

Recycle Grant Proposal Attachments -- 10-21-16

Date: October 21, 2016
To: Tom McCarthy, Director of Parks, Recreation & Arts; Libbey Tucker, CCE Liaison; James Mello, CCE Liaison
From: Darcy Capstick and Bob Ernst, Co-Chairs, Citizens Committee for the Environment; Su Ghosh, CCE Grant Advisor
RE: **Waste Reduction at Chesterfield Amphitheater—Draft Proposal for 2017 St. Louis County Department of Public Health Waste Reduction Grant**

Background

St. Louis County Department of Public Health Waste Management Program (WMP) is tasked with reducing the amount of solid waste in landfills. One way to achieve that goal is by providing grants to municipalities and other organizations within St. Louis County that help meet WMP's goal by increasing the collection of recyclable materials and reducing landfill waste.

A decision to apply for this grant with the sole purpose of increasing the recycling volume, and thereby reducing solid waste, at the Chesterfield Amphitheater was made in a meeting on July 11, 2016. That meeting was attended by Tom McCarthy, Libbey Tucker, Darcy Capstick, and Bob Ernst. Please see the information in **Attachment One: Meeting Memo**.

CCE has started preparing for the grant proposal by collecting information on the items listed below. That information is the basis of the reduction grant proposal to be submitted to St Louis County. A brief summary is provided below. More detailed information is provided in the **Attachments** on pages 6 through 27.

Status of waste reduction in neighboring cities and organizations (Attachment Two)

Fourteen different Cities or organizations were contacted regarding the status of their waste management. Those respondents were found to be in different stages of solid waste reduction, starting with very well organized (Missouri Botanical Garden), to at the implementation stage (St. Louis County Parks Dept.), and to planning for implementation (Creve Coeur), etc. Extensive discussions were held with the contact persons of the cities and organizations with strong waste reduction programs. The lesson learned is to use waste and recycle receptacles that exhibit the following characteristics:

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- Recycle containers should be easily identifiable and visually distinct from trash containers.
- Both units should be standardized in terms of construction materials, design, size, shape, function, and color.
- Container design should minimize rainwater inflow.
- Both units should have clearly visible and easily understood signage.
- Use of attractive professional graphics.
- Easy to use correctly by park patrons and park assistants in charge of emptying.
- Trash and recycling containers should be paired and placed in areas of high park patron concentration.

Current status of waste and recyclable collections at the Amphitheater (Attachment Three)

The grounds adjacent to the Amphitheater and inside the Amphitheater itself have 20 trash containers (all look the same) and only four recycling containers (all look same). The trash containers are placed throughout the ground. The recycling containers are placed roughly on four corners of the area. Three of the four recycling containers had trash containers within reasonable proximity.



CCE identified following scope of improvements at the Amphitheater based on the information provided above:

1. Add one recycle container for each trash container for a total of 20 pairs

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2. Each trash and recycle containers should always be physically paired so that they stay together and in the same orientation
3. Change the current design of both trash and recycle containers. The identifiers (labels/graphics on the containers) need to be more prominent and strategically placed.
4. The recycle containers do not need two holes at the top. One reasonably sized opening will be more user-friendly.
5. Some SIMPLE graphics will help the users in identifying what goes in which container. This will fulfill the need of "Continuous education" for the grant proposal too.
6. Back side of the area has lot more trash containers than the front side. Need to put few more in the front area close to the stage.

Goals and Objectives for the Grant application: Attachment Four

Attachment Four lists the various goals and objectives contained in our draft grant proposal. A summary is provided below.

Goal One

Substantially increase the current collection volume of recycle materials at Chesterfield Amphitheater

Objectives

Use recycle receptacles that exhibit the following characteristics:

- Better, easily understandable professional design and graphics to "define" what is recyclable in "All-In-One" (education/visual literacy).
- Recycle units must be easily distinguishable and visually distinct from solid waste containers in terms of color, shape, design, and graphics.
- Recycle units must be easy to use correctly and easily by park patrons.
- Recycle units must be resistant to rainwater infiltration.

Goal Two

Decrease the current volume of collected landfill waste

Objectives

- Standardized types of trash containers in terms of construction materials, design, size, shape, function, and color.
- Receptacle openings must be more functional as defined by the Parks Director, several cities, and Republic.
- Paired trash/recycling containers must be placed in areas of peak park patron traffic flow and concentrations.

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Goal Three

Test/Pilot system must **NOT** exceed five minutes average staff time for emptying and replacing container collection bags.

