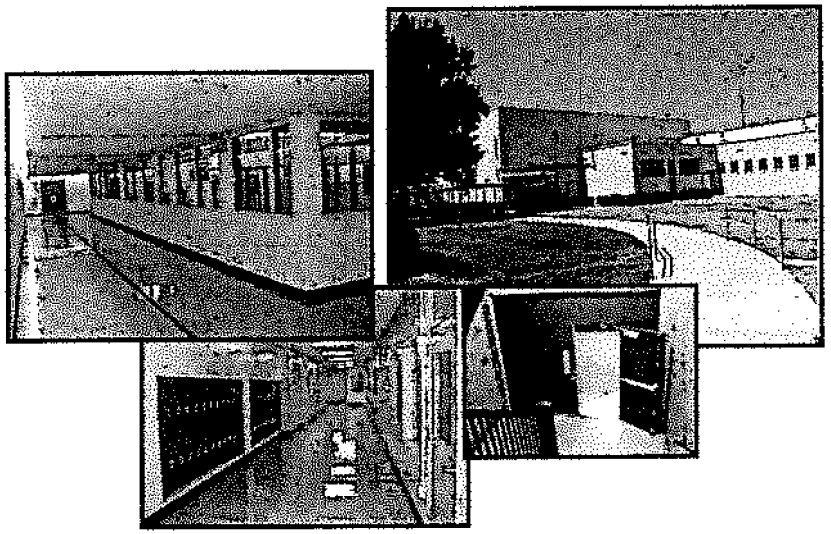


(Photographs used for illustration purposes only)

Safety & Security

There is a high interest in maintaining an inviting and deinstitutionalized environment, while simultaneously providing a safe environment for students, staff, and community who use the facility and adjacent support services. The organization of a building will have a major impact on student behavior and safety concerns. Building security can be addressed in an active or a passive manner: active security is based on security systems; passive security is based on program design, building layout, and community participation. Schools should be based on passive concepts with applied active concepts where necessary.

If we deal with the symptoms of the problem, we tend to focus on the active security procedures that can be implemented. If we deal with the cause of the problem, we are likely to address most of these issues through passive or program and building layout solutions.

The problems and their causes are multi-dimensional: some issues can be more easily addressed in design more than others. Causes include, but are not limited to, family problems, lack of sense of belonging, lack of identity, lack of communication, lack of accountability, lack of student/ teacher relationships, as well as criminal activities by outsiders. Passive program and building layout should be the primary focus and active security systems the secondary focus.

Since the greatest number of discipline problems in a school occurs when students switch classes and have to travel from one end of the building to the other, having students spend the majority of their day in one section of the building, reducing movement will result in fewer discipline problems. Teams of teachers having responsibility for the same students improve the student/teacher relationship and results in greater continuity and monitoring of behavior issues.

Safety & security considerations based on conversations with the lab participants:

- Adequate Security Area
  - Office
  - Storage
  - Student hold & release area
- Adequate Nursing Area to include medical and emergency storage
- Exterior lighting in all areas
- Facility lighting should include main campus, bus loading, athletic areas, and fine arts area
- Safe walkways & routes for students and community

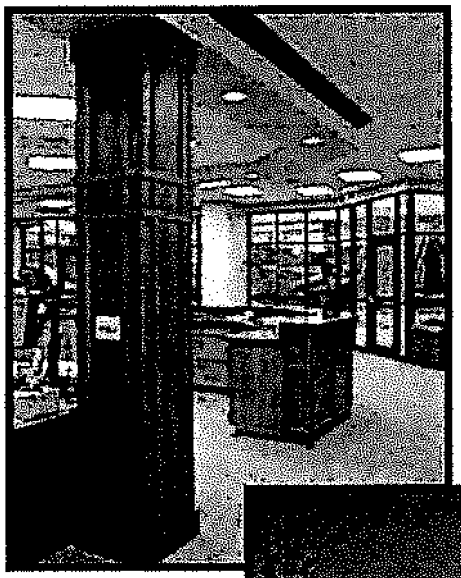
Safety & security concerns based on conversations with the lab participants:

- Separate bus drop off area
- Parent drop off away from the building, not too close
- Parking: Student, staff, visitor, handicap
- Emergency entrance & exit – ambulance, fire department, police
- Maintain low profile landscape natural to area
- Badge swipe entrance for visitors & access for staff during school time & after hours
- 24 hour security cameras (exterior & interior areas) – viewed by security & administration
- Evacuation areas for staff and students
- Visible signs at entry points – visitor condition, enter & leave facility

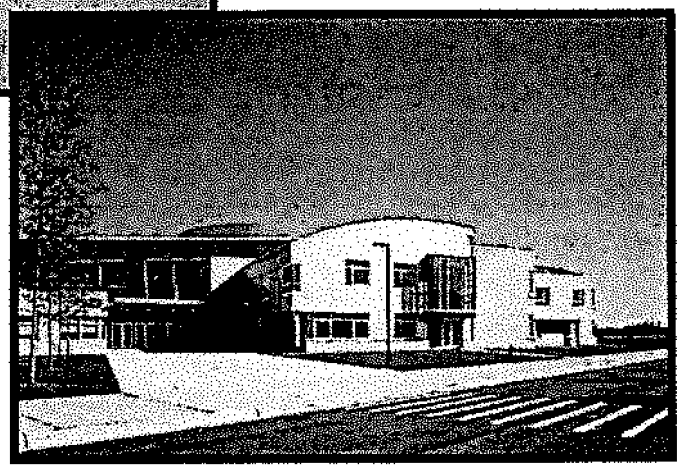
Organizing a building into teams or clusters results in a number of changes which will reduce behavior problems:

- Teacher preparation areas place adults in closer and more direct contact with students.
- Utilizing a decentralized administration approach provides the opportunity to have counselors, and/or assistant principals easily accessible to students in the academic clusters.
- Students have a greater sense of belonging and identity. For the majority of the day, their place is in the cluster/house.
- School pride becomes more apparent.
- Block scheduling is commonly utilized in secondary schools and helps reduce pedestrian traffic within the building.
- Hidden or underequipped spaces are avoided.

The glass wall into the administration reception/waiting area in the pictures below provides good visibility of the main entrance. It serves a dual purpose of being inviting and welcoming to visitors while allowing administrative staff to monitor access during school hours. Way-finding is crucial to a successful school facility. The front entrance and reception area should be immediately obvious to anyone approaching and entering the building. Similarly, strong glass can provide security and visibility.



CROSSWINDS MS, St Paul, MN



(Photographs used for illustration purposes only)

Passive Security Concepts

Building Layout

- Avoid blind spots, corners, and cubbyholes [inside or outside].
- Locate administrative and teacher preparation with good visual contact of major circulation and gathering areas [i.e., corridors, cafeteria, bus drop-off, parking].
- Develop spatial relationships in such a manner that there are natural transitions from one location to another.
- Locate toilets in close proximity to classrooms.
- Design toilets to balance the need for privacy with the ability to supervise – open restrooms (i.e. airports)
- Locate staff restrooms close to student restrooms.
- Locate areas likely to have significant community [after school] use close to parking and where these areas can be closed off from the rest of the building.
- Provide for natural integration of students and staff.
- External exits from offices.
- Wide, naturally lighted stairwells in multi-story buildings.
- Open stairwells.
- Ability to partition unused portions of building.
- Avoid external exit for toilet rooms.
- Avoid easy access to roofs.
- All separated buildings should be connected via external walkways.

This example below illustrates a cluster approach. Having teacher workrooms, commons area, restrooms, and storage integral to the cluster, reduces traffic and increases safety and security.

Types of Building Materials

- Use durable wall surfaces that are easy to clean so graffiti can be removed.
- Incorporate pitched roofs which inhibit roof entry and are aesthetically pleasing.
- Limits size of windows – use multiple smaller windows rather than one large window.
- Use safety glass or glass bricks.
- Glaze or tint windows.
- Install non-slip floors at point of entry.
- Handicapped accessible entrances.
- Ventilation system adequate to handle size of school.
- Sound device warnings for doors other than main entrance.
- Safe building materials.

