the City \$14,960 for the cost of their waste composition study. This project will be paid for with Recycling and Trash Division Enterprise Funds.

RESOLUTION NO. _____

A RESOLUTION TO AUTHORIZE A CONTRACT WITH KESSLER CONSULTING, INC. OF TAMPA, FLORIDA FOR THE DEVELOPMENT OF A TEN YEAR SOLID WASTE MASTER PLAN IN AN AMOUNT NOT TO EXCEED \$264,890.00, AND TO APPROVE A BUDGET ADJUSTMENT

BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF FAYETTEVILLE, ARKANSAS:

Section 1: That the City Council of the City of Fayetteville, Arkansas hereby authorizes Mayor Jordan to sign a contract with Kessler Consulting, Inc. of Tampa, Florida for the development of a ten year solid waste master plan in an amount not to exceed \$264,890.00.

Section 2. That the City Council of the City of Fayetteville, Arkansas hereby approves a budget adjustment, a copy of which is attached as Exhibit "A".

PASSED and APPROVED this 16th day of September, 2014.

APPROVED:

ATTEST:

By: _____
LIONELD JORDAN, Mayor

By: _____
SONDRA E. SMITH, City Clerk/Treasurer

City of Fayetteville - Purchase Order Request (PO)										Requisition No.:	Date:
(Not a Purchase Order) All PO Requests shall be scanned to the Purchasing e-mail: Purchasing@fayetteville-ar.gov . Purchase shall not be made until an actual PO has been issued.										P.O. Number:	
Vendor #:	24798	Vendor Name:	Kessler Consulting, Inc.				Mail	☐ Yes ☒ No	Legistar#:	2014-0396	
Address:	14620 N. Nebraska, Ave., Bldg. D		FOB Point:		n/a		Taxable	☐ Yes ☒ No	Expected Delivery Date:		
City:	Tampa		State:	FL		Zip Code:	33613		Quotes Attached ☒ Yes ☐ No		
Requester:	Leif Olson		Requester's Employee #:		2364		Extension:		8269		
Item	Description	Quantity	Unit of Issue	Unit Cost	Extended Cost	Account Number	Project Sub#	Inventory #	Fixed Asset #		
1	Solid Waste Reduction, Diversion and Recycling Master Plan	1	each	264,890.00	\$264,890.00	5500.5080.5314.00	14019.1				
2					\$0.00						
3					\$0.00						
4					\$0.00						
5					\$0.00						
6					\$0.00						
7					\$0.00						
8					\$0.00						
9					\$0.00						
10					\$0.00						
*	Shipping/Handling		Lot		\$0.00						
Subtotal: <u>\$264,890.00</u> Tax: <u>\$0.00</u> Total: <u>\$264,890.00</u>											
Special Instructions:											
Approvals: _____ Mayor: _____ Chief Financial Officer: _____ Dispatch Manager: _____ Department Director: _____ Budget Director: _____ Utilities Manager: _____ Purchasing Manager: _____ IT Director: _____ Other: _____											

**CONTRACT FOR
SOLID WASTE CONSULTING SERVICES**

THIS CONTRACT, made this 110 day of September 2014, is by and between the City of Fayetteville, Arkansas ("City"), whose address is 113 West Mountain Street, Fayetteville, Arkansas 72701, and Kessler Consulting, Inc. ("KCI"), a Florida corporation whose address is 14620 N. Nebraska Avenue, Building D, Tampa, FL 33613.

I. SCOPE

For and in consideration of timely payment by the City of the compensation set forth below, KCI shall provide the Scope of Services ("Services") specified in Exhibit A, which is attached hereto and incorporated herein by reference, subject to the other terms and conditions set forth in this contract. The Services to be provided may be changed by the mutual agreement of the parties hereto. The City shall promptly provide KCI with any and all documents and information needed by KCI to provide the Services. It is expressly agreed that KCI is an independent contractor of the City.

The City reserves the right to request additional services from KCI. When approved by the City as an amendment of the contract and authorized in writing prior to work, KCI shall provide such additional requirements as may become necessary.

Changes, modifications, or amendments in scope, price, or fees to the contract shall not be allowed without a prior formal contract amendment approved by the Mayor and the City Council in advance of the change in scope, cost, or fees.

II. TERM OF AGREEMENT

The initial contract period shall commence on the date this contract is executed by the City and KCI, whichever date is later, and shall terminate two (2) years after the commencement date, unless extended by mutual agreement of the parties hereto.

III. COMPENSATION

The compensation to be paid by the City to KCI for providing the Services shall be as stated in Exhibit B, which is attached hereto and incorporated herein by reference. The City shall pay KCI for completion of Services on a time-and-materials basis for an amount not to exceed that specified in Exhibit B without prior approval by the Mayor and City Council. Labor shall be invoiced based on the hourly rates specified in Exhibit B and expenses shall be invoiced at cost, without mark-up. Labor rates may be adjusted if the contract is extended beyond the initial two (2) years upon approval of a formal contract amendment by the Mayor and the City Council.

If requested to provide additional services pursuant to Section I, compensation for these additional services shall be as negotiated between the City and KCI, as approved by the Mayor and City Council.

IV. METHOD OF BILLING AND PAYMENT

KCI may submit monthly invoices to the City requesting payment for services accomplished during each calendar month. Monthly invoices will include breakdown of employees and hours worked, description of activities performed, and reimbursable costs and expenses incurred. All invoices shall be due and payable by the City to KCI within thirty (30) days of invoice receipt. Failure to pay compensation to KCI, as and when required, shall entitle KCI to immediately cease all services, and to terminate this

contract as set forth below. Any failure by the City to pay any sums due and owing KCI shall be a material breach of this contract.

V. RIGHT TO AUDIT

The City reserves the privilege of auditing KCI's records as such records relate to purchases between the City and KCI.

VI. FREEDOM OF INFORMATION ACT

City contracts and documents prepared while performing city contractual work are subject to the Arkansas Freedom of Information Act (FOIA). If a FOIA request is presented to the City, KCI will do everything possible to provide the documents in a prompt and timely manner as prescribed in the Arkansas FOIA (A.C.A §25-19-101 et. seq.). Only legally authorized photocopying costs pursuant to FOIA may be assessed for this compliance.

VII. JURISDICTION AND VENUE

Legal jurisdiction to resolve any disputes shall be Arkansas with Arkansas law applying to the case. Venue for any legal dispute shall be Washington County, Arkansas.

VIII. TERMINATION

- A. The City reserves the right to cancel this contract without cause by giving sixty (60) days prior notice to KCI in writing of the intention to cancel or with cause if at any time KCI fails to fulfill or abide by any of the terms or conditions specified.
- B. Failure of KCI to comply with any of the provisions of this contract shall be considered a material breach of contract and shall be cause for immediate termination of the contract at the discretion of the City.
- C. In addition to all other legal remedies available to the City, the City reserves the right to cancel and obtain from another source, any items and/or services which have not been delivered within the period of time from the date of order as determined by the City.
- D. In the event sufficient budgeted funds are not available for a new fiscal period, the City shall notify KCI of such occurrence and the contract shall terminate of the last day of the current fiscal period without penalty or expense to the City.
- E. If this contract is terminated for any reason, the City shall compensate KCI for all services completed through the date of termination, together with all reimbursable costs and expenses. Such payment to KCI shall be considered a payment on account, and shall not constitute payment in full of all sums owed to KCI pursuant to this contract or otherwise.

IX. INSURANCE

KCI shall procure and maintain throughout the term of this contract the following insurance limits and coverage and shall, upon executing this contract, provide the City with certificates of insurance evidencing same, showing other party as Additional Insured on all coverage except workers' compensation and professional liability. Such insurance shall include appropriate clauses and/or endorsements pursuant to which the insurance companies shall waive its right of subrogation against the City.

- A. Workers' Compensation Insurance and Employer's Liability Insurance, in accordance with Chapter 440, Florida statutes, and/or any other applicable law requiring workers' compensation, of not less than the following:

Workers' Compensation	\$1,000,000.00 limit	each accident
Employer's Liability	\$1,000,000.00 limit	disease aggregate
	\$1,000,000.00 limit	disease each employee

- B. Commercial General Liability Insurance, on forms no more restrictive than the latest edition of the Commercial General Liability policy (CG 00 01) of the Insurance Services Office, in the amount of not less than \$1,000,000.00 per occurrence to protect against claims for damages for bodily injury, including wrongful death, as well as from claims of property damages, which may arise from any operations under this contract, whether such operation be by KCI or by the City or anyone directly employed by or contracting with KCI or the City.
- C. Comprehensive Automobile Liability Insurance in the amount of not less than \$100,000.00 combined single limit for bodily injury and property damage liability to protect both parties from claims for damages for bodily injury, including the ownership, use, or maintenance of owned and non-owned automobiles, including rented automobiles whether such operations be by KCI or the City or by anyone directly or indirectly employed by KCI or the City.
- D. Professional Liability Insurance in the amount of not less than \$1,000,000 per occurrence.

Any subconsultants shall provide certificates of insurance evidencing coverage and terms in accordance with the insurance requirements outlined above.

X. ASSIGNMENT, SUBCONTRACTING, ACQUISITIONS AND/OR MERGERS

- A. KCI and any subconsultants identified in KCI's proposal to the City shall perform services pursuant to this contract. No other assignment or subcontracting shall be allowed without prior written consent of the City.
- B. In the event of a corporate acquisition and/or merger, KCI shall provide written notice to the City within thirty (30) calendar days of KCI's notice of such action or upon the occurrence of said action, whichever occurs first. The right to terminate this contract, which shall not be unreasonably exercised by the City, shall include, but not be limited to, instances in which a corporate acquisition and/or merger represent a conflict of interest or are contrary to any local, state, or federal laws.

XI. DISPUTE RESOLUTION

If a dispute arises out of or relates to this contract, or the breach thereof, the parties will attempt to settle the matter through amicable discussion.

XII. ATTORNEY'S FEES

In the event of any demand, action or proceeding between the parties arising out of or relating to this contract, the prevailing party shall be entitled to recover any and all costs, including attorney's fees and court costs, incurred in any investigations, actions, trials, appeals, mediations, arbitrations, bankruptcy proceedings, collection proceedings, collection efforts, and supplementary proceedings.

XIII. UNCONTROLLABLE CIRCUMSTANCES

KCI will not be liable in any way to the City for any delay or non-performance resulting from or arising out of any act(s) of God, severe weather, strike, civil disorder, earthquake, any law, order, proclamation, regulation, ordinance, demand or requirement of any governmental agency, or any other condition or occurrence whatsoever beyond KCI's sole control.

XIV. SEVERENCE

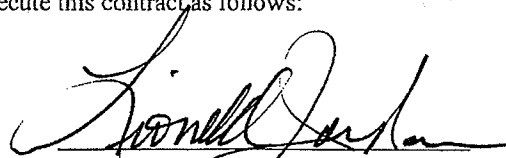
In the event a portion of this contract is found by a court of competent jurisdiction to be invalid or unenforceable, the provisions not having been found by a court of competent jurisdiction to be invalid or unenforceable shall continue to be effective.

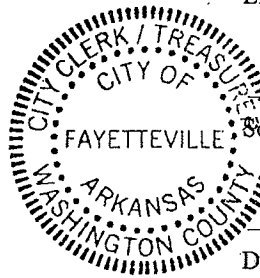
XV. ENTIRETY OF AGREEMENT

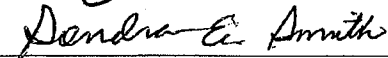
This contract embodies the entire agreement and understanding between the City and KCI, and there are no other agreements and understandings, oral or written, with reference to the subject matter hereof that are not merged herein and superseded hereby. No alteration, change or modification of the terms of the contract, or any attachments, shall be valid unless made in writing signed by both parties hereto.

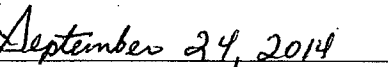
IN WITNESS WHEREOF, the City and the KCI execute this contract as follows:

CITY OF FAYETTEVILLE

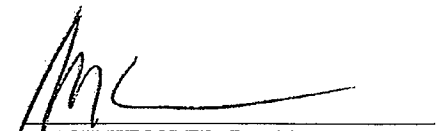

LIONELD JORDAN, Mayor




Sandra E. Smith, City Clerk/Treasurer


September 24, 2014
Date

KESSLER CONSULTING, INC.


MITCH KESSLER, President

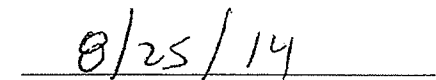

8/25/14
Date

EXHIBIT A

City of Fayetteville, AR

Solid Waste Reduction, Diversion, and Recycling Master Plan

Scope of Work

Outlined herein is Kessler Consulting, Inc.'s (KCI) scope of work to assist the City of Fayetteville (City) in developing a Master Plan aimed at achieving an efficient, cost-effective solid waste system that maximizes waste reduction and recycling and puts the City on a path to attaining its goal of 80 percent waste diversion. Achieving this goal will require new and expanded programs, innovative policies, productive partnerships, and/or implementation of new technologies. It will require a fundamental shift from waste management to resource management.

KCI anticipates subcontracting with the University of Arkansas Applied Sustainability Center (ASC) to assist with discreet tasks and activities. In particular, we will seek to engage student participation in the project, primarily in assisting with the waste composition study and stakeholder meeting logistics. In addition, ASC will provide local knowledge and assist in exploring opportunities for collaboration between the City and the University.

Scope of Services

Task 1 Baseline and Operational Assessment of Current System

Purpose: In this initial task, KCI will examine, inventory, and benchmark for future comparison the City's existing solid waste programs and operations. We will review studies recently completed for the City to avoid duplication of efforts. KCI will also conduct operational assessments of the City's collection operations and the City-owned and operated transfer station, recycle center, and compost facility. We will review any existing information and performance metrics provided by the City, complemented by field observations as needed. Analyzing existing solid waste and recycling systems will lay the foundation for all future planning activities.

Activities:

1. Participate in a kick-off call with City staff to initiate the project and clearly define project objectives.
2. Review and evaluate relevant information and data including, but not limited to, the following:
 - Tonnage of solid waste, recyclables materials, yard waste, construction and demolition debris (CDD), white goods, household hazardous waste, etc. generated by source (i.e., residential, commercial, etc.) and final disposition of these wastes and recycling streams, whether at public or private facilities.
 - Current solid waste contracts.
 - Current facility permits and operating plans.
 - Solid waste system budgets and actual revenues and expenditures.
 - Recordkeeping, data management, revenue assurance systems, and user fee structure.
 - Current bond covenants.
 - Current organizational chart of solid waste department.
 - City Ordinances and other policies pertaining to solid waste and any recent planning documents regarding solid waste.
 - Inter-local agreements with Washington County or other municipalities, if applicable.

- Existing education and outreach materials.
- 3. Develop population and waste generation projections for a 10-year period, and identify factors that will affect population growth and waste generation.
- 4. Conduct an onsite assessment, anticipated to last five days, to observe collection operations and operations at the transfer station, recycle center, and compost facility. The assessment will include the following:
 - Group meeting with operational employees to gain a clear understanding of operations and engage front-line staff in the evaluation process.
 - Field-level observations, ride-alongs, and route-based data collection in cooperation with front-line staff.
 - Use of proprietary wireless and web-based technology to collect real-time, on-route data and measure route performance and to estimate recycling participation.
- 5. Analyze labor requirements, production, and current workforce levels in order to develop staffing recommendations.
- 6. Analyze equipment replacement schedules.
- 7. Compare findings with industry standards.
- 8. Identify program components and options that could potentially lower costs, improve efficiency, or otherwise help the City meet its objectives.
- 9. Identify tools to assist the City in measuring improvement progress over time.
- 10. Prepare a summary of Task 1 results and findings.

Deliverable: Technical memorandum summarizing the current solid waste system, results and findings of the operational assessment, and 10-year population and waste generation projections.

Task 2 Waste and Litter Composition Study

Purpose: KCI will conduct a study to determine the composition of waste generated within the City that is delivered to the City's transfer station for disposal. Understanding the types and quantities of materials contained in the waste stream is critical to developing effective systems to divert these resources for recycling or composting. Waste composition data also serves as a benchmark for comparing future system changes. Concurrently, KCI will conduct a study to determine the composition of litter collected from various locations throughout the City. The budget provided herein is for one sampling and sorting event lasting five days in duration. The City may wish to conduct additional sorting events to account for seasonal variability in waste composition.

The University of Arkansas (UA) has expressed interest in participating in the waste composition study while KCI's team is mobilized for the City's study. The option of including UA's waste as part of the study is discussed in Task 2A below.

Activities:

1. Request from the City and review four weeks of scale house data regarding inbound vehicles to the transfer station, including source, vehicle number, time of arrival, and tonnage.
2. Request from the City and review the windshield litter survey conducted by City staff.
3. Develop a list of material categories into which waste will be sorted, ensuring that these categories are consistent with the City's existing recycling program and any previous composition studies.

4. Identify the generator sectors (e.g., residential, commercial, litter) that will be targeted in the waste composition study.
5. Develop a sampling schedule, sampling and sorting protocol, and site safety plan for review by City staff. KCI will work closely with City staff to develop the sampling schedule for litter since the City will be responsible for mobilizing staff or volunteers to collect the litter from specified areas, mark it, and deliver it to the sorting area.
6. Work with City staff to identify an appropriate sampling and sorting area. The City will be asked to provide a covered area (an existing structure or a tent) under which the sorting team will work and a loader and operator to pull samples, as directed by KCI's Sampling Supervisor, and deliver them to the sorting area.
7. Obtain the necessary equipment for conducting the sorting event. The City will be asked to provide four six-foot folding tables and recycling bins and other containers into which materials will be sorted. KCI will provide all other safety and sorting equipment and a calibrated platform scale.
8. Mobilize for the sorting event. KCI will provide a Sort Supervisor, Sampling Supervisor, and up to seven sorters. KCI is working with ASC to hire students as the sorters, which will provide a rare hands-on learning opportunity for the students.
9. Execute the sorting event. KCI's Sampling Supervisor will work with the loader operator to pull representative samples from selected incoming loads of waste in accordance with the sampling schedule. Samples will be transferred to the sorting area and stored on tarps until sorted. All samples will be sorted into the defined material categories and weighed. KCI's Sort or Sampling Supervisor will conduct all data recording. To ensure quality and safety, KCI will conduct a training session, prior to starting work each day, to review safety and sorting procedures.
10. Analyze the data from the sorting event to calculate the percentage by weight of each material category for each generator sector, as well as for the City's overall waste stream. Data analysis will follow the *ASTM Standard Test Method for Determination of the Composition of Unprocessed Municipal Solid Waste (D5231-92; reapproved 2008)*.
11. Prepare a technical memorandum summarizing the results and findings of the study.

Deliverables:

- Material categories list, sampling and sorting protocol, sampling schedule, and site safety plan.
- Technical memorandum providing the results of the waste composition study.

Task 2A UA Waste Composition Study (optional task)

Purpose: This optional task will entail sampling and sorting waste generated on the UA campus. KCI anticipates adding three additional days of field work, which will enable the KCI team to sample and sort at least 24 samples of UA waste. To ensure the statistical validity of this data, no more than three separate UA generator sectors will be included. Specific generator sectors will be determined based on discussions with UA staff, but might include classrooms, dormitories, and food service areas.

Activities:

1. Request from UA staff and review waste tonnage data, collection schedules, and other relevant, available information needed to develop the sampling schedule.
2. Confirm with UA staff that the material categories list developed for Task 2 is acceptable.
3. Identify the generator sectors that will be targeted in the waste composition study.

4. Develop a sampling schedule and provide the schedule and sampling and sorting protocol developed in Task 2 to UA staff for review.
5. Work with UA staff to ensure the necessary loads of waste will be directed to the sorting area for sampling in accordance with the sampling schedule.
6. Execute the sorting event.
7. Analyze the data from the sorting event to calculate the percentage by weight of each material category for each generator sector, as well as for UA's overall waste stream (all generators combined).
8. Incorporate the results of the UA study into the Task 2 technical memorandum.

Deliverables:

- Material categories list, sampling and sorting protocol, and sampling schedule.
- Section of Task 2 technical memorandum providing the results of the UA waste composition study.

Task 3 Reduction and Diversion Options Analysis

Purpose: The purpose of this task is to evaluate proven recovery technologies and programmatic approaches, and to identify those that offer the greatest potential material recovery and waste reduction/diversion opportunities to the City. For example, collection options might include wet/dry collection, dual stream recycling, cart-based single stream recycling, compressed natural gas (CNG) collection vehicles, incentive-based contracts, and rewards programs such as Recycling Perks. Processing technologies to capture or utilize material resources include single stream, mixed waste, and wet/dry material processing, organics processing technologies, and other emerging technologies that seek to minimize the disposal of waste.

Activities:

1. Identify and conduct an initial evaluation of material recovery technologies and programs to identify those most viable or having the greatest materials recovery and waste reduction/diversion potential. Such evaluation will include reviewing recognized regional and national programs, analyzing the potential applicability to the City, and conducting an initial analysis of the economic feasibility.
2. Evaluate potential public and private strategic partnerships for leveraging expertise and economies of scale.
3. Prepare a summary of this evaluation and identify material recovery technologies and programs that warrant further consideration. Scenarios for future consideration may include modifications to existing contracts and programs, as well as implementation of new technologies and programs.

Deliverable: Technical memorandum of this initial evaluation of technology and program options.

Task 4 Recovery Scenarios Modeling and Financial Evaluation

Purpose: KCI will use a proprietary spreadsheet-based model to conduct a more detailed analysis of high-recovery, integrated materials management system scenarios that the City desires to consider further. This interactive model takes into consideration that changes in one system component will have operational and financial impacts on other system components. Based on a set of City-specific assumptions, the model will estimate the

capital and operating cost of each scenario, potential revenues, potential waste diversion (material recovery), and site requirements. An appropriate fee structure will be linked to the anticipated costs and benefits of new or expanded services to ensure a healthy and sustainable enterprise fund. The scenario modeling and financial evaluation will also consider the intrinsic value of the selected scenarios as it relates to the triple bottom line so that the City has a comprehensive foundation for decision-making.

Activities:

1. Based on the results of Tasks 4, conduct a work session with City staff to identify material recovery scenarios for further analysis.
2. Develop and confirm assumptions that will be used in the model.
3. Evaluate the identified scenarios using KCI's comparative model.
4. Conduct a financial analysis of the implications of selected scenarios to the City's existing solid waste business model.
5. Prioritize the model results based on waste reduction/diversion potential and cost-effectiveness to the City.
6. Review the model results with City staff to identify selected scenarios for inclusion in the Master Plan.
7. Develop rate structure modifications for scenarios selected by the City that will ensure the long-term viability of the solid waste system and enterprise fund, as well as incentivize increased recycling or waste diversion.
8. Develop recommendations for inclusion in the draft Master Plan, including a consolidated rate structure and potential modifications to the City's solid waste business model.

Deliverable: Technical memorandum that includes the results of the detailed analysis of selected scenarios and associated rate structure as recommendations for inclusion in the draft Master Plan.

Task 5 Policy Recommendations

Purpose: The purpose of this task is to identify policies to implement and support the various technology and program options selected in Task 5. Policies are the principles and guidelines by which the City will reach its solid waste and resource management goals. These policies will influence future decisions regarding the solid waste system, thereby translating these policies into compatible actions and programs. Examples of policies for consideration include residential and/or commercial recycling mandates, disposal bans on specific types of recyclable or compostable materials, bans of the use of certain types of products (e.g., plastics bags, polystyrene containers), source separation standards, minimum service standards, private sector participation, and regional cooperation.

Activities:

1. Define and evaluate policies that would encourage specific behaviors and/or complement the technologies and programs selected in Task 5.
2. Identify policy recommendations that will best help guide the City toward meeting its goals and objectives, while also ensuring the long-term financial viability of the solid waste system.
3. Review the draft policy recommendations with City staff and revise as needed.

Deliverable: Technical memorandum identifying policy recommendations.

Task 6 Solid Waste Master Plan Development

Purpose: The results of the previous tasks and technical memoranda developed as part of these tasks will be incorporated into a Master Plan. Based on review and discussions with City staff, KCI will develop near-term and long-term recommendations deemed cost-effective and operationally feasible on the scale required by the City.

Activities:

Develop a draft Master Plan that includes or addresses the following:

1. **Baseline Summary:**
 - Summary of the City's current solid waste system, including waste and recyclables tonnage, flow, and management.
 - Population and waste generation projections over a 10-year period and summary of factors that affect these projections.
 - Operational assessments of City collection operations and City-owned and operated facilities, along with initial recommendations for improvements.
2. **Reduction and Diversion Options Evaluation:**
 - Evaluation of proven material recovery technologies and programs.
 - Results of the more detailed analysis of selected scenarios, prioritizing scenarios based on waste reduction/diversion potential and cost-effectiveness.
 - Potential opportunities for partnership.
 - Discussion of impacts on the City's business model and recommended modifications.
3. **Short-, Medium- and Long-Term Recommendations:**
 - **Policies:** Policy recommendations that provide the framework that derives sustainable materials recovery and guides decision-making, program and facility development, stakeholder engagement, and systems financing.
 - **Programs:** Program recommendations that are cost-effective and deemed most viable to substantially increase waste reduction and diversion, taking into account the availability of sustainable markets for the recovered resources.
 - **Facilities:** Proven technology and facility recommendations that are effective in recovering material from the waste stream, have been demonstrated on a scale commensurate with the City, and are financially viable.
 - **Education:** Recommended marketing strategy and programs that will complement and help ensure the success of the various policy, program, and facility recommendations. Emphasis will be placed on strategies for affecting changes in behavior. A summary of all community input (Task 8) will be included.
4. **Financial Analysis:**
 - Proposed business plan and financial implications (ranges from high to low) of the Master Plan recommendations.
 - Proposed rate structure intended to preserve the health and sustainability of the enterprise fund.

Deliverable: Draft and final Master Plan integrating the technical memoranda from all other tasks.

Task 7 Project Coordination, Community Input, and Presentations

Purpose: Throughout this project, KCI will maintain frequent communication with City staff regarding project status and technical aspects of the work. We also will seek stakeholder input through a variety of mechanisms including, but not limited to, workshops, meetings, and surveys. Whenever possible, we will include a web-based option for providing input, such as on-line access to town hall type meetings and on-line surveys. In addition, KCI will present the final Master Plan to elected officials, the public, or other stakeholders.

Activities:

1. Participate in monthly project team calls.
2. Prepare a monthly summary of activities.
3. Coordinate and participate in up to three days of workshops and/or meetings with stakeholder groups, the general public, and/or elected officials. KCI will arrange for stakeholders to have a web-based option to provide input whenever feasible.
4. Develop and execute a stakeholder survey in a variety of formats, including a web-based survey tool such as Survey Monkey.
5. Participate in up to two days of one-on-one and/or public meetings with City management and elected officials, as deemed appropriate, to present, review, and discuss the final Master Plan.

Deliverables:

- Monthly summary of activities.
- Participation in up to three stakeholder workshops, meetings, or focus groups.
- Survey instrument.
- Technical memorandum summarizing survey results and other stakeholder input.
- Presentation of Master Plan.

Budget and Timeline

Because of the nature of this project and the potential variability in the level of effort required, KCI proposes to conduct this scope of work on a time-and-materials basis for an amount not to exceed \$249,930, excluding Task 2A. The budget for Task 2A is \$14,960. A detailed budget breakdown by task is provided in Attachment B. Services will be invoiced at the rates indicated, which include all overhead and direct and indirect costs. Expenses (travel, etc.) will be billed at cost without markup. KCI will submit monthly invoices with a written explanation of activities completed that month.

KCI will initiate work upon notice to proceed. A proposed timeline is provided herein, which may be modified as the project progresses.

KCI looks forward to assisting the City in developing a comprehensive Solid Waste Reduction, Diversion, and Recycling Master Plan that seeks to maximize waste diversion while maintaining the long-term financial viability of the City's solid waste and resource management system.

Exhibit A
City of Fayetteville, AR
Solid Waste Reduction, Diversion, and Recycling Master Plan Scope of Work

Proposed Timeline

Tasks	Month											
	1	2	3	4	5	6	7	8	9	10	11	12
1 Baseline and Operational Assessment												
2 Waste and Litter Composition Study												
3 Reduction and Diversion Options Analysis												
4 Recovery Scenarios Modeling and Financial Evaluation												
5 Policy Recommendations												
6 Solid Waste Master Plan Development												
7 Project Coordination, Community Input, and Presentations												

EXHIBIT B

City of Fayetteville, AR Solid Waste Reduction, Diversion, and Recycling Master Plan Proposed Budget

CATEGORY (NAME)	HOURLY RATE	Task 1	Task 2	Task 2A	Task 3	Task 4	Task 5	Task 6	Task 7	With Task 2A		Without Task 2A	
		Baseline & Operational Assessment	Waste & Litter Composition Study	Optional UA Waste Composition Study	Reduction & Diversion Options Analysis	Recovery Scenario Modeling & Financial Evaluation	Policy Recommendation's	Solid Waste Master Plan Development	Project Coordination, Community Input & Presentation	TOTAL HOURS	TOTAL DOLLARS	TOTAL HOURS	TOTAL DOLLARS
LABOR													
Project Director	\$185.00	10.0	4.0	2.0	10.0	10.0	8.0	20.0	50.0	114.0	\$21,090	112.0	\$20,720
Project Manager	\$140.00	48.0	16.0	8.0	40.0	40.0	40.0	60.0	60.0	312.0	\$43,680	304.0	\$42,560
Senior Consultant	\$125.00	110.0	0.0	0.0	40.0	40.0	10.0	20.0	8.0	228.0	\$28,500	228.0	\$28,500
Consultant	\$100.00	80.0	20.0	10.0	170.0	170.0	72.0	110.0	60.0	692.0	\$69,200	682.0	\$68,200
Consultant	\$95.00	0.0	150.0	50.0	0.0	0.0	0.0	0.0	0.0	200.0	\$19,000	150.0	\$14,250
Consultant	\$85.00	140.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	140.0	\$11,900	140.0	\$11,900
Research Analyst	\$80.00	0.0	16.0	12.0	80.0	80.0	40.0	80.0	20.0	328.0	\$26,240	316.0	\$25,280
Office Manager/Technical Support	\$60.00	14.0	68.0	24.0	10.0	10.0	10.0	10.0	10.0	156.0	\$9,360	132.0	\$7,920
SUBTOTAL LABOR HOURS		402.0	274.0	106.0	350.0	350.0	190.0	300.0	208.0	2170.0	\$228,970	2064.0	\$219,330
SUBTOTAL LABOR DOLLARS		\$43,060	\$24,590	\$9,640	\$36,450	\$36,450	\$19,330	\$32,600	\$26,850				
DIRECT COSTS													
TRAVEL		\$3,700	\$3,700	\$2,300		\$2,000			\$6,000		\$17,700		\$15,400
SUPPLIES			\$1,000	\$500							\$1,500		\$1,000
CONTRACTED LABOR			\$4,200	\$2,520							\$6,720		\$4,200
SUBCONTRACTOR		\$1,000	\$2,000		\$500		\$500	\$1,000	\$5,000		\$10,000		\$10,000
SUBTOTAL DIRECT COST		\$4,700	\$10,900	\$5,320	\$500	\$2,000	\$500	\$1,000	\$11,000		\$35,920		\$30,600
TOTAL PROJECT BUDGET													
LABOR + DIRECT COST		\$47,760	\$35,490	\$14,960	\$36,950	\$38,450	\$19,830	\$33,600	\$37,850		\$264,890		\$249,930

City of Fayetteville Staff Review Form

2014-0408

Legistar File ID

N/A

City Council Meeting Date - Agenda Item Only

N/A for Non-Agenda Item

Leif Olson

9/10/2014

Sustainability & Resilience /
Chief of Staff

Submitted By

Submitted Date

Division / Department

Action Recommendation:

Administrative approval of a Memorandum of Understanding with the University of Arkansas Facilities Management Department to contract with Kessler Consulting to complete a Waste Composition Study of 24 selected waste samples from no more than three separate UofA generator sectors.

Budget Impact:

Account Number

Fund

Project Number

Project Title

Budgeted Item? NA

Current Budget

\$ -

Funds Obligated

\$ -

Current Balance

\$ -

Does item have a cost? No

Item Cost

Budget Adjustment Attached? No

Budget Adjustment

Remaining Budget

\$ -

V20140710

Previous Ordinance or Resolution # 171-14

Original Contract Number:



Approval Date: 9-22-14

Comments:



TO: Mayor Jordan
Don Marr, Chief of Staff
Paul Becker, Finance Director

THRU: Peter Nierengarten, Sustainability and Resilience Director

CC: Jeff Coles, Recycling and Trash Collection Division Director

FROM: Leif Olson, Associate Planner

DATE: September 19, 2014

SUBJECT: Memorandum of Understanding – Recycling Master Plan with University of Arkansas

RECOMMENDATION:

Administrative approval of a Memorandum of Understanding with the University of Arkansas Facilities Management Department to contract with Kessler Consulting to complete a Waste Composition Study of 24 selected waste samples from no more than three separate UofA generator sectors. Generator sectors may include classrooms, dormitories and food service areas.

BACKGROUND:

The City Council passed Resolution Number 171-14 on September 16, 2014 to hire Kessler Consulting to develop a 10 year solid waste master plan in order to attain a waste diversion rate of 80%. One critical component of a solid waste and recycling plan is to conduct a waste composition study in order to determine the precise makeup of the waste materials that are being discarded in the landfill. This is accomplished by pulling sample waste containers from different waste generating sectors and measuring the type and volume of the waste that is currently being landfilled. Kessler Consulting will perform waste composition studies for both the University and the City in order to provide quantifiable data on the type and volume of waste generated by all sectors within the City.

BUDGET/STAFF IMPACT:

This Memorandum of Understanding prescribes that the University of Arkansas will reimburse The City of Fayetteville \$14,960 for the cost of their waste composition study.

MEMORANDUM OF UNDERSTANDING
between
THE UNIVERSITY OF ARKANSAS
FACILITIES MANAGEMENT DEPARTMENT
and
THE City of Fayetteville, AR
FY 2015

This Memorandum of Understanding (MOU) is entered into and executed on the date indicated beside the signature blocks, by and between the University of Arkansas Facilities Management Department and the City of Fayetteville, Arkansas.

I. PURPOSE

The City of Fayetteville (City) is contracting with Kessler Consulting, Inc. (KCI) of Tampa, FL to provide a Solid Waste Reduction, Diversion and Recycling Master Plan for the City. The Master Plan is aimed at achieving an efficient, cost-effective solid waste system that maximizes waste reduction and recycling and puts the City on a path to attaining its goal of 80 percent waste diversion. The City's Contract with KCI includes a task for a University of Arkansas (UA) Waste Composition Study which entails sampling and sorting waste generated on the UA campus.

The purpose of this MOU is to establish the contractual relationship (scope, deliverables schedule and price) between the City and UA to enable KCI to perform this work on behalf of the UA.

Regarding this agreement contact people for the City of Fayetteville will be:

Peter Nierengarten	479.575.8272 / pnierengarten@fayetteville-ar.gov	Primary contact
name	ph#/email	
Jeff Coles	479.444.3499 / jcoles@fayetteville-ar.gov	Alternate contact
name	ph#/email	

Contact people at FMD are:

Carlos Ochoa	5-2405 / cochoajr@uark.edu	Primary contact
name	ph#/email	
Peggy Cromer	5-6593 / pbcomer@uark.edu	Alternate contact
name	ph#/email	

II. SCOPE

KCI anticipates the UA Waste Composition Study requiring three days of fieldwork, which will enable the KCI team to sample and sort at least 24 samples of UA waste. To ensure the statistical validity of this data, no more than three separate UA generator sectors will be included. Specific generator sectors will

be determined based on discussions with UA staff, but might include classrooms, dormitories, and food service areas.

Activities

1. Request from UA staff and review waste tonnage data, collection schedules, and other relevant, available information needed to develop the sampling schedule.
2. Confirm with UA staff that the material categories list developed for Task 2 is acceptable.
3. Identify the generator sectors that will be targeted in the waste composition study.
4. Develop a sampling schedule and provide the schedule and sampling and sorting protocol developed in Task 2 to UA staff for review.
5. Work with UA staff to ensure the necessary loads of waste will be directed to the sorting area for sampling in accordance with the sampling schedule.
6. Execute the sorting event.
7. Analyze the data from the sorting event to calculate the percentage by weight of each material category for each generator sector, as well as for UA's overall waste stream (all generators combined).
8. Incorporate the results of the UA study into the Task 2 technical memorandum.

III. DELIVERABLES

- Material categories list, sampling and sorting protocol, and sampling schedule.
- Technical memorandum providing the results of the City and UA waste composition studies.

VI. SCHEDULE

The UA waste composition study will be completed as part of task 2 of the City's Solid Waste Reduction, Diversion and Recycling Master Plan. That plan is scheduled to begin in October 2014 and to follow the propose time line below.

Tasks	Month											
	1	2	3	4	5	6	7	8	9	10	11	12
1 Baseline and Operational Assessment												
2 Waste and Litter Composition Study												
3 Reduction and Diversion Options Analysis												
4 Recovery Scenarios Modeling and Financial Evaluation												
5 Policy Recommendations												
6 Solid Waste Master Plan Development												
7 Project Coordination, Community Input, and Presentations												

V. PRICE

The total task budget for the UA Waste Composition Study is \$14,960.

IV. TERMINATION OF SERVICES

Should either Party decide to terminate this MOU, a Notice of Discontinuation of Services must be sent to the other party in writing at least 60 days prior to the date of termination. Included in the notice should be the reason for the termination with a list of any discrepancies noted. Any equipment/materials purchased with University of Arkansas monies or transferred from the City of Fayetteville to Facilities Management to use during the waste assessment, will be returned to the City of Fayetteville in their current condition/status.

This Memorandum of Understanding supersedes any previous agreement(s). This MOU is effective upon signature and shall remain in effect until December 31, 2015, or such time as a Notice of Discontinuation of Services is executed by either party hereunto.

By: M. R. Johnson Date 9/17/14
M. R. Johnson, Associate Vice Chancellor for Facilities
University of Arkansas Facilities Management Department

CITY OF FAYETTEVILLE

By: Lionel Jordan Date 9/23/14
Lionel Jordan, Mayor

Attest:

By: Sondra E. Smith Date 9/23/14
Sondra E. Smith, City Clerk/Treasurer





PURCHASE ORDER

Each Package Must Be Marked
Exactly As Shown Here
City of Fayetteville, Arkansas

PURCHASE ORDER #

14-0000415-001

VENDOR NO. 24798

Kessler Consulting Inc
14620 N Nebraska Avenue
Building D
Tampa FL 33613

DATE

10/13/14

FOB Fyv

TERMS

NET 30 DAY

Qty.	Unit of Issue	Qty. Received	Description and Account Number	Unit Price	TOTALS
1.00	EA	<u>0</u>	a) Solid Waste Reduction, Diversion and Recycling Master Plan Contract #2337 Per Res #171-14 RFP #14-08 5500.5080.5314.00 14019 1	264890.00	264890.00

Please add line item (B) (+) \$39,980.00
Waste Reduction & Recycling Plan
5500.5080.5314.00 14019 1
"Amendment 1"

SHIP TO: PLANNING DEPT
CITY OF FAYETTEVILLE
125 W MOUNTAIN
FAYETTEVILLE AR 72701

Olson, Lei

Sales Tax Total: \$0.00
Purchase Order Total: ~~264890.00~~

DEPARTMENT VERIFICATION

RECEIVED

DEPT HEAD APPROVAL

AMOUNT TO PAY

A/P VERIFICATION

PURCHASING VERIFICATION

PRICE CHANGE VERIFICATION

RETURN CHECK TO

SEND COPY TO

BY

DATE

7/14/15
7/14/15

ADDITIONAL APPROVAL

CHECK #

DOES NOT MEET PURCHASING POLICY

CONTRACT PAYMENT

OTHER

APPROVED BY

PROJECT #

THIS PAYMENT \$

PREVIOUS PAYMENT(S) \$

TOTAL PYMT(S) \$

BALANCE \$

DEPT. WHEN COMPLETE DELIVER TO ACCTS. PAYABLE

Budget Year	Division: Recycling & Trash Collection	Adjustment Number
2015	Dept.: Transportation Services	
	Requestor: Brian Pugh	

Recycling and Trash Collection requests reallocation of funds to amend the Kessler contract for the addition of two pilot programs not included in the original contract. Total request in the amount of \$39,980.00

	COUNCIL DATE:	8/4/2015
	LEGISTAR FILE ID#:	2015-0308
	Kevin Springer	
	7/14/2015 4:46 PM	
	Budget Director	Date
	TYPE:	
	DESCRIPTION:	
	GLDATE:	
	POSTED:	/
RESOLUTION/ORDINANCE		

[illegible]

C.1 Handed out at the 8-11-15 City Council Meeting.

About Single Stream Collection

<http://wapo.st/1I6OI9X> Washington Post

Wall Street Journal article April 2015, "Big Cracks in Glass Recycling"

National Public Radio did a story on single stream earlier this year. Susan Collins from the Container Recycling Institute was interviewed. Once an advocate for single stream, she now has evidence against it.

National Recycling Coalition, February webinar, "Paper and Plastic Update" Webinars [here](#).

Resource Recycling magazine, June 6th, Waste Management CEO says about single stream, "We screwed up."

Proponents say single stream increases volume and participation. Participation in what? Isn't the goal to reduce consumption and save natural resources.

Single stream proponents also talk about worker safety. Wouldn't you rather be standing 4 feet above one of Fvile's recycling bins so you could see that dirty diaper, instead of being a worker on sort line with that dirty diaper TWO feet in front of your face, as it passes by on the assembly line.

Single stream proponents will tell you technology/the machines are improved and can take out the contaminants. Listen to NRC Feb webinar. Envision Plastic rep tells of rejecting seven large loads from a large single stream MRF because the machines do not catch things as well as the human eye.

Try to visit a facility unannounced... Couple years back group of us (from Fayetteville), were at a national conference in Dallas. We went to see a single stream MRF. Bus driver got lost for TWO hours. Hmm. About ten minutes after we finally entered the MRF, a garbage colleague nudged me and pointed to an 18 wheeler pulling away from the facility. He asked if I knew what was in it. I said no. He said garbage. He said as we pulled up he saw them finish loading it and close it up. Go visit unannounced.

Thanks for reading
Louise Mann

1 State of Arkansas
2 89th General Assembly
3 Regular Session, 2013
4
5 By: Representative Leding

HR 1043

HOUSE RESOLUTION

SUPPORTING TRANSPARENCY AND ACCOUNTABILITY REGARDING
MATERIALS COLLECTED FOR RECYCLING.

Subtitle

SUPPORTING TRANSPARENCY AND
ACCOUNTABILITY REGARDING MATERIALS
COLLECTED FOR RECYCLING.

WHEREAS, municipal recycling programs designate various types of materials to be separated from the waste stream with the intent that these materials will be recycled by being reprocessed and returned to the marketplace; and

WHEREAS, a public trust exists when Arkansas citizens participate in municipal recycling programs and these citizens rightfully expect that the materials collected will in fact be recycled; and

WHEREAS, a portion of the materials collected for recycling by municipal recycling programs are not being recycled, either because collected materials are contaminated or there is no economically viable market for the materials; and

WHEREAS, citizens of the Natural State deserve transparency and accountability regarding the total volume of materials collected for recycling by a municipal recycling program and the percentage of that volume which is actually recycled and the percentage that is not recycled,



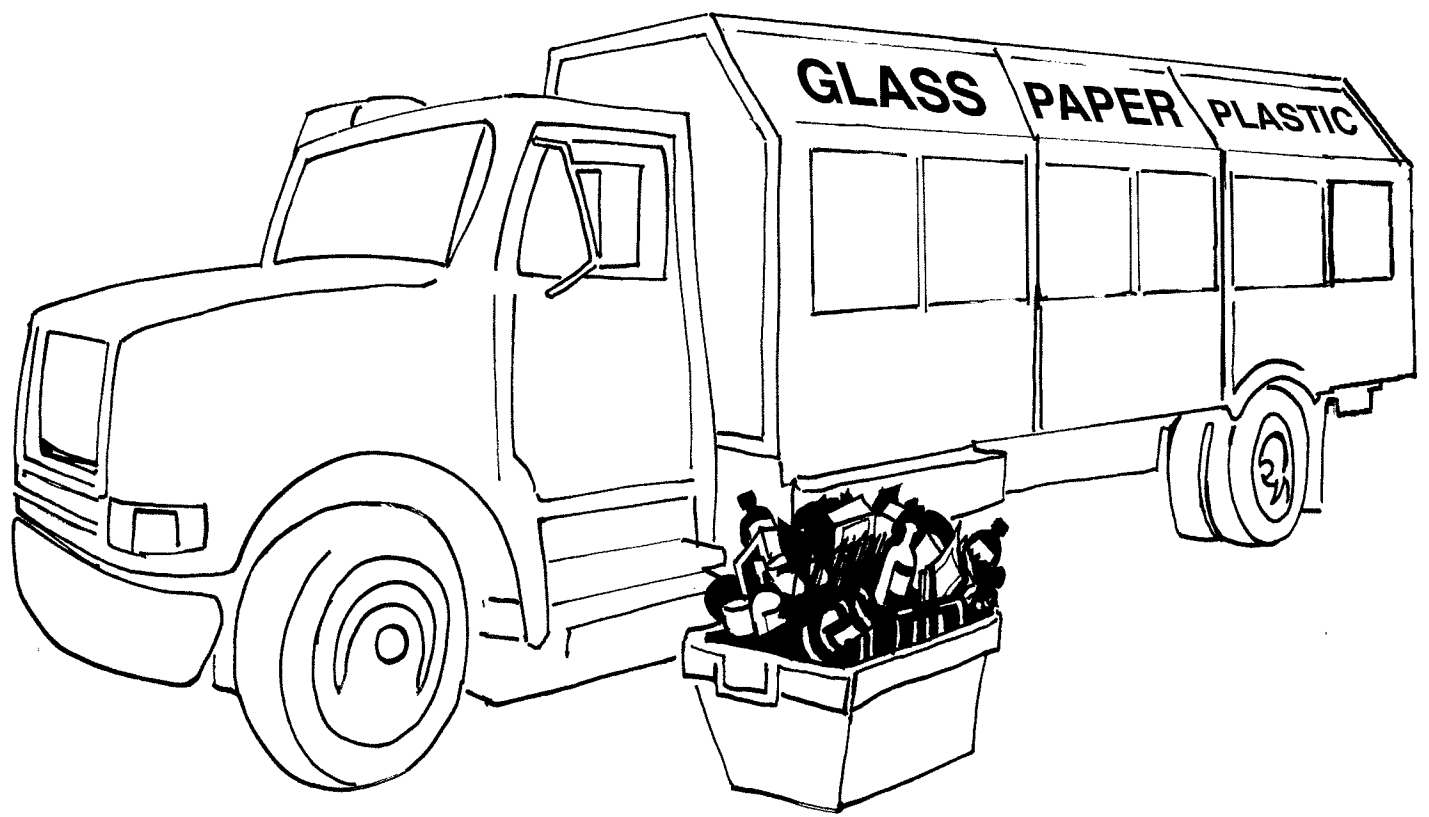
03-09-2013 21:12:48 MGF373

1 NOW THEREFORE,
2 BE IT RESOLVED BY THE HOUSE OF REPRESENTATIVES OF THE EIGHTY-NINTH GENERAL
3 ASSEMBLY OF THE STATE OF ARKANSAS:

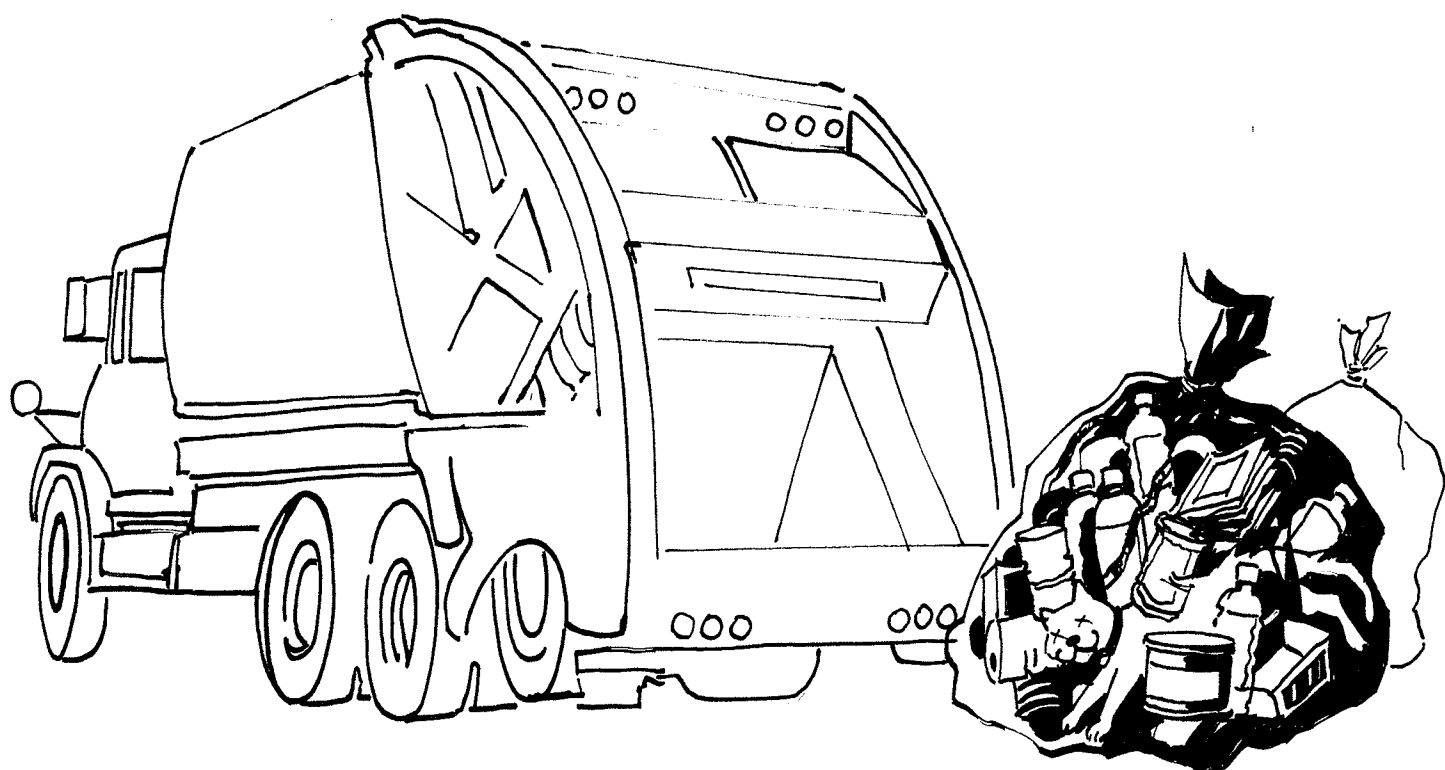
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5 That the General Assembly commends municipal recycling programs that
6 honor the public trust by providing documentation of the volume and
7 percentage of material that is actually recycled from the municipal program
8 as well as the volume and percentage of material which is not recycled; and

9
10 BE IT FURTHER RESOLVED THAT the General Assembly encourages all municipal
11 recycling programs to include transparency and accountability clauses in any
12 solid waste collection agreements in order to assure citizens that materials
13 collected for recycling are, in fact, being re-processed and returned to the
14 marketplace.