Objectives

- Recycle containers must be strong enough to resist damage from patrons and from normal maintenance operations.
- Containers must be easy for operations staff to load/unload bags (typical size 38" x 58")
- Design/construction of container opening must minimize and deflect rainwater infiltration while allowing easy patron use.

Goal Four

Include in the Amphitheater Pilot/Test Program a well-designed and well-coordinated educational outreach effort to inform community residents of the environmental benefits and cost efficiencies of increased recycling rates and decreased landfill requirements.

On-Site Educational Outreach Objectives

- Easily understandable professional photos/graphics to "define" what is recyclable in "All-In-One" containers
- Easily understood and standardized visual distinctions between Recycle and Landfill containers in terms of shape, color, openings, graphics, etc.
- Use of "Prompters" or "Monitors" during the first several days/events during the test period to ensure increased patron compliance.

Off-Site/Community-wide Educational Outreach Objectives

- Coordinated educational materials will be placed in the City's quarterly newsletter, piggy-backed flyer, City's website, social media, the existing Parks App.
- Coordinated educational materials will be available at City Hall from the reading rack/front desk and at CCE Events.
- A slide show briefly discussing recycling to achieve a sustainable environment and a higher quality of life for all Chesterfield residents and visitors will be produced for use on the Amphitheater screen prior to performances and events.
- Share coordinated recycling materials with our local schools (in both Rockwoods and Parkway Districts) to encourage recycling behavior because children are our hope for the future and can become committed agents for change.

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Estimated Timeline

Grant application	End February 2017
Grant approval	July 2017
Grant initiation	August 2017
Grant report submission	August 2018

Information Requested from Parks Department

CCE requests following information from the Parks Department in order to proceed with the grant application process:

- Total number of containers (trash and recycle) required for the grant program.
- Selection of the type of units, individual recycle and trash or twinned, preferred by the Parks Department (X-number of new twinned pairs of recycling and waste containers or X-number of new recycling containers to be paired with waste containers currently in use).
- Suggestions or recommendations concerning the formal measurement procedure of the materials collected as part of the grant program.
- Identification of Amphitheater events and scheduling appropriate for the grant program.

After Tom McCarthy, Libbey Tucker, and James Mello review the Attachments and provide CCE with the requested information, CCE **requests a follow-up meeting to exchange information and finalize the goals, objectives, measurement of baseline, and various other improvements to the grant proposal** with the above City staff on Nov. 1 or Nov 2 at a time and place to be determined.

* * *

Attachment One: Recycle Grant Meeting Memo

Date: 7-11-16
Place: City's Parks & Rec Maintenance Center
RE: Exploratory Meeting of CCE Representatives and City regarding upcoming St. Louis County Recycling Grant Cycle
Present: Parks Director Tom McCarthy and Libbey Tucker, CCE Liaison/Community Services and Economic Development Director, CCE Co-Chairs Darcy Capstick and Bob Ernst

NOTE: Because Tom McCarthy presented detailed reasons as to why the Sports Complex was not an appropriate location for a test/pilot recycling program as part of the County grant application, we have not included those comments. But rather this memo begins with the discussion of Central Park/Amphitheater as an appropriate location for the test/pilot program. Acknowledged are the sectors of our City (staff, residents, and officials) who cooperate to raise and meet sustainability issues.

McCarthy: The Central Park/Amphitheater would be an appropriate location for the test/pilot program because its smaller size makes it more manageable in terms of public participation events, seasonality of use, and operational access. This is a well-defined and controlled space where 2017 concerts and other public events would be held.

The City would be interested in a least cost recycling/solid waste program that features ease of operations, including collection and removal, and a recycling system that increases recycle volumes and reduces contamination. One way to determine if more efficient collections are in use would be to contact neighboring cities and see if their recycling collection systems in their city parks differ significantly from that in use at Chesterfield.

The solid waste/recyclable collection systems currently in use at the Central Park/Amphitheater have three different collection units and are inherently inefficient, in need of replacement with a system that is standardized, simpler and small enough for one staff person to handle, which would use easily understandable labelling and consistent graphics in terms of use instruction.

