

## City of Waukesha IT Technical Assessment

### Requesting Department Use

Fiscal Year: 2019    Requester: Mona Bauer    Title: CASM    Dept: PRF

#### **Project Title: Big Belly Trash Cans Pilot Program – SMART City Initiative**

#### **Project Overview and Goals:**

Big Belly Trash Cans are part of a Smart City initiative. Big Belly is a solar powered, rubbish-compacting bin, with smart, sensor-equipped waste station, for use in public spaces such as parks. Each unit communicates its real-time status and notifies crews when it is ready to be collected. This streamlines waste management operations, increases productivity, and saves crews time by notifying them when cans need emptied. This time-saver is especially important in more remote and less used areas of the city.

WPRF is proposing to test Big Belly Trash Cans over the next three years to record the time-saving and customer service provided by this technology. The initial year, trash cans will be placed in a high-volume area (Frame Park), two medium use parks with shelters (Preideman and River Valley) and two low use parks (Heritage Hills and Moorewood) on different locations throughout the city. Different combinations of trash cans will be tested and monitored at these locations. The last type of trash can is one that provides a Wi-Fi connection for park patrons. In working with Baycom and the IT Department, the trash can will work as a relay for keyless entry as a possible solution for other remote locations in order to have the doors be part of the networked system. In the initial year, the Wi-Fi unit will begin at Roberta Park and then be tested at Rivers Crossing Park, where the Wi-Fi will be available for park patron use. We are proposing to lease the cans as the part of the lease includes cleaning the cans, maintenance of the solar panel and is less costly than purchasing them. It also makes sense as this is a pilot program and if the cans present too many challenges and unanticipated issues, they can easily be returned.

Trash is picked up at all locations at least 3 days per week during the summer. Special Events, rentals and other parties also contribute to the frequency of the pick-up. A typical trash run takes approximately 2 people 8 hours to complete. This would save hours of labor as only full trash cans would be emptied and instead of remote/low use locations being visited 12 times/month, they would be visited twice/month saving hours of labor costs to pick up a small amount of trash. We also suspect that high volume areas may also be able to handle big parties without trash overflowing as trash cans assigned are also able to compact the trash, resulting in cleaner park areas. As the project moves forward, other levels of efficiency and service may also be realized as trash cans are varmint resistant and sealed to assist in diminishing odors.



**Project Costs:**

Total of Year 1 costs (purchase, training, implementation): \$42,500

Annual Maintenance & Support costs: N/A due to leasing of cans

**Proposed Project / Technology**

Check one: ☒ Replacement ☐ New ☐ Upgrade ☒ Other: Pilot Program

**Will any of the following need to be purchased: PCs, Handheld devices, Laptops, printers, scanners, etc.**

☐ N/A ☐ Yes ☒ No

If yes, please explain:

## City of Waukesha IT Technical Assessment

### Vendor Use

**General overview from vendor of the application topology and what the application does:**

The following questions are designed to help determine the appropriate infrastructure costs in conjunction with system type/criticality information.

**Company Name:** Bigbelly

**Project Title:**

### Application Architecture

What is the Application Architecture (if known)? The options are as follows:

☐ Client / Server    ☐ Client    ☒ Web Based    ☐ Other:

\*Web-Based is preferred

Where is the Application Architecture installed? The options are as follows:

☐ On-Premises    ☒ Hosted    ☐ Other:

If the Application Architecture is hosted, what model is used?

☐ Infrastructure as a Service    ☒ Software as a Service    ☐ Platform as a Service

☐ N/A    ☐ Other:

If the Application Architecture is hosted, and the City stops using the solution, is there a charge to get our data back

☐ Yes    ☒ No

If the Application Architecture is hosted, what certifications do they hold?

☐ SAS 70    ☐ SSAE 16    ☐ FedRAMP    ☐ Other:

### Web Application Requirements

☒ N/A: This is a Client/Server Solution

What Web Browsers are supported?

☐ Internet Explorer ☐ Chrome ☐ Firefox ☒ Browser Agnostic ☐ Other:

**\* Browser agnostic preferred**

Is the application fully HTML5 compliant?

