



New York State
EDUCATION DEPARTMENT

Knowledge › Skill › Opportunity

Safe Schools by Design Act

A Guide by NYSED

April 2025

Preface

In October 2023, Chapter 529 of 2023 was signed into law requiring all New York State (NYS) Public Schools' five-year capital improvement plans to “consider the incorporation of design principles and strategies, pursuant to guidance issued by the Commissioner, as part of a comprehensive approach to provide a safe, secure and healthy school environment.” The law requires compliance beginning April 17, 2025. The document enclosed here provides the guidance required therein.

Though the topics of safety, security, and healthy school environments are vast, a working group of professionals from these subject areas was formed to develop the most pertinent information. This document is guidance for the built, physical environment and does not delve into recommendations for school policies and training. Many existing resources are provided at the end of this document to enhance its usefulness.

Additionally, the guidance may include example products referenced by brand name. This is not intended to show preferential treatment nor endorsement of any manufacturer, brand, nor product, but rather intended as an example for general understanding.

Finally, the recommendations included in this guidance should not be construed to negate compliance with all applicable codes and laws.

A special thank you to the contributing members of the working group:

Elizabeth Brutsch, AIA, NCARB
Joe Kosiorek, Ed.D., AIA, Education Planner
Kirk Narburgh, FAIA, ASLA, LEED BD+C
Melissa Renkawitz, ALEP
Michael Walker, CEO
Russell Davidson, FAIA
Sandra Dardanelli, RA
Sara Madison, RA
Tracey Catalfamo, CEO

Table of Contents

I. Site and Building Perimeter	3
A. Visibility and Sightlines.....	3
B. Site Access.....	4
C. Signage.....	4
II. Exterior Building Envelope	5
A. General Building Envelope.....	5
B. Building Access / Entry.....	5
C. Fenestration (Doors and Windows).....	8
III. Interior Building Recommendations	10
A. Interior Fenestration (Doors and Windows).....	10
B. Building Compartmentalization.....	12
IV. Communications & Technologies	13
A. Communication.....	13
B. Signage/Way Finding.....	15
C. Security Cameras and Surveillance.....	16
V. Health and Wellness	18
A. Instructional Space Adjustments for Community Building.....	18
B. Personal Safety & Injury Prevention in Schools.....	20
C. Fire Safety and Emergency Egress.....	25
D. Electrical Hazards.....	26
VI. Appendix: Glazing and Film Standards	27
A. Test Standards.....	27
B. Glass Hardening Recommendations.....	28
VII. Resources	30

I. Site and Building Perimeter

A building's site and perimeter are its first line of defense against unwanted actions or intruders. The goals of creating a secure site should be to:

- allow community engagement, such as at athletic events, polling places, school health offices, etc.;
- protect against vandalism, graffiti, unwanted intruders; and
- encourage safe vehicle and pedestrian traffic travel, including for buses and emergency responders during daily operations or emergency/natural disasters.

A. Visibility and Sightlines

1. Landscaping and hardscape elements should be employed to deter trespassers and control access without blocking sightlines from the building out to the street.
 - a) Landscaping selections should consider height and foliage type. Species and proximity to the building must also be considered to deter pests and reduce fire risks from dry plant materials. Spiky plant varieties may be desired to deter would be trespassers or vandals. Students, faculty, and staff should be able to observe vehicles and persons approaching the building.
 - b) Consider tall fencing and gates without footholds to deter climbing. Openings should allow for line of sight through fencing to observe anyone approaching the property outside of the fencing line. Secured gates with manual or electronic access hardware should comply with egress (i.e. exit rim devices) and Americans with Disabilities Act (ADA) / accessibility elements as per code requirements. Gates, if provided, should have anti-lift hinges. Alarm technology at access points can be provided to alert school staff to an unannounced visitor trying to access the property. Care should be taken to assess and provide sufficient egress points in perimeter fencing near outdoor assembly areas such that egress in an emergency is not delayed.
2. Parking lots should allow for clear sightlines from the main office area. Direct visual access and supervision is preferred but camera surveillance is an acceptable substitution. For surveillance, install cameras/ Closed-Circuit Television (CCTV) at pathways to entrances to observe individuals/traffic and at outdoor areas (athletic fields, parking, playgrounds) to deter and observe. (See Section IV for camera surveillance guidance.)
3. Perimeter lighting should be installed to illuminate the grounds. Lighting should be low-energy (LED) and low maintenance with controls (i.e. timers, motion detectors, etc.) to supplement physical barrier deterrents and increase the safety of individuals working or walking after hours. Any device that senses motion after dusk can automatically trigger perimeter lights, enabling nearby cameras to capture images under illuminated conditions. It is important to consider owners of adjacent properties and as such, light spilling off district property should be minimized by design.

B. Site Access

1. Limiting property entry and exit points will reduce the number of locations that require monitoring. At least two points of entry/exit should be provided in case one is blocked by emergency vehicles or some other cause. The best entry drive design does not provide direct, straight access. Rather, a curved drive provides for delayed access and reduced speeding along with increased visual observance time by school staff.
2. Guard sheds and/or gates (vehicle and pedestrian) may be appropriate for some school sites to control access.
3. Segregate drives and parking for visitors, student parking, bus loading/unloading, and deliveries where the site constraints allow. Consider one-way drives for traffic flow control.
 - a) Where possible, separate bus loading and unloading areas from other vehicular routes.
 - b) Provide bollards or similar obstructions at curb lines in front of entrances and other vulnerable areas of the building or site to prevent vehicles from running into the building or accessing areas of the property where vehicles are prohibited. Bollard placements should be designed to maintain appropriate access to Fire Apparatus Access Roads.
 - c) Traffic calming devices, such as speed bumps or speed cushions, should also be considered as a useful tool in encouraging appropriate vehicle speed near buildings. Approval for such devices must be granted by the Fire Code Official.

C. Signage

1. Signage is an important aspect of building and site design. Signage should clearly indicate ingress to and egress from the building, both vehicular and pedestrian.
2. Install signage to clearly direct traffic and designate parking areas; to label fields and parking lots to assist first responders; to slow traffic (STOP, etc.) and designate emergency areas (Fire Lane). Please note, a designated area for gathering/reunification should be established by the building-level emergency response plan and it is recommended permanent signage not be provided for this purpose.

II. Exterior Building Envelope

This section includes recommendations regarding the building's exterior envelope (the outer shell of a building) and entry considerations to improve safety and security. This is the second line of defense when looking to protect a building and its occupants. Care should be taken to provide a building that is welcoming in appearance to encourage occupant health, happiness, and a desire to attend the building functions without deterring from safety features.

A. General Building Envelope

1. Determine the required level of protection/performance of the exterior building envelope. For glazing standards, refer to the "Glazing and Films" Appendix.
2. Solid Wall Materials
 - a) Use materials that are resistant to easy penetration. Examples include:
 - (1) Masonry walls (Concrete masonry units (CMU), brick, etc.); and
 - (2) Metal stud and gypsum board systems that incorporate ballistic wall panels such as US Bullet Proofing Wall Armor fiberglass panels or ArmorCore bullet-resistant fiberglass panels.
3. Height of Protection
 - a) Use hardening materials to a minimum height of 7'-0" above the finished floor or grade. This height may vary based on building design and configuration. Considerations include:
 - (1) Sightline access to unprotected occupied spaces above (e.g., the second floor); and
 - (2) Exterior building components that could be used like a ladder provide access above the height of protection.