If CCE recommends a new system for the test/pilot program it must be much more efficient on several different levels:

- Receptacle opening must be more functional and exclude rainwater

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- Use better, easily understandable professional graphics to "define" what is recyclable in "All-In-One" (visual literacy)
- Recycle units must also be easily distinguishable from solid waste containers by shape and color, initiate "standardization" of units
- Recycle containers STRONG enough to resist damage from patrons and during normal maintenance operations
- System must **NOT** exceed five minutes average staff time for emptying and replacing clear collection bag inside each container for sanitary reasons
- Perhaps we might want to use "Prompters" or "Monitors" during the first several days/events during the test period to ensure public compliance; use Boy and Girl Scouts as Recycling Aides after BASELINE achieved.
- Preparatory education materials to residents to ask them to help achieve "Strive for 75%" (measured, greater diversion rate) to be placed in City newsletter, social media, Parks App., and handouts available at City Hall from the reading rack/front desk and CCE Events. The Household Challenge successes (residential) shows currently that our residents are a 'key' to success and help us achieve greater recycling diversion rates.

CCE will prepare a second document containing its revised suggestions for the County grant recycling program and present them to Tom McCarthy and Libbey Tucker at a meeting in mid-August, specific date to be determined.

Darcy Capstick/Bob Ernst
CCE Co-Chairs

Attachment Two: Recycling in Parks in Neighboring Local Jurisdictions

This brief report summarizes information collected from various local political jurisdictions concerning the collection of recyclable materials in city parks. All information was collected by Bob Ernst via telephone interviews.

1. Creve Coeur Parks & Rec; 314-432-3961

Jason Valvero, Director: City does not collect recyclable materials in city parks but hopes to sometime in the near future.

2. Ellisville Parks & Rec; 636-227-7508

Sally Grobeling, P&R staff; city uses two different types of recycling containers:

1. Single oval blue container with three separate sections each with its own aperture labelled Plastic / Metal Cans / Trash
2. Single blue container with one aperture for Plastic / Metal Cans

She told me that the first system collects more recyclable material than the second and that contamination is a problem with both systems.

3. Town & Country Parks & Rec; 314-587-2812/2814

Left message for Lindsey Hodge

4. Manchester Parks & Rec; 636-391-6326

Spoke with Becky Jones, Supervisor. She told me the city provides marked trash and single-stream recycle containers in their parks. Both types of containers are clearly signed and all recycle receptacles are standardized in terms of size, shape, color, and graphics and are easily identifiable. Although they have contamination of the recycle materials it is not a significant problem. Typically, their trash and recycle containers are separated by some distance. Republic Services is their vendor.

5. Ballwin Parks & Rec; 636-227-8580

John Hoffman told me that their recycling program is working fairly well but they do have a problem with contamination. Their recycle and trash receptacles are not uniform or consistent in terms of size, shape, or color but all are well-identified in terms of signage.

6. Missouri Botanical Garden; 314-577-5100

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Left message for Joyce Gorell (?) in the Sustainability Department since she is out of her office until Aug. 17, but found out that they use the single-stream recycling method and the containers are emptied weekly by a contracted service. Also left similar message for Jean Ponzi, who returned my call the next day

According to Jean Ponzi (Green Resources Manager, EarthWays Center of Missouri Botanical Garden), MBG has a very strong and effective recycling effort. Although their system is not as uniform or standardized as it could be, largely due to cost factors, it is still efficient, though one reason for that success is the controlled environment at the Garden that excludes various types of food waste and thus cuts contamination. Their system always pairs a waste container with a recycling container, even if their colors, sizes, shapes, etc. are not consistent. That pairing is critical since people will not go out of their way to recycle. The system only calls for cans and bottles to be recycled in containers with round holes in the lids standardized in terms of size (about 3.5 inches in diameter), which also cuts down on the contamination problem. Jean said that words should be at a minimum on all trash and recycling containers as people typically do not take time to read whatever messages are displayed.

Jean advised us to make the following contacts with cities involved in innovative recycling programs: Jenny Wendt, University City; Debra Knoble, Sustainability Specialist, City of St. Peters, Missouri; Mark Rosen, Parks and Rec Director, Highland, Ill. Among the suggestions Jean made was for Chesterfield to do a total inventory of all existing trash and recycling receptacles used by Parks and Rec, including photos of each type, design/graphics, style of lids and openings, and comments from supervisory and operations/maintenance staff as to the features of each type of container (especially advantages and disadvantages). She also encouraged us to contact people in the St Louis Jefferson Solid Waste Management District (Linda Adams) as well as the St. Louis County Dept. of Public Health (Mary Patterson) in terms of their grant program in Recycling and Waste Management. The deadline for those grant proposal submissions will most likely be in February 2017.

7. St. Charles Parks & Rec; 636-949-3372

Chris Atkinson, Asst. Dir. Told me that the City is not collecting recyclable materials in its parks now. He hopes that a single-stream recycling program will be up and running in the various City parks sometime in 2017. He advised me to talk to Park staff at the City of Clayton because he heard their recycling program was doing well.