Vehicular and Pedestrian Traffic

- Separate bus drop-off area from other vehicular traffic.
- Separate and adequate staff, student, and community parking area, located in appropriate areas.
- Separate student [pedestrian] traffic flow.
- Consider impact on safety of "closed" campus vs. "open" campus.
- Protect playfields from vehicular traffic and parking.
- Additional exit specifically for sporting events (quick exits = less chaos/fights).
- No portables
- Outdoor restroom facility (centralized)

Uses of Technology

For instructional and administrative purposes, the school should have extensive technology systems. These same infrastructures and technology components can be use to enhance building security.

The following is a list of ideas that were generated.

- Phones in every instructional and support area.
- Building-wide all-call designed to be heard throughout the school and on the play fields when needed.
- Motion or infrared detectors.
- Video cameras for security purposes with more people with access to the security cameras.
- Smoke and heat detectors located throughout the building for central monitoring.
- Panic buttons located in all rooms.
- Securable lobby area.
- Programmed swipe cards used for doors.
- Sound detection system.
- Possible electronic student identification systems...l students to wear ID's.

Combustibles Storage

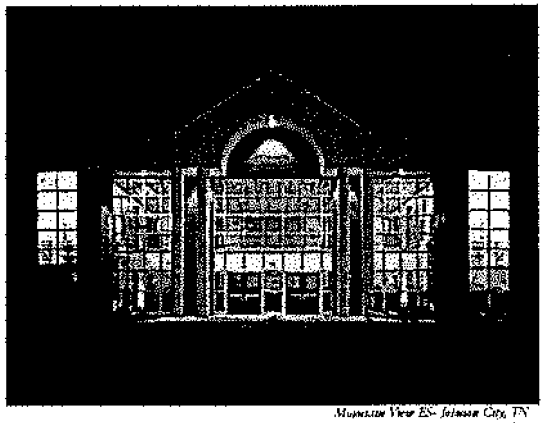
- Provide detached, fireproof, building to store combustibles: paint, solvents, laminates, gasoline, etc.

Landscaping, Playing and Practice Fields, Site, and Lighting

- Use high trees and low bushes (less than three feet high) to deter hiding. Eliminate trees at entrance.
- Use aesthetically pleasing fencing around perimeter of the building. Avoid barbed wiring.
- Consider placing some buildings or a tree buffer along the perimeter of the property to avoid extensive fencing, where feasible.
- Non-intrusive lighting of all area (not correctional-type lighting).
- Emergency lighting/power in hallways, stairwells, and rooms.
- Provide security lighting around building and parking lots with photocell timer with on/off capacity.
- Provide efficient lighting for outdoor venues.
- Separate athletic fields and informal gathering areas.
- Locate athletic facilities away from building.
- Recess building on site to avoid vehicular and pedestrian conflicts.

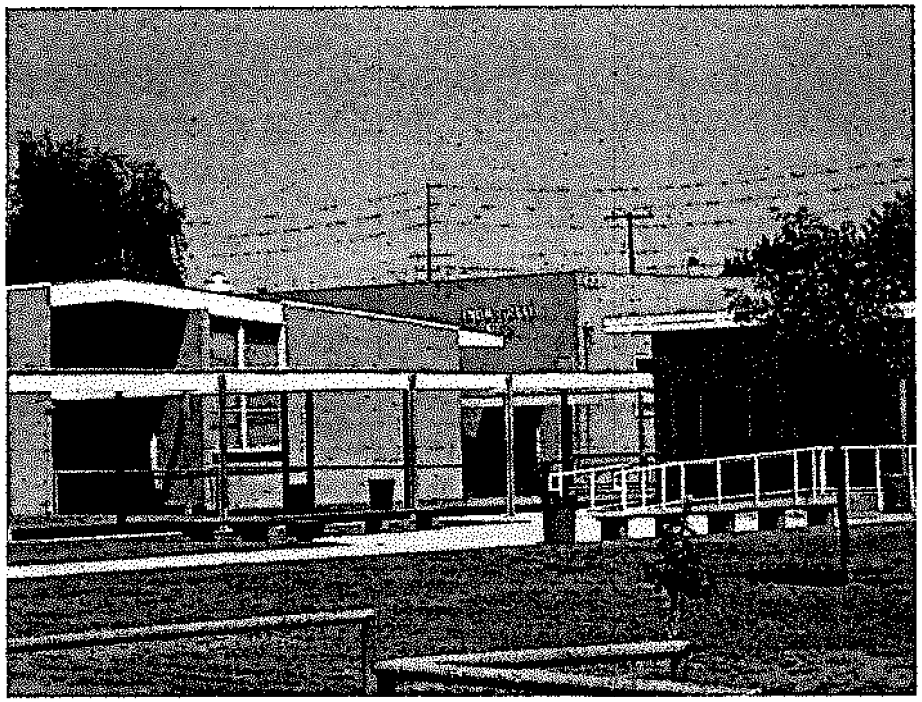
Council Rock HS – Richboro, PA Gilbert Architects

