SAFETY & SECURITY FOR OUR FUTURE

A FRAMEWORK FOR DEVELOPING A MORE SECURE K-12 BUILT ENVIRONMENT IN WASHINGTON

EDUCATIONAL SERVICE DISTRICT 112
CONSTRUCTION SERVICES GROUP
WHITE PAPER

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EDUCATIONAL SERVICE DISTRICT 112

CONSTRUCTION SERVICES GROUP

PREFACE

Let's act NOW to strengthen safety and resilience in K-12 facilities.

THE STATE OF Washington's K-12 enterprise is a significant hub of employment in most communities and remains one of our most substantial financial investments in both human resources and capital facilities. Our deep public commitment to K-12 education has been sustained since statehood 130 years ago, and arguably remains one of the most critical investments our communities will make to promote a successful present and future for each person living within the boundaries of Washington's 295 school districts.

The importance of investment in the K-12 enterprise led the Educational Service District 112 Board of Directors, with the support of the ESD 112's statewide Construction Services Group, to prepare this White Paper. There is increasing concern about the ability of our local school districts to cost-effectively enhance the resilience of staff, students, and ultimately, our school facilities, to bounce back quickly in the face of local disasters.

Throughout Washington, we have experienced, and continue to face, real or potential natural or man-made disasters that challenge our present and future success. Each of us has been or will be affected. Recent disasters and our recovery efforts from wildfires to cyber-attacks to school shootings and other violence on school grounds suggest that the investments by state and local institutions in safety and security are not uniform.

Unplanned events, which may damage our school facilities, our health, and seriously interrupt the continuity of our K-12 local missions, have direct impacts on the safety and security of our students, teachers, and our communities. Local communities may currently use and/or need to use our local school facilities for purposes beyond the teaching enterprise, for example, as an emergency operations center as occurred at the Skamania School District during recent late summer wildfires in the Columbia River Gorge.

Enhancing our resilience and reinforcing each community's ability to successfully recover from an unexpected natural or man-made event is an imperative that should be sought throughout all sectors of our society. The sectors must include private-sector businesses, non-profit organizations, governmental institutions, and all others. This is not easy work. Lucca Nassi, the head of the Italian National Fire Service (which provided Italy's emergency response and recovery management following Italy's recent major earthquakes where hundreds were killed and entire communities were destroyed) shared in a July 21, 2019, Portland, Oregon, presentation on Seismic Resilience:

> *"Everyone asks for coordination, but no one wanted to be coordinated."*

We may not be doing enough for safety and security in our school facilities because it is just one more of the many time-consuming tasks school leaders must undertake to bring together diverse views and find agreement on a plan. The subject is usually highly charged and emotional. The final impact on budget resources can also be an unknown before starting the planning effort and may cause leaders concern. Finally, evidence suggests the effort requires an unusual combination of district leadership at the highest levels, technical subject-matter-expertise, and strong facilitation skills to create a successful partnership with the school district and the local community around a safe and secure school facilities vision. This is a tall order. As a result, we often do not have sufficient guidance and incentives to start and complete the work.

The goal of the ESD 112 Construction Services Group White Paper is to present our views on how a school district can best proceed in developing a district-wide facilities safety and security plan. The goal is to develop and adopt a plan that will improve our facilities to successfully mitigate local vulnerabilities, if practical, and become adopted as a long-term "safety and security facilities improvement program" for each school district in our state.

We look forward to working with legislators who have sought advice on how to improve safety and security in a consistent and effective manner. We also invite the opinions of school board members, school superintendents, students, staff, parents, and school district voters who are increasingly seeking and supporting local investment in creating a safer and more secure environment for the K-12 built environment. We believe a good public investment means a more resilient and a more safe school for everyone.

EXAMPLE

The New Sandy Hook Elementary School, 2017
Town of Newtown, Connecticut
Architect: Svigals + Partners

"The rain garden along the undulating wood rain screen at the LEED Gold-certified elementary school—a replacement for the Sandy Hook school where 20 children and six adults were killed nearly five years ago—is a natural filter for roof runoff as well as a tool to teach students about plant and animal ecology. But the landscaping is not only about ecology and teaching. It is a buffer between the parking lot and the building—a critical element of the passive security system designed to help protect faculty, staff, students and parents in a manner sensitive to the survivors of the Dec. 14, 2012, shooting.

Hidden cameras, motion sensors, impact-resistant windows and walls are also placed strategically throughout the grounds. The ground floor of the 87,000-sq-ft building, which accommodates more than 500 students, is elevated a few feet to prevent an assailant from looking inside.

Designed to resemble fingers of an open hand, the classroom wings jut off the back of the building to create protected courtyards. Entire corridors and classrooms can be completely locked down. Hidden gates can secure the property, and perimeter fences are constructed from cast-concrete blocks that resemble traditional New England stonewalls.

The building's security system was developed in tandem with state and federal efforts to overhaul school-security building codes.

Local officials voted to raze the old school and rebuild on the same site before the design process for the replacement school began. A town committee consisting of some 50 residents participated in several design workshops. The committee helped designers relocate the driveway so that it wouldn't be a constant reminder of the area where adults waited for children after the shooting."

https://www.enr.com/articles/43475-best-project-k-12-education-sandy-hook-elementary-school

ACKNOWLEDGEMENTS

This white paper would not have been possible without the experts passionately dedicated to K-12 education, design excellence in the K-12 built environment, and the enhancement of safety, security, and disaster resilience in our communities who generously contributed their time and expertise to inform the development of this report. ESD 112 is thankful for the many contributions of these individuals. Their willingness to share time, perspectives, and experiences was essential to the work of the Core Study Team. We extend special thanks to ESD 112 Superintendent Tim Merlino for his regular encouragement; the Washington Association of Educational Services Districts whose 50th Annual Conference in April 2019, "Building Great Teams and Doing Big Things," continues to inspire the report's call for action; and the ESD 112 Board of Directors who have courageously served as the report sponsors.

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INTRODUCTION

Is this subject too hard, too complex and too emotional for us to get our arms around it?

SCHOOL ADMINISTRATORS, STAFF, school board members, parents, and every member of each community share a common goal: how to effectively create a school environment that is safe and secure, and is at the same time welcoming, inclusive to all students, and conducive to successful learning outcomes—certainly not a prison-like atmosphere.

"Passive" school security measures are measures that are part of the built environment of the school. "Active" school security measures are measures that involve people performing various security-related tasks (employing school resource officers, security guards, counselors, conducting threat assessments, and implementing threat assessment protocols, etc.).

It should be noted that "active measures," including the Student Behavioral Threat Assessment model, developed and currently adopted by ESD 112, 123, and 105, play a critical companion role to the development of a school facilities safety plan. Although threat, risk, and, if required, individual psychological assessment processes are not specifically addressed in this document, integration of these measures as part of a comprehensive plan is an important long-term goal. While both "active" and "passive" measures are important, funding sources for each are currently very different.

The integration of "active" and "passive" measures has become increasingly conceivable due to accelerating research in the applications of Evidence-Based Design (EBD) approaches to the physical design of learning environments. For example, with the new generation of learning environments, scientists are now measuring student engagement in middle schools to test the effectiveness of "innovative spaces." EBD practices are also, for the first time, beginning to scientifically measure the socio-cultural and student-identify-formation implications of specific physical K-12 school environments. These new environments are being designed to positively enhance the integration of learner-centered whole-school and classroom environments, and the flow among them, because the 21st century school now appears to impact and serve as each student's socio-physical "community" much more strongly than in the 20th century school.

Indiana's Department of Education, in their November 2014 safety and security guidelines, noted the importance of facility designs that assisted students in feeling a connection with their school. They reported that feeling a connection resulted in a greater sense of "territoriality" and more communication with teachers and administrators when students became aware of worrying or inappropriate behavior on the part of other students.

While "active measures" remain a vital component of a school district's school safety planning, this report is focused specifically on those "passive measures" as safety and security facilities planning for the built environment is an area of subject matter expertise of the ESD 112 Construction Services Group. For the past twenty-five years, the Construction Services Group has assisted over 100 local school districts in Washington with facilities development and construction.

We all recognize the importance of having a school facilities safety plan. Developing an actual plan for every district and each school within a district is often extremely complex. School administrators and staff are required to balance the trade-offs between physical safety improvements, constrained financial resources, and the desire to maintain a hospitable school environment in which daily school activities take place safely and seamlessly.

When a school superintendent, board member, parent, school principal, or teacher asks "what are the most important things for us to do to make a school more safe and secure given the limited financial resources that we have available?" the answer is neither simple nor is it a one-size-fits-all solution. The core purpose of this White Paper is to provide school boards and district administrators guidance in developing their district-wide safety plans, and safety plans for each school building or campus within the district.

School facilities safety plans are developed within a complicated web of local and state laws, and from guidance received from a diverse range of public safety, architecture, engineering, public health, and emergency management professionals. Your local plan needs to integrate many moving parts including people and places, yet it can be very difficult to determine just where to start. For example, school districts are frequently contacted by vendors who are marketing security "improvement" products, many of which may have the potential to run afoul of various local, state, and/or federal regulations. They also may be unnecessary or overly expensive for the purpose promoted by a vendor or as intended by the local school district.

Every school facilities safety plan must identify and address all potential hazards and vulnerabilities associated with crime, terrorism, and other man-made hazards, as well as anticipate response to and recovery from all other potential man-made and natural disasters which could occur at each school site. School districts may also need to reach out and engage proactively with local government officials, particularly local and regional public safety and emergency management officials, about the availability and capacity of school facilities to assist in community disaster recovery following a local disaster event.

Another layer of complexity the school community must consider is the evaluation of the most appropriate "passive measures" (i.e. physical aspects of buildings and grounds) and "active measures" (i.e. use of school resource officers, availability of counselors/social workers, conducting threat assessments, etc.) when developing a school facilities safety plan. In addition, criteria for prioritizing measures must be developed and tough decisions are required on the timing of funding and the implementation of selected measures (immediate, mid-, or long-term).

Finally, and of critical importance, the ESD 112 White Paper will articulate the importance of a school district undertaking an "all hazards" approach in partnership with their local community, particularly your local emergency management professionals, for the successful development of school facilities safety plans consistent with our Federal National Preparedness and National Incident Management (NIMS) Systems. "All hazards" planning is the Federal and the state of Washington's emergency management community-based planning approach that considers all threats and hazards throughout the planning process, addressing safety needs before, during, and after an incident.

Organized "all hazards" school facilities safety planning takes the clear guidance consistent with our National Preparedness System. Our federal and state-adopted National Preparedness System has integrated all local community planning efforts across five core areas: prevention, protection, mitigation, response and recovery for criminal/terrorist incidents, various man-made hazards, and all potential natural disasters that may negatively affect the lives of our students, teachers, staff, and visitors using school facilities. From the Federal Emergency Management Agency's (FEMA) 2003 publication specific to educational institutions, *Building a Disaster Resistant University*:

"The goal is to withstand the effects of probable hazard events without unacceptable losses or interruptions; in other words, to be resilient."

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GLOSSARY

All-Hazards Planning	Comprehensive emergency management planning that considers all threats and hazards throughout the planning process, addressing safety needs before, during, and after an incident.
Build-back Standards	Design and construction requirements related to the repair, retrofit, rehabilitation, or replacement for a facility damaged in a disaster. These standards are often related to the standards used for the original construction unless the damages exceed 50 percent of the facility value or there is a desire to "build back better." In that case, the design and construction usually follows the current standards for new buildings.
Building Condition Assessment	Periodic inspection by qualified personnel to determine and document the functional condition of a capital asset and identify maintenance, renewal, or replacement requirements of the asset evaluated.
Built Environment	The built environment includes society's physical infrastructure and integrated systems that create the conditions for sustained health, prosperity, and social well-being.
Business Continuity Plan	Business continuity plans identify critical operating functions and the causes of business interruption and describe strategies for the recovery of essential services in priority order.
Capital Budget	The result of carefully coordinated institutional capital planning and budgeting processes for effective infrastructure and capital asset management. The budget represents the process used for identifying needs, determining appropriate service levels, and prioritizing individual capital projects. The impact of the annual capital budget on the operating budget as well as potential or confirmed funding sources is also identified in the capital budget.
Capital Facilities Master Plan	The plan represents the comprehensive multi-year (5- ,10- and/or 20-year) institutional building, site, and infrastructure facilities needs integrated within the fabric of a campus and aligned with the institution's strategic vision—all to ensure effective management of capital assets. The plan serves as one of several tools used to inform capital budget development processes and assist annual institutional capital investment prioritization.
Capital Improvement	A change or addition to an asset that improves its performance or appearance and/or extends its useful life.
Capital Planning	An integral part of an institution's strategic planning process which involves the process of analyzing, giving priority to, and allocating funds for the major construction and maintenance of infrastructure in a given community. Capital planning leads to the development of a capital plan.
Crisis Communication Plan	A plan that outlines the roles, responsibilities, chain of command, and protocols which will guide the prompt sharing of information during an emergency or crisis.
Disaster	A serious disruption of the functioning of the community involving human, material, economic, or environmental losses and impacts and which exceeds the ability of the community to cope using its own resources.
Emergency Operations Plan	A plan that contains the details of the operational strategy for the disaster response.
Facility Capital Planning and Management Program	A continuous systematic approach to identifying, assessing, prioritizing, and maintaining the specific maintenance, repair, renewal, and replacement requirements for all facility assets to provide valid documentation, reporting mechanisms, and capital cost information in a detailed database of facility issues.
Hazard Mitigation Plan	A comprehensive, long-term plan based on a threat and hazard identification and risk assessment that describes long-term strategies for protecting people and property from future disasters.

GLOSSARY CONTINUED

Infrastructure	The necessary components that allow an entity to function. These items may include potable water, irrigation water, power, sanitary and storm sewers, and roadways and walkways.
Maintenance	Maintenance is defined as the recurring annualized costs for planned activities needed to maintain an asset's functionality and capacity over its expected life. This includes, but is not limited to, planned and scheduled activities such as inspections, preventive maintenance, refinishing, painting, weatherproofing, and parts replacement.
Maintenance Backlog	A comprehensive summary of building and infrastructure system maintenance that was not performed as required or recommended and was deferred to a future time.
Mitigation	The capabilities necessary to reduce the loss of life and property by lessening the impact of disasters.
National Incident Management System (NIMS)	A set of concepts, operational principles, terminology, and organizational structure that enables the effective, efficient, and collaborative management of any incident, regardless of size or complexity.
National Preparedness System	An organized process for the whole community, including K-12 institutions, to move forward with their preparedness activities and to be prepared for all hazards. The National Preparedness System integrates efforts across five areas: prevention, protection, mitigation, response, and recovery.
Prevention	The capabilities necessary to avoid, prevent, or stop a threatened or actual act of terrorism. In this context, the term prevention refers to preventing imminent threats.
Protection	The capabilities necessary to secure against acts of terrorism and manmade or natural disasters.
Recovery	The capabilities necessary to restore and rebuild the community following a disaster.
Recovery Plan	A plan that sets forth the procedures necessary to restore and rebuild following a disaster. The recovery plan should clearly identify decision-making authority in activating disaster recovery procedures.
Renovation	The improvement, addition, or expansion of facilities by work performed to change the interior alignment of space or the physical characteristics of an existing facility so it can be used more effectively, be adapted for new use, or comply with building specific and building related regulatory codes and requirements. This includes the total expenditures required to meet evolving technological, programmatic, or regulatory requirements.
Resilience	The ability to prepare and plan for, absorb, recover from, and more successfully adapt to adverse events. Using this definition, resilience can range from the ability of the researcher to the ability of the academic research institution to prepare and plan for, absorb, recover from, and more successfully adapt to adverse events.
Repairs	Work that is performed to return building or infrastructure systems and related equipment to service after a failure or to make its operation more efficient. The work restores a facility or component to such condition that it may be effectively utilized for its designated purposes by overhauling, reprocessing, or replacing constituent parts or materials that have deteriorated by action of the elements or usage and have not been corrected through maintenance.

SUMMARY

A Safe and Resilient K-12 Built Environment—How the Pieces Fit Together

THE ESD 112 White Paper on safety and security for the K-12 built environment focuses on providing background and critical observations regarding how to successfully assess aspects of the built environment (a school and its grounds) when preparing a school facilities safety plan. An example of an established, practical, standardized, and measurable checklist is included in Appendix B—Checklist from the "Report of the School Safety Infrastructure Council," State of Connecticut, June 27, 2014.

The following list of 17 "critical observations" about how to develop a comprehensive and effective school facilities safety plan (that may be become a funded ongoing program) is derived from the material included in the body of this report and is presented below. More detailed discussion of these topics as well as links to relevant background documents relating to these critical observations are presented in the body of the report.

Critical Observations on the Leadership Required for School Facilities Safety Planning Efforts

CRITICAL OBSERVATION #1: Leadership at various levels is critical to developing and implementing an effective school facilities safety plan. School boards, superintendents, and principals need to be clear advocates for the importance of school facilities safety planning efforts. Developing a school facilities safety plan at a school requires a champion, a respected individual who can bring people together in the community—partners who are prepared to advocate for the plan above competing priorities.

CRITICAL OBSERVATION #2: The champion who is leading the development of the school facilities safety plan needs to make clear that the plan is not a "one-and-done" effort. Implementing the school facilities safety plan will require an ongoing school district safety program that specifies the daily activities that need to be performed for the school facilities safety plan to be a reality and to become a school district program—not just a plan.

CRITICAL OBSERVATION #3: The work of the local school district leader and advocate does not end with the adoption of the school facilities safety and security, but continues by: 1) leading the ongoing internal and external communications regarding safety and safety measures progress, 2) creates and monitors the regular and consistent public and staff training in emergency preparedness and recovery planning, and 3) guides the annual district financial planning/budget development activities which will continue to support the implementation of the long range physical safety and security investments by the school district.

Critical Observations on How to Begin Development of a School Facilities Safety Plan

CRITICAL OBSERVATION #4: The term "school safety" needs to be broadly defined.

It is important to place the development of a local K-12 school facilities safety plan into a broad framework

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that recognizes the existing national and state guidance from FEMA's National Preparedness System (NPS) and National Incident Management System (NIMS). A comprehensive and effective school facilities safety plan needs to be developed with an "all hazards" perspective. An "all hazards" approach to school facilities safety planning must consider:

- How to minimize the likelihood of criminal activity and how to respond to criminal incidents.
- How to minimize the impact of natural hazard events and how to recover from those events as quickly as possible.
- How to minimize the impact of man-made hazard events and how to recover from those events as quickly as possible.
- How to minimize the likelihood of cybersecurity incidents and how to recover from those incidents as quickly as possible.

CRITICAL OBSERVATION #5: While they are interrelated, safety and resilience are not the same thing—and a comprehensive, effective school facilities safety plan needs to consider both.

The primary focus of school facilities safety measures is to deter, detect, and respond to various types of criminal activity. The primary focus of resilience measures is to try to ensure that the occupants of a facility can survive a natural hazard event, to ensure that a facility can meet community recovery needs during and after a natural hazard event, and to ensure that the facility can be used for its primary purpose as soon as possible after a natural hazard event.

CRITICAL OBSERVATION #6: All of the local government agencies and other groups that may be involved in responding to a hazard event at a school need to be involved in developing a comprehensive and effective school facilities safety plan.

At a minimum, local police and fire agencies need to be consulted in the development of a comprehensive school facilities safety plan. Knowing how rapidly local police and fire agencies will be able to respond to an incident is a critical factor to consider in designing and selecting school security measures. Local police and fire agencies can also assist in identifying various man-made hazards that might be present at a particular site—for example, whether major natural gas distribution lines are located near a school or whether trucks carrying hazardous materials routinely use streets near schools. Schools also need to work with local government and emergency management officials to identify expectations around local government use of school facilities during and after a natural or man-made disaster event (i.e., as a disaster relief shelter).

Critical Observations on the School Facilities Safety and Security Planning Process

CRITICAL OBSERVATION #7: The development of a comprehensive and effective school facilities safety plan begins from a broad perspective—with the identification of local threats and hazards, an assessment of the risks to the school posed by the threats and hazards that are identified, and a prioritization of threats and hazards which may require implementation of measures to mitigate the impacts and support efficient recovery after the event.

When school staff start to work on the development of a school facilities safety plan, it is easy for the discussion to immediately focus on particular security solutions and improvement measures—such as door locking systems, camera systems, etc. That is not where discussions of a school facilities safety plan should start. The discussion should begin with a systematic identification of specific local threats and hazards, the risks posed by those threats and hazards, and a prioritization of those risks and hazards. Such an assessment will help to determine the order in which the team working on a school facilities safety plan conducts its work. There are tools that have been developed (such as the Readiness and Emergency Management for Schools ["REMS"] Toolkit) to assist school staff in identifying, assessing, and prioritizing risks and hazards.

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CRITICAL OBSERVATION #8: School districts should utilize the National Institute of Standards and Technology (NIST) community resilience framework to establish performance level expectations for their buildings and grounds and the utilities infrastructure supporting them.

The National Institute of Standards and Technology (NIST) community resilience framework provides a process for school districts to use to identify how functional a building needs to be after a major natural hazard event. Specifying the "performance level" that a building is expected to have after a major natural hazard event impacts the design of new buildings as well as the evaluation of the installation of mitigating measures in existing buildings. NIST also serves as the lead federal agency responsible for national earthquake and wind impact hazard reduction programs.

CRITICAL OBSERVATION #9: The development of a comprehensive and effective school facilities safety plan will require both the allocation of time from various school staff, as well as some financial resources to support assessment of vulnerabilities of facilities, various types of training, and development of cost estimates for various mitigating measures that may be needed at a particular location.

Unfortunately, allocating staff time to work on the development of the safety plan doesn't sum up the requirements. As staff consider various security options, it is also necessary to have at least preliminary and realistic estimates of the capital cost of implementing those options. Particularly for any older facility, planning for resilience may require a primary structural assessment of the building. Such an assessment will identify whether a building meets the school district's expectations for life safety protection and whether the facility can be used after a seismic or other natural hazard event. If the building does not meet expectations, the structural assessment should identify whether there are mitigating measures that could be installed to alleviate identified deficiencies. In addition, preliminary cost estimates should be developed for possible mitigating measures depending on the performance of the building following the event and the desires of the school district as well as its surrounding communities.

CRITICAL OBSERVATION #10: Key school staff working on the development of the school facilities safety plan need to be familiar with the Crime Prevention Through Environmental Design (CPTED) framework.

The CPTED framework is a broadly used planning framework that has the goal of deterring crime through the design of the built environment. The three basic principles of the CPTED framework are natural surveillance, natural access control and territoriality/maintenance. Ideally, key school staff involved in the development of school facilities safety plans should receive some training in the CPTED framework. Another alternative is for a school district to hire consulting resources trained in the CPTED framework to assist school staff in the development of school facilities safety plans.

CRITICAL OBSERVATION #11: School staff involved in the development of school facilities safety plans need to be provided with basic information on school security technologies that are currently available.

The school staff involved in the development of school facilities safety plans need to be provided with some basic information on currently available school security technologies. Various organizations such as the National Clearinghouse for Educational Facilities (NCEF) and the National Fire Protection Association (NFPA) have useful summary information available.

CRITICAL OBSERVATION #12: School staff involved in the development of school facilities safety plans need to be provided with basic information on the legal/regulatory framework that influences what can and cannot be done in school facilities safety plans.

There are legal and regulatory restrictions that have an impact on what mitigating measures can be implemented as part of a school facilities safety plan. The most important legal framework that impacts the development of school facilities safety plans is the Americans with Disabilities Act (ADA). School facilities

safety plans need to address possible issues that might arise with a particular safety improvement for staff and students who may have mobility, visual, hearing, speech, or cognitive impairments. In addition, building and fire codes can impose restrictions on the implementation of various security measures. For example, most fire codes require that classroom doors must be able to be readily opened from inside the classroom—and there are some door barricade products that are being marketed to school districts that do not meet this requirement.

CRITICAL OBSERVATION #13: When school facilities safety plans are being developed, the pros and cons of "passive" versus "active" security measures need to be carefully evaluated.

"Passive" school security measures are measures that are part of the built environment of the school. "Active" school security measures are measures that involve people performing various security related tasks (school resource officers, security guards, availability of counselors, conducting threat assessments and implementing threat assessment protocols, etc.). Any school facilities safety plan will include both "passive" and "active" security measures—and the team developing a school facilities safety plan needs to carefully consider the pros and cons of the various "passive" and "active" security measures that have been identified for possible implementation at a particular location. This document focuses on "passive" security measures specific to the built environment.

CRITICAL OBSERVATION #14: Be sure to evaluate cybersecurity. One of the most likely hazards a school or school district may face is a cybersecurity incident.

Cyberattacks can create a variety of problems for a school or school district. Cyberattacks can expose personal information of school staff and students. They can compromise student tracking and grading systems and school security and building operations systems, as well as emergency communications systems. Cyberattacks can compromise school websites and social media presences. Having plans and procedures in place to minimize the likelihood of cyberattacks and respond to any attack are a key component of a school security plan.

Critical Observations on Adopting a School Facilities Safety and Security Program

CRITICAL OBSERVATION #15: It is important to develop a financial plan for the implementation of security and resilience measures that are identified as necessary or desirable and, more importantly, are prioritized in short-, mid-, and long-term schedules for implementation. Districts must recognize this is a long-term effort and the plan will not be fully accomplished immediately due to the potential capital costs involved.

CRITICAL OBSERVATION #16: Developing a financial plan will commit the school district to your safety and security program. The financial plan will require that adequate staff and/or consultant resources are devoted to developing realistic scope-of-work documentation and the total project cost (not just direct construction costs, but design fees, building permits, equipment procurement, etc.) estimates to implement the desired measures.

CRITICAL OBSERVATION #17: In many cases, individual schools that need significant capital improvements to accomplish a school district's safety and security facilities plan are beyond their useful life as instructional facilities. For these older school facilities, it may be most cost efficient to incorporate that building's safety and security facilities plan into a district's major capital modernization/renovation or building replacement program.

In virtually every case, the desired improvements identified in a school facilities safety plan will need to be implemented over an extended period based on which physical improvements are considered by the district

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as immediate, which can be completed within 1-3 years, and those targeted to be implemented over the longer term. In order to develop a credible financial plan (without budget surprises) for implementing desired physical improvements, total professional project cost estimates for implementation of various security/resilience measures are needed.

It is important for each participant working on the development of a school facilities safety and security plan to realistically acknowledge the likely availability of financial resources to initiate and sustain the program. It is critical to integrate and evaluate the current and potential future availability of capital resources in each year's local district budget development and approval process, as well as the process and impacts to the school district, in obtaining the needed financial resources (local, state, private, and/or federal).

SECTION 1

Legal and Regulatory Context for the School Built Environment Safety Plan

HIGHLIGHT: When a school district begins to think about new buildings or renovations of existing facilities, the district should consider conducting a safety and security vulnerability assessment as the first or second step in the design process. This will ensure that the scope and the cost of implementing a school facilities safety plan is addressed very early and is not a later "add-on" or a surprise.

Washington State Law Regarding Safe School Plans

IN THE STATE of Washington, state law [Revised Code of Washington (RCW) 28A.320.125] requires that public schools have current safe school plans and procedures in place. The text of RCW 28A.320.125 is provided in this link:

https://app.leg.wa.gov/RCW/default.aspx?cite=28A.320.125

This state law provides a detailed framework for items that must be considered in a safe school plan, requires various activities and reporting "to the extent funds are available" to support these activities, and requires that schools conduct various safety related drills on a regular basis.

State law [Revised Code of Washington (RCW) 28A.335.010: "School buildings, maintenance, furnishing, and insuring—school building security"] also requires:

(2) Every board of directors, unless otherwise specifically provided by law, shall also:

(a) Consider installing a perimeter security control mechanism or system on all school campuses, as appropriate to the design of the campus; and

(b) For new school construction projects or remodeling projects of more than forty percent of an existing school building that are initiated after July 28, 2013, consider school building plans and designs that promote:

(i) An optimal level of security for the specific school site that incorporates evolving technology and best practices to protect students and staff in the event of a threat during school hours;

(ii) Direct control and observation of the public entering school grounds; and

(iii) The public entering school grounds through as few entrances as possible, such as through the main entrance of a school's administrative offices.

This section of RCW can be found at:

https://apps.leg.wa.gov/rcw/default.aspx?cite=28A.335.010

There are numerous other state laws that address other activities that relate to school safety—such as firearms and weapons on school grounds, bullying, gang activity in schools, locker searches, etc. A listing of these state laws is available on the Office of the Superintendent of Public Instruction (OSPI) website:

https://www.k12.wa.us/student-success/health-safety/school-safety-center/school-safety-security-related-rcws-wacs

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Office of the Superintendent of Public Instruction Guidance Regarding School Facilities Safety Plans

THE OFFICE OF the Superintendent of Public Instruction (OSPI) does not currently identify additional requirements for school facilities safety plans beyond what is required by state law (RCW 28A.320.125). Instead, OSPI provides links to informational resources available to schools to guide the creation of a school facilities safety plan. The OSPI school safety "toolkit" information can be found at:

http://www.K-12.wa.us/SafetyCenter/PlanningToolkit/default.aspx

This OSPI site provides links to a guide and toolkit for developing "Emergency Readiness & Management" operation plans developed through funding from U.S Department of Education's Office of Safe and Healthy Students Readiness and by the National Center on Safe Supportive Learning Environments. These U.S. Department of Education resources are one of the commonly used frameworks for developing school facilities safety plans. In a later section of this report, two other national tools that are available to assist schools in developing safety plans are discussed: "The National Clearinghouse for Educational Facilities" (NCEF) checklist and "The Integrated "Rapid Visual Screening for Schools" (IRVS) framework.

In addition, the OSPI School and Facilities Office (SFO) has developed (and continues to support) a web-based "Information and Condition of Schools (ICOS)" database where information and condition details about facilities and sites operated by school districts are documented. Local school district natural hazard vulnerability assessments—natural and man-made—and adopted hazard mitigation and school facilities safety plans have begun to be included the ICOS inventory serving as a potential quantitative foundation for local school districts seeking long-term solutions for their school facilities safety and security plans.