☐ No ☒ Yes

**\*HTML 5 compliance is Preferred**

What Browser version is supported?

Internet Explorer: IE10

Chrome: 23

Firefox: 19

What Web service is used: ☐ IIS - Version

☐ Other – Version

**\*IIS Preferred** none

What third party software needed?

- ☐ A Java add-on is on the client, version #
- ☐ Active X add-on on the client
- ☐ Silverlight add-on on the client
- ☐ .NET Framework, version
- ☐ Digital certificates (IE based app. or ASP)
- ☐ Adobe
- ☐ Add-ins for existing applications (IE MS Office, etc.)
- ☐ Other
- ☒ Not Applicable (none needed)

**\*None Needed is preferred.**

### Web Application Security

Can HTTPS/SSL be enabled?

☐ No ☒ Yes

**\*HTTPS is Preferred**

Can weak ciphers such as SSL 2 and 3, TLS 1 be turned off?

☐ No ☒ Yes

**\*Applications dependent on weak ciphers will be rejected.**

What security standards are supported?

☐ PCI ☐ FIPS 140-2 ☐ Other:



### Server Requirements

☒ N/A: This is a Hosted Solution

Specify the type of server the main component of the application will be installed on?

☐ MS Server What Version? What Service Pack?

☐ LINUX - What version?

**\*MS Server is the standard**

What database will be used?

☐ MS SQL What version? What SP?

☐ Oracle What version?

☐ Other What version?

☐ N/A

**\*MS SQL is the standard**

Is database fully vendor supported?

☐ N/A ☐ No ☐ Yes Notes:

**\*Vendor supported is preferred**

Does the vendor require the application and Database to reside on same hardware?

☐ No ☐ Yes Notes:

If no, can the application and Database reside together for the test system?

☐ No ☐ Yes Notes:

Are virtual servers supported?

☐ No ☐ Yes Notes:

**\*Virtual Servers are the standard**

If yes, which Hypervisors?

☐ Hyper-V Notes: ☐ VMware Notes:

**\*Vmware is the standard**

Will any of the following servers be needed?

☐ Test ☐ QA ☐ Train ☐ Not Applicable ☐ Other Notes:

**\*Test environments are the standard \*QA environments are preferred**

### Client Requirements

☒ N/A: Web-Based solution

Is the application able to run in a Citrix/Remote Desktop/VDI environment?

☐ No ☐ Yes Notes:

Is Citrix/RDS/VDI fully vendor supported?

☐ No ☐ Yes Notes:

What client operating system will be used?

☐ Windows 7 - What SP?

☐ Windows 10 - What SP?

☐ Other: What SP?

**\*The most current Windows OS is the standard.**

What third party software needed?

☐ A Java add-on is on the client, version #

☐ Active X add-on on the client

☐ .NET Framework, version

☐ Digital certificates (IE based app. or ASP)

☐ Adobe

☐ Add-ins for existing applications (IE MS Office, etc.)

☐ Other

☐ Not Applicable

### User Account Control

Does the application require users to login?

☐ No ☒ Yes Notes:

Does the application integrate with Active Directory for authentication?

☒ No ☐ Yes Notes:

**\*Active Directory is the standard for on-premises applications.**

Does the application integrate with Active Directory for user account creation?

☒ No ☐ Yes Notes:

Does the application federate with Active Directory through Active Directory Federation Services?

☒ No ☐ Yes Notes:

Does the application federate with Active Directory through Azure AD?

☒ No ☐ Yes Notes:

**\*Azure AD is the standard for hosted solutions.**

Does the application support Multifactor Authentication?

☒ No ☐ Yes Notes:

### Additional Application Info

Can adequate system backup & recovery procedures be implemented? This includes the ability to test the restore processes on a "regular" basis.

☐ Yes ☒ No Automatic backups but not user accessible.

If the system requires transmission of information to a remote party, can it be adequately protected? (This would include encryption for data transmission, and at rest.)