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8. Clayton Parks & Rec; 314-290-8500

Spoke to Justin Whipple, Superintendent. He said the city always places trash and recycle containers fairly close to each other for the convenience of park patrons and ease of collection by maintenance staff. Both types of containers are clearly identified by distinctive signage. They have two types of recycle containers. The first is a square plastic receptacle for cans and bottles. The second is a round metal receptacle for single-stream materials; they have many more containers of the second type and plan to replace the first type of recycle container with the second as budget allows. Although some contamination occurs in the recycle materials it does not seem significant.

9. St. Louis County Parks Dept; 314-615-4386

Spoke to Stacy Clinton, Park staff; she referred me to Jim Gerken, Operations Manager (314-615-8230). He told me the County has a mixed record of recycling in their many parks. In some venues, the recycling effort is doing well. But in most parks it is not. Contamination of recycling containers is a big problem in parks, especially in picnic areas. A lack of consistency in recycle containers is also a problem for them. He suggested calling the Columbia, MO, Public Works or Parks & Rec. Departments as he heard that they may have an innovative recycling system in place.

10. Chris Kalter LEED Green Associate, Environmental Specialist, Saint Louis County Department of Public Health

Kalter's suggestions included the following:

1. Only collect bottles and cans to start.
2. Color code your bins make sure they are obviously 2 different colors.
3. Signage is important, but again they have to look different.
4. Start by putting bins around pavilions, parking lots, kid play areas. Not on trails. The County Parks Dept. is experimenting with "pack in pack it out". Mostly on trails you'll have bags of dog poop and some water bottles.

11. Columbia, Mo., Public Works Dept.: 1-573-874-2489

Parks & Rec. 1-573-874-7460

Left message for Dir. Gabe Huffington.

12. City of University City, Jennifer Wendt, Project Manager: 314-505-8562

She told me that she tries to make sure the recycling and trash containers are not only twinned, but also connected so they cannot be moved. It seems that even if the two containers are placed next to each other, often they are

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separated and patrons throw trash/recycling in whichever container is closer. Also, the parks guys who empty the trash say that twinning the containers around the pavilions and sitting areas work much better than placing them throughout the park where people are mostly just passing by. In those passerby areas, the recycling containers get pretty contaminated. And lastly, for events in the parks, they fill the event space with portable combination containers that work great. Wendt sent me two great illustrations of the types of recycling solutions University City uses for special events (see below).



Recycle X2



Recycle X2 is an easy to use, affordable solution to your recycling needs. Recycle X2 holds two 30gal Bags, and can separate two different contents within the same footprint as Recycle X. Just like the original X Frame this product features a durable heavy gauge steel construction with a baked on enamel finish. (Available in Blue - Std.) For easy collection, bags are held on with our patented cinch system. The X2 is perfect for Indoor/outdoor event recycling. Recycle X2 can stand alone for trash collection, or include tops for bottles & cans or paper and other types of separation.

- Made of steel, very durable and is recyclable itself
- Modular and portable
- Perfect for offices, break rooms, copy areas
- Folds up for easy storage
- Convenient for indoor/outdoor events
- Cinch makes it easy to attach bags
- Drip trays are available in steel or plastic

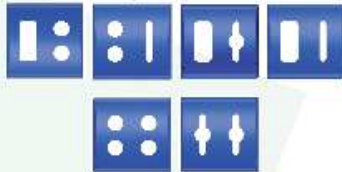
Specifications

- All steel construction, powder coated Blue
- Holds two 30" x 46" - 2mil Thick Plastic Bags
- Overall Dimensions: 22" x 22" x 35" Tall
- Shipping Weight - 8.25 lbs
- Recycled Content = 82%
- Post Consumer Content = 68%
- Pre Consumer Content = 14%

Sticker Options



Top Options



Bag Options





13. City of St. Peters; Debra G. Knoble, Sustainability Specialist: 636-477-6600 Ext. 1339.

According to Ms. Knoble, signage, differentiation and having dual or tri-containers (trash-recycling-composting) together is important. She attached signs that they put on their recycling containers during events in their parks; they stand up above the containers so people can easily see where they can recycle and put their trash.

Knoble said that follow-up is critical. It is possible to have everything in place but if materials end up in the wrong place your efforts are for naught! Example, they have zero waste city events – trash goes in black bags, recycling in clear, and compost in clear green compostable bags. If the wrong bags are used in containers or they are put in the wrong disposal bin your efforts are wasted (no pun intended). Continuous training for people who put out the containers and manage the pickup is crucial. Another critical element is knowing where your trash and recyclables end up. St. Peters has their own facilities (CMPF and compost) so it's easier for them to track but even so it doesn't always end up where they expect.