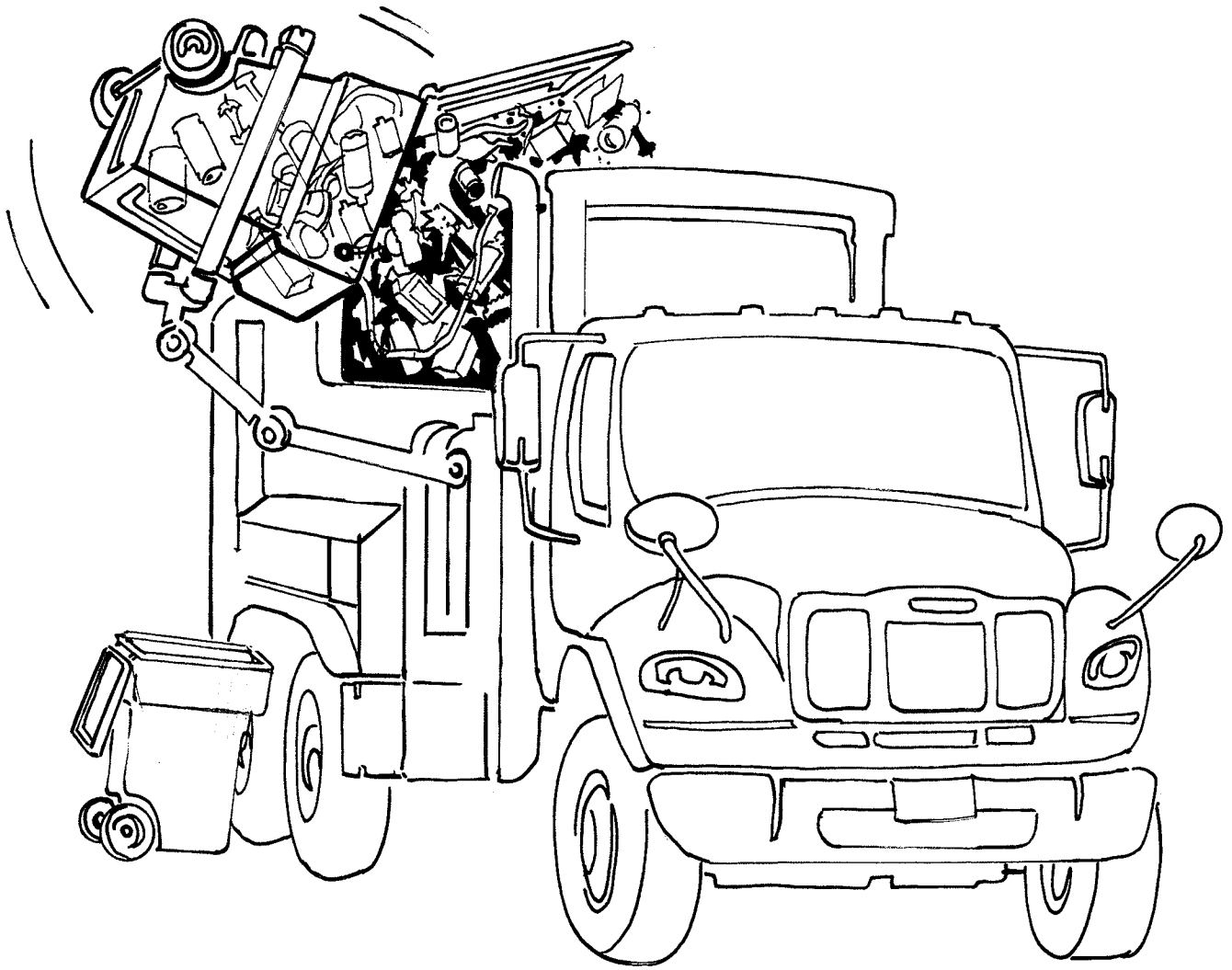
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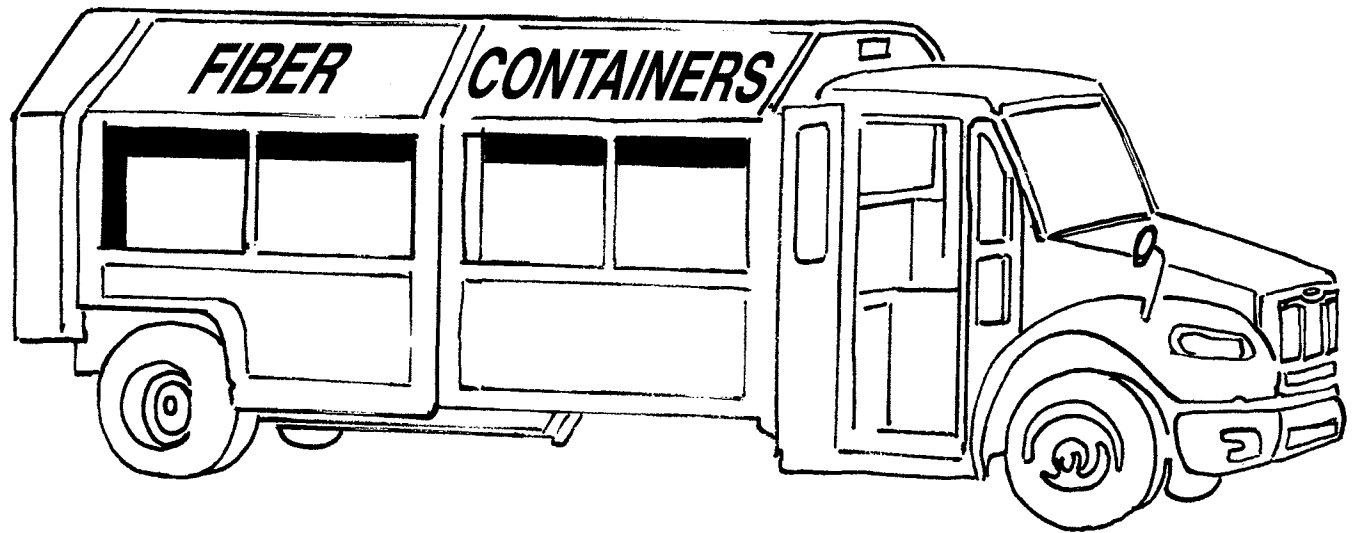
Fayetteville's Current Curbsort System 2015



Fayetteville's Blue
Bag (Single Stream)
System 1990's
Included glass



Current Single
Stream being used
in NWAR
Includes glass



Dual Stream
Minus the glass

Smart Plastics Guide

NATIONAL GEOGRAPHIC'S STRANGEDAYS ON PLANET EARTH

Plastic products are typically labeled with a number surrounded by the recycling symbol. These numbers and labels identify both the type of resin used to make the plastic and the products' recyclability. Associated with the different types of resin are potential health risks. The following table summarizes seven different types of commonly used plastics, product examples, recyclability, and potential health risks.

USED FOR	RECYCLABILITY	HEALTH	NOTES
PLASTIC #1 - POLYETHYLENE TEREPHTHALATE (PET)			
 • soft drink, water, and other beverage bottles • detergent and cleaning containers • peanut butter and other food containers and bottles	PET is recycled into: new bottles, polyester for fabrics and carpet, fill for bumper cars and fiberfill for sleeping bags and jackets.	No known health issues.	PET is one of the most easily recycled plastic.
PLASTIC #2 - HIGH DENSITY POLYETHYLENE (HDPE)			
 • milk and water jugs • laundry detergents, shampoo, and motor oil containers • shampoo bottles • some plastic bags	Clear HDPE containers are easily recycled back into new containers. Colored HDPE are converted into plastic lumber, lawn and garden edging, pipes, rope, and toys.	No known health issues.	HDPE is easily recycled.
PLASTIC #3 - POLYVINYL CHLORIDE (PVC OR V)			
 • clear food packaging, cling wrap • detergents and window cleaner bottles • some plastic squeeze bottles, cooking oil and peanut butter jars • vinyl pipes • shower curtains • flooring, home siding, and window and door frames	PVC is one of the least recyclable plastic due to additives. Potentially harmful substances are also created by its disposal.	Many harmful chemicals are produced in the manufacturing, disposal, or destruction of PVC including: • Lead • DEHA (di(2ethylhexyl)adipate) • Dioxins • Ethylene dichloride • Vinyl chloride Effects of exposure to these chemicals may include: decreased birth weight, learning and behavioral problems in children, suppressed immune function and disruption of hormones in the body, cancer and birth defects, genetic changes.	Harmful chemicals created as a byproduct of PVC can also settle on grassland, where they can be consumed by livestock, and accumulate in meat and dairy products that are directly ingested by us.
PLASTIC #4 - LOW DENSITY POLYETHYLENE (LDPE)			
 • bread, frozen food, and grocery bags • most plastic wraps • some bottles	LDPE is not usually recycled.	No known health issues.	While no known health effects associated with the use of this plastic are known, organic pollutants are formed during manufacturing.

Just because the recycling number on a plastic object indicates that it is potentially recyclable doesn't necessarily mean that it is. Normally, only #1 and #2 plastic bottles with narrow necks are recycled. Check to see what plastics your local waste management organization recycles. The Earth911 Web site is a good place to start your search: www.earth911.org

Smart Plastics Guide

NATIONAL GEOGRAPHIC'S STRANGEDAYS ON PLANET EARTH

PLASTIC #5 - POLYPROPYLENE (PP)



- deli soups, syrup, yogurt and margarine containers
- disposable diapers
- outdoor carpet
- house wrap
- clouded plastic containers, e.g. baby bottles, straws

PP is not easily recycled. Differences in the varieties of type and grade, mean achieving consistent quality during recycling is difficult.

No known health issues.

PLASTIC #6 - POLYSTYRENE (PS)



- Rigid Polystyrene**
- CD cases
 - disposable cutlery
- Formed Polystyrene (Styrofoam)**
- food containers
 - packaging
 - insulation
 - egg cartons
 - building insulation

Recycling PS is possible, but not normally economically viable.

Styrene can leach from polystyrene. Over the long term, this can act as a neurotoxin. Studies on animals report harmful effects of styrene on red-blood cells, the liver, kidney, and stomach organs¹.

¹ US Environmental Protection Agency (1992) "Styrene". Air Toxics Website. Retrieved on 31/1/2008 from <http://www.epa.gov/ttn/atw/hlthef/styrene.html>

Styrene can be absorbed by food, and once ingested can be stored in body fat. It is thought that repeated exposure could lead to bioaccumulation².

² WHO International Programme On Chemical Safety. "Styrene". Environmental Health Criteria 26. Retrieved on 31/1/2008 <http://www.inchem.org/documents/ehc/ehc/ehc26.htm>

Try reusing styrofoam packing peanuts, and polystyrene cutlery where practical.

PLASTIC #7 - MIXED (OTHER)



- lids
- medical storage containers
- electronics
- most plastic baby bottles
- 5-gallon water bottles
- "sport" water bottles
- metal food can liners
- clear plastic "sippy" cups
- some clear plastic cutlery

Mixed resin plastics like #7 are difficult, if not impossible, to recycle.

Health effects vary depending on the resin and plasticizers in this plastic that often includes polycarbonates. Polycarbonate plastic leaches bisphenol A (BPA) a known endocrine disruptor. By mimicking the action of the hormone, estrogen, bisphenol A has been found to: effect the development of young animals; play a role in certain types of cancer; create genetic damage and behavioral changes in a variety of species.

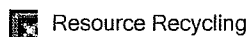
bisphenol A is widespread--one study found BPA in 95% of American adults sampled³.

³ Calafat, A.M., Kuklenyik, Z., Reidy, J.A., Caudill, S.P., Ekong, J. & Needham, L.L. (2005) "Urinary Concentrations of Bisphenol A and 4-Nonylphenol in a Human Reference Population" Environmental Health Perspectives 113: 391-395. Retrieved 31/1/2008 from <http://www.ehponline.org/members/2004/7534/7534.html>

The number of studies documenting the detrimental effects between BPA and health are increasing.

TIPS FOR USE OF PLASTIC CONTAINERS WITH FOOD

- **Avoid heating food in plastic containers.** Heat can release chemicals so avoid heating food in plastic containers. For the same reason, only drink cold liquids from plastic containers.
- **Wash plastic containers in mild detergents.** Harsh detergents help liberate chemical from plastics making the container much more likely to leach chemicals into food.
- **Avoid using plastic packaging where you can.** For example, bring reusable bags when grocery shopping, and your own "to-go" containers when dining out.
- **Select safe plastics for food storage.** Only use plastic containers with the recycling #1, #2, #4 and #5 for food storage. Consider switching to glass storage containers since plastic containers can leach chemicals into the environment and your food as they age and become used.



Published on *Resource Recycling* (<http://resource-recycling.com>)

[Home](#) > Printer-friendly

Hauler CEOs discuss 'broken' curbside recycling model

By *scott*

Created 06/09/2015 - 11:42

Hauler CEOs discuss 'broken' curbside recycling model

■ Tue, 06/09/2015 - 11:42 | *scott*

Hauler CEOs discuss 'broken' curbside recycling model

By Bobby Elliott, Resource Recycling

June 9, 2015

Leaders at four of the country's largest waste management companies told attendees of last week's Waste Expo conference America's curbside recycling system is in need of a dramatic overhaul.

While lending tentative optimism toward the waste industry as a whole, participants of the "Heavy Hitters" panel stressed curbside recycling is no longer the cash cow it used to be.

"It's the single-stream, high-volume residential stream that's completely broken," David Steiner, CEO of Waste Management, commented. "We all screwed it up."

The issue was a major focus of the hour-long session held at the Las Vegas Convention Center. The executives said low recycling fees and prevalent revenue-sharing with communities fails to account for today's increasing processing costs associated with single-stream programs and falling recycled commodity pricing.

"This is a crisis," Steiner said. "Never have we had prices as down as they are today."

Processing costs, meanwhile, are going up.

According to Ron Mittelstaedt, the CEO of Waste Connections, processing costs today average \$80 to \$100 per ton for his company despite the fact that households typically

only see a \$2 recycling fee per month. Disposal, meanwhile, costs Waste Connections between \$30 and \$40 per ton and residents pay about \$25 a month for the service.

All four leaders agreed collection and processing costs should be covered before sharing surplus revenues with communities.

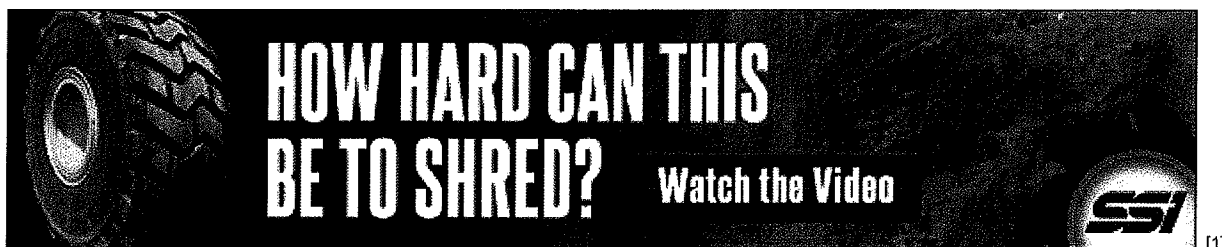
"If you're collecting, you've got to charge for collection," Joseph Quarin, CEO of Progressive Waste Solutions noted. "If you're processing, you've got to charge for processing."

"We're bearing too much risk in our balance sheet," Richard Burke, Advanced Disposal's CEO, added.

Annual financial filings for all four of the publicly traded companies show recycling revenues account for between 2 and 10 percent of overall revenues. Together, the companies represented at the Waste Expo panel generate nearly half of the \$65 billion annual revenues of the waste management industry, panel moderator Michael Hoffman, managing director of Stifel Financial, noted.

Despite the widespread support for the re-working of municipal contracts to make them more hauler-friendly, Waste Connections leader Mittelstaedt cautioned such changes might be difficult to implement.

"It's a little naive for us to think we can completely change the system," Mittelstaedt said.



2013 EPA CHARACTERIZATION REPORT
Advancing Sustainable Materials Management:
Facts and Figures 2013* Assessing Trends in Materials Generation,
Recycling, and Disposal in the United States

THURSDAY JUNE 18TH | 1:00PM EST | FREE WEBINAR

CHANGING HOW WE THINK ABOUT OUR RESOURCES FOR A BETTER TOMORROW



[2]

To return to the Resource Recycling newsletter, click [here](#) [3]

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The Washington Post

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D.C. Politics

American recycling is stalling, and the big blue bin is one reason why

By Aaron C. Davis June 20, 2015

Tucked in the woods 30 miles north of Washington is a plant packed with energy-guzzling machines that can make even an environmentalist's heart sing — giant conveyor belts, sorters and crushers saving a thousand tons of paper, plastic and other recyclables from reaching landfills each day.

The 24-hour operation is a sign that after three decades of trying, a culture of curbside recycling has become ingrained in cities and counties across the country. Happy Valley, however, it is not.

Once a profitable business for cities and private employers alike, recycling in recent years has become a money-sucking enterprise. The District, Baltimore and many counties in between are contributing millions annually to prop up one of the nation's busiest facilities here in Elkridge, Md. — but it is still losing money. In fact, almost every facility like it in the country is running in the red. And Waste Management and other recyclers say that more than 2,000 municipalities are paying to dispose of their recyclables instead of the other way around.

In short, the business of American recycling has stalled. And industry leaders warn that the situation is worse than it appears.

"If people feel that recycling is important — and I think they do, increasingly — then we are talking about a nationwide crisis," said David Steiner, chief executive of Waste Management, the nation's largest recycler that owns the Elkridge plant and 50 others.

[Five ways Americans should — and shouldn't — recycle]

The Houston-based company's recycling division posted a loss of nearly \$16 million in the first quarter of the year. In recent months, it has shut nearly one in 10 of its biggest recycling facilities. An even larger percentage of its plants may go dark in the next 12 months, Steiner said.

The problems of recycling in America are both global and local. A storm of falling oil prices, a strong dollar and a weakened economy in China have sent prices for American recyclables plummeting worldwide.

Environmentalists and other die-hard conservation advocates question if the industry is overstating a cyclical slump.

"If you look at the long-term trends, there is no doubt that the markets for most recyclables have matured and that the economics of recycling, although it varies, has generally been moving in the right direction," said Eric A. Goldstein, a lawyer with the Natural Resources Defense Council who tracks solid waste and recycling in New York.

"And that's without factoring in the external impact of landfilling or anything else," he added. "There aren't a lot of people saying, 'Send more material to landfills.'"

Still, the numbers speak for themselves: a three-year trend of shrinking profits and rising costs for U.S. municipalities — and little evidence that they are a blip.

Trying to encourage conservation, progressive lawmakers and environmentalists have made matters worse. By pushing to increase recycling rates with bigger and bigger bins — while demanding almost no sorting by consumers — the recycling stream has become increasingly polluted and less valuable, imperiling the economics of the whole system.

"We kind of got everyone thinking that recycling was free," said Bill Moore, a leading industry consultant on paper recycling who is based in Atlanta. "It's never really been free, and in fact, it's getting more expensive."

The problem with blue bins

Many of the problems facing the industry can be traced to the curbside blue bin — and the old saying that if it sounds too good to be true, it just might be. Anyone who has ever tossed a can into a bin knows what's supposed to happen: Anything recyclable can go in, and then somehow, magically, it's all separated and reused.

The idea originated in California in the 1990s. Environmental advocates believed that the only way to increase participation in recycling programs was to make it easier. Sorting took time and was messy. No one liked it. So-called Material Recovery Facilities, or MRFs, were created to do what consumers wouldn't.

With conveyers, spinning flywheels, magnets and contraptions that look like giant Erector Sets, companies found that they could recycle almost everything at once. Lightweight newspaper and cardboard were sent tumbling upward, as if in a clothes dryer. Glass, plastic and metal fell into a series of belts and screens. Automation was adopted to sort, bale and send to manufacturers all those tons of paper, bottles and cans.

From the start, it was hard to argue that glass should have been allowed in the curbside mix. It's the heaviest of recyclables but has always been of marginal value as a commodity. In the rough-and-tumble sorting facilities, a large share of it breaks and contaminates valuable bales of paper, plastic and other materials.

Today, more than a third of all glass sent to recycling facilities ends up crushed. It is trucked to landfills as daily cover to bury the smell and trap gases. The rest has almost no value to recyclers and can often cost them to haul away.

In recent years, the problem of contamination has spread beyond glass. The problem was exacerbated when municipalities began increasing the size of bins, believing that bigger was better to keep more material from landfills.

Consumers have indeed been filling the bigger bins, but often with as much garbage as recyclable material.

With the extra room, residents stopped breaking down cardboard boxes. Because a full shipping box sometimes fits inside, even with foam and plastic wrap attached, all of it more frequently shows up at sorting facilities.

Residents have also begun experimenting, perhaps with good intentions, tossing into recycling bins almost anything rubber, metal or plastic: garden hoses, clothes hangers, shopping bags, shoes, Christmas lights.

That was exactly the case last year, when the District replaced residents' 32-gallon bins with ones that are 50 percent larger.

[D.C. said it was recycling — it wasn't.]

“Residue jumped a ton,” said Hallie Clemm, deputy administrator for the city’s solid waste management division. In fact, so much nonrecyclable material was being stuffed into the bins that after an audit by Waste Management last fall, the share of the city’s profit for selling recyclables plummeted by more than 50 percent.

That has driven up the city’s processing price for recyclables to almost \$63 a ton — 24 percent higher than if it trucked all of its recycling material, along with its trash, to a Virginia incinerator.

The D.C. Council recently approved a payment of \$1.2 million to Waste Management for the contract year that ended in May. In 2011, the city made a profit of \$389,000.

Little demand for newsprint

A large part of the problem for recyclers is falling global commodity prices — a phenomenon largely out of recyclers’ hands. But the negative impact of that trend is amplified by the contents of most recycling bins, because the composite of what Americans try to reuse has changed dramatically over the past decade.

Dwindling have been the once-profitable old newspapers, thick plastic bottles and aluminum cans that could be easily baled and reused.

With oil prices driving up transportation costs, manufacturers have engaged in a race to make packaging more lightweight. Coffee cans disappeared in favor of vacuum-packed aluminum bags; some tuna cans went the same way. Tin cans and plastic water bottles became thinner, too: The amount of plastic that once came from 22 bottles now requires 36.

There was an even more pronounced drop in newsprint. Long a lucrative recycling commodity, it’s not a key commodity market. In its place is something known as mixed residential paper: the junk mail, flattened cereal boxes and other paper items that these days can outweigh newspaper in a one-ton bale.

One bright spot has been an increase in cardboard. Analysts say that with more people buying items through online merchants, cardboard can account for up to 15 percent of cities’ recyclable loads — more than double that of a decade ago.

The demand for that paper and cardboard, however, remains at a near-decade low. In China, containerboard, a common packaging product from recycled American paper, is trading at just over \$400 a metric ton, down from

nearly \$1,000 in 2010. China also needs less recycled newsprint; the last paper mill in Shanghai closed this year.

[China doesn't even want to buy our garbage anymore]

With less demand, Chinese companies have become pickier about the quality.

Last week in Elkridge, an inspector from a Chinese company studied bales of paper being loaded into shipping containers bound for the port of Baltimore and, eventually, Asia.

If the inspector found more than five nonpaper items protruding from any one side of the bale, it was rejected, forcing workers to break down the material and send it all back through the processing facility.

The lightweight vacuum packs for food and paper-thin plastic bottles are increasingly part of the problem. They are so light that they get blown upward with the paper.

“We’ve seen economic downturns in the value of material in the past, but what’s different now is that the material mix has changed,” said Patty Moore, head of California-based Moore Recycling Associates, which specializes in plastic recycling. “The problem is, to get the same value out of your scrap, you have to shove a whole lot more material through the facility. That was fine when scrap values were high, but when they dropped, we realized it’s expensive to push all of this lightweight stuff through, and we’re in trouble.”

Brent Bell, Waste Management’s vice president for recycling, said the company has yet to see municipalities abandon recycling, and the company is maintaining its ability to recycle whatever cities send their way. But it is downsizing its operation and expecting little increase in recycling rates nationwide.

Last week, the Environmental Protection Agency announced a nationwide tally for recycling in 2013 that showed overall recycling had contracted for a second straight year, to 34.3 percent of the waste stream.

With those trends, Bell said the company is beginning tough discussions with cities about what it sees as a long-term economic reality: Cities must bear more of the financial impact of falling commodity prices. That’s the only way, Bell said, for recyclers like his company to invest in the business.

Steiner, Waste Management’s chief executive, went further. “We want to help our customers, but we are a for-profit business. We won’t stay in the industry if we can’t make a profit,” he said.

Clemm, the District's recycling chief, said small efforts can begin to turn the tide. The District must begin by getting more garbage out of its recycling stream.

"Residents have a way to influence this by making sure they are recycling right," she said.

Another possibility is to follow the urgings of the environmental community by expanding recycling programs to include composting — the banana peels and grass clippings degrading in landfills that by some estimates have become the nation's third-biggest source of methane gas contributing to global warming. Composting is partly credited with the success of such cities as San Francisco, Portland and Seattle in increasing the share of the waste stream that is recycled each year.

There are also a few encouraging signs downstream in the recycling market. A recycled-plastics company in Troy, Ala., processes more than 500 million pounds of recycled material annually from plastic bottles — and with 450 employees, the company is growing. In the Midwest, another company opened two additional facilities this month to feed an Indiana paper mill that churns out 100 percent recycled cardboard.

Turning a profit on the initial, dirty task of sorting and processing the nation's recyclables, however, may take a larger overhaul, said Patty Moore. Governments may need to set standards or even consider taking over part of the effort and ensure that profits remain a public benefit.

"If we're going to be serious about secondary-materials management, we're really going to have to address it as a state or preferably national level," she said. "We need to harmonize what we're doing and make it work in a way that we're not spending all this money and spinning our wheels."

Aaron Davis covers D.C. government and politics for The Post and wants to hear your story about how D.C. works — or how it doesn't.

PROMOTED STORIES

Recommended by

A COMMON THEME

IS SINGLE-STREAM RECYCLING SERVICE THE SALVATION OF ALL RECYCLING PROGRAMS OR IS THERE A BETTER WAY FORWARD? OUR AUTHOR DIGS INTO THE UNTOLD STORY OF REAL RESIDUE RATES AND A PREFERABLE METHOD TO TRULY RECYCLE MORE MATERIALS AT MATERIALS RECOVERY FACILITIES.

BY SUSAN COLLINS

The importance of preserving material quality and avoiding cross-contamination has become a common theme in many recent technical reports on recycling. Indeed, the Container Recycling Institute's (CRI) website features over a dozen reports and articles about the issue of quality problems with single-stream recycling collection and processing. Unfortunately, there is widespread confusion about what losses in materials mean. Most studies rely on the materials recovery facility (MRF) residue rate, without quantitative consideration of additional losses that occur post-MRF. As the data in this article show, the additional losses after materials leave the MRF can be up to twice as large as the MRF residue rate. With an overall loss rate of 22 to 27 percent by weight, single-stream recycling is a system that is far from optimal.

In the average single-stream collection program, if you collect 100 tons of recyclables at the curb, 73 to 78 tons will actually be recycled into new products, and most of the rest will be landfilled.

There are existing systems in different parts of the world that use multiple streams of collection in order to maximize tonnage recovered, while delivering high-quality recyclables.

As we seek new policies to increase recycling rates, we need to start reporting what is *actually* recycled, not just what is *collected* for recycling. Collection and processing methods have changed dramatically in the last two decades, but reporting mechanisms haven't evolved to capture new recycling rate information correctly. Process losses occur at the MRF when contaminants are removed, and even greater levels of contamination are removed when materials arrive at paper mills, plastics reclaimers and other materials processing facilities.

In the average single-stream collection program, if you collect 100 tons of recyclables at the curb, just 73 to 78 tons will actually be recycled into new products, with most of the rest landfilled.

Continuation of CRI's single-stream research

In the 2009 report, *Understanding the economic and environmental impacts of single-stream recycling*, CRI detailed the contamination rates and yield losses for specific recyclables, but at that time, there was not enough data to create an overall yield loss number for all recyclables

collected through single-stream curbside recycling. A key element that was missing was the average composition of single-stream residential recyclables. *Resource Recycling* released the results of their first annual survey of materials recovery facility (MRF) operators in the Jan. 2011 issue, and the results included the composition of recyclables at MRFs.

Moving materials at MRFs

Resource Recycling received survey responses from 200 MRF managers of large and small facilities in 44 states. Some facilities were dual-stream, some single-stream. A few used mixed waste processing. The source of materials varied, from residential to commercial, to a mix of both. Incoming material types varied as well, with some facilities excluding such materials as glass, Nos. 3-7 plastics or other categories.

For this project, we selected all of the facilities that both processed all residential recyclables from single-stream collection, and were from states without a container deposit program. There were eight facilities that met these criteria located in eight different states. The average composition of the materials sorted by these MRFs is indicated in Table 1, with the majority of the material stream being paper. Note that the residual rate for these selected facilities, eight percent, is lower than the average residual rate of 10 percent for the entire list of facilities surveyed. Also, due to a lack of data about the contamination rate for "other" recyclables, we assumed, for the sake of these calculations, that there was no contamination. This is an unlikely scenario – therefore, the overall contamination calculation would likely be higher than that shown in Table 1.

Averages and ranges

The data are presented here as averages and ranges. There isn't a single, specific number that represents the total yield loss from single-stream collection. Brokers, mills and processors will nearly always say "it depends on the MRF" when asked about quality and percent contamination. Brokers often go on to say that they have some single-stream MRF clients that produce lower levels of contamination than source-separated programs. The variation is due to different program parameters, such as types of materials accepted, type and frequency of public education,

Table 1 | Losses through single-stream recycling in states without container deposit programs

	Composition per 100 tons, as sorted at the MRF (%)	Percent loss at secondary processing facility	Remaining amount that is actually recycled (%)
Glass	17	21 to 40	10.2 to 13.43
Paper	55	15 to 18	45.1 to 46.75
Plastic	10	32.2	6.78
Steel	4	0	4
Aluminum	3	2 to 11	2.67 to 2.94
Other (recyclables)	4	unknown	4
Residual	8	100	0
TOTAL	101	22.10 to 27.255	72.75 to 77.90

Note: total adds to 101, due to rounding.
Source: Container Recycling Institute, 2012

pay-as-you-throw or incentive-based programs, versus unlimited service, as well as the demographics of each community. All of these factors affect the percent residuals that will be received by the MRF due to improper sorting by residents. Therefore, if you want to know the quality and contamination levels achieved by a certain program, consult the documentation specific to that program.

It is important to understand that some of these losses are due to the collection and sorting method, while other losses are consistent across all collection methods. There will be unavoidable losses from processing even the cleanest materials. Some "contaminants" are attached to the recyclable, such as polypropylene caps on most PET bottles, or metal caps on glass bottles. We have explained the nature of the losses in the description for each material type.

PET yield loss

Like paper mills, PET reclaimers carefully measure yield loss for different sources of materials. Yield loss measurement is critical to their financial health – they must know how much material they will be able to sell after cleaning and processing incoming bales. These reclaimers must also know how much the cleaning process will cost and the amount of material they will need to landfill.

Some of the yield loss in PET bottles is naturally attached to the bottle, such as caps, labels and adhesives, which, collectively, make up approximately 13 percent of the weight of PET bottles (note that this

number varies from bottle to bottle, because bottle designs are so different). Many of the caps are polypropylene, and they are often removed and recycled, but the labels and adhesives are generally disposed of. Other contaminants may be "look-alike" bottles that were mistakenly added to the PET bale, but are a different resin type, and so they must be separated before the bottles are recycled.

The yield loss for PET is used as a proxy for all plastics in Table 1, but this may overstate yield losses for all plastics. The bale yield loss rate for "all bottles" was significantly lower (22.1 percent in 2009) than the yield loss rate for PET bottles (32.2 percent for 2010), but 2010 "all-bottle" data are not available. PET bottles make up more than half of all bottles recovered in the U.S., by weight, according to 2009 data from the American Chemistry Council (ACC).

If recycling rates are reported without removing yield loss from the contamination, it can lead to inflated recycling rates and double-counting. For example, when the polypropylene caps are recycled, the weight of those caps is counted in the polypropylene recycling rate. The labels, adhesives and other contaminants are disposed of, but their weight has already been counted as "recycling" in the annual National Association for PET Container Resources (NAPCOR) and Association of Postconsumer Plastic Recyclers (APR) report. For these reasons, the U.S. Environmental Protection Agency has recently adjusted its calculation

of the PET recycling rate to include only the amount of PET that is actually recycled, and to exclude contaminants, other materials and yield losses.

Plastics

In 2009, *Plastics News* conducted a survey of HDPE and PET reclaimers, and the results indicated that yields in 2009 were 10 points lower than in 2007. The NAPCOR/APR 2010 Report on Post-Consumer PET Container Recycling Activity has detailed information about yield losses, noting in 2010, "U.S. reclaimers reported yield losses ranging from 24.4 percent for deposit bottles to 32.2 percent for curbside material," which is an increase of about seven percentage points from 2009.

For non-bottle rigid plastic recycling, similar contamination issues exist, and they are also a threat to the plastics recycling industry and the jobs they create. As the ACC reported in its 2009 *United States National Post-Consumer Plastics Bottle Recycling Report*, "This lack of adherence to quality standards is a significant barrier to developing more domestic reclamation capacity."

Paper

In CRI's 2009 report, *Understanding economic and environmental impacts of single-stream collection systems*, we found that paper mills that receive materials from single-stream MRFs have contamination rates that are as high as 18 percent. Individual interviews with several paper mills indicate an average contamination rate of 15 percent, but these mills are all in regions that have container deposit programs, which remove most of the glass and much of the plastic from the curbside stream.

Aluminum

An interview with the largest aluminum recycler, cited in the 2009 CRI single-stream report, give us the average contamination rate range of 2 to 11 percent. Like other materials, aluminum recyclers report that contamination rates are increasing, and that they have made additional investments in pre-treatment facilities to improve material quality. Contamination in aluminum is not merely inconvenient – there can be serious consequences. For decades, the aluminum industry has fervently warned against the inclusion of plastics in the alu-

minum stream because of safety concerns in processing and melting.

Glass

It is important to know the breakdown of the amount of glass that is recycled for use as cullet to make glass bottles or fiberglass, versus the amount of glass that is used for aggregate or landfill daily cover. Recycling tonnages are often used in calculations of energy savings, greenhouse gas and other emission savings, and job creation, and there is a potential to overstate these environmental and economic benefits if the use of the glass is misunderstood.

Data from a dozen glass processing (beneficiation) facilities indicate that 60 percent of glass coming from single-stream programs is useable for making glass bottles or fiberglass. Another 19 percent is undersize material, some of which can be used as road base or landfill daily cover, and 21 percent is a combination of non-glass residue and undersize material, which is not useable and is sent directly to landfill.

In contrast, 90 percent of glass from dual-stream programs can be recycled into containers and fiberglass, with the remaining 10 percent being glass fines used for low-end applications. Glass from container deposit programs is color-sorted, resulting in 98 percent being recycled and only 2 percent marketed as glass fines.

Alternatives to single-stream collection

Multi-stream collection is the norm in European countries such as Germany and Belgium, where municipalities collect all glass separately in neighborhood drop-off igloos, while paper and paperboard are collected separately from containers and packaging. European glass recycling rates reached 67 percent in 2009, around twice the U.S. glass recycling rate.

In addition to accepting glass in its curbside recycling program, the City of Fort Collins, Colorado encourages residents to use glass-only drop-off bins to ensure that 100-percent of the glass can be used to make new glass bottles.

Mark Bowers, of Sunnyvale, California, reports that his community has provided dual-stream collection, using split carts, for over a decade. Mr. Bowers concludes that, "Based on our data compared to data from single-stream conversions, it is clearly

the cart, not the ability to put all of one's recyclables in one container, that spurs the increase in recycling when people switch to carts and (coincidentally) single-stream. That is, you get the same participation boost by going to carts and dual stream. At the same time, processing capital and operating costs are lower and you maintain the value of the fibers by keeping them separate from the other materials."

The City of Auburn, Maine had implemented a single-stream recycling program, but decided to convert the program to a dual-stream collection program, in order to preserve material quality. A 2011 report by the Waste & Resources Action Programme in the U.K. goes a step farther, and recommends curbside sorting of materials, to preserve maximum quality.

Daniel Lantz, of Cascades Recovery Inc., reports that the City of Ottawa conducted a survey of the public and, in response, they chose to retain their dual-stream collection system, relying on alternating week collection to provide the same cost savings as single-stream.

Conclusion

While there have been many debates about the merits of single-stream versus dual-stream recycling, they have occurred in the absence of complete data on the total losses that occur as a result of single-stream collection systems. This article attempts to quantify the amount that is *actually* recycled as a result of single-stream collection, which provides a correction to the previous error in the calculations of recycling rates and recycling tonnages. However, there is much more work to be done to correct cost-per-ton calculations and convert to cost-per-ton-recycled, as well as to research best practices for dual- or multi-stream collection that achieve the best possible cost efficiencies. With better data, we can make better decisions. 

Susan Collins is the executive director of the Container Recycling Institute. She can be reached at scollins@container-recycling.org. CRI has more information about single-stream recycling on its website at <http://www.container-recycling.org/issues/singlestream.htm>.

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City of Fayetteville Staff Review Form

Georgia Pacific Harmon
Recycling contract agreement
171-15, 136-15

2015-0508

Legistar File ID

N/A

City Council Meeting Date - Agenda Item Only

N/A for Non-Agenda Item

Brian Pugh

10/26/2015

Recycling & Trash Collection /
Transportation Services Department

Submitted By

Submitted Date

Division / Department

Action Recommendation:

Approve and sign a no fee Contract Agreement with Georgia Pacific Harmon Recycling for recycling services related to the single stream pilot program

Budget Impact:

Account Number		Fund	
Project Number		Project Title	
Budgeted Item?	NA	Current Budget	\$ -
		Funds Obligated	\$ -
		Current Balance	\$ -
Does item have a cost?	NA	Item Cost	
Budget Adjustment Attached?	NA	Budget Adjustment	
		Remaining Budget	\$ -

V20140710

Previous Ordinance or Resolution # 171-14,136-15

Original Contract Number:

Approval Date: 10-28-15

Comments: Item pertains to previous resolutions 171-14 & 136-15



STAFF MEMO

TO: Mayor Lioneld Jordan

THRU: Terry Gulley, Transportation Services Director

FROM: Jeff Coles, Recycling and Trash Collection Division Director

DATE: October 26th, 2015

SUBJECT: Approve and sign a no fee Contract Agreement with Georgia Pacific Harmon Recycling for recycling services related to the single stream pilot program

RECOMMENDATION:

Approve and sign a no fee Contract Agreement with Georgia Pacific Harmon Recycling for recycling services related to the single stream pilot program

BACKGROUND:

The City Council passed Resolution Number 136-15 on August 4th 2015, to amend the existing contract with Kessler Consulting, Inc. to include the implementation of two recycling pilot programs, one for commercial food waste composting, and the other for single stream recyclables.

DISCUSSION:

By executing this agreement with Harmon Recycling for the processing of single stream recyclables collected from approximately 1030 homes in Fayetteville, the City will gain specific data on which to model the potential impacts of full-scale programs and also see tangible results related to volumes and potential contamination levels.

BUDGET/STAFF IMPACT:

None

Attachments:

Contract Agreement



RECYCLABLE MATERIAL PURCHASE & SERVICES AGREEMENT

THIS RECYCLABLE MATERIAL PURCHASE & SERVICES AGREEMENT (this "**Agreement**") is dated October 15, 2015 (the "**Effective Date**") and is between GP Harmon Recycling LLC, a Georgia limited liability company, at Two Jericho Plaza, Suite 200, Jericho, New York 11753-1681 ("**GP Harmon**"), and City of Fayetteville an Arkansas municipal corporation, at 113 W. Mountain Street, Fayetteville, Arkansas 72701 ("**City**"). City and GP Harmon may be individually referred to herein as "**Party**" or collectively as "**Parties**" and hereby agree to the following terms and conditions:

1. **TERM** -- The term of this Agreement shall commence on the Effective Date and shall remain in effect for a period of six (6) months from the date on which GP Harmon receives its first delivery of Recyclable Material from the City (the "**Pilot Period**"). At least thirty (30) days prior to the expiration of the Term, the Parties shall endeavor to discuss their interest in an extension of the Pilot Period and/or the negotiation of a long-term contract based on the outcome of each party's performance under this Agreement.
2. **PURCHASE** -- During the Pilot Period, City shall deliver to GP Harmon's facility located at 1421 E 15th St, Fayetteville, Arkansas 72701 (the "**Facility**") single-stream recyclables collected by City in the municipality of Fayetteville, Arkansas, which recyclables may include, but not be limited to, paper fibers (e.g., newspaper, corrugated cardboard, mixed paper, paperboard/chipboard), plastic containers #1-#7, aluminum and steel cans, and glass bottles and jars (collectively "**Recyclable Material**"). GP Harmon shall be entitled to market and re-sell all Recyclable Materials recovered in each load delivered by City for GP Harmon's sole benefit, with the exception of glass recyclables, which are to be made available for pick-up by City once sorted for marketing by City pursuant to the terms of an existing contract. GP Harmon will work to maximize recovery of all glass and other recyclables, and shall ensure that glass recyclables made available to City contain less than ten percent (10%) non-recyclable glass ("**Contaminants**"). In consideration of the Recyclable Material delivered to GP Harmon, GP Harmon shall provide City the Services set forth below.
3. **DELIVERY; WARRANTIES** -- City shall deliver the Recyclable Material to the Facility. Title and risk of loss to the Recyclable Material shall transfer to GP Harmon upon City's completion of unloading the Recyclable Material at the Facility; *provided, however*, that City shall at all times retain title to all glass recyclables and any Hazardous Materials (defined below) included in such delivered Recyclable Material. City warrants that GP Harmon shall have marketable title to the Recyclable Material free of all lawful liens and encumbrances and that the Recyclable Material shall be free of all Hazardous Materials. For purposes of this Section 2, "**Hazardous Materials**" is defined as any toxic, hazardous, dangerous, or restricted substance or waste, including medical waste, petroleum, any byproducts or fractions thereof, polychlorinated biphenyls (PCBs), urea formaldehyde foam insulation, asbestos, radon, other radioactive substances, poly-aromatic hydrocarbons, pesticides, and any other substances regulated by, and identified as "hazardous" by, federal, state, local or municipal laws, regulations, rules, and codes, and any judicial or administrative interpretation thereof, on the basis of their actual or potential adverse effect on human health and/or the environment.
4. **SERVICES** -- In exchange for the receipt of the Recyclable Material, GP Harmon shall perform the services and activities as described herein and in **Exhibit A** attached hereto (collectively, the "**Services**") at no charge to City unless otherwise mutually agreed by the parties in writing. GP Harmon warrants that it will perform all Services in a workmanlike manner and in compliance with all applicable laws, regulations and rules. GP Harmon will permit City, its employees and/or agents to observe GP Harmon's processing operations in order to review compliance with the Agreement and all applicable federal, state and local laws, rules, and regulations. Such access shall be granted during normal business hours, subject to City providing advance verbal or written notice. While at the Facility, City and/or its representatives shall be accompanied by a GP Harmon employee at all times during their visit unless otherwise authorized by authorized GP Harmon personnel. City and/or its representatives shall wear such protective equipment or clothing as may be required by GP Harmon during their visit and shall abide by

all GP Harmon safety rules and regulations. City shall not, and shall ensure that its representatives do not, bring any illegal drugs, alcohol or weapons on the site or take any photographs or make any recordings during their visit without written authorization by authorized GP Harmon personnel. City acknowledges and understands the potential dangers and risks associated with facilities of this nature. City voluntarily assumes all risks, responsibility and liability of (i) the negligent acts or omissions of City and/or its representatives and (ii) personal injury or property damage to City and/or its representatives that may occur while at the Facility.

5. **EXCUSED NONPERFORMANCE** — Acts of God, war (declared or undeclared), acts of a public enemy, acts of a government of any country, state or political subdivision or regulatory agency thereof or entity created thereby, embargoes, terrorism or sabotage, fires, floods, weather, explosions, or other catastrophes, epidemics or quarantine restrictions, strikes or other labor stoppages, facility slowdowns, curtailments or closures, logistics disruptions or causes beyond the reasonable control of a Party which (i) prevent such Party from performing any obligation hereunder or (ii) prevent GP Harmon from receiving or reselling Recyclable Material (each, a "**Force Majeure Event**") shall suspend the obligation of the Party affected by such Force Majeure Event (the "**Affected Party**") to perform hereunder during the period required to remove such Force Majeure Event. The Affected Party shall promptly notify the other Party of the Force Majeure Event and the cause of such Force Majeure Event and use commercially reasonable efforts to work around the effects thereof. If the Affected Party is City and the period of such Force Majeure Event lasts longer than sixty (60) calendar days then GP Harmon may at any time thereafter, while such Force Majeure Event continues, terminate this Agreement without penalty, liability or further obligation therefore, immediately upon providing notice of such termination to City. If the Affected Party is GP Harmon then City shall be excused from any restrictions (as applicable) on selling Recyclable Material to third parties until the Force Majeure Event ceases to continue or City may terminate this Agreement without penalty, liability or further obligation therefore, immediately upon providing notice of such termination to GP Harmon.
6. **ASSIGNMENT** — Neither Party shall assign this Agreement or its rights or obligations or any part thereof under this Agreement, by operation of law nor otherwise, without the other Party's prior written consent, which shall not be unreasonably withheld, conditioned or delayed. This Agreement shall automatically be binding upon and inure to the benefit of each Party's permitted successors and assigns. Notwithstanding any contrary provision of this Section 6, either Party may, transfer or assign this Agreement and all of its rights and obligations hereunder, to any of its Affiliates having equal or better financial standing than the assigning Party, upon written notice to the non-assigning Party, provided that the assigning Party shall remain jointly liable with its Affiliate assignee for the obligations and liabilities hereunder. Wherever used in this Agreement, "**Affiliate**" means, with respect to any Person (defined below) any other Person that, directly or indirectly through one or more intermediaries, controls, or is controlled by, or is under common control with, that Person. "**Person**" means any individual, corporation, partnership, limited liability company, firm, joint venture, association, joint-stock company, trust, unincorporated organization, governmental body or other entity.
7. **NON-WAIVER** -- No failure to enforce any provision or obligation of this Agreement shall be deemed to, or shall constitute a waiver of, such provision and no waiver of any of the provisions of this Agreement shall be deemed to, or shall constitute a waiver of, any other provision or obligation of this Agreement, nor shall such waiver constitute a continuing waiver.
8. **DEFAULT** — The following events of default shall constitute a material breach for which the non-breaching Party shall have the right to terminate this Agreement upon written notice and without liability or further obligation hereunder: (i) either Party breaches any representation, warranty, covenant or other obligation set forth in this Agreement, or (ii) a Party becomes unable to pay its bills as they become due in the ordinary course, a trustee or receiver of a Party's property is appointed, a Party makes an assignment for the benefit of creditors, a petition in bankruptcy is filed by or against a Party or a Party terminates or liquidates its business. Prior to terminating the Agreement pursuant to sub-paragraph (i) above, the non-breaching Party shall provide the breaching Party thirty

(30) calendar days to cure any default capable of cure. The thirty (30) day cure period is voidable if habitually abused by the breaching Party.

9. **CUMULATIVE RIGHTS** -- The duties and obligations imposed by this Agreement, and the rights and remedies available hereunder to the Parties hereto are in addition to, and are not to be construed in any way as a limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available under this Agreement, at law or in equity.

10. **CONSEQUENTIAL DAMAGE DISCLAIMER** -- NEITHER PARTY SHALL BE LIABLE TO THE OTHER FOR CONSEQUENTIAL, INCIDENTAL, SPECIAL OR PUNITIVE DAMAGES, INCLUDING, BUT NOT LIMITED TO, ECONOMIC CONSEQUENTIAL DAMAGES SUCH AS LOST PROFITS, LOST PRODUCTION, COST OF CAPITAL OR LOST BUSINESS OPPORTUNITY.

11. **TAXES** -- City shall be responsible for the payment of all taxes, fees, charges or assessments (municipal, state or federal) which arise from this Agreement (excluding any tax based upon GP Harmon's net income).

12. **APPLICABLE LAW** -- This Agreement shall be governed by and interpreted in accordance with the internal laws of the State of Arkansas applicable to contracts made and to be performed wholly within such state, without reference to principles of conflicts of laws. The state and federal courts sitting in Washington County, Arkansas, shall have exclusive jurisdiction of all disputes hereunder.

13. **DISPUTE RESOLUTION** -- In the event of any disputes, claims and other matters in question between the parties arising out of the terms and conditions of this Agreement or the performance of either party hereunder, the parties agree to resolve such matter in the following manner:

(a) The parties shall attempt in good faith to resolve such matter promptly by negotiation between individuals from each party who have authority to settle the controversy and who do not have direct responsibility for day-to-day administration of this Agreement.

