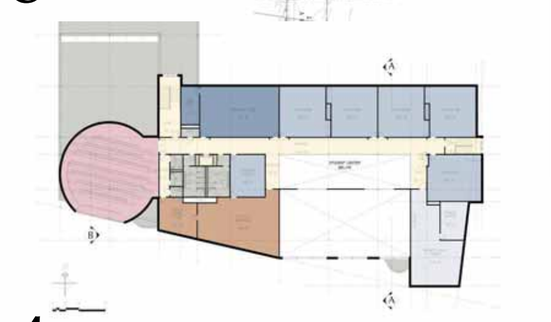
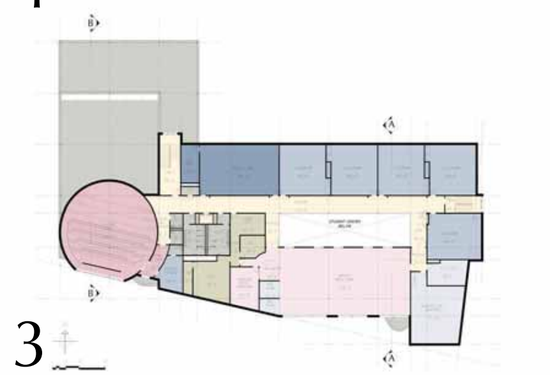
ENERGY STAR Challenge Criteria

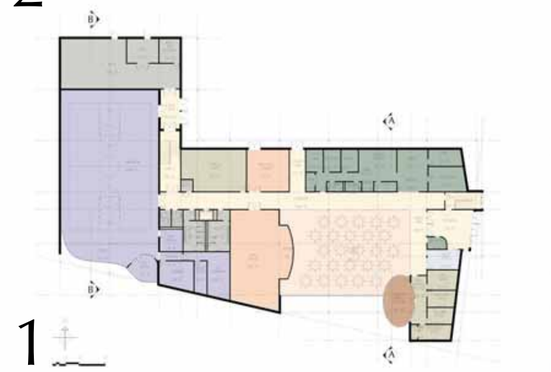
ENERGY STAR design rating = 90

Energy Use Intensity = 90.5 kBtu/sf/yr
Energy savings = 5,648,666.9 kBtu

Percent CO_2 reduction = 41%
CO_2 savings = 245.5 tons CO_2







DESIGNED TO EARN THE ENERGY STAR

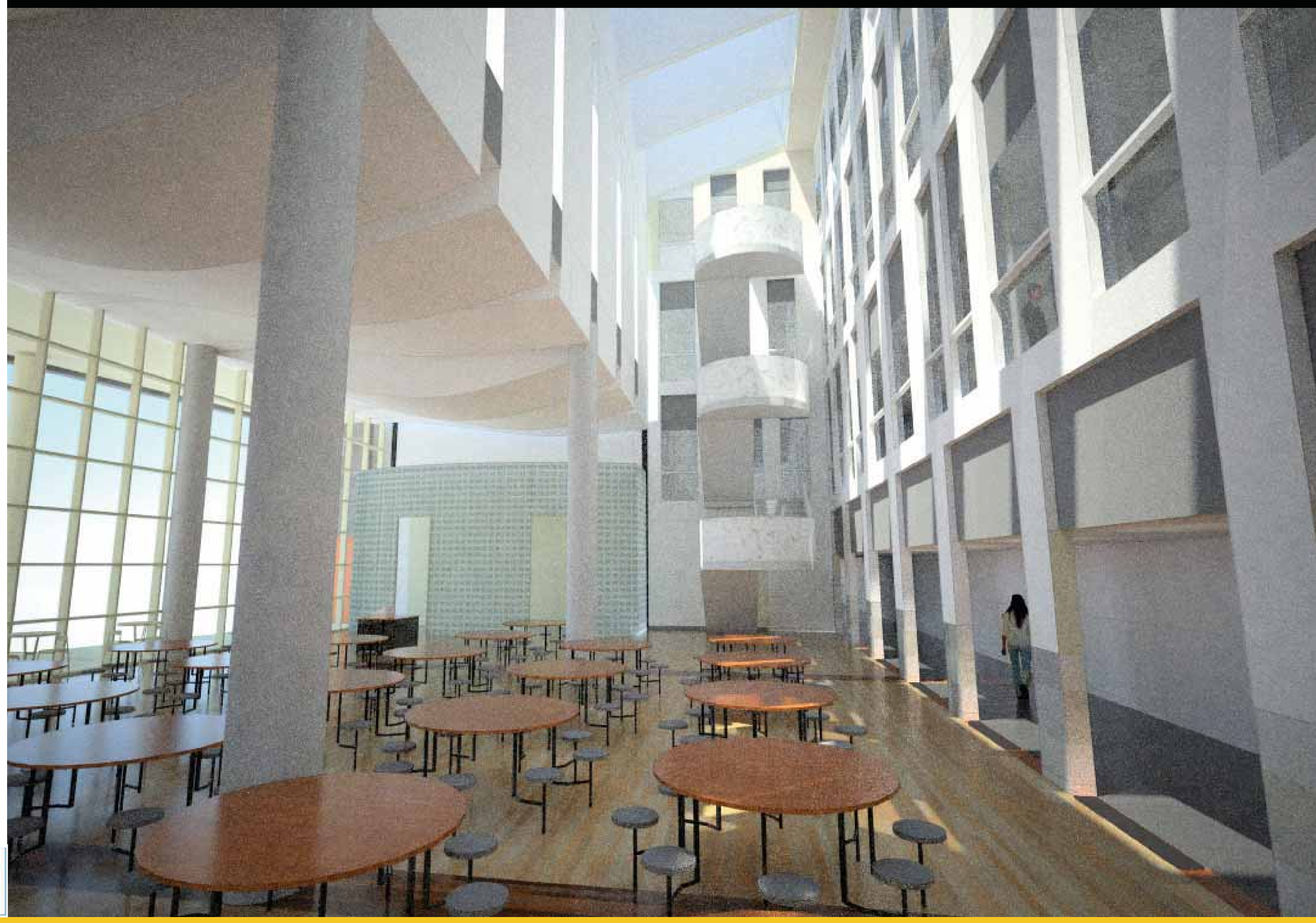
The estimated energy performance for this design meets US EPA criteria. The building will be eligible for ENERGY STAR after maintaining superior performance for one year.

Project Information

- new **400-student** urban "magnet" high school
- **4 story 80,000 SF building**
- building volume reinforces **street line**, and mediates between new structure and smaller-scale context.
- classrooms buffered from traffic noise by building mass
- classrooms surround skylit **Student Center atrium**
- windows feature lower band of **view glass** (1/3) and upper band for **daylighting** (2/3)
- **Net/gross =.71**
- **46.7 kbtu/sf/yr** (VisualDOE model)
- **38% savings** in annual utility costs vs. ASHRAE 90.1
- **57% reduction** in Annual Peak Demand kW vs. ASHRAE90.1

Design Elements

- Compact building massing
- **Rainscreen** exterior walls
- **Cool roof**
- Daylighting window design using *Daysim* and *Radiance*
- Light shelves
- Skylit **daylighting atrium**
- Borrowed lites to secondary spaces
- Majority of glass is oriented north or south
- exterior shading of south and east glass areas
- No west facing glass
- **Demand controlled ventilation**
- Displacement ventilation
- Bi-polar ionization air filtration
- **Thermal energy storage system** (ice)
- High efficiency lighting
- High efficiency HVAC equipment
- Low flow plumbing fixtures
- Add alternate for **photovoltaic array**



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