B. Building Access/Entry

1. Credentialed Access
 - a) It is recommended that all exterior doors and building access points remain locked during school hours. Propping of doors should not be permitted.
 - b) To securely vet visitors in a K-12 school, implement electronic access control systems. Use card access, mobile access, or a push-button mechanism to grant entry through designated doors once visitors are inside the waiting area.
2. Secure Vestibules & Security Offices
 - a) Preference is to have a separate outside entry designated for visitors so that they do not utilize the main entrance vestibule used by students and staff. Existing conditions and space constraints may prohibit this.
 - b) Security desks are often installed in an office adjacent to the secure vestibule – either in the main office proper or in a secure office adjacent to the vestibule and office. It is important that desk orientation and design does not prohibit or limit direct line of site out to the parking lot, to the exterior entry doors, and out into the secure vestibule. Supplement with security cameras and monitors for

any coverage areas not physically visible via line-of-sight.

- c) Some school buildings do not have a secure office or main office directly adjacent to the main entrance. In these cases, it is important that a security desk be located behind a secure, protective barrier to provide an area of refuge for the person(s) staffing the desk in the event of a situation. In no case shall the security desk or barrier impede free egress from the building.
- d) A district visitor management system located at the security desk is important to check visitors in and provide a log of who accessed the building and when. Just as important is that visitors check out at this same location as well.
- e) Security desks should be equipped with proper notification systems at all times. Refer to the communications section below.
- f) It is important that district personnel who staff the security desk or office are trained on proper district security and emergency protocol and such training is regularly updated and modified.

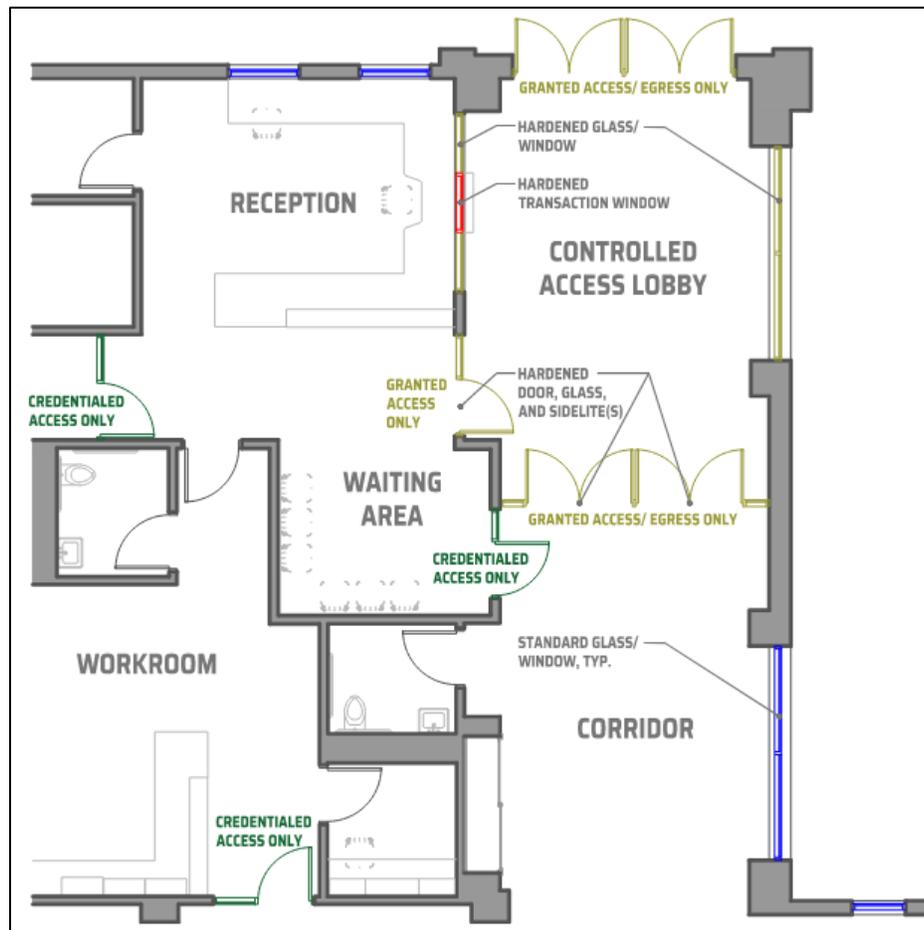


Figure 1: Controlled/Secured Vestibule

3. Transaction Windows

- a) When designing transaction windows at a school entrance, ensure the use of secure communication methods and safe document exchange mechanisms

Recommendations include:

- (1) Utilizing secure communication methods (e.g., secure speak hole, baffle configuration, electronic communication): and
- (2) Utilizing safe document exchange mechanisms (e.g., transaction tray).
- (3) It is not recommended to use sliding windows, as they can be left open and pose a significant security risk. If used, a limit stop should be employed to reduce the opening risk.
- (4) Consider using baffle windows with staggered bullet-resistant glass panels (e.g., Quikserv, C.R. Laurence Co, Ready Access).
- (5) Consider using an adjacent drop box “package exchange” device for accepting books, lunches, backpacks, mail delivery, etc. (e.g., Shure Safe ER Series Transaction Drawers)
- (6) Ensure fire rated construction as may be required by codes, regulations, and standards is maintained when the vestibule also serves as a means of egress.

4. Key/Knox Boxes

- a) Secure Storage: Key/Knox Boxes securely store keys, access cards, or entry codes for emergency responders. They are typically installed at strategic locations outside the school and have various methods of access. Coordination with the applicable local Fire Department and Police Department is necessary.
- b) Immediate Access: During an emergency, first responders can use a master key or code to access the Key/Knox Box and retrieve the necessary keys or access cards, allowing them to enter the school without delay.
- c) Minimizing Damage: Utilizing a Key/Knox Box reduces the need to forcibly breach doors or windows, preserving the integrity of the building and preventing further chaos.

5. Electronic Access Control Cards

- a) Utilize card readers or mobile access for primary entry points instead of traditional key hardware.
- b) Install door position switches to notify when doors remain open for prolonged periods of time.
- c) Magnetic locks and electronic (touch sensitive) panic devices are not allowed in new or existing buildings (no exceptions). Locking arrangements that inhibit or prevent egress discovered in existing buildings must be removed. Acceptable alternatives are electric strikes and mechanical panic devices with electric latch retraction.
- d) For more information, see the sections below on Fenestration and Interior Fenestration.

6. Roof Access

- a) Roof access should not be handled via an exterior ladder from grade, no matter how “secure” it is attempted to be made. Not only for security concerns, but

for general safety concerns for vandalism, pranks, etc. that can introduce significant risk. Additionally, avoiding exterior systems (vent pipes, HVAC ducts, lattices, etc.) mounted to exterior walls will decrease risks of roof access by climbing.

