



City of Denton

Facilities Management
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Denton, Texas
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AGENDA INFORMATION SHEET

DEPARTMENT: Facilities Management

ACM: Frank Dixon, Assistant City Manager

DATE: October 24, 2025

SUBJECT

Receive a report, hold a discussion, and give staff direction regarding City Council request to review two-minute pitch for rooftop solar and rooftop garden/wall garden retrofits for existing City facilities.

BACKGROUND

On November 25, 2024, Council Member Beck submitted a two-minute pitch to explore the installation of rooftop and wall gardens and solar panels with batteries on City buildings. On December 3, 2024, the Council provided consensus to require an Informal Staff Report to address the feasibility of the pitch. On January 24, 2025, an Informal Staff Report number 25-023 was provided to the City Council in the Friday Report. On August 7, 2025, the City Council Agenda Committee provided direction to forward the rooftop solar and wall garden pitch to the Sustainability Framework Advisory Committee to review and consider retrofitting of existing buildings. It was noted by the Agenda Committee that any retrofits would require consideration through the budget process, and it was not likely at this time.

City of Denton Facilities

Facilities Management oversees 206 City buildings, with 74 or more of those having staff and or public usage. A Facilities Condition Assessment conducted in 2022 found that many assets have been in a deferred maintenance status. To address the deferred maintenance needs, the City implemented a Facilities Condition Assets Capital Maintenance Plan and has funded approximately \$25 million from FY 22-23 to FY 25-26.

Many of the City's facilities have exceeded their originally intended service life. These aging structures require ongoing maintenance to remain safe, functional, and to extend their operational longevity. Funding has been strategically directed toward preserving existing assets for their intended use, with a strong emphasis on maintaining them to high standards that support extended service life.

Importantly, many of these facilities were not originally designed to meet modern demands—such as increased rooftop loads for solar installations, adequate storage for equipment, or expanded electrical infrastructure. These limitations highlight the need for continued investment in maintenance, while also reinforcing the importance of incorporating dedicated design solutions into new vertical construction projects.

Currently, a significant number of City buildings continue to operate beyond their expected lifespan. Through the Capital Improvement Plan, targeted upgrades and replacements are underway, alongside

sustained maintenance of existing structures. These efforts prioritize facilities with high occupancy and operational significance either by extending their life expectancy through strategic investment or by constructing new assets to meet evolving service and growth needs.

New buildings

Incorporating rooftop and/or wall gardens and solar panels with batteries can be evaluated for consideration during the design and development of probable cost studies. When considering new construction, the addition of rooftop or wall gardens adds an estimated \$143 to \$250 per square foot.

Retrofitting Existing Buildings

Rooftop and Wall Gardens:

Installation of any roof and/or facade improvements would require a feasibility study and scope development prior to any necessary engineering survey. Currently, 28 of the City's 206 facilities have roof structures potentially suitable for roof gardens. These facilities would require engineering surveys to identify structural modifications required to support the additional weight and systems. The estimated cost per building is between \$50,000 to \$200,000 to perform necessary assessments.

Solar/Battery Installation:

The installation of solar panels would require a feasibility study and scope development prior to any necessary engineering survey. Currently, 28 of the City's 206 facilities have roof structures potentially suitable for solar panels. These facilities would require engineering surveys to identify structural modifications required to support the additional weight and systems, and additional electrical system evaluation and upgrades.

Most City buildings lack the necessary electrical infrastructure to support renewable energy and would require upgrades to distribution systems, panels, wiring, circuit breakers, dedicated space for battery storage, ventilation, and fire safety measures. The cost of these improvements is estimated to be between \$100,000 and \$1,800,000, depending on facility size and energy use. The estimated annual energy cost savings from solar panels are variable, but estimates range from \$2,500 to \$25,000 for each facility based on energy consumption. The City would expect to see a return on investment from energy cost savings in approximately 20 to 30+ years, depending on the facility size and required infrastructure investment.

Before any infrastructure upgrades can be considered, each facility must undergo a formal engineering assessment to evaluate its structural integrity and electrical systems. These evaluations are essential to determine whether existing assets can support modernization efforts. Investing in engineering and design not only informs decisions about current facilities but also lays the groundwork for future assets. Constructing new facilities with renewable energy goals in mind from the outset is both appropriate and forward-thinking. In many cases, this approach yields a faster return on investment by aligning asset design with long-term operational efficiency and sustainability.

PRIOR ACTION/REVIEW (COUNCIL, BOARDS, COMMISSIONS)

On November 25, 2024, Council Member Beck submitted a two-minute pitch to explore implementing rooftop and wall gardens as well as solar/battery installations on existing and future City buildings.

On December 3, 2024, the Council provided consensus for staff to publish an Informal Staff Report (ISR) addressing the feasibility of the pitch.

On January 24, 2025, an ISR was published in the Friday Report.

On August 7, 2025, the Agenda Review Committee recommended sending the pitch to the Sustainability Framework Advisory Committee.

RECOMMENDATION

Current projects do not have sufficient funding to consider rooftop and wall gardens as well as solar/battery installations on existing City buildings. Staff will consider these options in the design and planning of new construction projects, where such features can be integrated more cost-effectively and efficiently from the outset.

EXHIBITS

Exhibit 1. Agenda Information Sheet

Exhibit 2. Two-Minute Pitch Presentation

Exhibit 3. Informal Staff Report No. 2025-023

Exhibit 4. Presentation