Washington State Department of Health Requirements to Maintain Environmental Health and Safety Standards for School Facilities

CHAPTER 246-366 OF the Washington Administrative Code (WAC) identifies the minimum requirements each school district must address to ensure that all environmental health and safety standards for primary and secondary school facilities are met. The Secretary of the Washington State Department of Health, in cooperation with the state superintendent of public instruction, shall review potentially hazardous conditions in schools that are in violation of good safety practice.

This section of Washington Administrative Code can be found at:

https://apps.leg.wa.gov/WAC/default.aspx?cite=246-366

Local School Board/School District Administration Guidance Regarding School Facilities Safety Plans

LOCAL SCHOOL BOARDS and administrations typically provide some degree of specific policy guidance on school facilities safety plans. This guidance is usually posted on the school district's website and specific policies are usually made available at central locations at each district facility and reviewed at regular staff training events. See the links below for sample information on school safety and security from the Fife School District, Fife, WA, and the Vancouver School District, Vancouver, WA:

Fife School District (King/Pierce Counties): https://sites.google.com/fifeschools.com/safe/home

Vancouver School District (Clark County): https://vansd.org/safety-and-security/

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The level of specificity provided in school board/administration guidance varies widely and may include a general description of safety and security procedures that are used in the school district or the guidance may impose specific requirements. Whichever is the case, school district staff charged with developing a school facilities safety plan for a particular school should be familiar with the policy expectations of the local school board and administration, as well as Washington State Law and OSPI-provided information.

The Washington State Building Code and National Fire Protection Association (NFPA) Guidance

ANY SAFETY AND security related physical improvement that is implemented in a new or existing school building must comply with the various codes incorporated within the Washington State Building Code. In new construction or renovations, required inspections by building officials or trained school staff should ensure compliance with the relevant building and fire/life safety code requirements.

Specific local building code, land use, or school board requirements should also be carefully reviewed to ensure a school facility's safety and security plan can be effective and achievable or at least minimally modified to support the safety goals and objectives as much as possible. For example, support for special historic preservation commitments, special energy or sustainability design goals, or complex transportation planning considerations may need to be considered as part of the development of a school facilities safety plan.

Some safety improvements that could be implemented in existing school buildings may be small in scale and may not require a building permit. In those circumstances, it is possible that a physical school safety improvement will not meet building code requirements. In order to avoid implementing any safety improvements intended to address one set of safety concerns that could create a different and unintended safety concern, local school district staff should consult with their local building code official who is technically referred to as the local "Authority Having Jurisdiction," or AHJ, when considering safety improvements in the built environment.

A very common, yet often overlooked, impact in retrofitting safety improvements in existing school buildings is required compliance with local, state, and national fire and life safety requirements. The National Fire Protection Association (NFPA) has recently published a concise school safety and security update that addresses current requirements and guidelines around door locking and fire alarm systems:

https://www.nfpa.org/-/media/Files/Code-or-topic-fact-sheets/SchoolSafetyUpdate.ashx

Door locking systems in every school facility must meet a number of criteria: preventing intruders from gaining access, allowing people to evacuate in an emergency and being capable of being unlocked from the outside to allow access for either staff or first responders. For exterior doors, the NFPA guidance is that "all occupants must be able to exit the building without needing a key, tool, or special knowledge or effort to open the door." Similarly, the NFPA requires that classroom doors must be able to be readily opened from the classroom side. While there are a number of door barricade products available in the marketplace, it is likely that those classroom door barricade options are not compliant with NFPA requirements.

NFPA 3000 (PS) was issued as a Provisional Standard (PS) in 2018 in response to tragedies involving active shooter and/or hostile events. Titled "Standard for an Active Shooter/Hostile Event Response (ASHER) Program," the new standard was issued in response to the perceived need for a more integrated preparedness, response, and recovery program protocol for use by first responders in our communities. These standards address vulnerability assessment procedures, emergency response, emergency incident management, competencies for first responders, and the post-emergency management or recovery process. The NFPA 3000 Provisional Standard can be found at:

https://www.nfpa.org/codes-and-standards/all-codes-and-standards/list-of-codes-and-standards/detail?code=3000

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The Americans with Disabilities Act

ALL SCHOOL FACILITIES are subject to compliance with the federal Americans with Disabilities Act (ADA). The bulk of compliance with the ADA relates to how facilities are designed so that people with various disabilities can access facilities. However, ADA requirements need to be considered when a school facilities safety plan is being developed, as well.

A school facilities safety plan must consider procedures that will successfully provide safety and security measures for staff, students, and visitors with mobility, visual, hearing, speech, and cognitive impairments.

There are some resources available to assist schools in assessing whether a school facilities safety plan adequately addresses ADA concerns. In 2016, the National Fire Protection Association (NFPA) published an Emergency Evacuation Guide for People with Disabilities:

https://www.nfpa.org/-/media/Files/Public-Education/By-topic/Disabilities/EvacuationGuidePDF.ashx?la=en

While this NFPA report is not focused exclusively on K-12 school safety issues, the framework that is discussed is clearly applicable to K-12 school facilities safety plans. The report lists the four elements of evacuation information that people need:

- Notification (What is the emergency?)
- Wayfinding (Where is the way out?)
- Use of the way (Can I get out by myself or do I need help?)
- Assistance (What kind of assistance might I need?)

These elements of evacuation information provide a framework for evaluating whether the needs of staff and students with an impairment are being met in a school facilities safety plan.

A recently published article that reviews ADA compliance issues for schools can be found here:

http://facilitymanagement.com/ada-compliance/

This article lists and discusses five best practices for ensuring that school facilities safety plans are compliant with ADA protocols:

- Expect the worst-case scenario.
- Keep up-to-date evacuation protocols.
- Do not rely on the norms of your location.
- Ensure facilities have the equipment to support crisis plans.
- Be realistic in training and drills.

SECTION 2

What Does an "All Hazards" School Facilities Safety Plan Consider?

HIGHLIGHT: Each school facility can contribute to the resilience of our local community before and after a disaster. We know criminal activity from inside and outside of our schools is the most frequently cited "hazard" and usually our most serious concern.

Developing a local facilities safety and security plan helps us begin to design our current and future facilities around the financial and human resources we realistically have locally available to us, and to address our most immediate concerns. The planning effort will also identify those leaders—administrators, teachers, students, board members, and/or parents—in the district who will turn the plan into a long-term program. A safety and security plan needs to become an annual ongoing school district program to be successful.

SCHOOLS ARE MULTI-PURPOSE facilities. While their primary purpose is to provide a space for instruction and educational activities, school buildings can also be used for a wide range of community events. In addition, in many communities it is assumed that school facilities will be available to assist in recovery from various natural disasters (shelters for evacuees of wildfires, floods, etc.). Thus, when a school is developing a safety plan, it is important to consider the relationship of the school facility to the surrounding neighborhood and community. Schools can experience criminal activity, be impacted by natural hazards/disasters and a wide range of man-made disasters or accidents. When developing a school facilities safety plan, it is critically important to identify specific vulnerabilities/hazards/threats, as well as the likelihood and severity of the specific vulnerability identified and which district facilities may be impacted. These three types of threats as well as some additional considerations for an "all hazards" school facilities safety plan are discussed below.

Criminal Activity

FOR REASONS THAT are totally understandable, the primary focus of many school facilities safety plans is mitigating and, if necessary, responding to an active shooter event. While it is critical for a school to be ready to respond to an active shooter situation, active shooter situations are relatively uncommon. Schools can experience many other types of criminal activity—vandalism, burglary, assaults, etc. Many of these other types of criminal activity are much more likely to occur at a school than is an active shooter situation.

Natural Hazards/Disasters

WHEREVER A SCHOOL is located, it is, unfortunately, subject to potentially experiencing at least some type of natural disaster. Natural hazards/disasters include earthquakes, floods, tsunamis, wildfires, volcanic eruptions, landslides, and various types of severe weather. Determining the likelihood that a specific school could be impacted by each of these types of natural hazards/disasters is an important component of a school facilities safety plan.

Both state and federal resources are available to assist in assessing the likelihood of various natural hazards/disasters and in improving the resilience of schools to natural hazards/disasters. In 2014, the Office of the Superintendent of Public Instruction published the Washington State K-12 Hazard Mitigation Plan:

http://www.K-12.wa.us/SchFacilities/PDM/pubdocs/PDM_Plan.pdf

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This document provides a statewide risk assessment of six natural hazards in the state of Washington: earthquakes, tsunamis, volcanic events, floods, wildland fires, and landslides. The document also provides a framework for developing natural hazards mitigation plans.

In 2017, the Federal Emergency Management Agency (FEMA) published "Safer, Stronger, Smarter: A Guide to Improving School Natural Hazard Safety:"

https://www.fema.gov/media-library-data/1503660451124-33b33bb90d4a6fe62c89e6de2b11dd78/FEMA_p1000_Aug2017_508.pdf

This document provides information and guidance on identifying natural hazards at a particular location, making buildings that are more resistant to damage from natural disasters, and planning and preparing for response to a natural disaster.

"Man-made" Disasters/Accidents

MANY SCHOOL FACILITIES safety plans do not consider responding to man-made disasters/accidents, however they should. A school may be located near a major highway, thoroughfare, or railroad line that routinely has vehicles that carry hazardous materials traversing the route. Thus, a school location could be affected by a chemical spill in the event of an accident. A school may be located near an oil/fuel or natural gas pipeline and could be affected by a pipeline rupture. A school may be located near a water distribution line and could be affected by a rupture. Unfortunately, the situations outlined above have occurred and could be a safety issue that should be addressed in a school facilities safety plan.

Resilience of School Facilities and Infrastructure

IN THE CONTEXT of this document, "resilience" is being used to refer to two things:

- The ability of school buildings to remain functional following a natural or man-made disaster.
- The ability of school buildings to provide shelter and support for both school staff and students as well as the broader local community following a natural or man-made disaster.

For new construction or major renovation of existing school facilities, the building codes represent a minimum performance level to ensure a life/safety standard. A design to meet the building code, in general, means the design will support the safe evacuation of occupants from the building in the event of a fire or earthquake. Buildings designed to "code" typically do not include a performance standard that will allow the building to be used immediately following a natural disaster. Each school district will need to discuss if their objective following a natural disaster is to "build beyond the building code" and have the building available for reuse or to serve as a community operations center during the emergency response and recovery phases.

This topic is referenced in the natural hazards/disasters section of the FEMA document "Safer, Stronger, Smarter: A Guide to Improving School Natural Hazard Safety:"

https://www.fema.gov/media-library-data/1503660451124-33b33bb90d4a6fe62c89e6de2b11dd78/FEMA_p1000_Aug2017_508.pdf

SECTION 2

Local Government, Utility Companies, and Non-Profit Organizational Involvement

WHEN DEVELOPING A school facilities safety plan, it is critically important to involve local police, fire, emergency management personnel, and your local and/or county public health officials in the school district safety planning discussions. This initial planning period may also be well served by the involvement of representatives of the local utilities (water, power, gas, voice/data) and the Red Cross and other local organizations who may be involved in disaster response and recovery locally. The potential value of Mutual Aid Agreements with other public entities and utility system providers, can be discussed at this time for the school district.

School facilities safety plans must involve local police—many of whom often serve as school resource officers (SROs) and work within a school district's facilities. When developing a plan for how schools handle various types of criminal activity, it is important to have an accurate understanding of how quickly the local police can be expected to respond. These response times are typically available via a simple call or, if necessary, a public records request from your local agency. Local emergency management officials and disaster relief organizations can explain what their expectations are for the availability of school facilities to assist in disaster response after a natural disaster. These officials can also assist the district to fully understand the vulnerabilities of the school district facilities and for the people impacted by disasters. These officials are also an outstanding resource for the local school district and can assist you by identifying how to improve the performance of the school district environment before any incident occurs.

SECTION 3

How to Begin Development of a School Facilities Safety Plan which will Lead to Implementing a School Facilities Safety Program

HIGHLIGHT: Developing a school facilities safety plan requires a champion. A respected individual who can bring people together in the community—people who are prepared to advocate for the plan above and beyond other competing priorities. School district leadership from the superintendent and the school board is critical to the success of developing a realistic school facilities safety plan that can become an ongoing district school safety program—not a "one-and-done" effort, but an annual local investment of human and financial resources.

It is very easy for initial discussions of a school facilities safety plan to immediately focus on design options for buildings and school grounds, on the pros and cons of various safety-related systems (door locking systems, camera systems, etc.) and the pros and cons of "active" safety measures (use of school resource officers, threat assessments, etc.) versus "passive" safety measures (features of the built environment of the school). While these are all important areas of discussion, the development of a quality school facilities safety plan begins with a thorough assessment of the threats and hazards (both natural and manmade) that are likely to be experienced at a specific location, with an assessment of the risks posed by the threats and hazards that are identified and a prioritization of those risks and hazards. It is also important to emphasize that developing a quality school facilities safety plan is a collaborative process that should involve critical stakeholders, including school administrators, staff, students, parents, and a variety of local public safety agency partners who will be key to responding to an incident.

The Readiness and Emergency Management for Schools (REMS) Toolkit—U.S. Department of Education

A GOOD TOOL to utilize in the development of a school facilities safety plan has been prepared by the U.S. Department of Education in their Readiness and Emergency Management for Schools (REMS) Guide:

https://rems.ed.gov/K-12GuideForDevelHQSchool.aspx

Some highlights of the recommendations from the REMS Guide are summarized below. There is substantial additional detail available at the REMS Guide link above.

The REMS Guide highlights the following principles as being critical for developing a good school facilities safety plan:

- Planning must be supported by leadership.
- Planning uses assessment to customize plans to the building level.
- Planning considers all threats and hazards.
- Planning provides for the access and functional needs of the whole school community.
- Planning considers all settings and times.
- Creating and revising a model emergency operations plan is done by following a collaborative process.

SECTION 3

With respect to planning for the access and functional needs of the whole school community, it is important to recognize that the "whole school community" includes people with disabilities or special access or functional needs, people from diverse backgrounds, and people who may have limited English proficiency. With respect to planning considering all times and settings, it is important to recognize that school facilities safety plans must consider incidents that may occur outside the normal school day as well as on and off campus (i.e., sporting events and field trips).

The REMS Guide specifies a three-step process for understanding the threat and hazard matrix specific to schools:

- Identify threats and hazards.
- Assess the risks posed by the identified threats and hazards.
- Prioritize threats and hazards.

Once potential threats and hazards are understood, a school can then move on to the specifics of what can be done to mitigate those risks and hazards.

The REMS Guide has other useful information on how to form a planning team, how to determine goals and objectives, how to identify courses of action, etc.

The Importance of a Collaborative Planning Process at the Local School District

THE DEVELOPMENT OF a good school facilities safety plan requires collaboration with many different constituencies as well as consideration of school culture and climate. Collaboration with school staff, students, and parents is necessary. Collaboration with local police, fire, emergency management, and disaster relief agencies is also essential. Collaboration with various local community groups is wise. Discussions with these groups will guide decisions as to which security measures are appropriate at a specific school.

One of the most important things to know when a school facilities safety plan is being developed or updated is how rapidly local police and fire departments will be able to respond if an emergency occurs. Having an idea of police and fire response times if an emergency occurs will inform the school facilities safety planning team's evaluation of various security measures. It is also important to discuss how decisions will be made in an emergency situation and what communications protocols should be followed. Establishing a chain of command at the school institution to support prompt decision making as well as internal and external communication processes is advised. Establishing these plans and roles ahead of time saves valuable time and minimizes confusion in the midst of an incident.

Knowing potential hazards around the school facility is also an important part of the planning process. Local fire and emergency management officials have information about potential risks associated with pipelines, major natural gas distribution lines, and the transportation of hazardous materials that may be located near school locations. Additionally, they can advise appropriate responses to these types of threats to inform the school facilities safety plan.

It is also important to have discussions with local government emergency management officials about what their expectations are regarding the use of school facilities after a natural disaster. Frequently, schools are utilized as a gathering place for the distribution of food, water, and access to shelter following a major incident such as a flood, wildfire, earthquake, etc., when large numbers of people are displaced from their homes. Knowing the manner in which school facilities are expected to be used after a natural disaster may influence how school facilities are designed and what security features might be appropriate in different parts of the school. It can also inform the need for additional storage space for supplies which may be needed in the event of an emergency (i.e., 72-hour kits).

Discussions with the broader local community about desires and expectations around the use of school

facilities by various community groups are also essential. Will school facilities be available for use by community groups outside of the normal school day? If so, which school facilities will be available for use by the community? Community use expectations may influence how school facilities are designed and what security features might be appropriate in different parts of the school.

When a school facilities safety planning team begins their discussions about what security measures to consider, one of the first priorities should be specifying what security problems are currently being experienced at the school. In addition to the problems that are currently being experienced, what potential security issues are school staff, students, and parents most concerned about? The school facilities safety planning team must discuss the culture and climate at the school and the trade-offs between enhanced security and the smooth functioning of normal school activities. Discussions of the school facilities safety planning team should focus on the optimal combination of "passive" security measures (design features of the buildings and grounds) and which "active" security measures (school resource officers, threat assessments, etc.) will be necessary at the school.

The school facilities safety planning team also needs to discuss how to inform all school staff about aspects of the school security plan and to get staff buy-in. The best automated locking system for exterior doors to the school will not be effective if school staff are routinely propping doors open because the locking system is hindering the normal flow of regular school activities.

As stated earlier in this section, school facilities safety planning does not begin with an evaluation of design options for school buildings and grounds, discussion of the pros and cons of various safety related systems, or discussion of the pros and cons of various "passive" and "active" security measures. School facilities safety planning should begin with a series of discussions with key stakeholders (school staff, students, parents, local officials, and local community groups) to help identify risks and hazards. They should then assess the risks and hazards that are identified, and prioritize which of those risks and hazards are most critical to address in the school's safety plan. It is only after all these activities have been completed that safety planning should move on to design features in school buildings and grounds and the pros and cons of various "passive" and "active" security measures.

SECTION 4

What Are the Next Steps After Hazards Have Been Identified, Assessed, and Prioritized to Create the School Facilities Safety Plan?

HIGHLIGHT: Work with a school facilities safety planning team—your own staff, local public safety officials, architect and engineer consultants—who embrace the Crime Prevention Through Environmental Design (CPTED) framework. The planning team can utilize either the National Center for Educational Facilities (NCEF) Assessment Guides, the Integrated Rapid Visual Screening of Schools Guide, or the State of Connecticut "Critical Compliance Standards" Checklist (summarized by ESD 112's CSG program and included in Appendix B).

It is important that action is being taken and solutions funded to address the highest priority, immediate risks that were identified in the local vulnerability analysis. A district should prioritize starting to mitigate those risks identified as "Tier One" or "High Priority" safety program components—even knowing that it may take many years to complete the implementation of the full safety program.

One process for proceeding with the development of a school facilities safety plan after risks and hazards have been identified is provided below. The proposed steps are as follows and are not listed in a particular order of importance:

- Have safety planning staff familiarize themselves with the Crime Prevention Through Environmental Design (CPTED) framework.
- Consider having safety planning staff receive training in the CPTED framework and/or hiring outside resources who are trained in the CPTED framework (law enforcement or risk mitigation specialists).
- Provide safety planning staff with some basic information on school security technologies.
- Provide safety planning staff with some basic information on possible "active" security measures.
- Provide safety planning staff with information about near-term funding constraints and longer-term funding opportunities.
- Select a building and site infrastructure assessment tool.
- Begin the process of systematically assessing facilities and identifying measures that would mitigate risks and hazards that have been prioritized.
- Prepare rough cost estimates for identified security measures and pinpoint possible funding sources.
- Prepare a draft plan for implementing security measures that are identified through the process with a focus on short-, mid-, and long-term investments which realistically recognizes that there will be insufficient funding to complete all the work in the immediate term. Enhancements for safety and security in the built environment can be expensive and may need to be implemented over many fiscal years.

Each of these areas is discussed further in this section.

SECTION 4

The Crime Prevention Through Environmental Design (CPTED) Framework

THE CRIME PREVENTION Through Environmental Design (CPTED) framework is a broadly used planning framework that has the goal of deterring crime through the design of the built environment. CPTED principles can be used in the design of any facility, not just schools. In some areas, CPTED principles are utilized by an entire community.

The three basic principles of CPTED are natural surveillance, natural access control, and territoriality/maintenance. In many respects, the concepts are simple. Natural surveillance involves school staff being able to see what is going on around their building. Natural access control refers to designing a school facility in such a way that entering and leaving a school building is systematically controlled. Territoriality/maintenance refers to measures that clearly define the boundaries of a school and direct people to authorized access points. Maintenance is an important aspect of territoriality—as poorly maintained interior and exterior areas may serve to promote behaviors that the school is trying to prevent (e.g., overgrown bushes adjacent to a building provides cover for a potential threat).

A good short primer on CPTED for schools has been prepared by the National Clearinghouse for Educational Facilities:

http://www.ncef.org/pubs/cpted101.pdf

The Puget Sound Regional Council has a short description of CPTED concepts and how these concepts can be applied on a broader community basis:

https://www.psrc.org/sites/default/files/crime_prevention_through_environmental_design.pdf

CPTED concepts will provide a school facilities safety planning team with a framework to think about and evaluate various security options.

Training School Staff in CPTED Concepts and/or Hiring Outside Experts Trained in CPTED Framework

ANY SCHOOL FACILITIES safety planning team should probably have at least one person who is more thoroughly trained in CPTED concepts—and that person could be either a school staff person or an outside resource. CPTED training is available from various national groups as well as some local law enforcement agencies. The National Institute of Crime Prevention offers a variety of CPTED training courses:

https://www.cptedtraining.net/

The National Crime Prevention Council also has CPTED training courses available—including a School CPTED course:

https://www.ncpc.org/resources/home-neighborhood-safety/crime-prevention-through-environmental-design-training-program/

Some school districts, local police departments, Educational Service Districts in Washington State, and consulting firms may have CPTED trained staff available.

For CPTED concepts to be most usefully and accurately applied in school facilities safety planning efforts, at least some of the staff involved should have specific and intensive training in CPTED concepts.

SECTION 4

Provide Basic Information on School Security Technologies

WHILE THE SCHOOL staff who are working on a school facilities safety plan will be familiar with the security measures that are utilized in the buildings in which they are working, they may not have extensive familiarity with other building and grounds security options that are currently available. It is a good idea to expose the school staff who are working on a school facilities safety plan to at least broad information about school security design options and technologies that are available. Knowledge about the pros and cons of available school security technologies will help inform conversations about which options will work best in a specific school setting.

Three links from the National Clearinghouse for Educational Facilities (NCEF) are provided below as examples of the sort of background information that could be utilized.

- http://www.ncef.org/pubs/security_technologies.pdf—A broad look at the pros and cons of various school security technologies
- http://www.ncef.org/pubs/door_locks.pdf—A more detailed look at door locking options for schools
- http://www.ncef.org/pubs/low_cost_measures.pdf—A variety of low or no-cost security measures that can be implemented in schools

If there are local or nearby examples where various school security technologies have been implemented, it might be useful to have at least some members of the school security team visit those sites and talk to the staff at those locations about how the measures are working.

A general awareness of available school security technologies allows the staff involved in the development of a school security plan to have a more informed discussion of the appropriateness of a specific technology at a specific location.

Provide Basic Information on "Active" Security Measures

THE SECTIONS IMMEDIATELY preceding this one focused on "passive" security measures—i.e., measures that are part of the built environment of the school. "Active" security measures (school resource officers, security guards, conduct of threat assessments, etc.) must also be an element of a school facilities safety plan. While this document doesn't focus on those "active" security measures, it remains important for staff involved in the school facilities safety plan to have some exposure to the available "active" security options.

A benefit of an "active" security system is that this option, by its very nature, is more immediate than a passive option. For example, an "active" silent alarm system provides immediate notification of an intruder. A "passive" video surveillance system captures the activity for record keeping.

Provide Information about Near-Term Funding Constraints and Longer-Term Funding Opportunities

IN ORDER TO control expectations about when various recommended school safety improvements could realistically be implemented, it is important to provide staff developing a school facilities safety plan with information about what funding may be available in the near-term as well as what funding opportunities may be available in the future. While it is obviously important to develop a comprehensive school security plan, a school district will likely not have the funding available to implement all elements of the plan at once. Knowledge of near-term funding availability might influence the order in which the school facilities safety planning team conducts various aspects of facility assessments. Focusing initial facility assessment activities on areas where low-cost measures might be able to be implemented rapidly would likely reinforce the efforts of the planning team.

SECTION 4

Select a Facilities Assessment Tool

TWO ASSESSMENT TOOLS that are available to assist schools in assessing their facilities are discussed below: the National Center for Educational Facilities (NCEF) Assessment Guides and the Integrated Rapid Visual Screening of Schools Guide developed jointly by the Department of Homeland Security and various school systems/districts. Schools have many different types of rooms, outdoor facilities and grounds around school buildings. Because of this, these facilities assessment guides are both extensive and can be somewhat complicated—as the tools must allow schools to evaluate all these different aspects of their facilities.

The National Center for Educational Facilities (NCEF) Assessment Guides

THERE ARE 25 NCEF Assessment Guides. These assessment guides divide school buildings and grounds into seven different areas and most of these areas have subcategories. The seven different areas and the associated subcategories are:

SCHOOL GROUNDS

- Outdoor athletic fields and playgrounds
- School grounds and site access control

ACCESS CONTROL

- Building access control: entry doors, windows, walls, roofs

CIRCULATION SPACES

- Corridors, interior doors, and lockers
- Elevators
- Entry and reception areas
- Exit ways
- Stairs and stairwells

CLASSROOM AND ACTIVITY SPACES

- Art, music, and dance rooms
- Classrooms
- Labs, shops, and computer rooms
- Offices, workrooms, and conference rooms
- Portable classrooms

SERVICE SPACES

- Custodial and equipment rooms
- Food service areas and student commons
- Restrooms

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ASSEMBLY AND COMMUNITY SPACES

- Areas of refuge/community shelter
- Auditorium/theater/performing arts center
- Health services center
- Indoor athletic facilities
- Library/media center

MECHANICAL AND COMMUNICATION SYSTEMS

- Emergency communications systems, power, fuel, and water
- Fire alarm and control systems
- Mechanical systems
- Security and surveillance systems

These assessment guides can be found at:

http://ncef.org/content/mitigating-hazards-school-facilities

The guides are structured as checklists that guide staff though many security elements in each area and the staff conducting the assessments can indicate "yes," the specific element is handled sufficiently, "no," the specific element is not handled sufficiently, the element is "not applicable," or the specific element is "not needed." Space is also provided for notes regarding the assessment of each element.

Any "no" answer to a question on the assessment guide is an area to consider implementation of measures to improve security. If an improvement is needed, note that the assessment guides do not necessarily inform school staff about which of many options might be the best one to implement at a specific location. School staff will need to assess the relative importance of a possible improvement to resolve an issue at the specific location as well as whether funding is currently available to implement the desired change.

Integrated Rapid Visual Screening (IRVS) of Schools Guide

THE IRVS OF Schools Guide can be found at:

https://www.wbdg.org/FFC/DHS/integrated_rapid_visual_screening_schools.pdf

The IRVS methodology encompasses both the identification and prioritization of risks and hazards as well as a process for assessing whether risks and hazards are being adequately mitigated. Thus, the IRVS methodology combines the hazard/risk assessment process discussed in the REMS toolkit (outlined earlier in this document) with a facilities assessment process like the NCEF Assessment Guide (discussed immediately above).

The IRVS assessments are structured around three factors:

1. Establish a School Security Level—the baseline security level a school desires to achieve
2. Identify Undesirable Events—the process for identifying risks and hazards that could impact the operations of a specific school
3. Assess the Level of Protection—identify whether the existing level of protection is achieving the desired school security level, and if it is not, identify the steps that could be taken to reach the desired school security level.

Checklist tools for assessing the level of protection at a specific location are provided in IRVS Guide.

SECTION 4

Begin the Process of Systematically Assessing Facilities

ONCE AN ASSESSMENT tool has been chosen, the team developing the school facilities safety plan can begin the process of systematically looking at facilities. Given the wide range of types of areas that will ultimately need to be assessed, it may be difficult to decide where to start. If there is a particular area of the facility that the hazard analysis has identified is creating problems right now, perhaps that area should be a focus of the initial assessment efforts. Another option would be to start with an area that is easier to assess in order to give the planning team an opportunity to familiarize themselves with the assessment process. Another logical approach is to start the assessment process on the outside perimeter of the school and work inward (i.e., begin with the assessment of the perimeter of the facility, then go on to assess the building entries, and finally the building's interior spaces). The important point is to recognize that a complete assessment of the building and grounds will take some time and you just need to start somewhere and work through the process.

Once the facilities and grounds are assessed, the safety planning team needs to have thorough conversations about what mitigating measures would be best to mitigate the hazards that were identified earlier in the process. The culture and circumstances of the school are critical to consider—a mitigating measure that might be appropriate in one location may not work in a different location. Properly framing the conversation about mitigation options is important. The safety planning team must:

- Achieve the right balance between safety and still having the school be a welcoming environment for students.
- Achieve the right balance between safety and having regular school activities flow smoothly.
- Carefully assess the trade-offs between "active" safety measures and "passive" safety measures.
- Examine whether there are actions that could be taken to improve school climate that would have a material impact on security.
- Maintain an "all hazards" perspective—and not let planning focus only on extremely serious but low likelihood incidents like a school shooting and neglect planning for much more likely "everyday" hazards such as a weather incident or fire.
- Be careful in evaluating technology solutions for school security problems. While technology solutions are very likely to be part of a school security plan, the benefits of various technology solutions can be oversold by vendors. Technology solutions can be expensive and difficult to maintain. Some technology solutions may be inconsistent with establishing a welcoming environment at the school.
- Consider talking to a broader group of staff and students about whether mitigation options that are under consideration are workable/applicable.
- Consider what sort of ongoing training and drills might be needed to ensure security procedures are most likely to be successfully implemented.
- Consider how you will communicate your safety plan to staff, students, and parents/guardians, with the goal of informing and instilling confidence in the plan and not causing alarm.