- b) Locate roof access at interior secured spaces (custodial closet, mechanical room, dedicated roof access room, etc.) that have limited access to only those needing access.
- c) Locate near exterior access points to provide easy, non-intrusive access to the roof to prevent or reduce potential disruption to indoor activities.
- d) Consider access method: vertical ladder, ships ladder, stairs, roof access hatch, door, etc. – especially with what needs to be accessed on the roof. If large mechanical units, rooftop units, etc. need maintenance, consider how workers will get equipment, tools, materials, etc. to the roof.
- e) Consider requirements for fall protection, such as: location of access point to roof edge, railings, or parapet requirements, etc.

7. Audio/Visual Alarm Alerts

- a) Door detection alarms can alert staff to an unauthorized entry and pinpoint the location of the event. For example, pool door entrances that directly access a pool may be required to have an alarm to alert staff to any unauthorized entry.

C. Fenestration (Doors and Windows)

1. General Considerations for Doors

- a) Minimize Exterior Doors: Reduce the number of exterior doors to protect and monitor, thereby minimizing potential breach points while still complying with life safety and egress requirements.
- b) Glazed Exterior Doors: Determine the level of protection/performance needed. Refer to “Glazing and Films” for considerations.
- c) Solid/Flush Exterior Doors: Consider using solid or flush doors for enhanced security.
- d) Sight Lines: Ensure clear sight lines to primary building access points to monitor potential threats.

2. Overhead Doors (e.g., CTE shops, STEM labs)

- a) Location Consideration: Place these doors in locations that limit exterior access during normal operations. Avoid adding pass-through doors within an overhead door as these are difficult to connect to a monitoring/alarm system.
- b) Supervision: Ensure active supervision by staff when doors are open, or passive supervision through monitored camera systems.

3. Door Hardware Considerations

- a) Storeroom Locks: Install storeroom function locks on all secondary exterior doors for high security and controlled access. Features include:
 - (1) Non-locking interior knob/lever for easy egress;

- (2) Key-operated exterior - keeping the door locked from the outside at all times;
 - (3) Automatic locking when the door is closed; and
 - (4) Consider exit only exterior doors with no exterior trim/handles thus limiting entrances into the facility.
- b) Panic Devices: For egress doors, consider panic devices with lockdown functionality. In general, door locking hardware is permitted to lock out but must continue to permit free egress in the path of egress travel.
- c) Integrated Systems: Ensure that all electrified hardware is connected and integrated into the school's security system and/or panic alarm system.

4. Windows

- a) Protection of windows and glazing that are not at an entry or adjoining an entry are at the designer's or end user's discretion.
- b) Glazing: Determine the level of protection/performance needed. Refer to "Glazing and Films" Appendix for considerations.
- c) Consider raising windowsills above the finished grade to provide a physical barrier to prevent access by climbing through the window. Balance this with consideration for visibility out for a clear line of site to access points, eye relief, and compliance with rescue window sill height requirements.
- d) If any windows are operable, consider installing window position sensors similar to door sensors to detect if a window is left open.
- e) Exterior window blinds can be used at the discretion of the room occupants. Limiting the line of sight from an assailant may help protect occupants inside a room. However, daylight and visibility out are important elements of a healthy learning environment.
- f) Use of reflective exterior glazing and/or exterior reflective films can also be considered to allow for visibility out but to limit visibility from the outside environment.



Figure 2: Reflective glazing film

III. Interior Building Recommendations

Please note that all the recommendations below may only be performed while maintaining existing or newly required fire rated construction. For more detailed information on glazing see the “Glazing and Films” Appendix.

A. Interior Fenestration (Doors and Windows)

1. Glazed Interior Doors (Storefront, Hollow Metal)
 - a) Protection/Performance: Determine the level of protection needed. Refer to the appendix on Glazing and Films standards for considerations.
 - b) Sight Lines: Ensure sight lines to primary building access points to proactively detect potential threats approaching.
 - c) Hard Corners: Design hiding areas beyond the view of glazed doors to allow occupants to hide from potential assailants. Narrow vision panels in doors often provide more hard corner space than wide vision panels.
2. Interior Glazing and Sidelights.
 - a) Configuration and Purpose: Assess the most appropriate configuration and purpose for interior glazed openings.
 - b) Hard Corners: Design hiding areas beyond the view of glazed doors to allow occupants to hide from potential assailants.
 - c) High Windows: Consider installing high windows in corridors for security and natural borrowed light and maintain the wall as a teaching surface in both classrooms and corridors.
 - d) New Technologies: Electrochromic glass and other smart glass options now available provide additional options to consider for glass security measures. These technologies can make glazing switch from transparent to opaque and can be tied into a lockdown system.



Figure 3: High windows at interior walls

3. Interior Hardware
 - a) Lock Functions: Determining the most appropriate lockset for each type of

door must be coordinated with school operations. The use of a hardware consultant is highly recommended, along with consideration of the below options.

- b) Intruder Function: This allows room occupants to lock the door from inside the secured space without opening the door and inserting a key from the corridor side. It requires a key to unlock the exterior lever, preventing accidental unlocking with a button or thumb turn. The door can be left unlocked until locked.
- c) Storeroom Function: The door is always locked from the corridor side. There is no lock button on the interior to unlock the door, ensuring the exterior level is always locked. It should be recognized that doors with this function lockset may inadvertently pose a greater risk of inviting the use of door wedges or props to hold the door open. This hardware set works particularly well when paired with electronic access control and magnetic hold open hardware integrated with the fire and lockdown systems.
- d) Quick Action Lockdown Hardware: Consider using hardware that can easily lock the door while maintaining emergency egress and providing a visual indicator on the interior face that it is secure. For example, Securitech's Safebolt.
- e) Prior Hardware Guidance: The following NYSED memo regarding school security and door hardening remains applicable and should be reviewed fully: [NYSED's School Security and Door Hardening Memo \(2022\)](#)

4. Security Blinds

- a) Speed blinds are recommended for classrooms. These blinds can be quickly deployed to cover any windows facing the hallway, providing concealment for the people inside the room. Fabric blinds must be Class A rated and meet NFPA 701 "Standard Methods of Fire Tests for Flame Propagation of Textiles and Films". Blind cords should be avoided.
- b) Blinds can provide a visual barrier to conceal occupants from an attacker searching for targets. However, this barrier can also hide potential attackers from first responders and law enforcement outside the building.
- c) The best practice is to establish a protocol for occupants during a lockdown ensuring they are not visible through windows. This prevents attackers from spotting potential targets while allowing law enforcement to see inside.



Figure 4: Speed blinds

5. Vision Panels

- a) The Manual of Planning Standards requires classroom doors, stair doors, and corridor doors to have vision panels. As such, vision panels may not be covered. However, the Office of Facilities Planning has permitted temporary covering of vision panels in classroom doors in an emergency. The temporary

covering of vision panels must be written Board of Education policy and included in the Building Level Emergency Plan.

- b) See the appendix on Glazing and Films standards for recommendations on glazing in vision panels.