(b) The disputing party shall give the other parties written notice of any dispute not resolved in the normal course of business. Within fifteen (15) business days after receipt of the notice, the receiving parties shall each submit to the other parties a written response. The notice and response shall include (i) a statement of the party's position and (ii) the name and title of the individual who will represent that party. The parties shall meet for negotiations at a mutually agreed time and place within thirty (30) business days of the date of the disputing party's notice and thereafter as often as they reasonably deem necessary to exchange relevant information and to attempt to resolve the dispute. All reasonable requests for information made by one party to the other parties will be honored. All negotiations pursuant to this clause are confidential and shall be treated as compromise and settlement negotiations for purposes of applicable rules of evidence.

(c) If the matter has not been resolved pursuant to the aforesaid procedure within thirty (30) days of the commencement of such procedure, or if any party will not participate in the negotiations, any party may initiate litigation or otherwise pursue whatever remedies may be available to such party.

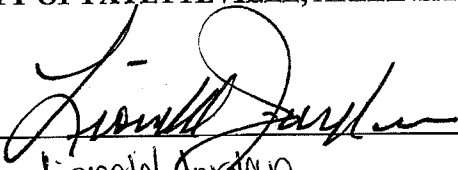
(d) All deadlines specified in this section may be extended by mutual agreement.

(e) The procedures specified in this section shall be the sole and exclusive procedures for the resolution of disputes between the parties arising out of or relating to this Agreement; however, a party may seek a preliminary injunction or other preliminary judicial relief if in its judgment such action is necessary to avoid irreparable damage. Despite such action, the parties will continue to participate in good faith in the procedures specified in this section. All applicable statutes of limitation shall be tolled while the procedures specified in this section are pending. The parties will take such action, if any, required to effectuate such tolling.

14. **NOTICES** -- All notices, consents, communications or transmittals under the Agreement shall be in writing and shall be deemed given on the day of delivery if delivered by hand, by nationally recognized overnight courier or delivery service, or by facsimile (with written confirmation of the completed transmittal); or within three (3) business days if mailed by United States mail as certified or registered mail with return receipt, postage prepaid, addressed to the Party to whom such notice is given at the address of such Party as set forth herein.
15. **FREEDOM OF INFORMATION ACT** -- GP Harmon agrees and understands that this Agreement and documents submitted to the City are subject to the Arkansas Freedom of Information Act (FOIA), A.C.A. §25-19-101 et seq. If a FOIA request is presented to the City requesting such documents, GP Harmon will do everything possible to provide the documents in a prompt and timely manner as prescribed by the Arkansas FOIA. Only legally authorized photocopying costs pursuant to the FOIA may be assessed for this compliance.
16. **COMPLETE AGREEMENT** -- This Agreement, which includes all attachments, schedules, exhibits and/or annexes attached or subsequently incorporated in this Agreement, constitutes the entire understanding and agreement between the Parties regarding the subject matter of this Agreement, and supersedes all prior or contemporaneous agreements, oral or written, made between the Parties relating to such subject matter and the standard sales and/or purchase terms and conditions that may be exchanged by the Parties in connection with orders for Recyclable Materials.

IN WITNESS WHEREOF, the Parties hereto have caused this Agreement to be executed by their duly authorized representatives on the day and year first above written.

CITY OF FAYETTEVILLE, ARKANSAS

By: 
Name: Lionell Jordan
Title: Mayor
Date: 10-20-15

GP HARMON RECYCLING LLC

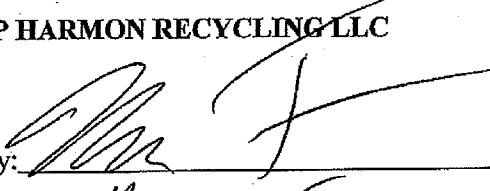
By: 
Name: Marc Forman
Title: President
Date: 10/26/15

EXHIBIT A
SERVICES

- GP Harmon will accept all deliveries of Recyclable Material made by City to the Facility Monday through Friday during the hours of 7:00 a.m. to 3:30 p.m. GP Harmon shall make any glass recyclables included in prior deliveries to the Facility and with less than ten percent (10%) Contaminants available during the same time period following processing.
- Upon delivery at the Facility, GP Harmon will unload and weigh each load of incoming Recyclable Material. GP Harmon shall also separately weigh each type of Recyclable Material recovered through processing, as well as any rejects/residue.
- Any non-hazardous waste will be disposed of by GP Harmon in accordance with industry standards and any applicable laws and/or regulations. City shall be responsible for, and shall at all times retain title to, any Hazardous Material delivered to the Facility. Upon GP Harmon's request, City shall arrange for transportation and disposal of such Hazardous Material at City's sole expense.
- During the Pilot Period, GP Harmon shall provide weekly tonnage reports for the Recyclable Material delivered, which shall include the following data at a minimum:
 - Delivery date, truck number, and tonnage of all inbound materials.
 - Type and weight of each recovered material, as well as rejects/residue.
 - Market and market value for each type of recovered material marketed.

Such reports shall be referred to hereinafter as the "**Data Reports.**"

- Upon request, GP Harmon shall conduct a composition study of rejects/residue to determine the percentage of contaminants versus Recyclable Material not being recovered (the "**Composition Report**"). The City and GP Harmon will work jointly to develop an appropriate methodology for the Composition Report, which methodology shall be subject to final approval by the City. City shall be provided the opportunity to observe the Composition Report.
- City hereby grants to GP Harmon a nonexclusive, worldwide, royalty-free, irrevocable, perpetual license to use, execute, reproduce, display, perform, distribute copies of, and prepare derivative works of the Composition Report and Data Reports in the pursuit of similar relationships with other municipalities for the provision of single-stream recycling services. In utilizing such reports, GP Harmon shall de-identify and/or aggregate data as needed to ensure protection of the confidentiality of City's identity.

RESOLUTION NO. 171-14

A RESOLUTION TO AUTHORIZE A CONTRACT WITH KESSLER CONSULTING, INC. OF TAMPA, FLORIDA FOR THE DEVELOPMENT OF A TEN YEAR SOLID WASTE MASTER PLAN IN AN AMOUNT NOT TO EXCEED \$264,890.00, AND TO APPROVE A BUDGET ADJUSTMENT

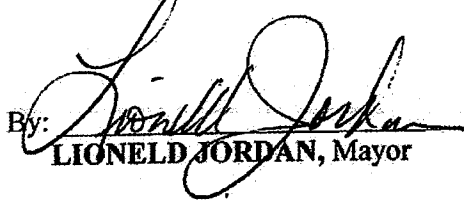
BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF FAYETTEVILLE, ARKANSAS:

Section 1: That the City Council of the City of Fayetteville, Arkansas hereby authorizes Mayor Jordan to sign a contract with Kessler Consulting, Inc. of Tampa, Florida for the development of a ten year solid waste master plan in an amount not to exceed \$264,890.00.

Section 2. That the City Council of the City of Fayetteville, Arkansas hereby approves a budget adjustment, a copy of which is attached as Exhibit "A".

PASSED and APPROVED this 16th day of September, 2014.

APPROVED:

By: 
LIONELD JORDAN, Mayor

ATTEST:

By: 
SONDRA E. SMITH, City Clerk/Treasurer



RESOLUTION NO. 136-15

A RESOLUTION TO APPROVE AMENDMENT NO. 1 TO THE CONTRACT WITH KESSLER CONSULTING, INC. IN THE AMOUNT OF \$39,980.00 FOR ASSISTANCE WITH THE DESIGN AND IMPLEMENTATION OF A COMMERCIAL FOOD WASTE PILOT PROGRAM AND A SINGLE STREAM RECYCLING PILOT PROGRAM, AND TO APPROVE A BUDGET ADJUSTMENT

BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF FAYETTEVILLE, ARKANSAS:

Section 1: That the City Council of the City of Fayetteville, Arkansas hereby approves Amendment No. 1 to the contract with Kessler Consulting, Inc. in the amount of \$39,980.00 for assistance with the design and implementation of a commercial food waste pilot program and a single stream recycling pilot program.

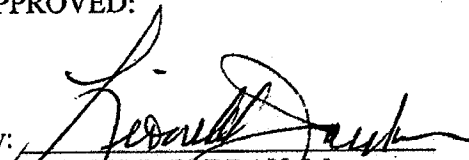
Section 2: That the City Council of the City of Fayetteville, Arkansas hereby approves a budget adjustment, a copy of which is attached to this Resolution.

PASSED and APPROVED this 4th day of August, 2015.

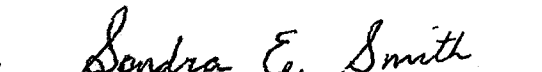
APPROVED:

ATTEST:

By:


LIONELD JORDAN, Mayor

By:


SONDRA E. SMITH, City Clerk Treasurer





OFFICE OF THE
CITY ATTORNEY

DEPARTMENTAL CORRESPONDENCE



Kit Williams
City Attorney

Blake Pennington
Assistant City Attorney

Patti Mulford
Paralegal

TO: **Mayor Jordan**
City Council

CC: **Don Marr**, Chief of Staff
Paul Becker, Finance Director
Terry Gulley, Transportation Director

FROM: **Kit Williams**, City Attorney

DATE: **December 6, 2016**

RE: **Recycling and Trash Master Plan Legal Analysis**

The more than 100 page proposed Recycling and Trash Master Plan with appendices of more than 100 additional pages was a long read. However, I urge you to read this whole Master Plan which includes policies and methods to force more recycling and composting upon citizens. Although many of these goals, policies and methods would require further authorization before actual implementation, do not believe including the language of bans and mandates in your adopted Master Plan is insignificant. **Only if you believe that citizens should be fined or otherwise punished if potentially recyclable or compostable items are within their trash cart should you adopt this Master Plan without amendment.**

LEGAL ISSUES

Most issues presented by this Recycling and Trash Master Plan are policy related rather than legal issues.

Trash collections reduced to every other week / Prices increased

The City Council may legally reduce the frequency of trash collections (which until about a decade ago were twice weekly as in many other southern

cities). The proposal in this Master Plan would reduce our current weekly collection to “Every other week trash collection.” (page 103). The Master Plan also recommends increasing the fees for medium and large trash carts to further increase their subsidies for the smaller 32 gallon trash carts and recycling programs. (page 44) Although there may be some limit on how much subsidy we can place on trash customers, I believe these subsidies are within the legal authority of the City Council for the figures used in the Master Plan.

Bans and Mandates

“To progress from 18%...even to 50% diversion in the next 10 years will require a fundamental change in how materials are managed. It will require putting the necessary policies, programs and facilities in place to bring about this change.” (page 30).

“Table 3-1 Potential Waste Diversion Options

Residential	Commercial/Multi-Family	Bulky Waste/C&D Debris
• • •	• • •	• • •
Bans or mandates	Ban or mandates	Ban or mandates.”
		(page 30)

Bans or mandates are more problematic from a legal perspective than increasing rates for trash collection or providing increased options for recycling or composting on a voluntary basis. **“This plan proposes the City consider disposal bans on recyclable materials included in the City program, yard waste, and food waste should diversion goals not be achieved.”** (page 103). Apart from the administrative problem of enforcement (will our trash truck drivers inspect the trash carts for offending paper or food waste before dumping?), does the City have the right to make items which are clearly legal for state approved landfills, illegal for trash cans? Can we prevent a private trash hauling company from hauling trash legally authorized to be accepted by a landfill out of Fayetteville?

Would we not face Interstate Commerce Clause objections and maybe litigation if we tried to ban the sale of legal products or packaging for products that we could not recycle or compost? (page 103).

I realize that a few cities in other states have instituted some types of mandates and bans to force more recycling. I believe some of these bans or mandates may have been challenged in the Courts. We should not present such an easy target for those in the Legislature that may be hostile to recycling and composting and possibly even hostile to municipally owned and operated trash and recycling departments by adopting a plan that recommends bans and mandates to achieve your diversion goals. The City of Fayetteville can work toward diverting more from the landfill without any distant threats of mandates and bans which have some inherent legal problems now and could inspire substantial reduction of municipal authority if adopted as presented in this Master Plan.

Branson, Lisa

From: CityClerk
Sent: Tuesday, December 06, 2016 7:42 AM
To: Alan Long (Longward4@gmail.com); Pennington, Blake; citycouncil@matthewpetty.org; Marr, Don; Eads, Gail; Roberts, Gina; Johnson, Kimberly; Williams, Kit; Branson, Lisa; Broyles, Lana; Jordan, Lioneld; Mulford, Patti; Norton, Susan; Pate, Jeremy; Smith, Lorinda; Smith, Sondra; Gray, Adella; Marsh, Sarah; Kinion, Mark; Tennant, Justin; Schoppmeyer, Martin; La Tour, John; Long, Alan
Cc: john@viridianusa.com
Subject: FW: Solid Waste Reduction, Diversion and Recycling Master Plan

From: John Coleman [mailto:john@viridianusa.com]
Sent: Monday, December 05, 2016 8:43 PM
To: CityClerk <cityclerk@fayetteville-ar.gov>
Cc: Jordan, Lioneld <ljordan@fayetteville-ar.gov>; Nierengarten, Peter <pnierengarten@fayetteville-ar.gov>
Subject: Solid Waste Reduction, Diversion and Recycling Master Plan

In short, I support it and the aggressive goals set forth by the City Council. Below is a letter to the editor I submitted last week. I don't know if it's going to be published or not, but it explains my reasoning for supporting implementation of the Solid Waste Reduction, Diversion and Recycling Master Plan.

Letter to the Editor of NWA Dem-Gaz:

Fayetteville is consistently recognized as a leader in sustainability efforts and has a long history of residential recycling success. Despite these efforts, thousands of tons of recyclable materials continue to go to the landfill each year. The City Council has set bold goals for increasing our diversion rate as a community and took an initial step by approving funding for the development of a master plan to guide investment decisions for the Recycling & Trash Division.

These efforts are important because our growing region relies on one landfill in Tontitown that has limited capacity. We also live in an increasingly resource-constrained world which requires long-term thinking and leadership.

The recent pilot programs for single-stream recycling and food composting were implemented to test two of the biggest opportunities for diversion and, based on the statistical analysis found on the City's website, were successful. Tons collected for the residential pilot were up 96% while actually reducing the amount of time spent for collection and tons collected for multi-family residential increased dramatically as well. Food compost was collected from a variety of sources (restaurants, U of A, elementary school, etc) and new measures were implemented to control odor and improve processing.

This is the type of efficiency and volume increase Fayetteville needs to be successful. Single-stream is not perfect, but the reality is that it increases the City's capacity to handle large volume recycling while improving operational efficiency. Efforts to reduce food waste while making composting an option is a prudent approach. With this in mind, I encourage our City Council to support adoption and implementation of the proposed master plan on Tuesday night.

John Coleman, P.E. , LEED AP BD+C
NWA Regional Office | Director

121 W South Street, Fayetteville, AR 72701
o: 479.301.2517, c: 479.595.5759, f: 501.227.8648
john@ViridianUSA.com | www.ViridianUSA.com



CityClerk

From: Eric Boles <eric@paradigmsustain.com>
Sent: Wednesday, February 08, 2017 11:02 AM
To: Johnson, Kimberly; Eads, Gail; Jordan, Lioneld; Mulford, Patti; Norton, Susan; Smith, Lorinda; Smith, Sondra; Long, Alan; Gray, Adella; Pate, Jeremy; Roberts, Gina; Marsh, Sarah; Lynch, Rhonda; Bunch, Sarah; Williams, Kit; Tennant, Justin; Kinion, Mark; Branson, Lisa; Alan Long (Longward4@gmail.com); Pennington, Blake; CityClerk; Marr, Don; citycouncil@matthewpetty.org; La Tour, John
Subject: Re: FW: document for Council Agenda Packet

All,

To be clear, the University of Arkansas nor Office for Sustainability has not taken a formal stance on this issue, and I was not using my title at the UA to endorse the Master Plan. I should not have sent that email from my uark account.

As a citizen of Fayetteville, the Plan is not a silver bullet, but is an improvement over the current system which would allow for an increase in diversion from the landfill, a solution for food waste composting, and provides a scalable strategy to service businesses and even the University.

All the best,
Eric Boles

On February 7, 2017 at 3:37:13 PM, CityClerk (cityclerk@fayetteville-ar.gov) wrote:

From: Eric Charles Boles [<mailto:eboles@uark.edu>]
Sent: Tuesday, February 07, 2017 2:44 PM
To: Roberts, Gina <groberts@fayetteville-ar.gov>; Smith, Lorinda <losmith@fayetteville-ar.gov>
Subject: document for Council Agenda Packet

Regarding the City Council meeting on the 21st, please include this article in their agenda packet. It highlights how UA Athletics effectively used **single stream recycling to achieve an outstanding 76% diversion rate**.

http://news.uark.edu/articles/37687/razorbacks-lead-sec-in-diversion-rate?utm_source=Newswire&utm_medium=email2017-02-03&utm_campaign=razorbacks-lead-sec-in-diversion-rate

Thank you,

Eric C. Boles, MSE

Director

Office for Sustainability

University of Arkansas, Fayetteville

eboles@uark.edu | [479.575.2405](tel:479.575.2405)

University of Arkansas

NEWS

Tuesday, February 07, 2017

Razorbacks Lead SEC in Diversion Rate

Feb. 03, 2017

FAYETTEVILLE, Ark. – When it comes to keeping waste generated during a football game out of the landfill and back into a recycling program, no one in the



Southeastern Conference can compete with the University of Arkansas. Based on results recently released as part of the 2016 Environmental Protection Agency's Game Day Challenge, the University of Arkansas is tops in the SEC and ranks seventh in the nation in diversion rate, the process of diverting waste from landfills.

Arkansas participated in the challenge for two home games during the 2016 football season including the Alabama (Oct. 8) and LSU (Nov. 12) games. Razorback Athletics teamed up with Boston Mountain Solid Waste District and the University of Arkansas Office of Sustainability to divert 76.855 percent of all waste generated from the LSU game to earn the best rate among SEC schools and a top-10 rate nationally.

Arkansas also finished second in the SEC and third in the nation in total recycling for the 2016 season with 53,950 pounds of recycled materials. In addition, Arkansas ranked second in the SEC in recycling per capita (.715) and greenhouse gas reduction per capita (.001057) and third in organics reduction per capita (.017) for the Alabama game.

"I want to thank Razorback fans for helping us turn game day trash into renewable resources," said Jeff Long, vice chancellor and director of athletics. "Led by our Athletics Facilities staff, and coordinated in conjunction with our sustainability partners on campus and in the community, we have been able to help establish a standard for diversion in the SEC and throughout the nation. While we are pleased with our progress, we remain committed to our collaborative work to minimize our footprint while maximizing the endorsement and promotion of sustainable practices."

The GameDay Recycling Challenge is a nationwide competition among universities to reduce and recycle the waste generated at home football games. During each competition cycle, participating schools report recycling, compost and attendance data for at least one home football game. The GameDay Recycling Challenge is administered by the College and University Recycling Coalition, RecycleMania, Keep America Beautiful and the U.S. Environmental Protection Agency's WasteWise.

As part of the competition, blue recycling bags were distributed to tailgaters and Razorback fans were encouraged to throw their recyclable waste in recycle bins located in Donald W. Reynolds Razorback Stadium, as well as parking lots and tailgating areas on campus. A 10-foot trailer was located at The Gardens while an addition trailer was located at Victory Village North, just north of the stadium and near the Tyson Poultry Science Center.

Arkansas ranked 10th nationally in total recycling in the same competition in 2015. This was the sixth year that the University of Arkansas has competed in the challenge that encourages students and fans to go "green" and recycle waste during selected football games.

Razorback Athletics continues to be a leader in sustainability efforts on campus and throughout Northwest Arkansas. The Department of Intercollegiate Athletics manages 23 percent of all recycling on the University of Arkansas campus.

CONTACTS

Kevin Trainor, associate athletic director, public relations
Razorback Athletics
479-575-6959, ktrainor@uark.edu



City of Fayetteville, Arkansas

113 West Mountain Street
Fayetteville, AR 72701
(479) 575-8323

Text File

File Number: 2017-0069

Agenda Date: 2/21/2017

Version: 1

Status: Agenda Ready

In Control: City Council Meeting

File Type: Resolution

Agenda Number: C. 1

KESSLER CONSULTING, INC.:

A RESOLUTION TO AUTHORIZE MAYOR JORDAN TO MAKE A FINAL PAYMENT TO KESSLER CONSULTING, INC. IN THE AMOUNT OF \$11,010.00 FOR EXTRA WORK ASSOCIATED WITH THE SOLID WASTE REDUCTION, DIVERSION, AND RECYCLING MASTER PLAN, AND TO APPROVE A BUDGET ADJUSTMENT

BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF FAYETTEVILLE, ARKANSAS:

Section 1. That the City Council of the City of Fayetteville, Arkansas hereby approves a payment of \$11,010.00 to Kessler Consulting, Inc. for extra work associated with the Solid Waste Reduction, Diversion, and Recycling Master Plan related to Change Order No. 1 for assistance with the design and implementation of a commercial food waste pilot program and single stream recycling pilot program.

Section 2. That the City Council of the City of Fayetteville, Arkansas hereby approves a budget adjustment, a copy of which is attached to this Resolution.

City of Fayetteville Staff Review Form

2017-0069

Legistar File ID

2/21/2017

City Council Meeting Date - Agenda Item Only

N/A for Non-Agenda Item

Jeff Coles

2/3/2017

Recycling & Trash Collection /
Transportation Services Department

Submitted By

Submitted Date

Division / Department

Action Recommendation:

A resolution to authorize Mayor Jordan to make a final payment to Kessler Consulting, Inc. in the amount of \$11,010 for extra work associated with the Solid Waste Reduction, Diversion, and Recycling Master Plan, and approve a budget adjustment.

Budget Impact:

5500.750.5080-5314.00

Recycling & Trash Collection

Account Number

Fund

04019.1

Waste Reduction & Recycling Plan

Project Number

Project Title

Budgeted Item? No

Current Budget \$ 3.00

Funds Obligated \$ -

Current Balance \$ 3.00

Does item have a cost? Yes

Item Cost \$ 11,010.00

Budget Adjustment Attached? Yes

Budget Adjustment \$ 11,010.00

Remaining Budget \$ 3.00

V20140710

Previous Ordinance or Resolution # See Below

Original Contract Number: 2337

Approval Date:

Comments: Previous City Council approval: Resolution 171-14 for \$264,890 (Original Agreement) and Resolution 136-15 for \$39,980 (Change Order #1). Purchase Order 140000415; Contract #2377

MEETING OF FEBRUARY 21, 2017

TO: Mayor and City Council

THRU: Terry Gulley, Transportation Services Director

FROM: Jeff Coles, Recycling and Trash Collection Director

DATE: Friday, February 03, 2017

SUBJECT: Final payment with Kessler Consulting, Inc.

RECOMMENDATION:

A Resolution to authorize Mayor Jordan to make a final payment to Kessler Consulting Inc. in the amount of \$11,010 for extra work associated with the Solid Waste Reduction, Diversion, and Recycling Master Plan.

BACKGROUND:

The City Council passed Resolution 171-14 in September of 2014 to authorize a contract with Kessler Consulting, Inc. to develop a 10 year solid waste master plan in order to attain a waste diversion rate of 80%. In August of 2015, contract change order 1 was authorized in Resolution 136-15 for assistance with the design and implementation of a commercial food waste pilot program and single stream recycling pilot program.

DISCUSSION:

Kessler Consulting, Inc. conducted the following activities during September 2016:

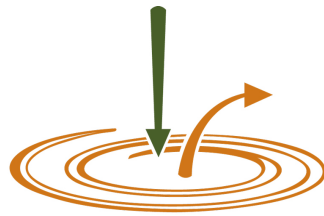
- Discussed with City the objectives of presentation to Water, Sewer, Recycling & Trash Committee (Committee).
- Coordinated meeting with representative of NWA Democrat Gazette editorial board.
- Discussed coordination of one-on-one meetings with the Mayor and Committee members.
- Made travel arrangements and confirmed final meeting schedule.
- Drafted PowerPoint presentation for Committee meeting.
- Conducted technical review of presentation and revised.
- Prepared for and participated in one-on-one meetings with the Mayor, Committee members, and NWA Democrat Gazette representative.
- Prepared for and presented master plan summary during Committee meetings; responded to questions; and participated in follow-up discussions with citizens and reporter.
- Debriefed with City regarding outcome of various meetings and next steps.

BUDGET/STAFF IMPACT:

Total cost of Change Order 2 is \$11,010. This change order will be paid for with Recycling and Trash Division Enterprise Funds.

Attachments:

- Budget Adjustment in the amount of \$11,010.
- Resolution 136-15
- Resolution 171-14



kessler consulting inc.
innovative waste solutions

BILL TO

City of Fayetteville
Attn: Jeff Coles
Via email:
jcoles@fayetteville-ar.gov

DATE

9/30/2016

INVOICE #

FAR-MP-MTGS

PROJECT

173-00.00

DESCRIPTION	HOURS	RATE	AMOUNT
Below are the labor expenses incurred by Kessler Consulting, Inc. during the period of September 2016.			
LABOR			
Mitch Kessler, Project Director	26	185.00	4,810.00
Robin Mitchell, Project Manager	33	140.00	4,620.00
Nikki McNew, Technical Support	1.5	60.00	90.00
TOTAL LABOR COSTS			9,520.00
EXPENSES			
Airfare			809.40
Transportation			212.14
Lodging			334.44
Meals			133.75
TOTAL EXPENSES			1,489.73
TOTAL AMOUNT INVOICED			11,009.73
<i>Activities for this period are described on the reverse.</i>			
Kessler Consulting is pleased to be working with the City of Fayetteville!	Total		\$11,009.73

14620 North Nebraska Ave., Bldg D, Tampa, FL 33613
Phone: 813-971-8333 Fax: 813-971-8582

CITY OF FAYETTEVILLE, AR
KCI Project No. 173-00.00

Solid Waste Reduction, Diversion, and Recycling Master Plan – Extra Meetings

Kessler Consulting, Inc. conducted the following activities during September 2016:

- Discussed with client the objectives of presentation to Water, Sewer, Recycling & Trash Committee (Committee).
- Coordinated meeting with representative of Northwest Arkansas Democrat Gazette editorial board.
- Discussed with client coordination of one-on-one meetings with Mayor and Committee members.
- Made travel arrangements and confirmed final meeting schedule.
- Drafted PowerPoint presentation for Committee meeting.
- Conducted technical review of presentation and revised.
- Prepared for and participated in one-on-one meetings with the Mayor, two Committee members, and Northwest Arkansas Democrat Gazette representative.
- Prepared for and presented master plan summary during Committee meeting; responded to questions; and participated in follow-up discussions with citizens and reporter.
- Debriefed with client regarding outcome of various meetings and next steps.



Hilton Garden Inn®

Fayetteville

1325 N. Palak Drive • Fayetteville, AR 72704
 Phone (479) 856-6040 • Fax (479) 856-6835
 Reservations
 www.HGI.com or 1 877 STAY HGI

Name & Address

KESSLER, MITCH
 14620 N NEBRASKA AVE STE D
 TAMPA FL 33613-1420
 UNITED STATES OF AMERICA

Room 430/Q2
 Arrival Date 9/26/2016 8:56:00 PM
 Departure Date 9/28/2016

Adult/Child 1/0
 Room Rate 98.00

Rate Plan: AA
 HH # 893458755 SILVER
 AL: DL #2037390909
 Car:

Confirmation Number: 3283264529

9/28/2016

Folio


Hilton
 HOTELS & RESORTS


 WALDORF
 ASTORIA
 HOTELS & RESORTS

CONRAD
 HOTELS & RESORTS

canopy
 BY HILTON

CURIO
 A COLLECTION BY HILTON


 DOUBLE TREE
 BY HILTON


 EMBASSY
 SUITES
 BY HILTON


 Hilton
 Garden
 Inn

Hampton
 BY HILTON


 tru
 BY HILTON


 HOMEWOOD
 SUITES
 BY HILTON

HOME2
 SUITES BY HILTON


 Hilton
 Grand Vacations


 HILTON
 HONORS

DATE	REFERENCE	DESCRIPTION	AMOUNT
9/26/2016	241053	GUEST ROOM	\$98.00
9/26/2016	241053	RM STATE TAX	\$6.37
9/26/2016	241053	RM CITY TAX	\$1.96
9/26/2016	241053	RM HMR CITY SUPPLEMENTAL TAX	\$1.96
9/26/2016	241053	RM COUNTY TAX	\$1.23
9/26/2016	241053	RM TOURISM TX	\$1.96
9/27/2016	241053	SERVICE RECOVERY: REVENUE	(\$98.00)
9/27/2016	241053	RM STATE TAX	(\$6.37)
9/27/2016	241053	RM CITY TAX	(\$1.96)
9/27/2016	241053	RM HMR CITY SUPPLEMENTAL TAX	(\$1.96)
9/27/2016	241053	RM COUNTY TAX	(\$1.23)
9/27/2016	241053	RM TOURISM TX	(\$1.96)
9/27/2016	241493	GUEST ROOM	\$98.00
9/27/2016	241493	RM STATE TAX	\$6.37
9/27/2016	241493	RM CITY TAX	\$1.96
9/27/2016	241493	RM HMR CITY SUPPLEMENTAL TAX	\$1.96
9/27/2016	241493	RM COUNTY TAX	\$1.23
9/27/2016	241493	RM TOURISM TX	\$1.96
9/28/2016	241567	GARDEN GRILLE BREAKFAST	\$4.47
9/28/2016	241567	FOOD TAX	\$0.44
9/28/2016	241567	F&B HMR TAX	\$0.09
9/28/2016	241568	GARDEN GRILLE TIPS	\$1.00
9/28/2016	241578	VS *7791	(\$117.48)
		BALANCE	\$0.00

MEALS

MEALS \$6.00
 LODGING \$111.48

ACCOUNT NO. VS *7791	
CARD MEMBER NAME KESSLER, MITCH	
ESTABLISHMENT NO. & LOCATION ESTABLISHMENT AGREES TO TRANSMIT TO CARD HOLDER FOR PAYMENT	
CARD MEMBER'S SIGNATURE X	

DATE OF CHARGE 9/28/2016	FOLIO NO./CHECK NO. 75255 A
AUTHORIZATION 08683G	INITIAL
PURCHASES & SERVICES	
TAXES	
TIPS & MISC.	
TOTAL AMOUNT	-117.48

PAYMENT DUE UPON RECEIPT

MERCHANDISE AND/OR SERVICES PURCHASED ON THIS CARD SHALL NOT BE RESOLD OR RETURNED FOR A CASH REFUND



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Fayetteville

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 Phone (479) 856-6040 • Fax (479) 856-6835
 Reservations
 www.HGI.com or 1 877 STAY HGI

Name & Address

KESSLER, MITCH

Mitchell, Robin

Room 323/Q2
 Arrival Date 9/26/2016 8:55:00 PM
 Departure Date 9/28/2016

Adult/Child 1/0
 Room Rate 98.00

Rate Plan: AA
 HH # 893458755 SILVER
 AL: DL #2037390909
 Car:

Folio

Confirmation Number: 3283264529

9/28/2016

DATE	REFERENCE	DESCRIPTION	AMOUNT
9/26/2016	241014	GUEST ROOM	\$98.00
9/26/2016	241014	RM STATE TAX	\$6.37
9/26/2016	241014	RM CITY TAX	\$1.96
9/26/2016	241014	RM HMR CITY SUPPLEMENTAL TAX	\$1.96
9/26/2016	241014	RM COUNTY TAX	\$1.23
9/26/2016	241014	RM TOURISM TX	\$1.96
9/27/2016	241176	GARDEN GRILLE BREAKFAST	\$8.95
9/27/2016	241176	FOOD TAX	\$0.87
9/27/2016	241176	F&B HMR TAX	\$0.18
9/27/2016	241177	GARDEN GRILLE TIPS	\$4.00
9/27/2016	241452	GUEST ROOM	\$98.00
9/27/2016	241452	RM STATE TAX	\$6.37
9/27/2016	241452	RM CITY TAX	\$1.96
9/27/2016	241452	RM HMR CITY SUPPLEMENTAL TAX	\$1.96
9/27/2016	241452	RM COUNTY TAX	\$1.23
9/27/2016	241452	RM TOURISM TX	\$1.96
9/28/2016	241564	GARDEN GRILLE BREAKFAST	\$4.47
9/28/2016	241564	FOOD TAX	\$0.44
9/28/2016	241564	F&B HMR TAX	\$0.09
9/28/2016	241565	GARDEN GRILLE TIPS	\$2.00
9/28/2016	241580	VS *7833	(\$243.96)
		BALANCE	\$0.00

MEALS

MEALS

MEALS = \$21.00
 Lodging = \$222.96

ACCOUNT NO.	
VS *7833	
CARD MEMBER NAME: KESSLER, MITCH	
ESTABLISHMENT NO. & LOCATION	ESTABLISHMENT AGREES TO TRANSMIT TO CARD HOLDER FOR PAYMENT
CARD MEMBER'S SIGNATURE X	

DATE OF CHARGE	FOLIO NO./CHECK NO.	
9/28/2016	75256 A	
AUTHORIZATION 05437G	INITIAL	
PURCHASES & SERVICES		
TAXES		
TIPS & MISC.		
TOTAL AMOUNT	-243.96	

PAYMENT DUE UPON RECEIPT



Record Locator **YIZVPI**

Itinerary

173-00
SEPT

Carrier	Flight #	Departing	Arriving	Fare Code
American	2064	TAMPA MON 26SEP 8:39 AM	CHARLOTTE 10:27 AM	N
Mitchell Kessler	Seat 7C	Economy	FF#: 0P7HR90 GLD	
Robin Mitchell	Seat 7D	Economy	FF#: 2B16LC2	
American	5193	CHARLOTTE MON 26SEP 11:54 AM	N W ARKANSAS REG 1:15 PM	N
OPERATED BY PSA AIRLINES AS AMERICAN EAGLE				
Mitchell Kessler	Seat 11C	Economy	FF#: 0P7HR90 GLD	Food For Purchase
Robin Mitchell	Seat 11D	Economy	FF#: 2B16LC2	Food For Purchase
American	3599	N W ARKANSAS REG WED 28SEP 12:25 PM	DALLAS FT WORTH 1:45 PM	Q
OPERATED BY ENVOY AIR AS AMERICAN EAGLE				
Mitchell Kessler	Seat 14C	Economy	FF#: 0P7HR90 GLD	
Robin Mitchell	Seat 14D	Economy	FF#: 2B16LC2	
American	1198	DALLAS FT WORTH WED 28SEP 3:03 PM	TAMPA 6:26 PM	Q
Mitchell Kessler	Seat 16C	Economy	FF#: 0P7HR90 GLD	Food For Purchase
Robin Mitchell	Seat 16D	Economy	FF#: 2B16LC2	Food For Purchase

Receipt

Passenger	Ticket #	Fare-USD	Taxes and Carrier-Imposed Fees	Ticket Total
Mitchell Kessler	0012388100875	335.81	68.89	404.70
Robin Mitchell	0012388100876	335.81	68.89	404.70
Visa XXXXXXXXXXXXXXX7791				\$ 809.40



Rental Agreement # 742629502
Invoice # 10015624466

173-00

Renter Information

Renter Name

MITCH KESSLER

Renter Address

14620 N. NEBRASKA AVE
BUILDING D
TAMPA, FL 33613
USA

Contract

STATE OF FLORIDA

Vehicle Information

COROLLA

License #: 845ULV

State/Province: AR

Vehicle Class Driven

Intermediate 2 or 4-Door/Automatic/Air

Vehicle Class Charged

Compact 2 or 4-Door/Automatic/Air

Odometer Mileage/Kilometers

Starting: 8147 Ending: 8237

Total: 90

Trip Information

Pickup

Mon, Sep 26 2016 13:11 PM

NW ARKANSAS REG ARPT (XNA) ✈

1 AIRPORT BLVD STE 113
BENTONVILLE, AR 72712-7160
USA

Return

Wed, Sep 28 2016 11:14 AM

NW ARKANSAS REG ARPT (XNA) ✈

1 AIRPORT BLVD STE 113
BENTONVILLE, AR 72712-7160
USA

Rental Charges

Rental Rate	2 Day at \$37.50 / Day	\$75.00
Coverages	Roadside Plus (\$0.00 / Day)	Included
	Loss Damage Waiver Full (\$0.00 / Day)	Included
Mileage	Unlimited Mileage	Included
Taxes and Fees	Customer Facility Chrg 3.50/day (\$3.50 / Day)	\$7.00
	Concession Recoupment Fee 11.11 Pct (11.11%)	\$8.33
	Ar Tax Recovery Tax 1.50/day (\$1.50 / Day)	\$3.00
	Sales Tax (22.50%)	\$20.32

Total

\$113.65

(Subject to audit)

Amount charged on Sep 28 2016 to MASTERCARD (6425) (\$113.65)

Amount Due

\$0.00

Thank you for renting with
National Car Rental

We appreciate your business!

This email was automatically generated
from an unattended mailbox, so please do
not reply to this e-mail.

If you have any questions about your
rental, please view our Frequently Asked
Questions or send us a secured message
by visiting our [Support Center](#)

WELCOME
Kum & Go

402

816 W Mainline Ave
Lowell AR

FUEL

72745

479-750-2132

Term: JD05800658003

Appr: 57434P

Seq#: 045793

Unleaded

PUMP No.

01

GAL

3.352

PRICE/G

\$1.949

TOTAL FUEL

\$6.53

TOTAL SALE

\$6.53

9/28/2016 10:56:03 A

Want to win FREE

Gas for a year?

Share your feedback

kumandgo.com/survey

MasterCard

Capture

XXXXXXXXXXXX6425

09/28/2016 10:55:07

173-00B

PR

TAMPA INTL.

AIRPORT

A5

RECEIPT NO.

TAMPA INTERNATIONAL

TERMINAL GARAGE

(813) 870-8791

IN: 09.26.16 07:14

OUT: 09.28.16 18:48

TICKET-NO.

40026640

PARK-DUR.: HRS:MIN

2:11:34

CALCULATED COSTS

USD 54.00

DISCOUNT

USD 0.00

PAID:

USD 54.00

CC-DATA:

VISA

XXXXXXXXXXXX7833

XXXXX 201

04280G

AUTH. CODE

RECEIPT NO.

A0051600009519"-12"

THANK YOU

FOR YOUR VISIT

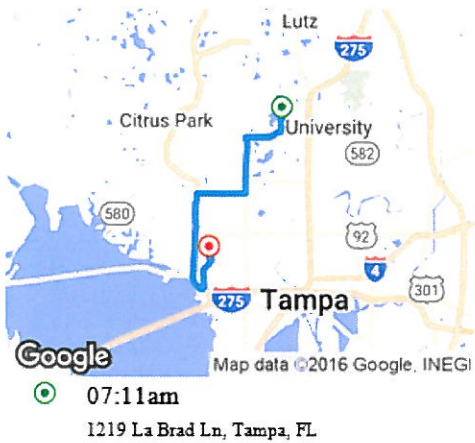
From: Uber Receipts <uber.us@uber.com>
Date: September 26, 2016 at 7:59:04 AM EDT
To: mk@kesconsult.com
Subject: Your Monday morning trip with Uber

SEPTEMBER 26, 2016

\$20.86

173-00

Thanks for choosing Uber, Mitch



07:11am
1219 La Brad Ln, Tampa, FL

07:57am
Blue Arrival Dr, Tampa, FL

CAR	MILES	TRIP TIME
uberX	14.65	00:46:41

FARE BREAKDOWN

Base Fare	1.00
Distance	11.72
Time	5.14
Subtotal	\$17.86
TOLL SURCHARGE: Veterans Expressway 4 Hillsborough Ave SB (?)	0.52
TOLL SURCHARGE: Veterans Expressway 6A Waters Ave. SOUTHBOUND (?)	0.78
Booking Fee (?)	1.70

CHARGED
Personal **** 6425

\$20.86

\$17.10

173.00

Thanks for choosing Uber, Mitch

September 28, 2016 | uberX

- 06:46pm | Red Departure Dr, Tampa, FL
- 07:16pm | 1220 La Brad Ln, Tampa, FL



You rode with ELIEZER

13.91
miles

00:29:46
Trip time

uberX
Car

Rate Your Driver



Your Fare

Base Fare	1.00
Distance	11.13
Time	3.27
Subtotal	\$15.40
Booking Fee (?)	1.70

CHARGED

\$17.10

Personal **** 6425

Chili's Grill & Bar
Fayetteville #906
772 E. Millsap St.
Fayetteville, AR 72703

Server: Josh
02:43 PM
Table 35/1

DOB: 09/26/2016
09/26/2016
7/70016

SALE

MASTERCARD 6291459
Card #XXXXXXXXXX6425
Magnetic card present: KESSLER MITCH E
Card Entry Method: S
Approval: 96906P

Amount: \$19.00

+ Tip: 3.00

= Total: 22.00

I agree to pay the above
total amount according to the
card issuer agreement.

X _____

Every Plate Has Its Perks
Join My Chili's Rewards
chilis.com/rewards

Gift Card activation is
delayed by 4 hours.

Guest Copy

The Paradies Shops
3026 - Smokewood American Grill
Northwest Arkansas Regional Airport
Bentonville, AR

866 Brandon

CHK 151165 TBL 51/1 GST 1

1 ICED TEA	2.79
1 CHILI	6.49
1 SMOKEHOUSE CHEESESTEAK	12.99

Food	\$22.27
Tax	\$2.12

Total Due \$24.39

Amount: \$24.39

Tip 4.00

Total \$28.39

X _____

ORIGINAL
A TASTE OF THAI
JUST OFF THE SQUARE
31 EAST CENTER ST, STE. 100
FAYETTEVILLE, AR 72701
(479)251-1800

CHECK #: 2018
TABLE #: TBL5
SERVER: Cody L
09/26/16

08:23pm

---[Seat 1]---
1 D38-MIXED VEG \$10.50
-----NO!-----
w/WHITE RICE
---[Seat 2]---
1 15-TOM KHA -CUP \$3.95
CHICKEN
-----NO!-----
1 D17-PAD THAI \$13.95
SEAFOOD
-----NO!-----
Subtotal \$28.40
Food Sales Tax: \$3.34
Sub w/Tax \$31.74
Total \$31.74

Amount \$31.74

Tip: 6-

Total: 37.74

Thank you! ☺

Follow SASSY'S on TWITTER!!
@sassysredhouse
1290 N Steamboat
Fayetteville, AR 72704
(479) 435-6996

Server: Dudley 09/27/2016
Table 43/1 1:58 PM
Guests: 0

#20016

Area: Restaurant

BBQ Baked Potato 7.99
3 Side Plate 5.99

Subtotal 13.98
Tax 1.64

Total 15.62

Balance Due 15.62

Approval: 06763G

Amount: \$ 15.62

+ Tip: 3-

= Total: 18.62

RESOLUTION NO. 171-14

A RESOLUTION TO AUTHORIZE A CONTRACT WITH KESSLER CONSULTING, INC. OF TAMPA, FLORIDA FOR THE DEVELOPMENT OF A TEN YEAR SOLID WASTE MASTER PLAN IN AN AMOUNT NOT TO EXCEED \$264,890.00, AND TO APPROVE A BUDGET ADJUSTMENT

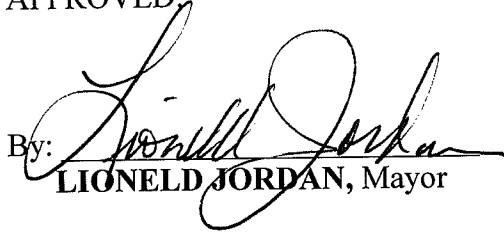
BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF FAYETTEVILLE, ARKANSAS:

Section 1: That the City Council of the City of Fayetteville, Arkansas hereby authorizes Mayor Jordan to sign a contract with Kessler Consulting, Inc. of Tampa, Florida for the development of a ten year solid waste master plan in an amount not to exceed \$264,890.00.

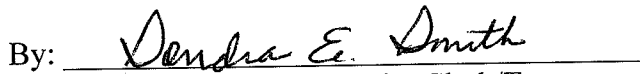
Section 2. That the City Council of the City of Fayetteville, Arkansas hereby approves a budget adjustment, a copy of which is attached as Exhibit "A".

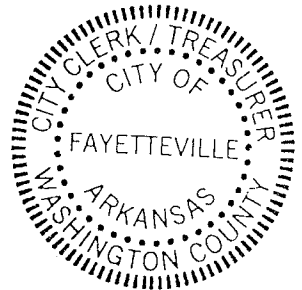
PASSED and APPROVED this 16th day of September, 2014.

APPROVED:

By: 
LIONELD JORDAN, Mayor

ATTEST:

By: 
SONDRA E. SMITH, City Clerk/Treasurer



Budget Year	Division: Sustainability & Resilience	Adjustment Number
2014	Dept.: Chief of Staff	
	Requestor: Serina Tustin	

\$264,890 for Solid Waste Reduction, diversion and Recycling Master Plan. Funds are adequate in Solid Waste fund balance for this adjustment.

[illegible]

City of Fayetteville Staff Review Form

2014-0396

Legistar File ID

9/16/2014

City Council Meeting Date - Agenda Item Only
N/A for Non-Agenda Item

Leif Olson

8/29/2014

Sustainability & Resilience /
Chief of Staff

Submitted By

Submitted Date

Division / Department

Action Recommendation:

Staff recommends approval of a Resolution to contract with Kessler Consulting in the amount of \$264,890 to complete a Master Plan to achieve an efficient and cost effective solid waste system that maximizes solid waste reduction, diversion and recycling and puts the City on the path to achieve our goal of 80% waste diversion. Approval of a Budget Adjustment.

Budget Impact:

5500.5080.5314.00

5500 - Solid Waste

Account Number

Fund

14019.1

Solid Waste Reduction/Recycling Master Plan

Project Number

Project Title

Budgeted Item? No

Current Budget \$ -

Funds Obligated \$ -

Current Balance \$ -

Does item have a cost? Yes

Item Cost \$ 264,890.00

Budget Adjustment Attached? Yes

Budget Adjustment \$ 264,890.00

Remaining Budget \$ -

Previous Ordinance or Resolution # 260-13

V20140710

Original Contract Number: _____

Approval Date: _____

Comments:

9/3/14



Paul G. Butler 2014 9-10-14
Don Gilman 9-3-14
Paul G. Butler

CITY COUNCIL AGENDA MEMO

MEETING OF SEPTEMBER 16, 2014

TO: Mayor Jordan and City Council

THRU: Peter Nierengarten, Sustainability and Resilience Director *PW*

CC: Jeff Coles, Recycling and Trash Collection Director

FROM: Leif Olson, Associate Planner

DATE: August 28, 2014

SUBJECT: Solid Waste Reduction, Diversion and Recycling Master Plan

RECOMMENDATION:

Approval of a Resolution to contract with Kessler Consulting in the amount of \$264,890 to complete a Master Plan to achieve an efficient and cost effective solid waste system that maximizes solid waste reduction, diversion and recycling and puts the City on the path to achieve our goal of 80% waste diversion.

BACKGROUND:

The City Council passed Resolution Number 260-13 in December 17, 2013 to develop a Request for Qualifications to hire a consultant to develop a 10 year solid waste master plan in order to attain a waste diversion rate of 80%. Staff developed a detailed project scope and received a total of five project proposals from qualified consulting firms. A selection committee made up of City Staff reviewed the proposals and interviewed the top three firms. Kessler Consulting Inc. was selected by the committee to be the most qualified to develop the master plan. Staff worked extensively with Kessler to develop a final scope of work that includes:

- A baseline operational assessment of the current system,
- A waste audit and litter composition study with an option to partner with the University to assess their solid waste generation and composition,
- An analysis of waste reduction and diversion options,
- Recovery scenarios modeling and financial evaluation,
- Policy recommendations,
- Development of the final solid waste master plan, and
- Master plan project coordination, community input process and final presentation.

The consultant will present the final master plan and recommendations to the City Council at the conclusion of the planning process.

BUDGET/STAFF IMPACT:

Kessler Consulting is proposing completing the master plan within a 12 month timeline at a total cost of \$249,930 to the City of Fayetteville. Inclusion of the University of Arkansas' waste composition study raises the total cost of the project to \$264,890. The University will reimburse the City \$14,960 for the cost of their waste composition study. This project will be paid for with Recycling and Trash Division Enterprise Funds.

RESOLUTION NO. _____

A RESOLUTION TO AUTHORIZE A CONTRACT WITH KESSLER CONSULTING, INC. OF TAMPA, FLORIDA FOR THE DEVELOPMENT OF A TEN YEAR SOLID WASTE MASTER PLAN IN AN AMOUNT NOT TO EXCEED \$264,890.00, AND TO APPROVE A BUDGET ADJUSTMENT

BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF FAYETTEVILLE, ARKANSAS:

Section 1: That the City Council of the City of Fayetteville, Arkansas hereby authorizes Mayor Jordan to sign a contract with Kessler Consulting, Inc. of Tampa, Florida for the development of a ten year solid waste master plan in an amount not to exceed \$264,890.00.

Section 2. That the City Council of the City of Fayetteville, Arkansas hereby approves a budget adjustment, a copy of which is attached as Exhibit "A".

PASSED and APPROVED this 16th day of September, 2014.

APPROVED:

ATTEST:

By: _____
LIONELD JORDAN, Mayor

By: _____
SONDRA E. SMITH, City Clerk/Treasurer

City of Fayetteville - Purchase Order Request (PO)										Requisition No.:	Date: 8/29/2014
(Not a Purchase Order) All PO Requests shall be scanned to the Purchasing e-mail: Purchasing@fayetteville-ar.gov . Purchase shall not be made until an actual PO has been issued.										P.O Number:	
Vendor #:	24798	Vendor Name:	Kessler Consulting, Inc.			Legistar#:	2014-0396		Expected Delivery Date:		
Address:	14620 N. Nebraska, Ave., Bldg. D		FOB Point:		n/a	Taxable		☐ Yes ☒ No ☐ Yes ☒ No		n/a	
City:	Tampa	State:	FL	Zip Code:	33613	Ship to code:	Requester's Employee #:		2364		
Requester:	Leif Olson			Account Number	5500.5080.5314.00	Project Sub#	14019.1	Inventory #	Fixed Asset #		
Item	Description	Quantity	Unit of Issue	Unit Cost	Extended Cost						
1	Solid Waste Reduction, Diversion and Recycling Master Plan	1	each	264,890.00	\$264,890.00						
2					\$0.00						
3					\$0.00						
4					\$0.00						
5					\$0.00						
6					\$0.00						
7					\$0.00						
8					\$0.00						
9					\$0.00						
10					\$0.00						
*	Shipping/Handling		Lot		\$0.00						
Special Instructions:						Subtotal: \$264,890.00 Tax: \$0.00 Total: \$264,890.00					
Approvals: Mayor: _____ Chief Financial Officer: _____ Dispatch Manager: _____ Department Director: _____ Budget Director: _____ Utilities Manager: _____ Purchasing Manager: _____ IT Director: _____ Other: _____											

**CONTRACT FOR
SOLID WASTE CONSULTING SERVICES**

THIS CONTRACT, made this 10 day of September 2014, is by and between the City of Fayetteville, Arkansas ("City"), whose address is 113 West Mountain Street, Fayetteville, Arkansas 72701, and Kessler Consulting, Inc. ("KCI"), a Florida corporation whose address is 14620 N. Nebraska Avenue, Building D, Tampa, FL 33613.

