# TARGETING NET ZERO

Energy efficient features of the new ECE building



**SMITHGROUPJJR** 

**ECE ILLINOIS** 



enhanced envelope 5% energy savings

70% of the exterior envelope is a high performance terra cotta rainscreen system with an overall R30 thermal value. Terra cotta baguettes and a louvered canopy on the south facade shade 80% of the low-E coated glazing. The high albedo white roof also has an R30 thermal value.



The building is oriented with the majority of glazing facing south for optimal daylighting and reduced energy



photovoltaic array 10 energy creation

A 1,500 kilowatt solar array occupies the entire roof and the roof of the nearby parking structure and generates 55% of the building's electricity. It will also provide a hands-on research opportunity.



10 energy savings Chilled beams are used

throughout the building as the primary cooling strategy to reduce energy consumption and operating





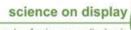
#### native landscaping

Plant material selected is primarily native, which can sustain itself without an irrigation system. It also will restore local habitat.



#### recycling

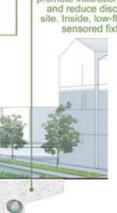
Recycled and regional building materials are used in addition to recyling centers distributed throughout the building.



One example of science on display is the cutting edge instructional clean room. It is enclosed by a transparent glass wall and located in the main lobby for opmtimum visibility.



Permeable pavers and an infiltration trench are best management practices used to promote infiltration of stormwater and reduce discharge from the site. Inside, low-flow and motion sensored fixtures are used.





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occupancy sensors

energy savings

## CO2 occupancy control

Ventilation is reduced when spaces are not occupied or under occupied



Reduced lighting levels and LED lighting are used throughout the building. Additionally, lighting innovations will be displayed in the main lobby

### displacement ventilation

Displacement ventilation is used in the lobby and large auditorium to significantly improve ventilation effectiveness.



reduced plug load

The department is committed to metering and reduced electricity consumption.

> heat recovery chillers with net metering energy savings

Condenser water is used for heating and reheating while chilled water is utilized within the building and excess chilled water is sold back to the campus.





Occupancy and daylighting sensors are used in all occupied spaces to reduce lighting when spaces are not occupied and when daylighting is sufficient.