B. Building Compartmentalization

1. Building compartmentalization is an essential strategy for enhancing the safety and security of a facility. This approach involves dividing a building into separate sections or compartments, typically using fire doors and other barriers. It can prevent the spread of fire and smoke, protect the means of egress to allow for safe evacuation, and is particularly helpful in the context of an intruder situation.
 - a) Fire Safety: Compartments serve their primary function of preventing the spread of fire, smoke, and toxic gases, enhancing overall safety.
 - b) Fire Doors: These doors can be strategically placed to section off different parts of the building so long as they comply with all egress requirements. If an intruder is detected in the building, these doors can be automatically closed and locked to limit their movement. In addition, stairs should be enclosed by design to prevent fire and smoke spread and to protect the means of egress paths for safe evacuation.
 - c) Controlled Access Points: By compartmentalizing, you create controlled access points that require additional effort or time to breach, slowing down the intruder.
 - d) Safe Zones: Compartments can create safe zones where occupants can hide or barricade themselves. These zones can be equipped with reinforced doors and locks to provide additional security.
 - e) Clearer Navigation: When law enforcement arrives, a compartmentalized building can help them better strategize their approach. Knowing the layout and where barriers are located allows for more efficient room-to-room searches and tactical maneuvers.
 - f) Command Center: Law enforcement must quickly establish a command center to coordinate their response. This may be inside the school building or elsewhere. This includes deploying tactical units, conducting evacuations, and managing communication between responders. Access to communication features at this intended command center location is key. It should be noted that bus radio systems and building radio systems are often different, and access to both is essential.
 - g) Integrated Security Systems: Integrating fire doors and barriers with the building's security and alarm systems ensures a coordinated response during an emergency.

IV. Communications & Technologies

This section discusses recommendations for communication and technology systems that can improve and enhance the safety and security of the built environment.

A. Communication

1. Communication, Community At Large:

If a district decides to employ a Mass Notification System (MNS) to be able to address an imminent threat, they should consider the following:

- a) A Mass Notification System for schools is a comprehensive communication software/hardware platform designed to disseminate critical information rapidly to a large number of individuals within the school community across multiple channels – email, text, voice, mobile app, website, and social media, and/or potentially via classroom electronic message boards or VOIP/cell phones in a lockdown scenario (see below Communication, Localized).
- b) Components:
 - (1) System design –the Fire Alarm System and the MNS must be coordinated by design to address conflicting instructions in the event the Fire Alarm has the school evacuating, but an MNS has them in lockdown. This may occur if an intruder pulls a fire alarm to evacuate the facility to attack occupants as they fill corridors or leave the building. In this case, if the MNS message takes precedence, the fire alarm may be silenced by authorized district staff (note this requires prior fire department authorization and written instructions in the building-level emergency response plan). Note - pull stations may be removed if certain requirements of the Fire Code are met.
 - (2) A system to record and log messages that are being announced during the emergency for review after the emergency event has ended. Every emergency event is an opportunity to learn how to better strengthen processes, procedures and technology to mitigate danger.
- c) Alyssa’s Law (Chapter 227 of 2022) amended Education Law 2801-a, which now requires school districts to consider equipping their elementary and secondary buildings with a panic alarm system which is directly linked to local law enforcement. The alarm shall not be audible within the school building.

2. Communication, Localized:

- a) Districts should be able to rapidly communicate that a threat is imminent, whether it is a security or non-security threat, a weather emergency, etc.
- b) One-way audible mass notification via a low-voltage system can be used to communicate with staff and students outside the school building but still on school grounds (i.e., play fields); this system may be layered with a text messaging system or fire alarm system that has a voice component.



Figure 5: Classroom Communication System

- c) Two-way radio systems:
- (1) A local two-way radio (handset) system between district office/school's main office and staff is a system which allows the administrative staff to communicate immediately with staff who are responsible for the students who may be outside of the building. Two-way radio is instantaneous (i.e., push-to-talk) and more reliable than a cell phone.
 - (2) A two-way radio (wide area) communication system is a system between district staff and communitywide level/responders – it is a digital low-band radio system connected to the district wide system.
 - (3) Two-way radio apps allow a radio user to receive and make phone calls directly to 9-1-1.
 - (4) An enhanced two-way radio – commercial radio system (Digital Trunk system) allows for multiple users on different radio frequencies. This system needs FCC licensed frequencies.
- d) Antennae for radio responders: increase the height or the number of external antennae to improve the communication's range and thus ability to relay messages to others. Ensure that these systems comply with section 510 of the Fire Code and are coordinated with local responders.
- e) Distributed Antenna System (DAS) technology ensures that emergency first responder two-way communications systems will work inside the school, using a repeater or signal booster.
- f) Terminology/Protocol: Consistency in terminology is essential. Effective July 1, 2025, CR §155.17 requires all schools use the following terms in their emergency plans and in training to students and staff: Lockdown, Secure Lockout, Evacuate/Evacuation, Shelter/Shelter-in Place, Hold/Hold-in Place. Two resources available to schools in communicating the required terms and recommended actions:

- (1) The New York edition of the I Love U Guys foundation’s Standard Response Protocol:
<https://www.nysed.gov/sites/default/files/programs/student-support-services/srp-k12-2025-poster-nysed-en.pdf> ; and
 - (2) New York State Emergency Response Terms Card:
https://www.nyscfss.org/_files/ugd/60b30b_f67e71231aa34bd6b1e6e9667777db9a.pdf.
3. Communication, Individual Rooms:
Specific rooms can communicate directly with the central administrative main office. The system may also communicate directly with local law enforcement. Components may include:
 - a) Classroom telephones; and
 - b) Panic buttons. Panic buttons must be considered at secured entry reception desk, school-based health center reception desk, main office, and other strategic locations determined by district.
4. Local Tip Line (Prevention):
 - a) A separate, anonymous, “tip line” to receive a text, email, or voice message alerting school administration of potential concerns (i.e. safety issues, suicide, bullying, violence). ‘Tip line’ monitored by administrative/receptionist at normal hours and dedicated staff during after-hours. For more on tip lines, reference the [Tip Lines for School Safety](#) link from Feb. 2020.

B. Signage/Way Finding

1. Exterior Signage
 - a) The property perimeter should be clearly defined with signage stating that entry onto school property is limited to authorized visitors and those on official school business.
 - b) Signage should be placed on every door indicating that all visitors must sign in at the dedicated (secured) entry and that individuals attempting to enter without authorization are subject to arrest.
 - c) Signage should also be used to clearly label fields and parking lots to assist first responders.
 - d) In cases where school grounds are used by the public after school hours, however, signage at these schools should include hours the grounds are open to public and what activities and items are prohibited, such as drug or alcohol use, unleashed pets, fireworks, dangerous horseplay and weapons. If your district has a security or law enforcement department that monitors and responds to situations on school property, it is recommended the department phone number be posted on the signs. Signage to discourage illegal dumping should be posted on dumpsters and in immediate areas.
 - e) Building address (number) signage is required by NYS FC 505.
 - f) Building numbers should also be on the roof for aerial support.

2. Labeling of Exterior Fenestration

- a) Label exterior doors and exterior classroom windows (with room numbers) for first responders. Numbers should be made of reflective material, have a contrasting background, be located in a consistent place on the doors and windows (ex: lower left corner), and shall be readable from the ground plain. (See figure 2, above.) In addition, the number system should be clear to the first responder as to where the door/window is within the relation of the school. For example, labeling a Door 1 of 21 or 121 allows first responders to decide which direction to go to find a specific door/window. Most first responders request the door/window labeling begin at the main entrance and proceed clockwise from the main entrance. Coordinate with local responding authorities.
- b) Some buildings are known by their lettered wings and should be labeled as such.
- c) Consideration should be given to labeling door numbers on the inside face of all exterior doors so that occupants can best describe locations to first responders without opening the door.

