Jersey City Public Safety Communications Center

LEED Innovation and Design Credit 1.2 – Green Building Education

LEED™ SILVER Pending

Case Study:

The city of Jersey City chose to incorporate sustainable and high-efficiency design features to make the Public Safety Communications Center a healthy and enjoyable place to work as well as lower its environmental impact in the local and global environment. Urbahn Architects is seeking an innovation point for the Jersey City Public Safety Communications Center (JCPSCC) based on our sustainable building education efforts. We will comply with the requirements of CIR Ruling dated 9/24/2001 (see attached) by creating this case study to inform the design of other buildings based on the successes of this project as well as provide the installation of a real-time interactive utility display system within the building.

Urbahn Architects will submit this case study to the local USGBC chapter including all submitted credit templates and back-up documentation for future reference. In addition to the publicly available case study, building occupants and visitors will have access to a real-time utility consumption display system. With the installation of a touch screen monitor installed in the staff break room, building occupants can quickly see how their building is performing with water reduction and energy savings for example. User friendly functions will help encourage occupants to learn more about the building and their environment.

Green Building Highlights:

- The entire building envelope, mechanical and electrical systems are designed to maximize energy performance. Prefabricated building construction minimizes construction waste.
- All building systems are continually measured and monitored through a building management system.
- Real Time / Interactive Utility Display will be installed in the staff lounge informing the building's occupants of the building's performance and sustainable highlights throughout the facility.
- Over 90% of construction waste was diverted away from landfills.
- Water efficient landscaping contributes to water savings. Carefully selected native plantings will reduce the need for ongoing irrigation.
- Through the installation of low-flow fixtures, dual flush handles, and non-water urinals the building will reduce potable water use by 24%.

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Location:

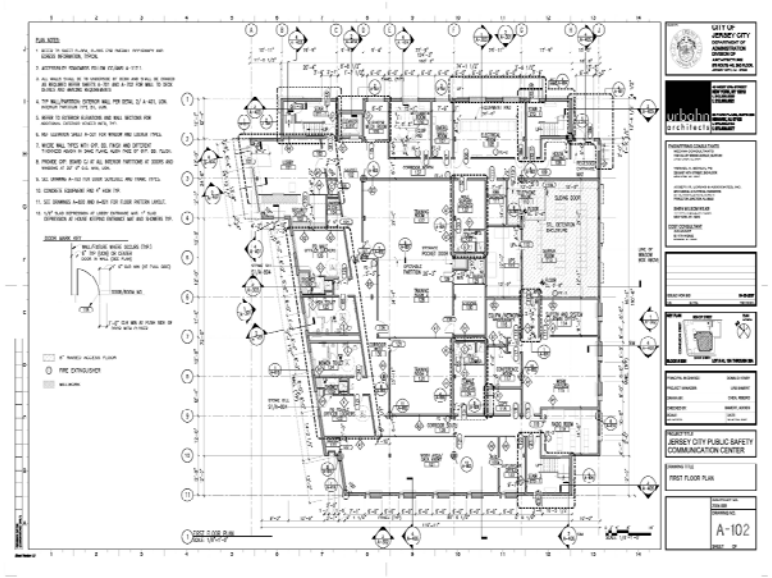
- Situated on a previously developed urban site, The Jersey City Public Safety Communications Center (JCPSCC) is contained within a compact footprint on the site. The building is within easy walking distance to public transportation as well as shops and restaurants.

Program:

- A new highly secure 25,000 square foot facility will serve as a combined police, fire operations, and EMS communications center for Jersey City. The building will include a "theater" layout that will serve as 911 call and dispatch center for all three departments.
- The building will also house the Telephone Reporting Unit (TRU) and Criminal Justice Information Systems Unit (CJIS) for the Jersey City Police Department, a training center for 911 call takers and dispatchers, administrative facilities and employee support units. The building was designed to support 24/7 operations, with redundant HVAC, electrical, and telecommunications systems.
- The project used LEED for New Construction Version 2.2 to guide and certify the green design elements throughout the building and site. The pending Silver Certification demonstrates the design team's commitment to sustainable design.