HIGHLIGHT: There is no one-size-fits-all solution for every location and there are many tools available to assist the local school district. The state of Connecticut checklist developed after the violence at Sandy Hook Elementary School in Newtown, Connecticut, is comprehensive and can be very helpful at identifying physical safety and security solutions for an individual school and district-wide—see Appendix B of this report.

SECTION 4

Develop Rough Total Project Cost (Not Just Construction Cost) Estimates for Potential Mitigating Measures

ONCE THE SAFETY planning team has developed and prioritized a list of desired safety improvements, rough cost estimates for implementing those measures should be developed. In many circumstances, the members of the safety planning team may not have the background and expertise for developing cost estimates on their own. Thus, school or district facilities and budget staff likely need to assist the safety planning team in developing rough cost estimates.

Prepare a Draft "School Safety Capital Program" for Implementing Security Measures that are Identified through the Process

WHEN COST ESTIMATES for desired measures are available, a draft capital budget program for Board review and for annual implementation can be prepared. Some low-cost measures might be able to be implemented rapidly by school maintenance staff. The timing of implementation of other measures will depend on the availability of funding. In some cases, the school district may have set aside levy or other funds for implementation of certain security updates or there may be grant funding available to support the installation of certain security measures. For changes that are being made in existing buildings, it is unlikely that funding will be immediately available to proceed with implementation of all the security measures identified.

SECTION 5

Cybersecurity

SCHOOL DISTRICT STAFF may not typically think of cybersecurity when they are developing a school facilities safety plan. While different in many ways from other hazard events that a school may experience, cyberattacks can cause significant problems in a school setting.

As with most other organizations, school districts rely on information technology systems for a variety of business functions: security systems; payroll and other human resources systems; finance, accounting, and purchasing systems; building control systems; student record systems; websites; and social media. Just like other organizations, school district information technology systems are subject to cyberattacks from a variety of malicious actors. Cybersecurity incidents include exposure of personal information, altered school records, loss of access to school IT systems, impacts on school security systems, and modifications to website and social media information. Collectively, some of these resources, although created some time ago, provide a framework for assessing cybersecurity, developing important data security policies and tasks and procedures that should be conducted to minimize the likelihood of a cybersecurity incident.

For a Washington State example of a cybersecurity incident, see the following article regarding a 2016 data breach at the Olympia School District. As a result of a data breach, the Olympia School District offered its 2,164 employees free credit monitoring and identity theft resolution services:

https://www.govtech.com/education/k-12/Phishing-Scam-Leads-to-Data-Breach-at-Olympia-School-District.html

According to the K-12 Cybersecurity Resource Center, in 2018 there were 122 publicly-disclosed cybersecurity incidents in K-12 schools in the United States—so about one cybersecurity incident in a K-12 school every three days. Note that this number probably significantly underestimates the number of cybersecurity incidents in K-12 schools, as most cybersecurity incidents are probably not publicly reported. Thus, cybersecurity incidents are probably one of the most likely hazard events to occur at a K-12 school.

There are resources available to assist school districts with evaluating, attempting to prevent, and responding to cybersecurity incidents. In 2017, The National School Boards Association (NSBA) published a good legal and policy guide on data security for school boards. The data security legal and policy guide provides useful information on a variety of topics: data security risks; data governance; safeguarding data; security policies; etc.

https://cdn-files.nsba.org/s3fs-public/reports/Data_Security_Guide_5_Jan2017.pdf?G4UaLHlwi3zo6iSq94F.K.vSAaCmzb.y

There are other useful resources relating to K-12 data security on the NSBA Cyber Secure Schools website that provides both a "knowledge center" section and a "tools" section that provide useful background information on data security.

https://www.nsba.org/cyber/tools

The U.S. Department of Education also has useful documents available to assist in assessing and improving K-12 school cybersecurity. The Readiness and Emergency Management for Schools (REMS) Technical Assistance Center has prepared a "Cyber Safety Considerations for K-12 Schools and School Districts" report:

https://rems.ed.gov/docs/Cyber_Safety_K-12_Fact_Sheet_508C.PDF

The Privacy Technical Assistance Center has developed a Data Security Checklist that can be used by K-12 schools and school districts:

https://studentprivacy.ed.gov/sites/default/files/resource_document/file/Data%20Security%20Checklist_0.pdf

SECTION 6

Going Beyond Planning for Student/Teacher/Staff Safety—Planning for School and Community Infrastructure Resilience

WHILE PLANNING FOR student/teacher/staff safety and planning for infrastructure resilience are interrelated, they are not the same. Planning for safety focuses on trying to prevent criminal activity or the immediate response to criminal activity when it occurs, and on the immediate response to natural and man-made hazard events when they occur. Planning for safety usually has a narrow focus on a specific building or an interrelated set of buildings, as well as a primary focus on the students, teachers and staff who regularly use the building.

Infrastructure resilience focuses on designing facilities to mitigate both the immediate and the long-term effects of natural and man-made hazard events. Incorporating a long-term perspective is important. Infrastructure resilience considers both the immediate response to a natural hazard or man-made disaster event, but also whether the building will be usable for its intended purpose during the longer recovery period following a major natural disaster event. Infrastructure resilience has a broader focus on the entire local community—which may have needs and expectations regarding the use of school facilities to provide emergency shelter to the broader local community and for aiding community recovery efforts after a major natural hazard event. Often, a school facility is a commonly known place for community members to access shelter or food resources, thus it is often used as a central hub for support following a disaster.

The National Community Resilience Framework

IN 2016, THE National Institute of Standards and Technology (NIST) published the Community Resilience Planning Guide for Buildings and Infrastructure Systems. The complete planning guide and various related documents can be found at:

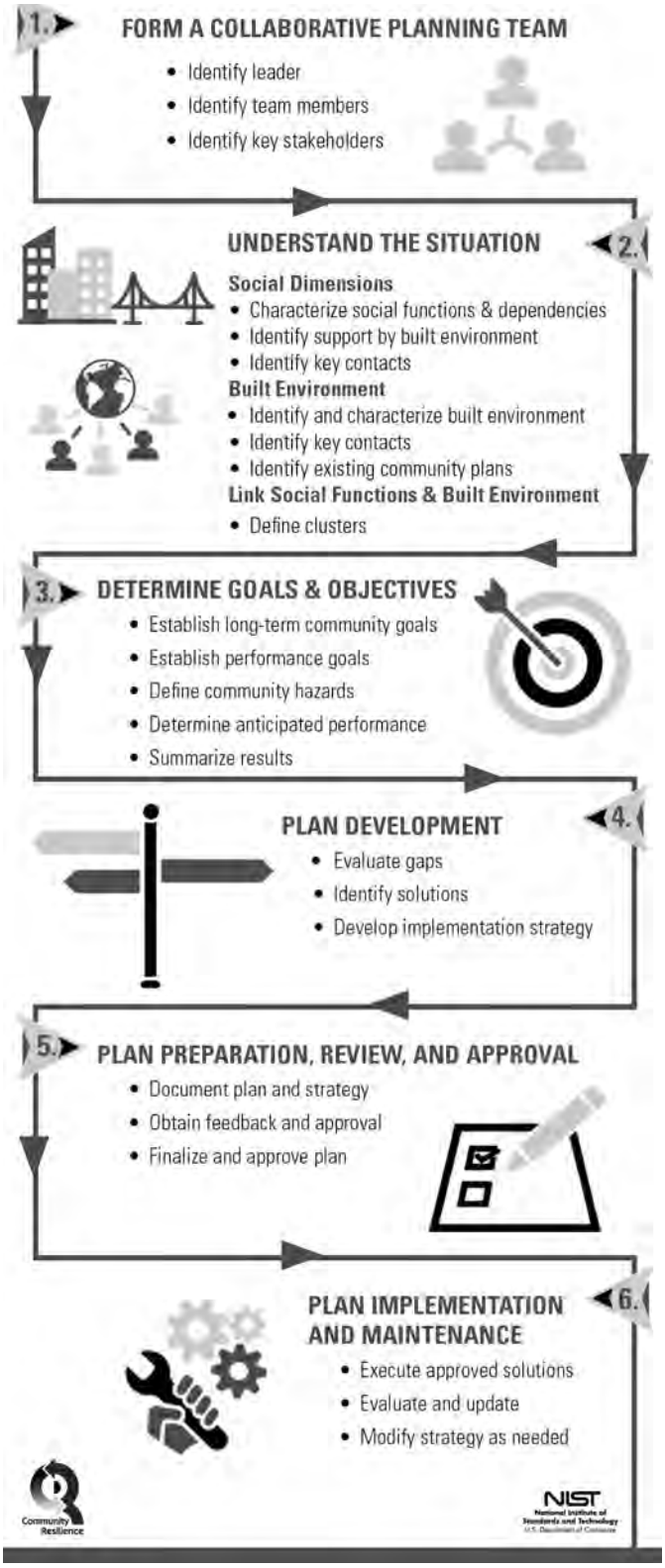
https://www.nist.gov/topics/community-resilience/planning-guide

A concise 12-page packet that NIST has prepared that describes the community resilience planning process can be found at:

https://www.nist.gov/sites/default/files/documents/2019/04/03/nist_community_resilience_12_page_brochure.pdf

The six-step process for planning a community resilience diagram can be found on the next page.

SECTION 6



SIX-STEP PROCESS
Planning for Community Resilience

As defined by NIST, "Community resilience is the ability of a community to prepare for anticipated hazards, adapt to changing conditions and withstand and recover rapidly from disruptions." The NIST documents lay out a six-step planning process for communities to follow to develop and implement a community resilience plan. It is important for individual schools and school district staff to consider how the work they do on developing a school facilities safety plan fits in with the broader resilience plan that the local community may have developed.

SECTION 6

The specific aspect of the NIST Planning Guide framework highlighted here is the need to establish performance level definitions for school buildings. Performance level definitions specify how functional a building needs to be after a major natural hazard event—which obviously affects how a new building is designed and what mitigation measures may be needed in existing facilities. The NIST Planning Guide Performance Level Definitions are provided below:

PERFORMANCE LEVEL	DEFINITION
A. Safe and Operational	These facilities incur minor damage and continue to function without interruption. Essential facilities need this level of function.
B. Safe and Usable During Repair	These facilities experience moderate damage to their finishes, contents, and support systems. They receive green tags from qualified inspectors and are safe to occupy after a hazard event. This performance is suitable for shelter-in-place residential buildings, neighborhood business and services, and other business or services deemed important to community recovery.
C. Safe and Not Usable	These facilities meet minimum safety goals but remain closed until they are repaired. These facilities receive yellow tags from qualified inspectors. This performance may be suitable for some of the facilities that support the community's economy. Demand for business and market factors will determine when they need to be functional.
D. Unsafe—Partial or Complete Collapse	These facilities are dangerous because the extent of damage may lead to casualties. These buildings receive red tags from qualified inspectors.

Within the context of the broader locality's community resilience plan, the school staff working on a safety/resilience plan need to decide what performance level is required for each school facility.

The Federal Emergency Agency Framework for Improving School Natural Hazard Safety

A LINK TO the Safer, Stronger, Smarter: A Guide to Improving School Natural Hazard Safety document released by FEMA in June 2017, was provided on page 21 of this report. This FEMA report is discussed in more detail in this section.

According to the FEMA guide, typical goals for a school natural hazard safety plan include:

- Safety—minimizing injuries resulting from a natural hazard event
- Emotional Well-Being—minimizing the emotional trauma associated with a natural hazard event
- Educational Continuity—preventing or minimizing occupancy interruption
- Savings and Benefits—recognizing that mitigating risks may lower the cost of repairing or replacing damaged buildings after a natural hazard event
- Providing Emergency Shelter—recognizing that school facilities may serve as either evacuation sites or post-event recovery centers
- Speeding Community Recovery—recognizing that school recovery is an important part of family and community recovery

Achieving these disaster response and recovery goals does not just happen—new facilities must be designed to meet these goals and existing facilities need to be modified so that they can meet these goals to the extent that is feasible.

SECTION 6

Operationalizing the NIST and FEMA Guide Frameworks

HOW DOES A school facilities safety planning team go from having a broad understanding of the NIST and FEMA natural hazard planning frameworks to a more concrete understanding when developing the safety plan for a specific school? The FEMA Guide provides more detailed information on how to go about many of these tasks.

Listed below are topics for the planning team to consider:

1. The planning team should develop specific goals for the school's response to a natural hazard event. Will the facility be expected to provide emergency shelter for the broader community? What is the expectation for how quickly the school is expected to be functional after a major natural hazard event?
2. The NIST Performance Level expectation for each school facility needs to be specified.
3. The planning team needs to understand that constructing a building to current building code does not necessarily mean that a school building will be usable after a major natural hazard event. If the goal is for a building to be able to be occupied immediately after a major natural hazard event, the building needs to be designed to achieve that goal.
4. For existing buildings, an assessment of the vulnerabilities of the facility to probable natural hazard events needs to be conducted. That assessment should identify possible mitigation measures and develop cost estimates for implementing those measures. The planning team should develop a plan to fund the needed mitigation measures—which may be a long-term effort.
5. Emergency power needs should be carefully assessed—both the amount of emergency power that is needed to keep critical building and information technology systems functioning—and the length of time that emergency power might be required.
6. Emergency communications must be considered. What is the plan if both land line and cell phone coverage is disrupted following a major natural hazard event?
7. The resiliency of cyber infrastructure needs to be evaluated. Which elements of a school's cyber infrastructure need to be functional following a major natural hazard event? Are critical school computer systems backed up off site or to the cloud? Is there an emergency website that parents and others can access?

A Case Study of Use of the NIST Planning Framework by a Public Educational Institution in Washington

ESD 112 IS NOT aware of a school district in Washington that has utilized the NIST Planning Framework to evaluate its facilities. However, the University of Washington has utilized the NIST Planning Framework—this case study was selected to be included here because it is the only known and referenced application of the NIST Planning Guide at a public educational institution.

The University of Washington's Conceptual Plan to Improve Resilience was developed in partnership with the Seattle City Council and the City of Seattle's Office of Emergency Management. The UW Emergency Operations Center (EOC) is the City of Seattle's secondary or "back-up" EOC.

The plan was initiated when the UW Board of Regents asked senior administration officials what they thought was the greatest risk to the UW's financial stability. Loss of tuition revenue resulting from suspended operations for an extended period due to a natural disaster was identified as the most significant risk to the UW's financial stability. If tuition revenue was not available to fund the university's operations, the university might not be able to pay its bills. An earthquake or other natural disaster that shut down university operations for an extended period would also put both federally sponsored and privately sponsored research revenue streams at risk.

SECTION 6

In response to the board's concerns about financial stability, the University of Washington (UW) initiated a major planning process in 2012. This planning process followed the NIST Planning Guide framework. Buildings were placed into "clusters" for resilience planning purposes and performance level requirements were specified for all buildings. This planning process resulted in a long-range seismic investment improvement program for the UW Seattle campus. The plan identified various forms of seismic improvements that needed to be made to 25 buildings on the UW Seattle campus over a ten-year time period. The university has funded the long-range seismic improvement program for the UW Seattle campus—fiscal year 2020 will be the third year of the program and funding has also been allocated for fiscal year 2021.

The importance of business continuity and disaster resilience to support the UW's educational and research missions and service to the community after a natural disaster served as a catalyst for the now ongoing UW Seismic Resilience program. Four slides that summarize the UW's Plan to Improve Seismic Resilience are provided below.

Seismic Resilient University of Washington

INTEGRATED AND COMPREHENSIVE

- Existing and new resilient infrastructure and building systems to respond to and recover from expected seismic event
- Continued prioritization of emergency response and recovery planning
- Integration with UW financial and environmental sustainability goals
- Identification of capital investment strategies—state, federal, local sources
- Implementation based on key measures and targeted UW resilience outcome

UW Building "Clusters" for Resilient Planning Purposes

RESEARCH LABORATORIES
Research facilities that depend on a specially conditioned environment

ESSENTIAL FACILITIES
EOC, police and fire stations, hospital, shelters, temporary admin quarters, and central plant

IT FACILITIES AND NETWORKS
Offices, data centers, distributed hubs, and infrastructure to support connectivity

INSTRUCTIONAL FACILITIES
Classrooms, auditoriums, faculty offices, teaching laboratories, and sports facilities

HOUSING
Residential complexes that include dining facilities

ADMINISTRATIVE OFFICES
Offices of the President, Provost, Vice Presidents, Vice provosts, and related staff

SECTION 6

Expected Performance Criteria—UW Buildings and Infrastructure

PERFORMANCE GOALS will be assigned for all buildings based on cluster:

- Safe and fully operational
- Safe and usable during repairs
- Safe and usable within days
- Safe and usable within weeks
- Safe and usable within months
- Unsafe due to falling hazards and partial collapse
- Exceptionally high risk, subject to collapse in a moderate earthquake

NEW FACILITIES AND UTILITIES will be designed and constructed to meet the appropriate performance goal.

EXISTING FACILITIES AND UTILITIES that do not meet the appropriate performance goal will be rehabilitated.

Next Tasks

Performance goals will be assigned for all buildings based on cluster:

1. Define expected and extreme seismic events
2. Define human capital needed to support response and recovery
3. Update and rate current building and lifeline performance conditions
4. Determine critical vulnerabilities of infrastructure lifelines serving the campus
5. Review and confirm cluster definitions
6. Review and refine goals for expected and extreme earthquakes
7. Recognize potential needs and plan for people from Seattle neighborhoods seeking assistance
8. Finalize prioritized programs and integrate within UW financial plans
9. Collaborate with City of Seattle

SECTION 7

Funding Pathways for Pre-Disaster Safety and Security Capital Improvements

THERE ARE A number of current and potential future funding opportunities at the federal, state, and local levels that can provide support and funding for school districts engaged in disaster planning, that provide funding for enhanced disaster resilience and that support continuity of activities at your school facilities following a disaster.

In previous sections, we have identified the tools and the core activities to support the implementation and the financial planning required for enhanced school resilience outcomes. To summarize, the three core activities to determine capital-funding requirements are:

1. **Assessing Needs:** The school district must assess it vulnerabilities and the improvements needed to mitigate those vulnerabilities;
2. **Prioritizing:** Capital financial resources are typically constrained and a district must establish the criteria by which you will prioritize the improvements that will be implemented first, second, third, etc.;
3. **Funding:** Explore all funding options and build community partnerships which together can often leverage capital funds.

FEDERAL: At the federal level, the Department of Homeland Security has initiated community resilience and emergency management planning grants. FEMA continues to support a wide range of programs including their Flood Mitigation Assistance Grant Program, their Hazard Mitigation Grant Program, and a Pre-Disaster Mitigation Program. In 2015 and 2016 NOAA (National Oceanic and Atmospheric Administration) provided over $9M in their Regional Coastal Resilience Grant Program to fund resilience projects in coastal communities with school districts eligible to apply.

These federal funds are typically made available through state and sometimes county governmental emergency management agencies, OSPI, and, less often, directly through a federal agency (e.g., the NOAA grant program referenced above).

LOCAL: At the local and state level, decades of deferred maintenance for K-12 facilities throughout the country, not just in the state of Washington, have had a profound impact on local school districts' financial capacities to prioritize and allocate capital and operating funds in support of disaster resilience, including enhanced safety and security measures, at any scale. Often these capital improvements are viewed as less critical than fire and life safety improvements and repairs to roofs, HVAC systems and elevators.

As a result, we continue to witness the use of capital bond and/or capital levy measures in the state of Washington to identify and implement major school safety and security improvement programs, although it is generally acknowledged the scale of the need for those improvements at existing facilities far exceed the funds available to meet the immediate and long-term priorities at one time. In addition, for many districts utilizing long-term bond financing to fund new and/or replacement school facilities, successful bond passage typically requires the new facilities to incorporate safety and security best practices, which require the district to create policy or design guidelines for selected safety and security measures in the new built environment. This often creates a disparity among individual school facilities (new versus existing) initiating a desire for implementing (and funding) similar safety and security improvements on a longer-term implementation schedule district-wide.

School districts are also often funding and scheduling safety and security improvements by using operating budget reserves to fund incremental year-by-year capital improvements and using an immediate, mid-, and long-term prioritization by school approach. This approach is typically developed during the annual budget

SECTION 7

process at the local school level and is the result of aligned priorities of district administrative leaders and their school board on the importance of safety and security for students, teachers, and their community.

The state of Washington does not currently provide capital funding for the inclusion of school safety and security assessments within the OSPI Study and Survey program, or through any other state agency in support of K-12 facilities. There is no ongoing state-funded safety and security mitigation planning capital available to local school districts.

One-time funding of $10 million was appropriated by the Washington State Legislature in 2013 for school security improvements. Over the past two biennial budgets, $3.3 million was appropriated for seismic safety assessments in schools. Beyond the need to identify shortcomings in the safety of Washington schools, there is inadequate ongoing funding to remediate those shortcomings. Beyond these one-time appropriations, the major state financial support for school safety and security improvements is through the state capital budget School Construction Assistance Program (SCAP). However, SCAP's purpose is not specific to the goals of improved safety and security. New schools and modernized schools financed through SCAP are not required to meet specific safety and security standards. Furthermore, SCAP underestimates the design requirements and the realistic cost of construction, which places a heavy burden on local taxpayers for school construction bonds.

As an incremental step towards recognition by the state legislature of the importance of safety and security and enhanced disaster resilience for the K-12 built environment, recent Washington State Legislative task forces on school construction have heard testimony suggesting, at a minimum, the provision of "design guidance" regarding school safety and security (perhaps similar to that implemented in the state of Connecticut following the devastating violence at Sandy Hook Elementary School in Newtown, Connecticut in 2014, and included in this White Paper as Appendix A) due to huge contribution of state funds to the construction of school facilities in Washington.

A complementary approach that has also been discussed by the OSPI Joint Technical and Citizen Advisory Committees in 2018 and 2019 has been future consideration of state capital budget resources providing limited but enhanced funding for the current School Safety and Security Plan grant program—consistent with the content identified in this White Paper—in each "Study and Survey" submission to OSPI. This information will serve as new core component of a School District's Study and Survey submission and will be incorporated permanently into the OSPI database for future budget planning data mining and/or for pursuit for a new capital pre-disaster mitigation funding partnership between the state of Washington and the federal government and philanthropic organizations.

School safety and security planning for existing schools must consider the remaining life expectancy of those schools. It doesn't make sense to spend millions of dollars improving safety and security of a school that should be replaced or comprehensively modernized in the near future. In many cases, the most prudent way to improve school safety and security is by incorporating those improvements as part of a modernization or replacement program. Additionally, as was mentioned earlier in this document, it is always a good idea to incorporate more "active" measures (school resources officers, threat assessment programs, etc.) into safety and security plans, especially in the event that more "passive" building modernizations are not an immediate reality.

SECTION 8

Introduction to Guidance Documents

Three guidance documents are included with this report.

IN RESPONSE TO threats of school violence in general, and in particular, to the school shooting incident in Newtown, Connecticut, the state of Connecticut chartered a group (the School Safety Infrastructure Council) to examine what the state could do to improve school security statewide.

Guidance Document A provides the "Report of the School Safety Infrastructure Council," that resulted from the effort.

Guidance Document B includes a Summary Checklist or formally identified as the "Critical Compliance Standards," from the "Report of the School Safety Infrastructure Council." These materials are based on the State of Connecticut document included in Guidance Document A.

The Council of Educational Facilities Planners International has prepared a "Safe Schools: A Best Practices Guide." This document is included in **Guidance Document C**.

GUIDANCE DOCUMENT A

State of Connecticut

REPORT OF THE SCHOOL SAFETY INFRASTRUCTURE COUNCIL
REVISED AND UPDATED TO JUNE 27, 2014

Report of the

School Safety Infrastructure Council

REVISED AND UPDATED TO JUNE 27, 2014

DONALD J. DEFRONZO, ***Commissioner***
THE DEPARTMENT OF ADMINISTRATIVE SERVICES

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Introduction

Recognizing the need for an "all hazards" emergency preparedness and response capability, and driven by the threat of school violence in Connecticut schools and particularly by the December 14, 2012 Newtown shootings, Connecticut state government has re-evaluated its role as a partner in ensuring the safety and security of the state's local educational facilities.

For decades state government has been a primary funding source for local school construction, but has not established uniform preventative school security design standards. In practice, virtually all school safety infrastructure decisions have been made at the local level leading to school construction projects with significantly different security design features across school district boundaries. While maintaining the ability of local school boards to design facilities which are responsive to community needs and conducive to the educational process, the need to achieve a heightened and more uniform level of school safety infrastructure design in each state funded project, as provided for in Public Act 13-3, is now policy.

If the events of the recent past have taught us anything, it is that state government must use its collective resources more wisely and with greater purpose. By tying state school construction investments to local compliance with widely agreed upon security standards, state government can help achieve the goal of more secure schools through the use of preventative infrastructure design techniques.

Today state government must assume a new role and expanded responsibility.

Long a primary source of school construction funding, state government will now use its role to require a more comprehensive and uniform consideration of school security measures at the local level. By establishing a universal school security assessment process, by identifying areas of critical concern and by requiring mitigation of observed deficiencies, the state will assume greater responsibility in establishing a more uniform level of school security throughout the state.

Individually, Connecticut's 165 school districts are limited in what they can plan and achieve in moving toward the goal of improved statewide school security. However, Connecticut state government, with the commitment of its Chief Executive and legislative leadership clearly aligned, can effectively move the state forward. Acting under the provisions of P.A. 13-3 Governor Malloy has established a strong partnership with the federal Department of Homeland Security (DHS) and has succeeded in mobilizing

national expertise to address the challenge of improving school safety infrastructure design. This partnership has brought together security experts from across federal agencies and from other states to help design and develop new tools for use in improving school safety.

Similarly, the establishment of Critical Compliance Standards and a process to ensure that local school districts meet or exceed these standards is intended to be a cooperative venture in which Connecticut municipalities and local school districts work as partners with state agencies to achieve the goal of improved school security design.

The state's role in this process does not end with funding state construction and in providing leadership in securing resources and expertise needed to improve school security. It also extends to mobilizing all affected parties in recognizing the importance of this undertaking, in sharing information and technology and in making the goal of improved school safety infrastructure a shared statewide objective. In this effort private vendors and a host of professional associations including the American Council of Engineering Companies of Connecticut, the American Institute of Architects, the Associated Builders and Contractors, the Associated General Contractors of Connecticut and the Connecticut School Construction Coalition have cooperated with the School Safety Infrastructure Council (SSIC) in promoting solutions to the challenging issues of improved school security design.

Finally, while the role of state government may be changing in some respects, the state's commitment to providing a warm, welcoming and nurturing educational environment in local schools is unchanged. Despite the urgency of achieving school security goals, the SSIC has recognized, from its inception, the need to preserve an educational environment that maintains an open, welcoming and supportive place for teaching and learning. The SSIC believes the framework established in this report and its associated compliance standards, will advance the cause of school security, while affording local school districts the opportunity to safeguard the local school environment which is essential to education.

Since the tragedy in Newtown, Connecticut state government has undertaken a number of initiatives to improve security in local schools. Among these efforts are two distinct requirements passed by the legislature and signed by Governor Malloy in Public Act 13-3, An Act Concerning Gun Violence Prevention and Children's Safety:

1. Development of School Safety Infrastructure Standards. P.A. 13-3, sections 80 to 83, established the School Safety Infrastructure Council (SSIC). This Council was comprised of nine members - the Commissioners of the Departments of Administrative Services, Education and Emergency Services and Public Protection, plus six members with varying expertise in school security related fields, appointed by legislative leaders.

   Under P.A. 13-3 the SSIC is charged with developing "…school safety infrastructure standards for school building projects under chapter 173 of general statutes and projects receiving reimbursement as part of the school security infrastructure competitive grant program." The legislation directs the SSIC to examine a variety of school building safety infrastructure areas, including entryways, ballistic glass, solid core doors, locking systems, closed circuit television monitoring, use of security cameras, classroom security and other security infrastructure features and design strategies.

These standards are to be developed by January 1, 2014 and submitted to the legislature at that time. Effective July 1, 2014, all school construction and renovation applications for state funding must comply with these standards, or they will not be approved. Additionally, state grants provided pursuant to the School Security Infrastructure Competitive Grant Program, jointly administered by the Departments of Emergency Services and Public Protection (DESPP), Education (SDE) and Administrative Services (DAS) under section 84 of P.A. 13-3, must be provided in accordance with the SSIC standards on and after these standards are submitted. Finally, any model blueprints for new school building projects that are developed by the School Building Project Advisory Council pursuant to Conn. Gen. Stat. § 10-292q must include the SSIC standards.

Appendix A of this report provides the School Safety Infrastructure Standards.

2. Development of School Security and Safety Plan Standards. P.A. 13-3 (section 86) also requires the Department of Emergency Services and Public Protection (DESPP), in consultation with the Department of Education (SDE), to develop school security and safety plan standards to provide guidance in emergency plan management and to further assist school districts in managing practices and policies relating to school security and safety planning. These standards are intended to assist school districts in developing operational school security procedures to respond to security events.

   The template for the School Security and Safety Plan is currently being developed and will be completed by January 1, 2014.

In Connecticut the concern for school safety is not new. Safety is a consideration in virtually every school construction project. However, despite this concern, the state lacks uniform statewide methodologies for assessing and addressing school safety infrastructure design. Until now school safety has been almost entirely determined by local decision makers, leading to a very uneven and unpredictable level of school security design across school district lines.

As an alternative, a uniform comprehensive threat-assessment process and consistent standards and corresponding building plans will help ensure a threshold level of awareness, responsiveness and security.