I. SCOPE

For and in consideration of timely payment by the City of the compensation set forth below, KCI shall provide the Scope of Services ("Services") specified in Exhibit A, which is attached hereto and incorporated herein by reference, subject to the other terms and conditions set forth in this contract. The Services to be provided may be changed by the mutual agreement of the parties hereto. The City shall promptly provide KCI with any and all documents and information needed by KCI to provide the Services. It is expressly agreed that KCI is an independent contractor of the City.

The City reserves the right to request additional services from KCI. When approved by the City as an amendment of the contract and authorized in writing prior to work, KCI shall provide such additional requirements as may become necessary.

Changes, modifications, or amendments in scope, price, or fees to the contract shall not be allowed without a prior formal contract amendment approved by the Mayor and the City Council in advance of the change in scope, cost, or fees.

II. TERM OF AGREEMENT

The initial contract period shall commence on the date this contract is executed by the City and KCI, whichever date is later, and shall terminate two (2) years after the commencement date, unless extended by mutual agreement of the parties hereto.

III. COMPENSATION

The compensation to be paid by the City to KCI for providing the Services shall be as stated in Exhibit B, which is attached hereto and incorporated herein by reference. The City shall pay KCI for completion of Services on a time-and-materials basis for an amount not to exceed that specified in Exhibit B without prior approval by the Mayor and City Council. Labor shall be invoiced based on the hourly rates specified in Exhibit B and expenses shall be invoiced at cost, without mark-up. Labor rates may be adjusted if the contract is extended beyond the initial two (2) years upon approval of a formal contract amendment by the Mayor and the City Council.

If requested to provide additional services pursuant to Section I, compensation for these additional services shall be as negotiated between the City and KCI, as approved by the Mayor and City Council.

IV. METHOD OF BILLING AND PAYMENT

KCI may submit monthly invoices to the City requesting payment for services accomplished during each calendar month. Monthly invoices will include breakdown of employees and hours worked, description of activities performed, and reimbursable costs and expenses incurred. All invoices shall be due and payable by the City to KCI within thirty (30) days of invoice receipt. Failure to pay compensation to KCI, as and when required, shall entitle KCI to immediately cease all services, and to terminate this

contract as set forth below. Any failure by the City to pay any sums due and owing KCI shall be a material breach of this contract.

V. RIGHT TO AUDIT

The City reserves the privilege of auditing KCI's records as such records relate to purchases between the City and KCI.

VI. FREEDOM OF INFORMATION ACT

City contracts and documents prepared while performing city contractual work are subject to the Arkansas Freedom of Information Act (FOIA). If a FOIA request is presented to the City, KCI will do everything possible to provide the documents in a prompt and timely manner as prescribed in the Arkansas FOIA (A.C.A §25-19-101 et. seq.). Only legally authorized photocopying costs pursuant to FOIA may be assessed for this compliance.

VII. JURISDICTION AND VENUE

Legal jurisdiction to resolve any disputes shall be Arkansas with Arkansas law applying to the case. Venue for any legal dispute shall be Washington County, Arkansas.

VIII. TERMINATION

- A. The City reserves the right to cancel this contract without cause by giving sixty (60) days prior notice to KCI in writing of the intention to cancel or with cause if at any time KCI fails to fulfill or abide by any of the terms or conditions specified.
- B. Failure of KCI to comply with any of the provisions of this contract shall be considered a material breach of contract and shall be cause for immediate termination of the contract at the discretion of the City.
- C. In addition to all other legal remedies available to the City, the City reserves the right to cancel and obtain from another source, any items and/or services which have not been delivered within the period of time from the date of order as determined by the City.
- D. In the event sufficient budgeted funds are not available for a new fiscal period, the City shall notify KCI of such occurrence and the contract shall terminate of the last day of the current fiscal period without penalty or expense to the City.
- E. If this contract is terminated for any reason, the City shall compensate KCI for all services completed through the date of termination, together with all reimbursable costs and expenses. Such payment to KCI shall be considered a payment on account, and shall not constitute payment in full of all sums owed to KCI pursuant to this contract or otherwise.

IX. INSURANCE

KCI shall procure and maintain throughout the term of this contract the following insurance limits and coverage and shall, upon executing this contract, provide the City with certificates of insurance evidencing same, showing other party as Additional Insured on all coverage except workers' compensation and professional liability. Such insurance shall include appropriate clauses and/or endorsements pursuant to which the insurance companies shall waive its right of subrogation against the City.

- A. Workers' Compensation Insurance and Employer's Liability Insurance, in accordance with Chapter 440, Florida statutes, and/or any other applicable law requiring workers' compensation, of not less than the following:

Workers' Compensation	\$1,000,000.00 limit	each accident
Employer's Liability	\$1,000,000.00 limit	disease aggregate
	\$1,000,000.00 limit	disease each employee

- B. Commercial General Liability Insurance, on forms no more restrictive than the latest edition of the Commercial General Liability policy (CG 00 01) of the Insurance Services Office, in the amount of not less than \$1,000,000.00 per occurrence to protect against claims for damages for bodily injury, including wrongful death, as well as from claims of property damages, which may arise from any operations under this contract, whether such operation be by KCI or by the City or anyone directly employed by or contracting with KCI or the City.
- C. Comprehensive Automobile Liability Insurance in the amount of not less than \$100,000.00 combined single limit for bodily injury and property damage liability to protect both parties from claims for damages for bodily injury, including the ownership, use, or maintenance of owned and non-owned automobiles, including rented automobiles whether such operations be by KCI or the City or by anyone directly or indirectly employed by KCI or the City.
- D. Professional Liability Insurance in the amount of not less than \$1,000,000 per occurrence.

Any subconsultants shall provide certificates of insurance evidencing coverage and terms in accordance with the insurance requirements outlined above.

X. ASSIGNMENT, SUBCONTRACTING, ACQUISITIONS AND/OR MERGERS

- A. KCI and any subconsultants identified in KCI's proposal to the City shall perform services pursuant to this contract. No other assignment or subcontracting shall be allowed without prior written consent of the City.
- B. In the event of a corporate acquisition and/or merger, KCI shall provide written notice to the City within thirty (30) calendar days of KCI's notice of such action or upon the occurrence of said action, whichever occurs first. The right to terminate this contract, which shall not be unreasonably exercised by the City, shall include, but not be limited to, instances in which a corporate acquisition and/or merger represent a conflict of interest or are contrary to any local, state, or federal laws.

XI. DISPUTE RESOLUTION

If a dispute arises out of or relates to this contract, or the breach thereof, the parties will attempt to settle the matter through amicable discussion.

XII. ATTORNEY'S FEES

In the event of any demand, action or proceeding between the parties arising out of or relating to this contract, the prevailing party shall be entitled to recover any and all costs, including attorney's fees and court costs, incurred in any investigations, actions, trials, appeals, mediations, arbitrations, bankruptcy proceedings, collection proceedings, collection efforts, and supplementary proceedings.

XIII. UNCONTROLLABLE CIRCUMSTANCES

KCI will not be liable in any way to the City for any delay or non-performance resulting from or arising out of any act(s) of God, severe weather, strike, civil disorder, earthquake, any law, order, proclamation, regulation, ordinance, demand or requirement of any governmental agency, or any other condition or occurrence whatsoever beyond KCI's sole control.

XIV. SEVERENCE

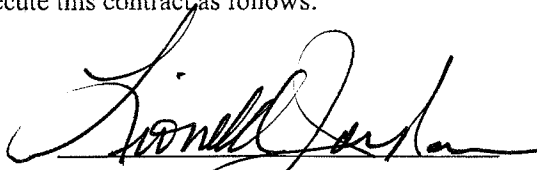
In the event a portion of this contract is found by a court of competent jurisdiction to be invalid or unenforceable, the provisions not having been found by a court of competent jurisdiction to be invalid or unenforceable shall continue to be effective.

XV. ENTIRETY OF AGREEMENT

This contract embodies the entire agreement and understanding between the City and KCI, and there are no other agreements and understandings, oral or written, with reference to the subject matter hereof that are not merged herein and superseded hereby. No alteration, change or modification of the terms of the contract, or any attachments, shall be valid unless made in writing signed by both parties hereto.

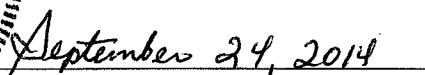
IN WITNESS WHEREOF, the City and the KCI execute this contract as follows:

CITY OF FAYETTEVILLE


LIONELD JORDAN, Mayor




Sandra E. Smith, City Clerk/Treasurer


Date

KESSLER CONSULTING, INC.


MITCH KESSLER, President

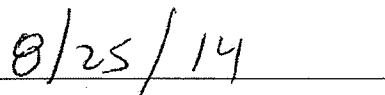

Date

EXHIBIT A

City of Fayetteville, AR

Solid Waste Reduction, Diversion, and Recycling Master Plan

Scope of Work

Outlined herein is Kessler Consulting, Inc.'s (KCI) scope of work to assist the City of Fayetteville (City) in developing a Master Plan aimed at achieving an efficient, cost-effective solid waste system that maximizes waste reduction and recycling and puts the City on a path to attaining its goal of 80 percent waste diversion. Achieving this goal will require new and expanded programs, innovative policies, productive partnerships, and/or implementation of new technologies. It will require a fundamental shift from waste management to resource management.

KCI anticipates subcontracting with the University of Arkansas Applied Sustainability Center (ASC) to assist with discreet tasks and activities. In particular, we will seek to engage student participation in the project, primarily in assisting with the waste composition study and stakeholder meeting logistics. In addition, ASC will provide local knowledge and assist in exploring opportunities for collaboration between the City and the University.

Scope of Services

Task 1 Baseline and Operational Assessment of Current System

Purpose: In this initial task, KCI will examine, inventory, and benchmark for future comparison the City's existing solid waste programs and operations. We will review studies recently completed for the City to avoid duplication of efforts. KCI will also conduct operational assessments of the City's collection operations and the City-owned and operated transfer station, recycle center, and compost facility. We will review any existing information and performance metrics provided by the City, complemented by field observations as needed. Analyzing existing solid waste and recycling systems will lay the foundation for all future planning activities.

Activities:

1. Participate in a kick-off call with City staff to initiate the project and clearly define project objectives.
2. Review and evaluate relevant information and data including, but not limited to, the following:
 - Tonnage of solid waste, recyclables materials, yard waste, construction and demolition debris (CDD), white goods, household hazardous waste, etc. generated by source (i.e., residential, commercial, etc.) and final disposition of these wastes and recycling streams, whether at public or private facilities.
 - Current solid waste contracts.
 - Current facility permits and operating plans.
 - Solid waste system budgets and actual revenues and expenditures.
 - Recordkeeping, data management, revenue assurance systems, and user fee structure.
 - Current bond covenants.
 - Current organizational chart of solid waste department.
 - City Ordinances and other policies pertaining to solid waste and any recent planning documents regarding solid waste.
 - Inter-local agreements with Washington County or other municipalities, if applicable.

- Existing education and outreach materials.
3. Develop population and waste generation projections for a 10-year period, and identify factors that will affect population growth and waste generation.
 4. Conduct an onsite assessment, anticipated to last five days, to observe collection operations and operations at the transfer station, recycle center, and compost facility. The assessment will include the following:
 - Group meeting with operational employees to gain a clear understanding of operations and engage front-line staff in the evaluation process.
 - Field-level observations, ride-alongs, and route-based data collection in cooperation with front-line staff.
 - Use of proprietary wireless and web-based technology to collect real-time, on-route data and measure route performance and to estimate recycling participation.
 5. Analyze labor requirements, production, and current workforce levels in order to develop staffing recommendations.
 6. Analyze equipment replacement schedules.
 7. Compare findings with industry standards.
 8. Identify program components and options that could potentially lower costs, improve efficiency, or otherwise help the City meet its objectives.
 9. Identify tools to assist the City in measuring improvement progress over time.
 10. Prepare a summary of Task 1 results and findings.

Deliverable: Technical memorandum summarizing the current solid waste system, results and findings of the operational assessment, and 10-year population and waste generation projections.

Task 2 Waste and Litter Composition Study

Purpose: KCI will conduct a study to determine the composition of waste generated within the City that is delivered to the City's transfer station for disposal. Understanding the types and quantities of materials contained in the waste stream is critical to developing effective systems to divert these resources for recycling or composting. Waste composition data also serves as a benchmark for comparing future system changes. Concurrently, KCI will conduct a study to determine the composition of litter collected from various locations throughout the City. The budget provided herein is for one sampling and sorting event lasting five days in duration. The City may wish to conduct additional sorting events to account for seasonal variability in waste composition.

The University of Arkansas (UA) has expressed interest in participating in the waste composition study while KCI's team is mobilized for the City's study. The option of including UA's waste as part of the study is discussed in Task 2A below.

Activities:

1. Request from the City and review four weeks of scale house data regarding inbound vehicles to the transfer station, including source, vehicle number, time of arrival, and tonnage.
2. Request from the City and review the windshield litter survey conducted by City staff.
3. Develop a list of material categories into which waste will be sorted, ensuring that these categories are consistent with the City's existing recycling program and any previous composition studies.

4. Identify the generator sectors (e.g., residential, commercial, litter) that will be targeted in the waste composition study.
5. Develop a sampling schedule, sampling and sorting protocol, and site safety plan for review by City staff. KCI will work closely with City staff to develop the sampling schedule for litter since the City will be responsible for mobilizing staff or volunteers to collect the litter from specified areas, mark it, and deliver it to the sorting area.
6. Work with City staff to identify an appropriate sampling and sorting area. The City will be asked to provide a covered area (an existing structure or a tent) under which the sorting team will work and a loader and operator to pull samples, as directed by KCI's Sampling Supervisor, and deliver them to the sorting area.
7. Obtain the necessary equipment for conducting the sorting event. The City will be asked to provide four six-foot folding tables and recycling bins and other containers into which materials will be sorted. KCI will provide all other safety and sorting equipment and a calibrated platform scale.
8. Mobilize for the sorting event. KCI will provide a Sort Supervisor, Sampling Supervisor, and up to seven sorters. KCI is working with ASC to hire students as the sorters, which will provide a rare hands-on learning opportunity for the students.
9. Execute the sorting event. KCI's Sampling Supervisor will work with the loader operator to pull representative samples from selected incoming loads of waste in accordance with the sampling schedule. Samples will be transferred to the sorting area and stored on tarps until sorted. All samples will be sorted into the defined material categories and weighed. KCI's Sort or Sampling Supervisor will conduct all data recording. To ensure quality and safety, KCI will conduct a training session, prior to starting work each day, to review safety and sorting procedures.
10. Analyze the data from the sorting event to calculate the percentage by weight of each material category for each generator sector, as well as for the City's overall waste stream. Data analysis will follow the *ASTM Standard Test Method for Determination of the Composition of Unprocessed Municipal Solid Waste* (D5231-92; reapproved 2008).
11. Prepare a technical memorandum summarizing the results and findings of the study.

Deliverables:

- Material categories list, sampling and sorting protocol, sampling schedule, and site safety plan.
- Technical memorandum providing the results of the waste composition study.

Task 2A UA Waste Composition Study (optional task)

Purpose: This optional task will entail sampling and sorting waste generated on the UA campus. KCI anticipates adding three additional days of field work, which will enable the KCI team to sample and sort at least 24 samples of UA waste. To ensure the statistical validity of this data, no more than three separate UA generator sectors will be included. Specific generator sectors will be determined based on discussions with UA staff, but might include classrooms, dormitories, and food service areas.

Activities:

1. Request from UA staff and review waste tonnage data, collection schedules, and other relevant, available information needed to develop the sampling schedule.
2. Confirm with UA staff that the material categories list developed for Task 2 is acceptable.
3. Identify the generator sectors that will be targeted in the waste composition study.

4. Develop a sampling schedule and provide the schedule and sampling and sorting protocol developed in Task 2 to UA staff for review.
5. Work with UA staff to ensure the necessary loads of waste will be directed to the sorting area for sampling in accordance with the sampling schedule.
6. Execute the sorting event.
7. Analyze the data from the sorting event to calculate the percentage by weight of each material category for each generator sector, as well as for UA's overall waste stream (all generators combined).
8. Incorporate the results of the UA study into the Task 2 technical memorandum.

Deliverables:

- Material categories list, sampling and sorting protocol, and sampling schedule.
- Section of Task 2 technical memorandum providing the results of the UA waste composition study.

Task 3 Reduction and Diversion Options Analysis

Purpose: The purpose of this task is to evaluate proven recovery technologies and programmatic approaches, and to identify those that offer the greatest potential material recovery and waste reduction/diversion opportunities to the City. For example, collection options might include wet/dry collection, dual stream recycling, cart-based single stream recycling, compressed natural gas (CNG) collection vehicles, incentive-based contracts, and rewards programs such as Recycling Perks. Processing technologies to capture or utilize material resources include single stream, mixed waste, and wet/dry material processing, organics processing technologies, and other emerging technologies that seek to minimize the disposal of waste.

Activities:

1. Identify and conduct an initial evaluation of material recovery technologies and programs to identify those most viable or having the greatest materials recovery and waste reduction/diversion potential. Such evaluation will include reviewing recognized regional and national programs, analyzing the potential applicability to the City, and conducting an initial analysis of the economic feasibility.
2. Evaluate potential public and private strategic partnerships for leveraging expertise and economies of scale.
3. Prepare a summary of this evaluation and identify material recovery technologies and programs that warrant further consideration. Scenarios for future consideration may include modifications to existing contracts and programs, as well as implementation of new technologies and programs.

Deliverable: Technical memorandum of this initial evaluation of technology and program options.

Task 4 Recovery Scenarios Modeling and Financial Evaluation

Purpose: KCI will use a proprietary spreadsheet-based model to conduct a more detailed analysis of high-recovery, integrated materials management system scenarios that the City desires to consider further. This interactive model takes into consideration that changes in one system component will have operational and financial impacts on other system components. Based on a set of City-specific assumptions, the model will estimate the

capital and operating cost of each scenario, potential revenues, potential waste diversion (material recovery), and site requirements. An appropriate fee structure will be linked to the anticipated costs and benefits of new or expanded services to ensure a healthy and sustainable enterprise fund. The scenario modeling and financial evaluation will also consider the intrinsic value of the selected scenarios as it relates to the triple bottom line so that the City has a comprehensive foundation for decision-making.

Activities:

1. Based on the results of Tasks 4, conduct a work session with City staff to identify material recovery scenarios for further analysis.
2. Develop and confirm assumptions that will be used in the model.
3. Evaluate the identified scenarios using KCI's comparative model.
4. Conduct a financial analysis of the implications of selected scenarios to the City's existing solid waste business model.
5. Prioritize the model results based on waste reduction/diversion potential and cost-effectiveness to the City.
6. Review the model results with City staff to identify selected scenarios for inclusion in the Master Plan.
7. Develop rate structure modifications for scenarios selected by the City that will ensure the long-term viability of the solid waste system and enterprise fund, as well as incentivize increased recycling or waste diversion.
8. Develop recommendations for inclusion in the draft Master Plan, including a consolidated rate structure and potential modifications to the City's solid waste business model.

Deliverable: Technical memorandum that includes the results of the detailed analysis of selected scenarios and associated rate structure as recommendations for inclusion in the draft Master Plan.

Task 5 Policy Recommendations

Purpose: The purpose of this task is to identify policies to implement and support the various technology and program options selected in Task 5. Policies are the principles and guidelines by which the City will reach its solid waste and resource management goals. These policies will influence future decisions regarding the solid waste system, thereby translating these policies into compatible actions and programs. Examples of policies for consideration include residential and/or commercial recycling mandates, disposal bans on specific types of recyclable or compostable materials, bans of the use of certain types of products (e.g., plastics bags, polystyrene containers), source separation standards, minimum service standards, private sector participation, and regional cooperation.

Activities:

1. Define and evaluate policies that would encourage specific behaviors and/or complement the technologies and programs selected in Task 5.
2. Identify policy recommendations that will best help guide the City toward meeting its goals and objectives, while also ensuring the long-term financial viability of the solid waste system.
3. Review the draft policy recommendations with City staff and revise as needed.

Deliverable: Technical memorandum identifying policy recommendations.

Task 6 Solid Waste Master Plan Development

Purpose: The results of the previous tasks and technical memoranda developed as part of these tasks will be incorporated into a Master Plan. Based on review and discussions with City staff, KCI will develop near-term and long-term recommendations deemed cost-effective and operationally feasible on the scale required by the City.

Activities:

Develop a draft Master Plan that includes or addresses the following:

1. **Baseline Summary:**
 - Summary of the City's current solid waste system, including waste and recyclables tonnage, flow, and management.
 - Population and waste generation projections over a 10-year period and summary of factors that affect these projections.
 - Operational assessments of City collection operations and City-owned and operated facilities, along with initial recommendations for improvements.
2. **Reduction and Diversion Options Evaluation:**
 - Evaluation of proven material recovery technologies and programs.
 - Results of the more detailed analysis of selected scenarios, prioritizing scenarios based on waste reduction/diversion potential and cost-effectiveness.
 - Potential opportunities for partnership.
 - Discussion of impacts on the City's business model and recommended modifications.
3. **Short-, Medium- and Long-Term Recommendations:**
 - **Policies:** Policy recommendations that provide the framework that derives sustainable materials recovery and guides decision-making, program and facility development, stakeholder engagement, and systems financing.
 - **Programs:** Program recommendations that are cost-effective and deemed most viable to substantially increase waste reduction and diversion, taking into account the availability of sustainable markets for the recovered resources.
 - **Facilities:** Proven technology and facility recommendations that are effective in recovering material from the waste stream, have been demonstrated on a scale commensurate with the City, and are financially viable.
 - **Education:** Recommended marketing strategy and programs that will complement and help ensure the success of the various policy, program, and facility recommendations. Emphasis will be placed on strategies for affecting changes in behavior. A summary of all community input (Task 8) will be included.
4. **Financial Analysis:**
 - Proposed business plan and financial implications (ranges from high to low) of the Master Plan recommendations.
 - Proposed rate structure intended to preserve the health and sustainability of the enterprise fund.

Deliverable: Draft and final Master Plan integrating the technical memoranda from all other tasks.

Task 7 Project Coordination, Community Input, and Presentations

Purpose: Throughout this project, KCI will maintain frequent communication with City staff regarding project status and technical aspects of the work. We also will seek stakeholder input through a variety of mechanisms including, but not limited to, workshops, meetings, and surveys. Whenever possible, we will include a web-based option for providing input, such as on-line access to town hall type meetings and on-line surveys. In addition, KCI will present the final Master Plan to elected officials, the public, or other stakeholders.

Activities:

1. Participate in monthly project team calls.
2. Prepare a monthly summary of activities.
3. Coordinate and participate in up to three days of workshops and/or meetings with stakeholder groups, the general public, and/or elected officials. KCI will arrange for stakeholders to have a web-based option to provide input whenever feasible.
4. Develop and execute a stakeholder survey in a variety of formats, including a web-based survey tool such as Survey Monkey.
5. Participate in up to two days of one-on-one and/or public meetings with City management and elected officials, as deemed appropriate, to present, review, and discuss the final Master Plan.

Deliverables:

- Monthly summary of activities.
- Participation in up to three stakeholder workshops, meetings, or focus groups.
- Survey instrument.
- Technical memorandum summarizing survey results and other stakeholder input.
- Presentation of Master Plan.

Budget and Timeline

Because of the nature of this project and the potential variability in the level of effort required, KCI proposes to conduct this scope of work on a time-and-materials basis for an amount not to exceed \$249,930, excluding Task 2A. The budget for Task 2A is \$14,960. A detailed budget breakdown by task is provided in Attachment B. Services will be invoiced at the rates indicated, which include all overhead and direct and indirect costs. Expenses (travel, etc.) will be billed at cost without markup. KCI will submit monthly invoices with a written explanation of activities completed that month.

KCI will initiate work upon notice to proceed. A proposed timeline is provided herein, which may be modified as the project progresses.

KCI looks forward to assisting the City in developing a comprehensive Solid Waste Reduction, Diversion, and Recycling Master Plan that seeks to maximize waste diversion while maintaining the long-term financial viability of the City's solid waste and resource management system.

Proposed Timeline

Tasks	Month											
	1	2	3	4	5	6	7	8	9	10	11	12
1 Baseline and Operational Assessment												
2 Waste and Litter Composition Study												
3 Reduction and Diversion Options Analysis												
4 Recovery Scenarios Modeling and Financial Evaluation												
5 Policy Recommendations												
6 Solid Waste Master Plan Development												
7 Project Coordination, Community Input, and Presentations												

EXHIBIT B

City of Fayetteville, AR Solid Waste Reduction, Diversion, and Recycling Master Plan Proposed Budget

CATEGORY (NAME)	HOURLY RATE	Task 1	Task 2	Task 2A	Task 3	Task 4	Task 5	Task 6	Task 7	With Task 2A		Without Task 2A	
		Baseline & Operational Assessment	Waste & Litter Composition Study	Optional UA Waste Composition Study	Reduction & Diversion Options Analysis	Recovery Scenario Modeling & Financial Evaluation	Policy Recommendation's	Solid Waste Master Plan Development	Project Coordination, Community Input & Presentation	TOTAL HOURS	TOTAL DOLLARS	TOTAL HOURS	TOTAL DOLLARS
LABOR													
Project Director	\$185.00	10.0	4.0	2.0	10.0	10.0	8.0	20.0	50.0	114.0	\$21,090	112.0	\$20,720
Project Manager	\$140.00	48.0	16.0	8.0	40.0	40.0	40.0	60.0	60.0	312.0	\$43,680	304.0	\$42,560
Senior Consultant	\$125.00	110.0	0.0	0.0	40.0	40.0	10.0	20.0	8.0	228.0	\$28,500	228.0	\$28,500
Consultant	\$100.00	80.0	20.0	10.0	170.0	170.0	72.0	110.0	60.0	692.0	\$69,200	682.0	\$68,200
Consultant	\$95.00	0.0	150.0	50.0	0.0	0.0	0.0	0.0	0.0	200.0	\$19,000	150.0	\$14,250
Consultant	\$85.00	140.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	140.0	\$11,900	140.0	\$11,900
Research Analyst	\$80.00	0.0	16.0	12.0	80.0	80.0	40.0	80.0	20.0	328.0	\$26,240	316.0	\$25,280
Office Manager/Technical Support	\$60.00	14.0	68.0	24.0	10.0	10.0	10.0	10.0	10.0	156.0	\$9,360	132.0	\$7,920
SUBTOTAL LABOR HOURS		402.0	274.0	106.0	350.0	350.0	190.0	300.0	208.0	2170.0	\$228,970	2064.0	\$219,330
SUBTOTAL LABOR DOLLARS		\$43,060	\$24,590	\$9,640	\$36,450	\$36,450	\$19,330	\$32,600	\$26,850		\$228,970		\$219,330
DIRECT COSTS													
TRAVEL		\$3,700	\$3,700	\$2,300		\$2,000			\$6,000		\$17,700		\$15,400
SUPPLIES			\$1,000	\$500							\$1,500		\$1,000
CONTRACTED LABOR			\$4,200	\$2,520							\$6,720		\$4,200
SUBCONTRACTOR		\$1,000	\$2,000		\$500		\$500	\$1,000	\$5,000		\$10,000		\$10,000
SUBTOTAL DIRECT COST		\$4,700	\$10,900	\$5,320	\$500	\$2,000	\$500	\$1,000	\$11,000		\$35,920		\$30,600
TOTAL PROJECT BUDGET													
LABOR + DIRECT COST		\$47,760	\$35,490	\$14,960	\$36,950	\$38,450	\$19,830	\$33,600	\$37,850		\$264,890		\$249,930

City of Fayetteville Staff Review Form

2014-0408

Legistar File ID

N/A

City Council Meeting Date - Agenda Item Only

N/A for Non-Agenda Item

Leif Olson

9/10/2014

Sustainability & Resilience /
Chief of Staff

Submitted By

Submitted Date

Division / Department

Action Recommendation:

Administrative approval of a Memorandum of Understanding with the University of Arkansas Facilities Management Department to contract with Kessler Consulting to complete a Waste Composition Study of 24 selected waste samples from no more than three separate UofA generator sectors.

Budget Impact:

Account Number		Fund	
Project Number		Project Title	
Budgeted Item?	NA	Current Budget	\$ -
		Funds Obligated	\$ -
		Current Balance	\$ -
Does item have a cost?	No	Item Cost	
Budget Adjustment Attached?	No	Budget Adjustment	
		Remaining Budget	\$ -

V20140710

Previous Ordinance or Resolution # 171-14

Original Contract Number:

Comments:



Approval Date: 9-22-14



TO: Mayor Jordan
Don Marr, Chief of Staff
Paul Becker, Finance Director

THRU: Peter Nierengarten, Sustainability and Resilience Director

CC: Jeff Coles, Recycling and Trash Collection Division Director

FROM: Leif Olson, Associate Planner

DATE: September 19, 2014

SUBJECT: Memorandum of Understanding – Recycling Master Plan with University of Arkansas

RECOMMENDATION:

Administrative approval of a Memorandum of Understanding with the University of Arkansas Facilities Management Department to contract with Kessler Consulting to complete a Waste Composition Study of 24 selected waste samples from no more than three separate UofA generator sectors. Generator sectors may include classrooms, dormitories and food service areas.

BACKGROUND:

The City Council passed Resolution Number 171-14 on September 16, 2014 to hire Kessler Consulting to develop a 10 year solid waste master plan in order to attain a waste diversion rate of 80%. One critical component of a solid waste and recycling plan is to conduct a waste composition study in order to determine the precise makeup of the waste materials that are being discarded in the landfill. This is accomplished by pulling sample waste containers from different waste generating sectors and measuring the type and volume of the waste that is currently being landfilled. Kessler Consulting will perform waste composition studies for both the University and the City in order to provide quantifiable data on the type and volume of waste generated by all sectors within the City.

BUDGET/STAFF IMPACT:

This Memorandum of Understanding prescribes that the University of Arkansas will reimburse The City of Fayetteville \$14,960 for the cost of their waste composition study.

MEMORANDUM OF UNDERSTANDING
between
THE UNIVERSITY OF ARKANSAS
FACILITIES MANAGEMENT DEPARTMENT
and
THE City of Fayetteville, AR
FY 2015

This Memorandum of Understanding (MOU) is entered into and executed on the date indicated beside the signature blocks, by and between the University of Arkansas Facilities Management Department and the City of Fayetteville, Arkansas.

I. PURPOSE

The City of Fayetteville (City) is contracting with Kessler Consulting, Inc. (KCI) of Tampa, FL to provide a Solid Waste Reduction, Diversion and Recycling Master Plan for the City. The Master Plan is aimed at achieving an efficient, cost-effective solid waste system that maximizes waste reduction and recycling and puts the City on a path to attaining its goal of 80 percent waste diversion. The City's Contract with KCI includes a task for a University of Arkansas (UA) Waste Composition Study which entails sampling and sorting waste generated on the UA campus.

The purpose of this MOU is to establish the contractual relationship (scope, deliverables schedule and price) between the City and UA to enable KCI to perform this work on behalf of the UA.

Regarding this agreement contact people for the City of Fayetteville will be:

Peter Nierengarten	479.575.8272 / pnierengarten@fayetteville-ar.gov	Primary contact
name	ph#/email	
Jeff Coles	479.444.3499 / jcoles@fayetteville-ar.gov	Alternate contact
name	ph#/email	

Contact people at FMD are:

Carlos Ochoa	5-2405 / cochoajr@uark.edu	Primary contact
name	ph#/email	
Peggy Cromer	5-6593 / pbcomer@uark.edu	Alternate contact
name	ph#/email	

II. SCOPE

KCI anticipates the UA Waste Composition Study requiring three days of fieldwork, which will enable the KCI team to sample and sort at least 24 samples of UA waste. To ensure the statistical validity of this data, no more than three separate UA generator sectors will be included. Specific generator sectors will

be determined based on discussions with UA staff, but might include classrooms, dormitories, and food service areas.

Activities

1. Request from UA staff and review waste tonnage data, collection schedules, and other relevant, available information needed to develop the sampling schedule.
2. Confirm with UA staff that the material categories list developed for Task 2 is acceptable.
3. Identify the generator sectors that will be targeted in the waste composition study.
4. Develop a sampling schedule and provide the schedule and sampling and sorting protocol developed in Task 2 to UA staff for review.
5. Work with UA staff to ensure the necessary loads of waste will be directed to the sorting area for sampling in accordance with the sampling schedule.
6. Execute the sorting event.
7. Analyze the data from the sorting event to calculate the percentage by weight of each material category for each generator sector, as well as for UA's overall waste stream (all generators combined).
8. Incorporate the results of the UA study into the Task 2 technical memorandum.

III. DELIVERABLES

- Material categories list, sampling and sorting protocol, and sampling schedule.
- Technical memorandum providing the results of the City and UA waste composition studies.

VI. SCHEDULE

The UA waste composition study will be completed as part of task 2 of the City's Solid Waste Reduction, Diversion and Recycling Master Plan. That plan is scheduled to begin in October 2014 and to follow the propose time line below.

Tasks	Month											
	1	2	3	4	5	6	7	8	9	10	11	12
1 Baseline and Operational Assessment												
2 Waste and Litter Composition Study												
3 Reduction and Diversion Options Analysis												
4 Recovery Scenarios Modeling and Financial Evaluation												
5 Policy Recommendations												
6 Solid Waste Master Plan Development												
7 Project Coordination, Community Input, and Presentations												

V. PRICE

The total task budget for the UA Waste Composition Study is \$14,960.

IV. TERMINATION OF SERVICES

Should either Party decide to terminate this MOU, a Notice of Discontinuation of Services must be sent to the other party in writing at least 60 days prior to the date of termination. Included in the notice should be the reason for the termination with a list of any discrepancies noted. Any equipment/materials purchased with University of Arkansas monies or transferred from the City of Fayetteville to Facilities Management to use during the waste assessment, will be returned to the City of Fayetteville in their current condition/status.

This Memorandum of Understanding supersedes any previous agreement(s). This MOU is effective upon signature and shall remain in effect until December 31, 2015, or such time as a Notice of Discontinuation of Services is executed by either party hereunto.

By: M. R. Johnson Date 9/17/14
M. R. Johnson, Associate Vice Chancellor for Facilities
University of Arkansas Facilities Management Department

CITY OF FAYETTEVILLE

By: Lionel Jordan Date 9/22/14
Lionel Jordan, Mayor

Attest:

By: Sondra E. Smith Date 9/23/14
Sondra E. Smith, City Clerk/Treasurer



Pilot Program Agreement

City of Fayetteville Staff Review Form

2015-0580

Legistar File ID

N/A

City Council Meeting Date - Agenda Item Only
N/A for Non-Agenda Item

Brian Pugh

10/26/2015

Recycling & Trash Collection /
Transportation Services Department

Submitted By

Submitted Date

Division / Department

Action Recommendation:

Approve and sign a Toter Cart Pilot Agreement for Single Stream pilot and approve a budget adjustment in the amount of \$2,695.

Budget Impact:

5500.5060.5315.00

Recycling & Trash Collection

Account Number

Fund

Project Number

Project Title

Budgeted Item? No

Current Budget \$ 2,800.00

Funds Obligated \$ 995.00

Current Balance \$ 1,805.00

Does item have a cost? Yes

Item Cost \$ 4,500.00

Budget Adjustment Attached? Yes

Budget Adjustment \$ 2,695.00

Remaining Budget \$ -

Previous Ordinance or Resolution # 171-14,136-15

V20140710

Original Contract Number: _____

Approval Date: _____

Comments: Item pertains to previous resolutions 171-14 & 136-15



STAFF MEMO

TO: Mayor Lioneld Jordan

THRU: Jeff Coles, Recycling and Trash Collection Director

FROM: Brian Pugh, Waste Reduction Coordinator

DATE: November 25th, 2015

SUBJECT: Approve and sign a Toter Cart Pilot Agreement for Single Stream pilot

RECOMMENDATION:

Approve and sign a Toter Cart Pilot Agreement for Single Stream pilot

BACKGROUND:

Resolution 171-14 allowed the City to enter into a contract with Kessler Consulting for development of a Solid Waste Master Plan. Resolution 136-15 approved an amendment to the Kessler Contract to allow for implementation of a Commercial Food Waste pilot and Single Stream recycling pilot.

DISCUSSION:

Staff has worked with Toter to rent carts for the single stream pilot period. These will be the 500 additional carts needed to service the approximately 1,030 household pilot area. The document is included for review and signature from the Mayor. Signing the agreement will allow staff to receive the carts for distribution after pre pilot data has been gathered and the single stream pilot is to be initiated.

BUDGET/STAFF IMPACT:

Impact has already been accounted for with Resolution 136-15

Attachments:

Agreement from Toter

PILOT PROGRAM AGREEMENT

Toter®, LLC offers a PILOT PROGRAM to the City of Fayetteville, AR. This program is designed to allow the City to determine, at a minimal cost, the acceptability of curbside Single Stream Recycling pickup to its residents using a Toter® Cart System.

Terms and conditions of this offer of this PILOT PROGRAM are as follows:

1. Toter, LLC (Toter) will furnish to the City of Fayetteville, AR (The City), 500 each 64 Gallon Universal Carts, Model 76564 Toter® Carts to conduct a Pilot Program. The carts will be molded in the City's current cart color, Toter 940 Green.. There will be no markings on the carts. The lids will be Toter 705 Blue with no markings.
2. The carts will be delivered on or about ~~(TO BE DETERMINED AT TIME OF PROPR)~~ the rental charge for each cart is \$ 3.00 per month or fraction thereof. The City will pay all freight charges for delivery to one location within the City limits, estimated at \$ 1596.00.
3. The first month's rental, including freight, will be invoiced by Toter upon receipt of this signed contract and will be due at time of shipment. Subsequent months' rental is due upon invoice at the beginning of each rental month.
4. The Pilot Program carts are covered by Toter's standard 10 Year Un-Prorated Warranty beginning the date of receipt of shipment by the City.
5. The Pilot Program will extend for a period of 3 Months from the date of installation. The City will select the route(s) and will be responsible for distributing carts in those areas.
6. Toter will be glad to assist the City with sample copies of questionnaires to determine the public's approval of the Toter® Cart System.
7. Toter reserves the right to terminate the Pilot Program at any time after the initial 3 Month period, and the City will proceed as outlined below.
8. Upon completion of the Pilot Program, should the City decide to buy the Pilot carts the City agrees to purchase the Toter® Carts for \$ 47.85 for each 64 Gallon cart, contingent upon payment of all applicable rent which will be credited toward the cart purchase price. The City also agrees to buy the Toter Pilot carts if it

- decides to buy more carts from Toter or another manufacturer after the Pilot.
9. Should the City choose to discontinue the Pilot program after the 3 month period and not buy additional carts from any supplier, it will retrieve the carts from the routes, steam clean the carts, and disassemble them for return to Toter's designated factory or to another destination designated by Toter. The City will load the carts and components for shipment and will pay all freight charges. Any returned carts that are damaged other than under the terms of our warranty will be billed to the City at the selling price. Should the carts not be thoroughly clean Toter reserves the right to charge the City \$4 for each cart that requires washing. Missing components will be billed to the City. Toter will retain all rent paid.
10. This offer is open from November 23, 2015, 2015 to December 7, 2015..

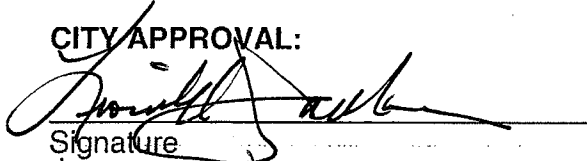
TOTER® INCORPORATED:



Jim Pickett, Vice President, Sales

Nov. 25, 2015

CITY APPROVAL:



Signature

Lionel Jordan, Mayor

Typed or Printed Name and Title

12/2/15

Date

City of Fayetteville, Arkansas - Budget Adjustment Form

Budget Year	Division: Recycling & Trash Collection	Adjustment Number
2015	Dept.: Transportation Services	
	Requestor: 1701 Glenda Eden	

BUDGET ADJUSTMENT DESCRIPTION / JUSTIFICATION:

The Division requests reallocation of funds for the rental of 500 carts with the single stream pilot start up. Resolution 136-15 approved an amendment to the Kessler Contract (Resolution 171-14) to allow for implementation of a Commercial Food Waste pilot and Single Stream recycling pilot.

Division Head	Date	REQUEST DATE:	11/24/2015
Department Director	Date	<i>Barbara Fell</i> 11/30/2015 4:20 PM	
Chief Financial Officer	Date	Budget Director	Date
Chief of Staff	Date	TYPE:	
		DESCRIPTION:	
		GLDATE:	
		POSTED:	/

TOTAL

— — —

v.20150925

[illegible]

RESOLUTION NO. 136-15

A RESOLUTION TO APPROVE AMENDMENT NO. 1 TO THE CONTRACT WITH KESSLER CONSULTING, INC. IN THE AMOUNT OF \$39,980.00 FOR ASSISTANCE WITH THE DESIGN AND IMPLEMENTATION OF A COMMERCIAL FOOD WASTE PILOT PROGRAM AND A SINGLE STREAM RECYCLING PILOT PROGRAM, AND TO APPROVE A BUDGET ADJUSTMENT

BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF FAYETTEVILLE, ARKANSAS:

Section 1: That the City Council of the City of Fayetteville, Arkansas hereby approves Amendment No. 1 to the contract with Kessler Consulting, Inc. in the amount of \$39,980.00 for assistance with the design and implementation of a commercial food waste pilot program and a single stream recycling pilot program.

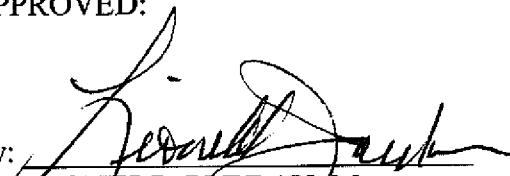
Section 2: That the City Council of the City of Fayetteville, Arkansas hereby approves a budget adjustment, a copy of which is attached to this Resolution.

PASSED and APPROVED this 4th day of August, 2015.

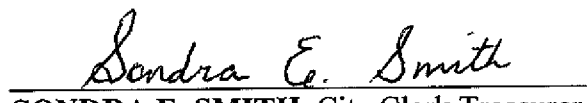
APPROVED:

ATTEST:

By:


LIONELD JORDAN, Mayor

By:


SONDRA E. SMITH, City Clerk Treasurer





City of Fayetteville, Arkansas

113 West Mountain Street
Fayetteville, AR 72701
(479) 575-8323

Text File

File Number: 2015-0308

Agenda Date: 8/4/2015

Version: 1

Status: Agenda Ready

In Control: City Council Meeting

File Type: Resolution

Agenda Number: C. 1

KESSLER CONSULTING AMENDMENT NO. 1

A RESOLUTION TO APPROVE AMENDMENT NO. 1 TO THE CONTRACT WITH KESSLER CONSULTING, INC. IN THE AMOUNT OF \$39,980.00 FOR ASSISTANCE WITH THE DESIGN AND IMPLEMENTATION OF A COMMERCIAL FOOD WASTE PILOT PROGRAM AND A SINGLE STREAM RECYCLING PILOT PROGRAM, AND TO APPROVE A BUDGET ADJUSTMENT

BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF FAYETTEVILLE, ARKANSAS:

Section 1: That the City Council of the City of Fayetteville, Arkansas hereby approves Amendment No. 1 to the contract with Kessler Consulting, Inc. in the amount of \$39,980.00 for assistance with the design and implementation of a commercial food waste pilot program and a single stream recycling pilot program.

Section 2: That the City Council of the City of Fayetteville, Arkansas hereby approves a budget adjustment, a copy of which is attached to this Resolution.

City of Fayetteville Staff Review Form

2015-0308

Legistar File ID

8/4/2015

City Council Meeting Date - Agenda Item Only
N/A for Non-Agenda Item

Brian Pugh

7/14/2015

**Recycling & Trash Collection /
Transportation Services Department**

Submitted By

Submitted Date

Division / Department

Action Recommendation:

Approval of a Resolution to amend the scope of services with Kessler Consulting, Inc. to assist the City in conducting a commercial food waste pilot and a single stream recycling pilot and to approve a budget adjustment of \$39,980.

Budget Impact:

5500.5080.5314.00

Recycling and Trash

Account Number

Fund

14019 / 1

Waste Reduction and Recycling Plan

Project Number

Project Title

Budgeted Item? No

Current Budget \$ 258,653.00

Funds Obligated \$ 258,652.50

Current Balance \$ **0.50**

Does item have a cost? Yes

Item Cost \$ 39,980.00

Budget Adjustment Attached? Yes

Budget Adjustment \$ 39,980.00

Remaining Budget \$ **0.50**

V20140710

Previous Ordinance or Resolution # _____

Original Contract Number: _____

Approval Date: August 4, 2015

Comments:



CITY COUNCIL AGENDA MEMO

MEETING OF AUGUST 4TH, 2015

TO: Mayor and City Council

THRU: Peter Nierengarten, Sustainability and Resilience Director
Jeff Coles, Recycling and Trash Division Director

FROM: Leif Olson, Associate Planner

DATE: July 1, 2015

SUBJECT: Food Waste Composting and Single Stream Recycling Pilot Programs

RECOMMENDATION:

Approval of a Resolution to amend the scope of services with Kessler Consulting, Inc. to assist the City in conducting a commercial food waste pilot and a single stream recycling pilot and to approve a budget adjustment of \$39,980.

BACKGROUND:

The City Council passed Resolution Number 171-14 on September 16, 2014 to contract with Kessler Consulting, Inc. (KCI) to develop a 10 year solid waste master plan in order to attain a waste diversion rate of 80%. Staff worked extensively with KCI to develop a final scope of work that included:

- A baseline operational assessment of the current system,
- A waste audit and litter composition study with an option to partner with the University to assess their solid waste generation and composition,
- An analysis of waste reduction and diversion options,
- Recovery scenarios modeling and financial evaluation,
- Policy recommendations,
- Development of the final solid waste master plan, and
- Master plan project coordination, community input process and final presentation.

DISCUSSION:

KCI, working with Recycling and Trash Division Staff, have completed the baseline operational assessment and the waste composition study. Currently, KCI is working through waste reduction and diversion options. At this time, Kessler Consulting is recommending that the City develop two pilot programs to demonstrate the viability of commercial food waste composting and single stream recycling as waste diversion options. Food waste and recyclables combine to make up 45% of Fayetteville's waste stream. Conducting the pilot programs now will provide the City with specific data on which to model the potential impacts of full-scale programs and also enable the City to start seeing tangible results.

BUDGET/STAFF IMPACT:

Kessler Consulting is proposing completing the two pilot projects for an amount not to exceed \$39,980. This project will be paid for with Recycling and Trash Division Enterprise Funds.

Attachments:

- Amendment 1 Kessler Contract
- Food Waste Composting and Single Stream Recycling Pilots Scope of Work
- Resolution 171-14 – Resolution Authorizing a Contract with Kessler Consulting for a 10 Year Solid Waste Plan
- PO Kessler Pilot Waste Reduction and Recycling Plan

**AMENDMENT #1 TO CONTRACT FOR
SOLID WASTE CONSULTING SERVICES BETWEEN
THE CITY OF FAYETTEVILLE AND
KESSLER CONSULTING, INC.**

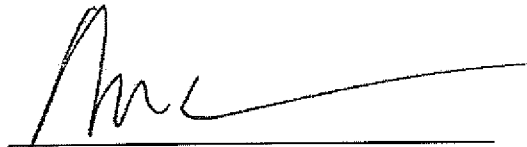
BE IT KNOWN TO ALL:

That the City of Fayetteville, Arkansas (the "City") and Kessler Consulting, Inc. ("KCI"), on this 4th day of August, 2015, hereby agree that the Contract for Solid Waste Consulting Services dated September 24, 2014, shall be amended to adopt and incorporate the "City of Fayetteville, AR Food Waste Composting and Single Stream Recycling Pilots Scope of Work", a copy of which is attached hereto as Exhibit "A" and made a part hereof, in order for KCI to assist the City in conducting a commercial food waste pilot program and a single stream recycling pilot program with the cost of the services not to exceed \$39,980.00.

The parties agree and understand that this Amendment is supplemental to their Contract dated September 24, 2014, and that it does not alter, amend or abridge any of the rights, obligations, or duties of the parties not expressly addressed herein.

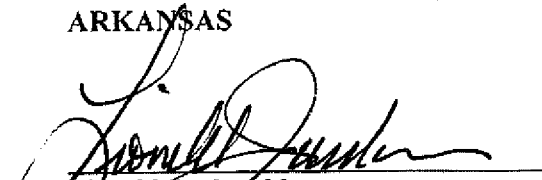
IN WITNESS WHEREOF, the parties hereto have caused their signatures to be set by their authorized representative effective the date set forth herein above.

KESSLER CONSULTING, INC.



Mitch Kessler, President

**CITY OF FAYETTEVILLE,
ARKANSAS**



Lioneld Jordan, Mayor

ATTEST:



Sondra E. Smith, City Clerk-Treasurer



Exhibit A

City of Fayetteville, AR

Food Waste Composting and Single Stream Recycling Pilots

Scope of Work

Following an initial evaluation of the City's existing solid waste management system and completion of a waste composition study, Kessler Consulting, Inc. (KCI) identified waste diversion opportunities that we believe merit further evaluation through pilot programs. Conducting the pilot programs now, rather than waiting for completion of the Master Plan, will provide city-specific data on which to model the potential impacts of full-scale programs and also enable the City to start seeing tangible results. This scope of work is to assist the City in conducting two pilots programs, one for commercial food waste and the other for single stream recycling.