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14. St Louis-Jefferson SWMD; Linda Adams, Waste Specialist, 314-645-6753

According to Linda Adams, if we decide to make the step toward recycling in the parks, she wants us to know that there are grants available to assist us with some of the cost outlay. Their grant round will be out the 1st week of October, with proposals due on 12/16/16. If awarded, funds would be available around April-May. Chris Kalter with St Louis County also has a grant available. We should contact him for specifics. We may contact Linda at any time for assistance.

15. St. Louis Zoo; Matt Shelby, Director of Grounds, 314-781-0900 ext 4803

After Jeanne Clawson photographed three refuse containers at a St. Louis Zoo restaurant and emailed them to me and Darcy, I talked to Matt Shelby about that operation. I asked him to send me whatever information had had available concerning the containers. He agreed and said he would send it via email. He told me that Zoo staff under his direction regularly collected the contents of the three containers and hand sorted the material in the recycle containers since they do not use a single-stream waste company.

His email message to me is pasted below.

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I've provided links to companies we use for both our collections systems. There are numerous companies out there that can do the same thing, but we've had good luck with these guys. It's also important to note that each system has both advantages and limitations. Please feel free to contact me again if you have any more questions, or would like to come out and take a closer look at anything we do.

Indoor units: <http://landmarkstudio.com/>

We use the Landmark containers inside, but they should hold up just as well outside. They were custom built to our needs, and turned out beautifully. The color is consistent throughout the boards so scratches and dings don't show as well, and the recycled material is a huge plus! But the price point is high, and to have these everywhere in the Zoo would be a considerable expense.

EXAMPLE

Features

- **Spruce Series:** 1½" x 1½" framework, dado slot paneling and hidden pocket hole construction.
- Stainless Steel (304) Hardware.
- Each unit includes (2) 55 Gallon 208.175 L BPA-free liners.

Specs

Item Code	EC55-2
Width	46.5" <i>1.1811 m</i>
Depth	24" <i>60.96 cm</i>
Height	39" <i>99.06 cm</i> Top Load 45" <i>1.143 m</i> Side Load
Weight	167 lbs. <i>75.15 kg</i>
Capacity	110 Gallons <i>416.9 L</i>

Outdoor Care

- UV stabilizers are compounded into the EasyCare™ material to help protect the color and integrity of the base resin for years and they will not rapidly fade when exposed to the elements, making it a truly zero-maintenance product.
- Joints, screws, hinges and other hardware should be checked periodically and properly tightened due to usage over time.

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Outdoor units: <http://www.wausaumade.com/>

The Wausau aggregate concrete units are what we predominantly use across Zoo grounds. They are incredibly sturdy and require a group of people or heavy machinery to move more than a few feet. Another advantage for us is the removable lids. Native wildlife tend to chew on trash lids, no matter what they are made of, and it is much more cost effective to replace a damaged lid than an entire unit. However, they aren't the prettiest things in the world.

EXAMPLE

2-Bin Recycle container with 2 push door tops and 2 liners, 45 gallons each. Logos are optional

ITEM NUMBER: TF1007

DIMENSIONS 50" x 25" x 46"

WEIGHT: 1440 lbs.

MATERIAL: Cement

SHAPE: Rectangle

REINFORCEMENT: Yes

CAPACITY: 45 gallon each

WASTE TYPE: Trash/Recycle Combination

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Thanks,

Matt Shelby

Director, Housekeeping and Grounds • Saint Louis Zoo

One Government Drive, St. Louis, MO 63110

Direct (314) 646-4803 • Cell (314) 704-6782 • Email: mshelby@stlzoo.org • www.stlzoo.org



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Preliminary Findings

As the success of the recycling program at the City of Manchester demonstrates, I believe the lesson we can apply to our situation is to use recycle receptacles that exhibit the following characteristics:

- Easily identifiable; visually distinct from trash containers
- Standardized in terms of construction materials, design, size, shape, function, and color
- Container design should minimize rainwater inflow
- Easily understood signage
- Use of professional graphics
- Easy to use correctly by park patrons
- Paired trash and recycling containers placed in areas of park patron concentrations

One of the recommendations provided by Jean Ponzi (MBG) merits repeating and re-emphasis. Chesterfield would be well advised to do a detailed inventory of all trash and recycling containers currently used in City parks. That inventory should include photos of each type of receptacle as well as container colors, design/graphics, style of lids and openings, sizes and shapes, construction materials, and comments from supervisory as well as operations-maintenance staff as to the features of each type of container, especially their advantages and disadvantages; the comments should also include suggestions from those staff members as to the pertinent operational factors associated with the collection of trash and recycling materials.