Implicit in the authorizing legislation, and a starting point for the SSIC, is the public policy determination that schools are vulnerable facilities subject to the threat of violence with the potential for loss of life or serious injury to students and staff. Also implicit in that policy is the belief that protective school design techniques can make school grounds and school buildings safer places in which to conduct educational activities.

This report summarizes the findings of the School Safety Infrastructure Council, and covers the following areas:

Legislative Authorization
SSIC Meetings and Process

SSIC Findings & Guiding Principles
Selection and Development of a Uniform School Security Assessment Tool
Selection and Development of School Safety Infrastructure Standards
    Mandatory Compliance Areas
    Critical Compliance Areas
    Guideline Recommendations
Roll Out Plans
Appendices

Legislative Authorization

Sections 80 through 83 of P.A. 13-3, An Act Concerning Gun Violence Protection and Children's Safety, established the nine-member School Safety Infrastructure Council, and required the Council to develop school safety infrastructure standards by January 1, 2014. Effective July 1, 2014, all school construction and renovation applications for state funding must comply with these standards to be eligible for state funds. Effective upon submission, these standards will also be incorporated into model blueprints developed by the School Building Projects Advisory Council for new school building projects, and will be considered in School Security Infrastructure Competitive Grant Program approvals determined by the DESPP Commissioner.

Excerpts from Public Act No. 13-3 (Senate Bill No. 1160)
Relating to
The School Safety Infrastructure Council

SCHOOL SAFETY INFRASTRUCTURE COUNCIL

Sec. 80. (NEW) (Effective from passage) (a) There is established a School Safety Infrastructure Council. The council shall consist of: (1) The Commissioner of Construction Services, or the commissioner's designee; (2) the Commissioner of Emergency Services and Public Protection, or the commissioner's designee; (3) the Commissioner of Education, or the commissioner's designee; (4) one appointed by the president pro tempore of the Senate, who shall be a person with expertise in building security, preferably school building security; (5) one appointed by the speaker of the House of Representatives, who shall be a licensed professional engineer who is a structural engineer; (6) one appointed by the majority leader of the Senate, who shall be a public school administrator certified by the State Board of Education; (7) one appointed by the majority leader of the House of Representatives, who shall be a firefighter, emergency medical technician or a paramedic; (8) one appointed by the minority leader of the Senate, who shall be a school resource officer; and (9) one appointed by the minority leader of the House of Representatives, who shall be a public school teacher certified by the State Board of Education. The Commissioner of Construction Services shall serve as the chairperson of the council. The administrative staff of the Department of Construction Services shall serve as staff for the council and assist with all ministerial duties.

(b) The School Safety Infrastructure Council shall develop school safety infrastructure standards for school building projects under chapter 173 of the general statutes and projects

receiving reimbursement as part of the school security infrastructure competitive grant program, pursuant to section 84 of this act. Such school safety infrastructure standards shall conform to industry standards for school building safety infrastructure and shall include, but not be limited to, standards regarding (1) entryways to school buildings and classrooms, such as, reinforcement of entryways, ballistic glass, solid core doors, double door access, computer-controlled electronic locks, remote locks on all entrance and exits and buzzer systems, (2) the use of cameras throughout the school building and at all entrances and exits, including the use of closed-circuit television monitoring, (3) penetration resistant vestibules, and (4) other security infrastructure improvements and devices as they become industry standards. The council shall meet at least annually to review and update, if necessary, the school safety infrastructure standards and make such standards available to local and regional boards of education.

(c) Not later than January 1, 2014, and annually thereafter, the School Safety Infrastructure Council shall submit the school safety infrastructure standards to the Commissioners of Emergency Services and Public Protection and Education, the School Building Projects Advisory Council, established pursuant to section 10-292q of the general statutes, as amended by this act, and the joint standing committees of the General Assembly having cognizance of matters relating to public safety and education, in accordance with the provisions of section 11-4a of the general statutes.

Sec. 81. Subsection (a) of section 10-284 of the general statutes is repealed and the following is substituted in lieu thereof (Effective July 1, 2013):

(a) The Commissioner of Education shall have authority to receive and review applications for state grants under this chapter, and the Commissioner of Construction Services shall have authority to review and approve any such application, or to disapprove any such application if (1) it does not comply with the requirements of the State Fire Marshal or the Department of Public Health, (2) it is not accompanied by a life-cycle cost analysis approved by the Commissioner of Construction Services pursuant to section 16a-38, (3) it does not comply with the provisions of sections 10-290d and 10-291, (4) it does not meet (A) the standards or requirements established in regulations adopted in accordance with section 10-287c, or (B) school building categorization requirements described in section 10-283, as amended by this act, (5) the estimated construction cost exceeds the per square foot cost for schools established in regulations adopted by the Commissioner of Construction Services for the county in which the project is proposed to be located, (6) on and after July 1, 2014, the application does not comply with the school safety infrastructure standards developed by the School Safety Infrastructure Council, pursuant to section 80 of this act, or [(6)] (7) the Commissioner of Education determines that the proposed educational specifications for or theme of the project for which the applicant requests a state grant duplicates a program offered by a technical high school or an interdistrict magnet school in the same region.

Sec. 82. Subdivision (1) of subsection (a) of section 10-283 of the general statutes is repealed and the following is substituted in lieu thereof (Effective July 1, 2013):

(a) (1) Each town or regional school district shall be eligible to apply for and accept grants for a school building project as provided in this chapter. Any town desiring a grant for a

public school building project may, by vote of its legislative body, authorize the board of education of such town to apply to the Commissioner of Education and to accept or reject such grant for the town. Any regional school board may vote to authorize the supervising agent of the regional school district to apply to the Commissioner of Education for and to accept or reject such grant for the district. Applications for such grants under this chapter shall be made by the superintendent of schools of such town or regional school district on the form provided and in the manner prescribed by the Commissioner of Construction Services. The application form shall require the superintendent of schools to affirm that the school district considered the maximization of natural light, [and] the use and feasibility of wireless connectivity technology and, on and after July 1, 2014, the school safety infrastructure standards, developed by the School Safety Infrastructure Council, pursuant to section 80 of this act, in projects for new construction and alteration or renovation of a school building. The Commissioner of Education shall review each grant application for a school building project for compliance with educational requirements and on the basis of categories for building projects established by the State Board of Education in accordance with this section, and shall evaluate, if appropriate, whether the project will assist the state in meeting the goals of the 2008 stipulation and order for Milo Sheff, et al. v. William A. O'Neill, et al. , provided grant applications submitted for purposes of subsection (a) of section 10-65 or section 10-76e shall be reviewed annually by the commissioner on the basis of the educational needs of the applicant. The Commissioner of Education shall forward each application and the category that the Commissioner of Education has assigned to each such project in accordance with subdivision (2) of this subsection to the Commissioner of Construction Services not later than August thirty-first of each fiscal year. The Commissioner of Construction Services shall review [all grant applications for school building projects on the basis of] each grant application for a school building project for compliance with standards for school [construction, established in regulation] building projects pursuant to regulations, adopted in accordance with section 10-287c, and, on and after July 1, 2014, the school safety infrastructure standards, developed by the School Safety Infrastructure Council pursuant to section 80 of this act. Notwithstanding the provisions of this chapter, the Board of Trustees of the Community-Technical Colleges on behalf of Quinebaug Valley Community College and Three-Rivers Community College and the following entities that will operate an interdistrict magnet school that will assist the state in meeting the goals of the 2008 stipulation and order for Milo Sheff, et al. v. William A. O'Neill, et al. , as determined by the Commissioner of Education, may apply for and shall be eligible to receive grants for school building projects pursuant to section 10-264h for such a school: (A) The Board of Trustees of the Community-Technical Colleges on behalf of a regional community-technical college, (B) the Board of Trustees of the Connecticut State University System on behalf of a state university, (C) the Board of Trustees for The University of Connecticut on behalf of the university, (D) the board of governors for an independent college or university, as defined in section 10a-37, or the equivalent of such a board, on behalf of the independent college or university, (E) cooperative arrangements pursuant to section 10-158a, and (F) any other third-party not-for-profit corporation approved by the Commissioner of Education.

Sec. 83. Subsection (b) of section 10-292q of the general statutes is repealed and the following is substituted in lieu thereof (Effective from passage):

(b) The School Building Projects Advisory Council shall (1) develop model blueprints for new school building projects that are in accordance with industry standards for school buildings and the school safety infrastructure standards, developed pursuant to section 80 of this act, (2) conduct studies, research and analyses, and (3) make recommendations for improvements to the school building projects processes to the Governor and the joint standing committee of the General Assembly having cognizance of matters relating to appropriations and the budgets of state agencies, education and finance, revenue and bonding.

This legislation established the operational framework for the work of the SSIC.

SSIC MEETINGS AND PROCESS

Members of the SSIC, appointed in the spring of 2013, began meeting in June and approved a time line dividing the Council's work into two distinct phases:

1. Public Input and Information Gathering; and
2. Analysis and Report Writing.

1. Public Input and Information Gathering

From June through September 2013, five informational meetings were conducted, the substance of which is briefly summarized below.

At its first meeting, SSIC members were informed that the state's current school building grant program has no specific security requirements, other than those inherent in the State Building Code. While security features are eligible expenditures under the grant program, there are no uniform security standards, and schools vary widely in terms of what is included in local plans.

In June, the Council heard expert testimony from the State Building Inspector, the regional Director of the National Fire Protection Association, the DESPP/DEMHS Director of Emergency Management, and representatives of the state's Office of Counter Terrorism.

In July, the Council heard from design and architectural professionals from across the state, lock experts and representatives demonstrating a new interactive-interoperable real time audio/visual communication system linking schools, public safety officials, first responders, hospitals, utility companies and others. At this session representatives of the federal Department of Homeland Security presented the Integrated Rapid Visual Screening tool (a comprehensive facilities assessment model) and discussed plans for working with SSIC and other partners to adapt its use for school security purposes.

In August, a session was dedicated to hearing from educational professionals including testimony from the state's largest teacher unions, the American Federation of Teachers (AFT) and the Connecticut State Education Association (CSEA) and also representatives of the Connecticut Federation of School Administrators, the Connecticut Association of Public School Superintendents, the Connecticut Association of Schools, the Connecticut

Association of Boards of Education and the Connecticut Association of School Business Administrators.

A final public meeting was conducted in September for comments from public officials, police and fire professionals, first responders and members of the public. Testimony from the Hartford Chief of Police, Middletown Fire Chief and several members of the public focused on the need for effective real time emergency response communication systems, comprehensive emergency planning that balances the need for effective life safety codes compliance with planning for other threats, the need for locking devices on classroom doors, and various options concerning school windows, protective treatments and laminates.

A complete list of all those who offered comments to the SSIC is included in Appendix C.

2. Analysis and Report Writing

Beginning in October 2013, the SSIC conducted a number of working sessions involving council members, staff and invited participants. Collaboration among the three involved state agencies, the Department of Administrative Services (DAS), the State Department of Education (SDE), the Department of Emergency Services and Public Protection (DESPP), and the federal Department of Homeland Security (DHS), along with the active participation of Council members, allowed the process to proceed on the basis of a consensus building model. Appendix C contains a complete list of Council meetings.

The Department of Homeland Security (DHS), Science and Technology Directorate, provided the Council with a wealth of information concerning federal efforts to assess the security of federal buildings and the process by which identified vulnerabilities are addressed. For more than a decade that office has been involved in risk assessment and risk mitigation efforts. It has also been engaged in a project to evolve the technology used for risk assessment and mitigation at the federal level so that such technology may be used by the State of Connecticut and its local school districts in assessing school security infrastructure design. Although DHS is fully engaged in this effort, completion of the IRVS for schools is not expected until mid 2014, or later. Once the adaptation is completed, it is anticipated that this emerging school facility assessment tool can be made available to school districts in Connecticut and throughout the country.

Members of the Council were also given access to various school construction standards used in other states, materials prepared by federal agencies, demonstrations of various technologies and professional staff input.

In November, several Council members traveled to Washington D.C. to meet with officials of the DHS Science and Technology Directorate to discuss the development of the school security assessment tool known as the Integrated Rapid Visual Screening (IRVS) program. These discussions afforded both federal and state officials the opportunity to better understand the capabilities of the IRVS and how it could be further adapted as a comprehensive assessment tool at the local level.

Finally, as it undertook its work, the Council considered the relevant recommendations of the Sandy Hook Advisory Committee. The report can be found at http://www.governor.ct.gov/malloy/lib/malloy/SHAC_Interim_Report_2013.03.18.pdf

SSIC FINDINGS & GUIDING PRINCIPLES

Based on presentations from the State Building Inspector and the Director of the Office of School Facilities, SSIC members concluded early in the process that, like many states, Connecticut's current school building grant program has no specific security requirements, with the exception of those inherent in the State Building Code. While security features are eligible expenditures under the grant program for new and renovate as new school facilities, there are no uniform safety standards, and schools vary widely in terms of what is included in local plans. As an alternative, a uniform comprehensive threat assessment process and corresponding school security infrastructure standards will help ensure a threshold level of awareness, responsiveness and security compliance in Connecticut schools. The provisions of the School Facilities Grant program (Chapter 173) will be modified to require school systems seeking state funding to certify compliance with the new School Safety Infrastructure Standards and related requirements.

Based on testimony from experts at the state, regional and federal level, the Council determined that school safety infrastructure planning should be based on an "all hazards" assessment, and that school design safety standards should encourage the use of protective infrastructure design features in all levels or layers of school facility construction including:

Site development and preparation;
Perimeter boundaries and access points;
Secondary perimeters up to the building exterior; and
the interior of the building itself.

Another important point, made repeatedly by professionals in the field, is that the conduct of these local uniform assessments must be an inclusive process involving police, fire, medical, school and other local officials. This public safety team approach is not only important in the assessment phase, but throughout the design and construction period as well. The need for redundancy and collaboration is essential.

Central to the security assessment process and the development of the School Security and Safety Plan is the need to conduct an emergency response time analysis (ERTA) to determine the actual amount of time needed for a police response to a specific school in a crisis situation. This exercise will also help in appropriate design decisions related to architectural safeguards, locking technologies and locations, and other measures that could deter or delay an intruder for an amount of time necessary to ensure an onsite public safety response prior to deep building penetration. An Emergency Response Time Analysis should be conducted for each proposed school design plan to better inform local planners on which school security design features may be appropriate for impeding the entry of unwanted individuals

or preventing or delaying the free movement of such parties in a school facility. (Knowing what the critical response time is can help planners build in essential design components to limit movement, isolate intruders and facilitate response efforts).

The four major goals of the school security assessment and subsequent compliance measures are to improve:

Deterrence –to prevent unwanted visitors from gaining access to school grounds or buildings, and deterrence to avert the impact of natural threats that could result in potential harm to students, staff and property;

Detection –to quickly locate, identify and contain the movement of an unwanted party who has gained unauthorized entry to the school grounds or building;

Delay –to impede, isolate and forestall the movement of an unwanted party within a school building; to prevent access to classroom areas and common gathering points within a school allowing adequate time for a public safety response; and

Response – to ensure that coordinated, interactive and reliable communication system and procedures are in place to facilitate an immediate and effective response from public safety and medical agencies.

All the testimony confirmed the public policy assumption that schools are vulnerable facilities subject to the threat of violence and that protective school design techniques, better planning and uniform standards can make school grounds and school buildings safer places in which to conduct educational activities.

In approaching its work, the Council acknowledged several themes that would help guide or inform its decision making. These include:

The need to balance uniform school safety infrastructure standards with the needs of local communities to design and build schools that are responsive to local educational needs and objectives;
The need to preserve an educational environment for children;
The need to establish a uniform school security infrastructure assessment procedure;
The need to ensure the school building planning process is inclusive of all local decision makers, public safety, building code and fire and life safety code personnel; and
The need to establish a cooperative and constructive compliance system that facilitates attainment of the new standards.

SELECTION AND DEVELOPMENT OF A UNIFORM SCHOOL SECURITY ASSESSMENT TOOL

While the work of the SSIC is born of the events in Newtown involving a rogue shooter, other potential threats, both natural and manmade, have led the Council to consider an

"all hazards" approach to school design and security standards. As a result, the Council has broadened the preventive design standards to incorporate the most up to date seismic and weather related design requirements, while also considering architectural and design deterrents to terrorists, environmental and chemical accidents or attacks.

The need to take an "all hazards approach" to the assessment of school infrastructure vulnerabilities, and the need to develop compliance requirements in school design plans that minimize identified weaknesses and better prepare schools for a host of potential threats is a major goal of the SSIC. In order to develop a uniform set of standards that are adaptable to the many varied school construction sites and types of school construction in Connecticut, there is a need to develop, or adopt, an "all hazards" threat assessment tool that not only recognizes and differentiates the unique security challenges of each facility, but also provides a comparable security analysis of common school security infrastructure characteristics that are part of all major school construction projects.

A uniform risk assessment of a school facility during the design phase of construction allows school districts to acquire a threshold level of awareness and responsiveness to potential threats and can provide a thorough evaluation of school security. A number of potential threats face every individual school facility, each having its own likelihood of occurrence (probability) and potential for injury and damage (severity). A comprehensive risk assessment includes activities to identify and quantify risk utilizing an "all-hazards" approach to threat assessment for both natural and manmade hazards, and can be used as a screening tool for a preliminary design to determine if the critical systems will enhance deterrence, detection, denial, and damage limitation (response) in the event of an emergency. The primary objective of the risk assessment is to find the most effective mitigation measure(s) to achieve a desired level of protection.

The process of security analysis or risk assessment involves four related components.

Threat Assessment – what types of Undesirable Events may a structure be prone to experience?

Consequences or Severity – a determination of the severity of harm that could impact a facility in the event of an Undesirable Event.

Vulnerabilities – an assessment of actual or planned infrastructure protective design measures against the preferred level of design security thereby identifying areas of weakness or vulnerability

Compliance – The process by which vulnerabilities are identified and remediated to the appropriate School Safety Infrastructure standards or guidelines.

While it may be necessary to extend the use of the National Clearinghouse for Educational Facilities' (NCEF) Safe School Facilities Check List (the assessment tool currently in use for the Competitive School Security Grant Program) for a period of time, the preferred assessment tool is the automated version of the "Integrated Rapid Visual Screening" (IRVS)

program being developed by the federal DHS in consultation with the SSIC. The IRVS will be described in detail later in Appendix D of this report, but is basically comprised of three components and a compliance determination phase added by the SSIC. These include:

School Security Level – The School Security Level analysis attempts to quantify the level of risk that exists at a particular school as measured by potential casualties, building damage, restoration costs, etc., for each of the potential high risk threats identified in the Undesirable Event Analysis. This analysis establishes a baseline school security level.

Undesirable Event Analysis – each existing school undergoing major renovation and plans for each new school will be subjected to a threat assessment based on the geographic, demographic and structural features of the school and its location. The product of this phase will be a list of school specific threats.

(The system does allow for the predetermination of the likelihood of any specific undesirable event. As a result, in Connecticut the threat assessment for a school shooting shall be considered moderate to high level in all cases).

Level of Protection Analysis – By comparing actual or planned school infrastructure elements that have been assessed against a recommended level of security for anticipated threats, specific areas of vulnerability are identified and recommendations for improvements are offered. In this area the state can establish minimal rating standards in any number of critical areas.

Compliance Determination Process – Once a local school district has completed the assessment, identified potential vulnerabilities and proposed specific plans to remediate deficiencies and secure compliance, the Office of School Facilities, Plan Review Unit will evaluate the local plan for adequacy and continue to work with local districts to ensure compliance with established standards.

While the IRVS appears to be the preferred method for the assessment of school infrastructure, it may not be fully deployed by DHS until mid 2014. As a result, the Council recommends that the Commissioner of DAS may designate the National Clearinghouse for Educational Facilities' (NCEF) Safe School Facilities Check List (currently in use in Connecticut), or another comparable program, as the initial assessment tool. A brief description of the NCEF Safe School Facilities Check List is provided in Appendix D. Subsequently the state can transition to the new IRVS program when it is available, with the benefit of a planned training and implementation period. SSIC also recommends that the Commissioner of DAS be given the authority to approve other comparable school security infrastructure assessment programs or tools, if requested to do so, and a determination of comparability is made by the Commissioner.

The assessment tool shall be used in all "new construction" or "renovate as new" projects and all school building infrastructure standards established by the SSIC should be applicable to all aspects of school construction.

If the school building plan is an "alteration" proposal, the school facility infrastructure assessment shall be conducted for the entire school with those areas subject to the planned alteration required to meet the recommended security standards resulting from the assessment.

Council members also support the creation of "waiver authority" vested in the Commissioner of DAS when unique or unanticipated conditions are determined by the Commissioner to make compliance with established standards impractical, unreasonable or excessively expensive. Council members also believe that, due to the sensitivity of the plans, detailed school security infrastructure plans should be shielded from disclosure under the Freedom of Information Act (FOIA).

DEVELOPMENT AND APPLICATION OF STANDARDS

There are approximately 151 points of reference identified in the Level of Protection phase of the IRVS school security infrastructure program. The Council views these points of reference in three distinct groupings, which are discussed in detail in Appendix A:

1. Mandatory Compliance Areas - include aspects of critical infrastructure involving compliance with established building codes and cover seismic, flood and storm related standards. Also in this category are all provisions of the State Building Code addressing structural requirements and Life Safety Code issues that are mandatory under any condition.

2. Critical Compliance Standards – Nine primary areas of school infrastructure design, some referenced in P.A. 13-3, are identified by the Council as critical elements in school safety infrastructure design and in achieving the goal of more secure schools. Investments in protective design features in these particular areas are believed to offer the most cost effective use of limited resources with a corresponding and relatively high benefit in terms of improved security. These areas include:

1. **School Site Perimeter** - Access Control, Surveillance, Points of Entry and Accessibility, Signage, Lighting, Fencing, Bollards, Landscape

2. **Parking Areas and Vehicular and Pedestrian Routes** - Access Control, Surveillance, Points of Entry and Accessibility, Signage, Lighting, Speed Calming, Landscape, Drop Off/Pick Up Areas, Sidewalks

3. **Recreational Areas** – Playgrounds, Athletic Areas, Multipurpose Fields

4. **Communication Systems** – Mass Notification, Alarm and Information Systems, Interoperable Real Time Response Systems, Radio Systems, Wireless Systems and Multimedia Systems.

5. **School Building Exterior** – Building Perimeter, Access Control, Main Entrance/ Vestibule, Administrative Offices/Lobby, Doors, Glazing/Films, Signage, Lighting, Surveillance, Locking Systems

6. **School Building Interior** – Access Control, Surveillance, Points of Entry and Accessibility, Classrooms, Large Assembly Areas, Doors, Locking Systems, Signage

7. **Roofs** – Access Control
8. **Critical Assets/Utilities** – Access Control, Surveillance, Screens, Critical Building Components, Signage, Hardening, Redundancy, Location
9. **Other Areas** – Dumpsters, Receptacles, Hazardous Materials Storage, Signage, Locker Rooms, Rest Rooms, Specialty Areas, Courtyards

In addition to these nine Critical Compliance Standards, utilizing the "all hazards" approach to school safety, local school districts should consider having a school serve the function of emergency shelter in extreme weather conditions. Schools are typically designed for large assembly occupancy with mass care functions, such as adequate toilets, food service, etc. Multipurpose areas such as the gym or cafeteria have the capacity to accommodate a large number of people and can provide safe shelter from extreme weather conditions. If a new or renovate as new school facility is being constructed with the intent that the facility be used as an emergency shelter, the design of the designated area that is to serve as an emergency shelter should be in compliance with the ICC/NSSA Standard for the Design and Construction of Storm Shelters. ICC 500 is the national standard for compliant safe room/storm shelter in new K-12 school facilities.

3. Other Areas Subject to School Security Infrastructure Guidelines

At minimum, all school facilities are required to be compliant with state and federal building and fire codes. In other areas of school design and construction, standards and guidelines may be somewhat more variable providing local authorities with the flexibility to create an increased level of safety and security while meeting broader educational objectives. Areas not identified in the Mandatory or Critical Compliance sections noted above will be subject to more flexible guidelines to be incorporated in the School Security Technical Compliance Guidelines that are currently under development. Once complete this document will be incorporated in the SSIC final report as an updated and free standing Appendix E to be used by design and architectural professionals, along with Appendix A, to achieve security design objectives.

PLANS FOR ROLLOUT OF STANDARDS TO SCHOOL AND CONSTRUCTION INDUSTRY OFFICIALS

Recognizing the pervasive impact these new standards will have throughout Connecticut's educational and public safety community and construction industry, the SSIC has asked DAS to develop a comprehensive program to inform the key stake holders of the changes that are likely to take place over the next six months. As the Legislature considers implementation of the new standards, the Departments of Education, Administrative Services and Emergency Services and Public Protection will develop a broad based orientation program designed to inform interested groups and the general public.

Appendix A

INTRODUCTION

Pursuant to Public Act (PA) 13-3, Section 80 (b), the School Safety Infrastructure Council (SSIC) has been charged with developing school safety infrastructure standards for school building projects under chapter 173 of the general statutes. Such standards are to conform to industry standards for school building safety infrastructure and are to include, but are not limited to, standards regarding (1) entryways to school buildings and classrooms… (2) the use of cameras throughout the school building and at all entrances and exits, including the use of closed-circuit television monitoring… (3) penetration resistant vestibules, and (4) other security infrastructure improvements and devices as they become industry standards.

Section 80 (c) of PA 13-3 requires that the SSIC develop these standards by January 1, 2014, and annually thereafter submit these standards to the School Building Projects Advisory Council (SBPAC) and Section 83 further requires that the SBPAC incorporate such school safety infrastructure standards into the model blueprints for new school building projects that the SBPAC is charged with developing.

Pursuant to section 84 (b) of PA 13-3, on and after the date that the School Safety Infrastructure Council submits the school safety infrastructure standards, the decision to approve or deny an application and the determination of which expenses are eligible for reimbursement under the program shall be in accordance with the school safety infrastructure standards in effect on the date from which a complete grant application has been submitted to the Office of School Facilities (OSF) in accordance with the provisions of Chapter 173 of the Connecticut General Statutes (CGS). School Safety Infrastructure Standards apply to new and renovate as new projects.

COMPREHENSIVE APPROACH TO SCHOOL SECURITY

Introducing safety standards as part of school design requires a holistic approach to balance many objectives, such as reducing risk, creating a welcoming learning environment that is secure, facilitating proper building function, hardening of physical structures beyond the required building code, and developing security and safety planning standards to establish protocol for security management during times of crises.

Prior to the submission of a school construction grant application, a uniform risk assessment of the site and all buildings on the site for which a school facility is to be located will be required. The uniform risk assessment will give school districts the ability to determine a threshold level of awareness and responsiveness to potential threats to all hazards on, or in close proximity to, a proposed school construction project site. The “all hazards” approach

should be used as the preferred screening tool for preliminary design because it allows districts the opportunity to assess its critical assets, account for its vulnerabilities to natural or manmade hazards, and to determine the most effective mitigation measure to achieve a desired level of protection. Please refer to Appendix D of the January 2014 School Safety Infrastructure Council Report for the preferred risk assessment tool for Connecticut.

Central to the security assessment process and the development of the School Security Infrastructure Plan is the need to conduct an emergency response time analysis (ERTA) to determine the actual amount of time needed for a police response to a specific school in a crisis situation. This exercise will also help in appropriate design decisions related to architectural safeguards, locking technologies and locations and other measures that could deter or delay an intruder for an amount of time necessary to ensure an onsite public safety response prior to deep building penetration. An ERTA should be conducted for each proposed school design plan to better inform local planners on which school security design features may be appropriate for impeding the entry of unwanted individuals or preventing or delaying the free movement of such parties in a school facility.

Utilizing the "all hazards" approach to school safety, municipalities should work with local school districts to consider whether a school should serve the function of an emergency shelter in severe emergency conditions, such as a major storm or power outage. Schools are typically designed for large assembly occupancy with mass care functions, such as adequate toilets, showers, food service, etc. Multipurpose areas such as the gym or cafeteria have the capacity to accommodate a large number of people and can provide safe shelter from extreme conditions. If a new or renovate-as-new school facility is being constructed with the intent that the facility may serve as an emergency shelter, the design of the designated area that is to serve as an emergency shelter should be in compliance with the ICC/NSSA Standard for the Design and Construction of Storm Shelters. ICC 500 is the national standard for compliant safe room/storm shelter in new K-12 school facilities. In addition, municipalities and school districts should consider equipping schools with auxiliary power capability, either through an installed generator or at least the wiring and outlet to install a generator (i.e., "plug-in ready").

For security infrastructure to be effective, an "all hazards" school security and safety plan must be in place prior to building occupancy to establish procedures for managing various types of emergencies. Each school employee should receive an orientation on the plan to allow school districts and municipal officials the ability to implement a unified approach to emergency planning, preparedness, and response. Pursuant to PA 13-3, Section 86, the Department of Emergency Services and Public Protection (DESPP), in consultation with the State Department of Education, has developed an all hazards School Security and Safety Plan Standards together with an all hazards School Security and Safety Plan Template which is scheduled for release by January 1, 2014.

SCHOOL SAFETY DESIGN COMMITTEE

To design and develop a safe and secure school requires the input of community representatives and local officials during the design phase of construction. The SSIC

recommends that a School Safety Design Committee be established for each school construction project, during the design phase of construction, to review and make recommendations on safety and security features that meet the programmatic needs of their respective school district. Membership of the School Safety Design Committee should include those representatives assigned to the School Security and Safety Committee as defined in the School Security and Safety Plan Standards and may include any other person the board of education deems appropriate, including, but not limited to, the project architect, school transportation manager, school resource officer, school security manager, and local emergency management director.

