



PreK-12 School Design

Strategies for Consideration to Mitigate Climate Change

STATE OF NEW MEXICO  PUBLIC SCHOOL FACILITIES AUTHORITY

Partnering with New Mexico's communities to provide quality, sustainable school facilities for our students and educators.

- Sustainable Materials
- Photovoltaic Systems (PV)
- High Performance Building Envelopes
- Renovating Existing Buildings vs. Replace

Agenda





Sustainable Materials



- Specify materials with low VOCs, naturally derived, rapid growth materials
- Durable materials that stand up to years of use
- Specifying materials and equipment school staff know how to maintain and operate
- Designing schools now that will be more prepared for renovation in the future
 - More flexible spaces for changes in use
 - Designing a building with sound structure for potential reuse

Photovoltaic Systems (PV)

- PV continues to become more affordable
- PV systems are becoming more reliable and lasting longer
- Producing on-site energy for school facilities
- Offsetting higher demand for electricity
- Create more resilience, especially for remote districts/communities

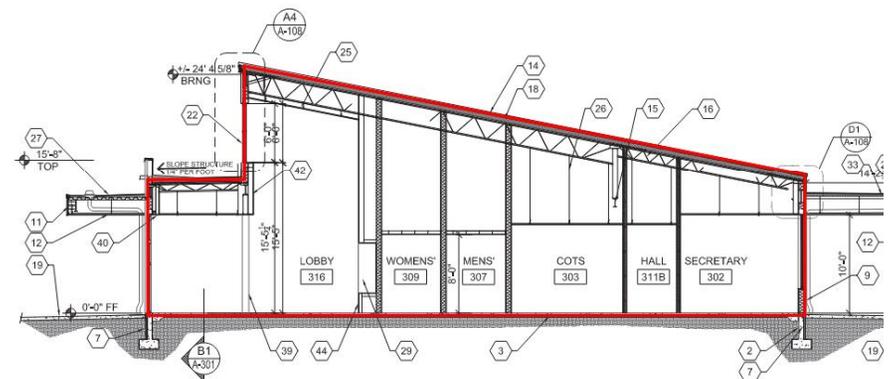


High Performing Building Envelopes

The building envelope creates physical protection from weather and climate

Higher performing envelopes can improve:

- Moisture Control
- Air Control
 - Ensure good indoor air quality, avoid condensation, provide comfort
 - Controlling airflow controls energy consumption
- Thermal Control
 - Good thermal control saves energy on heating and cooling



C3 BUILDING SECTION

School Building Lifespan

According to the National Center for Education Statistics (NCES), schools with a functional age of 15 to 34 years are more likely to report plans for major repairs, renovations, or replacements than newer schools. Some say that after 40 years, a school building begins to deteriorate rapidly, and most schools are abandoned after 60 years.

New Construction vs. Renovation

“The greenest building is the one that already exists.” – *Carl Elefante AIA President 2007*

- Building replacement creates high energy consumption
- Existing buildings may be able to be renovated, using less materials and resources
- Instead of replacing facilities
 - Design with future renovations in mind
 - Proper operation and maintenance of facilities will extend their life
- Many older built NM school facilities may not be conducive to a renovation
 - Older methods/ poor construction
 - Spaces that can be used for modern educational delivery



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