



City of Countryside Municipal Complex First Municipal Net Zero Energy Building in the State of Illinois

Gail Paul, City Administrator

Countryside's Process

Space Needs Analysis

- 32,000 Sq. ft. for joint facility
- 52 staff parking spaces
- 45 public parking spaces
- Minimum lot size 2.9 acres
- Deficiencies in working spaces
 - Police evidence storage inadequate
 - No evidence processing area
 - Holding cells did not meet IL Department of Corrections Standards
 - Cramped work spaces
 - Lack of storage
 - Inefficient customer flow



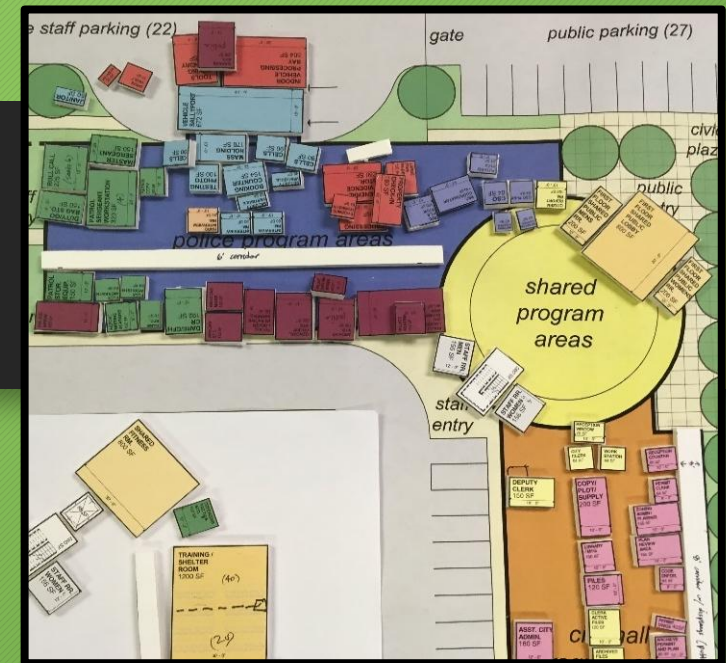
Process Cont.

City Council Sets Goals for Staff

- Purchase property which meets requirements
- Hire an architect with LEED experience
- Design a facility which meets LEED Silver requirements at a minimum
- Appoint a Design Committee
- Determine a financing plan which doesn't raise taxes
- Stay on budget

Process Cont.

- Prepare a RFQ for architectural services
- Selection Committee recommends architect
- City Council approves architect's service agreement
- Decide on construction method (Design-Bid-Build, Design-Build, or Construction Manager)
- Prepare a RFQ for a construction manager "CM" at risk
- City Administrator, City Engineer and Architect recommend CM finalists
- City Council approves CM's contract
- City staff, architect and CM work together through design and construction



Hire Architect

Schematic
Design Phase

Design
Development
Phase

Construction
Documents
Phase

Bidding Phase

Construction
Administration

Major Decisions



HVAC

1. Packaged Variable Air Volume (VAV) Rooftop Units (RTU) with Hot Water Reheat
2. Geothermal Heat Pump VAV Rooftop Units with Hot Water Reheat
3. Distributed Geothermal Heat Pumps with Rooftop Dedicated Outdoor Air System Units



Monitoring & Maintenance

1. There are customized systems which need to be monitored and maintained
2. HVAC system is very complicated with equipment coming from different vendors so no one vendor understands the entire system.
3. A new position was created for a Building Maintenance Technician to start before the equipment was installed.