DEVELOPING SCHOOL SAFETY INFRASTRUCTURE STANDARDS

The preferred risk assessment tool for Connecticut identifies more than one hundred fifty (150) criteria that may require mitigation to achieve the desired level of protection for any given school facility. The SSIC views these points of reference in three distinct groupings - mandatory compliance areas, critical compliance areas, and guideline recommendations. By categorizing compliance areas into three distinct groups, the SSIC provides districts flexibility in how to achieve the desired level of protection for their school facility, while still ensuring an increased level of uniformity as the state works to provide safe and secure school environments.

1. **Mandatory Compliance Areas** include areas of critical infrastructure that require compliance with the most current building and fire codes as adopted and amended by the State of Connecticut. As these standards already address issues related to natural hazards, such as seismic, flood and storm requirements, these issues are not further addressed within the critical compliance areas of the school safety infrastructure standards. These mandatory compliance areas represent the minimal level of compliance for building projects of any kind under any circumstance in the state.

2. **Critical Compliance Areas** are primary areas of school safety infrastructure design, some of which were specifically identified by PA 13-3, that have been identified as critical design elements for school safety infrastructure to achieve the goal of more secure schools. Critical compliance may reinforce building and fire code and will enhance safety and security features related to school infrastructure. This level of compliance represents the areas that a district must address to be eligible for a school construction grant. School safety infrastructure standards have been developed to protect areas considered to be the most vulnerable for breach of security and include:

    1) School Site Perimeter;
    2) Parking Areas and Vehicular and Pedestrian Routes;
    3) Recreational Areas (playgrounds, athletic areas, multipurpose fields);
    4) Communication Systems;
    5) School Building Exterior;

6) School Building Interior;
7) Roofs;
8) Critical Assets/Utilities; and
9) Other Areas.

Investments in protective design features in these particular areas offer the most cost effective use of limited resources with a corresponding and relatively high benefit in terms of improved security. As such, compliance in these areas is required for grant approval. In many instances, districts may reach compliance in one of several ways, depending on the nature of the site, the project, and the district demographics.

Protective design features should include design functions that allow for natural and mechanical surveillance. Natural surveillance is the use of design, including spatial definition and designation strategies, to increase the actual abilities of guardians to observe intruders, as well as to increase the perception of intruders that they may be observed by others. Mechanical surveillance is the use of mechanical or electronic devices for observation purposes, such as mirrors, closed circuit television (CCTV), or sound recording devices. Visual observation is greatly facilitated by appropriate lighting, which can help reduce crime opportunity by increasing the perceived risks relative to the chances of being observed and can also help reduce the fear of crime.

The development of these school safety infrastructure standards is based on literature review, data analysis, expert testimony gathered from public informational meetings held by the SSIC between the months of June and September 2013, identification of best practices both within and outside the State of Connecticut, and in coordination with the Department of Homeland Security (DHS) Science and Technology Directorate, Resilient Systems Division in the development of the Integrated Rapid Visual Screening (IRVS) assessment tool for the design of safe schools. For more information on the specific reference material to this report, please see Addendum 1 – School Safety Infrastructure Reference Material.

3. Other Areas not identified in the Mandatory or Critical Compliance sections noted above will be subject to the School Safety Technical Compliance Guidelines that are currently under development. Once complete this document will be incorporated in the SSIC final report as an updated and free standing Appendix E to be used by design and architectural professionals, along with Appendix A, to achieve security design objectives.

I. School Safety Infrastructure Standards

1. School Site Perimeter

The fundamental objective of site planning is to place school buildings, parking areas, and other necessary structures in such a way as to provide a setting that is functionally effective, as well as aesthetically pleasing. Increasing concerns for security add another dimension to the range of issues that must be considered.

1.1. Crime Prevention Through Environmental Design (CPTED) is a crime prevention strategy that uses architectural design, landscape planning, security systems, and visual surveillance to create a potentially crime free environment by influencing human behavior and should be applied when appropriate. CPTED usually involves the following principles:

1.1.1. Natural Surveillance – using physical features to preclude blind spots or hiding spots to enhance visibility and keep intruders easily observable.

1.1.2. Territorial Reinforcement – using physical barriers to express ownership over an area and to distinguish public and private areas.

1.1.3. Natural Access Control – strategic placement of points of entry/egress, fencing, landscaping and lighting to create a perception of risk to potential intruders.

1.1.4. Target Hardening – use of features that prohibit entry or accessibility.

1.2. All protective design features should include functions that allow for natural and mechanical surveillance.

1.3. Fencing, landscaping, edge treatment, bollards, signage, exterior furnishings and exterior lighting may be used to establish territorial boundaries and clearly delineate areas of public, semi-public, semi-private, and private space.

ACCESS CONTROL

The following minimum standards shall be met:

1.4. School boundaries and property lines shall be clearly demarcated to control access to a school facility and shall clearly delineate areas of public, semi-public, semi-private, and private space.

1.5. Where a school is a shared use facility that serves the community, internal boundaries shall be clearly defined to establish a distinct perimeter for both the school and the

shared use facilities with separate and secure access points that are clearly defined. Boundaries may be defined by installing fencing, signage, edge treatment, landscaping, and ground surface treatment.

1.6. Bollards shall be kept clear of ADA access ramps and the corner quadrants of streets. (A bollard is a post or set of posts used to delimit an area or to exclude vehicles).

1.7. The number of vehicle and pedestrian access points to school property shall be kept to a minimum and shall be clearly designated as such.

1.8. Directional signage shall be installed at primary points of entry to control pedestrian and vehicular access and to clearly delineate vehicular and pedestrian traffic routes. Signage should be simple and clear. Signage should have reflective or lighted markings.

The following shall be considered during the design phase of a school construction project to provide optimal safety and security:

1.9. Fencing, if installed, around the perimeter of the school property shall not permit footholds, where feasible, to deter unauthorized access to a school facility.

1.10. Fencing, if installed, shall be free of any vegetation. Remove bushes, trees, containers, or any other object that might provide a hiding place from the proximity of the fence.

1.11. Bollards, if installed, should not be less than thirty (30) inches in height and shall never exceed a height of forty two (42) inches. Spacing for bollards, if installed, shall be between thirty six (36) and forty eight (48) inches apart.

1.12. Rectangular planters, if installed, shall not be more than two (2) feet wide and six (6) feet long, and circular planters shall be no more than three (3) feet in diameter.

1.13. Maintain a maximum distance of four (4) feet between planters and other permanent streetscape elements.

1.14. Do not use planters in high pedestrian traffic areas to allow for the free flow of pedestrian traffic during high use times.

1.15. Orient planters in a direction parallel to the curb or primary flow of pedestrian traffic. In no case should a planter or line of planters be placed perpendicular to the curb.

1.16. Landscaping within planters shall be kept below thirty (30) inches in height, except when use requirements call for increased foliage. Depending on the threat, consideration should be given to ensuring that a six (6) inch high package could not be concealed in the foliage.

1.17. Secure manholes, utility tunnels, culverts, and similar unintended access points to the school property with locks, gates, or other appropriate devices without creating additional entrapment hazards.

SURVEILLANCE

The following minimum standards shall be met:

1.18. Unsupervised site entrances shall be secured during low use times for access control purposes.

1.19. Perimeter fencing, landscaping and signage shall not obstruct the view of natural and/or mechanical surveillance.

1.20. Landscaping shall be properly maintained to provide an unobstructed view for natural and/or mechanical surveillance. Shrubs and hedges bordering walkways shall not exceed eighteen (18) inches in height and tree branches and leaves shall be kept clear to a minimum of eight (8) feet off the ground.

1.21. The design shall allow for the monitoring of points of entry/egress by natural and/or mechanical surveillance during normal hours of operation and during special events.

1.22. At minimum, mechanical surveillance shall be used at the primary access points to the site for both pedestrian and vehicular traffic.

1.23. Site Lighting shall be installed at all points of entry/egress.

1.24. Designated pedestrian and vehicular traffic routes shall be adequately lit to reinforce natural and or mechanical surveillance during evening hours.

The following shall be considered during the design phase of a school construction project to provide optimal safety and security:

1.25. Avoid blocking lines of sight with fencing, signage, and landscaping.

1.26. Avoid dense vegetation in close proximity to a school building, where it could screen illicit activity.

1.27. Locate access points in areas of high visibility that can be easily observed and monitored by staff and students in the course of their normal activities. Natural surveillance may be maximized by controlling access points that clearly demarcate boundaries and spaces.

1.28. Closed Circuit Television (CCTV) may be used around the site perimeter to provide views of points of entry/egress and as a means to securely monitor an area when natural surveillance is not available.

1.29. Surveillance equipment, where installed, shall be mounted to resist forces in any direction. Surveillance equipment should be designed to protect against tampering, vandalism, and natural hazards.

1.30. Security lighting, if installed, shall be directed at the building.

1.31. If a CCTV system is installed, site lighting shall be coordinated with the CCTV system.

2. Parking Areas and Vehicular and Pedestrian Routes

The following minimum standards shall be met:

2.1. External access to parking areas shall be kept to a limited number of controlled entrances. A minimum of two vehicular points of entry/egress shall be provided to separate passenger and delivery vehicles.

2.2. Points of entry/egress shall allow for natural and/or mechanical surveillance during normal hours of operation and during special events.

2.3. At the minimum, mechanical surveillance shall be used at the primary access points to the site for both pedestrian and vehicular traffic.

2.4. Designated pedestrian and vehicular points of entry/egress and traffic routes shall be adequately lit to reinforce natural and or mechanical surveillance during evening hours.

2.5. Signage shall be posted at all vehicular access points with rules as to who is allowed to use parking facilities and when they are allowed to do so. Signage should be simple and have the necessary level of clarity. Signage should have reflective or lighted markings.

2.6. Where distance from the building to the nearest curb provides insufficient setback, parking shall be restricted in the curb lane.

2.7. Unmanned points of entry that are otherwise secured shall be made accessible for emergency vehicles.

2.8. Parking areas shall be adequately lit with vandal resistant lighting.

2.9. Parking shall be prohibited under or within the school building.

2.10. Security lighting shall be provided at site entry locations, roadways, parking lots, and walkways from parking to buildings.

2.11. Pedestrian routes from drop off areas shall be sufficient to accommodate peak periods of use.

2.12. Vehicle circulation routes to service and delivery areas, visitors' entry, bus drop-off, student parking and staff parking shall be separated, clearly demarcated, and easily supervised. Fire lanes around the building shall be closed off from maintenance and other traffic with "break-away" bollards.

2.13. A drop-off/pick-up lane shall be designated for buses only with a dedicated loading and unloading zone designed adequately to allow for natural and/or mechanical surveillance and to avoid overcrowding and accidents.

2.14. Shipping and receiving areas shall be separated from all utility rooms by at least fifty (50) feet. The fifty (50) foot boundary shall be measured from the outer most perimeter of the shipping and receiving area to the outer most perimeter of the utility room. Utility mains and service areas include electrical, telephone, data, fire alarm, fire suppression water mains, cooling and heating mains.

2.15. Landscaping shall be designed to provide an unobstructed view for natural and/or mechanical surveillance. Shrubs and hedges bordering walkways shall not exceed eighteen (18) inches in height and tree branches and leaves shall be kept clear to a minimum of eight (8) feet off the ground.

The following shall be considered during the design phase of a school construction project to provide optimal safety and security:

2.16. Design entry roads so that vehicles do not have a straight-line approach to the main building. Use speed-calming features to keep vehicles from gaining enough speed to penetrate barriers. Speed-calming features may include, but are not limited to speed bumps, safety islands, differing pavement surfaces, landscape buffers, lights, or exterior furnishings and lighting.

2.17. Secure unsupervised site entrances during low use times for access control.

2.18. Sign text should prevent confusion over site circulation, parking, and entrance location. Unless otherwise required, signs should not identify sensitive or high risk areas. However, signs should be erected to indicate areas of restricted admittance.

2.19. Parking areas should be designed in locations that promote natural surveillance

to mitigate illicit behavior. Parking should be located within view of the occupied building, while maintaining the maximum stand-off distance possible.

2.20. Locate visitor parking in areas that provide the fewest security risks to school personnel. The distance at which a potentially threatening vehicle can park in relation to school grounds and buildings should be controlled.

2.21. Keep the number of driveways or parking lots that students will have to cross to get into the school building to a minimum.

2.22. Consider security lighting in areas where recreational activities and other nontraditional uses of the building occur. If CCTV is provided, adequate lighting shall be designed to accommodate it.

2.23. Consider blue light emergency phones in all parking areas. If utilized, blue light emergency phones shall be clearly visible and readily accessible in well-lit areas with mechanical surveillance.

2.24. Consider panic buttons or intercom call boxes in parking areas as needed to enhance security.

3. Recreational Areas – Playgrounds, Athletic Areas, Multipurpose Fields.

The following minimum standards shall be met:

3.1. The design shall allow for ground-level, unobstructed views, for natural and/or mechanical surveillance of all outdoor athletic areas, playgrounds and recreation areas at all times.

3.2. Playgrounds and other student gathering areas shall be located away from public vehicle access areas, such as streets or parking lots by a minimum of fifty (50) feet. The fifty (50) foot boundary shall be measured from the outer most perimeter of the playground or other public gathering area and the outer most perimeter of the public vehicle access area or parking lot.

3.3. Playground equipment shall be secure and safe.

3.4. Pre-kindergarten and kindergarten play areas shall be separated from play areas designed for other students.

3.5. Athletic areas and multipurpose fields shall contain a physical protective barrier to control access and protect the area.

The following shall be considered during the design phase of a school construction project to provide optimal safety and security:

3.6. Locate access points to recreational areas in areas of high visibility that can be easily observed and monitored by staff and students in the course of their normal activities. Natural surveillance may be maximized by controlling access points that clearly demarcate boundaries and spaces.

3.7. Installing fences internal to the site perimeter around pre-kindergarten and kindergarten play areas may maximize security. If fencing is installed around a pre-kindergarten and kindergarten play area, it shall be a minimum of four (4) feet in height and have a minimum clearance of six (6) feet horizontally in all directions from the play equipment. Emergency/Pedestrian access gates with approved egress hardware shall be installed in fencing enclosing pre-k and kindergarten areas.

4. Communication Systems

The following minimum standards shall be met:

4.1. All classrooms shall have two way communications with the administrative office.

4.2. All communication systems shall be installed in compliance with State Building and Fire Code requirements.

4.3. All critical lines or lines that distribute information to first responders, supporting agencies, public safety officials and others shall allow for effective response and incident management and have at least one layer of redundancy, or backup, with maximum physical separation between the primary line and backup line. These systems may include radio, electronic, wireless or multimedia technology which provide real time information (such as audio, visual, mapping and relevant data) directly to first responders.

4.4. A means of mass notification shall be installed and maintained to notify all occupants and people in the immediate vicinity in case of emergency. Mass notification systems may include but are not limited to public address (PA) systems, intercoms, loudspeakers, sirens, strobes, SMS text alert systems, and other emerging interoperable resource sharing communication platforms.

4.5. All new buildings shall have approved radio coverage for first responders within the building based upon the existing coverage levels of communication systems at the exterior of the building. The system as installed must comply with all applicable sections of Federal Communication Commission (FCC) Rules for Communication Systems and shall coordinate with the downlink and uplink pass band frequencies of the respective first responders.

4.6. All in-building radio systems shall be compatible with both analog and digital communications simultaneously at the time of installation.

4.7. Critical areas such as emergency command center, fire pump room, exit stairs, exit passageways, elevator lobbies, standpipe cabinets, sprinkler sectional valve locations and similar critical areas shall provide radio coverage in compliance with all applicable sections of the FCC Rules for Communications Systems. General building areas shall also be provided with radio coverage in compliance with the applicable sections of the FCC Rules for Communications Systems.

4.8. Alarm and information systems shall not be concentrated, nor mounted in a single conduit. Circuits should be installed in at least two directions and/or risers.

4.9. Areas of refuge shall be provided with a two-way communication system between the area of refuge and a central control point. If the central control point is not constantly attended, the area of refuge shall also have controlled access to a public telephone system. The two-way communication system shall include both audible and visible signals.

4.10. In areas of refuge that have a two-way emergency communications system, instructions shall be provided on the use of the area under emergency conditions and be posted adjacent to the communications system. The instructions shall include all of the following:

4.10.1. Directions to find other means of egress. Information on planned availability of assistance in the use of stairs or supervised operation of elevators and how to summon such assistance.

4.10.2. Directions for use of the emergency communications system.

4.11. Where exit sign illumination is required, the area of refuge sign shall be illuminated. Additionally, tactile signage complying with ICC A117.1 shall be located at each door to an area of refuge.

The following shall be considered during the design phase of a school construction project to provide optimal safety and security:

4.12. Consider operational procedures in coordination with security standards that include emergency notifications for immediate threat and the testing of emergency response procedures.

4.13. Consider a communication strategy in coordination with security standards that include the distribution of a radio or wireless communication system to appropriate personnel, with necessary antennas, for utilization in case of emergency.

4.14. If radio communication systems are used, radios shall be capable of operating on frequencies reserved by the Federal Communications Commission (FCC) for school districts.

4.15. Radio system and signal booster supervisory signals should include antenna malfunction and signal booster failure. Power supply supervisory signals should include loss of normal AC power, failure of battery charger, and low battery capacity (alarming at 70 percent of battery capacity).

4.16. If radio communication systems are used, the in-building radio system shall be capable of operating on a battery dedicated to the system with at least twenty four (24) hours of 100 percent system operation capacity.

4.17. Call buttons should be installed at key public contact areas.

5. School Building Exterior – Points of Entry/Egress and Accessibility

SCHOOL BUILDING EXTERIOR

The following minimum standards shall be met:

5.1. Points of entry/egress shall be designed to allow for monitoring by natural and/or mechanical surveillance during normal hours of operation and during special events.

5.2. At minimum, mechanical surveillance shall be used at the primary points of entry.

5.3. Signage shall be placed at all public points of entry/egress to the school. Signage should be simple and be clear. Signage shall be reflective with contrasting background.

5.4. Lighting shall be sufficient to illuminate potential areas of concealment, enhance natural and/or mechanical surveillance, and discourage vandalism.

5.5. Emergency lighting shall be available for safe evacuation, assault prevention, and to reduce the risk of panic related injuries.

5.6. Trees shall be a minimum of ten (10) feet from the building to prevent window or roof access to the school facility.

The following shall be considered during the design phase of a school construction project to provide optimal safety and security:

5.7. Avoid dense vegetation and street furniture in close proximity to a school building, where it could screen illicit activity.

5.8. Consider a panic button or intercom call boxes along the building perimeter as needed to enhance security.

MAIN ENTRANCE/ADMINISTRATIVE OFFICES/LOBBY

The following minimum standards shall be met:

5.9. Main entrances shall be well lit and unobstructed to allow for natural and/or mechanical surveillance at all times.

5.10. The design shall allow for visitors to be guided to a single control point for entry.

5.11. The main entrance shall be bullet resistant and blast resistant. Glazing at and around exterior doors should be kept to a minimum.

5.12. Main entrance doors shall be controllable from a remote location, such as the office of school security or through the central administrative office.

5.13 The main entrance shall have a communication system in place which allows the front desk to communicate with visitors and, in case of an emergency, to the rest of the school.

5.14 Cameras shall be installed in such a manner that shows who enters and leaves the building.

5.15. The design shall allow for providing visitor accessibility only after proper identification.

5.16. Door hardware, handles, locks and thresholds shall be grade one.

5.17. Main entrance door hinge pins shall be located on the unsecured side of perimeter and critical interior doors must be designed to preclude door removal.

The following shall be considered during the design phase of a school construction project to provide optimal safety and security:

5.18. The main entrance should have an unobstructed view of lobby doors and perpendicular hallways. If feasible, administrative offices abutting the main entrance should be on an exterior wall with windows for natural surveillance of visitor parking, drop off areas, and exterior routes leading to the main entrance.

5.19. Reinforced walls should be provided in foyers and public entries. Interior and exterior doors should be offset from each other in airlock.

5.20. Use vestibules to increase security. The entrance vestibule shall have both interior and exterior doors that are lockable and controllable from a remote location.

5.21. Post warning signs about trespassing and illicit behavior, citing applicable laws and regulations at primary and secondary points of entry.

5.22. When possible, the design should force visitors to pass directly through a screening area prior to entering or leaving the school. The screening area should be an entrance vestibule, the administration/reception area, a lobby check in station, an entry kiosk, or some other controlled area. This controlled entrance should serve as the primary control point between the main entrance and all other areas of the school.

5.23. Control visitor access through mechanical surveillance with intercom audio and buzz-in entry.

5.24. Restrict visitor access during normal hours of operation to the primary entrance. If school buildings require multiple entry points, regulate those entry points with no access to people without proper authorization. Consider an electronic access control system for authorized persons if multiple entry points are utilized during normal hours of operation.

5.25. Administrative offices should be directly adjacent to the main entrance.

5.26. Other educational office space that may service the community at large should be in close proximity to the main entrance.

5.27. Install a panic/duress alarm or call button at the receptionist's desk as a protective measure.

5.28. Proximity cards, keys, key fob, coded entries, or other devices may be used for access control of students and staff during normal hours of operation. The system may be local (residing in the door hardware) or global (building or district-wide). Prior to installing a customized door access control system check with your local building and fire official to ensure compliance with state building and fire code.

5.29. Magnetic locks, if installed, shall have a minimum of 1,200 pounds of holding power.

5.30. Electric strikes, if installed, shall meet the Underwriters Laboratory (UL) standard for Burglary Resistant Electric Locking Mechanisms.

5.31. Consider sensors that alert administrative offices when exterior doors at all primary and secondary points of entry are left open.

5.32. Consider radio frequency access control devices at primary points of entry to allow rapid entry by emergency responders.

EXTERIOR DOORS

The following minimum standards shall be met:

5.33. The design shall allow for the points of entry/egress to be monitored by natural and/or mechanical surveillance during normal hours of operation and during special events.

5.34. Signage shall be placed at all public points of entry/egress to the school. Signage should be simple and be clear. Signage should be reflective with a contrasting background.

5.35. Lighting shall be sufficient to illuminate potential areas of concealment, enhance natural and/or mechanical surveillance, discourage vandalism and protect against vandalism.

5.36. All doors that serve as a means of egress shall meet life safety and fire code for emergency evacuation.

5.37. All exit doors shall be equipped with emergency exit hardware and not locked or secured by any other means and under no circumstances be chained shut.

5.38. Means of egress doors shall have handles and push bars that are flush with the door.

5.39. All exterior doors shall be hardened to be penetration resistant and burglar resistant.

5.40. All exterior doors shall be constructed of steel, aluminum alloy, or solid core hardwood and designed and certified to resist against natural hazards.

5.41. All exterior doors shall open outward.

5.42. All exterior doors shall be equipped with hardware capable of implementing a full perimeter lockdown.

5.43. All exterior doors shall be easy to lock and allow for quick release in the event of an emergency.

5.44. All exterior doors with interior locks shall have the capability of being unlocked/released from the interior with one motion.

5.45. Door locking systems shall allow for exit without impediment.

5.46. Door hardware, handles, locks and thresholds shall be grade one.

5.47. Exterior door hinge pins shall be located on the unsecured side of perimeter and critical interior doors must be designed to preclude door removal.

5.48 All exterior doors that allow access to the interior of the school shall be numbered in sequential order in a clockwise manner starting with the main entrance. All numbers shall be visible from the street or closest point of entry/egress, contrast with its background and be retro-reflective. Interior access to rooms with exterior doors shall be identified with the same number.

The following shall be considered during the design phase of a school construction project to provide optimal safety and security:

5.49. Permit entry and egress during normal hours of operation through a limited number of doors.

5.50. Secure double doors with heavy duty, multiple point, and long flush bolts.

5.51. Doors should have an adjustable spring or air return to ensure they are always closed and should be inspected on a regular basis to ensure they are functioning properly.

5.52. Doors vulnerable to unauthorized use by students should be made more secure by installing door alarms or sensors to alert school security or administrative offices when the door is not properly closed and/or latched.

5.53. Doors vulnerable to unauthorized access may be secured through the use of other protective measures, such as delayed opening devices, or cameras monitored by administrative offices or security personnel.

5.54. Install face plates at exterior door latches to prevent levering.

5.55. Proximity cards, keys, key fob, coded entries, or other devices may be used for access control of students and staff during normal hours of operation. The system may be local (residing in the door hardware) or global (building or district-wide). Prior to installing a customized door access control system check with your local building and fire official to ensure compliance with state building and fire code.

5.56. Magnetic locks, if installed, shall have a minimum of 1,200 pounds of holding power.

5.57. Electric strikes, if installed, shall meet the Underwriters Laboratory (UL) standard for Burglary Resistant Electric Locking Mechanisms.

5.58. Doors that do not allow access to the building should not be numbered, so that first responders can readily identify access doors.

5.59. Keep glazing at and around exterior doors to a minimum.

EXTERIOR WINDOWS/GLAZING/FILMS

Windows should be as resistant as possible to mitigate natural and manmade hazards, while at the same time meeting standards for high performance, allowing for natural surveillance, and providing students and personnel the ability to communicate with outside responders in the event of an emergency. Windows may also serve as a secondary means of egress in case of emergency.

The following minimum standards shall be met:

5.60. Horizontal windows shall be set at a minimum of forty four (44) inches above the finished floor to limit entry. If the window is set above forty four (44) inches of the finished floor entry, it cannot serve as a "rescue window" or secondary means of egress per fire code regulations.

5.61. Any window latching device shall be capable of being operated from not more than forty eight (48) inches above the finished floor.

5.62. Each classroom having exterior windows shall have the classroom number affixed to the upper right hand corner of the first and last window of the corresponding classroom. The numbers shall be reflective, with contrasting background. Signage specifications and installation shall be in compliance with ADA standards and other applicable regulations as required.

5.63. Glazing shall be minimized in high risk areas, such as lobbies and loading docks.

The following shall be considered during the design phase of a school construction project to provide optimal safety and security:

5.64. Locate windows away from public streets and roadways.

5.65. Design windows, framing and anchoring systems to be shatter resistant, bullet resistant, burglar resistant, and forced entry resistant, especially in areas of high risk, such as the main entrance, and in areas of refuge.

5.66. Resistance for glazing may be built into the window or applied with a film.

5.67. Classroom windows should be operable to allow for evacuation in an emergency.

6. School Building Interior

Interior physical security measures are a valuable part of a school's overall physical security infrastructure. Some physical measures such as doors, locks, and windows deter, prevent or delay an intruder from freely moving throughout a school and from entering areas where students and personnel may be located. Natural and mechanical surveillance can assist in locating and identifying a threat and minimizing the time it takes for first responders to neutralize a threat.

The following minimum standards shall be met:

6.1. The design shall provide for controlled access to classrooms and other areas in the interior during normal hours of operation to protect against intruders.

6.2. Emergency lighting shall be available for safe evacuation, assault prevention, and to reduce the risk of panic related injuries. All emergency lighting shall have adequate backup.

6.3. Placement of interior signage shall be such that no point in an exit access corridor is in excess of the rated viewing distance from the nearest sign.

6.4. An interior room numbering system shall be established using a three-digit number and include applicable prefixes and suffixes. The numbering system shall start at 000 for the basement; 100 for the first floor; 200 for the second floor; and so on. Room numbers shall be coordinated such that even numbers are on one side of a corridor and odd numbers are on the other side. Numbering shall be in sequential order in a clockwise manner starting with the interior door closest to the main point of entry. Interior room number signage may be wall mounted. Additional room number signage may be ceiling or flag mounted. Interior room number signage specifications and installation shall be in compliance with ADA standards and other applicable regulations as required.

The following shall be considered during the design phase of a school construction project to provide optimal safety and security:

6.5. Establish separate entrance and exit patterns for areas that have concentrated high-volume use, such as cafeterias and corridors, to reduce time required for movement into and out of spaces and to reduce the opportunity for personal conflict. Separation of student traffic flow can help define orderly movement and save time, and an unauthorized user will perceive a greater risk of detection.

6.6. Consider intruder doors that automatically lock when an intruder alarm or lockdown is activated to limit intruder accessibility within the building. If installed, intruder doors shall automatically release in the event of an emergency or power outage and

must be equipped with a means for law enforcement and other first responders to open as necessary.

INTERIOR SURVEILLANCE

The following minimum standards shall be met:

6.7. An electronic security system shall be installed in all school facilities.

6.8. If interior mechanical surveillance is utilized, the surveillance mechanism shall be monitored from a central location, such as the office of school security or through the administrative offices.

The following shall be considered during the design phase of a school construction project to provide optimal safety and security:

6.9. Consider mechanical surveillance in lobbies, corridors, hallways, large assembly areas, stairwells or other areas as a means to securely monitor those areas when natural surveillance is not available. Prior to installing mechanical surveillance systems in these areas check with your local building and fire official to ensure compliance with state building and fire codes.

6.10. The design should allow for the designation of controlled hiding spaces in classrooms, hallways, gyms, cafeterias and in other critical areas. The controlled hiding place should create a safe place for students and personnel to hide and protect themselves in the event of an emergency. Training and simulation exercises should be frequently conducted to instill a quick reaction for students and personnel to reach the area of refuge in the event of an emergency.

CLASSROOM SECURITY

The following minimum standards shall be met:

6.11. All classrooms shall be equipped with a communications system to alert administration in case of emergency. Such communication systems may consist of a push-to-talk button, an identifiable telephone system, or other means.

6.12. Classroom doors shall be constructed of steel, aluminum alloy, or solid core hardwood.

6.13. Classroom doors shall provide a minimum of thirty two (32) inches of clear opening and swing open to a minimum of ninety (90) degrees.

6.14. Means of egress doors with two door leaves without a mullion shall provide one leaf shelf opening width of thirty two (32) inches. The maximum width of a swinging door leaf shall be forty eight (48) inches nominal.

6.15. Door hardware, handles, locks and thresholds shall be grade one.

6.16. Classroom doors and locks shall be tamper resistant.

6.17. All classroom doors shall be lockable.

6.18. Door hardware shall allow staff to quickly lock rooms from the inside without stepping into the hallway.

6.19. Classroom door locks shall be easy to lock and allow for quick release in the event of an emergency.

6.20. Classroom doors with interior locks shall have the capability of being unlocked/released from the interior with one motion.