Scope of Services

Task 1 Food Waste Pilot

Purpose: Food waste makes up approximately 17% of commercial waste disposed, which is the single largest component of the waste stream. The purpose of this pilot is to evaluate the feasibility of using a Modified Static Aerated Pile (MSAP) composting system to incorporate food waste into the City's existing yard waste composting operation, as well as to evaluate a commercial food waste collection system.

Activities:

1. Review State requirements applicable to food waste composting pilot program.
2. Develop operations plan, implementation timeline, and other necessary documentation to obtain ADEQ approval.
3. Provide technical assistance to City staff with collection logistics, as needed, including the following:
 - Selection of pilot participants.
 - Estimating anticipated tonnage.
 - Selection of appropriate collection containers.
 - Development of education and outreach materials.
 - Educating pilot participants.
4. Provide technical assistance to City staff with MSAP composting logistics, as needed, including the following:
 - Identifying site requirements, equipment, and labor needs.
 - Identifying any site preparation needs.
 - Training and technical assistance for composting operations personnel.
5. Provide inoculant for the MSAP composting.
6. Provide technical assistance to City staff with monitoring requirements, as needed, including the following:
 - Identification of data to be collected during the pilot.
 - Training composting operations personnel regarding data collection.

- Guidance on compost analysis.
 - Surveying/obtaining feedback from pilot participants.
7. Analyze pilot results and evaluate estimated cost and potential implications of full-scale facility and operations.

Deliverable: Technical memorandum summarizing results of the food waste pilot and evaluating the potential implications of full-scale implementation.

Task 2 Single Stream Recycling Pilot

Purpose: More than 26% of residential waste and 29% of commercial waste disposed consists of recyclable paper and containers. In addition, the City's current system of curb-sorting recyclables is highly inefficient from a collection perspective. The need to sort recyclables by type prior to collection has also been an impediment to expanding multi-family and commercial recycling. The purpose of this pilot is to evaluate the potential impacts of converting to carted single stream recycling on recycling participation, tons of materials collected, and collection efficiency.

Activities:

1. Work with City staff to develop the overall framework and timeline for the pilot.
2. Provide technical assistance to City staff with collection logistics, as needed, including the following:
 - Selection of pilot participants, including curbside routes, multi-family complexes, and commercial customers.
 - Estimating anticipated tonnage.
 - Routing and collection logistics.
 - Identifying options for obtaining collection carts with RFID.
 - Identifying options for obtaining RFID readers or other monitoring devices.
 - Development of education and outreach materials.
 - Educating pilot participants.
3. Assist City staff with processing logistics, as needed, including the following:
 - Identifying processor.
 - Negotiating terms of agreement with private sector processor for term of the pilot.
 - Developing the agreed upon scope of work for inclusion in the agreement.
4. Provide technical assistance to City staff with monitoring requirements, as needed, including the following:
 - Identifying data to be collected during the pilot.
 - Training City personnel regarding data collection.
 - Surveying/obtaining feedback from pilot participants.
5. Analyze pilot results, as well as evaluate estimated cost and potential implications of full-scale implementation of single stream recycling.

Deliverables:

- Technical memorandum summarizing the results of the single stream recycling program and evaluating the potential implications of full-scale implementation.

Budget and Timeline

Because of the nature of this project and the potential variability in the level of effort required, KCI proposes to conduct this scope of work on a time-and-materials basis for an amount not to exceed \$39,980. A budget breakdown by task is provided below. Services will be invoiced at the rates indicated, which include all overhead and direct and indirect costs. Expenses (travel, etc.) will be billed at cost without markup. KCI will submit monthly invoices with a written explanation of activities completed that month.

KCI will initiate work upon notice to proceed. A proposed timeline will be developed, in conjunction with City staff, for each pilot project.

CATEGORY (NAME)	HOURLY RATE	Task 1	Task 2	TOTAL HOURS	TOTAL DOLLARS
		Food Waste Pilot	Single Stream Pilot		
LABOR					
Project Director	\$185.00	8.0	12.0	20.0	\$3,700
Project Manager	\$140.00	30.0	42.0	72.0	\$10,080
Senior Consultant	\$125.00	10.0	22.0	32.0	\$4,000
Consultant/Associate	\$95.00	56.0	76.0	132.0	\$12,540
Research Analyst	\$80.00	56.0	0.0	56.0	\$4,480
Office Manager/Technical Support	\$60.00	4.0	4.0	7.0	\$480
SUBTOTAL LABOR HOURS		164.0	156.0	320.0	
SUBTOTAL LABOR DOLLARS		\$16,970	\$18,310		\$35,280
DIRECT COSTS					
TRAVEL		\$2,400	\$1,500		\$3,900
SUPPLIES		\$800			\$800
CONTRACTED LABOR					\$0
SUBCONTRACTOR					\$0
SUBTOTAL DIRECT COST		\$3,200	\$1,500		\$4,700
TOTAL PROJECT BUDGET					
LABOR + DIRECT COST		\$20,170	\$19,810		\$39,980

KCI looks forward to assisting the City in conducting the pilot projects, which will provide valuable, city-specific information on which to base future program recommendations.

Budget Year	Division	Adjustment Number
2017	RECYCLING/TRASH COLLECTION (750)	
	/Org2	
	Requestor: Jeff Coles	

Final payment to the contract with Kessler Consulting, Inc. in the amount of \$11,010 for extra work associated with the Solid Waste Reduction, Diversion, and Recycling Master Plan. This BA is to cover a final invoice for work completed in September 2016.

	COUNCIL DATE:	2/21/2017
	LEGISTAR FILE ID#:	2017-0069
	<i>Liz Hutchens</i> 2/3/2017 3:11 PM	
	Budget Director	Date
	TYPE:	
	DESCRIPTION:	
	GLDATE:	
	POSTED:	/
RESOLUTION/ORDINANCE		

v.20161220



City of Fayetteville, Arkansas

113 West Mountain Street
Fayetteville, AR 72701
(479) 575-8323

Text File

File Number: 2017-0054

Agenda Date: 2/21/2017

Version: 1

Status: Agenda Ready

In Control: City Council Meeting

File Type: Ordinance

Agenda Number: C. 2

RZN 16-5667 (1918 S. GARLAND AVE./ANDERSON):

AN ORDINANCE TO REZONE THAT PROPERTY DESCRIBED IN REZONING PETITION RZN 16-5667 FOR ABOUT 0.32 ACRES LOCATED AT 1918 S. GARLAND AVENUE FROM I-1, HEAVY COMMERCIAL & LIGHT INDUSTRIAL TO RSF-8, RESIDENTIAL SINGLE FAMILY, 8 UNITS PER ACRE

BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF FAYETTEVILLE, ARKANSAS:

Section 1. That the City Council of the City of Fayetteville, Arkansas hereby changes the zone classification of the property shown on the map (Exhibit A) and the legal description (Exhibit B) both attached to the Planning Department's Agenda Memo from I-1 Heavy Commercial & Light Industrial to RSF-8, Residential Single Family, 8 Units per Acre.

Section 2. That the City Council of the City of Fayetteville, Arkansas hereby amends the official zoning map of the City of Fayetteville to reflect the zoning change provided in Section 1.

City of Fayetteville Staff Review Form

2017-0054

Legistar File ID

2/21/2017

City Council Meeting Date - Agenda Item Only
N/A for Non-Agenda Item

Jeremy Pate

2/3/2017

City Planning /
Development Services Department

Submitted By

Submitted Date

Division / Department

Action Recommendation:

RZN 16-5667: Rezone (1918 S. GARLAND AVE./ANDERSON, 600): Submitted by SKIP ANDERSON for property at 1918 S. GARLAND AVE . The property is zoned I-1, HEAVY COMMERCIAL & LIGHT INDUSTRIAL and contains approximately 0.32 acres. The request is to rezone the property to RSF-8, RESIDENTIAL SINGLE FAMILY, 8 UNITS PER ACRE.

Budget Impact:

Account Number

Fund

Project Number

Project Title

Budgeted Item? NA

Current Budget \$ -

Funds Obligated \$ -

Current Balance \$ -

Does item have a cost? No

Item Cost

Budget Adjustment Attached? NA

Budget Adjustment

Remaining Budget \$ -

V20140710

Previous Ordinance or Resolution #

Original Contract Number:

Approval Date:

Comments:

MEETING OF FEBRUARY 21, 2017

TO: Mayor, Fayetteville City Council

THRU: Andrew Garner, Planning Director

FROM: Jonathan Curth, Senior Planner

DATE: February 3, 2017

SUBJECT: **RZN 16-5667: Rezone (1918 S. GARLAND AVE./ANDERSON, 600):**
Submitted by SKIP ANDERSON for property at 1918 S. GARLAND AVE .
The property is zoned I-1, HEAVY COMMERCIAL & LIGHT INDUSTRIAL
and contains approximately 0.32 acres. The request is to rezone the
property to RSF-8, RESIDENTIAL SINGLE FAMILY, 8 UNITS PER ACRE.

RECOMMENDATION:

The City Planning staff and Planning Commission recommend approval of an ordinance to rezone the subject property to RSF-8, Residential Single-family, 8 Units per Acre, as requested by the applicant and as shown in the attached Exhibits 'A' and 'B'.

BACKGROUND:

The subject property is approximately 0.32 acres and is located on the east side of South Garland Avenue, several properties north of Cato Springs Road. Although currently vacant, the site formerly had a one-family residence dating from 1916 that recently caught fire and was subsequently demolished in mid-2016. Although used as a residential property for approximately a century, predating the area's annexation in to Fayetteville in 1946, the property is and has been zoned for industrial purposes for the intervening decades.

Request: The request is to rezone the property from I-1, Heavy Commercial and Light Industrial, to RSF-8, Residential Single-family, 8 Units per Acre. The applicant's letter indicates that they intend to develop the property for residential use.

Land Use Compatibility: In staff's opinion, the uses permitted with the proposed RSF-8 zoning district are compatible with surrounding uses to the north, east, and south. The adjacent property to the north is a single-family home zoned RMF-24, while the two properties to the south are both developed with single-family dwellings, and zoned I-1 and RSF-4. To the east are two buildings occupied by Washington County's Head Start, who have been operating there since the 1980s, and Life Source, a non-profit organization that provides programs and services to Fayetteville families in need. Although both buildings have surface parking lots that serve them, the structures are single-story and more appropriately located next to residential than industrial development.

Although the requested zoning is compatible with the existing properties adjacent to the west, on the other side of Garland Avenue, there are concerns with potential development. While a multi-family apartment complex is located to the southwest of the subject property, immediately across

the Garland Avenue right-of-way is a largely unused and vacant industrial warehousing site. Despite there only being one structure currently on the property, it is zoned I-1, which permits many commercial and industrial uses that may not be compatible with residential development. Staff contends that compatibility can be more confidently assured with the requested RSF-8 zoning district, with its conventional building setbacks, as opposed to a zoning district with a build-to-zone that requires a structure to be built near the front of a lot. By setting a structure away from the front property line, a residential use can, in effect, be buffered from industrial uses across Garland Avenue.

Land Use Plan Analysis: The *City Plan 2030 Future Land Use Plan* designates this site as part of a *Complete Neighborhood Plan* area. This designation refers to the property being within the boundaries of the Fayette Junction Neighborhood Plan and its associated public planning process and subsequent rezoning. Although large areas of the Fayette Junction Neighborhood Plan area were rezoned, the subject property was not, and maintains the I-1 zoning designation that has been in place for decades. Although the Plan did not explicitly refer to this property, or include it in the larger collection of rezonings that resulted from the Plan, the Illustrative Master Plan identifies retaining the former single-family dwelling as the use on the subject property. Furthermore, the previous Future Land Use Plan designation for the property prior to the Fayette Junction Neighborhood Plan's adoption was City Neighborhood Area, which encourages a mix of residential densities and uses. A copy of the Executive Summary and Illustrative Plan for Fayette Junction are attached and confirm staff's recommendation that this rezoning to a medium density single-family district is consistent with the Plan.

DISCUSSION:

On January 23, 2017 the Planning Commission forwarded the applicant's request with a recommendation for approval by a vote of 7-1-0, with Commissioner Brown dissenting. Commissioner Brown was concerned that the proposed zoning is not dense enough to reach the necessary threshold for mass transit at the Fayette Junction rail yard, which is a major component of the master plan.

BUDGET/STAFF IMPACT:

N/A

Attachments:

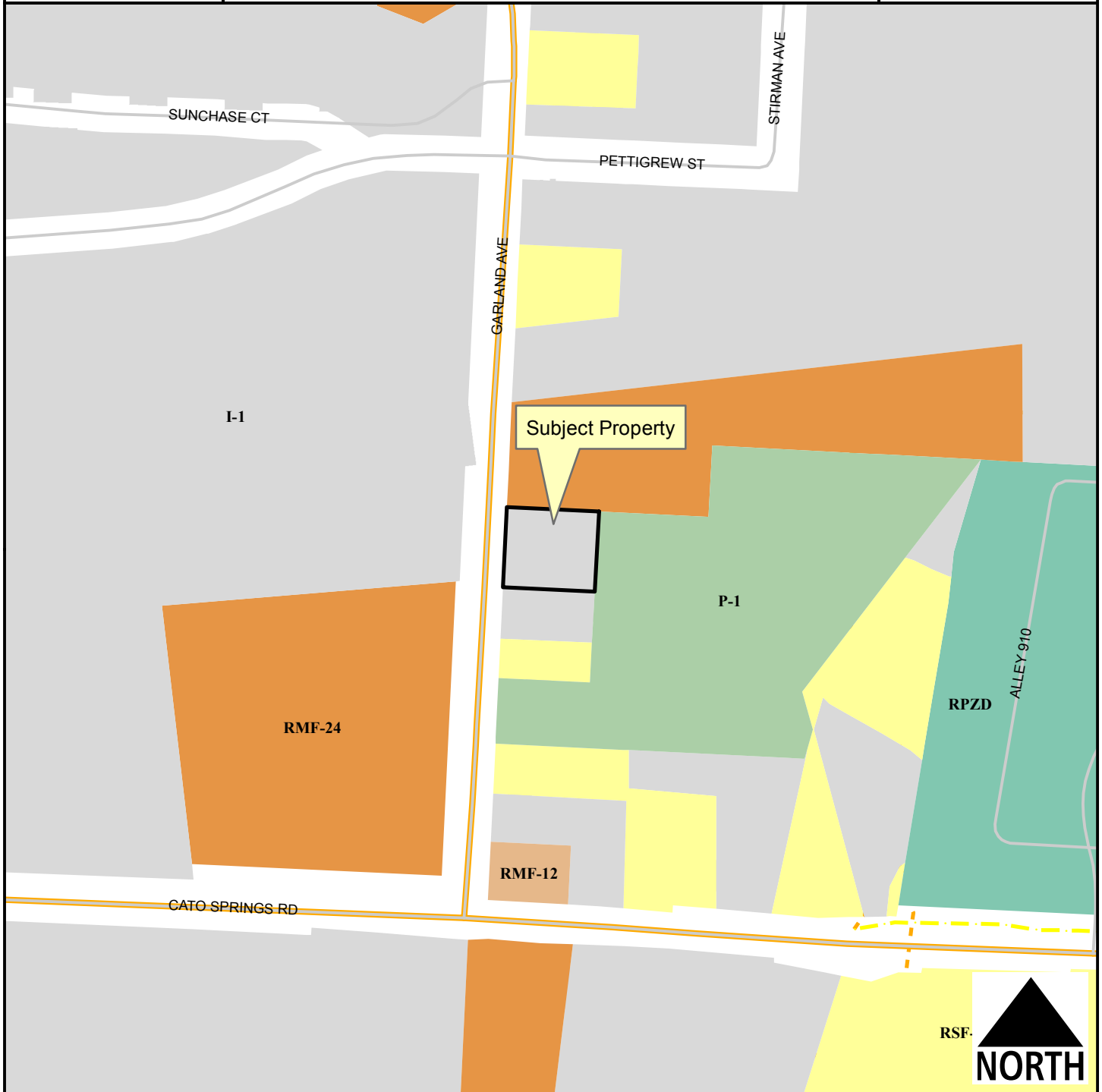
- Exhibit A
- Exhibit B
- Application
- Planning Commission Staff Report

RZN 16-5667

ANDERSON

EXHIBIT 'A'
16-5667

Close Up View



Legend

- Planning Area
- Fayetteville City Limits
- Shared Use Paved Trail
- Trail (Proposed)
- Building Footprint

Feet
0 75 150 300 450 600
1 inch = 200 feet

- RSF-4
- RMF-12
- RMF-24
- I-1 Heavy Commercial and Light Industrial
- Commercial, Industrial, Residential
- P-1

EXHIBIT 'B'

16-5667

A part of the South Half of the Southwest Quarter of the Southwest Quarter of Section Twenty One (21) in Township Sixteen (16) North of Range Thirty (30) West, described as follows: Beginning at a point which is one hundred (100) feet South of the Northwest corner of said twenty (20) acre tract, and running thence South one hundred and eight (108) feet; thence East on hundred fifty (150) feet; thence North one hundred and eight (108) feet; thence West one hundred and fifty (150) feet to the place of beginning, situate and being in the County of Washington, State of Arkansas.

APPLICANT / REPRESENTATIVE: I certify under penalty of perjury that the foregoing statements and answers herein made all data, information, and evidence herewith submitted are in all respects, to the best of my knowledge and belief, true and correct. I understand that submittal of incorrect or false information is grounds for invalidation of application completeness, determination, or approval. I understand that the City might not approve what I am applying for, or might set conditions on approval.

Name (printed): Emmett Anderson Date: 11/8/16

Signature: 

PROPERTY OWNER(S) / AUTHORIZED AGENT: I/we certify under penalty of perjury that I am/we are the owner(s) of the property that is the subject of this application and that I/we have read this application and consent to its filing. *(If signed by the authorized agent, a letter from each property owner must be provided indicating that the agent is authorized to act on his/her behalf.)*

Property Owners of Record (attach additional info if necessary):

Name (printed): <u>Jane Keen</u>	Address: <u>3561 W. Finger Road</u>
Signature: <u></u>	<u>Fayetteville, AR 72701</u>
Date: <u>11/11/2016 9:51 AM CST</u>	Phone: <u>(479)4453223</u>

Name (printed): <u>Justin Keen</u>	Address: <u>3561 W. Finger Road</u>
Signature: <u></u>	<u>Fayetteville, AR 72701</u>
Date: <u>11/11/2016 9:52 AM CST</u>	Phone: <u>(479)4453213</u>

Rezoning Checklist:

Attach the following items to this application:

- (1) Payment in full of applicable fees for processing the application:
 - \$325.00 application fee
 - \$5.00 public notification sign fee
- (2) A legal description of the property to be rezoned. A survey may be required if the property description can not accurately be platted or if it is described by referring to other deeds.
- (3) CD containing a copy of the legal description in MS Word and all required submittal items should be also included on the CD in PDF format.
- (4) A copy of the county parcel map from the Washington County Assessor's office or from the Washington County website (www.co.washington.ar.us). The subject property and all adjacent parcels should be identified on this parcel map. The owner's name, official mailing address, and the parcel number for every adjacent property shall be shown on this map.

- (5) A *written description* of this request addressing the following items:
- a. Current ownership information and any proposed or pending property sales.
 - b. Reason (need) for requesting the zoning change.
 - c. Statement of how the proposed rezoning will relate to surrounding properties in terms of land use, traffic, appearance, and signage.
 - d. Availability of water and sewer (state size of lines). This information is available from the City Engineering Division.
 - e. The degree to which the proposed zoning is consistent with land use planning objectives, principles, and policies and with land use and zoning plans.
 - f. Whether the proposed zoning is justified and/or needed at the time of the request.
 - g. Whether the proposed zoning will create or appreciably increase traffic danger and congestion.
 - h. Whether the proposed zoning will alter the population density and thereby undesirably increase the load on public services including schools, water, and sewer facilities.
 - i. Why it would be impractical to use the land for any of the uses permitted under its existing zoning classification.
- (6) The applicant is responsible for meeting the public notification requirements for a Rezoning listed on the Notification Requirements pages in this application.

Notice: Resources including current zoning regulations, City Plan 2030, Future Land Use Plan, Master Street Plan and Zoning maps are available for review on our website, www.accessfayetteville.org and in the Planning Office.

All applicants should meet with a staff Planner prior to completing a Rezoning application.

PLANNING COMMISSION MEMO

TO: City of Fayetteville Planning Commission

THRU: Andrew Garner, City Planning Director

FROM: Jonathan Curth, Senior Planner

MEETING DATE: January 23, 2017 (Updated with Planning Commission Results)

SUBJECT: **RZN 16-5667: Rezone (1918 S. GARLAND AVE./ANDERSON, 600):**
 Submitted by SKIP ANDERSON for property at 1918 S. GARLAND AVE .
 The property is zoned I-1, HEAVY COMMERCIAL & LIGHT INDUSTRIAL
 and contains approximately 0.32 acres. The request is to rezone the
 property to RSF-8, RESIDENTIAL SINGLE FAMILY, 8 UNITS PER ACRE.

RECOMMENDATION:

Staff recommends forwarding of **RZN 16-5667** to the City Council with a recommendation for approval based on the findings herein.

BACKGROUND:

At the January 9, 2017 Planning Commission meeting, the rezoning request was tabled unanimously at the request of the applicant.

The subject property is approximately 0.32 acres and is located on the east side of South Garland Avenue, several properties north of Cato Springs Road. Although currently vacant, the site formerly had a one-family residence dating from 1916 that recently caught fire and was subsequently demolished in mid-2016. Although used as a residential property for approximately a century, predating the area's annexation in to Fayetteville in 1946, the property is and has been zoned for industrial purposes for the intervening decades.

Surrounding land use and zoning is depicted on *Table 1*.

Table 1
Surrounding Land Use and Zoning

Direction from Site	Land Use	Zoning
North	Single-family Residential	RMF-24, Residential Multi-family, 24 Units per Acre
South	Single-Family Residential	I-1, Heavy Commercial and Light Industrial
East	Washington County Head Start Facility	P-1, Institutional
West	Warehousing/Undeveloped; Multi-family Housing	I-1, Heavy Commercial and Light Industrial; RMF-24, Residential Multi-family, 24 Units per Acre

Request: The request is to rezone the property from I-1, Heavy Commercial and Light Industrial to RSF-8, Residential Single-family/8 units per acre. The applicant's letter indicates that they intend to develop the property for residential use.

Public Comment: Staff has not received any public comment.

INFRASTRUCTURE:

- Streets:** The subject property has access to Garland Avenue, a Collector Street. Along the lot's frontage, Garland Avenue is unimproved with no curb, gutter, sidewalk, or storm drainage installed at this time. Any street improvements required in these areas would be determined at the time of development proposal.
- Water:** Public water is available to the site. A 6" public main exists in the Garland Avenue right-of-way along the property's frontage.
- Sewer:** Sanitary sewer is available to the site. A 6" public sewer main exists in the Garland Avenue right of way along the property's frontage.
- Drainage:** Any additional improvements or requirements for drainage will be determined at time of development. No portions of this parcel are identified as 100-year FEMA regulated floodplains or floodways and no protected streams are present. Furthermore, no portion of this parcel is within the Hillside-Hilltop Overlay District.
- Fire:** The Fire Department did not express any concerns with this request.
- Police:** The Police Department did not express any concerns with this request.

CITY PLAN 2030 FUTURE LAND USE PLAN: The **City Plan 2030 Future Land Use Map** designates the properties as part of a **Complete Neighborhood Plan** area associated with the Fayette Junction Neighborhood Plan. The Executive Summary and Illustrative Plan are attached to this staff report which indicate preservation of single-family homes on the east side of Garland Avenue between the railway crossing and Cato Springs Road, including the subject property.

FINDINGS OF THE STAFF:

1. A determination of the degree to which the proposed zoning is consistent with land use planning objectives, principles, and policies and with land use and zoning plans.

Finding: **Surrounding Land Use Compatibility:** In staff's opinion, the uses permitted with the proposed RSF-8 zoning district are compatible with surrounding uses to the north, east, and south. The adjacent property to the north is a single-family home zoned RMF-24, while the two properties to the south are both developed with single-family dwellings, and zoned I-1 and RSF-4. To the east are two buildings occupied by Washington County's Head Start, who have been operating there since the 1980s, and Life Source, a non-profit organization that provides programs and services to Fayetteville families in need. Although both buildings have surface parking lots that serve them, the structures are single-story and more appropriately located next to residential than industrial development.

The requested zoning is less compatible with the existing properties adjacent to the west, on the other side of Garland Avenue. While a multi-family apartment complex is located to the southwest of the subject property, immediately across the Garland Avenue right-of-way is a largely

unused and vacant industrial warehousing site. Despite there only being one structure on the property, it is zoned I-1 which permits many commercial and industrial uses that may not be compatible with residential development.

Land Use Plan Analysis: The *City Plan 2030 Future Land Use Plan* designates this site as part of a *Complete Neighborhood Plan* area. This designation refers to the property being within the boundaries of the Fayette Junction Neighborhood Plan and its associated public planning process and subsequent rezoning. Although large areas of the Fayette Junction Neighborhood Plan area were rezoned, the subject property was not, and maintains the I-1 zoning designation that has been in place for decades. Although the Plan did not explicitly refer to this property, or include it in the larger collection of rezonings that resulted from the Plan, the Illustrative Master Plan identifies the former single-family dwelling as the use on the subject property. Furthermore, the previous Future Land Use Plan designation for the property prior to the Fayette Junction Neighborhood Plan's adoption was City Neighborhood Area, which encourages a mix of residential densities and uses. A copy of the Executive Summary and Illustrative Plan for Fayette Junction are attached and confirm staff's recommendation that this rezoning to a medium density single-family district is consistent with the Plan.

2. A determination of whether the proposed zoning is justified and/or needed at the time the rezoning is proposed.

Finding: In staff's opinion, the requested RSF-8 zoning district is justified at this time, as the property is located among almost exclusively residential uses, or those uses complimentary of, or compatible with residential uses. Additionally, development of the property to its former and recent use as single-family residential is not currently permitted in the I-1 zoning district, and the size of the subject property restricts any potential commercial or industrial development.

3. A determination as to whether the proposed zoning would create or appreciably increase traffic danger and congestion.

Finding: Rezoning the property RSF-8 is not likely to increase traffic danger or congestion in this location, although the request is for a zone that will allow a higher intensity of development and use than the low density that previously existed with one single-family dwelling. If more than one dwelling is constructed on the property, which is possible given the RSF-8 zoning district's area requirements, the City's access management standards dictate the use of one shared curb cut.

4. A determination as to whether the proposed zoning would alter the population density and thereby undesirably increase the load on public services including schools, water, and sewer facilities.

Finding: Rezoning the property from I-1 to RSF-8 will increase the potential population density, but is unlikely to undesirably increase the load on public services. As mentioned, there was previously one detached single-family

home one the property, and under the RSF-8 zoning district's requirements, there is the potential to place two detached single-family dwellings. Neither the Police Department nor Fire Department expressed any objections to the proposed rezoning.

5. If there are reasons why the proposed zoning should not be approved in view of considerations under b (1) through (4) above, a determination as to whether the proposed zoning is justified and/or necessitated by peculiar circumstances such as:
 - a. It would be impractical to use the land for any of the uses permitted under its existing zoning classifications;
 - b. There are extenuating circumstances which justify the rezoning even though there are reasons under b (1) through (4) above why the proposed zoning is not desirable.

Finding: While there are often situations where a zoning district with a build-to-zone would be appropriate, staff contends that the existence of an industrial use to the west of the subject property creates a situation where it may not be desirable to locate residential housing in closer proximity to potentially aversive uses.

RECOMMENDATION: Staff recommends forwarding of **RZN 16-5667** to the City Council with a recommendation for approval based on the findings discussed throughout this report.

PLANNING COMMISSION ACTION:		Required	<u>YES</u>
Date: <u>January 23, 2017</u>	☐ Tabled	☒ Forwarded	☐ Denied
Motion: <u>Hoskins</u>	Second: <u>Selby</u>	Vote: <u>6-1-0 (Brown voted 'no')</u>	
CITY COUNCIL ACTION:		Required	<u>YES</u>
Date: _____	☐ Approved	☐ Denied	

BUDGET/STAFF IMPACT:

None

Attachments:

- Unified Development Code:
 - o §161.09, RSF-8, Residential Single-family, 8 Units per Acre
 - o §161.28 I-1, Heavy Commercial and Light Industrial
- Request Letter
- Fayette Junction Master Plan Executive Summary and Illustrative Plan
- One Mile Map
- Close-up Map
- Current Land Use Map
- Future Land Use Map

161.09 - District RSF-8, Residential Single-Family - Eight (8) Units Per Acre

(A) *Purpose.* The RSF-8 Residential District is designed to bring historic platted development into conformity and to allow for the development of new single family residential areas with similar lot size, density, and land use as the historical neighborhoods in the downtown area.

(B) *Uses.*

(1) *Permitted Uses.*

Unit 1	City-wide uses by right
Unit 8	Single-family dwellings
Unit 41	Accessory dwellings

(2) *Conditional Uses.*

Unit 2	City-wide uses by conditional use permit
Unit 3	Public protection and utility facilities
Unit 4	Cultural and recreational facilities
Unit 5	Government facilities
Unit 9	Two-family dwellings
Unit 12	Limited business
Unit 24	Home occupations
Unit 36	Wireless communications facilities
Unit 44	Cottage Housing Development

(C) *Density.*

	By Right
Single-family dwelling units per acre	8 or less

(D) *Bulk and Area Regulations.*

(1) *Lot Width Minimum.*

Single-family	50 feet
Two (2) family	50 feet
Townhouse, no more than two (2) attached	25 feet

(2) *Lot Area Minimum.*

Single-family	5,000 square feet
Two-family	5,000 square feet

(3) *Land Area Per Dwelling Unit.*

Single-family	5,000 square feet
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Two-family	5,000 square feet
Townhouse, no more than two (2) attached	2,500 square feet

(E) *Setback Requirements.*

Front	Side	Rear
15 feet	5 feet	5 feet

(F) *Height Regulations.*

Building Height Maximum	45 feet
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- (G) *Building Area.* The area occupied by all buildings shall not exceed 50% of the total lot area, except when a detached garage exists or is proposed; then the area occupied by all buildings shall not exceed 60% of the total lot area.

(Ord. No. 4783, 10-18-05; Ord. No. 5028, 6-19-07; Ord. No. 5128, 4-15-08; Ord. No. 5224, 3-3-09; Ord. No. 5312, 4-20-10; Ord. No. 5462, 12-6-11)

161.28 - District I-1, Heavy Commercial And Light Industrial

(A) *Purpose.* The Heavy Commercial District is designed primarily to accommodate certain commercial and light industrial uses which are compatible with one another but are inappropriate in other commercial or industrial districts. The Light Industrial District is designed to group together a wide range of industrial uses, which do not produce objectionable environmental influences in their operation and appearance. The regulations of this district are intended to provide a degree of compatibility between uses permitted in this district and those in nearby residential districts.

(B) *Uses.*

(1) *Permitted Uses.*

Unit 1	City-wide uses by right
Unit 3	Public protection and utility facilities
Unit 4	Cultural and recreational facilities
Unit 5	Government Facilities
Unit 6	Agriculture
Unit 13	Eating places
Unit 17	Transportation trades and services
Unit 18	Gasoline service stations and drive-in/drive through restaurants
Unit 21	Warehousing and wholesale
Unit 22	Manufacturing
Unit 25	Offices, studios and related services
Unit 27	Wholesale bulk petroleum storage facilities with underground storage tanks
Unit 42	Clean technologies

(2) *Conditional Uses.*

Unit 2	City-wide uses by conditional use permit
Unit 19	Commercial recreation, small sites
Unit 20	Commercial recreation, large sites
Unit 28	Center for collecting recyclable materials
Unit 36	Wireless communications facilities
Unit 38	Mini-storage units
Unit 43	Animal boarding and training

(C) *Density*. None.

(D) *Bulk and Area Regulations*. None.

(E) *Setback Regulations*.

Front, when adjoining A or R districts	50 feet
Front, when adjoining C, I, or P districts	25 feet
Side, when adjoining A or R districts	50 feet
Side, when adjoining C, I, or P districts	10 feet
Rear	25 feet

(F) *Height Regulations*. There shall be no maximum height limits in I-1 District, provided, however, that any building which exceeds the height of 25 feet shall be set back from any boundary line of any residential district a distance of 1 foot for each foot of height in excess of 25 feet.

(G) *Building Area*. None.

(Code 1965, App. A., Art. 5(VIII); Ord. No. 2351, 6-2-77; Ord. No. 2430, 3-21-78; Ord. No. 2516, 4-3-79; Ord. No. 1747, 6-29-70; Code 1991, §160.039; Ord. No. 4100, §2 (Ex. A), 6-16-98; Ord. No. 4178, 8-31-99; Ord. No. 4992, 3-06-07; Ord. No. 5028, 6-19-07; Ord. No. 5195, 11-6-08; Ord. No. 5312, 4-20-10; Ord. No. 5339, 8-3-10; Ord. No. 5353, 9-7-10; Ord. No. 5472; 12-20-11; Ord. No. 5800, § 1(Exh. A), 10-6-15)

Request Letter

Legal Description

1918 S Garland Ave Fayetteville, Arkansas

21-16-30

Parcel#765-15063-000

- A. Property is currently owned by Justin and Jane Keen. Farrell and Kim Anderson have a contract to purchase the lot.
- B. We are requesting the zoning change because the property is located on a residential street and would like to use it for that purpose.
- C. The proposed usage would fit into the existing usage of the neighboring properties, as it will be used for housing. As far as appearance of the project it will improve the neighborhood and not cause and undue burden from traffic. There will also be no signage to contend with.
- D. There is a 6" sewer line in front of the property with a sewer tap available. There is also a single water meter yoke on the front of the property.
- E. The proposed zoning does reflect the land use proposed by the 2030 plan. It is slated to be residential.
- F. The proposed zoning is justified and needed for anyone to be able to use the land. It is currently one lot zoned I-1 and would be too small to accomplish a project. It would be out of place on that side of the street.
- G. There would be no appreciable increase in traffic to the area that would pose any danger to anyone.
- H. The proposed zoning would raise the density slightly because there would be residence staying on the property. The property is currently vacant due to a house fire a few years ago.
- I. I believe the lot is too small to use for I-1 and would also be out of place to have an industrial use right between two homes currently being inhabited.

Fayette Junction

Executive Summary

Why Plan?

The Fayette Junction Master Plan area summarizes the notable opportunities for development and revitalization in south Fayetteville. This area was once a hub for the lumber and canning industries, which led to the development of modest residential areas. Newer developments include the addition of the Crowne apartments, BioBased Companies and Bungalows at Cato Springs. Many of the recent changes have been beneficial to the area but have occurred more or less in isolation from one another. These developments, the proximity to the Arkansas Research and Technology Park (ARTP), a significant conservation easement and the entrance into Fayetteville from I-540 suggest that a comprehensive plan for this area would provide a tapestry that weaves these developments and opportunities together, creating a whole that is greater than the sum of its parts. Planning enables stakeholders to shape the form of future development by setting forth a vision that encourages a sustainable development pattern.

Guiding Principles

Over 100 citizens offered input on the vision for the Fayette Junction Master Plan September 13-18, 2008. During the charrette process, the diverse voices and opinions of the residents, business owners and other stakeholders converged to shape three guiding principles.

The extensive floodplains and significant hillsides that flank the entrance into Fayetteville from I-540 necessitate a careful **integration of the natural and built environments**. Stakeholders repeatedly mentioned the need for effective and innovative stormwater management techniques, and staff from the University of Arkansas stressed the importance of preserving the viewshed to Old Main, Fayetteville's iconic building. The second guiding principle speaks to a regional concept of sustainable economic development. The Illustrative Plan envisions a **clean tech cluster**, which capitalizes on the presence of ARTP, BioBased Companies and stakeholders' desire to see an advertisement for "Green Valley" at the entrance to Fayetteville and a firm commitment to sustainability by encouraging clean tech industry to locate in Fayette Junction. **Multi-modal transit** also plays a significant role in tying employment centers and residential areas together both within the Fayette Junction area and throughout the region. A trail network links ARTP to the larger university campus as well as to residential neighborhoods within the planning area and the proposed clean tech cluster. Fayette Junction is envisioned as a proposed transit hub, potentially evolving from a park and ride to a rail transit stop and demonstrating how transit-oriented development can become a reality.

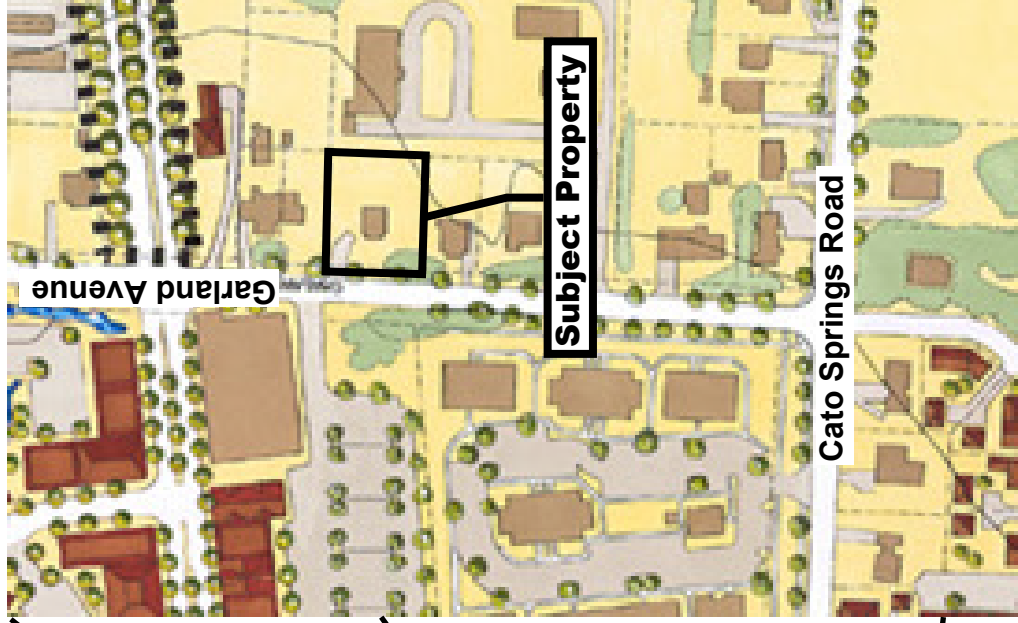
Implementation

The vision document provides implementation steps for the short-term (0-5 years), mid-term (6-10 years) and long-term. While the illustrative plan captures a vision for final build-out, the action steps provide a roadmap for achieving the vision. Some of the short-term goals include rezoning along the Razorback Road corridor, creating a riparian buffer ordinance and adding the proposed streets to the Master Street Plan. Mid-term goals include adding or repairing existing sidewalks and preserving the Ogden hillside at the entrance to Fayetteville from I-540. Long-term goals include extending the principal arterial boulevard from 15th Street to the I-540 entrance along Razorback Road.

The ultimate vision will only become a reality through collaboration and cooperation among different stakeholder groups and partnerships between the public, private and non-profit sectors. Some of the short-term goals, including rezoning Razorback Road, can be initiated by the City, but the development of Fayette Junction will only occur through coordinated efforts between the public and private sectors.

This Plan serves as a guide for building upon the strengths of the Fayette Junction area and seizing opportunities that promote sustainable development patterns. Its implementation depends upon a firm commitment and concerted efforts from all relevant stakeholder groups.

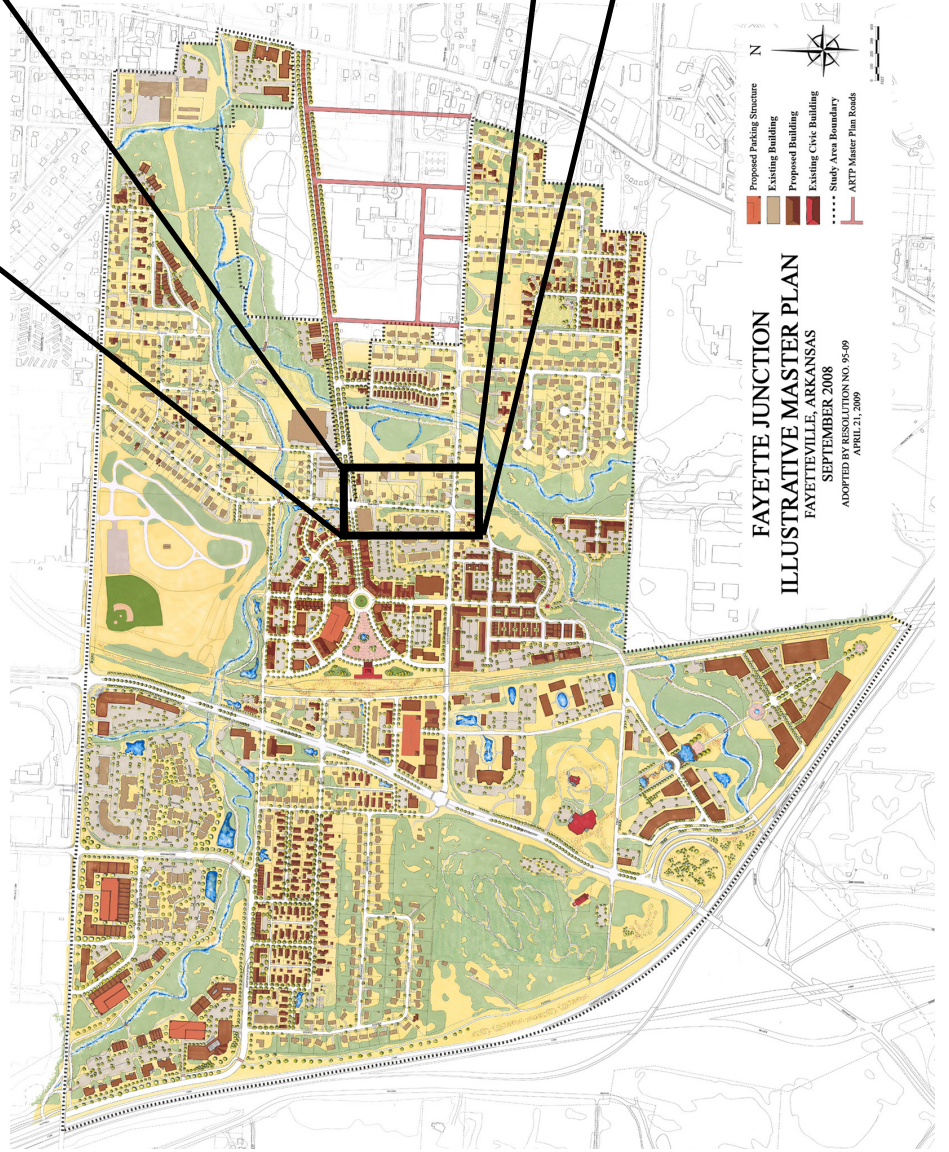
Master Plan



Garland Avenue

Subject Property

Cato Springs Road



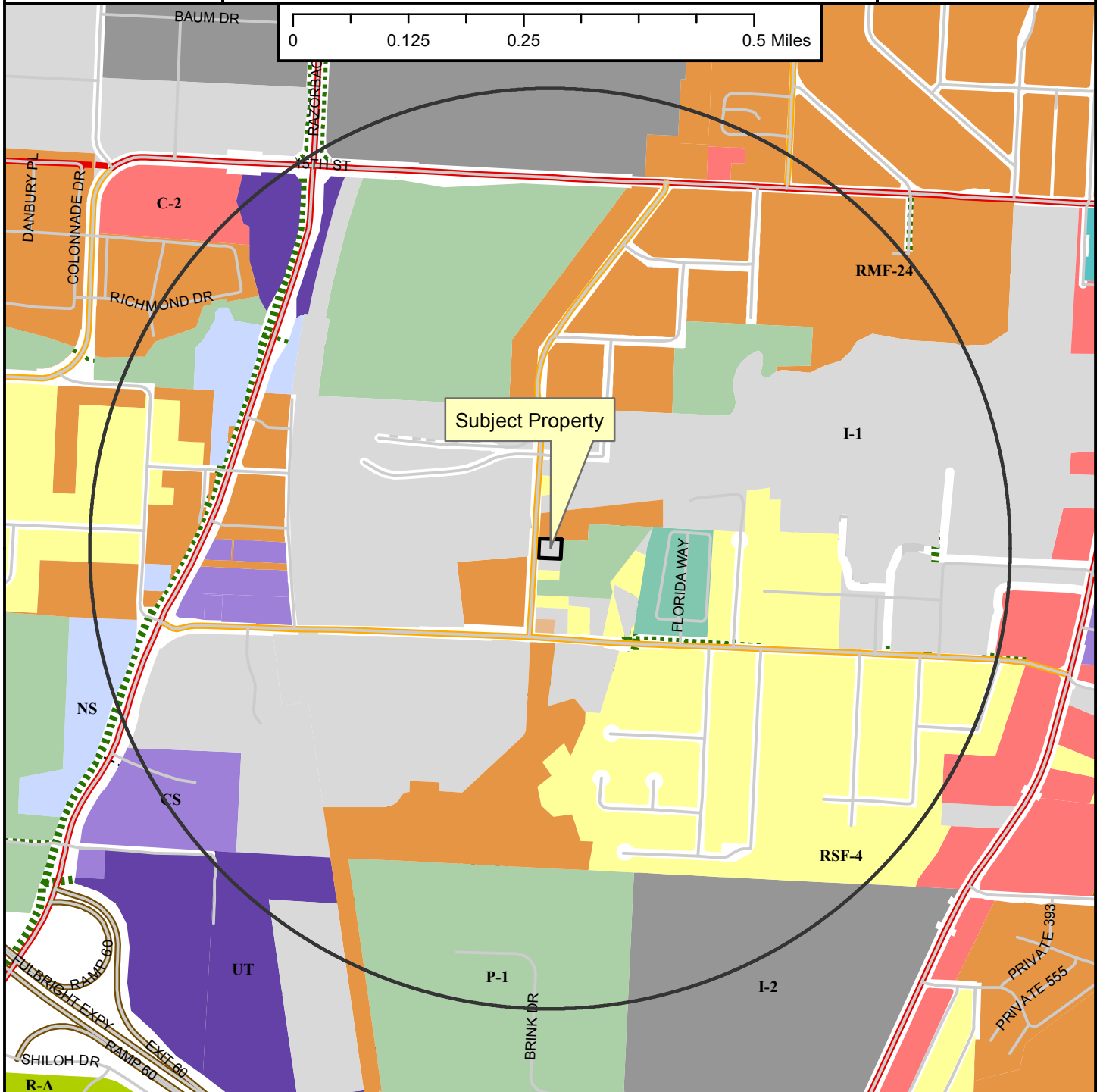
RZN 16-5667

One Mile View

ANDERSON

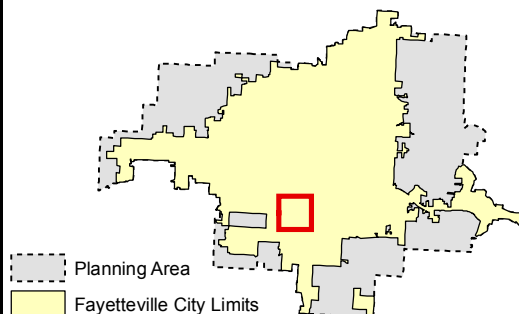


0 0.125 0.25 0.5 Miles



Legend

- Planning Area
- Fayetteville City Limits
- Shared Use Paved Trail
- Trail (Proposed)
- Design Overlay District
- Building Footprint



Zoning

RESIDENTIAL SINGLE-FAMILY

- RSF-5 Residential-Agricultural
- RSF-1
- RSF-2
- RSF-4
- RSF-7
- RSF-8
- RSF-18

RESIDENTIAL MULTI-FAMILY

- RT-12 Residential Two and Three-family
- RMF-6
- RMF-12
- RMF-18
- RMF-24
- RMF-40

INDUSTRIAL

- I-1 Heavy Commercial and Light Industrial
- I-2 General Industrial

EXTRACTION

E-1

COMMERCIAL

- Residential-Office
- C-1
- C-2
- C-3

FORM BASED DISTRICTS

- Downtown Core
- Urban Thoroughfare
- Main Street Center
- Downtown General
- Community Services
- Neighborhood Services
- Neighborhood Conservation