Project Team:

- *Client:* Jersey City
- *Architect:* Urbahn Architects
- *MEP Engineers:* Joseph R. Loring & Associates, Inc
- *Structural Engineer:* Ysrael Seinuk
- *Civil Engineer:* Medina Consultants
- *Construction Manager:* CCMS
- *Prefabricator Manufacturer:* Landmark



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Sustainable Strategies

Site

JCPSCC expects to achieve 12 out of 14 Sustainable Sites credits in the LEED program. This includes:

Maximizing open space – While no local zoning ordinance exists for this site, over 24% of the open space on the site is covered with vegetated plantings including the incorporation of a green roof system.

Public Transportation access and bicycling – The site is conveniently located within walking distance of two different bus lines. Bicycle racks and shower facilities are available for employees to encourage alternative methods of transportation.

Heat Island Effect – The installation of a highly reflective roof surface (calculated SRI value of 94) and a green roofing system will combine to reduce cooling costs for the building.

Storm Water – Incorporating the use of storm filters to retain and treat storm water runoff will reduce the demand on the public storm sewer system. Incorporating the use of a green roof and vegetated buffers around the site contribute to runoff conditions equivalent to existing site conditions.

Light Pollution Reduction – The use of shielded exterior light fixtures will improve night sky access and reduce development impact in the local environment.

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Water Efficiency

JSPSCC expects to achieve 3 out of a possible 5 credits. This includes:

Water efficient landscaping – There will be no permanent irrigation system installed after the establishment of all landscaping and plantings.

Water use reduction – By using water saving strategies such as dual flush water closets, waterless urinals, low-flow lavatories and shower heads the building will generate over 24% savings in water use.

Energy & Atmosphere

JCPSCC will undergo fundamental commissioning of all building systems to ensure that they are running as they were designed. The project also meets the minimum requirements of all mandatory provisions of ASHRAE 90.1-2004.

Materials and Resources

JCPSCC expects to achieve 5 out of a possible 13 credits. Careful attention was paid to both the disposal of construction waste and to the selection and purchasing of new materials. This includes:

Construction waste management – Over 90% of all construction waste was diverted away from landfills.

Recycled content –Over 11% of all materials purchased for this project contained the minimum recycled content quantities required by USGBC standards. The use of materials containing recycled content will help reduce the impact of virgin resource extraction, encouraging the diversion of waste materials away from the landfills.

Regional materials-12% of all materials and products purchased for this project were both manufactured and extracted within 500 miles of the site. Specifying regionally harvested and manufactured products greatly reduces the transportation energy required and its associated global impacts on the environment.

Indoor Environmental Quality

JCPSCC expects to achieve 9 out of a possible 15 credits. Strategies to improve indoor air quality can positively impact the building's occupants, contributing to overall productivity and employee health. These include:

Indoor Air Quality Plan - During the construction process an IAQ plan was implemented to include:

- HVAC protection: ensuring all ductwork was sealed from dust and debris
- Source Control: Water absorbent materials were protected from moisture, paint and finishing operations were well ventilated, sweeping compound used to keep air borne dust minimized
- Pathway Interruption: Construction entrance way mats were used to limit dirt and debris, temporary dust curtains or enclosures prevented dust and debris from migrating to adjacent spaces.
- Housekeeping: Site was kept clean and clear of dust and debris build up. Interior spaces were protected from exterior weather conditions.
- Scheduling: Construction activities were scheduled to minimize IAQ impacts.

Low-Emitting Materials-Volatile Organic Compounds (VOCs) were kept to a minimum, and below the LEED maximums for all adhesives, sealants, paints and carpets used within the interior of the building**.**

Controllability of Systems-Lighting and temperature systems in all common spaces can be individually controlled so building occupants can achieve their own comfort levels.

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Innovations

JCPSCC expects to achieve 3 additional Innovation in Design credits. These include:

Green Building Education and Awareness-Through the installation of a real-time, interactive utility monitoring systems, the building's occupants will be informed of the energy, electric and water consumption within the building. The sustainable design features will be highlighted in the interactive touch screen system, raising the occupant's awareness of Green design and energy consumption. This comprehensive case study has also been prepared and will be submitted to USGBC to inform the Council of the sustainable design strategies incorporated for this project.

Green Housekeeping Policy - JCPSCC will incorporate the city's ordinance mandating a green housekeeping policy. The use of only Green Seal certified cleaning products will follow a procedure to improve indoor air quality and reduce hazardous materials exposure for the building's occupants.

Glycol Heat Recovery Loop - To be added.

APPENDIX