August 24, 2016/revised October 14, 2016
Bob Ernst, Co-Chair
Citizens' Committee for the Environment

Attachment Three: Amphitheater Survey

As a continuation for the initial work done by Darcy Capstick and Bob Ernst, Su Ghosh performed a field survey of trash and recycle containers at the Amphitheater on October 11, 2016.

Observations

1. The grounds adjacent to the Amphitheater and inside the Amphitheater itself have 20 trash containers (all look the same) and only four recycling containers (all look same). See attached photos below. All recycle receptacles had fresh bags and contained no materials; it may be they were emptied earlier in the day. Most of the trash containers had low levels of trash (from about 1/8th to 1/4th full). The question arises as to if they are emptied on the same schedule as the Recycle containers.



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2. I saw several recyclable materials in the trash containers, which may be partly due to lack of recycle containers placed nearby.
3. Positioning of the four available recycle containers was not efficient either, three of them were reasonably close and fourth was in one corner. You would expect them to be evenly distributed. The trash containers were reasonably evenly distributed throughout the grounds.
4. Only trash containers were located by the entrance (outside the Amphitheater itself), no recycle containers. One of the entrances has a different looking recycle container, which was placed facing backwards. So the recycle graphic was not visible.
5. Trash containers look functional to me, except are not prominent or attractive at all. Need to have **BOLD** labels and maybe some graphics to make it attractive and prominent.
6. The recycle containers have two rather small openings in the top making it rather difficult to put stuff in. But both the holes lead to one bag. So why we can't have one reasonable sized opening. These also need prominent labels and attractive graphics.
7. One of Bob's points I really agree to is the proximity of the trash and recycle containers. They should be attached preferably so that they stay together and their relative position is always the same. That is not the case now. So the four recycle containers were in general area of four trash containers, but not in a way in which they become efficient.

Possible Improvements:

1. Add one recycle container for each trash container.
2. Each trash and recycle containers need to be physically paired so that they stay together and in the same orientation always.

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3. Change the current design of both trash and recycle containers. The identifiers (labels/graphics on the containers) need to be more prominent and strategically placed.
4. The recycle containers do not need two holes at the top. One reasonably sized opening will be more user-friendly.
5. Some SIMPLE graphics will help the users in identifying what goes in which container. Will fulfill the need of "Continuous education" too.
6. Back side of the area has lot more trash containers than the front side. Need to put few more in the front area close to the stage.

Attachment Four: Program Findings and Identification of Alternatives

The material in this Attachment is a distillation of information collected in the three previous Attachments and as discussed in several CCE meetings and telephone conferences attended by Darcy Capstick, Su Ghosh, and Bob Ernst.

4.A: Program Findings

General Considerations

Chesterfield Amphitheater, our target location for the Waste Reduction Grant Project, is a multi-function facility that offers a variety of theatrical, musical, educational, corporate, and numerous other community events, including Taste of St. Louis, Taste of Trucktober (food trucks), and movie nights. The amphitheater itself can seat up to 4,000 patrons and provides a large stage with fixed and lawn seating, concession and restroom areas, and power and audio infrastructure to accommodate small to medium sized events.

Just as the amenities offered at Amphitheater/Central Park are diverse, so too are the individuals, groups, and cultures attracted by those amenities and the many different types of events provided throughout the year. Serving that diversity of individuals, groups, and cultures coming to the Park for so many different reasons presents a range of challenges in terms of efficient waste management. Although the Park and Recreation Division currently has numerous individual and combined trash and recycle receptacles placed at key locations throughout the Park, their use by park patrons needs to be improved.

The Central Park/Amphitheater would be an appropriate location for the test/pilot recycling program because its compact size makes it manageable in terms of public participation events, seasonality of use, and operational access. This well-defined and controlled space will host 2017 concerts and other public events. The City is very interested in an innovative, least cost recycling/solid waste program that features ease of operations, including collection and removal, and a recycling system that increases recycle volumes and reduces various types of contamination.

According to Parks and Recreation Director, Tom McCarthy, the solid waste/recyclable collection systems currently in use at the Central Park/Amphitheater consist of approximately three to four different collection units and are inherently inefficient, in need of replacement with a system

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that is standardized, simpler, and small enough for one staff person to handle, and would use easily understandable labelling and consistent graphics in terms of use instruction.