PLANNED ZONING DISTRICTS

- Commercial, Industrial, Residential

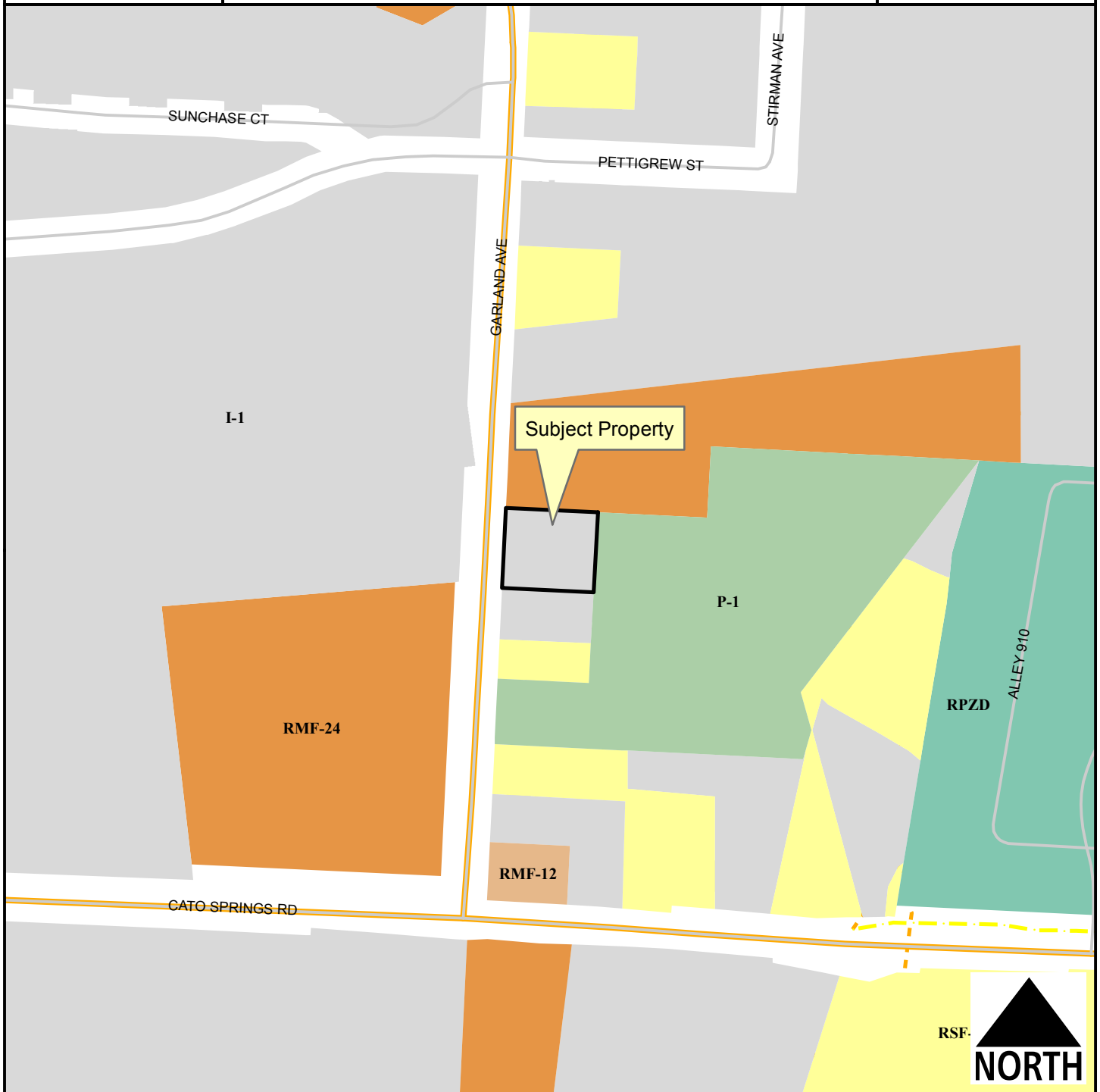
INSTITUTIONAL

- P-1

RZN 16-5667

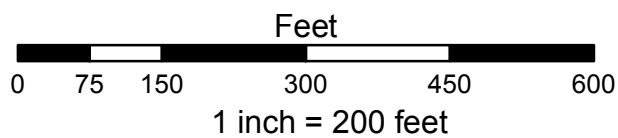
ANDERSON

Close Up View



Legend

- Planning Area
- Fayetteville City Limits
- Shared Use Paved Trail
- Trail (Proposed)
- Building Footprint

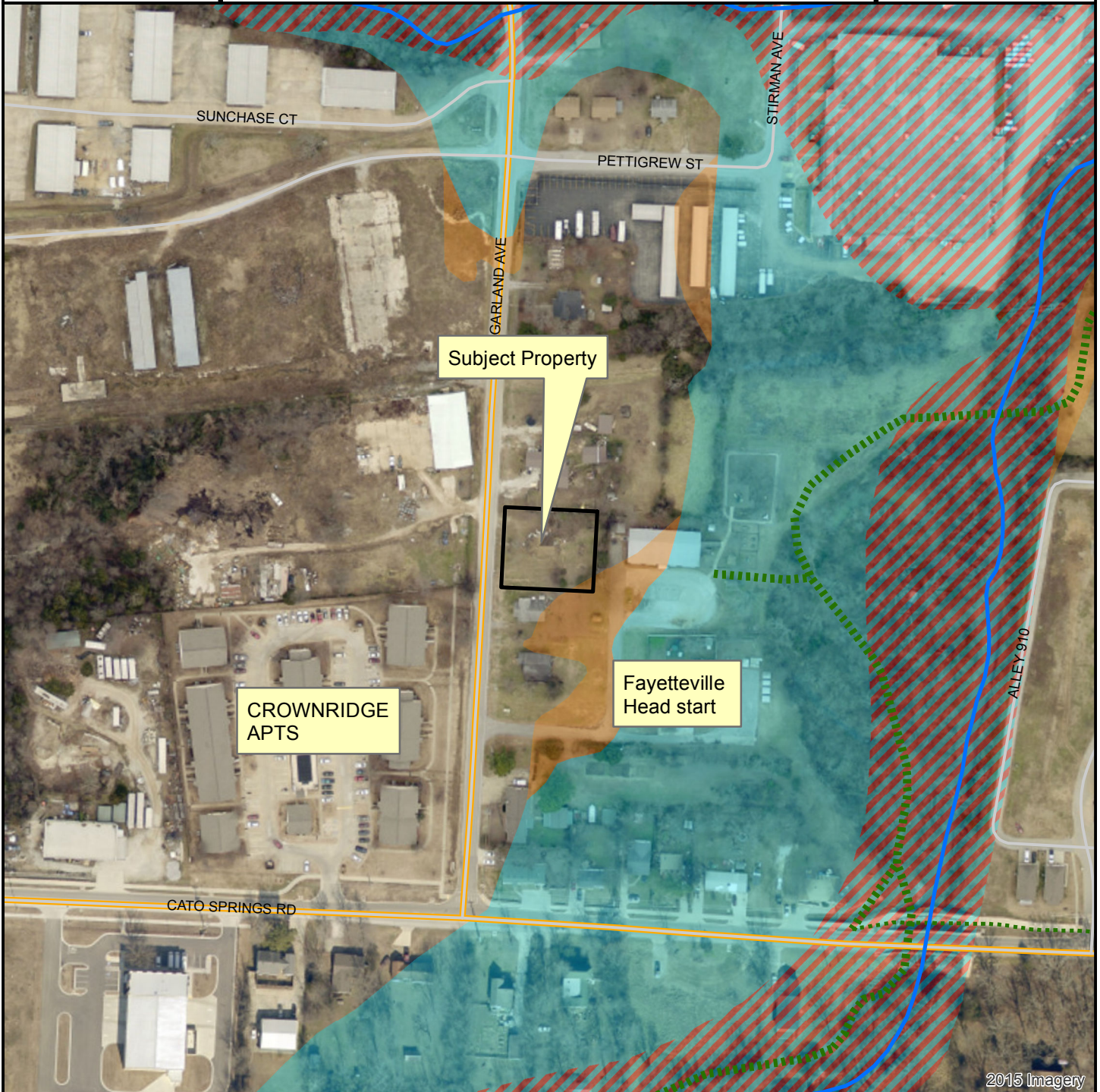


- RSF-4
- RMF-12
- RMF-24
- I-1 Heavy Commercial and Light Industrial
- Commercial, Industrial, Residential
- P-1

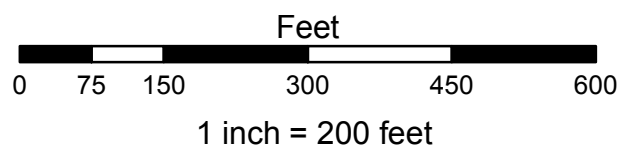
RZN 16-5667

Current Land Use

ANDERSON



- Streams
- Street
- COLLECTOR
- Shared Use Paved Trail
- Trail (Proposed)
- RZN16-5667
- Planning Area
- Fayetteville City Limits



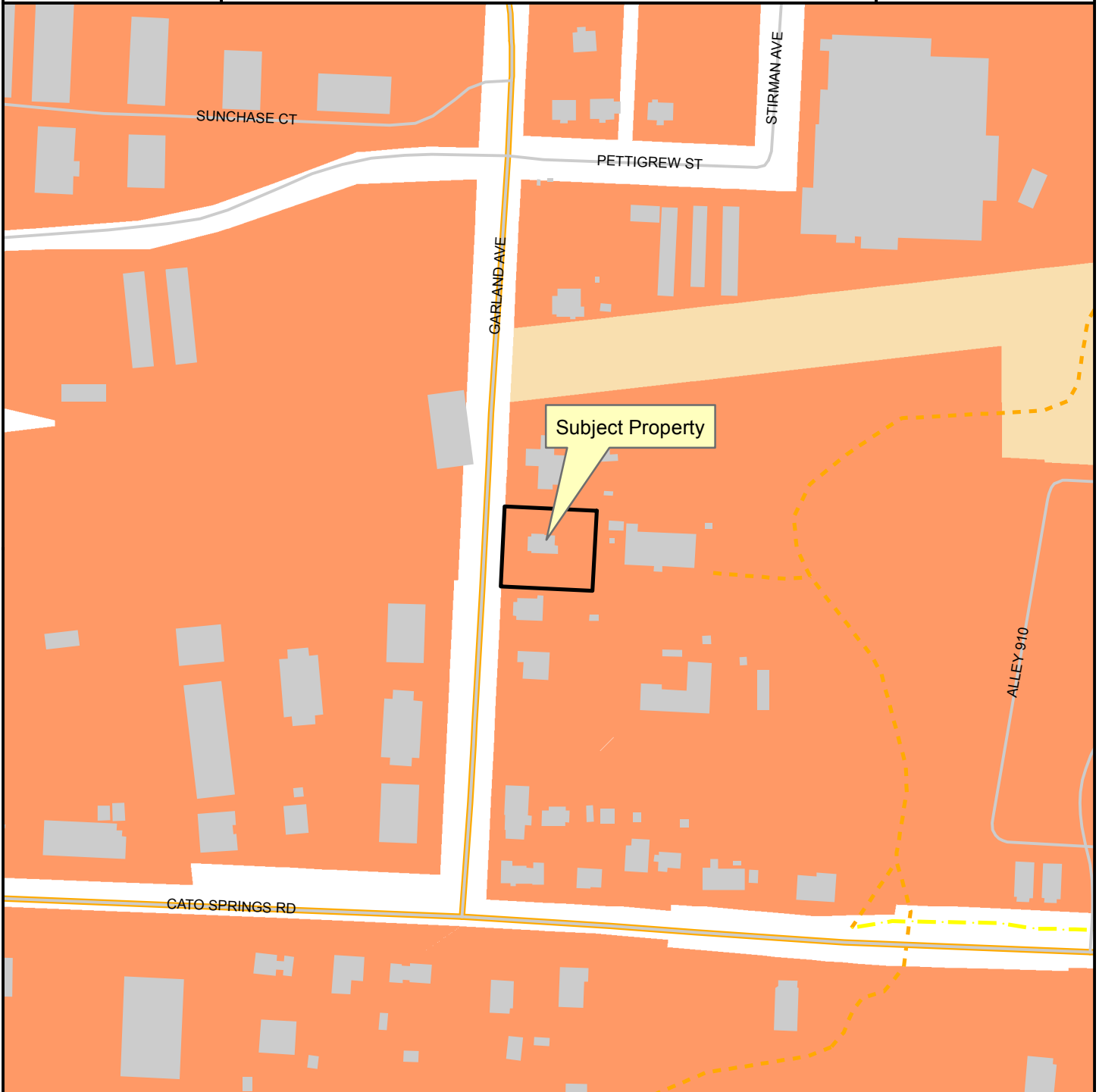
FEMA Flood Hazard Data

- 100-Year Floodplain
- Floodway

RZN 16-5667

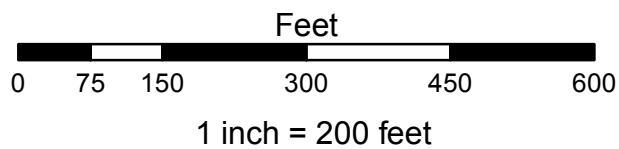
Future Land Use

ANDERSON



Legend

- Planning Area
- Fayetteville City Limits
- Shared Use Paved Trail
- Trail (Proposed)
- Building Footprint



FUTURE LAND USE 2030

- Complete Neighborhood Plan
- Non-Municipal Government



City of Fayetteville, Arkansas

113 West Mountain Street
Fayetteville, AR 72701
(479) 575-8323

Text File

File Number: 2017-0052

Agenda Date: 2/21/2017

Version: 1

Status: Agenda Ready

In Control: City Council Meeting

File Type: Ordinance

Agenda Number: C. 3

VAC 16-5687: (2790 N. SIGNET PLACE/BOWERS):

AN ORDINANCE TO APPROVE VAC 16-5687 FOR PROPERTY LOCATED AT 2790 N. SIGNET PLACE TO VACATE A PORTION OF A GENERAL UTILITY EASEMENT

WHEREAS, the City Council has the authority under A.C.A. § 14-54-104 to vacate public grounds or portions thereof which are not required for corporate purposes; and

WHEREAS, the City Council has determined that the following portion of the described general utility easement is not required for corporate purposes.

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF FAYETTEVILLE, ARKANSAS:

Section 1. That the City Council of the City of Fayetteville, Arkansas hereby vacates a portion of a general utility easement as described in Exhibit B attached to the Planning Department's memo.

Section 2. A copy of this Ordinance duly certified by the City Clerk along with the map attached as Exhibit A to the Planning Department's memo shall be filed in the office of the Washington County Circuit Clerk.

Section 3. This vacation approval is subject to the following condition:

1. Any costs associated with relocation of or damage to utilities and new easement dedication shall be at the owner/developer's expense.

PASSED and APPROVED this 21st day of February, 2017.

City of Fayetteville Staff Review Form

2017-0052

Legistar File ID

2/21/2017

City Council Meeting Date - Agenda Item Only
N/A for Non-Agenda Item

Jeremy Pate

2/3/2017

City Planning /
Development Services Department

Submitted By

Submitted Date

Division / Department

Action Recommendation:

VAC 16-5687: Vacation (2790 N. SIGNET PLACE/BOWERS, 295): Submitted by BATES & ASSOCIATES, INC. for property located 2790 N. SIGNET PLACE. The property is zoned RSF-4, RESIDENTIAL SINGLE FAMILY, 4 UNITS PER ACRE and contains approximately 0.30 acres. The request is to vacate a portion of a general utility easement.

Budget Impact:

Account Number

Fund

Project Number

Project Title

Budgeted Item? NA

Current Budget \$ -

Funds Obligated \$ -

Current Balance \$ -

Does item have a cost? No

Item Cost

Budget Adjustment Attached? NA

Budget Adjustment

Remaining Budget \$ -

V20140710

Previous Ordinance or Resolution #

Original Contract Number:

Approval Date:

Comments:

MEETING OF FEBRUARY 21, 2017

TO: Mayor and City Council

THRU: Andrew Garner, City Planning Director

FROM: Harry Davis, Planner

DATE: February 3, 2017

SUBJECT: **VAC 16-5687: Vacation (2790 N. SIGNET PLACE/BOWERS, 295):**
Submitted by BATES & ASSOCIATES, INC. for property located 2790 N. SIGNET PLACE. The property is zoned RSF-4, RESIDENTIAL SINGLE FAMILY, 4 UNITS PER ACRE and contains approximately 0.30 acres. The request is to vacate a portion of a general utility easement.

RECOMMENDATION:

Planning Division staff and the Planning Commission recommend approval of **VAC 16-5687** with the following condition:

Condition of Approval:

1. Any relocation or damage to utilities and associated new easement dedication shall be at the owner/developer's expense.

BACKGROUND:

The property is located on the southeast corner of Skillern Road and Signet Place. The property is currently zoned as RSF-4, Residential Single-family, 4 Units Per Acre and contains approximately 0.30 acres. A general utility easement runs east-west along the northern property line that was dedicated on the final plat of the Crestmont Estates Subdivision. The applicant desires to build a pool in a portion of this easement. On January 9, 2017 the Fayetteville Board of Adjustment approved a variance to allow construction of a pool within this front building setback (BOA 16-5686).

Proposal: The applicant proposes vacation of a portion of a utility easement as depicted in Exhibits 'A' and 'B' attached to this report. The applicant intends on building a pool in the easement area.

DISCUSSION:

On January 23, 2017 the Planning Commission forwarded this item to the City Council with a recommendation for approval with a vote of 7-0-0 as a consent agenda item. Commissioners Quinlan and Noble were absent.

BUDGET/STAFF IMPACT:

N/A

Attachments:

- Exhibit A
- Exhibit B
- Application
- Planning Commission Staff Report

Skillern Road

Proposed vacation area

TOTAL ACREAGE
LOT 11
PARCEL #765-29096-000
0.40 ACRES +/-

2790 N Signet Place

Signet Place

EXHIBIT 'B'
16-5687

LOT 11 (PARCEL #765-29096-000):

LOT 11, CRESTMONT ESTATES, TO THE CITY OF FAYETTEVILLE, WASHINGTON COUNTY, ARKANSAS, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS, TO-WIT: BEGINNING AT THE SOUTHEAST CORNER OF SAID LOT 11 AND RUNNING THENCE N86°40'03"W 139.76' TO THE EAST RIGHT-OF-WAY OF SIGNET PLACE, THENCE ALONG SAID RIGHT-OF-WAY N03°06'35"E 125.37' TO THE SOUTH RIGHT-OF-WAY OF SKILLERN ROAD, THENCE LEAVING SAID EAST RIGHT-OF-WAY OF SIGNET PLACE ALONG SAID SOUTH RIGHT-OF-WAY SKILLERN ROAD S86°40'03"E 139.76', THENCE LEAVING SAID RIGHT-OF-WAY S03°06'35"W 125.37', TO THE POINT OF BEGINNING, CONTAINING 0.40 ACRES, MORE OR LESS. SUBJECT TO ALL EASEMENTS AND RIGHTS-OF-WAY OF RECORD.

DESCRIPTION OF AREA OF PROPOSED UTILITY EASEMENT VACATION:

A PORTION OF AN EXISTING 20' UTILITY EASEMENT LOCATED ON LOT 11, CRESTMONT ESTATES, TO THE CITY OF FAYETTEVILLE, WASHINGTON COUNTY, ARKANSAS, TO BE VACATED, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS, TO-WIT: BEGINNING AT A POINT WHICH IS N03°06'35"E 110.37' AND N86°40'03"W 5.00' FROM THE SOUTHEAST CORNER OF SAID LOT 11 AND RUNNING THENCE N86°40'03"W 119.76', THENCE N03°06'35"E 4.10', THENCE S86°40'03"E 119.76', THENCE S03°06'35"W 4.10' TO THE POINT OF BEGINNING, CONTAINING 0.01 ACRES, MORE OR LESS.

CITY OF FAYETTEVILLE, ARKANSAS

Right-of-Way, Easement or Alley VACATION

FOR STAFF USE ONLY

Date Application Submitted:

Date Accepted as Complete:

Project Number:

Public Hearing Date:

FEE: \$200.00

Sign Fee: \$5.00

S-T-R:

PP#:

Zone:

Please fill out this form completely, supplying all necessary information and documentation to support your request.
Your application will not be placed on the Planning Commission agenda until this information is furnished.

Application:

Indicate one contact person for this request: _____ Applicant ☒ Representative

Applicant (person making request):

Representative (engineer, surveyor, realtor, etc.):

Name: SAME

Name: BATES & ASSOCIATES, INC.

Address:

Address: 7230 S. PLEASANT RIDGE DRIVE
FAYETTEVILLE, AR 72703

Phone: ()

Phone: () 479-442-9350

Email:

Email: JUSTIN@BATESNWA.COM

Fax: ()

Fax: ()

Site Address / Location: 2790 N. SIGNET PLACE

FAYETTEVILLE, AR 72703

Legal description of area to be vacated (attach separate sheet if necessary):

SEE ATTACHED EXHIBIT

Current Zoning District: RSF-4

Assessors Parcel Number(s) for subject property: 765-29096-000

FINANCIAL INTERESTS

The following entities and / or people have financial interest in this project:

NATHAN AND SHANNON BOWERS

APPLICANT / REPRESENTATIVE: I certify under penalty of perjury that the foregoing statements and answers herein made all data, information, and evidence herewith submitted are in all respects, to the best of my knowledge and belief, true and correct. I understand that submittal of incorrect or false information is grounds for invalidation of application completeness, determination, or approval. I understand that the City might not approve what I am applying for, or might set conditions on approval.

Name (printed) JUSTIN REID

Date: 12/12/16

Signature: Justin Reid

PROPERTY OWNER(S) / AUTHORIZED AGENT: I/we certify under penalty of perjury that I am/we are the owner(s) of the property that is the subject of this application and that I/we have read this application and consent to its filing. (If signed by the authorized agent, a letter from each property owner must be provided indicating that the agent is authorized to act on his/her behalf.)

Owners (attach additional info if necessary):

Name (printed): Shannon Bowers

Signature: Shannon Bowers

Date: 12/12/16

Address: 2790 N. Signet Pl
Fayetteville AR 72703

Phone: (870) 577 5665

Name (printed): Nathan Bowers

Signature: Nathan Bowers

Date: 12/12/16

Address: 2790 N. Signet Place
Fayetteville AR 72703

Phone: (870) 577 0060

Vacation Checklist:

Attach the following items to this application:

- (1) Payment in full of applicable fees for processing the application:
 - \$200.00 application fee
 - \$5.00 public notification sign fee
- (2) Metes and bounds legal description of the area to be vacated, not the entire property (this may be included on the survey plat).
- (3) Survey of the site depicting the perimeter property lines and area within the property to be vacated.
- (4) CD containing a copy of the legal description in MS Word and PDF copies of the signed application and all other items submitted with this project.
- (5) A surveyor should stake the area on the site to be vacated for utility company review on their site visit.
- (6) A letter addressed to the Planning Commission and City Council describing the scope, nature, and intent of the request.
- (7) Abstractor's Certificate of Ownership stating names of all owners of property adjacent to the street right-of-way, alley, or easement to be vacated (this document is obtained from a title company).
- (8) A copy of the county parcel map from the Washington County Assessor's office or from the Washington County website (www.co.washington.ar.us). The subject property and all adjacent parcels should be identified on this parcel map. The owner's name, official mailing address, and the parcel number for every adjacent property shall be shown on this map.

PLANNING COMMISSION MEMO

TO: City of Fayetteville Planning Commission

THRU: Andrew Garner, Planning Director

FROM: Harry Davis, Planner

MEETING DATE: January 23, 2017 **UPDATED WITH PC RESULTS**

SUBJECT: **VAC 16-5687: Vacation (2790 N. Signet Pl./Bowers, 295):** Submitted by BATES & ASSOCIATES, INC. for property located 2790 N. SIGNET PLACE. The property is zoned RSF-4, RESIDENTIAL SINGLE FAMILY, 4 UNITS PER ACRE and contains approximately 0.30 acres. The request is to vacate a portion of a general utility easement.

RECOMMENDATION:

Staff recommends forwarding **VAC 16-5687** with conditions of approval.

BACKGROUND:

The property is located on the southeast corner of Skillern Road and Signet Place. The property is currently zoned as RSF-4, Residential Single-family, 4 Units Per Acre and contains approximately 0.30 acres. The surrounding zoning and land uses are depicted in *Table 1*. A general utility easement runs east-west along the northern property line that was dedicated on the final plat of the Crestmont Estates Subdivision. The applicant desires to build a pool in a portion of this easement. On January 9, 2017 the Fayetteville Board of Adjustment approved a variance to allow construction of a pool within a building setback (BOA 16-5686).

Table 1 - Surrounding Zoning and Land Use

Direction from Site	Land Use	Zoning
North	Single-family Residential	Washington County
South	Single-family Residential	RSF-4, Residential Single-family, 4 Units per Acre
East	Single-family Residential	RSF-2, Residential Single-family, 2 Units per Acre
West	Single-family Residential	RSF-4, Residential Single-family, 4 Units per Acre

Proposal: The applicant proposes vacation of a portion of a utility easement as described above and depicted in an exhibit provided by the applicant (see attached letter and exhibit). The applicant intends on building a pool in the easement area.

DISCUSSION:

Vacation Approval: The applicant has submitted the required vacation forms to the City utility departments and applicable franchise utilities, with the following responses:

Utility

Cox Communications

AEP/SWEPCO

Black Hills Energy

AT&T

Ozarks Electric

City of Fayetteville

Water/Sewer

Transportation

Response

No objections with conditions

No objections

No objections

No objections with conditions

No objections

Response

No objections

No objections

Public Comment:

No public comment has been received.

RECOMMENDATION: Staff recommends forwarding **VAC 16-5687** with the following conditions:**Conditions of Approval:**

1. Any relocation or damage to utilities of existing facilities shall be at the owner/developer's expense.

PLANNING COMMISSION ACTION:		Required	<u>YES</u>
Date: <u>January 23, 2017</u>	☐ Tabled	☒ Forwarded	☐ Denied
Motion: Selby	Approved as part of consent agenda		
Second: Autry	Commissioners Noble and Quinlan absent		
Vote: 7-0-0			

BUDGET/STAFF IMPACT:

None.

Attachments:

- Request Letter
- Petition to Vacate
- Utility Approvals
- Easement Vacation Exhibit
- One Mile Map
- Close Up Map



Bates & Associates, Inc.

Civil Engineering & Surveying

7230 S Pleasant Ridge Dr. / Fayetteville, AR 72704

PH: 479-442-9350 * FAX: 479-521-9350

www.batesnwa.com

DECEMBER 9, 2016

CITY OF FAYETTEVILLE

To the City of Fayetteville Planning Commission and City Council

Our clients, Nathan and Shannon Bowers, are requesting a partial vacation of an existing utility easement on property they own at 2790 North Signet Place (lot 11, Crestmont Estates), on the north side of their property which fronts Skillern Road for the purpose of constructing a swimming pool.

The Bowers would like to construct a 16' by 40' swimming pool, and in order to have adequate space between the pool and their house they are requesting that 4.1' of the existing 15' utility easement be vacated. The new proposed easement line would still be 10' off of the buried fiber optic cable in that area, which was field located after the utilities were marked.

Since the existing utility easement is also a building setback, a request for a setback reduction has been applied for also.

Please see the attached building setback reduction Exhibit for further information regarding this request, and contact Bates & Associates with any questions or concerns.

Sincerely,

Justin Reid
Bates & Associates, Inc.

PETITION TO VACATE A UTILITY EASEMENT LOCATED IN LOT 11, CRESTMONT ESTATES, CITY OF FAYETTEVILLE, ARKANSAS

TO: The Fayetteville City Planning Commission and The Fayetteville City Council

We, the undersigned, being all the owners of the real estate abutting the (alley, easement, right-of-way) hereinafter sought to be abandoned and vacated, lying in (lot, block, subdivision), City of Fayetteville, Arkansas, a municipal corporation, petition to vacate a(n) (alley, easement, right-of-way) which is described as follows:

DESCRIPTION OF AREA OF PROPOSED UTILITY EASEMENT VACATION:

A PORTION OF AN EXISTING 20' UTILITY EASEMENT LOCATED ON LOT 11, CRESTMONT ESTATES, TO THE CITY OF FAYETTEVILLE, WASHINGTON COUNTY, ARKANSAS, TO BE VACATED, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS, TO-WIT: BEGINNING AT A POINT WHICH IS N03°06'35"E 110.37' AND N86°40'03"W 5.00' FROM THE SOUTHEAST CORNER OF SAID LOT 11 AND RUNNING THENCE N86°40'03"W 119.76', THENCE N03°06'35"E 4.10', THENCE S86°40'03"E 119.76', THENCE S03°06'35"W 4.10' TO THE POINT OF BEGINNING, CONTAINING 0.01 ACRES, MORE OR LESS.

That the abutting real estate affected by said abandonment of the alley are lots 1, 2, and 10 of Crestmont Estates, lot 1 of Hartsfield Addition, and parcels #001-15611-001, #001-15611-017, #001-15611-009 City of Fayetteville used by the public for a period of many years, and that the public interest and welfare would not be adversely affected by the abandonment of the portion of the above described utility easement.

The petitioners pray that the City of Fayetteville, Arkansas, abandon and vacate the above described real estate, subject, however, to the existing utility easements and sewer easements as required, and that the above described real estate be used for their respective benefit and purpose as now approved by law.

The petitioners further pray that the above described real estate be vested in the abutting property owners as provided by law.

WHEREFORE, the undersigned petitioners respectfully pray that the governing body of the City of Fayetteville, Arkansas, abandon and vacate the above described real estate, subject to said utility and sewer easements, and that title to said real estate sought to be abandoned be vested in the abutting property owners as provided by law, and as to that particular land the owners be free from the easements of the public for the use of said alley.

Dated December 9, 2016

Printed Name

Signature

Printed Name

Signature

Nathan Bowers
Nathan Bowers
Shannon Bowers
Shannon Bowers

UTILITY APPROVAL FORM
FOR RIGHT- OF- WAY, ALLEY, AND
UTILITY EASEMENT VACATIONS

DATE: 12-6-2016

UTILITY COMPANY: COX COMMUNICATIONS

APPLICANT NAME: BATES & ASSOCIATES APPLICANT PHONE: 479-442-9350

REQUESTED VACATION (*applicant must check all that apply*):

- ☒ Utility Easement
- ☐ Right-of-way for alley or streets and all utility easements located within the vacated right- of- way.
- ☐ Alley
- ☐ Street right-of-way

I have been notified of the petition to vacate the following (*alley, easement, right-of-way*), described as follows:

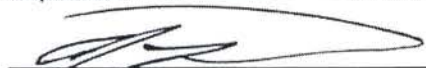
General location / Address 2790 N. SIGNET PLACE NATHAN & SHANNON BOWERS
FAYETTEVILLE, AR 72703

☒ (*ATTACH legal description and graphic representation of what is being vacated-SURVEY*)

UTILITY COMPANY COMMENTS:

- ☐ No objections to the vacation(s) described above, and no comments.
- ☐ No objections to the vacation(s) described above, provided following described easements are retained.
(State the location, dimensions, and purpose below.)

☒ No objections provided the following conditions are met:
Any damage to or relocation of any of our existing facilities will be at the owners/developers
expense



Signature of Utility Company Representative

Construction & Planning Manager

Title

December 2014
Page 5

UTILITY APPROVAL FORM
FOR RIGHT- OF- WAY, ALLEY, AND
UTILITY EASEMENT VACATIONS

DATE: 12-6-2016

UTILITY COMPANY: SWEPCO

APPLICANT NAME: BATES & ASSOCIATES APPLICANT PHONE: 479-442-9350

REQUESTED VACATION (*applicant must check all that apply*):

- ☒ Utility Easement
- ☐ Right-of-way for alley or streets and all utility easements located within the vacated right- of- way.
- ☐ Alley
- ☐ Street right-of-way

I have been notified of the petition to vacate the following (*alley, easement, right-of-way*), described as follows:

General location / Address 2790 N. SIGNET PLACE NATHAN & SHANNON BOWERS
FAYETTEVILLE, AR 72703

☒ (*ATTACH legal description and graphic representation of what is being vacated-SURVEY*)

UTILITY COMPANY COMMENTS:

- ☒ No objections to the vacation(s) described above, and no comments.
- ☐ No objections to the vacation(s) described above, provided following described easements are retained.
(State the location, dimensions, and purpose below.)

- ☐ No objections provided the following conditions are met:

 12-6-16
Signature of Utility Company Representative

DISTRIBUTION ENGINEER
Title

UTILITY APPROVAL FORM
FOR RIGHT- OF- WAY, ALLEY, AND
UTILITY EASEMENT VACATIONS

DATE: 12-6-2016

UTILITY COMPANY: BLACK HILLS ENERGY

APPLICANT NAME: BATES & ASSOCIATES APPLICANT PHONE: 479-442-9350

REQUESTED VACATION (*applicant must check all that apply*):

☒ Utility Easement

Right-of-way for alley or streets and all utility easements located within the vacated right-of-way.

Alley

Street right-of-way

I have been notified of the petition to vacate the following (*alley, easement, right-of-way*), described as follows:

General location / Address 2790 N. SIGNET PLACE NATHAN & SHANNON BOWERS
FAYETTEVILLE, AR 72703

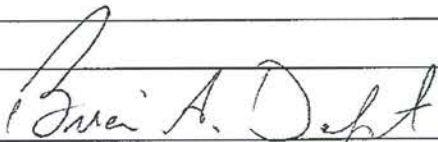
☒ (*ATTACH legal description and graphic representation of what is being vacated-SURVEY*)

UTILITY COMPANY COMMENTS:

☒ No objections to the vacation(s) described above, and no comments.

No objections to the vacation(s) described above, provided following described easements are retained.
(State the location, dimensions, and purpose below.)

No objections provided the following conditions are met:



Signature of Utility Company Representative

Supervisor
Title

December 2014
Page 5

UTILITY APPROVAL FORM
FOR RIGHT- OF- WAY, ALLEY, AND
UTILITY EASEMENT VACATIONS

DATE: 12-6-2016

UTILITY COMPANY: AT & T

APPLICANT NAME: BATES & ASSOCIATES APPLICANT PHONE: 479-442-9350

REQUESTED VACATION (*applicant must check all that apply*):

- ☒ Utility Easement
- ☐ Right-of-way for alley or streets and all utility easements located within the vacated right- of- way.
- ☐ Alley
- ☐ Street right-of-way

I have been notified of the petition to vacate the following (*alley, easement, right-of-way*), described as follows:

General location / Address 2790 N. SIGNET PLACE NATHAN & SHANNON BOWERS
FAYETTEVILLE, AR 72703

☒ (*ATTACH legal description and graphic representation of what is being vacated-SURVEY*)

UTILITY COMPANY COMMENTS:

- ☐ No objections to the vacation(s) described above, and no comments.
- ☐ No objections to the vacation(s) described above, provided following described easements are retained.
(State the location, dimensions, and purpose below.)

☒ No objections provided the following conditions are met:
If any AT&T facilities are required to be relocated all fees to do so will be the
responsibility of the property owner

Signature of Utility Company Representative

MGR OSP Plng & Engrg Design

Title

December 2014
Page 5

UTILITY APPROVAL FORM
FOR RIGHT- OF- WAY, ALLEY, AND
UTILITY EASEMENT VACATIONS

DATE: 12-6-2016

UTILITY COMPANY: OZARKS ELECTRIC

APPLICANT NAME: BATES & ASSOCIATES APPLICANT PHONE: 479-442-9350

REQUESTED VACATION (*applicant must check all that apply*):

- ☒ Utility Easement
- ☐ Right-of-way for alley or streets and all utility easements located within the vacated right- of- way.
- ☐ Alley
- ☐ Street right-of-way

I have been notified of the petition to vacate the following (*alley, easement, right-of-way*), described as follows:

General location / Address 2790 N. SIGNET PLACE NATHAN & SHANNON BOWERS
FAYETTEVILLE, AR 72703

☒ (*ATTACH legal description and graphic representation of what is being vacated-SURVEY*)

UTILITY COMPANY COMMENTS:

- ☒ No objections to the vacation(s) described above, and no comments.
- ☐ No objections to the vacation(s) described above, provided following described easements are retained.
(State the location, dimensions, and purpose below.)

☐ No objections provided the following conditions are met:

Mike Phipps
Signature of Utility Company Representative

System Staking Tech
Title

December 2014
Page 5

UTILITY APPROVAL FORM
FOR RIGHT- OF- WAY, ALLEY, AND
UTILITY EASEMENT VACATIONS

DATE: 12-6-2016

UTILITY COMPANY: FAYETTEVILLE WATER AND SEWER

APPLICANT NAME: BATES & ASSOCIATES APPLICANT PHONE: 479-442-9350

REQUESTED VACATION (*applicant must check all that apply*):

- ☒ Utility Easement
- ☐ Right-of-way for alley or streets and all utility easements located within the vacated right- of- way.
- ☐ Alley
- ☐ Street right-of-way

I have been notified of the petition to vacate the following (*alley, easement, right-of-way*), described as follows:

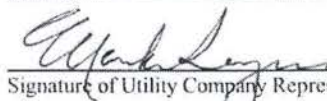
General location / Address 2790 N. SIGNET PLACE NATHAN & SHANNON BOWERS
FAYETTEVILLE, AR 72703

☒ (*ATTACH legal description and graphic representation of what is being vacated-SURVEY*)

UTILITY COMPANY COMMENTS:

- ☒ No objections to the vacation(s) described above, and no comments.
- ☐ No objections to the vacation(s) described above, provided following described easements are retained.
(State the location, dimensions, and purpose below.)

☐ No objections provided the following conditions are met:


Signature of Utility Company Representative

WES OPERATIONS MANAGER
Title

UTILITY APPROVAL FORM
FOR RIGHT- OF- WAY, ALLEY, AND
UTILITY EASEMENT VACATIONS

DATE: 12-6-2016

UTILITY COMPANY: FAYETTEVILLE TRANSPORTATION DEPARTMENT

APPLICANT NAME: BATES & ASSOCIATES APPLICANT PHONE: 479-442-9350

REQUESTED VACATION (*applicant must check all that apply*):

- ☒ Utility Easement
- ☐ Right-of-way for alley or streets and all utility easements located within the vacated right- of- way.
- ☐ Alley
- ☐ Street right-of-way

I have been notified of the petition to vacate the following (*alley, easement, right-of-way*), described as follows:

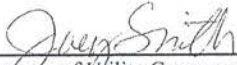
General location / Address 2790 N. SIGNET PLACE NATHAN & SHANNON BOWERS
FAYETTEVILLE, AR 72703

☒ (*ATTACH legal description and graphic representation of what is being vacated-SURVEY*)

UTILITY COMPANY COMMENTS:

- ☒ No objections to the vacation(s) described above, and no comments.
- ☐ No objections to the vacation(s) described above, provided following described easements are retained.
(State the location, dimensions, and purpose below.)

☐ No objections provided the following conditions are met:


Signature of Utility Company Representative

Assistant Manager Transportation
Title

UTILITY APPROVAL FORM
FOR RIGHT-OF-WAY, ALLEY, AND
UTILITY EASEMENT VACATIONS

DATE: 12-6-2016

UTILITY COMPANY: FAYETTEVILLE SOLID WASTE DIVISION

APPLICANT NAME: BATES & ASSOCIATES APPLICANT PHONE: 479-442-9350

REQUESTED VACATION (*applicant must check all that apply*):

- ☒ Utility Easement
- ☐ Right-of-way for alley or streets and all utility easements located within the vacated right-of-way.
- ☐ Alley
- ☐ Street right-of-way

I have been notified of the petition to vacate the following (*alley, easement, right-of-way*), described as follows:

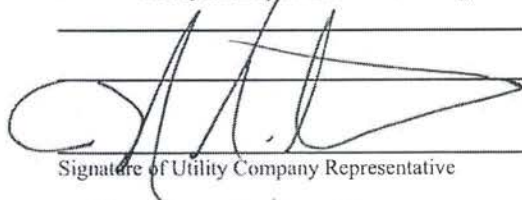
General location / Address 2790 N. SIGNET PLACE NATHAN & SHANNON BOWERS
FAYETTEVILLE, AR 72703

☒ (*ATTACH legal description and graphic representation of what is being vacated-SURVEY*)

UTILITY COMPANY COMMENTS:

- ☒ No objections to the vacation(s) described above, and no comments.
- ☐ No objections to the vacation(s) described above, provided following described easements are retained.
(State the location, dimensions, and purpose below.)

No objections provided the following conditions are met:

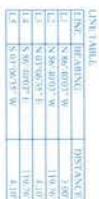


Signature of Utility Company Representative

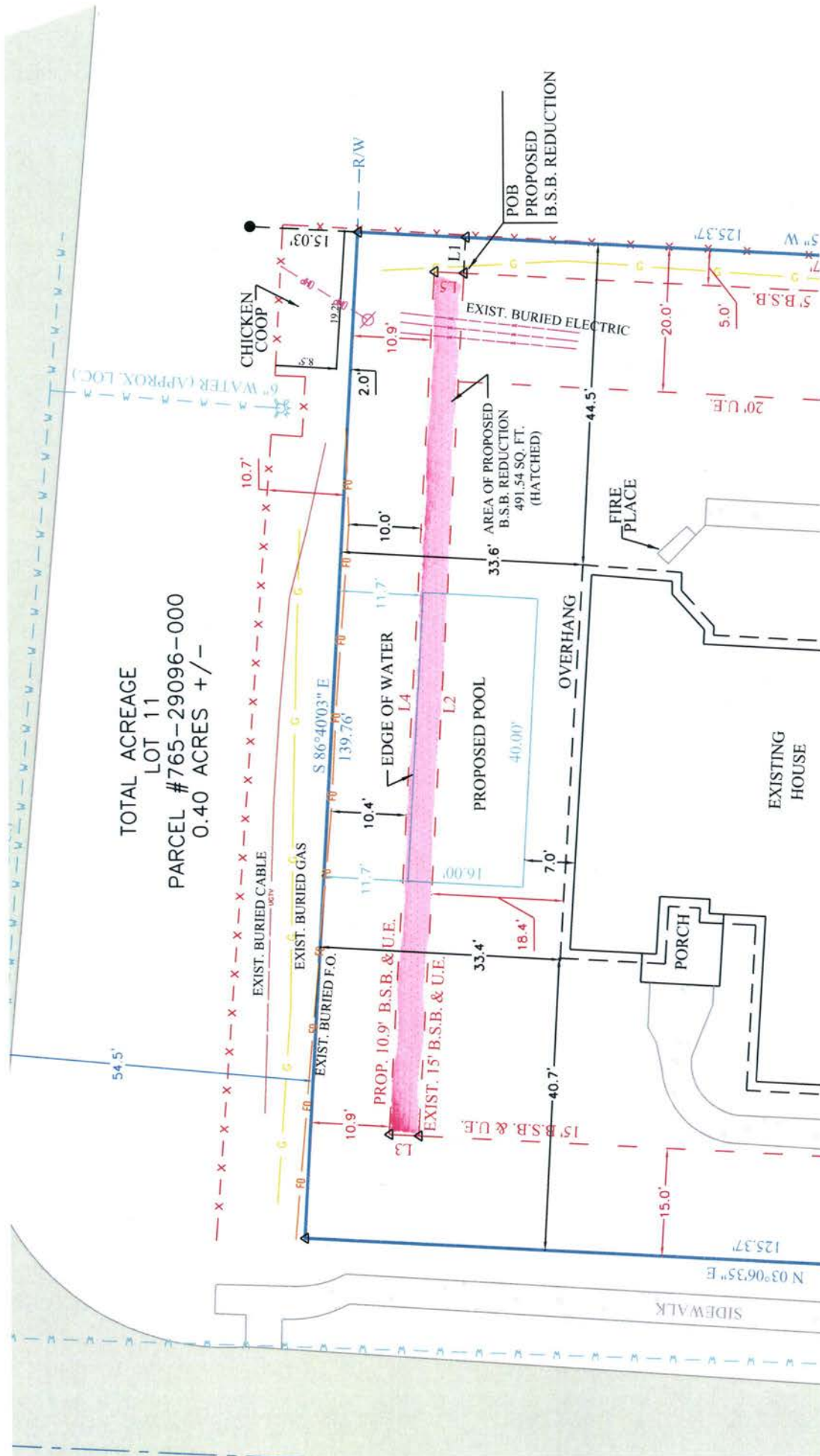
Commercial Services Mgr.
Title

December 2014
Page 5

Planning Commission
January 23, 2017
Agenda Item 2
16-5687 Bowers
Page 13 of 17

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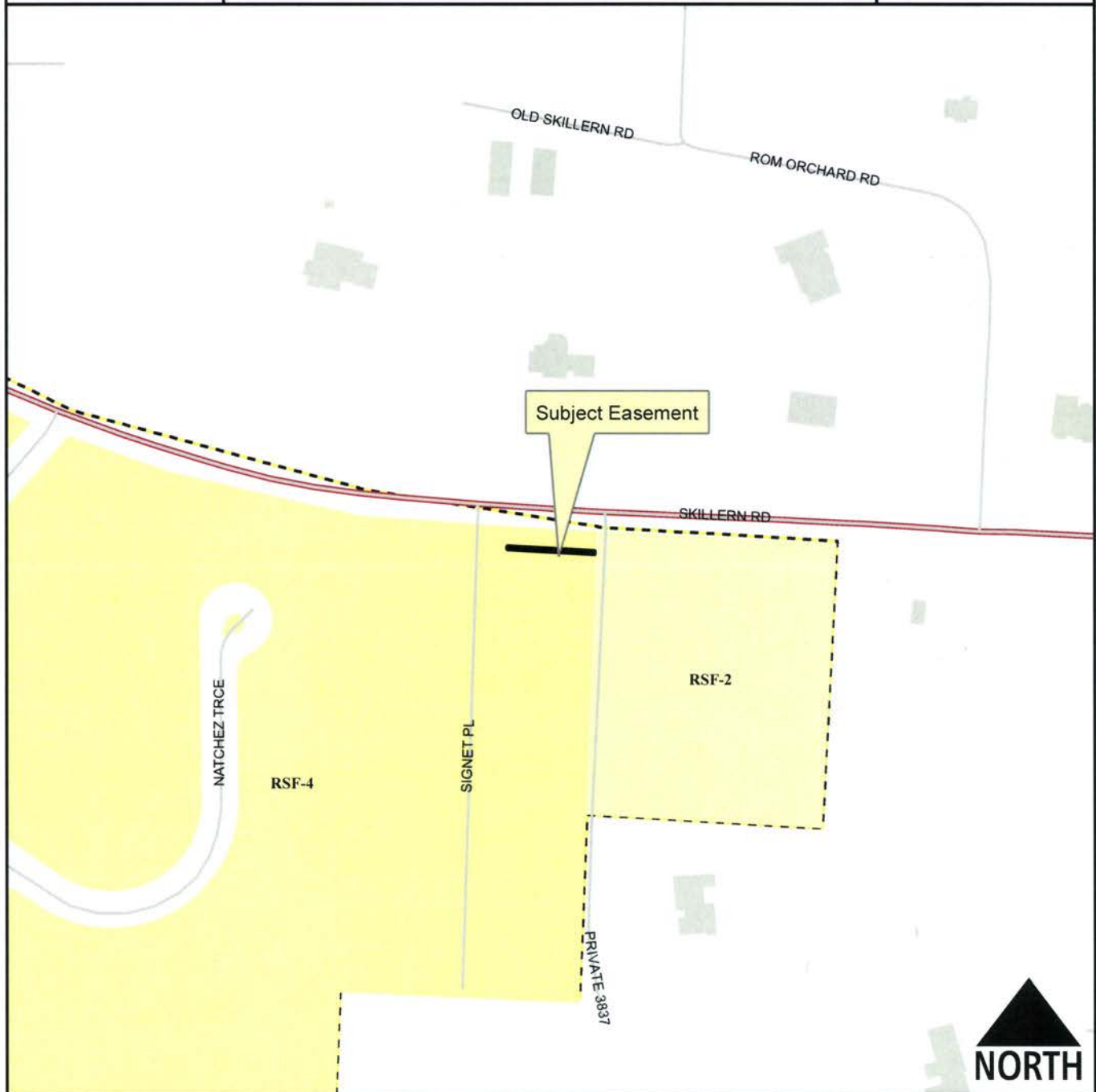
RECORDING NO. 8000000000



VAC 16-5687

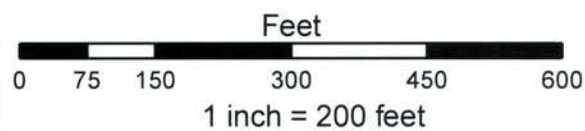
Close Up View

BOWERS

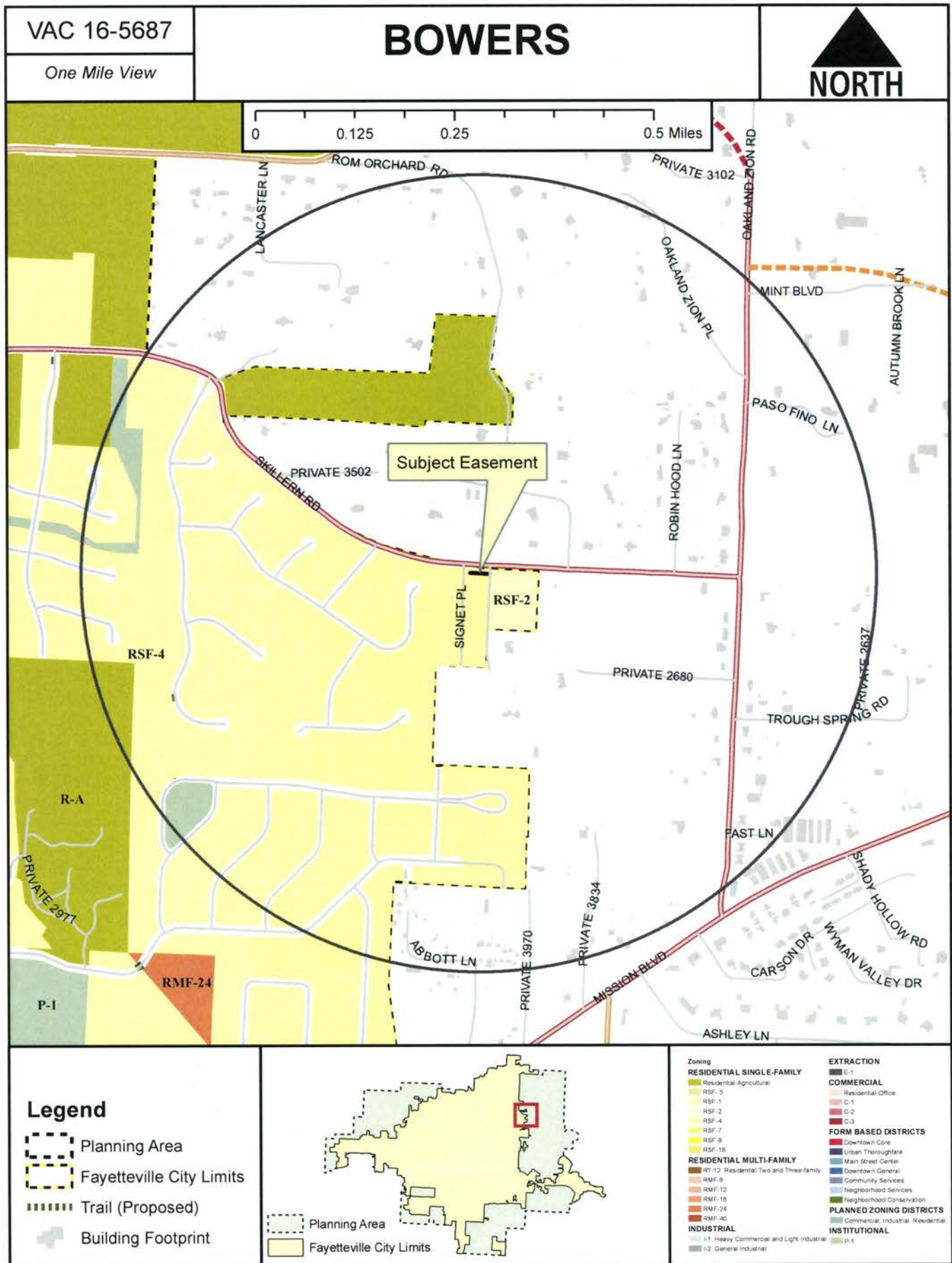


Legend

- Planning Area
- Fayetteville City Limits
- Building Footprint



- RSF-2
- RSF-4







City of Fayetteville, Arkansas

113 West Mountain Street
Fayetteville, AR 72701
(479) 575-8323

Text File

File Number: 2017-0053

Agenda Date: 2/21/2017

Version: 1

Status: Agenda Ready

In Control: City Council Meeting

File Type: Ordinance

Agenda Number: C. 4

VAC 16-5688: (3300 W. GROVE DR./PLANET FITNESS):

AN ORDINANCE TO APPROVE VAC 16-5688 FOR PROPERTY LOCATED AT 3300 W. GROVE DRIVE TO VACATE A WATER/SEWER EASEMENT

WHEREAS, the City Council has the authority under A.C.A. § 14-54-104 to vacate public grounds or portions thereof which are not required for corporate purposes; and

WHEREAS, the City Council has determined that the following described water/sewer easement is not required for corporate purposes.