3. Interior Wayfinding

- a) General: Contrast colors with background; Be retro-reflective for low light or smoky conditions; Comply with Accessibility requirements; and be reviewed with local responders to solicit their input for maximum effectiveness.
- b) The room number should be posted on the interior of the room.
- c) The exiting floor plan (with room numbers by the door) should be available in each room so an accurate location can be provided by a room occupant to an outside responder. The exiting floor plan also serves as a quick reminder of the route to take to evacuate the building.
- d) The hard corners, or areas out of the line of sight (from the door vision panel, corridor windows), should be labeled inside of rooms.

C. Security Cameras and Surveillance

1. There are four ways that security cameras and related systems can operate:
 - a) Surveillance – what is happening now;
 - b) Assessment – a recording of what did happen;
 - c) Forensics – a recording for record; and
 - d) Risk Mitigation – proactively alerting responsible parties.
2. Security camera systems should be a fully networked system.
3. Districts should establish a video surveillance and use policy.
4. Security camera system component standardization should be selected based on use, not necessarily on manufacturer. Certain types of cameras are better equipped to view and record based on lighting, location, depth and range of view field, etc. Regardless of manufacturer, cameras should be selected so they integrate with one another and the

monitoring system. It is currently recommended that all cameras be IP-based.

5. Interior cameras should be positioned to face exterior doors to monitor people as they ingress or egress. It is preferable to locate cameras at all exterior doors.
6. Perimeter surveillance: Employ visual surveillance measures (cameras/CCTV) along property boundary lines to act as a deterrent as well as to capture images of unauthorized individuals, and vehicle descriptions, etc. Strategically placed cameras should be positioned to provide the widest coverage of vulnerable areas with the fewest cameras. Higher resolution cameras should be placed at select locations to capture high-level details (i.e. license plates).

V. Health and Wellness

This section discusses recommendations for the built environment that may improve general health and wellness of the building occupants. Additional considerations are included to discuss personal safety and injury prevention in schools. There are also tried and true methods of designing healthy schools, that are routinely covered by code and regulation requirements, that are not discussed here in detail. Examples may include sufficient heating, ventilation, lighting, plumbing facilities, access to natural light and eye relief, and appropriate areas for eating, movement, and learning. Insufficiencies in those areas must also be addressed in a five-year capital plan.

A. Instructional Space Adjustments for Community Building

1. Small Learning Community Organization

- a) Consider organization of classroom areas/wings to create smaller networks of instructional spaces (4-6 classrooms) with shared space for collaboration. Consider the need for transitions into smaller break-out rooms to support smaller group work.

Rationale: Smaller learning communities support student well-being by providing a network of peers and staff that create a sense of belonging and attribute to social-emotional well-being. Dedicated collaboration and breakout areas in each community further support social interaction, team building, student ownership and life skills development, attributing to positive mental health. Flexible physical learning environments using a variety of connected space types and sizes, visible to each other, creates a sense of place, allowing multiple-sized student grouping opportunities where staff and students can communicate/collaborate addressing all student learning preferences and modalities. Consider integrated access to outdoor classroom/learning environments protected from the environmental elements for fall and spring use, increasing instructional space without increasing building footprint.

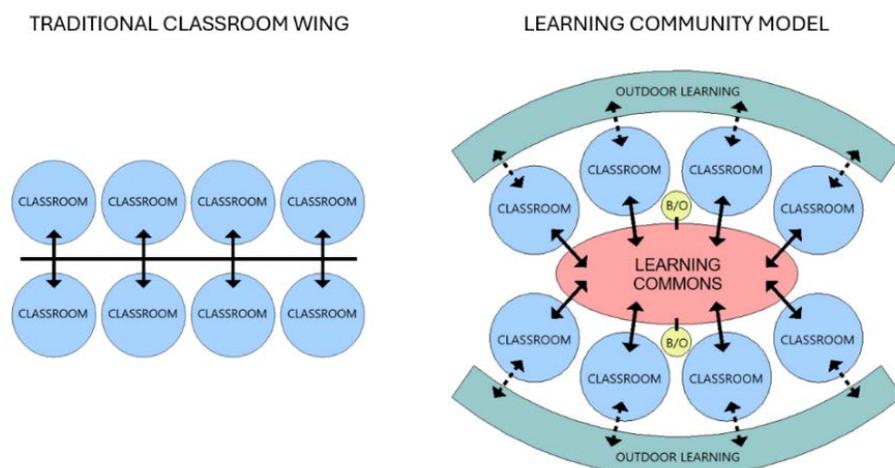


Figure 6: Traditional Classroom vs. Learning Community Model

2. Create connectivity that encourages learning and reduces institutional feel.
 - a) Consider replacement of older vintage/institutional materials in lieu of modern upgrades. Consider materials, colors and patterns that are engaging. Consider glazing along corridors to allow vision and light transfer into adjacent instructional and assembly spaces while maintaining hard corners/lockdown areas within occupied rooms.

Rationale: Creating an environment where students feel welcome and safe attributes to positive mental health. Visibility between spaces within the community supports a sense of connectivity for students and staff. Consider murals and graphics that are representative of the students and community to further enforce a sense of belonging. A variety of space types and sizes including materiality (furniture, finishes, lighting, etc.) unique to the space's intent to engage specific learner groups allows students to feel safe and connected.
 - b) Consider daylight, air quality, sound mitigation, etc., as factors contributing to student wellness and learning. It can also not be repeated too often that code required minimums for lighting in learning spaces, ventilation rates, and heating levels must be maintained.
3. Consider the location of assembly spaces and their proximity to entrances.
 - a) Ensure clear sightlines from building entrance(s) to entry points of assembly spaces such as gymnasiums, auditoriums, and cafeterias, to monitor potential threats. Minimize blind spots in the approach to assembly areas.

Rationale: Traditional assembly spaces should be located centrally to a building's population, but also be separable from learning environments/classrooms for evening and community use. Flexible assembly can be provided within each small learning community (100–150 students) by providing Flexible Physical Learning Environments using a variety of connected reconfigurable space types and sizes, transparent to each other.
4. Provide spaces for support services that better the health of the school community: psychologist, social worker, counselor, school health office, etc.
 - a) Consider locating all student support services in a dedicated, central area that is accessible to all students, with a welcoming entrance.

Rationale: A centralized student support center allows for staff to work together to better support students' individualized needs and share resources. Investing in student support services and encouraging student-use contributes to individual mental health and the greater well-being of the community. Providing a centralized support services location/hub that can easily be deployed into decentralized flexible learning environments decreases the stigma of receiving such services.
5. Foster community programs which increase school safety through engagement with law enforcement and fire departments.
 - a) Encourage engagement with local law enforcement and community agencies to establish a positive relationship with authority and enforce a sense of belonging within the larger community.

B. Personal Safety & Injury Prevention in Schools

Being prepared is one of the best ways you can keep children and adults safe and healthy in a school environment, but it is impossible to prevent all accidents and injuries. Although unintentional injuries are, by definition, accidental, there are basic precautions that can be taken to help limit the conditions conducive to injury. The following subject areas are aimed at preventing injuries in children and adults while keeping them safe in a school building.