6.21.All door locking systems must comply with life safety and fire codes to allow for emergency evacuation.

The following shall be considered during the design phase of a school construction project to provide optimal safety and security:

6.22. Doorways should not be recessed.

6.23. Doors in main corridors should swing a full 180 degrees.

6.24. If classroom doors are equipped with a side window, the window should be installed on the hinge side of the door, away from the door locking system.

6.25. If interior windows are installed to provide lines of site into/out of classrooms or other populated areas, certain factors should be taken into consideration relating to the size, placement and material used for those windows, including:

6.25.1. Minimizing the size of windows or the installation of multiple interspersed smaller windows with barriers in a larger window area to deter intruder accessibility.

6.25.2. Placing windows at a sufficient distance from the interior locking mechanism to prevent or make difficult the opening of a door or lock from outside.

6.25.3. Concealing or obstructing window views to prevent an assailant's ability to ascertain the status or presence of persons inside of a classroom during lockdown

6.25.4. Hardening window frames to lessen window vulnerability.

LARGE ASSEMBLY AREAS **(gym, auditorium, cafeteria, lecture hall or other areas of large assembly)**

The following minimum standards shall be met:

6.26. Large assembly areas shall have separate, secure and controllable entrances. The design should prevent unauthorized access to the rest of the school.

6.27. Points of entrance and egress shall be clearly demarcated.

6.28. The design shall allow for the monitoring of points of entry/egress by natural and/or mechanical surveillance during normal hours of operation and during special events.

6.29. Signage shall be placed at all public points of entry/egress to the assembly area. Signage should be simple, and be clear. Signage should be reflective with a contrasting background.

6.30. Seating and circulation layouts shall be adequate to allow for emergency exit.

6.31. Lighting shall be sufficient to illuminate potential areas of concealment, enhance natural and/or mechanical surveillance, discourage vandalism and protect against vandalism.

6.32. Emergency lighting shall be available for safe evacuation, assault prevention, and to reduce the risk of panic related injuries. All emergency lighting shall have adequate backup.

The following shall be considered during the design phase of a school construction project to provide optimal safety and security:

6.33. The main entrance to a large assembly area should be unobstructed to allow for natural surveillance.

6.34. Mechanical surveillance should be used in large assembly areas and at all exit doors to securely monitor those areas when natural surveillance is not available.

6.35. Clear lines of site should be established for easy traffic flow.

6.36. A secure and lockable storage area should be provided for storage and equipment.

Shared Space or Mixed Occupancy (Library, BOE, Mixed Use or Other Community Service)

In certain circumstances a municipality or school district may choose to share space on a school site to support other educational or community service activities, such as board of education office space, municipal government office space, health and family service or some other use that supports the educational theme of the school, or some other use that provides a needed service to the community. All buildings located within the property line of a school facility must be included as part of the uniform risk assessment which is to be completed prior to the submission of a school construction grant application. A shared use may require enhanced levels of security that are not reimbursable under the school construction grant program.

The following minimum standards shall be met:

6.37. Shared space shall have separate, secure and controllable entrances.

6.38. The design of shared should prevent unauthorized access to the rest of the school.

6.39. The design of shared space shall allow for the monitoring of points of entry/egress by natural and/or mechanical surveillance during normal hours of operation.

6.40. Signage should be simple and clearly define the intended use and occupancy of the space. Signage shall clearly demarcate all public points of entry and egress.

6.41. Locate parking for shared space in areas that provide the fewest security risks to school personnel and students. The distance at which a potentially threatening vehicle can park in relation to school grounds and buildings should be controlled.

7. Roofs

The following minimum standards shall be met:

7.1. The design shall allow for roof accessibility to authorized personnel only.

The following shall be considered during the design phase of a school construction project to provide optimal safety and security:

7.2. Access to the roof should be internal to the building. Roof access hatches shall be locked from the inside.

7.3. If external access exists, roof ladders should be removable, retractable, or lockable. Screen walls around equipment or service yards should not provide easy access to the roof or upper windows.

8. Critical Assets/Utilities

The following minimum standards shall be met:

8.1. Screens at utilities, such as transformers or trash dumpsters, shall be designed to minimize concealment opportunities for people and weapons.

8.2. Access to building operations systems shall be restricted to designated users.

8.3. Shipping and receiving areas shall be separated from all utility rooms by at least fifty (50) feet. Utility mains and service areas include electrical, telephone, data, fire alarm, fire suppression water mains, cooling and heating mains (guidelines).

8.4. Loading docks shall be designed to keep vehicles from driving into or parking under the facility.

8.5. Critical equipment shall be properly anchored, elevated, and protected.

8.6. Life safety equipment shall automatically be connected to a backup power supply to provide service if the main power supply is disrupted in case of emergency.

8.7. Emergency generation systems shall be sized to carry the entire load connected to the emergency system at one time.

8.8. Schools without an uninterruptable power supply (UPS) shall have a sufficient backup source to maintain voice communications for up to twenty four (24) hours.

8.9. Emergency backup electric power shall be provided for all systems that must be operational at all systems.

The following shall be considered during the design phase of a school construction project to provide optimal safety and security:

8.10. Critical building components should be located away from vulnerable areas. Critical building components may include, but are not limited to:

- Emergency generator;
- Normal fuel storage;
- Main switchgear;
- Telephone distribution;
- Fire pumps;
- Building control centers;
- Uninterruptable Power Supply (UPS) systems controlling critical functions.
- Main refrigeration and ventilation systems if critical to building operation.

- Elevator machinery and controls.
- Shafts for stairs, elevators, and utilities.
- Critical distribution feeders for emergency power.

8.11. Critical building components should be a minimum of fifty (50) feet away from loading docks, front entrances, and parking areas.

8.12. Emergency and normal electrical equipment should not be placed in the same electrical vault.

8.13. Rooms for primary and backup systems should be hardened to improve their resilience.

8.14. Enclose exterior equipment in an area that is lockable and protected with bollards when located adjacent to vehicular routes.

8.15. Secure standpipes, water supply control valves, and other system components.

8.16. Loading zones should be separate from public parking.

8.17. Conceal and/or harden incoming utility systems.

8.18. Provide intrusion detection sensors for all utility services to the building.

8.19. Provide redundant utility systems to support security, life safety and rescue functions.

8.20. Incorporate rapid response and isolation features into HVAC systems.

8.21. Installation of empty conduits for future security control equipment should be considered during construction or major renovation.

8.22. Secure all HVAC intakes and mechanical rooms.

9. Other Security Infrastructure and Design Strategies

The following minimum standards shall be met:

9.1. Trash receptacles, dumpsters, mailboxes and other large containers shall be kept at least thirty (30) feet from the building.

9.2. The design shall include special rooms for hazardous supplies that can be locked.

The following shall be considered during the design phase of a school construction project to provide optimal safety and security:

9.3. Stairwells should be located remotely and should not discharge into lobbies, parking or loading areas.

9.4. Enclose dumpsters in a designated service area or surrounded on three sides by a high wall, and a securable gate. Dumpsters should not provide access to the roof.

OTHER AREAS OF CONSIDERATION

Not all areas within and around a school facility have been specifically identified as part of the School Safety Infrastructure Standards, but nonetheless are important to ensuring a secure facility and should be carefully scrutinized for purposes of safety and security during the design phase of construction. Other areas may include, but are not limited to:

- Courtyards;
- Specialty Areas (art, music, science, computer);
- Rest Rooms;
- Locker Rooms;
- Corridors/Hallways.

At minimum, all school facilities are required to be compliant with state and federal building and fire codes. In other areas of school design and construction, standards and guidelines may be somewhat more variable providing local authorities with the flexibility to create an increased level of safety and security while meeting broader educational objectives. School Security Technical Compliance Guidelines are currently being developed to provide design and architectural professionals with options on how to achieve a district's security objectives. The School Security Technical Compliance Guidelines will be a free standing appendix to the School Safety Infrastructure Report (see Appendix E, School Security Technical Compliance Guidelines).

Addendum 1 – School Safety Infrastructure Reference Material

Several design philosophies and techniques have been incorporated into this primer, including

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FLDOE, Florida Safe School Design Guidelines: Strategies to Enhance Security and Reduce Vandalism. Florida Department of Education, 2003.
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Appendix B

SCHOOL SAFETY INFRASTRUCTURE COUNCIL – MEMBERSHIP & STAFF

As instructed by Public Act 13-3, the School Safety Infrastructure Council (SSIC) is comprised of nine members: the Commissioners of the Departments of Administrative Services, Education and Emergency Services and Public Protection or their designees and six members with varying expertise in school security related fields, appointed by legislative leaders.

Members

CHAIR

Commissioner Donald J. DeFronzo
Connecticut State Department of Administrative Services (DAS), Hartford, CT
Representing a commissioner or designee

Bio: Mr. DeFronzo is the Commissioner of the Connecticut Department of Administrative Services, and is the Chair of the School Safety Infrastructure Council. He has spent his entire career in public service, including serving as state senator from the sixth district and as mayor of New Britain. While in the legislature, he was chair of the Transportation Committee and the Government Administration & Elections Committee, and sat on the Finance, Revenue & Bonding and Environment Committees.

Members

Deputy Commissioner William P. Shea
Connecticut State Department of Emergency Services and Public Protection (DESPP), Middletown, CT
Appointed by DESPP Commissioner Reuben F. Bradford; representing a commissioner or designee

Bio: Mr. Shea is the Deputy Commissioner, Department of Emergency Services and Public Protection, where he is responsible for directing the department's Division of Emergency Management and Homeland Security. A retired US Army Colonel with more than 32 years of service, Mr. Shea also serves as a member of the School Security and Safety Planning Workgroup the School Safety Infrastructure Council and Homeland Security Advisor to the Governor.

Commissioner Stefan Pryor
Connecticut State Department of Education (SDE), Hartford, CT
Representing a commissioner or designee

Bio: Mr. Pryor is the Commissioner of the Connecticut Department of Education. Mr. Pryor previously served as deputy mayor for economic development in Newark, N.J.; as a leader of the Lower Manhattan Development Corporation, which was created in the aftermath of September 11, 2001; and as the vice president for education at the Partnership for New York City, where he led the organization's public education efforts and served as executive director of its main school reform program.

John Woodmansee, CIH, CUSA
Education Consultant - Environmental Health and Safety
Connecticut Department of Education (SDE) CT Technical High School System
Appointed by SDE Commissioner Stefan Pryor; representing a commissioner or designee

Bio: Mr. Woodmansee has more than 22 years of experience in the safety field, working in educational institutions, general industry and construction environments. He is the Education Consultant for Security, Environmental, Health & Safety for the Department of Education and is a member of the School Security and Safety Planning Workgroup. Mr. Woodmansee was also the Supervisor of Nuclear Site Safety for Dominion Nuclear Connecticut, and a senior environmental consultant.

Richard E. Morris
Director of Public Safety and Emergency Management, Town of East Lyme
Appointed by President Pro Tempore Donald E. Williams, Jr.; representing an expert in building security

Bio: Mr. Morris is the Fire Marshal and Director of Public Safety and Emergency Management for the Town of East Lyme. Mr. Morris is a member and past chair of the NFPA 303 Marinas and Boatyards Committee, a member of the NFPA 1033 Qualifications for Fire Investigators Committee, Past President of the Connecticut Fire Marshall's Association (CFMA), and the current Vice President of IAAI Connecticut Chapter.

Frank J. Costello, Jr, P.E.
Structural Engineer, Hamden, CT
Appointed by Speaker of the House J. Brendan Sharkey; representing a licensed professional engineer who is a structural engineer

Bio: Mr. Costello is a member of the American Institute of Steel Construction and the Structural Engineers Coalition of Connecticut. Throughout his 33 year career, he has acquired extensive experience designing various schools throughout the state, including the University of Connecticut, Southern Connecticut State University, Fairchild Wheeler Multi-Magnet School, Plainfield High School, Barnum Elementary School, Thomas Edison Middle School and many others.

Ronald Jakubowski
Former Asst. Superintendent of Schools for Operations and Facilities, New Britain, CT
Appointed by Senate Majority Leader Martin M. Looney; representing a certified public school administrator

Bio: Mr. Jakubowski is a recently retired educator with more than 39 years of experience in public education. His experience includes that of a teacher, principal, and Assistant Superintendent and Acting Superintendent of New Britain schools.

Steven Waznia
Firefighter, Berlin, CT
Appointed by House Majority Leader Joe Aresimowicz; representing a firefighter, emergency medical technician or paramedic

Bio: Mr. Waznia currently serves as Fire Marshal and Director of Risk Management for the Town of Berlin. He has more than 32 years of experience in the public safety field including fire suppression, investigation, code enforcement and development, hazardous materials and risk management.

Adam Byington
Police Officer, Fairfield, CT
Appointed by Senate Minority Leader John McKinney; representing a school resource officer (police officer assigned to a school)

Bio: Mr. Byington is a Police Officer in the town of Fairfield, and a certified School Resource Officer at Fairfield Ludlowe High School. He is a current and founding member of the Fairfield Police Department's School Safety Unit. Officer Byington received his B.S. in Criminal Justice from Roger Williams University.

Irene Roman
Public School Teacher, Waterbury, CT
Appointed by House Minority Leader Lawrence F. Cafero; representing a certified public school teacher

Bio: Ms. Roman is the Head Teacher at Frisbie Elementary School in Wolcott, Connecticut, and is currently teaching second grade. She received her B.A. in Psychology from Quinnipiac University and her M.S. in Elementary Education from the University of Bridgeport.

Staff

John Woodmansee, CIH, CUSA
In addition to being selected as Commissioner Pryor's Designee, John also participated as a staff member for the SSIC.
Title: Education Consultant - Environmental Health and Safety
Agency: Department of Education

Jason Crisco
Title: Executive Assistant to the Commissioner
Agency: Department of Administrative Services

Craig Russell
Title: Director, State & School Construction Support Services
Agency: Department of Administrative Services, Division of Construction Services

Craig Smith, R.A.
Title: Architectural Design Reviewer 2
Agency: Department of Administrative Services, Division of Construction Services

Jenna Padula
Title: Staff Attorney
Agency: Department of Administrative Services, Division of Construction Services

Ken Rigney
Title: Sergeant, Critical Infrastructure Unit Supervisor
Agency: Office of Counter Terrorism, Critical Infrastructure Unit, Connecticut State Police, Department of Emergency Services & Public Protection

Mike Grieder
Title: Detective, Critical Infrastructure Unit
Agency: Office of Counter Terrorism, Critical Infrastructure Unit, Connecticut State Police, Department of Emergency Services & Public Protection

Brenda Bergeron, Esq.
Title: Principal Attorney
Agency: Department of Emergency Services and Public Protection

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Nina Ritson
Communications Specialist
Agency: Department of Administrative Services, Communications

Cindy Ruszyk
Administrative Assistant
Agency: Department of Administrative Services, Communications

John McKay
Communications Specialist
Agency: Department of Administrative Services, Communications

Michael Guimond
Duplicating Services Supervisor 2
Agency: Department of Administrative Services, Communications

Appendix C

SCHOOL SAFETY INFRASTRUCTURE COUNCIL – MINUTES

The School Safety Infrastructure Council (SSIC) met a total of ten times over the course of an eight month period. The Minutes provided in this Appendix accurately describes each of the Informational Sessions and Special Meetings conducted by the SSIC during that time. These Minutes are provided as a timeline and overview of the discussions, testimony and decisions that took place before and by the SSIC.
School Safety Infrastructure Council – Minutes Archive
http://das.ct.gov/cr1.aspx?page=431

Minutes – May 31, 2013

Meeting Location: Legislative Office Building – Room 1A
Topics Covered: General introduction of members and staff. Review of legislative charge and proposed timeline.
Link: http://das.ct.gov/images/1090/SSIC_Minutes%205_31_2013.pdf

Minutes – June, 25 2013

Meeting Location: Legislative Office Building – Room 1A
Topics Covered: The Council heard expert testimony from the State Building Inspector, the Director of the region's National Fire Protection Association; the Director of the State's Emergency Management - "all hazards" Planning Group and representatives of the state's Office of Counter Terrorism.
Link: http://das.ct.gov/images/1090/SSIC_Minutes%206_25_2013a.pdf
Speakers:

- Joseph Cassidy, Acting State Building Inspector - Connecticut Department of Construction Services
- Robert Duval, New England Regional Director and James Dolan, Director of the NFPA Fire Code Field Office - National Fire Protection Association
- William J. Hackett, State Emergency Management Director, DEMS/DESPP
- Sergeant Ken Rigney and Detective Mike Grieder - DESPP Office of Counter Terrorism

Minutes – July, 15 2013

Meeting Location: Legislative Office Building – Room 1A
Topics Covered: First of three public informational sessions, the Council heard from design and architectural professionals from across the state, lock experts and representatives demonstrating a new interactive-interoperable real time audio/visual communication system linking schools, public safety officials, first responders, hospitals, utility companies and others.

Link: http://das.ct.gov/images/1090/SSIC_Minutes%207_15_2013.pdf
Speakers:

- Mutualink & Sonitrol
  - o Mark Hatten, CEO/Chairman - Mutualink
  - o Colin McWay, President/CFO - Mutualink
  - o Joe Mazzarella, Senior V.P. & Chief Legal Counsel - Mutualink
  - o Doug Curtiss, CEO – Sonitrol
- Doug Titus, Business Development Manager for Education at Assa Abloy
- Mila Kennett, Architect/Senior Program Mgr., High Performance Resiliency Program - US Department of Homeland Security Science and Technology Division
- Robert Ducibella, Ducibella Venter & Santore
- Robert D. Mitchell, Mitchell Architectural Group, P.C.
- Brian Humes, Jacunski Humes

Minutes – August 8, 2013

Meeting Location: New Britain High School, New Britain, CT – Tercyak Lecture Hall
Topics Covered: The second SSIC public informational session was dedicated to hearing from educational professionals including testimony from the state's largest teacher unions, the American Federation of Teachers (AFT) and the Connecticut State Education Association (CSEA) and also representatives of the Connecticut Federation of School Administrators, the Connecticut Association of Public School Superintendents, the Connecticut Association of Schools, the Connecticut Association of Boards of Education and the Connecticut Association of School Business Administrators.
Link: http://das.ct.gov/images/1090/SSIC_Minutes%208_8_2013.pdf
Speakers:

- Ron Chivinski, Vice-President - American Federation of Teachers CT (AFT-CT)
- Jeff Leake, Vice-President - Connecticut Education Association (CEA)
- Gary Maynard, President - CT Federation of School Administrators (CFSA)
- Don Romoser CT Parent Teacher Student Association (CT PTSA)
- Joe Cirasuolo - Connecticut Association of Public School Superintendents (CAPSS)
- Karissa Niehoff - Connecticut Association of Schools
- Robert Rader - Connecticut Association of Boards of Education (CABE)
- Sharon Bruce - Connecticut Association of School Business Administrators (CASBO)

Minutes – September 26, 2013

Meeting Location: Macdonough School, Middletown, CT - Gymnasium
Topics Covered: The final public informational session included comments from public officials, police and fire professionals, first responders and members of the public. Testimony from the Hartford Chief of Police, Middletown Fire Chief and several members of the public focused on the need for effective real time emergency response communication systems, comprehensive emergency planning which balances the need for effective life safety codes compliance with planning for other threats, the need for locking devices on class room doors and various options concerning school windows, protective treatments and laminates.
Link: http://das.ct.gov/images/1090/SSIC_Minutes%209_26_2013.pdf
Speakers:

- Police Chief James Rovella, Hartford CT
- Fire Chief Robert Kronenberger, Middletown CT
- Vincent Riccio, Security Consultant and Trainer – Security Academy of Connecticut
- Bill Letson, Armor Solutions Inc.
- Chris Olsen, Director of Safety and Security, East Lyme Schools – East Lyme, CT

Minutes – October 10, 2013

Meeting Location: State Education Resource Center, Middletown CT
Topics Covered: Review of testimony from each of the three public informational sessions. Discussion of timeline post public information gathering process, overview of Integrated Rapid Visual Screening (IRVS) for schools and of School Facility Security Products and Services Day sponsored by the Connecticut School Construction Coalition.
Link: http://das.ct.gov/images/1090/SSIC_Minutes%2010_10_2013.pdf

Minutes – October 17, 2013

Meeting Location: State Education Resource Center, Middletown, CT
Topics Covered: Continued discussion of IRVS for Schools. Early discussions of establishing guidelines for standards (Appendix A) by Council members and staff.
Link: http://das.ct.gov/images/1090/SSIC_Minutes%2010_17_2013.pdf

Minutes – November, 7 2013

Meeting Location: DESPP Headquarters, Middletown, CT – Meeting Room 348
Topics Covered: In depth review and discussion of draft narrative report and standards (Appendix A). Identification of main components of standards (Appendix A).
Link: http://das.ct.gov/images/1090/SSIC_Minutes_11_07_2013.pdf

Minutes – November 20, 2013

Meeting Location: DESPP Headquarters, Middletown, CT – Meeting Room 348
Topics Covered: Continued review of updated versions of the draft narrative report and standards (Appendix A). Discussion of other appendices to be included in final report. Overview of SSIC CT Delegation trip to Washington D.C. for two-day work-group with the U.S. Department of Homeland Security Science and Technology Division, National Institute of Buildings Sciences, State of Texas, State of Michigan and U.S. Department of Education.
Link: http://das.ct.gov/images/1090/SSIC_Minutes_11_20_2013.pdf

Minutes – December 3. 2013

Meeting Location: DESPP Headquarters, Middletown, CT – Meeting Room 348
Topics Covered: Final review and approval of School Safety Infrastructure report.
Link: To be added

Appendix D

INTEGRATED RAPID VISUAL SCREENING FOR SCHOOLS AND NATIONAL CLEARINGHOUSE FOR EDUCATIONAL FACILITIES CHECKLIST OVERVIEW

The School Safety Infrastructure Council (SSIC) recognizes that an "all hazards" approach to assessment and design is paramount in determining the risk and resilience of school building infrastructure to both man-made and natural hazards. The SSIC has also determined that in order to develop comprehensive school safety infrastructure standards, a uniform risk assessment tool is needed to ensure a threshold level of awareness, responsiveness and security. The Integrated Rapid Visual Screening (IRVS) for School Safety Project uses an "all-hazards" approach which incorporates over 30 hazard scenarios to facilitate the design and assessment of schools.

The SSIC has chosen the automated version of the IRVS for Schools as the preferred assessment tool to be used for Connecticut school building projects subject to the SSIC standards. The IRVS for Schools was created based on the National Clearing House for Educational Facilities (NCEF) checklist. A large number of the NCEF checklist components are included and expanded upon in the IRVS for Schools. However, the IRVS for School Safety program is currently in development and is not anticipated to be completed until after the SSIC's deadline of January 1, 2014. Therefore, in the interim, until the automated IRVS for School Safety Project is ready for use by states and school districts, the SSIC recommends that the NCEF checklist should be utilized.

INTEGRATED RAPID VISUAL SCREENING (IRVS) FOR SCHOOL SAFETY OVERVIEW

The Building Infrastructure Protection Series (BIPS) is a multi-volume publication created by the U.S. Department of Homeland Security (DHS) Science and Technology (S&T) Resilient Systems Division (RSD) http://www.dhs.gov/high-performance-and-integrated-design-resilience-program. The BIPS series serves to advance high performance and integrated design for buildings and infrastructure across all sectors. The series was born as a result of the events of September 11, 2001, to protect our Nation's most crucial assets. It includes multiple volumes tailored to specific areas: Mass Transit Systems; Tunnels; and Federal and Commercial Buildings.

In response to the tragic school shooting incidents that have taken place at Sandy Hook Elementary School and at other schools across the country, the U.S. Department of Homeland Security (DHS) Science and Technology (S&T) Directorate has begun development of the Integrated Rapid Visual Screening (IRVS) Process to Assess and Design Schools, which will be made available to all states and school districts at no cost. Connecticut has played an integral role in the preparation of the assessment tool with U.S. DHS to meet the needs of its educational system; develop guidance that helps the design community to design and build better schools; and set threshold requirement scores that all new school construction and

renovate as new projects should meet to ensure a safe environment for students and teachers. The IRVS for Schools is currently in draft manual form. Once completed and transformed into digital format, it will become part of the Buildings and Infrastructure Protection Series (BIPS) as the twelfth module in the series. DHS anticipates that the tool will be completed sometime in early to mid 2014.

The IRVS for School Safety is a modified version of the IRVS of Buildings (BIPS 04), which was created to assess the risk and resiliency of commercial buildings (excluding schools) and is the product of multiple partnerships. DHS S&T worked with various public and private sector entities to develop the IRVS methodology. The validation process of the IRVS methodology was conducted through a series of alpha and beta tests and a pilot test program of selected municipalities. The pilot test cities included Arlington, VA; Albany, NY; New York, NY; Washington, D.C.; Los Angeles, CA; Charleston, SC; and Chicago, IL. Equally important, the IRVS for School Safety methodology is based on the risk management process identified by the Interagency Security Committee for federal security professionals responsible for protecting nonmilitary federal facilities in the United States adapted for school buildings. The complete IRVS for School methodology will be comprised of software, and a manual, based on the Integrated Rapid Visual Screening Series (IRVS) for Commercial Buildings (BIPS 04), "Primer to Design Safe School Projects in Case of Terrorist Attacks and School Shootings" (BIPS 07), and the "Integrated Rapid Visual Screening: Interagency Security Committee (ISC) Screening Module" (BIPS 11).

BIPS 04: http://www.dhs.gov/bips-04-integrated-rapid-visual-screening-series-irvs-buildings
BIPS 07: https://www.dhs.gov/bips-07-primer-design-safe-school-projects-case-terrorist-attacks-and-school-shootings-2nd-edition
BIPS 11: Is currently only "For Official Use Only" and not viewable by the public.
The IRVS ISC version, in which the IRVS for Schools has its foundation, is currently being used by 32 federal and state entities, including but not limited to the following:

- St. Claire County, Michigan
- State of New York
- New York City Police Department
- Port Authority of Long Beach, CA
- U.S. Department of the Interior – Bureau of Indian Affairs
- U.S. Department of Homeland Security Immigration and Customs Enforcement
- U.S. Department Federal Protective Service Division National Protection and Program Management Directorate
- U.S. Department of Defense Threat Reduction Agency
- Smithsonian Institution
- U.S. Department of Justice – U.S. Marshall's Office
- U.S. Department of Health and Human Services
- U.S. General Services Administration

The ISC standards can be characterized as performance-based design standards (PBD), which are used to achieve specific performance levels for predetermined building components

in order to reach desired results. These requirements outline what the required level of performance is and allow end users the ability to determine the best course of action to mitigate the risk. This performance-based design approach varies from a prescriptive design approach, which is found in most building codes, and states exactly how something is to be done. Implicitly, PBD endorses the use of higher standards in lieu of the limited safety standards generally included in U.S. building codes. In terms of the School Safety Project, it is anticipated that the performance-based design approach will allow schools to be designed at a higher performance level with a greater amount of flexibility and cost effective returns. Once completed, the IRVS for Schools tool will allow for a quick and efficient way to quantify the risk and resilience of a single school or a group of school buildings through an "all-hazards" approach. "All-hazards" encompasses all man-made (as applicable to schools) and selected natural hazards that are a threat to the operations of a school facility. The IRVS for Schools is intended to be used during the design phase of construction, or may be used to assess existing facilities to help determine a school's safety and security vulnerabilities, and further ascertain an efficient and cost effective course of action to increase the level of protection to mitigate the defined risk. The overall purpose of the IRVS School Safety Project is to enhance the resistance of our Nation's schools against multiple undesirable events and to meet specific performance requirements at the highest possible level.

Major Components of the IRVS for School Safety Project, as Modified by the SSIC:

- School Security Level: Attempts to quantify the level of risk that exists at a particular school as measured by potential casualties, building damage, restoration costs, etc., for each of the potential high risk threats identified in the Undesirable Event Analysis. This analysis establishes a baseline school security level.
- Undesirable Events: Encompasses all conditions, environmental or manmade, that have the potential to cause injury, illness, or death; damage to or loss of equipment, infrastructure services, or property; or social, economic, or environmental functional degradation to schools.
- Level of Protection: Allows for the identification of school vulnerabilities for each undesirable event and categorizes and rank measures them to serve as the basis for implementing protective measures for school safety.
- Compliance: Once a local school district has completed the assessment; identified potential vulnerabilities and proposed specific plans to remediate deficiencies and secure compliance, the Connecticut Department of Administrative Services Office of School Facilities Plan Review Unit will evaluate the local plan for adequacy and continue to work with local districts to ensure compliance with established safety and security standards.

IRVS NEXT STEPS

In order to expedite the adoption of IRVS for School Safety Project, the U.S. DHS and its partners have established an informal review committee for the preparation of the manual. This committee will be responsible for launching a standardized and categorized

methodology for risk assessment, applicable to all schools, to enhance the quality and effectiveness of physical security nationwide. All documentation and software related to the IRVS for Schools Safety Project is currently For Official Use Only (FOUO) and viewable only by those involved in the IRVS Committee Standing Partnership.

IRVS Committee Standing Partnership

- U.S. DHS Science and Technology Directorate
- U.S. Department of Education
- School Safety Infrastructure Council of Connecticut
- Katy Independent School District of Texas
- State of Michigan

NATIONAL CLEARINGHOUSE FOR EDUCATIONAL FACILITIES (NCEF) CHECKLIST

The NCEF checklist is currently in use by Connecticut's School Security Competitive Grant Program. All Connecticut public schools are eligible for the program. A school must complete the entire NCEF checklist before its security infrastructure costs may be eligible for state reimbursement through the program.