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF FAYETTEVILLE, ARKANSAS:

Section 1. That the City Council of the City of Fayetteville, Arkansas hereby vacates a water/sewer easement as described in Exhibit B attached to the Planning Department's memo.

Section 2. A copy of this Ordinance duly certified by the City Clerk along with the map attached as Exhibit A to the Planning Department's memo shall be filed in the office of the Washington County Circuit Clerk.

Section 3. This vacation approval is subject to the following condition:

1. Any costs associated with relocation of or damage to utilities and new easement dedication shall be at the owner/developer's expense.

PASSED and **APPROVED** this 21st day of February, 2017.

City of Fayetteville Staff Review Form

2017-0053

Legistar File ID

2/21/2017

City Council Meeting Date - Agenda Item Only
N/A for Non-Agenda Item

Jeremy Pate

2/3/2017

City Planning /
Development Services Department

Submitted By

Submitted Date

Division / Department

Action Recommendation:

VAC 16-5688: Vacation (3300 W. GROVE DR./PLANET FITNESS, 440): Submitted by MORRISON-SHIPLEY ENGINEERS, INC. for property located at 3300 W. GROVE DR. The property is zoned CPZD, COMMERCIAL PLANNED ZONING DISTRICT and contains approximately 9.81 acres. The request is to vacate a water/sewer easement.

Budget Impact:

Account Number

Fund

Project Number

Project Title

Budgeted Item? NA

Current Budget \$ -

Funds Obligated \$ -

Current Balance \$ -

Does item have a cost? No

Item Cost

Budget Adjustment Attached? NA

Budget Adjustment

Remaining Budget \$ -

V20140710

Previous Ordinance or Resolution #

Original Contract Number:

Approval Date:

Comments:

MEETING OF FEBRUARY 21, 2017

TO: Mayor and City Council

THRU: Andrew Garner, City Planning Director

FROM: Jonathan Curth, Senior Planner

DATE: February 3, 2017

SUBJECT: **VAC 16-5688: Vacation (3300 W. GROVE DR./PLANET FITNESS, 440):**
Submitted by MORRISON-SHIPLEY ENGINEERS, INC. for property located at 3300 W. GROVE DR. The property is zoned CPZD, COMMERCIAL PLANNED ZONING DISTRICT and contains approximately 9.81 acres. The request is to vacate a water/sewer easement.

RECOMMENDATION:

Planning Division staff and the Planning Commission recommend approval of **VAC 16-5688** with the following condition:

Condition of Approval:

1. Any relocation or damage to utilities and associated new easement dedication shall be at the owner/developer's expense.

BACKGROUND:

The subject water/sewer easement is on the east side of Salem Road between Wedington Drive to the north and Jewell Road to the south. According to Washington County records, the easement was dedicated in May of 1987, but has never been used for the provision of any utility. Along with many of the surrounding properties, the lot in which the easement lies is a part of the Forest Hills Residential Planned Zoning District (R-PZD). Currently, the subject easement lies almost entirely under the 20,000 square foot Planet Fitness building approved by the Planning Commission as a Large Scale Development in May of 2012. Throughout the R-PZD's development several easements of varying types were platted, re-platted, and vacated as development necessitated. The easement which is the subject of this vacation request was not noted on the approved large scale development site plan or associated easement plat, and the building was subsequently built over it. When the applicant submitted a lot split proposal on the subject property in November of 2016, it became apparent that the easement is still on record, although no utilities have been identified in the location.

Proposal: The applicant proposes vacation of a water and sewer easement as depicted on the attached Exhibit 'A' and Exhibit 'B'.

DISCUSSION:

On January 23, 2017 the Planning Commission forwarded this item to the City Council with a recommendation for approval with a vote of 7-0-0 as a consent agenda item.

BUDGET/STAFF IMPACT:

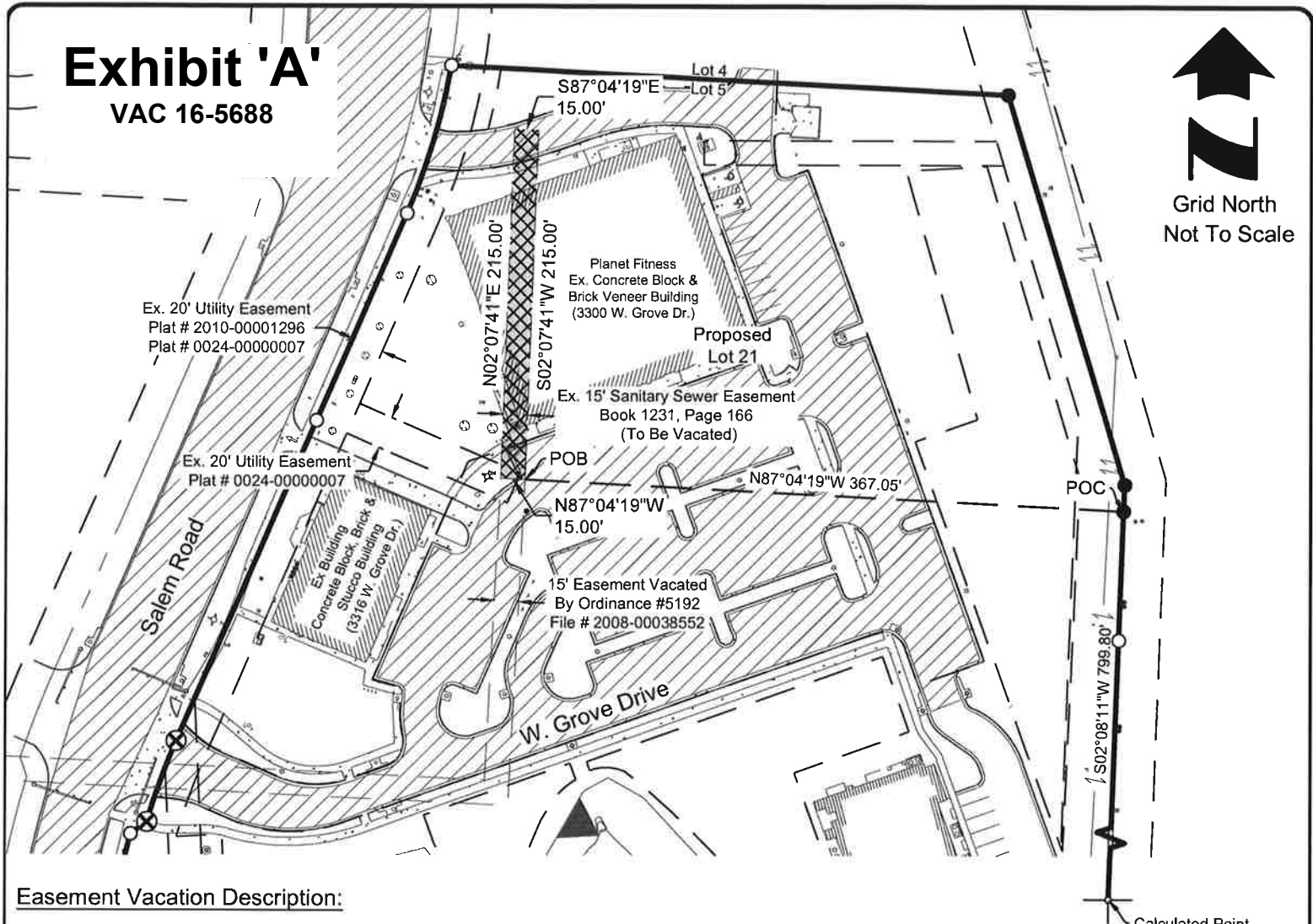
N/A

Attachments:

- Exhibit A
- Exhibit B
- Application
- Planning Commission Staff Report

Exhibit 'A'

VAC 16-5688



Grid North
Not To Scale

Easement Vacation Description:

Part of the Northwest Quarter Southwest Quarter (NW1/4 SW1/4) of Section 7, Township 16 North, Range 30 West, of the Fifth Principal Meridian, being more particularly described as follows:

Commencing at an existing one-half inch (1/2") rebar on the east line of said Northwest Quarter Southwest Quarter (NW1/4 SW1/4) of Section 7, from which the Southeast Corner of said Northwest Quarter Southwest Quarter (NW1/4 SW1/4) of Section 7 bears South 02°08'11" West, 799.8 feet, more or less. Thence from the commencing point and by bearing and distance (basis of bearing, Grid North), North 87°04'19" West a distance of 367.05 feet to the POINT OF BEGINNING; thence North 87°04'19" West a distance of 15 feet; thence North 02°07'41" East a distance of 215 feet; thence South 87°04'19" East a distance of 15 feet; thence South 02°07'41" West a distance of 215 feet to the Point of Beginning.



Easement Being Vacated

Calculated Point
SE Corner
Frac., NW1/4 SW1/4
S7-T16N-R30W



MORRISON SHIPLEY
ENGINEERS ■ SURVEYORS

2407 SE Cottonwood Street • Bentonville, AR 72712 • 479.273.2208 • morrisonshipley.com

EXHIBIT "A"
EASEMENT VACATION

Fayetteville, Washington County, Arkansas

Drawn By:
JDS
Date:
11.30.16
Project No:
WAP-64
Drawing Name:
ESMT EXHIBIT

EXHIBIT 'B'
16-5688

Legal Description of Utility Easement to be Vacated

Part of the Northwest Quarter Southwest Quarter (NW1/4 SW1/4) of Section 7, Township 16 North, Range 30 West, of the Fifth Principal Meridian, being more particularly described as follows:

Commencing at an existing one-half inch (1/2") rebar on the east line of said Northwest Quarter Southwest Quarter (NW1/4 SW1/4) of Section 7, from which the Southeast Corner of said Northwest Quarter Southwest Quarter (NW1/4 SW1/4) of Section 7 bears South 02°08'11" West, 799.8 feet, more or less. Thence from the commencing point and by bearing and distance (basis of bearing, Grid North), North 87°04'19" West a distance of 367.05 feet to the POINT OF BEGINNING; thence North 87°04'19" West a distance of 15 feet; thence North 02°07'41" West a distance of 215 feet; thence South 87°04'19" East a distance 15 feet; thence South 02°07'41" West a distance of 215 feet to the Point of Beginning.

CITY OF FAYETTEVILLE, ARKANSAS

Right-of-Way, Easement or Alley VACATION

FOR STAFF USE ONLY

Date Application Submitted:

Date Accepted as Complete:

Project Number:

Public Hearing Date:

FEE: \$200.00

Sign Fee: \$5.00

S-T-R:

PP#:

Zone:

Please fill out this form completely, supplying all necessary information and documentation to support your request.
Your application will not be placed on the Planning Commission agenda until this information is furnished.

Application:

Indicate one contact person for this request: _____ Applicant ☒ Representative

Applicant (person making request):

Representative (engineer, surveyor, realtor, etc.):

Name: Forest Hills Village, LLC

Name: Morrison-Shipley Engineers

Charles Palmer

Patrick Foy

Address: P.O. Box 10210

Address: 2407 SE Cottonwood Street

Fort Smith, AR 72917

Bentonville, AR 72712

Phone: (479) 783-0209

Phone: (479) 273-2209

Email: officepalmer@me.com

Email: pfoy@morrisonshipley.com

Fax: ()

Fax: ()

Site Address / Location: Lot 5 of Forest Hills - W. Jewell Rd. and Salem. Rd

Legal description of area to be vacated (attach separate sheet if necessary):

Please see attached

Current Zoning District: PZD

Assessors Parcel Number(s) for subject property: 765-29415-000

FINANCIAL INTERESTS

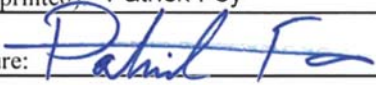
The following entities and / or people have financial interest in this project:

Forest Hills Village, LLC

APPLICANT / REPRESENTATIVE: I certify under penalty of perjury that the foregoing statements and answers herein made all data, information, and evidence herewith submitted are in all respects, to the best of my knowledge and belief, true and correct. I understand that submittal of incorrect or false information is grounds for invalidation of application completeness, determination, or approval. I understand that the City might not approve what I am applying for, or might set conditions on approval.

Name (printed): Patrick Foy

Date: 11-28-2016

Signature: 

PROPERTY OWNER(S) / AUTHORIZED AGENT: I/we certify under penalty of perjury that I am/we are the owner(s) of the property that is the subject of this application and that I/we have read this application and consent to its filing. (If signed by the authorized agent, a letter from each property owner must be provided indicating that the agent is authorized to act on his/her behalf.)

Owners (attach additional info if necessary):

Name (printed): Charles Palmer

Address: P.O. Box 10210

Signature: 

Fort Smith, AR 72917

Date: 11-28-16

Phone: (479) 783-0209

Name (printed):

Address:

Signature:

Date:

Phone: ()

Vacation Checklist:

Attach the following items to this application:

- (1) Payment in full of applicable fees for processing the application:
 - \$200.00 application fee
 - \$5.00 public notification sign fee
- (2) Metes and bounds legal description of the area to be vacated, not the entire property (this may be included on the survey plat).
- (3) Survey of the site depicting the perimeter property lines and area within the property to be vacated.
- (4) CD containing a copy of the legal description in MS Word and PDF copies of the signed application and all other items submitted with this project.
- (5) A surveyor should stake the area on the site to be vacated for utility company review on their site visit.
- (6) A letter addressed to the Planning Commission and City Council describing the scope, nature, and intent of the request.
- (7) Abstractor's Certificate of Ownership stating names of all owners of property adjacent to the street right-of-way, alley, or easement to be vacated (this document is obtained from a title company).
- (8) A copy of the county parcel map from the Washington County Assessor's office or from the Washington County website (www.co.washington.ar.us). The subject property and all adjacent parcels should be identified on this parcel map. The owner's name, official mailing address, and the parcel number for every adjacent property shall be shown on this map.

- (9) Petition to vacate street right-of-way, alley, or easement (sample petition is attached).
- (10) For applications to vacate an access easement, alley or right-of-way only: Written consent is required from all adjacent property owners and is required to be submitted with the application (example form is attached).
- (11) Comments from all utility companies concerning the street right-of-way, alley, or easement to be vacated and its relationship to existing or planned utilities with recommendations as to what action should be taken (an example comment form is attached) is required at application submittal.
- (12) The applicant is responsible for meeting the public notification requirements for a Vacation listed on the Notification Requirements pages in this application.

Utility Representatives for a Vacation Request *

Name	Company	Telephone	Email
Jeff Hamilton	AT&T	442-1967	jh5430@att.com
Chad Hodge	Cox Communications	365-2402	Chad.Hodge@cox.com
John Le	AEP/SWEPCO	973-2426	ttle@aep.com
Scott Stokes	Source Gas	435-0229	Scott.Stokes@sourcegas.com
Wes Mahaffey Or Mike Phipps	Ozarks Electric	684-4649 684-4696	wmahaffey@ozarksecc.com mphpips@ozarksecc.com

City Divisions:

Mark Rogers	Water and Sewer	575-8392	mrogers@fayetteville-ar.gov
Maury Nelson	Solid Waste	575-8397	mnelson@fayetteville-ar.gov
Terry Gulley	Transportation	444-3491	tgulley@fayetteville-ar.gov

***Solid Waste & Transportation sign off is required only when a ROW, Alley, or Drainage Easement Vacation is being requested.**



PLANNING COMMISSION MEMO

TO: City of Fayetteville Planning Commission

FROM: Jonathan Curth, Senior Planner

MEETING DATE: January 23, 2017 (Updated with Planning Commission Results)

SUBJECT: **VAC 16-5688: Vacation (3300 W. GROVE DR./PLANET FITNESS, 440):**
Submitted by MORRISON-SHIPLEY ENGINEERS, INC. for property located at 3300 W. GROVE DR. The property is zoned CPZD, COMMERCIAL PLANNED ZONING DISTRICT and contains approximately 9.81 acres. The request is to vacate a water/sewer easement.

RECOMMENDATION:

Staff recommends forwarding **VAC 16-5688** to City Council with a recommendation for approval with conditions.

BACKGROUND:

The subject water/sewer easement is on the east side of Salem Road between Wedington Drive to the north and Jewell Road to the south. According to Washington County records, the easement was dedicated in May of 1987, but has never been used for the provision of any utility. Along with many of the surrounding properties, the lot in which the easement lies is a part of the Forest Hills Residential Planned Zoning District (R-PZD). Currently, the subject easement lies almost entirely under the 20,000 square foot Planet Fitness building approved by the Planning Commission as a Large Scale Development in May of 2012. Throughout the R-PZD's development several easements of varying types were platted, re-platted, and vacated as development necessitated. The easement which is the subject of this vacation request was not noted on the approved large scale development site plan or associated easement plat, and the building was subsequently built over it. When the applicant submitted a lot split proposal on the subject property in November of 2016, it became apparent that the easement is still on record, although no utilities have been identified in the location. Surrounding land use and zoning is depicted in *Table 1*.

Table 1
Surrounding Zoning and Land Use

Direction	Land Use	Zoning
North	Undeveloped	R-PZD, Residential Planned Zoning District (Forest Hills)
South	Undeveloped	R-PZD, Residential Planned Zoning District (Forest Hills)
East	Multi-family residential	R-O, Residential Office
West	Commercial retail/restaurants	R-PZD, Residential Planned Zoning District (Forest Hills)

Proposal: The applicant proposes vacation of a water and sewer easement that was previously not vacated during development on the subject property, and which was subsequently built over.

DISCUSSION:

Vacation Approval: The applicant has submitted the required vacation forms to the applicable City utility department:

City of Fayetteville

Response

Water/Sewer

No objections

Public Comment:

No public comment has been received. There was not a requirement to notify adjacent property owners due to the easement's location entirely within the subject property.

RECOMMENDATION: Staff recommends forwarding **VAC 16-5688** to the City Council with a recommendation for approval subject to the following conditions:

Conditions of Approval:

1. Any relocation or damage to utilities or the adjacent existing structure shall be at the owner/developer's expense.

Planning Commission Action: ☒ **Approved** ☐ **Forwarded** ☐ **Denied**

Meeting Date: January 23, 2017

Motion: Selby

Second: Autry

Vote: 7-0-0

BUDGET/STAFF IMPACT:

None.

Attachments:

- Request Letter
- Petition to Vacate
- Utility Approvals
- Easement Vacation Exhibit
- One Mile Map
- Close Up Map
- Current Land Use Map

Request Letter



MORRISON SHIPLEY

ENGINEERS • SURVEYORS

December 14, 2016

City of Fayetteville
Planning Commission
125 W. Mountain St.
Fayetteville, AR 72701

Re: Utility Easement Vacation on Lot 5 of Forest Hills

Dear Planning Commission,

A Utility Easement Vacation is being requested for an existing utility easement on Lot 5 of Forest Hills. The subject property is located at the northeast corner of Salem and Jewell off Wedington. It was found while preparing a lot split of Lot 5 that a stranded Utility Easement is still in place and located partially under the existing Planet Fitness. It is our goal on behalf of Forest Hills Village, LLC to vacate the U/E to clean up the property. Attached, please find the U/E Vacation Exhibit with Legal Description, a map and list of adjacent owners, a petition from the owners, and comments from the water and sewer department. Comments from adjacent owners were not obtain since the easement is located within Lot 5. The petition from the owners will act as comments from adjacent owners if needed.

If you have any questions or need additional information, please contact me at (479)273-2209.

Sincerely,

Morrison-Shipley Engineers, Inc.

Patrick Foy, E.I.
Project Manger

Petition to Vacate

PETITION TO VACATE A UTILITY EASEMENT LOCATED IN LOT 5 OF FOREST HILLS, CITY OF FAYETTEVILLE, ARKANSAS

TO: The Fayetteville City Planning Commission and City Council

We, the undersigned, being all the owners of the real estate abutting the utility easement hereinafter sought to be abandoned and vacated, lying in Lot 5 of Forest Hills, City of Fayetteville, Arkansas, a municipal corporation, petition to vacate a utility easement which is described as follows:

Please see attached Exhibit for Legal Description and visual aid of Utility Easement to be Vacated.

That the abutting real estate affected by said abandonment of the alley is Lot 5 of Forest Hills, City of Fayetteville used by the public for a period of many years, and that the public interest and welfare would not be adversely affected by the abandonment of the portion of the above described utility easement.

The petitioners pray that the City of Fayetteville, Arkansas, abandon and vacate the above described real estate, subject, however, to the existing utility easements and sewer easements as required, and that the above described real estate be used for their respective benefit and purpose as now approved by law.

The petitioners further pray that the above described real estate be vested in the abutting property owners as provided by law.

WHEREFORE, the undersigned petitioners respectfully pray that the governing body of the City of Fayetteville, Arkansas, abandon and vacate the above described real estate, subject to said utility and sewer easements, and that title to said real estate sought to be abandoned be vested in the abutting property owners as provided by law, and as to that particular land the owners be free from the easements of the public for the use of said alley.

Dated this 8th day of December, 2016.

Charles Palmer
Printed Name MANAGER FOR
NN+PP, LLC

Charles Palmer
Signatures

BNC RENTALS, LLC

Rick Carpenter MANAGING PARTNER
Printed Name

Rick Carpenter
Signature

Forest Hills Village, LLC
John Alford, Mgr
Printed Name

John Alford
Signature

Printed Name

Signature

Utility Approval

FOR RIGHT- OF- WAY, ALLEY, AND UTILITY EASEMENT VACATIONS

DATE: December 8, 2016

UTILITY COMPANY: City of Fayetteville - Water and Sewer Department

APPLICANT NAME: Patrick Foy w/ Morrison-Shipley APPLICANT PHONE: 479-273-2209

REQUESTED VACATION (*applicant must check all that apply*):

- ☒ Utility Easement
- ☐ Right-of-way for alley or streets and all utility easements located within the vacated right- of- way.
- ☐ Alley
- ☐ Street right-of-way

I have been notified of the petition to vacate the following (*alley, easement, right-of-way*), described as follows:

General location / Address 3300 Grove Dr, Fayetteville, AR 72701 - Lot 5 of Forest Hills

☒ (*ATTACH legal description and graphic representation of what is being vacated-SURVEY*)

UTILITY COMPANY COMMENTS:

- ☒ No objections to the vacation(s) described above, and no comments.
- ☐ No objections to the vacation(s) described above, provided following described easements are retained.
(State the location, dimensions, and purpose below.)

☐ No objections provided the following conditions are met:



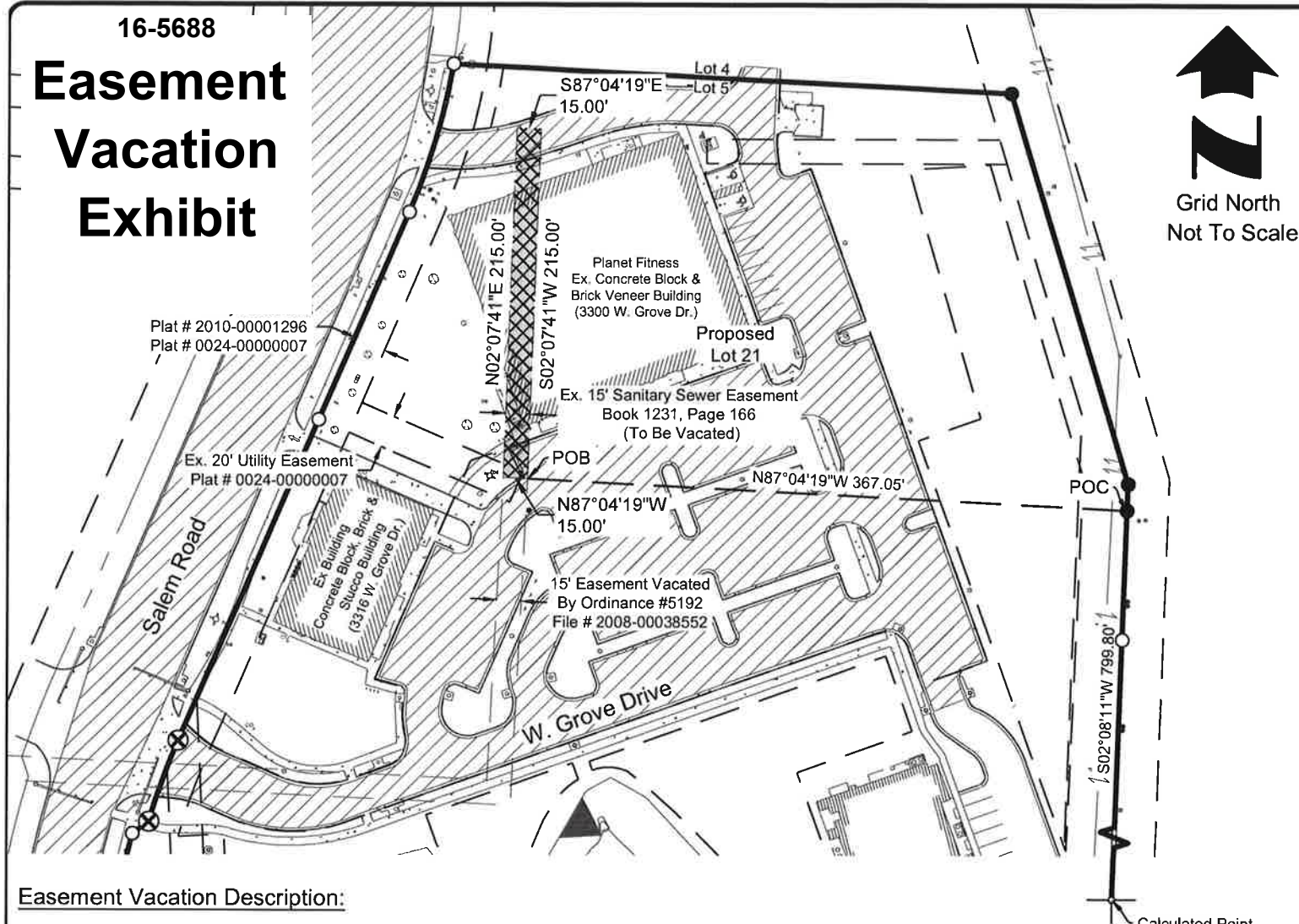
Signature of Utility Company Representative

WFS OPERATIONS MANAGER

Title

16-5688

Easement Vacation Exhibit



Grid North
Not To Scale

Easement Vacation Description:

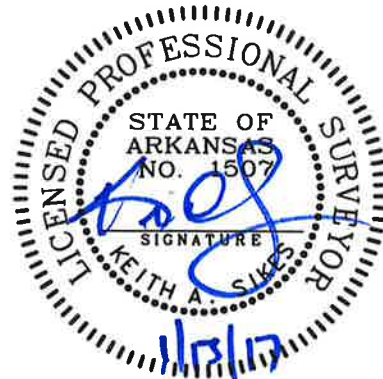
Part of the Northwest Quarter Southwest Quarter (NW1/4 SW1/4) of Section 7, Township 16 North, Range 30 West, of the Fifth Principal Meridian, being more particularly described as follows:

Commencing at an existing one-half inch (1/2") rebar on the east line of said Northwest Quarter Southwest Quarter (NW1/4 SW1/4) of Section 7, from which the Southeast Corner of said Northwest Quarter Southwest Quarter (NW1/4 SW1/4) of Section 7 bears South 02°08'11" West, 799.8 feet, more or less. Thence from the commencing point and by bearing and distance (basis of bearing, Grid North), North 87°04'19" West a distance of 367.05 feet to the POINT OF BEGINNING; thence North 87°04'19" West a distance of 15 feet; thence North 02°07'41" East a distance of 215 feet; thence South 87°04'19" East a distance of 15 feet; thence South 02°07'41" West a distance of 215 feet to the Point of Beginning.



Easement Being Vacated

Calculated Point
SE Corner
Frac., NW1/4 SW1/4
S7-T16N-R30W



MORRISON SHIPLEY
ENGINEERS ■ SURVEYORS

2407 SE Cottonwood Street • Bentonville, AR 72712 • 479.273.2208 • morrisonshipley.com

EXHIBIT "A" EASEMENT VACATION

Fayetteville, Washington County, Arkansas

Drawn By:

JDS

Date:

11.30.16

Project No:

WAP-64

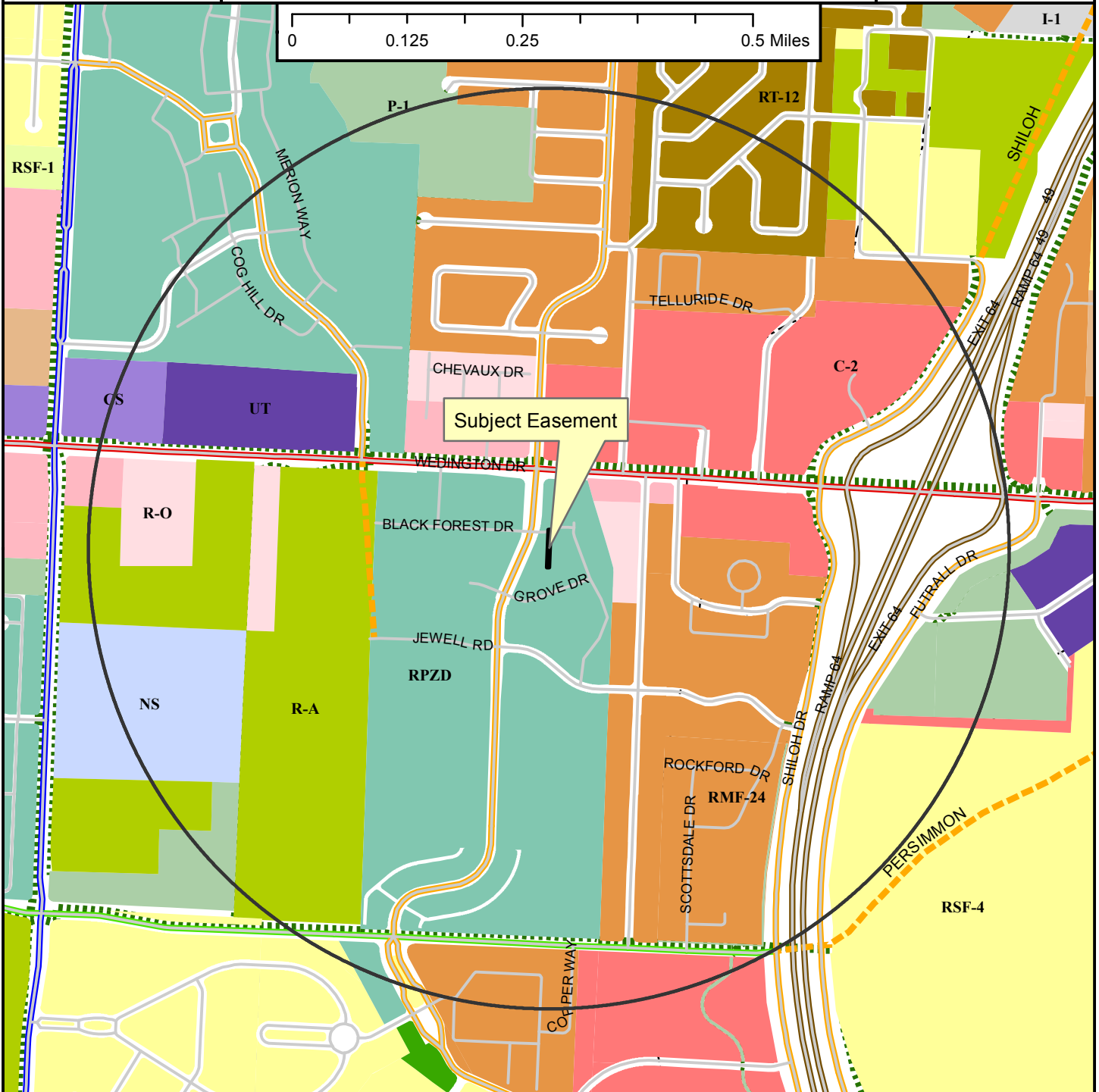
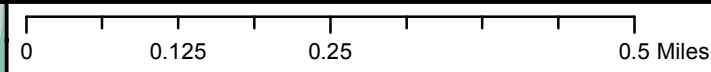
Drawing Name:

ESMT EXHIBIT

VAC 16-5688

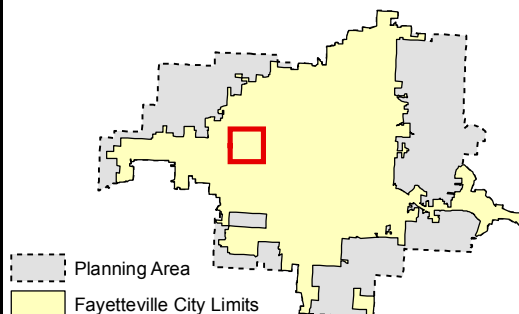
One Mile View

PLANET FITNESS



Legend

- Planning Area
- Fayetteville City Limits
- Shared Use Paved Trail
- Trail (Proposed)
- Design Overlay District
- Building Footprint



- Zoning**
- RESIDENTIAL SINGLE-FAMILY**
 - RSF-1 Residential-Agricultural
 - RSF-5
 - RSF-1
 - RSF-2
 - RSF-4
 - RSF-7
 - RSF-8
 - RSF-18
 - RESIDENTIAL MULTI-FAMILY**
 - RT-12 Residential Two and Three-family
 - RMF-6
 - RMF-12
 - RMF-18
 - RMF-24
 - RMF-40
 - INDUSTRIAL**
 - I-1 Heavy Commercial and Light Industrial
 - I-2 General Industrial
- EXTRACTION**
- E-1
- COMMERCIAL**
- Residential-Office
 - C-1
 - C-2
 - C-3
- FORM BASED DISTRICTS**
- Downtown Core
 - Urban Thoroughfare
 - Main Street Center
 - Downtown General
 - Community Services
 - Neighborhood Services
 - Neighborhood Conservation
- PLANNED ZONING DISTRICTS**
- Commercial, Industrial, Residential
- INSTITUTIONAL**
- P-1

VAC 16-5688

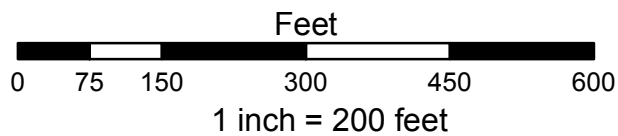
PLANET FITNESS

Close Up View



Legend

- Planning Area
- Fayetteville City Limits
- Trail (Proposed)
- Building Footprint



- RMF-24
- Residential-Office
- C-1
- C-2
- Commercial, Industrial, Residential

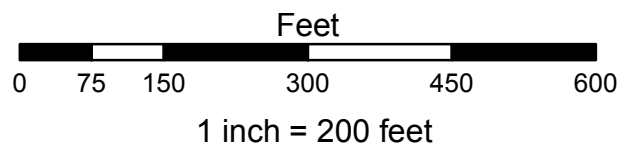
VAC 16-5688

Current Land Use

PLANET FITNESS



- Street
- COLLECTOR
- PRINCIPAL ARTERIAL
- Trail (Proposed)
- VAC16-5688
- County Parcels
- Planning Area
- Fayetteville City Limits



FEMA Flood Hazard Data

- 100-Year Floodplain
- Floodway



City of Fayetteville, Arkansas

113 West Mountain Street
Fayetteville, AR 72701
(479) 575-8323

Text File

File Number: 2017-0079

Agenda Date: 2/21/2017

Version: 1

Status: Agenda Ready

In Control: City Council Meeting

File Type: Resolution

Agenda Number: C. 5

AMENDMENT TO THE 2017 ADOPTED BUDGET:

A RESOLUTION TO AMEND THE 2017 ADOPTED BUDGET BY REAPPROPRIATING \$63,137,158.00 IN BONDED OR ONGOING CAPITAL PROJECTS, OUTSTANDING OBLIGATIONS AND GRANT FUNDED ITEMS

WHEREAS, capital projects often are constructed and paid for in more than one calendar year which requires the funds appropriated in the initial year for the project to be reappropriated to the subsequent year to complete the project; and

WHEREAS, certain outstanding obligations and grant funded items must be reappropriated to complete these obligations or grant funded projects.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF FAYETTEVILLE, ARKANSAS:

Section 1: That the City Council of the City of Fayetteville, Arkansas, hereby approves an amendment to the 2017 Budget to reflect \$63,137,158.00 in bonded or ongoing capital projects, outstanding obligations and grant funded items as shown on the worksheet attached to this Resolution.

City of Fayetteville Staff Review Form

2017-0079

Legistar File ID

2/21/2017

City Council Meeting Date - Agenda Item Only
N/A for Non-Agenda Item

Kevin Springer

2/7/2017

Budget & Information Management /
Finance & Internal Services Department

Submitted By

Submitted Date

Division / Department

Action Recommendation:

A RESOLUTION TO AMEND THE 2017 ADOPTED BUDGET BY REAPPROPRIATING \$63,137,158 IN BONDED OR ON-GOING CAPITAL PROJECTS AND OUTSTANDING OBLIGATIONS AND GRANT FUNDED ITEMS.

Budget Impact:

VARIOUS		VARIOUS	
Account Number		Fund	
VARIOUS		VARIOUS	
Project Number		Project Title	
Budgeted Item?	Yes	Current Budget	\$ 155,163,000.00
		Funds Obligated	\$ -
		Current Balance	\$ 155,163,000.00
Does item have a cost?	No	Item Cost	
Budget Adjustment Attached?	NA	Budget Adjustment	\$ 63,137,158.00
		Remaining Budget	\$ 218,300,158.00

V20140710

Previous Ordinance or Resolution #

Original Contract Number:

Approval Date:

Comments:



CITY COUNCIL AGENDA MEMO

MEETING OF FEBRUARY 21, 2017

TO: Mayor and City Council

THRU: Don Marr, Chief of Staff
Paul A. Becker, Chief Financial Officer

FROM: Kevin Springer, Budget Director

DATE: February 7, 2017

SUBJECT: 2017 Budget Re-appropriation Request

RECOMMENDATION:

It is recommended to amend the 2017 Adopted Budget by re-appropriating \$63,137,158 in bonded or ongoing capital projects and outstanding obligations and grant funded items. In addition, staff is recommending approval of any changes to this request that may arise due to finalizing the 2016 year end which would result in a decrease in the total authorized budget.

BACKGROUND:

Budget appropriations for 2016 expired December 31, 2016. Equipment and supplies or services must have been received by December 31 in order to be charged to the 2016 Budget. Some departments have items or services that were budgeted in 2016 but were not delivered or complete by year-end. In these cases, unspent amounts for those projects and items need to be re-appropriated, since they were not included in the 2017 Budget. In the case of capital improvement projects, unspent funds are added to any amounts appropriated in the 2017 Budget.

Because of the need for project continuation, staff recommends approval of the attached re-appropriation budget request at the February 21, 2017 City Council meeting. City Council is requested to amend the 2017 Adopted Budget by re-authorizing up to \$63,524,658 for purchase commitments and capital improvements as follows:

CATEGORY	OBLIGATED	NON-OBLIGATED	TOTAL
1 - Bonded Capital Projects	\$ 4,319,032	\$ 6,580,631	\$ 10,899,663
2 - Grants / Donations / Reimbursements	627,323	3,129,415	3,756,738
3 - Operational Obligations	352,803	278,739	631,542
4 - Capital Improvements Projects (CIP)	11,085,017	36,764,198	47,849,215
Grant Total	\$ 16,384,175	\$ 46,752,983	\$ 63,137,158

A finalized listing of the capital project re-appropriations will be submitted to City Council as an informational item during the First Quarter of 2017.

Please find attached a schedule of capital projects by Improvement Type which were included in the 2016 Budget that were not fully expended during the 2016 fiscal year. The 2016 estimated unreserved fund balance/retained earnings for the respective funds reflected the cost of the requested re-appropriation. These re-budgeted items, therefore, do not impact the estimated fund balance amounts which were forecasted in the 2017 Budget.

The re-authorization of prior year's appropriated projects and items are normal budget operating procedures and are generally for one-time expenses. Approval of this request will allow the 2017 Budget to be increased to reflect the attached information. Several of the requested re-authorizations include revenue offset in the form of grant revenues.

Total requested re-budgets for all funds are in the attached worksheet. These amounts will require City Council action. For your information, a summary by Funding Source and Improvement Type is included following this memo. The re-appropriation amounts are broken out into two separate categories:

- Obligated: These items have Contracts/Purchase Orders already issued on them during 2016 and the City will not receive the item and/or service until 2017.
- Unobligated: These items did not have any Contracts/Purchase Orders issued on them as of 2016.

BUDGET/STAFF IMPACT:

The estimated fund balance for the 2017 Budget was based on the assumption that these 2016 funds would be either spent in 2016 or be re-appropriated. The funds do not increase the use of operating reserves and this request simply retains project funding for identified and scheduled capital improvements for the current fiscal year.

If you have any questions concerning the attachment or the procedure, please feel free to contact either Paul A. Becker (575-8330) or Kevin Springer (575-8226). Thank you for your attention to this request.

Attachments:

2017 Appropriations (Summary by Fund)
2017 Appropriations (Detail)

2017 Appropriations (Summary by Fund)

FUNDING SOURCE	OBLIGATED	NON	TOTAL
		OBLIGATED	
1010 . General	348,204	1,811,903	2,160,107
2100 . Street	197,312	837,136	1,034,448
2130 . Parking	11,908	69,490	81,398
2180 . Community Development	-	1,212,018	1,212,018
2230 . Special Grants	665,652	92,897	758,549
2250 . Parks Development	644,967	649,873	1,294,840
2300 . Impact Fee	4,578	4,374,097	4,378,675
2930 . Drug Law Enforcement Grant	-	143,840	143,840
4270 . Disaster & Replacement	-	128,769	128,769
4470 . Sales Tax Capital Improvement	4,589,174	8,426,523	13,015,697
4520 . Sales Tax Construction Project	4,251,379	6,345,223	10,596,602
4560 . Parking Deck Project	11,001	235,408	246,409
5400 . Water and Sewer	4,721,973	16,393,678	21,115,651
5500 . Recycling and Trash Collection	77,469	1,063,792	1,141,261
5550 . Airport	109,971	884,910	994,881
9700 . Shop	750,587	4,083,426	4,834,013
Grand Total	16,384,175	46,752,983	63,137,158

2017 Appropriations (Detail)

CATEGORY	FUNDING SOURCE	OBLIGATED	NON OBLIGATED	TOTAL
1 - BONDS	2230 . Special Grants			
	31306 - NEA School Street Grant	28,721	-	28,721
	31504 - USDA Farmers' Market Promotions Grant	27,931	-	27,931
	4520 . Sales Tax Construction Project			
	06035 - Transportation Bond Street Impvs	4,251,379	6,345,223	10,596,602
	4560 . Parking Deck Project			
	11028 - Entertainment District Parking Facility	11,001	235,408	246,409
1 - BONDS Total		4,319,032	6,580,631	10,899,663

2017 Appropriations (Detail)

CATEGORY	FUNDING SOURCE	OBLIGATED	NON OBLIGATED	TOTAL
2 - GRANTS	1010 . General			
	31301 - Police DTF State Crime Fund Grant (DCF)	-	179	179
	31307 - COPS Hiring Grant - 2013	-	221,625	221,625
	31501 - HSI ICAC Task Force	-	306	306
	31503 - Fire FEMA Grant - Operations/Safety Eqp	-	4,615	4,615
	33044 - Police Department Donations	-	13,985	13,985
	33045 - Police Law Enforcement State Forfeitures	5,323	117,221	122,544
	33046 - Police Law Enforcement Fed Forfeitures	-	123,967	123,967
	33047 - Fire Department Act 833/46/Misc Revenue	-	57,935	57,935
	33048 - Animal Services Miscellaneous Donations	-	138,119	138,119
	33049 - Animal Services Clinic Donations	-	3,601	3,601
	33051 - Parks & Recreation Donations	-	58,596	58,596
	36024 - Historic Preservation Travel & Training	-	11,587	11,587
	36029 - Fire - Donations	-	2,189	2,189
	36033 - Police Internet Crimes Against Child Grt	-	16,670	16,670
	37042 - Police Bulletproof Vests Partership	-	13,241	13,241
	38067 - Police STEP Grant	-	32,860	32,860
	38070 - Police High Intensity Drug Trafficking	-	13,244	13,244
	39012 - District Court Automation	-	13,419	13,419
	39022 - Police JAG Local Solicitation	-	108,850	108,850
	39024 - Police IRS/Treasury Forfeitures	-	308,902	308,902
	39033 - AR ETS Dispatch Training Reimbursement	-	48	48
	31602 - AF&GS Wilson Park Hillside Restrtn Grant	-	222	222
	31606 - Body Worn Camera Grant - 2016	-	254,176	254,176
	31607 - Police STEP Grant 2016-2017	13,000	95,660	108,660
	32016 - Firewise Grant	-	501	501
	47019 - Donations/Grants Contingency	-	10,657	10,657

2017 Appropriations (Detail)

CATEGORY	FUNDING SOURCE	OBLIGATED	NON OBLIGATED	TOTAL
	2180 . Community Development			
	32003 - CDBG Donations	-	4,878	4,878
	Community Development Block Grant Fund	-	1,207,140	1,207,140
	2230 . Special Grants			
	31603 - Fire - FEMA Grant for Training Simulator	609,000	92,897	701,897
	2250 . Parks Development			
	47019 - Donations/Grants Contingency	-	15,990	15,990
	31601 - YRCC Kids Crops Gazebo	-	9,198	9,198
	2930 . Drug Law Enforcement Grant			
	38070 - Police High Intensity Drug Trafficking	-	143,840	143,840
	5500 . Recycling and Trash Collection			
	31302 - Keep Fayetteville Beautiful CLPP	-	588	588
	31304 - Curbside Value Partnership Grant	-	6,327	6,327
	31403 - Boston Mountain Activity Book Update	-	14	14
	31505 - Boston Mountain Recycling Distrist Grant	-	388	388
	33028 - Solid Waste E-Waste Grant (ADEQ)	-	25,780	25,780
2 - GRANTS Total		627,323	3,129,415	3,756,738

2017 Appropriations (Detail)

CATEGORY	FUNDING SOURCE	OBLIGATED	NON OBLIGATED	TOTAL
3 - OPERATIONAL	1010 . General			
	14021 - Transportation Master Plan	-	5,018	5,018
	43020 - Wellness Program	-	2,644	2,644
	50033 - Raze and Removals	-	6,149	6,149
	51022 - Public Access Television Fees	-	4,317	4,317
	51401 - Fay Alert System Communication Plan	-	205	205
	57032 - Transfers to Shop Fund (9700)	-	17,472	17,472
	59027 - Economic Development Services	-	1,000	1,000
	40901 - Outside Agencies Funding	7,160	-	7,160
	57018 - Transfers to Sales Tax Capital (4470)	-	74,500	74,500
	Media Services Remodel	-	3,433	3,433
	Human Resources Furniture	16,940	-	16,940
	Economic Development Contracts	262,500	67,500	330,000
	Johanson: Employee Compensation Payplan	9,600	-	9,600
	Interplan Accounting Desk TL	516	-	516
	Police Uniforms/Equipment	22,266	-	22,266
	Fire Overhead Doors	10,899	-	10,899
	2100 . Street			
	Street Chemicals	2,548	-	2,548
	2300 . Impact Fee			
	57039 - Transfers Between Funds (Non-Project)	-	88,260	88,260
	5400 . Water and Sewer			
	51401 - Fay Alert System Communication Plan	-	1,101	1,101
	Wetlands Mitigation Site Monitoring & Management	16,234	-	16,234
	5500 . Recycling and Trash Collection			
	51401 - Fay Alert System Communication Plan	-	7,140	7,140
	9700 . Shop			
	Faster Software GL Update/Conversion	4,140	-	4,140
3 - OPERATIONAL Total		352,803	278,739	631,542

2017 Appropriations (Detail)

CATEGORY	FUNDING SOURCE	OBLIGATED	NON OBLIGATED	TOTAL
4 - CIP	1010 . General			
	13031 - Woolsey Architectural Assessment	-	1,074	1,074
	14020 - CDC Telephone Recording System	-	6,216	6,216
	2100 . Street			
	02052 - In-House Pavement Improvements	-	113,663	113,663
	02053 - Sidewalk Improvements	28,927	9,852	38,779
	15001 - Willow Bend Development Cost Share	-	500,000	500,000
	15002 - Winter Weather Operations Center	165,837	213,621	379,458
	2130 . Parking			
	06001 - Parking Lot Improvements and Overlays	-	26,075	26,075
	15003 - Spring Street Parking Deck Improvements	11,908	23,065	34,973
	15004 - Meadow Street Parking Deck Improvements	-	20,350	20,350
	2250 . Parks Development			
	02002 - Regional Park Development	98,907	152,668	251,575
	02013 - Neighborhood Park Development	-	133,845	133,845
	02014 - Other Park & Safety Improvements (2250)	-	18,425	18,425
	13001 - Community Park Improvements	546,060	161,723	707,783
	14017 - Gulley Park Land Acquisition	-	461	461
	33051 - Parks & Recreation Donations	-	7,563	7,563
	16010 - Natural Surface Trail Development	-	150,000	150,000
	2300 . Impact Fee			
	07001 - Police Impact Fee Improvements (#3)	4,578	32,982	37,560
	07002 - Water Impact Fee Improvements (#1)	-	2,096,239	2,096,239
	07003 - Fire Impact Fee Improvements (#4)	-	187,568	187,568
	07004 - Wastewater Impact Fee Improvements (#2)	-	1,939,048	1,939,048
	08046 - Fire Traffic Preemption Signals	-	30,000	30,000
	4270 . Disaster & Replacement			
	04038 - Replacement Copier Funds	-	118,884	118,884
	05042 - Fleet - Vehicles/Equipment Under \$10,000	-	9,885	9,885