Several keys to the success of this pilot program are identified below.

- First, is the requirement of not increasing existing operational costs of receptacle placement and bag loading/replacement.
- Second, based on the proven successes of several area cities— good examples include Manchester, St. Peters, and University City—and institutions like the Missouri Botanical Garden and the St. Louis Zoo with increasing recycling rates and lowering contamination, our test/pilot program should use twinned recycling and trash containers placed in areas of peak park patron concentrations and traffic flow.
- Third, that placement should be determined by the Parks and Recreation Director and experienced park operational staff familiar with the specific events and patterns of patron flow and highest areas of patron concentration.

Goals and Objectives

Goal One

Substantially increase the current marginal collection of recycle materials by volume at Chesterfield's Amphitheater/Central Park.

Objectives

Use recycle receptacles that exhibit the following characteristics:

- Better, easily understandable professional design and graphics to "define" what is recyclable in "All-In-One" (education/visual literacy).
- Recycle units must be easily distinguishable and visually distinct from solid waste containers in terms of color, shape, design, and graphics.
- Recycle units must be easy to use correctly and easily by park patrons.
- Recycle units must be resistant to rainwater infiltration.

Goal Two

Decrease the current amounts of measured landfill trash.

Objectives

- Standardized types of trash containers in terms of construction materials, design, size, shape, function, and color.

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- Receptacle openings must be more functional as defined by the Parks Director, several cities, and Republic.
- Paired trash/recycling containers must be placed in areas of peak park patron traffic flow and concentrations.

Goal Three

Test/Pilot system must **NOT** exceed five minutes average staff time for emptying and replacing container collection bags.

Objectives

- Recycle containers must be strong enough to resist damage from patrons and from normal maintenance operations.
- Containers must be easy for operations staff to load/unload bags (typical size 38" x 58")
- Design/construction of container opening must minimize and deflect rainwater infiltration while allowing easy patron use.

Goal Four

Combine the Amphitheater Pilot/Test Program with a strong outreach effort to educate community residents of the environmental gains and cost efficiencies of increased recycling rates and decreased landfill requirements.

On-Site Educational Outreach Objectives

- Easily understandable professional photos/graphics to "define" what is recyclable in "All-In-One" containers;
- Easily understood and standardized visual distinctions between Recycle and Landfill containers in terms of shape, color, openings, graphics, etc.
- Use of "Prompters" or "Monitors" during the first several days/events during the test period to ensure increased patron compliance;

Off-Site/Community-wide Educational Outreach Objectives

- Coordinated educational materials including a piggy-backed flyer will be placed in the City's quarterly newsletter, on the City's website, on social media, and the existing Parks Application.
- Coordinated educational handouts will be available at City Hall from the reading rack/front desk and at CCE Events throughout the year.
- A slide show briefly discussing recycling to achieve sustainable environment and a higher quality of life for all Chesterfield residents and visitors will be produced for use on the Amphitheater screen prior to performances and events.

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- Share coordinated recycling educational materials with our local schools (in both Rockwoods and Parkway Districts) to encourage recycling behavior because children are our hope for the future and can become committed agents for change.

Project Activities/Timeline

Material in this section will be provided by Tom McCarthy, Libbey Tucker, James Mello, Darcy Capstick, and CCE members.

Educational Plan

The Educational outreach adopted in this Waste Reduction Test/Pilot Program will intentionally build on the ongoing Household Challenge success (**latest metrics should be placed here**) that clearly demonstrates that Chesterfield residents are a 'key' in helping the City achieve greater recycling diversion rates. The Test/Pilot Program will use that demonstrated and ongoing commitment by Chesterfield's residents to increase recycling tonnage through well-designed and well-coordinated appeals via the distribution of education materials as well as tailored on-site educational outreach. The term "coordinated" as used above is critical as the materials placed in the various outreach venues will be emphasize the same themes, such as: Recycling in City Parks helps keep our environment clean, enhances our quality of life, makes our City more attractive and enjoyable, reduces the cost of putting trash in landfills, and saves consumers in terms of the cost of using virgin resources.

On-Site Educational Outreach

- Use easily understandable professional photos/graphics to "define" what is recyclable in "All-In-One" containers.
- Easily understood and standardized visual distinctions between Recycle and Landfill containers in terms of shape, color, openings, graphics, etc.
- Use "Prompters" or "Monitors" during the first several days/events during the test period to ensure increased patron compliance; use Boy and Girl Scouts as Recycling Aides during the initiation of the program after BASELINE is achieved.
- Baseline will be achieved by measuring the collection volume during three events at the Amphitheater during 2017 Spring/Summer, immediately prior to and after the initiation of the pilot program.