The image above is an example of using low bushes and high trees as landscaping features that deter hiding.



Mountain View ES- Johnson City, TN
Kee Ross Architects, Inc.

The images left and below are examples of exterior and interior lighting usage to create a warm, safe, and inviting environment.



Site Issues

Implementation of the Educational Specifications will result in renovation of the existing facility on site. . ill be responsible for location of school on the site as well as site issues including topography, drainage, pedestrian and vehicular traffic, bus drop-off and pick-up areas, service entry, and safety of playground areas.

Design Considerations

- Separate faculty and visitor parking areas.
- Student management/security in lots
- Separate drives for parent drop-off and buses.
- Exterior lighting.
- Fire vehicle access.
- Fencing around school, aesthetically pleasing.
- Location of "athletic centers".
- Service entry.
- Landscaping.
- Covered walkways between buildings.
- Location of utility "boxes" such as electrical transformers.

Lighting

- Include exterior security lighting with possible motion detectors and/or photocell timer for parking lots and exterior of building.
- Provide appropriate lighting for athletic and practice fields.
- Provide appropriate lighting for walkways.
- Provide lighting that is easy to maintain and secure against vandalism.
- Must be easy to maintain and service.

Traffic Flow

- Car, bus, and service vehicle traffic must be separated.
- Vehicular and pedestrian traffic must be separated.
- Consider access by fire department emergency vehicles when planning site circulation.
- Provide drive-up access for large items in areas such as Food Service and Custodial/Maintenance.
- Provide adequate areas for entering and leaving play fields.
- Separate drop-off for special education buses.
- Sufficient length in drop-off for bus stacking.
- Corridor locations off public transit stops, with a hard surface waiting area.

Parking Spaces Based on Percentage of School Population for 1,400 Students		
Staff	**15%**	**210**
Visitor	**3%**	**42**
Student	**33%**	**462**
Event	**15%**	**210**

Parking

- Adequate and separate parking facilities should be provided for visitors, staff, and students.
- The school site must provide adequate areas for entering and leaving, parking, and play fields.
- Consider covered walkways from car and bus drop-off areas.
- Comply with regulations for handicapped access.
- Consider bicycle racks.

Landscaping

- Design irrigation of fields, lawn, and landscaped areas.
- Create landscaped areas that are sustainable from natural rainfall and minimize use of an irrigation system where possible.
- Low-maintenance landscaping plantings.
- Consider outdoor spaces as an extension of the classroom and opportunities for exploration and education.
- Recycling facilities.
- Student-friendly.
- Places to rest and read.
- Trees for shade.
- Benches around trees.
- Sufficient green space.

Sheltered Areas

- For inclement weather.
- Eating lunch.
- Outdoor classwork.
- Before/after school activities.
- Walkways between buildings.

Playing Fields

- Secure and safe playing fields for students with direct access from the building.
- 4 Practice fields – multi-use (P.E., athletics) with irrigation and lighting.
- Drinking fountains located throughout playing fields.

Athletic Areas:

It is assumed that the current athletic fields and support athletic facilities at the Los Lunas High will remain. They are not included in this proposed project however will need to be taken into consideration in the overall design of the site.

Site issues based on conversations with the lab participants:

- Drainage problems:
  - The Current EF-G buildings
  - GYM – K – POOL
  - G – SOCCER
- Service Entry is necessary for:
  - Food Service
  - Maintenance
  - Supply orders
  - Recycle
- Currently there are ADA challenges:
  - Lobby
  - Upper area
- Adequate interior and exterior lighting needs