2017 Appropriations (Detail)

CATEGORY	FUNDING SOURCE	OBLIGATED	NON OBLIGATED	TOTAL
	4470 . Sales Tax Capital Improvement			
	02001 - Lights of the Ozarks	-	18,554	18,554
	02006 - Fire Facility Maintenance	1,155	55,587	56,742
	02016 - Trail Development	2,859,399	451,051	3,310,450
	02045 - Forestry/Safety & ADA Compliance (4470)	-	57,282	57,282
	02046 - Building Improvements	8,471	683,111	691,582
	02047 - Police Building Improvements	1,500	4,740	6,240
	02052 - In-House Pavement Improvements	5,790	393,551	399,341
	02053 - Sidewalk Improvements	-	97,503	97,503
	02055 - Geographic Information System (GIS)	-	52,519	52,519
	02056 - Local Area Network (LAN) Upgrades	-	114,714	114,714
	02057 - Microcomputer / Printer Replacements	-	8,863	8,863
	02061 - Television Center Equipment	-	17,332	17,332
	02062 - Police Specialized Equipment	-	26,047	26,047
	02063 - Traffic Signal Improvements	-	220,968	220,968
	02094 - Document Management	-	8,591	8,591
	02097 - Stormwater Quality Management	54,124	134,999	189,123
	02108 - Other Drainage Improvements	11,070	153,874	164,944
	02116 - Street ROW / Intersection / Cost Sharing	-	515,076	515,076
	03019 - Fire Apparatus Purchases	-	17,031	17,031
	04001 - Telecommunication Systems Upgrades	-	43,375	43,375
	04047 - Fayetteville-AR.gov Technical Imps	4,200	42,659	46,859
	05055 - Software Upgrades - City Wide	-	14,456	14,456
	06002 - Police Technology Improvements	-	13,886	13,886
	06003 - Police Unmarked Vehicles	-	70,972	70,972
	06008 - Ruppel Road - Wedington to Mt. Comfort	-	297,213	297,213
	07010 - Budgeting & Planning Software System	-	47,360	47,360
	08001 - Tree Escrow	-	181,257	181,257
	08013 - Police Tandburg Video Arraignment System	-	18,000	18,000
	08025 - Time and Attendance	-	16,924	16,924

2017 Appropriations (Detail)

CATEGORY	FUNDING SOURCE	OBLIGATED	NON OBLIGATED	TOTAL
	09031 - Storage Area Network (SAN)	-	52,703	52,703
	10011 - Old Wire Road-Mission to Crossover	-	497,545	497,545
	10013 - IT Assessment and Project Management	-	21,372	21,372
	10017 - Fire Information Technology Updates	-	1,351	1,351
	11004 - Parking Lot Improvements (City Employee)	-	53,536	53,536
	11006 - Police Equipment Replacement	-	29,308	29,308
	13005 - Citywide Building Ins Appraisal Study	-	35,000	35,000
	13007 - Enterprise Data Warehouse System	-	53,438	53,438
	13008 - ERP Upgrade/Replacement	145,113	382,552	527,665
	13011 - Police Bulletproof Vests	-	19,482	19,482
	13013 - Wayfinding Regional Signage Program	100,102	44,903	145,005
	13015 - Television Center Digital Conversion	-	2,386	2,386
	13046 - Tyson Factory Sale / Improvements	-	725,382	725,382
	14002 - Animal Services Improvements	-	12,334	12,334
	14003 - City Clerk Document Management Equipment	-	44,742	44,742
	14005 - Location Production System (Media)	-	1,957	1,957
	14008 - Police Network/Server Replacements	-	68,353	68,353
	14009 - Police Records Management System	290,027	167,373	457,400
	14013 - Kessler Mountain Acquisition	-	60,349	60,349
	14021 - Transportation Master Plan	245,526	9,086	254,612
	15005 - Desktop Management System	-	11,800	11,800
	15006 - Web Security Filtering	-	3,471	3,471
	15008 - Woolsey Homestead Historic Restoration	9,791	7,952	17,743
	15009 - Building Efficiency Improvements	-	9,569	9,569
	15010 - Walker Park Sr Activity & Wellness Ctr	21,888	277	22,165
	15011 - Parks Safety & ADA	-	26,918	26,918
	15012 - Forestry & Habitat Improvements	-	60,873	60,873
	15015 - Police Mobile Video System Replacement	-	35,000	35,000
	15016 - Lake Fayetteville Trailhead (BGSO)	-	33,580	33,580
	15017 - Mud Creek Trail Lighting	19,000	728,020	747,020

2017 Appropriations (Detail)

CATEGORY	FUNDING SOURCE	OBLIGATED	NON OBLIGATED	TOTAL
	15018 - Wireless Traffic Signal Control	-	80,000	80,000
	06035 - Transportation Bond Street Impvs	664,844	922,570	1,587,414
	11021 - Drainage Maintenance	-	46,319	46,319
	13028 - Employee Gym Equipment	-	2,122	2,122
	15013 - Police Weapon Replacement	12,679	1,321	14,000
	16001 - Comprehensive Land Use Plan Update	-	100,000	100,000
	16003 - Hansen Version 8 Upgrade (Workorder Sys)	-	195,000	195,000
	16004 - Park Paving Improvements	58,000	-	58,000
	16005 - Planning Commission Tablet Replacement	-	217	217
	16006 - Police eTicket Equipment Replacement	-	44,000	44,000
	16007 - Police Take Home Vehicles	-	13,362	13,362
	16009 - Video Prod Digital Server/Archive System	76,495	43,505	120,000
	5400 . Water and Sewer			
	02017 - Sanitary Sewer Rehabilitation	140,804	3,685,802	3,826,606
	02032 - W.W.T.P. Building Improvements	-	464,011	464,011
	02064 - Water & Sewer Rate/Operations Study	-	165,116	165,116
	02065 - Water Meters	3	128,956	128,959
	02066 - Backflow Prevention Assemblies	-	73,190	73,190
	02067 - Water and Sewer Cost Sharing	-	92,286	92,286
	02068 - Upgrade/Replace Lift Stations - W.W.T.P.	-	150,985	150,985
	02069 - Plant Pumps and Equipment - W.W.T.P.	18,200	219,016	237,216
	03038 - Utilities Financial Services Impvs	-	21,478	21,478
	04020 - Water Line Projects As Needed	-	55,820	55,820
	04039 - Water/Sewer Impact Fee Cost Sharing	20,554	1,009,677	1,030,231
	09028 - Fiber Optic Cable	-	56,491	56,491
	10005 - South Mtn Pump Station Repair & Replace	-	29,197	29,197
	10006 - Benson Mountain Pressure Plane Upgrade	-	325,000	325,000
	10007 - W/S Improvements Defined by Study	70,261	519,186	589,447
	10008 - Disinfection System Replacement (UV)	-	17,072	17,072
	10027 - Phosphorus Standards Management	-	86,213	86,213

2017 Appropriations (Detail)

CATEGORY	FUNDING SOURCE	OBLIGATED	NON OBLIGATED	TOTAL
	11010 - Irrigation Reels - WWTP	-	100,660	100,660
	11011 - Water/Sewer Relocations - Bond Projects	2,371,318	665,815	3,037,133
	11013 - Wetlands Bank Construction	-	350,000	350,000
	11014 - White River NPDES UAA and APCEC Action	14,464	1,070	15,534
	12009 - Water System Rehabilitation/Replacement	206,144	3,737,622	3,943,766
	13016 - Business Office Technology Improvements	-	30,000	30,000
	13017 - Business Office Printer Replacements	-	30,000	30,000
	13018 - Wastewater Treatment/Water Quality Imps	14,746	1,007,756	1,022,502
	13019 - Water/Sewer Equipment Expansions	11,995	262,243	274,238
	14010 - Water Tank Improvements	1,265,498	56,677	1,322,175
	14015 - Regional Park Waterlines	-	535,847	535,847
	14018 - Sewer Rehabilitation - Ramsey/Overcrest	29,745	160,041	189,786
	15019 - Utilities Technology Improvements	-	32,000	32,000
	15020 - Water/Sewer Building-Office Improvements	1,953	193,367	195,320
	15021 - Water Storage & Pump Station Maintenance	-	10,889	10,889
	15023 - Filter Cell Replacement - W.W.T.P.	-	2,000,000	2,000,000
	06035 - Transportation Bond Street Impvs	540,054	119,094	659,148
	5500 . Recycling and Trash Collection			
	07012 - Materials Recovery Facility Improvements	-	33,276	33,276
	09019 - Recycling Containers ADEQ Grant Purchase	-	24,523	24,523
	09028 - Fiber Optic Cable	-	106,788	106,788
	10001 - Solid Waste Compactors	-	515,782	515,782
	10004 - Solid Waste Commercial Rate Study	-	110,000	110,000
	13021 - Solid Waste Office & Trans Station Exp	77,469	119,047	196,516
	13030 - Access Control & Security System	-	1,757	1,757
	15024 - Container Maintenance Building Upgrade	-	25,000	25,000
	15025 - Solid Waste Containers	-	87,382	87,382

2017 Appropriations (Detail)

CATEGORY	FUNDING SOURCE	OBLIGATED	NON OBLIGATED	TOTAL
	5550 . Airport			
	05046 - Airport Expansion Equipment (AIP#21 REV)	-	40,018	40,018
	13023 - Airport ARFF Personal Protective Gear	-	1,232	1,232
	13025 - Airport Roof Replacements	25,200	579,506	604,706
	13026 - Airport Self Serve Station Upgrade	-	22,000	22,000
	13030 - Access Control & Security System	-	1,046	1,046
	14014 - Airport Terminal Apron Rehabilitation	-	39,382	39,382
	15026 - Airport Lighting Improvements	-	27,754	27,754
	15027 - Airport Boiler Improvements	-	50,000	50,000
	15029 - Airport Engineering Consultant Services	6,857	45,500	52,357
	15030 - Airport Pavement Painting & Signs	-	70,997	70,997
	16012 - Taxiway Lighting Rehabilitation Construction	77,914	7,475	85,389
	9700 . Shop			
	02076 - Fleet - Backhoes / Loaders	90,317	406,051	496,368
	02077 - Fleet - Construction Equipment	-	255,000	255,000
	02078 - Fleet - Light / Medium Utility Vehicles	251,265	775,737	1,027,002
	02079 - Fleet - Heavy Utility Vehicles	404,865	138,983	543,848
	02080 - Fleet - Other Vehicles / Equipment	-	844,409	844,409
	02081 - Fleet - Police / Passenger Vehicles	-	500,493	500,493
	02082 - Fleet - Recycling/Trash Vehicles/Equip	-	815,751	815,751
	02083 - Fleet - Tractors / Mowers	-	182,708	182,708
	12007 - Shop Improvements	-	164,294	164,294
4 - CIP Total		11,085,017	36,764,198	47,849,215
Grand Total		16,384,175	46,752,983	63,137,158



City of Fayetteville, Arkansas

113 West Mountain Street
Fayetteville, AR 72701
(479) 575-8323

Text File

File Number: 2017-0076

Agenda Date: 2/21/2017

Version: 1

Status: Agenda Ready

In Control: City Council Meeting

File Type: Ordinance

Agenda Number: C. 6

AMEND §110.02 TELECOMMUNICATIONS FRANCHISES:

AN ORDINANCE TO AMEND §110.02 **TELECOMMUNICATIONS FRANCHISES** OF THE CITY CODE TO INCLUDE AND INCORPORATE REFERENCES TO COMPETING LOCAL EXCHANGE CARRIERS AND ANY OTHER TELECOMMUNICATIONS PROVIDERS DESIRING TO USE CITY STREET RIGHTS OF WAY

WHEREAS, § 110.02 **Telecommunications Franchises** was enacted to regulate newer telecommunications providers needing to use City street rights of way and should be further expanded to expressly include competing local exchange carriers which primarily provide wireless service between cell phone companies and users.

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF FAYETTEVILLE, ARKANSAS:

Section 1: That the City Council of Fayetteville, Arkansas hereby amends §110.02 **Telecommunications Franchises** of the Unified Development Code by enacting a new *Purpose* section as follows:

“(A) *Purpose*

This section is designed and intended to cover all telecommunications providers and lessees that provide any retail or wholesale telecommunications services (including not only land line telephones, but also data transmissions that can be ultimately received by mobile devices such as cell phones or wireless devices) within the City of Fayetteville.”

Section 2: That the City Council of Fayetteville, Arkansas hereby amends §110.02(A) *Definitions* by re-lettering it to (B) and enacting the following introductory language:

“(B) *Definitions*

The definitions of telecommunications providers and lessees shall be broadly construed and applied pursuant to the purpose of this section and shall include competing local exchange carriers and other primarily wireless service providers utilizing low power and relatively short right of way poles.”

Section 3: That the City Council of Fayetteville, Arkansas hereby enacts the following definition of *Competing local exchange carrier* in §110.02(B) as follows:

“*Competing local exchange carrier* means a telecommunications provider that has received a certificate of public convenience and necessity from the Arkansas Public Service Commission under the authority of Ark. Code Ann. § 23-17-409 and is authorized to install equipment and operate within the public street rights of way in the City of Fayetteville.”

Section 4: That the City Council of Fayetteville, Arkansas hereby amends the definition of *Streets* in §110.02(B) as follows:

“*Streets* mean all Fayetteville public street and road rights of way and state and federal highway rights of way and the airspace over such facilities. A telecommunications provider or lessee’s franchise agreement with the City may authorize use of other City property.”

Section 5: That the City Council of Fayetteville, Arkansas hereby amends the definition of *Telecommunications* in §110.02(B) by enacting the following phrase at the end of the current definition: “whether wired or wireless.”

Section 6: That the City Council of Fayetteville, Arkansas hereby amends §110.02(F)(8) *Location of Facilities* by adding the following to the end of the current subsection:

“New structures shall be designed to be camouflaged to the greatest extent possible including, but not limited to, use of compatible building materials and colors, appropriate screening and landscaping, and incorporation within street lights. New structures shall not exceed 20 feet in height when located in the right of way of residential, local or collector streets and shall not exceed 30 feet in height when located in the right of way of arterial streets as designated by the Master Street Plan.

The City Planning Director is empowered to grant a variance to the height restriction considering such factors as the height of other poles and structures in the vicinity, the character of the neighborhood surrounding the proposed location, the technological requirements of the company, and whether allowing the variance will reduce the number of other poles or structures in the area.”

Section 7: That the City Council of Fayetteville, Arkansas hereby amends §110.02(F)(10) *Co-Location; Sharing of Pole Space* by adding the following to the end of the current subsection:

“The applicant shall bear the burden of proving to City staff’s satisfaction that co-location or sharing of pole space is not possible before consideration will be given to the installation of new poles.”

Section 8: That the City Council of Fayetteville, Arkansas hereby enacts a new §110.02(F)(14) *Appeals* as follows:

“(14) *Appeals*. Staff interpretations and actions may be appealed to the City Council by the applicant or an alderman and shall comply with the procedural requirements set forth in § 155.02 - **Form/Time/Place of Chapter 155: Appeals.**

City of Fayetteville Staff Review Form

2017-0076

Legistar File ID

2/21/2017

City Council Meeting Date - Agenda Item Only
N/A for Non-Agenda Item

Kit Williams

2/3/2017

City Attorney /
General Government Department

Submitted By

Submitted Date

Division / Department

Action Recommendation:

AN ORDINANCE TO AMEND §110.02 TELECOMMUNICATIONS FRANCHISES OF THE CITY CODE TO INCLUDE AND INCORPORATE REFERENCES TO COMPETING LOCAL EXCHANGE CARRIERS AND ANY OTHER TELECOMMUNICATIONS PROVIDERS DESIRING TO USE CITY STREET RIGHTS OF WAY

Budget Impact:

Account Number

Fund

Project Number

Project Title

Budgeted Item? NA

Current Budget \$ -

Funds Obligated \$ -

Current Balance \$ -

Does item have a cost? NA

Item Cost

Budget Adjustment Attached? NA

Budget Adjustment

Remaining Budget \$ -

V20140710

Previous Ordinance or Resolution #

Original Contract Number:

Approval Date:

Comments:



OFFICE OF THE
CITY ATTORNEY

DEPARTMENTAL CORRESPONDENCE



Kit Williams
City Attorney

Blake Pennington
Assistant City Attorney

Patti Mulford
Paralegal

TO: Mayor Jordan
City Council

CC: Don Marr, Chief of Staff
Paul Becker, Finance Director
Jeremy Pate, Development Services Director

FROM: Kit Williams, City Attorney

DATE: February 2, 2017

RE: Competing Local Exchange Carriers Granted Certificate of Public Convenience and Necessity from the Arkansas Public Service Commission

The Arkansas Legislation has empowered the Arkansas Public Service Commission to grant telecommunications companies known as Competing Local Exchange Carriers a Certificate of Public Convenience and Necessity. Such a certificate provides some authority for these companies to utilize Arkansas cities' rights of way to install low power telecommunications networks. Exactly how much authority this certificate carries and how much continuing authority Arkansas Cities have to control and regulate such carriers within the cities' rights of way is not settled.

My Office believes we should be proactive on this issue and have thus proposed an amendment to § 110.02 Telecommunication Franchises to include Competing Local Exchange Carriers. Our goal is to facilitate the new competing telecommunication companies while preserving Fayetteville's beautiful and uncluttered street scape, especially in residential areas.

This ordinance amendment seeks, to require co-location of these lower power antennas on existing poles or buildings which is similar to co-location requirements for existing cell phone antennas and towers. If co-location is not feasible, then this ordinance seeks to limit the height of new poles to twenty (20) feet along residential, local and collector streets and thirty (30) feet along arterials. This ordinance would also empower the Planning Director (Andrew Garner) to grant reasonable variances for the height restrictions. His variance decision can be appealed to the City Council.

As a couple of competing Local Exchange Carrier companies have begun exploratory conversations with City staff, the City Council needs to enact this legal framework so these negotiations can be successful.

CHAPTER 110: TELECOMMUNICATION FRANCHISE AND BILLPOSTING

Sections:

Article I. General Provisions

- 110.01 Billposting
- 110.02 Telecommunication Franchises
- 110.03—110.99 Reserved

ARTICLE I. GENERAL PROVISIONS

110.01 Billposting

In order to prevent litter, protect the beauty of Fayetteville, and preserve private property owners' rights, no bill, notice, advertisement or similar document may be posted, stuck, painted, attached or allowed or caused to be posted, stuck, painted or attached to or upon:

- (A) Any utility or light pole, or government traffic, directional or other sign;
- (B) Any private property including a building, fence, wall, pole, sign or other structure without first having obtained express permission from the owner of such property;
- (C) Any public property without first having obtained express permission of the public entity which owns or controls such property;
- (D) Any vehicle located on an off-street parking lot if the parking lot owner has installed a sign prohibiting such bill posting.

(Code 1965, §§13-2, 13-3; Ord. No. 241, 9-11-1908; Ord. No. 3773, §1, 4-5-94; Code 1991, §110.01; Ord. No. 5406, 5-4-11; Ord. No. 5762, §1, 4-7-15)

110.02 Telecommunication Franchises

- (A) Definitions. As used in §110.02 the following terms shall have the meanings set out:

Applicant means a telecommunications provider or telecommunications lessee that applies for a franchise or license pursuant to this ordinance.

Franchise fee means compensation paid to the city by the telecommunications provider or lessee in exchange for the use of the city's streets to deliver telecommunications services.

Gross revenues means all revenues from basic local service, excluding, among other things, extension, terminal equipment, toll, access, yellow pages, and other miscellaneous equipment revenues pursuant to Arkansas Code Ann. §14-200-101.

Person means any individual, resident, citizens, business firm, corporation, partnership, governmental agency, or institution.

Streets means all streets, roads, highways, alleys, rights-of-way, public utility easements, public property, public ways and air space over such streets, roads, alleys, public rights-of-way, public utility easements, public property and public ways located within the geographic limits of the city.

Telecommunications means the transmission, between or among points specified by the user, of information of the user's choosing without change in the form or content of the information sent and received.

Telecommunications facilities or *facilities* means all conduits, manholes, poles, antennas, transceivers, wires, cable (including fiber optic cable) and appurtenances owned or utilized by a telecommunications provider or telecommunications lessee and located in, under or over the streets of the city and utilized in the provision of telecommunications services.

Telecommunications lessee or *lessee* means any person, firm, corporation, partnership, or other business entity, including resellers, that provides telecommunications services within the geographic boundaries of the city, including long-distance services that originate or terminate in the city, but utilizing, purchasing or leasing a telecommunications facility of a telecommunications provider or any element thereof, whether through purchase, lease, contract, interconnection agreement, or other business arrangement; provided that a person that owns its own telecommunications facilities in the city and utilizes, purchases or leases telecommunications facilities or elements thereof of other telecommunications providers in the city shall be classified as a telecommunications provider under the terms of this ordinance.

Telecommunications provider or *provider* means any person, firm, corporation, partnership or other business entity, other than the city, that provides telecommunications services within or without the geographic boundaries of the city by utilizing its own telecommunications facilities to provide telecommunications services.

Telecommunications services or *services* means any service delivering telecommunications by a telecommunications provider or lessee that the provider or lessee is authorized to provide under federal, state and local law, except that these terms do not include cable service as defined by the Cable Communications Policy Act of 1984, as amended by the Cable television Consumer Protection and Competition Act of 1992, 47 U.S.C. §521 et seq., and the Telecommunications Act of 1996.

Transmission line means a telecommunications facility that is used solely for the purpose of transmitting signals from one point to another point and does not include a line for the purpose of delivering telecommunications services to any person in the city.

- (B) *Requirement of City's Consent.* Every telecommunications provider and telecommunications lessee that utilize a telecommunications facility must obtain a franchise or license from the city in accordance with §110.02 in order to provide telecommunications services. Prior to providing any telecommunications facility, or utilizing any telecommunications facility, the provider or lessee must agree in writing to comply with the terms and conditions of this ordinance and enter into a franchise agreement or license agreement.
- (C) *Application Process.* Any telecommunications provider or lessee (who has not yet been awarded a franchise such as AT&T and the Prairie Grove Telephone Company) seeking to

utilize the streets to provide telecommunications service shall complete a brief application form approved by the Department of Transportation Services. Such application form shall briefly describe the general nature of the service to be provided, the type of construction or use of the facilities required, the name, address and telephone number of the person or entity seeking to provide the service, and the name, address and telephone number of an authorized representative of the person or entity.

- (1) The applicant shall also provide evidence in a form satisfactory to the city that it has the financial, legal and technical qualifications necessary to provide the service for which it seeks a franchise or license. The provision of authorization from the Arkansas Public Service Commission shall be deemed satisfactory evidence of these qualifications.

- (2) In considering whether to grant a franchise or license or impose terms and conditions on the grant of a franchise or license, the city may consider, without limitation, the following factors to the extent not already considered by the Arkansas Public Service Commission:
- (a) The applicant's financial ability to pay the compensation and fees required by this ordinance;
 - (b) The applicant's ability to construct and operate the telecommunications facilities it seeks to utilize;
 - (c) The applicant's compliance with the terms and conditions of federal, state and local law including applicant's compliance in other jurisdictions in which it operates;
 - (d) The capacity of the streets to accommodate the applicant's proposed facilities;
 - (e) The damage or disruption, if any, of public or private facilities, improvements, or landscaping if a franchise or license is granted;
 - (f) The public interest in minimizing the cost and disruption of construction in, on, under and above the streets;
 - (g) The effect of public health, safety or welfare if a franchise or license is granted;
 - (h) The availability of alternate routes and/or locations for the proposed facilities;
 - (i) Whether the imposition of certain terms and conditions or the failure to grant the requested franchise or license would prohibit or have the effect of prohibiting the ability of the applicant to provide any interstate or intrastate telecommunications services; and
 - (j) Any other factor relating to whether the grant of a franchise or license impinges on the city's right to manage its streets.

(D) *Franchise or License Agreement.*

- (1) As a condition of the grant of a franchise or license, the provider or lessee shall enter into a franchise agreement or a license agreement with the city. A telecommunications provider shall enter into a franchise agreement. A telecommunications lessee shall enter into a license agreement.
- (2) The franchise agreement or license agreement shall contain such additional terms and conditions as are not in conflict with the terms of this ordinance as may be necessary and appropriate for the particular circumstances of the provider or lessee and its delivery of telecommunications services.

(E) *Construction Maintenance.*

- (1) *Construction Application.* Prior to the beginning construction, excluding routine maintenance or emergency repair, of any telecommunications facility, the telecommunications company shall apply to the Department of Transportation Services of the city for permission to carry out construction activities in the city's streets, and shall comply with all requirements of that department and all applicable ordinances or Code sections.

FAYETTEVILLE CODE OF ORDINANCES
TITLE XI BUSINESS REGULATIONS

- (2) *Construction Plan.* Prior to beginning construction, as defined above, the applicant shall submit a plan describing the proposed construction. The plan shall specify:
 - (a) The design of any telecommunications facilities to be construction or utilized;
 - (b) A map showing the precise location of any telecommunications facility to be constructed or utilized and any appurtenant facilities such as poles, attachments, guy wires, and the like;
 - (c) A description of any agreements that have been reached or are necessary with other telecommunications providers or providers of other utility services regarding use of existing facilities;
 - (d) The timetable for completion of construction, including any phases of construction;
 - (e) Such other information as well provide the city with pertinent information relating to the construction of the telecommunications facilities, including any pertinent information requested by the city.
- (3) *Prior Authority.* Prior to beginning construction, the applicant shall have received all necessary regulatory authority to construction a telecommunications facility or provide telecommunications service from the Arkansas Public Utilities Commission, the Federal Communications Commission, or other appropriate state or federal agency. Evidence that it has received such regulatory authority shall be filed with the city.
- (4) *Standards of Construction.* The method of construction, workmanship used, and materials utilized in the construction shall conform to all applicable federal, state and local statutes, rules, regulations and ordinances. All work shall be performed in a safe, thorough, and reliable manner using materials of good and durable quality so as not to create a hazard or dangerous conditions on the streets. If, at any time, it is determined by the city or any other agency or authority of competent jurisdiction that any telecommunications facility presents a danger to the public health, safety or welfare, then the telecommunications provider or lessee shall, at its own cost and expense, upon thirty (30) days advance written notice, at its own cost and expense, promptly correct all such conditions.
- (5) *Maintenance and Repair.* Any telecommunications facility constructed or utilized pursuant to a franchise or license shall be maintained and repaired in accordance with the standards and under the terms and conditions set out in the preceding paragraph and such other terms and conditions as shall appear in this ordinance or the franchise agreement or license agreement.
- (6) *Minimal Disruption.* Construction, maintenance and repair of the telecommunications facilities shall be conducted in such a manner as to minimize any interference with or disruption of the city's streets, traffic, residences, businesses and institutions. The provider shall at all times endeavor to use trenchless technology in appropriate circumstances.

- (7) *Restoration.* Any disturbance of the city's streets shall be repaired and restored by the telecommunications provider or lessee at its expense and to a condition at least as good as that prevailing before the work causing such disturbance was commenced.
 - (8) *Location of Facilities.* New poles and other new facilities shall be located to the extent feasible in such a way as to minimize their effect on the visual landscape and on other aesthetic considerations and so as to minimize inconvenience.
 - (9) *Burial of Transmission Lines.* A telecommunications provider shall place its transmission line or other facilities underground where feasible and desirable from an aesthetic perspective.
 - (10) *Co-location; Sharing of Pole Space.* To the maximum extent feasible, a telecommunications provider constructing a new transmission line or other facility, or expanding an existing line or facility, shall utilize existing facilities or place its facilities underground. The owner of any existing facility shall to the extent permitted by law and consistent with any pole attachment regulations of the Public Service Commission, the Federal Communications Commission or other appropriate agency, permit the telecommunications provider to utilize its pole.
 - (11) *Movement of Facilities.* A telecommunications provider shall be required to temporarily disconnect or relocate any of its facilities located in the streets at its own expense when required by the city by reason of traffic conditions, public safety, or the construction, installation or repair of any public road, highway, building, park or other public project. The provider shall cooperate with any other public utility authorized by the city to provide utility service utilizing the city's streets. If a private entity is required by city to modify or affect the streets, that entity shall compensate the provider for its costs for the disconnection or relocation of any of the provider's facilities. Provider shall be notified by said private entity as soon as practical of any plan affecting provider's facilities.
 - (12) *Tree Trimming.* A telecommunications provider is authorized to trim trees in the city's streets to the extent necessary to properly maintain its transmission line or other facility, but prior to major trimming projects, it shall provide at least twenty-four (24) hours' notice to the city. The city, at its option, may choose to supervise such tree trimming. Upon conclusion of the tree trimming, the provider shall immediately clean up and remove all debris.
 - (13) *Curb Cuts.* No provider shall make paving cuts or curb cuts without the written consent of the Director of the Department of Transportation Services.
- (F) *Performance Bond.*
- (1) Prior to the provision of service, the provider shall post a performance bond, satisfactory to the city, in the city's favor to ensure faithful performance of the terms and provisions of the franchise agreement and any planned construction as designated to the construction plan the provider has filed with the city pursuant to subsection (E)(2). The bond shall be equivalent to 10% of the total cost of the construction as provided in the construction plan, or \$25,000.00, whichever is greater.

- (2) In the event the provider fails to comply with the U.D.C. or to complete the construction in a safe, timely, and competent manner, after notice and a reasonable opportunity to cure, the city may recover, jointly and severally from the principal and surety of the bond, any damages or loss suffered by the city as a result, including the full amount of any compensation, indemnification or cost of removal or abandonment or any property of the provider, plus a reasonable allowance for attorneys' fees, up to the full amount of the bond.
 - (3) The city in its sole discretion may waive this requirement of a bond upon provider demonstrating sufficient financial resources or upon good cause shown to the Director of the Department of Transportation services.
- (G) *Fees. Amount.* In consideration of the city's grant of authority to utilize the city's streets for the provision or lease of telecommunications services, the telecommunications provider or lessee shall pay a franchise fee to the city in the following amounts:
 - (1) *In the City.* A telecommunications provider or lessee who provides service to residents, businesses or institutions in the city shall pay monthly an amount equal of 4% of its gross revenues within the corporate limits of the city during the preceding month.
 - (2) *Outside the City.* A telecommunications provider who provides service solely to persons outside the geographic boundaries of the city by utilizing a transmission line that uses city right-of-way or streets shall pay the city a reasonable annual fee based upon an installation fee and charge per linear feet of transmission line that traverses the city or based upon such other method as the city deems appropriate. Such a fee may be paid in a lump sum in advance or in a combination of a lump sum plus annual payment as the city deems fit;
 - (3) *Calculation of Payments.* All payments made to the city shall be accompanied by a statement certified as true by an appropriate employee of the provider or lessee explaining the basis of the calculation on which the payment was made.
 - (4) *Audit.* Upon reasonable notice, the city shall have the right to inspect and copy the telecommunications provider's or lessee's books and records that are reasonable necessary for the city to determine compliance with subsection G. A telecommunications provider or lessee shall maintain sufficient financial records governing its operation in the city to allow the determination of gross Revenues and to otherwise document accurate payment of fees.
 - (5) *Fees not a Tax.* Unless otherwise inconsistent with applicable law, the fees provided in this Section G are not taxes and are separate from, and in addition to, any and all federal, state, local and city taxes as may be levied, imposed or due from a telecommunications provider or lessee, its customers or subscribers, or on account of the lease, sale, delivery or transmission of telecommunications services; provided that no fee imposed by this section shall be imposed in violation of state or federal law.

(H) *Removal.*

- (1) Within thirty (30) days following written notice from the city, any telecommunications provider or other person that owns, controls or maintains any obsolete or unusable telecommunications facility or related appurtenances that the city determines is a visual blight or nuisance to the public on, in, under or above the streets shall, at its own expense, remove such facilities and appurtenances from the streets.
- (2) A telecommunications facility need not be removed if renovation or restoration is planned within a reasonable period of time by the telecommunications franchisee or licensee or if the telecommunications facility is being utilized for telecommunications services. In such case, prompt written notice shall be provided to city specifying why such telecommunications should not be removed and the specific time frame, if applicable, for any planned renovations or restoration.

(I) *Transfer; Transfer of Control.* A grantee or transferee of a telecommunications provider or licensee shall notify, at the same time it applies to the Arkansas Public Service Commission for a transfer or change of control, the City of Fayetteville of: 1) its intent to be a telecommunications provider or licensee; 2) its intent to comply with §110.02 Telecommunication Franchises; 3) its intent to promptly provide such information pertinent to the proposed transaction as may reasonably be required by the city.

(J) *Existing Telecommunications Providers.* A telecommunications provider delivering service in the city as of January 1, 2011, such as AT&T and the Prairie Grove Telephone Company need not apply for a franchise and are deemed to hold a franchise in conformity with §110.02. All previous franchise ordinances are deemed superseded by this Code section so that all existing or new telecommunication companies in Fayetteville must comply with all of the terms of §110.02 upon its effective date.

(Ord. No. 5406, 5-3-11)

110.03—110.99 Reserved



ExteNet Systems, Inc.
3030 Warrenville Road, Suite 340
Lisle, IL 60532
Phone: (630) 505-3800
Fax: (630) 577-1332
www.extenetsystems.com

November 16, 2016

Via United States Postal Service

RECEIVED

NOV 21 2016

**CITY OF FAYETTEVILLE
MAYOR'S OFFICE**

CITY OF FAYETTEVILLE

Mr. Don Marr, Chief of Staff
113 W. MOUNTAIN STREET
FAYETTEVILLE, AR 72701

Re: ExteNet Networks Request for Authorization and License/Franchise with the City of Fayetteville to provide Telecommunications Services in the City

Dear Mr. Marr:

Please accept this letter as the formal request of **EXTENET SYSTEMS INC.**, a Delaware corporation ("ExteNet"), for an appropriate form of authorization from the City of Fayetteville, Arkansas (the "City") to conduct business as a telecommunications company operating with infrastructure located in the City's public ways. This application is submitted to the City in accordance with § 253 of the Federal Telecommunications Act of 1996; Title 23 § 17 of the Arkansas Government Code; and Section 110.02 of the Fayetteville Municipal Code governing the use of the public way by telecommunications carriers for the provision of their services.

Agreement Form and Purpose.

ExteNet hereby requests a **non-exclusive** License or Franchise Agreement or other appropriate form of authorization from the City in order to install, operate, and maintain fiber optic cable and associated equipment, including optical repeaters and antenna facilities, on, over, and under the public way in the City in connection with the provision of telecommunications provided by ExteNet as a carrier's carrier to its wireless carrier customers.

A. Information about ExteNet.

ExteNet Networks, with its proprietary technology and network, helps Cities provide much desired wireless communication services, WITHOUT the need for traditional cellular towers or installations. ExteNet provides this technology and network by utilizing existing utility infrastructure and poles for the attachment. The

network is low-powered and visually unobtrusive. Additional information about ExteNet and its technology and services is contained in a separate document entitled "ExteNet Community Benefits" enclosed with this application letter. Additional information can be supplied to the City upon request.

B. ExteNet Business Model.

ExteNet is a facilities-based provider of protocol-agnostic, fiber optic cable light wave-to-radio frequency ("RF") conversion and RF transport telecommunications services. ExteNet will make its services available in the City of Fayetteville to any carrier that wishes to purchase them to transport its customers' wireless voice and data transmission between the carrier's base station and the fiber-fed optical repeater nodes and associated antennas that ExteNet seeks to deploy on streetlights and other infrastructure available under the License Agreement or from other utilities. ExteNet's services will amplify and extend wireless carriers' RF signals in difficult coverage and high capacity areas of the City. ExteNet customers will offer regulated telecommunications services to its customers through which ExteNet will construct and operate fiber-fed microcell networks capable of sustaining up to two (2) carrier customers without unnecessary replication of infrastructure.

C. Regulatory Status.

Pursuant to Arkansas State Statutes ExteNet has applied for and expects to receive a Certificate of Convenience and Necessity (CCN) so as to be statutorily compliant as a Telecommunications Providers (TPs) in the State of Arkansas. If required under applicable Arkansas laws, ExteNet will obtain any further authorizations from the Arkansas Public Service Commission (PSC) prior to offering any services in connection with the exercise of its rights under any Franchise or License Agreement from the City.

D. Proposed Location and Number of Attachments.

ExteNet proposes that its License Agreement with the City authorize the installation and operation of its equipment and network in, under, and over the public ways of the City on standard-design prefabricated steel poles, wooden distribution poles, and other available structures throughout the City. The initial design and route of ExteNet's proposed facilities is included with this letter.

E. Use of Poles and Streets; Trenching.

ExteNet also requests permission to utilize any City-owned streetlight poles, traffic light poles, (collectively "poles") for the deployment of optical repeater telecommunications equipment (including associated cables, brackets, and antennas) in accordance with the terms, conditions, and authorized purposes set forth in a License Agreement. To the greatest extent possible, ExteNet will utilize the existing conduit available for the distribution of fiber optic cable in the City. ExteNet will use every effort to minimize trenching and boring in the streets of the City by feeding fiber optic cabling directly from existing conduit, where available, to the poles to which optical repeater

nodes and related equipment will be attached pursuant to the License Agreement. ExteNet will observe all applicable rules and regulations of the City with respect to encroachment permitting and the terms and conditions related to construction of the ExteNet fiber-fed optical repeater network in the City.

F. Technical Specifications and Drawings.

ExteNet will agree to observe all the terms, conditions, limitations, and design specifications set forth in the License Agreement in its installation, deployment, and operation of the ExteNet fiber-fed optical repeater network in the City. Additional specifications and technical drawings of representative types of equipment can be supplied upon requested by the City.

G. Proposed Compensation to City.

ExteNet will pay the City all required and authorized fees. In addition, if the City owns infrastructure ExteNet is willing to pay a reasonable fee for the right to attach to these facilities as well. Further, ExteNet will pay all required construction permitting fees consistent with others who are using the public right-of-way.

Thank you so much for your prompt and courteous attention to this request. We look forward to working with the City and bringing this valuable technology and infrastructure to the city. If you have any questions, please do not hesitate to call me at 281-203-6100 or via email at jmilone@extenetsystems.com. I would request as follow up to this letter that we schedule a meeting at your convenience to discuss the City's response to this letter of application and the next steps required of ExteNet to move our request, application and or form of agreement forward to approval.

With Regards,

EXTENET SYSTEMS, INC.



Joe Milone, Director

External Relations and Real Estate

Enclosures:

- Brochure - "ExteNet Corporate Info"
- Brochure - "Distributed Networks"
- Brochure - "Community Benefits"
- Network Design and Fiber Route Map
- Typical Pole Attachment Drawing
- Pictures of Proposed Node Pole Locations

Agenda Session

City of Fayetteville, Arkansas

*113 West Mountain Street
Fayetteville, AR 72701
(479) 575-8323*



Meeting Agenda - Tentative Agenda

Tuesday, February 14, 2017

4:30 PM

City Hall Room 326

City Council Agenda Session

Adella Gray Ward 1

Sarah Marsh Ward 1

Mark Kinion Ward 2

Matthew Petty Ward 2

Justin Tennant Ward 3

Sarah Bunch Ward 3

John S. La Tour Ward 4

Alan Long Ward 4

ELECTED OFFICIALS:

Mayor Lioneld Jordan

City Attorney Kit Williams

City Clerk Sondra Smith

Call To Order

Roll Call

Pledge of Allegiance

Mayor's Announcements, Proclamations and Recognitions

City Council Meeting Presentations, Reports and Discussion Items:

1. 2017-0067

AWARD PRESENTATION - CERTIFICATE OF ACHIEVEMENT

Agenda Additions

A. Consent:

A. 1 2016-0569

APPROVAL OF THE JANUARY 31, 2017 SPECIAL CITY COUNCIL MEETING MINUTES AND THE FEBRUARY 7, 2017 CITY COUNCIL MEETING MINUTES.

A. 2 2017-0065

JL BRYSON, INC. AND CH2M HILL ENGINEERS, INC. SETTLEMENT AGREEMENT:

A RESOLUTION TO AUTHORIZE MAYOR JORDAN TO SIGN A SETTLEMENT AGREEMENT WITH JL BRYSON, INC. AND CH2M HILL ENGINEERS, INC. REGARDING A DELAY CLAIM ASSOCIATED WITH THE INSTALLATION OF THE OZONE DISINFECTION SYSTEM AT THE NOLAND WASTEWATER TREATMENT PLANT, TO APPROVE A PAYMENT IN THE AMOUNT OF \$19,000.00 TO JL BRYSON, INC., AND TO APPROVE A BUDGET ADJUSTMENT

Attachments: JL BRYSON, INC. AND CH2M HILL ENGINEERS, INC. SETTLEMENT AGREEMENT
 BA JL BRYSON, INC. AND CH2M HILL ENGINEERS, INC. SETTLEMENT AGREEMENT

A. 3 2017-0070**ERIN KAISER REIMBURSEMENT:**

A RESOLUTION PURSUANT TO FAYETTEVILLE CODE OF ORDINANCES SECTION 39.10(C)(4) TO AUTHORIZE THE MAYOR TO PAY THE AMOUNT OF \$6,258.18 TO ERIN KAISER FOR A WASTEWATER DAMAGE CLAIM ARISING AT 2232 NORTH BRIARWOOD LANE IN ADDITION TO A PREVIOUS PAYMENT OF \$14,557.62 TO SERVPRO FOR SEWER DAMAGE MITIGATION SERVICES

Attachments: ERIN KAISER REIMBURSEMENT

B. Unfinished Business:**B. 1 2016-0506****SOLID WASTE REDUCTION, DIVERSION AND RECYCLING MASTER PLAN:**

A RESOLUTION TO ADOPT THE SOLID WASTE REDUCTION, DIVERSION AND RECYCLING MASTER PLAN AS DEVELOPED BY KESSLER CONSULTING, INCORPORATED

Attachments: SOLID WASTE REDUCTION, DIVERSION AND RECYCLING MASTER PLAN

At the December 6, 2016 City Council Meeting this resolution was tabled to February 21, 2017.

C. New Business:**C. 1 2017-0069****KESSLER CONSULTING, INC.:**

A RESOLUTION TO AUTHORIZE MAYOR JORDAN TO MAKE A FINAL PAYMENT TO KESSLER CONSULTING, INC. IN THE AMOUNT OF \$11,010.00 FOR EXTRA WORK ASSOCIATED WITH THE SOLID WASTE REDUCTION, DIVERSION, AND RECYCLING MASTER PLAN, AND TO APPROVE A BUDGET ADJUSTMENT

Attachments: KESSLER CONSULTING, INC.:
 BA_KESSLER CONSULTING, INC.

C. 2 2017-0054**RZN 16-5667 (1918 S. GARLAND AVE./ANDERSON):**

AN ORDINANCE TO REZONE THAT PROPERTY DESCRIBED IN REZONING PETITION RZN 16-5667 FOR ABOUT 0.32 ACRES LOCATED AT 1918 S. GARLAND AVENUE FROM I-1, HEAVY COMMERCIAL & LIGHT INDUSTRIAL TO RSF-8, RESIDENTIAL SINGLE FAMILY, 8 UNITS PER ACRE

Attachments: RZN 16-5667 (1918 S. GARLAND AVE./ANDERSON)

C. 3 2017-0052**VAC 16-5687: (2790 N. SIGNET PLACE/BOWERS):**

AN ORDINANCE TO APPROVE VAC 16-5687 FOR PROPERTY LOCATED AT 2790 N. SIGNET PLACE TO VACATE A PORTION OF A GENERAL UTILITY EASEMENT

Attachments: VAC 16-5687: (2790 N. SIGNET PLACE/BOWERS)

C. 4 2017-0053**VAC 16-5688: (3300 W. GROVE DR./PLANET FITNESS):**

AN ORDINANCE TO APPROVE VAC 16-5688 FOR PROPERTY LOCATED AT 3300 W. GROVE DRIVE TO VACATE A WATER/SEWER EASEMENT

Attachments: VAC 16-5688 (3300 W. GROVE DR./PLANET FITNESS)

C. 5 2017-0079**AMENDMENT TO THE 2017 ADOPTED BUDGET:**

A RESOLUTION TO AMEND THE 2017 ADOPTED BUDGET BY REAPPROPRIATING \$63,137,158.00 IN BONDED OR ONGOING CAPITAL PROJECTS, OUTSTANDING OBLIGATIONS AND GRANT FUNDED ITEMS

Attachments: AMEND THE 2017 ADOPTED BUDGET

C. 6 2017-0076**AMEND §110.02 TELECOMMUNICATIONS FRANCHISES:**

AN ORDINANCE TO AMEND §110.02 TELECOMMUNICATIONS FRANCHISES OF THE CITY CODE TO INCLUDE AND INCORPORATE REFERENCES TO COMPETING LOCAL EXCHANGE CARRIERS AND ANY OTHER TELECOMMUNICATIONS PROVIDERS DESIRING TO USE CITY STREET RIGHTS OF WAY

Attachments: AMEND §110.02 TELECOMMUNICATIONS FRANCHISES

D. City Council Agenda Session Presentations:**E. City Council Tour:****F. Announcements:****G. Adjournment****NOTICE TO MEMBERS OF THE AUDIENCE**

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Pre Agenda Meeting 2/8/17

City of Fayetteville, Arkansas

*113 West Mountain Street
Fayetteville, AR 72701
(479) 575-8323*



Meeting Agenda - Tentative Agenda

Tuesday, February 14, 2017

4:30 PM

City Hall Room 326

City Council Agenda Session

*Adella Gray Ward 1
Sarah Marsh Ward 1
Mark Kinion Ward 2
Matthew Petty Ward 2
Justin Tennant Ward 3
Sarah Bunch Ward 3
John S. La Tour Ward 4
Alan Long Ward 4*

ELECTED OFFICIALS:

*Mayor Lioneld Jordan
City Attorney Kit Williams
City Clerk Sondra Smith*

Call To Order

Roll Call

Pledge of Allegiance

Mayor's Announcements, Proclamations and Recognitions

City Council Meeting Presentations, Reports and Discussion Items:

✓ 2017-0067

AWARD PRESENTATION - CERTIFICATE OF ACHIEVEMENT

Agenda Additions

A. Consent:

✓ A.1 2016-0569

APPROVAL OF THE JANUARY 31, 2017 SPECIAL CITY COUNCIL MEETING MINUTES AND THE FEBRUARY 7, 2017 CITY COUNCIL MEETING MINUTES.

✓ A.2 2017-0065

JL BRYSON, INC. AND CH2M HILL ENGINEERS, INC. SETTLEMENT AGREEMENT:

A RESOLUTION TO AUTHORIZE MAYOR JORDAN TO SIGN A SETTLEMENT AGREEMENT WITH JL BRYSON, INC. AND CH2M HILL ENGINEERS, INC. REGARDING A DELAY CLAIM ASSOCIATED WITH THE INSTALLATION OF THE OZONE DISINFECTION SYSTEM AT THE NOLAND WASTEWATER TREATMENT PLANT, TO APPROVE A PAYMENT IN THE AMOUNT OF \$19,000.00 TO JL BRYSON, INC., AND TO APPROVE A BUDGET ADJUSTMENT

Attachments: JL BRYSON, INC. AND CH2M HILL ENGINEERS, INC. SETTLEMENT AGREEMENT
BA JL BRYSON, INC. AND CH2M HILL ENGINEERS, INC. SETTLEMENT AGREEMENT

A/3

2017-0070**ERIN KAISER REIMBURSEMENT:**

A RESOLUTION PURSUANT TO FAYETTEVILLE CODE OF ORDINANCES SECTION 39.10(C)(4) TO AUTHORIZE THE MAYOR TO PAY THE AMOUNT OF \$6,258.18 TO ERIN KAISER FOR A WASTEWATER DAMAGE CLAIM ARISING AT 2232 NORTH BRIARWOOD LANE IN ADDITION TO A PREVIOUS PAYMENT OF \$14,557.62 TO SERVPRO FOR SEWER DAMAGE MITIGATION SERVICES

AB. C.1
A. 4
Attachments: ERIN KAISER REIMBURSEMENT

2017-0069**KESSLER CONSULTING, INC.:**

A RESOLUTION TO AUTHORIZE MAYOR JORDAN TO MAKE A FINAL PAYMENT TO KESSLER CONSULTING, INC. IN THE AMOUNT OF \$11,010.00 FOR EXTRA WORK ASSOCIATED WITH THE SOLID WASTE REDUCTION, DIVERSION, AND RECYCLING MASTER PLAN, AND TO APPROVE A BUDGET ADJUSTMENT

Attachments: KESSLER CONSULTING, INC.:
BA KESSLER CONSULTING, INC.

B. Unfinished Business:

B/1

2016-0506**SOLID WASTE REDUCTION, DIVERSION AND RECYCLING MASTER PLAN:**

A RESOLUTION TO ADOPT THE SOLID WASTE REDUCTION, DIVERSION AND RECYCLING MASTER PLAN AS DEVELOPED BY KESSLER CONSULTING, INCORPORATED

Attachments: SOLID WASTE REDUCTION, DIVERSION AND RECYCLING MASTER PLAN

At the December 6, 2016 City Council Meeting this resolution was tabled to February 21, 2017.

C. New Business:

C.1
C.2
2017-0054

RZN 16-5667 (1918 S. GARLAND AVE./ANDERSON):

AN ORDINANCE TO REZONE THAT PROPERTY DESCRIBED IN REZONING PETITION RZN 16-5667 FOR ABOUT 0.32 ACRES LOCATED AT 1918 S. GARLAND AVENUE FROM I-1, HEAVY COMMERCIAL & LIGHT INDUSTRIAL TO RSF-8, RESIDENTIAL SINGLE FAMILY, 8 UNITS PER ACRE

Attachments: RZN 16-5667 (1918 S. GARLAND AVE./ANDERSON)

C.2
C.3
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