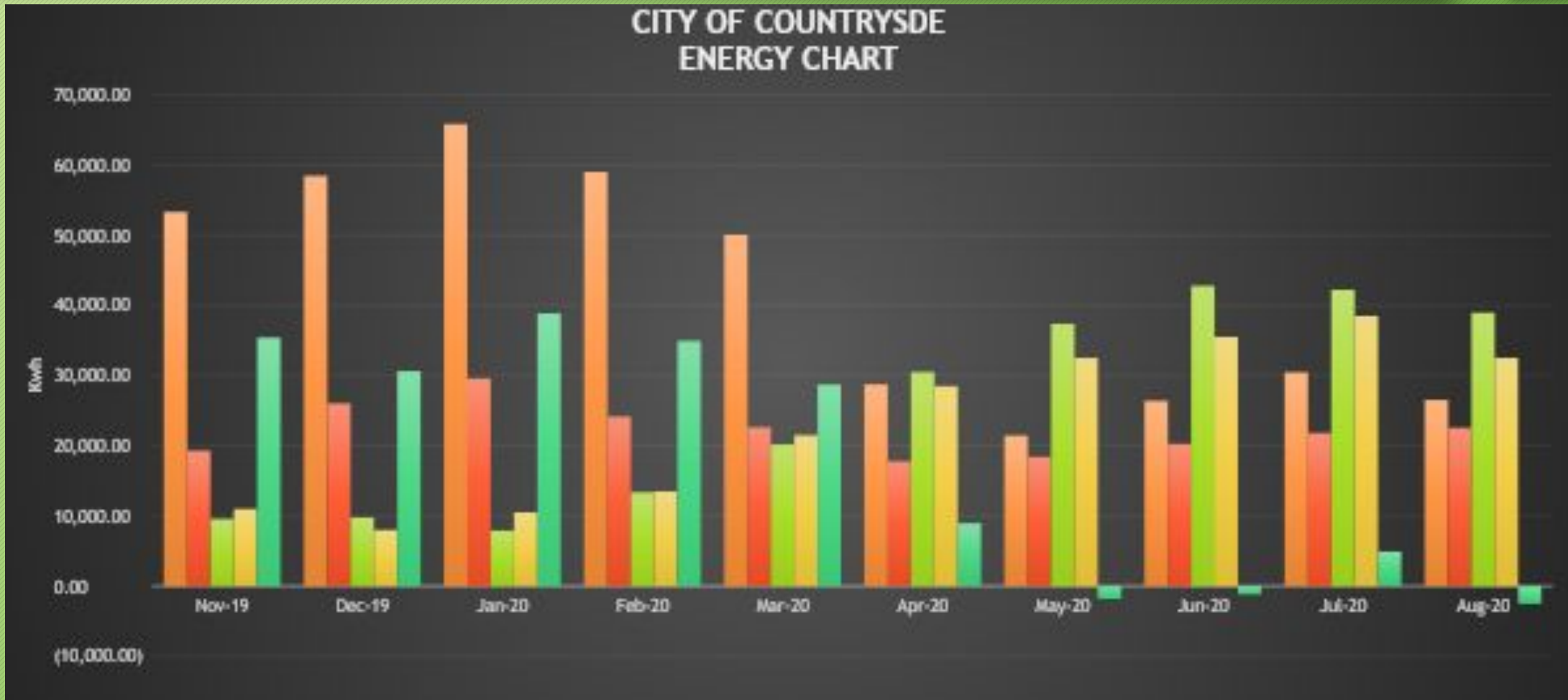
Solar Panels

1. Architect informed the City the models were indicating if we added solar panels we could achieve net zero energy
2. Recommended photovoltaic panels on the roof and car ports
3. City Council gave the go-ahead if grant money could be secured

Net Zero?

Description of Net Zero Work	Initial Estimate	Revised Budget
NET ZERO ALLOWANCE	200,000	-
A&E DESIGN FEES	100,000	61,700
PHOTOVOLTAIC PV SYSTEM	700,000	842,615
COMMISSIONING/NET ZERO CONSULTING	IN ABOVE ALLOW	15,400
COMMISSIONING/BUILDING ENCLOSURE	IN ABOVE ALLOW	29,770
TESTING	IN ABOVE ALLOW	-
CM FEES ON NET ZERO CONSTRUCTION	IN ABOVE ALLOW	61,976
HEAT PUMPS/ENERGY RECOVERY/GEOTHERMAL SYSTEMS	495,000	-
GEOTHERMAL WELLS	-	242,111
HVAC (HYBRID GEOTHERMAL VS. CONVENTIONAL)	-	252,889
NET ZERO - D.V. & S. (CM at Risk)	-	100,000
WATERPROOFING/AIR BARRIER	-	280,350
SLIP SHEET/MOCK UP	-	35,000
MASONRY/STONE ON MOCKUPS	-	40,000
GENERAL TRADES ON MOCK UPS	-	5,500
ELECTRICAL TRACTION PREMIUM	-	37,000
INSULATION/FRAMING ON MOCKUPS	-	20,500
TOTAL NET ZERO COSTS	1,495,000	2,024,811

Monitoring & Reporting





“I am extremely proud that our new municipal complex has been designed as a Net Zero Energy building and has been awarded LEED Gold Certification. This clearly demonstrates the commitment the City of Countryside has made to protecting our environment and mitigating the impact of climate change.”
~ Mayor Sean R. McDermott

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