The NCEF checklist is designed for assessing the safety and security of school buildings and grounds. Created by the National Clearinghouse for Educational Facilities and funded by the U.S. Department of Education's Office of Safe and Drug-Free Schools, the checklist combines the nation's best school facility assessment measures into one comprehensive online source. Nationally recognized school facility and safety experts participated in the checklist's creation.

The checklist embodies the three principles of Crime Prevention through Environmental Design (CPTED): natural surveillance, the ability to easily see what is occurring in a particular setting; natural access control, the ability to restrict who enters or exits an environment; and territoriality-maintenance, the ability to demonstrate ownership of and respect for property.

Although the NCEF checklist project is fully operational, it's funding was terminated as of September 1, 2012, the SSIC is recommending it as the preferred assessment tool until the IRVS for School Safety Project is complete. The NCEF checklist is still the most widely recognized checklist available.

Appendix E

TECHNICAL COMPLIANCE GUIDELINES OVERVIEW

The Technical Compliance Guidelines provide recommendations that are intended to foster proper design and management of the facility, maintain an open, inviting, pleasant environment for teaching and learning, while ensuring a safer environment for students and faculty. Using an "all hazards" approach to assessment and design, these guidelines expand upon the nine identified Critical Compliance areas from Appendix A, in addition to other areas that require greater flexibility with regard to compliance. Due to its comprehensive nature and technical content, the guidelines remain a work-in-progress and will require further development before being released. Once complete, the actual guidelines will be incorporated into the SSIC final report as an updated and free standing Appendix E to be used by design and architectural professionals.

The Technical Compliance Guidelines will be applicable to all (state funded) public school construction projects, including but not limited to: (1) New Construction, (2) Renovation (C.G.S. Sec. 10-282(18), (3) Alterations, (4) Extensions (Additions).
The document is intended to: (1) Provide comprehensive guidance for the facility owners in bridging the "Assessment to Compliance" process. (2) Serve as a guide to determine the necessary level of protection required addressing identified deficiencies from the Level Of Protection (LOP) Analysis of the facility assessment. (3) Provide a set of guidance materials with a range of options as to how best to cost effectively modify existing facilities or incorporate in the design of a new facility. (4) Facilitate the use of cross-referencing of various Department of Homeland Security (DHS) Building Infrastructure Protection Series (BIPS) documents or parts thereof (from the assessment process) to assist in the proper mitigation approach. (5) Suggest specification language for design professionals to incorporate as a part of the construction documentation.

Instead of confusing the user with the various principles of crime prevention or building design, this document applies a more straight-forward approach. By identifying the various facility elements, coupled with current recognized industry standards, listed with optional choices, and how-to/where-to guidance, the user can pick and choose the best approach, applicable to the specific facility. This document was developed to incorporate a reasonable performance-based response as well as guidance towards an acceptable mitigation approach. The guidelines and recommendations provided in this document are not intended to supersede or take precedence over any current state or federal laws, codes or standards.
The desired school design should: (1) Protect against natural and man-made hazards. (2) Provide for a safe, healthy, comfortable, and secure environment. (3) Develop an enhanced, inviting learning environment. (4) Allow flexibility to also serve as a center of the community. (5) Consider Energy efficiency wherever applicable.

After an assessment has been completed, the assessment team should identify the critical areas of deficiencies and, using the LOP Chart, select the appropriate item(s) matching the desired resistance value(s) to determine/select the applicable standard for that item. That item and standard can then be conveyed to the proposed project's design team to incorporate when developing the set of construction documents that will be released for bidding purposes and eventually constructed. These items will not be subject to Value-Engineering, without prior review and approval by the DAS/OSF. Any proposed substitution must be deemed equivalent to the minimum standard established by the School Safety Infrastructure Council, before it is allowed as a substitution.

Many existing facilities may be unable to meet these guidelines and/or recommendations, as existing geographical, structural, architectural, mechanical, electrical, or other infrastructure systems may pose limitations for full compliance. However, if the options offered in this document do not adequately address the individual facility's needs, the owner may seek advice, regarding alternatives, from the Office of School Facilities Technical Review Unit, or seek a waiver of a particular established Standard from the Commissioner of Administrative Services.

GUIDANCE DOCUMENT B

State of Connecticut

REPORT OF THE SCHOOL SAFETY INFRASTRUCTURE COUNCIL
REVISED AND UPDATED TO JUNE 27, 2014

"Critical Compliance Standards" Checklist

"Critical Compliance Standards – Nine primary areas of school infrastructure design, some referenced in P.A. 13-3, are identified by the Council as critical elements in school safety infrastructure design and in achieving the goal of more secure schools. Investments in protective design features in these particular areas are believed to offer the most cost-effective use of limited resources with a corresponding and relatively high benefit in terms of improved security.

These Areas Include:

- School Site Perimeter –Access Control, Surveillance, Points of Entry and Accessibility, Signage, Lighting, Fencing, Bollards, Landscape
- Parking Areas and Vehicular and Pedestrian Routes –Access Control, Surveillance, Points of Entry and Accessibility, Signage, Lighting, Speed Calming, Landscape, Drop Off/Pick Up Areas, Sidewalks
- Recreational Areas – Playgrounds, Athletic Areas, Multipurpose Fields
- Communication Systems – Mass Notification, Alarm and Information Systems, Interoperable Real Time Response Systems, Radio Systems, Wireless Systems and Multimedia Systems.
- School Building Exterior – Building Perimeter, Access Control, Main Entrance/ Vestibule, Administrative Offices/ Lobby, Doors, Glazing/Films, Signage, Lighting, Surveillance, Locking Systems
- School Building Interior – Access Control, Surveillance, Points of Entry and Classrooms, Large Assembly Areas, Doors, Locking Systems, Signage
- Roofs – Access Control
- Critical Assets/Utilities – Access Control, Surveillance, Screens, Critical Building Components, Signage, Hardening, Redundancy, Location
- Other Areas – Dumpsters, Receptacles, Hazardous Materials Storage, Signage, Locker Rooms, Rest Rooms, Specialty Areas, Courtyards

"In addition to these nine Critical Compliance Standards, utilizing the "all hazards" approach to school safety, local school districts should consider having a school serve the function of emergency shelter in extreme weather conditions. Schools are typically designed for large assembly occupancy with mass care functions, such as adequate toilets, food service, etc.

Multipurpose areas such as the gym or cafeteria have the capacity to accommodate a large number of people and can provide safe shelter from extreme weather conditions. If a new or renovate as new school facility is being constructed with the intent that the facility be used as an emergency shelter, the design of the designated area that is to serve as an emergency shelter should follow the ICC/NSSA Standard for the Design and Construction of Storm Shelters. ICC 500 is the national standard for compliant safe room/storm shelter in K-12 school facilities."

School Safety Infrastructure Council - State of Connecticut

Source: https://www.cabe.org/uploaded/Reports_of_Interest/Security_Report_June27.pdf

Published June 27, 2014

SECTION 1

School Site Perimeter

The fundamental objective of site planning is to place school buildings, parking areas, and other necessary structures in such a way as to provide a setting that is functionally effective, as well as aesthetically pleasing. Increasing concerns for security add another dimension to the range of issues that must be considered.

GENERAL CRITERIA

1.1. Crime Prevention Through Environmental Design (CPTED) is a crime prevention strategy that uses architectural design, landscape planning, security systems, and visual surveillance to create a potentially crime free environment by influencing human behavior and should be applied when appropriate. CPTED usually involves the following principles:

YES	NO

1.1.1 Natural Surveillance – using physical features to preclude blind spots or hiding spots to enhance visibility and keep intruders easily observable.

1.1.2 Territorial Reinforcement – using physical barriers to express ownership over an area and to distinguish public and private areas.

1.1.3 Natural Access Control – strategic placement of points of entry/egress, fencing, landscaping and lighting to create a perception of risk to potential intruders.

1.1.4 Target Hardening – use of features that prohibit entry or accessibility.

1.2. All protective design features should include functions that allow for natural and electronic surveillance.

1.3. Fencing, landscaping, edge treatment, bollards, signage, exterior furnishings and exterior lighting may be used to establish territorial boundaries and clearly delineate areas of public, semi-public, semi-private, and private space.

ACCESS CONTROL

The following minimum criteria shall be met:

1.4 School boundaries and property lines shall be clearly demarcated to control access to a school facility and shall clearly delineate areas of public, semi-public, semi-private, and private space.

1.5 Where a school is a shared use facility that serves the community, internal boundaries shall be clearly defined to establish a distinct perimeter for both the school and the shared use facilities with separate and secure access points that are clearly defined. Boundaries may be defined by installing fencing, signage, edge treatment, landscaping, and ground surface treatment.

1.6 Bollards shall be kept clear of ADA access ramps and the corner quadrants of streets (A bollard is a post or set of posts used to delimit an area or to exclude vehicles).

1.7 The number of vehicle and pedestrian access points to school property shall be kept to a minimum and shall be clearly designated as such.

1.8 Directional signage shall be installed at primary points of entry to control pedestrian and vehicular access and to clearly delineate vehicular and pedestrian traffic routes. Signage should be simple and have the necessary level of clarity. Signage should have
reflective or lighted markings.

The following shall be considered during the design phase of a school construction project to provide optimal safety and security:

1.9 Fencing, if installed, around the perimeter of the school property shall not permit footholds, where feasible, to deter unauthorized access to a school facility.

1.10. Fencing, if installed, shall be free of any vegetation. Remove bushes, trees, containers, or any other object that might provide a hiding place from the proximity of the fence.

1.11 Bollards, if installed, should not be less than twenty six (26) inches in height and shall never exceed a height of forty eight (48) inches to allow for an unobstructed view.

1.12. Do not use planters in high pedestrian traffic areas.

1.13 Secure manholes, utility tunnels, culverts, and similar unintended access points to the school property with locks, gates, or other appropriate devices without creating additional entrapment hazards.

SURVEILLANCE

The following minimum criteria shall be met:

1.14. Unsupervised site entrances shall be secured during low use times for access control purposes.

1.15 Perimeter fencing, landscaping and signage shall not obstruct the view of natural and/or electronic surveillance.

1.16. Landscaping shall provide an unobstructed view for natural and/or electronic surveillance.

1.17. The design shall allow for the monitoring of points of entry/egress by natural and/or electronic surveillance during normal hours of operation and during special events.

1.18. 1.18. At minimum, electronic surveillance shall be used at the primary access points to the site for both pedestrian and vehicular traffic.

1.19. All points of entry/egress shall be adequately illuminated to enhance visibility for purposes of surveillance.

1.20. Designated pedestrian and vehicular traffic routes shall be adequately illuminated to reinforce natural and or electronic surveillance during evening hours.

The following shall be considered during the design phase of a school construction project to provide optimal safety and security:

1.21 Avoid blocking lines of sight with fencing, signage, and landscaping.

1.22. Avoid dense vegetation in close proximity to a school building, where someone could hide undetected.

1.23 Locate access points in areas of high visibility that can be easily observed and monitored by staff and students in the course of their normal activities. Natural surveillance may be maximized by controlling access points that clearly demarcate boundaries and spaces.

1.24 Video surveillance systems may be used around the site perimeter to provide views of points of entry/egress and as a means to securely monitor an area when natural surveillance is not available.

1.25 Surveillance equipment, where installed, shall be mounted to resist forces in any direction. Surveillance equipment should be designed to be vandal resistant and protect against natural hazards.

1.26 Lighting should be sufficient to illuminate potential areas of concealment, enhance observation, and to provide for the safety of individuals moving between adjacent parking areas, streets and around the school facility.

1.27 Video surveillance systems, where installed, shall have adequate illumination levels to produce a useable image.

ADDITIONAL RECOMMENDATIONS, COMMENTS OR NOTES

Please include the paragraph number for the item the comment refers too.

School Safety Infrastructure Council - State of Connecticut

Source: https://www.cabe.org/uploaded/Reports_of_Interest/Security_Report_June27.pdf
Published June 27, 2014

SECTION 2

Parking Areas and Vehicular and Pedestrian Routes

YES	NO		
			The following minimum criteria shall be met:
		2.1	Points of entry/egress shall allow for natural and/or electronic surveillance during normal hours of operation and during special events.
		2.2	At the minimum, electronic surveillance shall be used at the primary access points to the site for both pedestrian and vehicular traffic.
		2.3	Designated pedestrian and vehicular points of entry/egress and traffic routes shall be adequately illuminated to reinforce natural and or electronic surveillance.
		2.4	Signage shall be posted at all vehicular access points with rules as to who is allowed to use parking facilities and when they are allowed to do so. Signage should be simple and have the necessary level of clarity. Signage should have reflective or lighted markings.
		2.5	Unmanned points of entry that are otherwise secured shall be made accessible for emergency vehicles.
		2.6	Parking areas shall be adequately illuminated with vandal resistant lighting.
		2.7	Parking shall be prohibited under or within the school building.
		2.8	Adequate lighting shall be provided at site entry locations, roadways, parking lots, and walkways from parking to buildings.
		2.9	Fire lanes around the building shall be closed off from traffic with “break-away” bollards.
		2.10.	Landscaping shall be designed to provide an unobstructed view for natural and/or electronic surveillance.
			The following shall be considered during the design phase of a school construction project to provide optimal safety and security:
		2.11	External access to school facilities shall be kept to a limited number of controlled entrances. Vehicular circulation routes shall be separated and kept to a minimum of two routes per project site for purposes of separating service and delivery areas from visitors’ entry, bus drop-off, student parking and staff parking. Circulation routes shall be separated, clearly demarcated, and easily supervised.
		2.12	Where distance from the building to the nearest curb provides a setback of less than twenty (20) feet, parking shall be restricted in the curb lane.

2.13 A drop-off/pick-up lane shall be designated for buses only with a dedicated loading and unloading zone designed to adequately allow for natural and/or electronic surveillance and to avoid overcrowding and accidents.

2.14 Pedestrian routes from drop off areas shall be a minimum width of five (5) feet to accommodate pedestrian traffic during peak periods of use.

2.15 Separate shipping and receiving areas from all utility rooms by a minimum of fifty (50) feet, unless prohibited by site constraints. If a site is determined to be physically constrained from reasonably meeting the fifty (50) foot separation requirement, the district shall maximize the separation distance to the greatest extent possible. Measure the utility designation boundary from the outer most perimeters of the shipping and receiving area to the outer most perimeter of the utility room. Utility rooms and service areas include electrical, telephone, data, fire alarm, fire suppression, and mechanical rooms.

2.16 Design entry roads so that vehicles do not have a straight-line approach to the main building. Use speed-calming features to keep vehicles from gaining enough speed to penetrate barriers. Speed-calming features may include, but are not limited to, speed bumps, safety islands, differing pavement surfaces, landscape buffers, exterior furnishings and light fixtures.

2.17 Secure unsupervised site entrances during low use times for access control.

2.18 Sign text should prevent confusion over site circulation, parking, and entrance location. Unless otherwise required, signs should not identify sensitive or high risk areas. However, signs should be erected to indicate areas of restricted admittance.

2.19 Parking areas should be designed in locations that promote natural surveillance. Parking should be located within view of the occupied building, while maintaining the maximum stand-off distance possible.

2.20. Locate visitor parking in areas that provide the fewest security risks to school personnel. The distance at which a potentially threatening vehicle can park in relation to school grounds and buildings should be controlled.

2.21 Keep the number of driveways or parking lots that students will have to cross to get into the school building to a minimum.

2.22 Consider illuminating areas where recreational activities and other nontraditional uses of the building occur. If video surveillance systems are installed, adequate illumination shall be designed to accommodate it.

2.23 Consider blue light emergency phones with a duress alarm in all parking areas. If utilized, blue light emergency phones shall be clearly visible, readily accessible and adequately illuminated to accommodate electronic surveillance.

ADDITIONAL RECOMMENDATIONS, COMMENTS OR NOTES

Please include the paragraph number for the item the comment refers too.

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SECTION 3

Recreational Areas – Playgrounds, Athletic Areas, Multipurpose Fields

YES	NO		
			The following minimum criteria shall be met:
		3.1	The design shall allow for ground level, unobstructed views, for natural and/or electronic surveillance of all outdoor athletic areas, playgrounds and recreation areas at all times.
		3.2	Playground equipment shall be compliant with life safety, building, ADA and other federal, state and local building code requirements. Prior to installing playground equipment refer to the local authority having jurisdiction for compliance with state building code.
		3.3	Pre-kindergarten and kindergarten play areas shall be separated from play areas designed for other students.
		3.4	Athletic areas and multipurpose fields at elementary school buildings shall contain a physical protective barrier to control access and protect the area.
			The following shall be considered during the design phase of a school construction project to provide optimal safety and security:
		3.5	Playgrounds and other student gathering areas shall be located away from public vehicle access areas, such as streets or parking lots by a minimum of fifty (50) feet unless prohibited by site constraints. If a site is determined to be physically constrained from reasonably meeting the fifty (50) foot separation requirement, maximize the separation distance between the vehicle access area and student gathering area to the greatest extent possible. Measure the student gathering boundary area from the outer most perimeter of the playground or other public gathering area and the outer most perimeter of the public vehicle access area or parking lot.
		3.6	Consider a physical protective barrier around athletic areas and multipurpose fields at secondary school buildings to control access and protect the area.
		3.7	Locate access points to recreational areas in areas of high visibility that can be easily observed and monitored by staff and students in the course of their normal activities. Natural surveillance may be maximized by controlling access points that clearly demarcate boundaries and spaces.

		3.8 Installing fences internal to the site perimeter around pre-kindergarten and kindergarten play areas may maximize security. If fencing is installed around a prekindergarten and kindergarten play area, it shall be a minimum of four (4) feet in height and have a minimum clearance of six (6) feet horizontally in all directions from the play equipment. Emergency /Pedestrian access gate(s) with approved egress hardware shall be installed in fencing enclosing pre-k and kindergarten play areas.

ADDITIONAL RECOMMENDATIONS, COMMENTS OR NOTES

Please include the paragraph number for the item the comment refers too.

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School Safety Infrastructure Council - State of Connecticut

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SECTION 4

Communications Systems

YES	NO		
			The following minimum criteria shall be met:
		4.1	All classrooms shall have two way communications with the administrative office.
		4.2	All communication systems shall be installed in compliance with all State building and fire code requirements.
		4.3	Emergency Communication Systems (ECS) and/or alarm systems shall have redundant means to notify first responders, supporting agencies, public safety officials and others of an event to allow for effective response and incident management. Alarm systems must be compatible with the municipal systems in place. These systems may include radio, electronic, wireless or multimedia technology which provides real time information (such as audio, visual,
		4.4	Emergency Communication Systems (ECS) shall be installed and maintained in accordance with NFPA 72, 2010, or the most current fire code standard adopted by the State. ECS may include but is not limited to public address (PA) systems, intercoms, loudspeakers, sirens, strobes, SMS text alert systems, and other emerging interoperable resource sharing communication platforms.
		4.5	All new buildings shall have approved radio coverage for first responders within the building based upon the existing coverage levels of communication systems at the exterior of the building. The system as installed must comply with all applicable sections of the Federal Communication Commission (FCC) Rules for Communication Systems and shall coordinate with the downlink and uplink pass band frequencies of the respective first responders.
		4.6	All in-building radio systems shall be compatible with systems used by local first responders at the time of installation.
		4.7	Discrete alarm systems wiring shall not be concentrated, nor mounted in a shared pathway.
			The following shall be considered during the design phase of a school construction project to provide optimal safety and security:

		4.8 Consider operational procedures in coordination with security criteria that include emergency notifications for immediate threat and the testing of emergency response procedures.
		4.9 Consider a communication strategy in coordination with security criteria that include the distribution of a radio or wireless communication system to appropriate personnel, with necessary equipment, for utilization in case of emergency.
		4.10. If radio communication systems are used, radios shall be capable of operating on frequencies reserved by the Federal Communications Commission (FCC) for school districts.
		4.11 Provide radio system and signal booster supervisory signals for equipment malfunction and signal booster failure. Power supply supervisory signals should include loss of normal AC power, failure of battery charger, and low battery capacity (alarming at 70 percent of battery capacity).
		4.12 Call buttons with direct intercom communication to the central administrative office and/or security office should be installed at key public contact areas.

ADDITIONAL RECOMMENDATIONS, COMMENTS OR NOTES

Please include the paragraph number for the item the comment refers too.

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SECTION 5

School Building Exterior – Points of Entry/Egress and Accessibility

GENERAL CRITERIA

YES	NO		The following minimum criteria shall be met:
		5.1	Points of entry/egress shall be designed to allow for monitoring by natural and/or electronic surveillance during normal hours of operation and during special events.
		5.2	At minimum electronic surveillance shall be used at the primary points of entry.
		5.3	Identification signage shall be placed at all public points of entry/egress to the school. Signage should be simple and have the necessary level of clarity. Signage shall have a good color contrast.
		5.4	Lighting shall be sufficient to adequately illuminate potential areas of concealment, enhance natural and/or electronic surveillance, and discourage vandalism.
		5.5	Emergency egress lighting, as required by State building and fire code, shall be available for safe evacuation and to reduce the risk of panic related injuries.

The following shall be considered during the design phase of a school construction project to provide optimal safety and security:

		5.6	Trees shall be a minimum of ten (10) feet from the building to prevent window or roof access to the school facility.
		5.7	Avoid dense vegetation and street furniture in close proximity to a school building, where it could screen activity.
		5.8	Consider blue light emergency phones with a duress alarm along the building perimeter as needed to enhance security. If utilized, blue light emergency phones shall be clearly visible, readily accessible and adequately illuminated to accommodate electronic surveillance.

MAIN ENTRANCE/ADMINISTRATIVE OFFICES/LOBBY

The following minimum criteria shall be met:

		5.9	Main entrances shall be well lit and unobstructed to allow for natural and/or electronic surveillance at all times.

5.10. The design shall allow for visitors to be guided to a single control point for entry.

5.11 The main entrance assembly (glazing, frame, & door) shall be bullet resistant and blast resistant.

5.12 Plans shall carefully address the extent to which glazing is used in primary entry ways, areas of high risk and areas of high traffic and the degree to which glazing is installed or treated to be bullet, blast, or shatter resistant to enhance the level of security. The district's priorities for the use of natural surveillance, electronic surveillance, natural light and other related security measures may affect this decision and the overall level of security.

5.13 Main entrance doors shall be controllable from a central location, such as the central
administrative office and/or the school security office.

5.14 Video surveillance cameras shall be installed in such a manner to show who enters and leaves the building.

5.15 The design shall allow for providing visitor accessibility only after proper identification.

5.16 Door hardware, handles, locks and thresholds shall be ANSI/BHMA Grade 1.

5.17 Main entrance door hinge pins and critical interior doors must be tamper proof.

The following shall be considered during the design phase of a school construction project to provide optimal safety and security:

5.18 The central administrative offices and/or security offices should have an unobstructed view of the main entrance lobby doors and perpendicular hallways. If feasible, administrative offices abutting the main entrance should be on an exterior wall with windows for natural surveillance of visitor parking, drop off areas, and

5.19 Walls should be hardened in foyers and public entries. Interior and exterior doors should be offset from each other in airlock.

5.20. Use vestibules to increase security. The entrance vestibule shall have both interior and exterior doors that are lockable and controllable from a remote location.

5.21 Post warning signs about trespassing and illicit behavior, citing applicable laws and regulations at primary and secondary points of entry.

5.22 When possible, the design should force visitors to pass directly through a screening area prior to entering or leaving the school. The screening area should be an entrance vestibule, the administration/reception area, a lobby check in station, an entry kiosk, or some other controlled area. This controlled entrance should serve as the primary control point between the main entrance and all other areas of the school.

5.23 Control visitor access through electronic surveillance with intercom audio and remote lock release capability at the visitor entrance.

5.24 Restrict visitor access during normal hours of operation to the primary entrance. If school buildings require multiple entry points, regulate those entry points with no access to people without proper authorization. Consider an electronic access control system for authorized persons if multiple entry points are utilized during normal hours of operation.

5.25 Other educational office space that may service the community at large should be in close proximity to the main entrance.

5.26 Install a panic/duress alarm or call button at an administrative/security desk as a protective measure.

5.27 Proximity cards, keys, key fob, coded entries, or other devices may be used for access control of students and staff during normal hours of operation. The system may be local (residing in the door hardware) or global (building or district-wide). Prior to installing a customized door access control system refer to the local authority having jurisdiction for compliance with state building and fire code.

5.28 Magnetic locks, if installed, shall meet the current State building and fire code requirements for school facilities. Prior to installing magnetic locks at a school facility, refer to the local authority having jurisdiction for compliance with State building and fire code.

5.29 Electric strikes, if installed, shall meet the Underwriters Laboratory (UL) standard 1034 for Burglary Resistant Electric Locking Mechanisms.

5.30. Consider sensors that alert administrative offices when exterior doors at all primary and secondary points of entry are left open.

5.31 Consider radio frequency access control devices at primary points of entry to allow rapid entry by emergency responders.

EXTERIOR DOORS

The following minimum criteria shall be met:

5.32 The design shall allow for the points of entry/egress to be monitored by natural and/or electronic surveillance during normal hours of operation and during special events.

		5.33 Identification signage shall be placed at all public points of entry/egress to the school. Signage should be simple and have the necessary level of clarity. Signage shall have a good color contrast.
		5.34 Lighting shall be sufficient to illuminate potential areas of concealment, enhance natural and/or electronic surveillance, discourage and protect against vandalism.
		5.35 All doors that serve as a means of egress shall meet life safety and fire code for emergency evacuation.
		5.36 All exit doors shall be equipped with panic exit hardware listed to UL 305, and not locked or secured by any other means and under no circumstances chained shut.
		5.37 Tertiary exterior doors shall be hardened to be penetration resistant and burglar resistant.
		5.38 All exterior doors shall be equipped with hardware capable of implementing a full perimeter lockdown by manual or electronic means.
		5.39 All exterior doors shall be easy to lock and allow for quick release in the event of an emergency.
		5.40. All exterior doors with interior locks shall have the capability of being unlocked/ released from the interior with one motion.
		5.41 Door hardware, handles, locks and thresholds shall be ANSI/BHMA Grade 1.
		5.42 Exterior door hinge pins and critical interior doors must be tamper proof.
		5.43 All exterior doors that allow access to the interior of the school shall be numbered in sequential order in a clockwise manner starting with the main entrance. All numbers shall be visible from the street or closest point of entry/egress, contrast with its background and be retro-reflective.
		The following shall be considered during the design phase of a school construction project to provide optimal safety and security:
		5.44 Doors that do not allow access to the building should not be numbered, so that first responders can readily identify access doors. Examples of these may be trash rooms or storage rooms.
		5.45 Permit entry and egress during normal hours of operation through a limited number of doors.
		5.46 Doors vulnerable to unauthorized access may be monitored by adding door contacts or sensors, or may be secured through the use of other protective measures, such as delayed opening devices, or video surveillance cameras that are available for viewing from a central location, such as the central administrative office and/or security office.

5.47 Install latch guards at exterior door latches to prevent levering.

5.48 Proximity cards, keys, key fob, coded entries, or other devices may be used for access control of students and staff during normal hours of operation. The system may be local (residing in the door hardware) or global (building or district-wide). Prior to installing a customized door access control system consult with your local building and fire official to ensure compliance with state building and fire code.

5.49 Magnetic locks, if installed, shall meet the current State building and fire code requirements for school facilities. Prior to installing magnetic locks at a school facility, refer to the local authority having jurisdiction for compliance with State building and fire code.

5.50. Electric strikes, if installed, shall meet the Underwriters Laboratory (UL) standard 1034 for Burglary Resistant Electric Locking Mechanisms.

EXTERIOR WINDOWS/GLAZING/FILMS

The following minimum criteria shall be met:

5.51 Windows may serve as a secondary means of egress in case of emergency. Any "rescue window" with a window latching device shall be capable of being operated from not more than forty eight (48) inches above the finished floor.

5.52 Each classroom having exterior windows shall have the classroom number affixed to the upper right hand corner of the first and last window of the corresponding classroom. The numbers shall be reflective, with contrasting background and shall be readable from the ground plain at a minimum distance of fifty (50) feet.

5.53 Plans shall carefully address the extent to which glazing is used in primary entry ways, areas of high risk and areas of high traffic and the degree to which glazing is installed or treated to be bullet, blast, or shatter resistant to enhance the level of security. The district's priorities for the use of natural surveillance, electronic surveillance, natural light and other related security measures may affect this decision and the overall level of security.

The following shall be considered during the design phase of a school construction project to provide optimal safety and security:

5.54 Set first floor exterior windows at the maximum height allowed per fire code regulations for the window to serve as a "rescue window" or secondary means of egress. This will maximize wall protection and minimize the ability for an intruder to enter the building through a window.

5.55 Design windows, framing and anchoring systems to be shatter resistant, bullet resistant, burglar resistant, and forced entry resistant, especially in areas of high risk.

5.56 Resistance for glazing may be built into the window or applied with a film.

5.57 Classroom windows should be operable to allow for evacuation in an emergency.

ADDITIONAL RECOMMENDATIONS, COMMENTS OR NOTES

Please include the paragraph number for the item the comment refers too.

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SECTION 6

School Building Interior

Interior physical security measures are a valuable part of a school's overall physical security infrastructure. Some physical measures such as doors, locks, and windows deter, prevent or delay an intruder from freely moving throughout a school and from entering areas where students and personnel may be located. Natural and electronic surveillance can assist in locating and identifying a threat and minimizing the time it takes for first responders to neutralize a threat.

GENERAL CRITERIA

YES	NO		
			The following minimum criteria shall be met:
		6.1	The design shall provide for controlled access to classrooms and other areas in the interior that are predominantly used by students during normal hours of operation to protect against intruders.
		6.2	Emergency egress lighting, as required by the State of Connecticut building and fire code, shall be available for safe evacuation and to reduce the risk of panic related injuries.
		6.3	Placement of interior signage shall be such that no point in an exit access corridor is in excess of the rated viewing distance, as defined by State of Connecticut building and fire code, from the nearest sign.
		6.4	All interior room numbers shall be coordinated in a uniform room numbering system format. Numbering shall be in sequential order in a clockwise manner starting with the interior door closest to the main point of entry. Interior room number signage shall be wall mounted. Additional room number signage may be ceiling or flag mounted. Interior room number signage specifications and installation shall be in compliance with ADA standards and other applicable regulations as required.