1. **Extreme Heat:** NYS Education Law 409-n discusses districts' responsibilities to respond to extreme heat conditions in school buildings and facilities. It sets requirements for actions that must be taken at certain temperature thresholds and goes into effect on September 1, 2025. While the solution may not be providing mechanical cooling to all effected spaces, many will be drawn to that solution. One very important challenge to consider is that the code-required ventilation outside air must be maintained when the building is occupied. Beware of mechanical cooling systems that do not also integrally cool the ventilation outside air as incorrectly designed systems may result in condensation and mold development.
2. **Decarbonization/Electrification:** As New York State continues moving towards achieving decarbonization goals, considerations must be made for the replacement of fossil fuel fired appliances with heating and/or cooling systems which use electricity instead, such as heat pumps; electric boilers and water heaters; etc., and systems that may support electrification such as solar photovoltaic power generation. Appropriate designs for these systems can achieve energy use reduction, decarbonization, and increased efficiency while continuing to support health learning environments.
3. **Storage Areas:** Storage spaces, found in most occupied buildings on school grounds (instructional, buildings & grounds, transportation maintenance/storage, career & technical education (CTE), and athletic) can pose a fire risk. However, there can be specifically designated storage areas that are used for the storage of chemicals of various types and states. Most often these areas occur in conjunction with Science, Technology, Engineering, Arts, and Mathematics (STEAM) classrooms/labs, Family and Consumer Sciences (FACS) classrooms, offices, and building maintenance areas, but may occur alongside regular classroom spaces.
 - a) Chemicals of any type should always be stored in spaces designed for chemicals and may sometimes require specific features. The doors to these spaces should always be locked and signage should be provided identifying the level of hazard. Ventilation of these spaces is almost always required. It is highly recommended that these areas also have spill clean-up kits available, with procedures and proper training for their use. Documents to reference for specific storage requirements will include:
 - (1) Safety Data Sheets (SDS) that accompany most every chemical that is delivered to a school;
 - (2) Building/Fire Code requirements for the storage of specific chemicals; and
 - (3) Manual of Planning Standards from NYSED's Office of Facilities Planning.

4. Eyewash & Emergency Shower Stations: These are required in locations where staff and/or students will be handling or dispensing chemicals that could be damaging to the eyes, face, or skin. The areas where they are found can include chemical storage areas, science classrooms, CTE program areas, laboratories, art rooms, pool mechanical rooms, transportation maintenance areas, along with others.
 - a) Follow ANSI Z358.1-2014: Emergency Eyewash and Shower Standard to comply with PESH/OSHA. Look for areas that may be lacking these stations or need upgrading, replacement, or additional units.
 - b) Here is the link to the standard: [ANSI Z358.1-2014: Emergency Eyewash and Shower Standard](#)

5. Waste Management: Schools and other school related buildings contain many types of chemicals and hazardous wastes that are used daily and some that might be forgotten about that sit around for years. Related to the proper storage of chemicals is the eventual disposal of them to prevent contamination and liability that can be associated with improperly disposing of unwanted chemicals. Having a chemical waste management plan for the school district and each building is necessary. These plans may include the need for chemical resistant drains and waste lines, or possibly even neutralization tanks for science labs. There are also specific hazardous materials that require special handling, when found in buildings, that are discussed further in the next section.
 - a) Links to help you start a waste management plan:
 - (1) [New York State School Science Chemical Management Guidance Manual](#)
 - (2) [School Chemical Management - NYSDEC](#)
 - (3) [Universal Waste - NYSDEC](#)
 - b) Links regarding hazardous waste related to bloodborne pathogen standards under OSHA/PESH:
 - (1) <https://www.osha.gov/bloodborne-pathogens/>

6. Hazardous Materials: These are any items or agents (biological, chemical, physical) which have the potential to cause harm to humans, animals, or the environment, either by themselves or through interaction with other factors. Many of these items can be found in school buildings and there are procedures to limit student/staff exposure to them that should be followed. Ultimately, the goal should be to totally remove or significantly reduce these hazardous items in school buildings.
 - a) Asbestos: According to OSHA; “Asbestos is the name given to a group of naturally occurring minerals that are resistant to heat and corrosion. Asbestos has been used in products, such as insulation for pipes (steam lines for example), floor tiles, building materials, and in vehicle brakes and clutches.” The fibers associated with this mineral are well known as a health hazard to those exposed to them regularly. Loss of lung function can occur to those exposed which can lead to a person’s death from lung cancer or mesothelioma.
 - (1) The goal should be to remove known friable or easily crushable Asbestos Containing Materials (ACM).

- (2) Prioritize areas where it is close to or within occupied spaces to prevent an asbestos release event where asbestos fibers are made airborne for occupants to become exposed to.
 - (3) Vermiculite insulation can contain asbestos. Have it removed if it can easily be accessed and/or disturbed.
- b) Lead: According to the U.S.E.P.A.: “Lead is a naturally occurring element found in small amounts in the earth’s crust. While it has some beneficial uses, it can be toxic to humans and animals, causing health effects.” Lead can be found in the air, soil and water and has been used for many types of applications throughout the 19th and 20th centuries and can still be found in older buildings including schools.
- (1) In painted surfaces there can be a layer of paint that contains lead which would make the entire covering a hazard. Caution must be used when cleaning up broken paint chips to avoid spreading the lead dust.
 - (a) Testing of any painted surfaces to be remediated or removed for a lead layer is required in all pre-1978 buildings.
 - (b) Follow the U.S. EPA Lead Renovation, Repair and Painting Program (RRP) requirements.
 - (c) Building projects involving demolition of older buildings or remediation of painted building components are required to investigate if lead is present and comply with the RRP program.
 - (2) In drinking water, lead can be present from groundwater contamination, water service piping in the streets made of lead, lead solder used to connect copper piping within a building and lead present in the metals used in water outlet fixtures. The NYS Department of Health has a School Lead in Drinking Water Team who operates a program that guides compliance with laws requiring lead testing of school drinking water and the remediation thereof. Their page can be accessed: [Lead Testing of School Drinking Water](#) .
 - (a) Among other things, under current law, districts are required to test all the potable water outlets in every building owned by the school district every 3 years.
 - (b) Any outlets that are found to exceed the action level of lead in drinking water (currently, 5 parts per billions (ppb)) are to be removed from service and remediated (replace outlet with a lead-free fixture, add filtration, or remediate in another method to remove the source of contamination).
 - (c) Districts should always be considering potential sources of lead that are present within their school buildings and developing portions of building projects that will remediate lead sources. Only lead-free fixtures are permitted at locations for water consumption or cooking.
 - (d) Consider adding bottle filling stations to drinking fountains to mitigate spread of germs. However, it must be noted that

bottle filling stations alone cannot replace a drinking fountain.

