



Consolidated Public Safety Facility, Sustainability Analysis Study

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Purpose



- **Provide information on Sustainability Analysis performed on Consolidated Public Safety Facility**
- **Provide Financial Analysis of multiple courses of action**
- **Provide information on grant application process**
- **Provide recommendation**

Sustainability Study Objections



Consolidated Public Safety Facility:

- **Replaces existing Highway Patrol facility on Libertyville campus**
- **Estimated cost: \$35.6M**
- **Phase 2 design complete**

Sustainability/Energy Analysis Study:

- **Identify the financial and green impacts of:**
 - **Multiple levels of LEED**
 - **Net Zero energy**
- **Calculate Return on Investment (ROI)**

Analysis Process



Design Philosophy:

- **Minimize Building Needs through Load Reduction**
- **Cultivate the Local Environment through Passive Systems**
- **Optimize Active Systems**
- **Maximize Use of On-Site Resources**

Design Considerations:

- **Identified efficient technologies; Mechanical and Renewable Energy Systems**
- **Potential for State and ComEd grants and incentives to offset design**
- **Estimates 50-year life of building**



Financial Analysis

Design	Construction Costs	Incentives/ Grants	Annual Energy Savings	25-Year Cost: Replace Mech Equip	25-Year Energy Savings	25-Year Final Cost
Current Design	\$35.64M	\$0	\$0.000	\$7.60M	\$0	\$43.24M
LEED Silver	\$36.62M	-\$15K	-\$23K	\$9.10M	-\$1.05M	\$44.67M
LEED Gold	\$38.58M	-\$15K	-\$23K	\$9.50M	-\$1.05M	\$47.03M
Net Zero (e)	\$38.98M	\$0	-\$70K	\$9.90M	-\$3.23M	\$45.66M
Net Zero (e)	\$38.98M	-\$1.0M	-\$70K	\$7.20M	-\$3.23M	\$42.96M

- **Potential to receive up to \$2M (or 80% of incremental costs to achieve Net Zero) in grant funding**
- **Net Zero energy design reduces energy costs by ~\$70K per year**
- **Net Zero energy can be achieved at a LEED Gold certification level**
- **Return on Investment:**
 - **LEED compatible design: 15 to 20 years**
 - **NET Zero Energy design: 18 to 20 years**
 - **Net Zero offers greatest ROI over 50-year lifecycle of building**

Grant Funding Process



Illinois Clean Energy Program:

- Encourages design and construction to maximize energy efficiency and showcase renewable energy
- Administer a Net Zero energy buildings program
- Maximum grant amount is \$2M or 80% of incremental costs to achieve Net Zero
- Requires 3rd party certification
 - Passive House Institute US (PHIUS+, PHIUS+ Source Net Zero)
 - Full Living Building Challenge
 - Petal (Energy) Living Building Certification
 - Zero Energy Living Building Certification



Illinois Clean Energy
community foundation

Grant Funding Process



Illinois Clean Energy Program:

- Grants can help offset costs associated with certification, measurement and verification, and educational displays and signage.
- Grants are phased:
 - 30% paid during construction
 - 30% once building is occupied
 - 40% after certification and 12 months of net zero performance
- Process, 4 to 5 months:
 - Request for ideas
 - Pre-proposal by July 21st
 - Full Proposal



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Additional Rebates and Incentives



ComEd Incentives and Rebates:

- **ComEd's New Construction program offers one-time financial incentives based on estimated annual energy savings from energy efficient building features that exceed building code.**
 - **The CPSF has been accepted into the New Construction Program and ComEd working on energy modeling to identify potential energy savings and available incentives.**
- **ComEd's Distributed Generation (DG) rebate provides \$250/kW rebate on solar systems that install smart inverters.**
 - **Based on the assumption of a 350-kw solar system needed to achieve Net Zero, rebate amounts to approximately \$88,000.**

Recommendation



- **Pursue Net Zero:**
 - **Apply for Illinois Clean Energy Program Grant**
 - **Pursue all available financial incentives from ComEd**
 - **Incorporate LEED Gold and Net Zero energy design**
 - **Award and move forward with Phase 3 design**

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Questions?