☐ Yes ☐ No Data is not transmitted to third party

What will be the frequency of updates (i.e. dot (.) or SP)? Monthly

What will be the frequency of upgrades (i.e. major releases)? Yearly

Is the application licensed per user? ☒ No ☐ Yes Notes:

If yes, are they concurrent licenses? ☐ No ☐ Yes Notes:

Is access to the Internet required for this application? ☒ Yes ☐ No



If yes, please describe what access is needed and how it will be used: Internet is used to access the web application that connects to the hosted server.

### **Additional Information**

Please use this section to add additional information, information that you feel the check boxes did not allow you to accurately explain, or any other technical information. You may also attach additional supporting documents.





## City of Waukesha IT Technical Assessment

### City IT Department Use

**For standard systems:**

In order to appropriately answer the “commensurate” or “adequate” nature of a particular response, the information in the Technical Assessment Pre-Screen should be considered.

Does the system meet City of Waukesha’s technical standards?

☒ Yes ☐ No Please explain:

Is the expected combination of local and vendor support sufficient? This affects availability and integrity. It is important to recognize that vendor size & stability affect the answer to this question, in addition to their contracts, procedures, etc.

☒ Yes ☐ No Please explain:

If the Vendor requires remote access for system support, can it be adequately secured? This might involve one-time passwords, VPN connections, encrypted access, etc. If the vendor requires constant “root” level access, will not allow passwords to be changed regularly, requires “always-on” modem access, etc. the answer is “NO”.

☒ Yes ☐ No

If the system requires transmission of information to a remote party, can it be adequately protected? (This would include encryption for data transmission, and at rest.)

☒ Yes ☐ No

Does the system provide adequate toolsets for User Identification, Authentication and Access Control? Generally, minimum requirements include a Unique User I.D. for each system user, a password associated with each User I.D., and password complexity allowing a minimum of eight mixed-case alpha and numeric characters (the ability to handle more characters and special characters is preferred). NOTE: If the application is MS Active Directory-aware, it meets our minimum criteria.

☒ Yes ☐ No



CITY OF WAUKESHA, WISCONSIN  
EQUIPMENT REPLACEMENT FUND EXPENDITURE  
Budget Years: 2019 - 2023

Department: Park, Rec & Forestry  
Dept. Head: Ron Grall  
Project Contact: Mona Bauer/Chris Pofahl

Description of Expenditure: Big Belly Trash Can Pilot Project - Smart City Initiative

Addition or Replacement: Addition

Initial Cost\$42,500

Anticipated Annual Maintenance Cost/Cost of Operation

Maintenance Cost Over 5 years\$-

TOTAL INVESTMENT\$42,500

Est. Salvage Value of Former Capital Asset

EST. INITIAL INVESTMENT\$42,500

**Justification for Equipment Replacement Fund Expenditure**

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Fund-Org.-Object-Project	Funding Sources	FY '19	FY '20	FY '21	FY '22	FY '23	Total
0400-5504-42210	State Shared Rev.	\$12,250	\$14,000	\$14,000	\$2,250	\$-	\$42,500
	Total	\$12,250	\$14,000	\$14,000	\$2,250	\$-	\$42,500

Fund-Org.-Object-Project	Expenditures	FY '19	FY '20	FY '21	FY '22	FY '23	Total
0400-5504-68190	Big Belly Trash Can	\$12,250	\$14,000	\$14,000	\$2,250	\$-	\$42,500
	Total	\$12,250	\$14,000	\$14,000	\$2,250	\$-	\$42,500

**How will this improve our service level and efficiency?**

Trash is picked up at all locations at least 3 days per week during the summer. Special Events, rentals and other parties also contribute to the frequency of the pick-up. A typical trash run takes approximately 2 people 6 hours to complete. This would save hours of labor as only full trash cans would be emptied and instead of remote/low use locations being visited 12 times/month, they would be visited twice/month saving hours of labor costs to pick up a small amount of trash. We also suspect that high volume areas may be able to handle big parties without trash overflowing as trash cans assigned are also able to compact the trash, resulting in cleaner park areas. As the project moves forward, other levels of efficiency and service may also be realized as trash cans are varmint-resistant and sealed to assist in diminishing odors.