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Off-Site/Community-wide Educational Outreach

- Well prior to the test/pilot program initiation, coordinated educational materials will be distributed to residents to ask them to help achieve our "Strive for 75%" goal (via measured, greater diversion volumes) to be placed in the City's quarterly newsletter, piggy backed flyer, on the City's website, in social media, the existing Parks App., and handouts available at City Hall from the reading rack/front desk and CCE Events throughout the year.
- A slide show briefly discussing the need to recycle to achieve sustainable environment and a higher quality of life for all Chesterfield residents and visitors will be produced for use on the Amphitheater screen to be projected for the audience prior to performances and events and occasionally throughout the event, if possible.
- Share the Pilot Program's metrics of success with City residents by placing coordinated educational materials in the quarterly newsletter, explaining the benefits of recycling and sharing details about the need to increase recycling in public places, especially City parks.
- Use the City's website to promote the recycling program and increase participation; share valuable coordinated educational information with residents and businesses about acceptable recyclable materials; and provide contact information for citizens whose calls concern public space waste information.
- Share the coordinated recycling educational materials, including the metrics, with our local schools (in both Rockwoods and Parkway Districts) to encourage recycling behavior because children are our hope for the future and can become committed agents for change.

Evaluation Plan

The Outline below will be expanded upon and completed by Bob Ernst, Su Ghosh, and Darcy Capstick working in concert with Tom McCarthy, Libbey Tucker, and James Mello.

Outline

Test/Pilot Waste Reduction Program will sample three different Amphitheater events in 2017 during late Spring through mid-Summer, most likely from May 1st through July 15th. Metrics for recycled and landfill materials will be systematically collected and the process documented before and after those events. Sampling will include photos taken by CCE members of both landfill trash Dumpsters and recycle Dumpsters immediately before and after the

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scheduled events. The photos will be taken from the same view point to ensure consistence of measurement. The same or very similar Amphitheater events during the same time period in 2018 will be collected and the results compared to the metrics collected in 2017.

Conclusions will be drawn from the resulting analysis of the collected metrics with regard to potential changes in collecting recycled and landfill materials in the larger Central Park and throughout the Chesterfield park system.

Identification of Project Alternatives

These alternatives are listed so the Parks Department Director and selected staff can review them in light of the information contained in all four Attachments and select a Preferred Alternative that will become the basis of our Grant Proposal.

Alternative One

1. Use the grant funds to purchase up to X-number of twinned trash/recycle containers.
 - a. Constraints:
 - i. High initial cost to replace the existing trash and recycle units may absorb all or nearly all the available grant funds (assuming we try to limit our application to under a certain dollar amount).
 - ii. If the twinned units are successful in the Pilot Program, purchasing additional twinned units for use in other public facilities would be expensive.
 - iii. Twinned units may be heavy (depending on materials used in their construction) and thus difficult to move.
 - iv. In addition to the initial cost of the twinned units, we have to consider the cost of professional graphics on the units themselves.
 - b. Opportunities:
 - i. New receptacles can be designed to meet all our requirements in terms of professional graphics, size, shape, appropriate openings, etc.
 - ii. Twinned trash and recycle containers cannot be separated from each other and thus are likely to encourage the collection of appropriate materials in each unit.

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- iii. New, visually prominent receptacles constitute a public announcement of a new recycling program, starting at the Amphitheater and later Central Park.
- iv. Based on interviews with cities and other organizations in Attachment Two, the new containers are likely to be effective in achieving our stated Program goals.

Alternative Two

1. Use the grant funds to purchase up to X-number of new recycle containers that will be paired with existing trash receptacles at the Amphitheater.
 - a. Constraints:
 - i. The existing recycle units at the Amphitheater may not be useable in this Program as they would most likely not be consistent with the design, color, graphics, etc. of the new units.
 - ii. In addition to the initial cost of the new units, we have to consider the cost of professional graphics on the units themselves.
 - iii. Since the new recycle units are not attached to trash containers, collection problems (contamination) may arise if the two types of units are not always co-located.
 - b. Opportunities
 - i. Moderate initial cost of the new recycle units is likely to be affordable under the grant requirements.
 - ii. If the new recycle units are successful in the Pilot Program, purchasing additional units for use in other public facilities would be a less expensive option.
 - iii. The new recycle units are likely to be less heavy (depending on materials used in their construction) and thus relatively easy for Park Staff to place or relocate as needed.