

GOVERNMENT OF THE DISTRICT OF COLUMBIA
DEPARTMENT OF GENERAL SERVICES



DETERMINATION AND FINDINGS FOR A
SPECIAL PILOT PROCUREMENT

Agency: Department of General Services
Energy and Sustainability Division

Caption: Waste Management Sensor Technology

Proposed Contractors: Nordsense, Inc. and Compology

FINDINGS

1. **AUTHORIZATION:**

D.C. Code Section 2-354.08 and DCMR 47, Section 4723

2. **MINIMUM NEED:**

The District Government, through its Department of General Services (the “Department”), seeks to integrate waste management sensor technology into its current operations in an effort to provide better service to tenant agencies while lowering environmental impacts and meeting Sustainable DC Plan goals¹. An initial six (6) month pilot program is proposed to evaluate different technologies across the portfolio to assess sensor performance across different building types, agencies, and waste streams. In addition to the sensor technology itself, the pilot will evaluate offerings of the proprietary vendor platforms that expose the sensor data. Ensuring that data can be provided to all relevant parties in an easy to access and understand format is critical to the success of sensor technology deployment.

The goal of incorporating sensor technology in this special pilot is to establish the technology’s ability to provide more accurate measurements for building and agency-level diversion rate calculations; tenant agency collection and disposal patterns; monitoring of dumpster fullness; screening for contamination; guarding against illegal dumping; tracking third party service delivery; providing inventory controls; and helping reduce the environmental and fiscal impacts on government operations.

Presently, the Department contracts waste collection services from a number of third-party providers. Services are performed on set-collection routes based on the type of equipment and vehicles, as well as frequency/days of service. To-date, right-sizing of services has relied on

¹ http://www.sustainabledc.org/wp-content/uploads/2019/04/sdc-2.0-Edits-V5_web.pdf -- WS1.1, WS2.1, WS3.2, WS3.3, WS3.5, WS3.6

institutional memory in most cases. At times, third party provider information on services delivered is unreliable, incomplete or inaccurate; preventing the Department from accurately measuring diversion. Further hampering these efforts, the Department currently relies on aggregate route totals from the Department of Public Works (“DPW”) Solid Waste Web Reporting dashboard that does not provide the necessary building-level data and has established data integrity issues. This proposed pilot of sensor technology is framed to equip the Department with the necessary remote monitoring tools to build an informed road map to better serve its tenant agencies while meeting the District’s solid waste laws and companion Municipal Regulations, and the Sustainable DC Plan goals.

The Department’s minimum need will be satisfied, in part, by allowing the Department to test the proprietary laser-based waste sensor systems a technology developed by Nordsense, Inc., and proprietary image-based waste sensor systems technology developed by Compology, based on both companies proven experience in portfolio-scale deployment for 6-8 cubic yard dumpsters.

3. ESTIMATED FAIR AND REASONABLE PRICE:

Market research has shown that a six (6) month, 6 sensor pilot, which will include all sensor equipment and online access to sensor data for the duration of the pilot, should not exceed \$1,500 in total per technology provider. As outlined in the Statement of Work, this price does not include installation of sensor technology on vendor owned dumpsters. This price is to include access to standard data reporting from the vendor’s proprietary platform and remote technical assistance both for sensor installation and platform access.

4. FACTS WHICH JUSTIFY A SPECIAL PILOT PROCUREMENT:

The Department’s Sustainability and Energy Division has conducted exhaustive market research in partnership with the Office of the Chief Technology Officer (OCTO). In working with OCTO, the Department was able to leverage OCTO’s learnings from Smarter DC² and sister Smart City programs, including a previous OCTO program that installed waste sensors in DC litter cans.

In its research the Department segmented the market by sensor type and waste container type and size compatibility. Sensor types include laser, ultrasonic or sonar, and image. Waste containers were defined as 6-8-yard front and rear-loading dumpsters (“spec containers”) based on the type of equipment currently provided by the Department’s vendors. Sensor technology compatibility with spec containers was established based on demonstrated portfolio-scale deployment. Many market offerings have been implemented on litter cans and advertise compatibility with spec containers but could not demonstrate portfolio-scale deployment for spec containers. While numerous vendors provide ultrasonic sensors with demonstrated large-scale deployments in spec containers, only a single vendor was found for both laser sensors and image sensors.

Based on advertised claims and established research of sensor capabilities, the Department determined that piloting sensors for both laser and image-based sensor types was warranted to

² <https://smarter.dc.gov/Detail.aspx?Id=78>

ensure that all of the Department's goals are met in the most cost-effective manner. Further, no market research is available that directly compares the 2 sensor types to analyze the benefits and trade-offs of each.

As an example, an image-based system allows remote visual identification of contaminants and validation of the fullness reading but can only capture what it is able to observe in its unobstructed line of site. Laser sensors do not provide visual identification but can provide accurate readings even if obscured and are not affected by the cleanliness of a lens. The Department is pursuing a pilot to evaluate the various benefits of a portfolio-wide sensor deployment and determine which sensor type best delivers those benefits.

Modalities

On a rolling basis, working with partner agencies with specialized knowledge and expertise, the Department will identify sensor technology and platforms that provide the best value in accomplishing the above stated goals. Following the special pilot eligible vendors will be afforded an opportunity to compete for a planned but unfunded, Portfolio-wide waste service sensor contract.

**CERTIFICATION BY THE ASSOCIATE DIRECTOR, ENERGY & SUSTAINABILITY DIVISION
DEPARTMENT OF GENERAL SERVICES:**

I hereby certify that the above findings are correct and complete.

06/10/2020
Date

Jared Lang
Jared Lang
Associate Director
Energy & Sustainability

**5. CERTIFICATION BY THE CONTRACTING OFFICER, DEPARTMENT OF GENERAL SERVICES
CONTRACTS AND PROCUREMENT DIVISION:**

I have reviewed the above findings and certify the sufficiency of the justification to use the special pilot procurement method under the cited authority. I recommend that the Department of General Services, Chief Contracting Officer approve the use of the special pilot procurement method for this requirement.

6.10.2020
Date

Franklin Austin
Franklin Austin, CPPB, CPM
Contracting Officer

Contracts and Procurement

DETERMINATION

Based on the above findings and in accordance with the cited authority, I hereby determine that the facts described above justify a special pilot procurement in accordance with section 4723 of the Department's procurement regulations. Further, I hereby determine that it is not feasible or practical to invoke the competitive solicitation process under either Section 402 or 403 of the District of Columbia Procurement Practices Reform Act of 2010 (D.C. Law 18-371; D.C. Official Code § 2-354.02 or 2-354.03).

Accordingly, I determine the District is justified in using the special pilot procurement process.

6.11.20

Date



George G. Lewis, CPPO

George G. Lewis, CPPO
Chief of Contracts & Procurement
Chief Procurement Officer