- c) Radon: According to the United States Environmental Protection Agency (USEPA): “Radon is a naturally occurring radioactive gas that can cause lung cancer. You cannot see or smell radon. Testing is the only way to know your level of exposure. Radon can have a big impact on people’s health and indoor air quality.” From contact with the ground, radon can get into any type of building and regular testing is the only way to positively know if the building occupants are being exposed to radon regularly and the concentration of it. Radon can also be found in well water. Radon gas decays into radioactive particles that can get trapped in people’s lungs when breathed in.
- (1) Radon gas can seep into buildings through cracks in the foundation and accumulate in areas occupied by people who breathe in the gas. During the school year, students and staff spend a significant amount of time in school buildings breathing in the air. Knowing if the occupants of school buildings are being exposed must be a priority.
 - (a) Periodic air testing inside of school buildings during the cooler months should be done to discover areas of concern and inform the development of mitigation plans.
 - (b) A professionally installed mitigation system will actively draw gases from beneath a building and exhaust it safely outside at or above the roof level. Additional measures of a mitigation system may include sealing floor cracks, covering and sealing sump pumps, adding vapor barriers, and increasing ventilation.
 - (2) Radon gas can dissolve and accumulate in the ground water (wells) and become released when the water is used for showering, drinking, cooking, etc.
 - (a) If a building’s water source is from a well, then testing of water should be done regularly and if found, installation of available systems to reduce the radon in well water is warranted.
 - (3) The regular maintenance of existing Radon mitigation systems is required along with continued testing to verify the systems are still working properly.
- d) Mercury: According to the New York State Department of Health (NYSDOH): “Mercury is an element that occurs naturally in the earth’s surface. The form of mercury that poses an exposure concern in schools is known as elemental mercury, or simply, mercury.” Mercury is a health and environmental concern as it does not degrade and cannot be eliminated by burning, so proper disposal/recycling is essential.
- (1) Since September 4, 2004, schools have been banned from purchasing mercury. The removal of various items that contain mercury from schools was made a priority and is still a priority.
 - (2) The main types of items that can contain mercury are older thermometers and gauges. These items can be found in science

classrooms, old storage areas, mechanical areas, fluorescent bulbs, flooring and in many other places.

- (3) Fluorescent bulbs can be disposed of as universal waste.
 - (4) Some polyurethane or rubber-like floorings manufactured from 1960 to 1980 contained phenyl-mercuric-acetate (PMA) as a catalyst. These floors are most often found in sports settings (e.g., gymnasiums, running tracks) – wherever a cushioned, all weather, non-slip surface would be needed. Some of these floors can also release significant amounts of elemental mercury in the air, which can in turn be absorbed and re-emitted by furnishings and equipment. Additionally, floors disturbed during resurfacing or removal may release much more mercury than floors that are intact, posing a potential health concern for workers or the public. For schools that are certain they have one or more floors that contain PMA, testing, changes to ventilation and costs for eventual removal will need to be assessed and considered.
7. PFAS (perfluoroalkyl and polyfluoroalkyl substances), including PFOA/PFOS (Perfluorooctanoic acid/Perfluoro octane sulfonate), sometimes found in well water: According to the NYSDOH: “PFOA and PFOS are part of a group of man-made, per- and polyfluoroalkyl substances found in a wide range of consumer products such as cookware, cleaning products, food packaging, stain repellants, and firefighting foam, among others. The available information on the health effects associated with PFOA and PFOS, like many chemicals, comes mostly from studies of high-level exposure in animals. Less is known about the chances of health effects occurring from lower levels of exposure, such as from drinking the schools' water.”
- a) In 2020, New York State set maximum contaminant levels (MCLs) of 10 parts per trillion (10 ppt) for PFOA and PFOS for public water systems and requires testing every 5 years.
 - b) Districts with their own water supply (wells) need to abide by this law, notify the public if their water supply exceeds these levels, and remediate the water to lower the contaminant level if elevated.
8. PCB's (polychlorinated biphenyls): Polychlorinated biphenyls (PCBs) are a group of industrial chemicals that were used in many products, including electrical equipment, hydraulic fluids, and plastics. PCBs are toxic and were banned in the United States in 1979. However, they are still present in many products and in the environment.
- a) The most common item which contains PCB's, which can be found in schools, is older electrical ballasts. Proper disposal of ballasts that are removed from service is required to prevent contamination.
 - b) Another, not so common, product where PCB's can be found is in caulk used as a building material. When repairs or renovations are being performed on school buildings, care must be taken when removing caulks as part of a project. Testing of any caulks prior to removal for PCB content is necessary, and if found, proper disposal is required.

c. Fire Safety and Emergency Egress

Fire safety and emergency egress refers to the measures taken to ensure a safe evacuation from a school building in case of a fire, including, but not limited to, clear exit pathways (doors, corridors, and stairwells), exit signage, fire alarm systems, and regular fire drills. All are designed to allow students and staff to quickly and safely leave the building to move to a designated safe area.

1. There are several ways that a school district can determine where they stand regarding fire safety and what are the areas that need attention to improve and/or comply with NYS Fire Code, NYSED Manual of Planning Standards and NYS Education Law. Many of these have physical implications that must be considered within the capital planning process.
 - a) Consult past fire inspection reports for each building and look for areas of concern or repeated violations. These annual inspections give a snapshot into how a building is performing regarding fire safety and maintaining the safety of students, staff and visitors.
 - b) Confirm each building currently complies with Section 155.7 of the Regulations of the Commissioner (8 NYCRR 155.7). This regulation indicates items where remediation is mandated when discovered or must be immediately included with the next building project.
 - c) Confirm local fire department apparatus have adequate access to buildings and that the access is maintained at all times of the year. Be sure to correct insufficiencies that may develop over time.
 - d) Consult with each of the local fire departments that respond to emergencies at each district-owned building. The items they will be interested in include:
 - (1) Is the local fire department well-acquainted with the interior of each building? Do they know the location of fire department specific areas to access during any fire incident? These areas would include key/knox boxes, fire alarm panel areas, utility shut-offs, sprinkler rooms and areas with specific physical or chemical hazards they should know about ahead of an incident.
 - (2) Are they acquainted with where the Fire Department Connections (FDC's) are in each building? These are areas that the fire department can connect to provide water to the fire sprinkler system and/or standpipes that provide fire department water connections to other floors.
2. Below are specific fire safety related items that are to be maintained (where required) per Fire Code and NYSED.
 - a) The building fire-fighting equipment (fire extinguishers, fire hoses, etc.) is to be available per Fire Code and maintained per NFPA 25 and 10 and replaced when necessary.
 - b) The building emergency egress lighting is to be available and maintained per Fire Code and replaced or upgraded when necessary.
 - c) If a fire alarm system is provided, it is to be maintained per Fire Code. If the system currently uses technology that does not allow for it to be supported for

repairs, an upgraded system should be considered.

- d) When fire and smoke doors are present, confirm their operation and maintenance are checked per Fire Code, and replace when necessary.
- e) When automatic fire sprinkler systems are present, confirm their operation and maintenance are checked per Fire Code. If the system currently uses technology that does not allow for it to be supported for repairs, an upgraded system should be considered. Fire sprinkler systems are highly recommended in school buildings whether required by Code or not. The installation of fire sprinkler systems may also reduce the requirement for manual fire alarm pull stations, which is often a topic of safety concerns related to violence.
- f) Confirm areas of refuge and the full means of egress are maintained per Fire Code. Correct insufficiencies in communication devices, clear blockages to free egress, correct any door hardware not allowing for free egress, and confirm safe outdoor spaces intended for egress are maintained throughout all seasons.

D. Electrical Hazards

Electrical hazards are among the most dangerous risks present in any workplace, including schools. These hazards can cause serious injuries, fatalities, and significant property damage from fires. Finding electrical hazards early and preventing them from occurring should be a priority in maintaining safe schools.

1. Exposed electrical wiring should not exist anywhere in schools except where active construction or renovations are occurring and are supervised by and only accessible to authorized workers.
2. Electrical service rooms should always be identified with signage and locked from access by non-authorized staff.
3. Only Building Code compliant equipment and devices are to be purchased and used in schools.
4. Excessive use of power strips throughout classrooms or offices should be avoided. Review how the strips are being used and decide if it is necessary to add new outlets in these areas.
5. Repeated long-term use of extension cords in classrooms and offices is not a substitute for permanent wiring. Determine if wiring for additional outlets in these areas is possible.

VI. Appendix: Glazing and Film Standards

Glass Hardening Standards aim to enhance the safety and security of K-12 schools by recommending the hardening of glass in entry/exterior doors, adjoining windows, classroom doors, and hallway windows. This will increase resistance to forced entry and improve protection against potential active shooter attacks, among other risks. Districts are encouraged to review and implement one or more of the Glazing and Film Standards below. The best method(s) to be employed at a specific building should be determined by the district's administration, security staff or committee, the district's licensed design professionals, local law enforcement, and other emergency response personnel. Some factors that may determine the best method(s) employed include (in no particular order) cost, threat risk and assessment, existing or new building design(s), and existing or proposed security practices. While most of the standards speak to bullet resistance and active intruder incidents, districts may also wish to consider potential security risks such as burglar risks, child custodial disagreements, irate or angry community members, disgruntled employees or students, or other day-to-day complications.

A. Test Standards

1. ASTM F3561: Standard Test Method for Forced-Entry-Resistance of Fenestration Systems After Simulated Active Shooter Attack
 - a. The ASTM International test standard for security glass comprises eight levels, with Level 1 providing a minimum level of security, while Level 8 offers the highest level of protection. Reference: [ASTM F3561-22](#)
 - b. The test sample is shot multiple times to perforate the protective material and attacked with a weighted ram to provide consistent, repeatable blows to ensure accurate comparison and certification.
 - c. Materials tested to ASTM F3561 do not stop bullets. When installed correctly, they maintain the integrity of the glazing to prevent access or entry without significant attack effort.
 - d. These materials contain no polycarbonate, making them acceptable for use at exterior locations with UV exposure.
 - e. Certified glazing film can be installed on existing glazed openings for retrofit application.
 - f. Certified glass is dimensionally capable of being used in existing framing systems to replace 1/4" thick single-pane glass components. It can also be used as the inboard pane in insulated glazing units, allowing this glass to be used in exterior applications for energy code compliance.
 - g. This standard is also applicable to window film, which is a retrofit solution applied to existing glass to enhance its forced entry resistance.

2. UL 752: Standard for Bullet-Resisting Equipment
 - a. This standard should be used at enhanced security areas, such as transaction windows or locations as determined appropriate for bullet resistance security measures as noted below.
 - b. UL 752: Standard for Bullet-Resisting Equipment, Level 7 (for 5.56 equivalent to AR-15): to achieve bullet resistance, these materials have specific physical properties:

- (1) They contain polycarbonate materials, which are generally unsuitable for locations exposed to sunlight or UV rays, requiring them to be used only on the interior of buildings.
- (2) The materials are very heavy and, depending on building conditions, may not be able to be supported by existing wall or floor assemblies.
- (3) These materials are tested in complete assemblies, meaning glazing, framing, operational hardware, etc., must be considered complete assemblies.
- (4) These assemblies are generally very expensive and may be cost-prohibitive for widespread use and application.
- (5) Only certified to stop 1, 3, or 5 shots based on caliber and level designation. For example, UL 752 Level 7 for 5.56mm (AR-15) is only certified for five (5) shots. Considering magazine capacities and rate of fire, five (5) shots can be fired in only a few seconds.

B. Glass Hardening Recommendations

1. General Recommendations

- a. Glass hardening should be considered during any new construction or renovation project that includes work on the areas referenced below. Hardening of glazing at entrances up to a height of seven feet above finish grade, classroom doors, assembly space doors, and other hallway glazed areas should be the priority. Balancing glass hardening with other security/safety enhancements of school buildings is essential.

2. Entry/Exterior Doors and Adjoining Windows

- a. All entry/exterior doors and adjoining windows in K-12 schools should meet the ASTM F3561 standard.
- b. If the glass is being hardened using window film, it should achieve a minimum of ASTM F3561 Level 1 hardening.
- c. The film can only be installed on one side of the glass, the interior side, and can only be a single layer from the factory/ply application.
- d. If the glass is being replaced, the new glass should achieve a minimum of ASTM F3561 Level 3.

3. Classroom Doors and Sidelight Windows

- a. Glass in all classroom doors should meet a minimum of Level 3 hardening as per ASTM F3561.
- b. Glass in sidelight and hallway windows should meet a minimum level 1 hardening as per ASTM F3561 and must have a metal frame. If an existing facility has wood doors with wood glazing stops, these glazing stops should be replaced with fully welded, through-bolted vision lite frames in conjunction with replaced or filmed glass.

***Red areas are glass - recommended hardening to the ASTM F3561 Standard.**

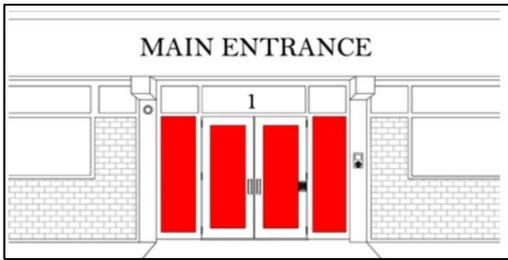


Figure 7.1: Hardened Glass Areas, Main Entrance

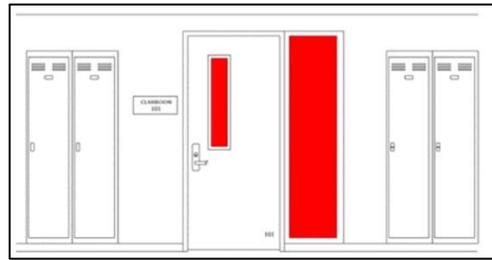


Figure 7.2: Hardened Glass Areas, Classroom Entry

VII. Resources

This section offers digital links to a multitude of valuable resources in the areas of safe, secure, and healthy educational spaces. It is not an exhaustive list and should not be construed as a continuation of recommendations requiring consideration by a five-year capital improvement plan.

NYS Resources:

- [Manual of Planning Standards 2022 \(PDF\)](#)
- [Commissioners Reg 155.17 and Building Safety Plans](#)
- [Standard Response Protocol and Standard Reunification Method](#)
- [Healthy Schools Network](#)

Federal Resources:

- [SchoolSafety.gov](#)
- [Final Report of the Federal Commission on School Safety \(PDF\)](#)
- [Readiness and Emergency Management for Schools \(REMS\) Technical Assistance Center](#)

Other Resources:

- [School Safety and Security--Documents \(ct.gov\)](#)
- [New Jersey School Security Task Force Report and Recommendations](#)
- [Final Report of the Sandy Hook Advisory Commission](#)
- [Marjory Stoneman Douglas High School Public Safety Commission - Report](#)
- [Crime Prevention Through Environmental Design \(CPTED\) website](#)
- [Div. of Homeland Security - Resource Center](#)