The following shall be considered during the design phase of a school construction project to provide optimal safety and security:

		6.5	Establish separate entrance and exit patterns for areas that have concentrated high volume use, such as cafeterias and corridors, to reduce time required for movement into and out of spaces and to reduce the opportunity for personal conflict. Separation of student traffic flow can help define orderly movement and save time, and an unauthorized user will perceive a greater risk of detection.
		6.6	Consider intruder doors that automatically lock when an intruder alarm or lockdown is activated to limit intruder accessibility within the building. If installed, intruder doors shall automatically release in the event of an emergency or power outage and must be equipped with a means for law enforcement and other first responders to open as necessary.

INTERIOR SURVEILLANCE

			The following minimum criteria shall be met:
		6.7	An intrusion detection system shall be installed in all school facilities.
		6.8	If video surveillance systems are utilized, the surveillance system shall be available for viewing from a central location, such as the central administrative office and/or the school security office.

The following shall be considered during the design phase of a school construction project to provide optimal safety and security:

6.9 Consider electronic surveillance in lobbies, corridors, hallways, large assembly areas, stairwells or other areas as a means to securely monitor those areas when natural surveillance is not available. Prior to installing electronic surveillance systems in these areas check with your local building and fire official to ensure compliance with State building and fire codes.

6.10. The design of a school facility should allow for the designation of controlled hiding spaces. A controlled hiding place should create a safe place for students and personnel to hide and protect themselves in the event of an emergency. The controlled hiding space should be lockable and readily accessible. A controlled hiding space could be a classroom or some other designated area within the building.

CLASSROOM SECURITY

The following minimum criteria shall be met:

6.11 All classrooms shall be equipped with a communications system to alert administrators in case of emergency. Such communication systems may consist of a push-to-talk button system, an identifiable telephone system, or other means.

6.12 Door hardware, handles, locks and thresholds shall be ANSI/BHMA Grade 1.

6.13 All classroom doors shall be lockable and door locks shall be tamper resistant.

6.14 Door hardware shall allow staff to quickly lock rooms from the inside without stepping into the hallway.

6.15 Classroom door locks shall be easy to lock and allow for quick release in the event of an emergency.

6.16 Classroom doors with interior locks shall have the capability of being unlocked/released from the interior with one motion.

6.17 All door locking systems must comply with life safety and State building and fire codes to allow emergency evacuation.

The following shall be considered during the design phase of a school construction project to provide optimal safety and security:

6.18 Doorways should not be recessed.

6.19 Optimally, doors in main corridors should swing a full 180 degrees to provide an unobstructed line of site in case of emergency.

6.20. If classroom doors are equipped with a sidelight, the glazing should be penetration resistant.

6.21 If interior windows are installed to provide lines of site into/out of classrooms or other populated areas, certain factors should be taken into consideration relating to the size, placement and material used for those windows, including:

6.21.1 Minimizing the size of windows or the installation of multiple interspersed smaller windows with barriers in a larger window area to deter intruder accessibility.

6.21.2 Placing windows at a sufficient distance from the interior locking mechanism to prevent or make difficult the opening of a door or lock from outside.

6.21.3 Concealing or obstructing window views to prevent an assailant's ability to ascertain the status or presence of persons inside of a classroom during lockdown.

6.21.4 Hardening window frames to lessen window vulnerability.

LARGE ASSEMBLY AREAS (gym, auditorium, cafeteria, or other areas of large assembly)

The following minimum criteria shall be met:

6.22 Points of entrance and egress shall be clearly demarcated.

6.23 The design shall allow for the monitoring of points of entry/egress by natural and/or electronic surveillance during normal hours of operation and during special events.

6.24 Signage shall be placed at all public points of entry/egress to the assembly area. Signage should be simple, have the necessary level of clarity, and a good color contrast.

6.25 Seating and circulation layouts shall be adequate to allow for emergency exit.

6.26 Lighting shall be sufficient to illuminate potential areas of concealment, enhance natural and/or electronic surveillance, discourage vandalism and protect against vandalism.

6.27 Emergency egress lighting shall be available for safe evacuation and to reduce the risk of panic related injuries. All emergency lighting shall have adequate backup.

The following shall be considered during the design phase of a school construction project to provide optimal safety and security:

6.28 The main entrance to a large assembly area should be unobstructed to allow for natural surveillance.

6.29 Electronic surveillance should be used in large assembly areas and at all exit doors to securely monitor those areas when natural surveillance is not available.

6.30. Clear lines of site should be established for easy traffic flow.

6.31 A secure and lockable storage area should be provided for storage and equipment.

SHARED SPACE OR MIXED OCCUPANCY (Library, BOE, Mixed Use or Other Community Service)

In certain circumstances a municipality or school district may choose to share space on a school site to support other educational or community service activities, such as board of education office space, municipal government office space, recreational space, health and family service or some other use that supports the educational theme of the school, or some other use that provides a needed service to the community. All buildings located within the property line of a school facility must be included as part of the uniform risk assessment. A shared use may require enhanced levels of security that are not reimbursable under the school construction grant program.

The following minimum criteria shall be met:

6.32 Shared space shall have separate, secure and controllable entrances.

6.33 The design of shared space should prevent unauthorized access to the rest of the school.

6.34 The design of shared space shall allow for the monitoring of points of entry/egress by natural and/or electronic surveillance during normal hours of operation.

6.35 Signage should be simple and clearly define the intended use and occupancy of the space. Signage shall clearly demarcate all public points of entry and egress.

6.36 Locate parking for shared space in areas that provide the fewest security risks to school personnel and students. The distance at which a potentially threatening vehicle can park in relation to school grounds and buildings should be controlled.

ADDITIONAL RECOMMENDATIONS, COMMENTS OR NOTES

Please include the paragraph number for the item the comment refers too.

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SECTION 7

Roofs

YES	NO		
			The following minimum criteria shall be met:
		7.1	The design shall allow for roof accessibility to authorized personnel only.
			The following shall be considered during the design phase of a school construction project to provide optimal safety and security:
		7.2	Access to the roof should be internal to the building. Roof access hatches shall be locked from the inside.
		7.3	If external access exists, roof ladders should be removable, retractable, or lockable. Screen walls around equipment or service yards should not provide easy access to the roof or upper windows.

ADDITIONAL RECOMMENDATIONS, COMMENTS OR NOTES

Please include the paragraph number for the item the comment refers too.

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SECTION 8

Critical Assets/Utilities

YES	NO	
		The following minimum criteria shall be met:
		8.1 Screens at utilities, such as transformers, gas meters, generators, trash dumpsters, or other equipment shall be designed to minimize concealment opportunities. Installation of screens at utilities shall be compliant with utility company requirements.
		8.2 Access to building operations systems shall be restricted to designated users. Secure all mechanical rooms with intruder detection sensors.
		8.3 Loading docks shall be designed to keep vehicles from driving into or parking under the facility.
		The following shall be considered during the design phase of a school construction project to provide optimal safety and security:
		8.4 Life safety equipment shall automatically be connected to a backup power supply to provide service if the main power supply is disrupted in case of emergency. The backup power supply for life safety equipment shall be maintained in accordance with NFPA 72, 2010, or the most current fire code standard adopted by the State.
		8.5 Shipping and receiving areas shall be separated from all utility rooms by at least fifty (50) feet unless prohibited by site constraints. If a site is determined to be physically constrained from reasonably meeting the fifty (50) foot separation requirement, maximize the separation distance between the receiving area and the utility room to the greatest extent possible. Utility rooms and service areas include electrical, telephone, data, fire alarm, fire suppression rooms, and mechanical rooms.
		8.6 Critical building components should be located away from vulnerable areas. Critical building components may include, but are not limited to: • Emergency generator; • Normal fuel storage; • Main switchgear; • Telephone distribution; • Fire pumps; • Building control centers; • Main ventilation systems if critical to building operation. • Elevator machinery and controls. • Shafts for stairs, elevators, and utilities.
		8.7 Critical building components should be a minimum of fifty (50) feet away from loading docks, front entrances, and parking areas unless prohibited by site constraints. If a site is determined to be physically constrained from reasonably meeting the fifty (50) foot separation requirement, maximize the separation distance to the greatest extent possible.

8.8 Emergency and normal electrical equipment should not be placed in the same electrical room.

8.9 Emergency generation systems shall be sized to include backup of life safety and communication systems.

8.10. Enclose exterior equipment in an area that is lockable and protected with bollards when located adjacent to vehicular routes.

8.11 Loading zones should be separate from public parking.

8.12 Installation of empty conduits for future security control equipment shall be considered during construction or major renovation.

ADDITIONAL RECOMMENDATIONS, COMMENTS OR NOTES

Please include the paragraph number for the item the comment refers too.

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SECTION 9

Other Security Infrastructure and Design Strategies

YES	NO		
			The following minimum criteria shall be met:
		9.1	The design shall include special rooms for hazardous supplies that can be locked.
			The following shall be considered during the design phase of a school construction project to provide optimal safety and security:
		9.2	Egress stairwells should be located remotely and should not discharge into lobbies, parking or loading areas.
		9.3	Enclose dumpsters in a designated service area or surrounded on three sides by a high wall, and a securable gate. Dumpsters should not provide access to the roof.
		9.4	least thirty (30) feet from the building unless prohibited by site constraints. If a site is determined to be physically constrained from reasonably meeting the thirty (30) foot separation requirement, maximize the separation distance to the greatest extent possible.

ADDITIONAL RECOMMENDATIONS, COMMENTS OR NOTES

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GUIDANCE DOCUMENT C

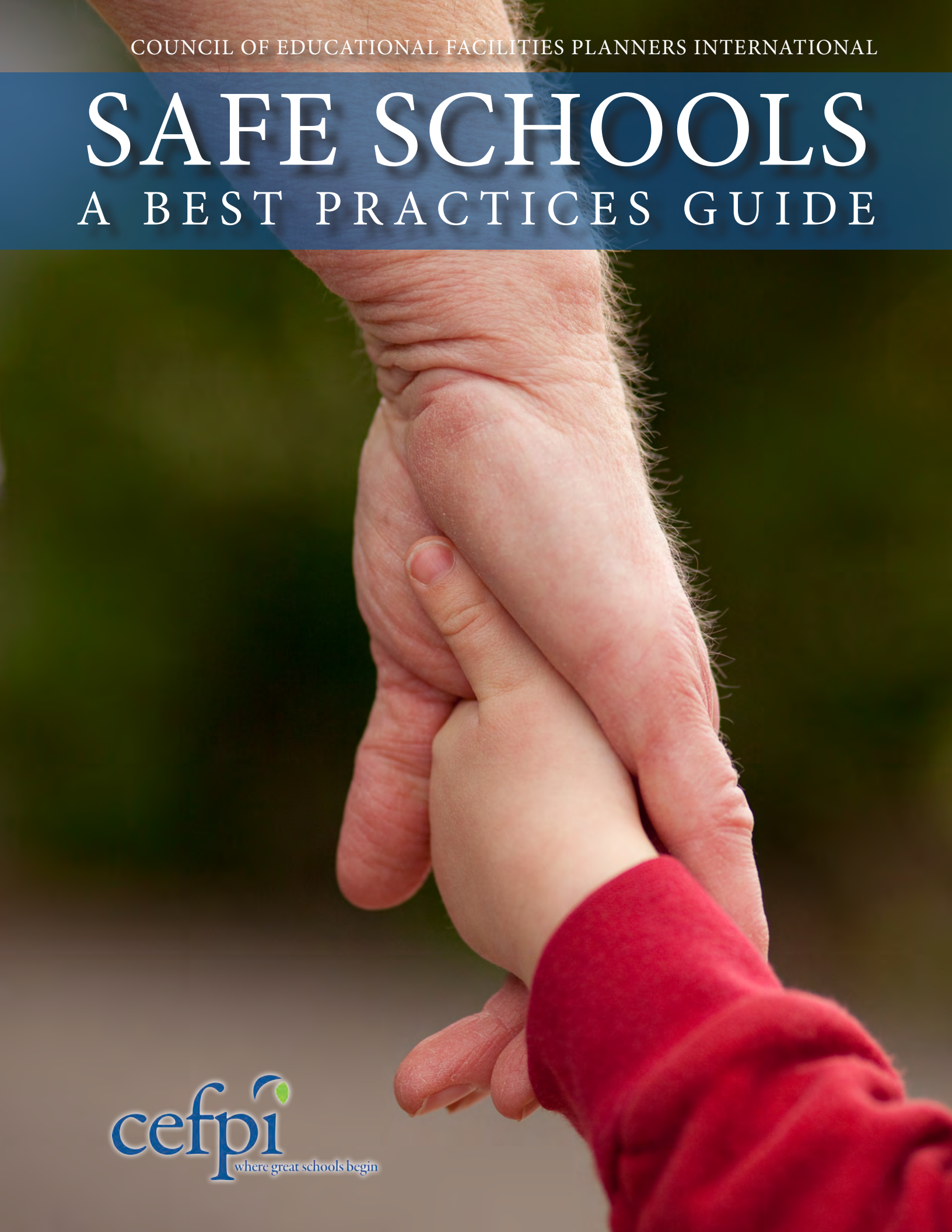
Council of Educational Facilities Planners International

SAFE SCHOOLS: A BEST PRACTICES GUIDE, SPRING 2013

COUNCIL OF EDUCATIONAL FACILITIES PLANNERS INTERNATIONAL

SAFE SCHOOLS

A BEST PRACTICES GUIDE



cefpi
where great schools begin

PREFACE

Public education is being scrutinized today. Safety for schoolchildren has the nation's attention. Every aspect of educational safety and security is under review and school districts are contemplating best practices to employ to safeguard both students and staff. As leaders in creating safety in the built environment, CEFPI orchestrated a security summit in Washington, D.C. to explore just this topic. This document is a result of the collaborative effort of the many professionals who participated in this work. Its aim is to empower stakeholders with a guide to best practices used by many practitioners. Its primary scope addresses educators and school boards charged with safeguarding students and staff…but it is also useful to parent groups, security officials, elected officials, and other such publics given to this task.

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EXECUTIVE SUMMARY

This report seeks to answer the question of how to empower elected officials, educators, planners, and builders with essential knowledge certain to aid in the protection of students. Such a charge was given to those who attended the CEFPI Security Summit in Washington, D.C. on February 6, 2013.

Four interrelated elements were considered by committee within the overarching theme of discovering how the built environment lends itself to emergency preparedness and response. Those components included: Infrastructure; Crisis Communications; Staffing; and, Procedures. These security factors, in collaboration with efforts provided by security and educational agencies at the national, state, and local levels, provide a framework for emergency planning.

INFRASTRUCTURE

Reconciling the need for a true community school, built for creativity and exploration – and interaction by community members – the goal is to ensure emergency preparedness and response are woven into the very construct of the learning space; to narrow risk from a plethora of threats by creating concentric circles of protection.

CRISIS COMMUNICATIONS

When time is crucial, ensuring the built environment aids in crisis communication is essential. The goal is to ensure that emergency contact is readily available to building occupants for reaching one another and emergency first responders. In a dire emergency, simple and direct communication is critical.

STAFFING

The issue of safety and security of students involves more than just local law enforcement…it involves mental healthcare providers, building security and maintenance personnel, trained teachers and office staff, and a comprehensive campus emergency plan.

PROCEDURES

When an emergency occurs within the school, staff and students must know how to effectively respond within mere moments. Practiced procedures produce effective results. The built environment must accommodate such response; namely, evacuation, lockdown, lockout, and shelter responses.

The recommendation is that from this information a concise guide be created designed to assist elected officials, educators, planners, and builders in matters related to safe schools.

Every day in the United States more than 50 million students attend school. Statistically speaking, those children are safe while in our schools. Yet, when danger presents itself, all stakeholders deserve to know that educational leaders have prepared for such exigencies as we wish never again to encounter.

PLANNING GUIDE

The following guide seeks to answer the primary question of how to create a built environment which lends itself to emergency preparedness and response. It explores four major and interrelated categories in doing so: Infrastructure; Crisis Communications; Staffing; and, Procedures.

INFRASTRUCTURE

Emergency preparedness and response must be woven into every aspect of the built learning space. The goal, simply stated, is to reduce risk and address a plethora of threats by creating concentric circles of protection:

- This safe environment begins with the ability to lock students behind doors, protecting them from aggression, as well as the ability to shield students away from large windows and to safeguard them when they meet en masse for assemblies and meals.
- It includes such measures as secured ingress (via secured vestibules) and remote access to select exterior and interior doors (through keyless entry), as well as security cameras, both interior and exterior.
- It involves a high security keying system with control measures in place relative to master keys, and seeks to have all students under one roof.
- Line-of-sight issues should be mitigated through design; gaining access through a remote point by unauthorized personnel is eliminated by doing so. The use of cameras aids in this matter as well.
- Exterior entrances are protected via bollards; ample interior and exterior lighting is in place; and, the perimeter of the school, to include parking lots, playgrounds and athletic fields, is fenced and monitored via security cameras.

CRISIS COMMUNICATIONS

The means to communicate in an emergency is paramount; and the key to effective communication is one of access, simplicity, and scope. To that end, the following should be considered:

- An effective Public Address system – with an alternative power source – is one that can broadcast to every student and staff member, both within the school and on adjacent fields, and is accessible from a multitude of locations, to include classrooms.
- Interagency access and use of security cameras and radio channels are crucial in an emergency.
- The use of multiple communication devices within the school is desirable; these range from the static Public Address system to mobile panic devices worn by select administrators.

PLANNING GUIDE (cont'd)

- A concise plan for emergency contact is important; the plan directs who is called by whom as well as who speaks with the media such that a district speaks with one voice.
- Broadcast messaging to stakeholders in an emergency can aid first responders in unobstructed access to the school by informing them to stay away from an affected area.
- Emergency communication means for classroom teachers – from multiple locations – can prevent escalation of events.

STAFFING

In a school, all training and response issues should be outlined in the district's Multihazard Emergency Operations Plan. That plan should cover the following with respect to command and control (to include staff roles, responsibilities, and training):

- Key staff within the district should be certified through the National Incident Management System. Information can be gained at the following website: www.fema.gov.
- Detail staff jobs in the district and campus emergency management plans. The goal is that one person is tasked with only one specific job.
- Commissioned peace officers should serve as School Resource Officers and be trained to identify potential safety issues within a school setting.
- A 24-hour security department (non-commissioned) equipped to provide property security and non-emergency daytime response is beneficial. Such can provide deterrence to issues such as bullying, theft, vandalism, drug use, etc.
- Mental healthcare providers, as well as county and city agencies, are part of a district's emergency response team.
- Teachers should be trained on all aspects of emergency response as well as on issues relative to the potential for violence (e.g. bullying, gang, drug awareness).
- Site and building plans of the built environment should be shared with emergency responders; as well, security systems should be available to responders.

PLANNING GUIDE (cont'd)

PROCEDURES

Practiced procedures produce effective response…knowing what to do when danger invades is crucial to survival. Procedures should include the following (at a minimum):

- All school staff, to include substitute teachers, office staff, kitchen staff, custodial staff, and the like, and students, should practice emergency drills and exercises.
- Both informal and formal safety and security audits should be conducted. All findings and recommendations should be shared with the principal, and prioritized and action-planned according to a thorough cost/benefit analysis.
- The use of security devices should be governed by procedure; as a case in point, metal detectors should be strictly utilized according to board policy.
- Measures to keep drugs, alcohol, and weapons from being introduced into the school should be in place and monitored daily (e.g. the use of qualified K9 teams).
- How schools manage classroom doors…how principals announce the need for lockdown…how evacuation occurs: all should be managed by procedure.
- No code words should ever be used in announcing an emergency; plain and descriptive language only (example: "Teachers and students, we have a lockdown in the building; lockdown the school".
- Visitor registry should be in place at every campus; staff should be trained to know what to do if they engage a stranger to the campus who is without a visitor's badge.
- Each campus staff member should be taught to positively engage all visitors to the campus, sound the alarm when things are amiss, and teach with classroom doors locked.
- Each school principal should have a campus emergency management plan that is written and available to staff members.
- The built environment should accommodate communication, lockdown, lockout, evacuation, shelter, and other essential issues related to emergency response. (An example of this might include a catchment area with hardened walls within the school.

REPORT

INTRODUCTION

Every day in America more than 50 million children go to neighborhood public schools. Parents send them off with every hope they will be safe while there. And yet, as has been the case in too many cities, violence shatters that hope. CEFPI seeks to lead in the effort to bolster our schools and provide safer and more secure learning environments. As a result, this planning guide has been created to provide elected officials, educators, planners, and builders with essential knowledge certain to aid in the protection of our students. The guide seeks to answer the primary question of how to create a built environment which lends itself to emergency preparedness and response. It explores four major and interrelated categories in doing so: Infrastructure; Crisis Communications; Staffing; and, Procedures.

THE SECURITY SUMMIT

On February 6, 2013, CEFPI hosted a security summit in Washington, D.C. Attendees included personnel from national, state, and local educational and security agencies. (Speakers and attendees are listed at the attachment.) The summit was held with the intent of recognizing and addressing significant issues impacting school safety and security. The primary goal encompassed two facets: 1) To encourage stakeholder collaboration in developing a shared vision for school security as it relates to the planning, design, and operational protocol of the built environment, and 2) To create a best practices' guide to brief school boards, parent groups, media, elected officials, educators, planners, builders, and other publics regarding school security as it relates to the physical environment.

The summit concluded with attendees having gained a better understanding of the multiple facets and considerations of the safety and security issue. They did this primarily through evaluating those key issues facing every school official with respect to his or her ability to safeguard students. The result of this work is the document you now hold, which includes a concise guide for creating and maintaining safe schools.

THE PROCESS

Attendees were segregated into four working groups and given an overview of their particular piece of the project. Each group had interaction with an educator involved in the matter of safe schools. The group's responsibility was to explore the aspect of security given it and to create a draft working document listing both questions and recommendations. At the end of the planning time, the group reassembled and shared findings, followed by interaction from other groups. All such findings were then collated and evaluated for inclusion into the planning guide.

The guide does not portend to be exhaustive or exclusive. In some ways, it serves as a starting point; in other ways, it represents "boots on the ground" practicality. The hope of those who have assisted in the creation of this document is that it represents best practices among many practitioners.

In the context of the built environment, consideration was given to each of the following elements of safe schools:

REPORT (cont'd)

INFRASTRUCTURE

Today's schools are built to ignite the creative genius of our students. As such, design is pushed to new paradigms equal to the challenge for such brilliance. Old environs are replaced with state-of-the-art intellectual labs designed to elicit the energy of our youth. And into this construct enters the ever existing need for safety and security; our kids cannot hope to explore new horizons by looking over their shoulders to ensure they are safe.

These are community schools. As such, emergency preparedness and response must be woven into every aspect of the built learning space. The goal, simply stated, is to narrow risk by creating concentric circles of protection.

- Thinking outwardly, this safe environment begins with the ability to physically separate students, faculty, and staff from an armed aggressor through the use of catchment areas, locked doors, fire doors, or other physical design elements.
- It involves the ability to shield students away from large classroom windows and to safeguard them when they meet en masse for assemblies and meals.
- It includes such measures as secured ingress and remote access to select exterior and interior doors, as well as security cameras, both interior and exterior.
- It involves a high security keying system with control measures in place relative to master keys.
- It seeks to have all students under one roof. (It is certainly understood that such a goal is difficult to accomplish…and that there may be value in having students spread out in multiple buildings during certain emergency situations – the idea being that if there is an active shooter, more time is provided for law enforcement since the perpetrator would have to find students in various buildings).
- Line-of-sight issues are mitigated through design; remote location access by unauthorized personnel is eliminated.
- Exterior entrances are protected via bollards; ample interior and exterior lighting is in place.
- The perimeter of the school, to include the playground and athletic fields, is fenced and monitored via security cameras.
- Parking lots are well marked, lighted, controlled by gate, and monitored via security cameras.

REPORT (cont'd)

CRISIS COMMUNICATIONS

The means to communicate in an emergency is paramount; without it, the ability to successfully implement effective response is greatly diminished. In many ways, the method by which to communicate broadly within the school has not changed in decades. In that the new paradigm for school design pushes the learning environ beyond the four walls of a classroom, to the point where every aspect of the school becomes a three-dimensional learning lab, a teacher's ability to call for help from a multiplicity of sources must be present. And in every case, the best method for communicating is simple and direct.

Of course, the ability to communicate is not limited to voice only. Today's technology puts a smart, mobile device in every student's hand; and with that comes a varied array of communicative technology. Schools and districts, too, utilize broad scope communication tools for emergency notifications. As well, with digital cameras any number of educators, security, and law enforcement officials can understand the nature of events within a school's corridors and exterior. But still and yet, when seconds count and many students and staff are in harm's way, the ability to broadcast a message to every student and staff member within the walls of a school or on the fields adjacent to the school is crucial.

The key to effective communication is, therefore, one of access, simplicity, and scope. To that end, the following should be considered:

- An effective Public Address system – with an alternative power source – is one that can broadcast to every student and staff member, both within the school and on adjacent fields, and is accessible from a multitude of locations, to include classrooms.
- Interagency access and use of security cameras are crucial in an emergency.
- Interagency communication via shared radio channels is also foundational to a unified response.
- The use of multiple communication devices within the school is desirable; these range from the static Public Address system to mobile panic devices worn by select administrators.
- A concise plan for emergency contact is important; the plan directs who is called by whom as well as who speaks with the media such that a district speaks with one voice.
- Broadcast messaging to stakeholders in an emergency can aid first responders in unobstructed access to the school by informing them to stay away from an affected area.
- Means of emergency communication for classroom teachers – from multiple locations – can prevent escalation of events.

REPORT (cont'd)

STAFFING

A comprehensive campus emergency plan entails every aspect of mitigation, preparedness, response, and recovery. It details security response options, crisis communications, and security technologies in use. Each is important but none so much so as the individual assigned with the specific job of safeguarding students and staff. And it should be understood that any staff member assigned to a school – and those within a district – is charged with a small but critical role in providing safety and security. In many ways, a safe and secure learning environment begins with the individual.

Of course, there are those whose primary responsibilities entail safety and security. And this is not limited to local law enforcement solely; instead, it involves mental healthcare providers, building security and maintenance personnel, and trained teachers and office staff (with respect to emergency response). It also involves other city agencies, such as fire prevention personnel, hospital personnel, and county health department staff.

Interagency cooperation is key to effective response. Each person responding should do so under the guide of the National Incident Management System. This system can be summed as C3: Command, Control, and Communications. When followed, response is coordinated, which affords responders immediate access into the danger zone. As well, it offers the greatest chance for students and staff to remain safe during a violent situation.

All training and response (as well as interoperability) issues should be outlined in the district's Multihazard Emergency Operations Plan. That emergency plan should cover the following with respect to command and control (to include staff roles, responsibilities, and training):

- Key staff within the district should be certified through the National Incident Management System. Information can be gained at the following website: www.fema.gov. Key staff includes any district law enforcement or security leadership, a school's principal and assistant principal, the district superintendent, assistant superintendents, etc.

- The Multihazard Emergency Operations Plan should outline staff to fill roles relative to the Emergency Operations Center and Incident Command Post. The Emergency Operations Center is generally removed from the location of the emergency situation and gives broad oversight of response, providing coordination with outside agencies; the Incident Command Post is at or near the scene of the emergency and gives direct response supervision. Remember, within the National Incident Management System structure, the mantra is "one person, one job." This avoids the system of response being bogged down.

- The district should consider having an Interlocal Agreement or Memorandum of Understanding with local law enforcement relative to the use of commissioned peace officers as School Resource Officers, unless the district employs its own police department.

- Commissioned peace officers should be trained for school settings; they should be trained to identify potential safety issues.

- Staffing should be placed to meet the most pressing needs of the district; it should be placed in such a manner as to thwart known vulnerabilities and/or threats; and, it should create a security envelop around the district relative to both personnel safety and property security.

REPORT (cont'd)

- The district should consider having a 24-hour security department (non-commissioned) designed to provide property security, security systems monitoring, and non-emergency response during the instruction day. As well, the use of such in schools to augment the School Resource Officer is commendable; these personnel aid in monitoring activity in and around the school, provide deterrence to and detection of criminal activity and truancy, and generally provide for a more safe and secure learning environment.
- Mental healthcare providers are a part of a district's emergency response team.
- Teachers are often the district's first line of recognition; they should be trained on all aspects of emergency response as well as on issues relative to the potential for violence (e.g. bullying, gang, drug awareness).
- County and city healthcare agencies can provide essential assistance with training and response; if needed, Memoranda of Agreement should be established for services.
- School blue prints, building plans, security camera locations and network addresses should be made available and copies given to first responders. Additionally, consideration should be given to having first responders, such as police and fire department personnel, tour the school campus on an annual basis to gain familiarity with the location and ingress/egress of facilities.

PROCEDURES

Procedures that are routinely practiced with all staff and students and given the appropriate level of seriousness will produce an effective response in the event of an emergency. When an emergency occurs within the school, staff and students must know intuitively how to respond in a moment's notice. The built environment, as well, must accommodate such response, which include the following:

- Evacuation, as with a fire alarm in which all building occupants leave the building and reconvene at pre-orchestrated locations for ease in accounting for all students and staff;
- Lockdown, as when there is a shooting or other violent situation in or on the campus, in which all school personnel (i.e., those who are not commissioned peace officers, including non-commissioned security officers) shelter behind locked doors (or, in the case of those outside when the event occurs, evacuates away from the school);
- Lockout, as when there is police activity near the school, in which all exterior doors are secured with no one entering or exiting, but where relatively normal activities take place within the school; and,
- Shelter, as when there is severe weather in the area in which students and staff assume the duck-and-cover position according to a school's plan.

Safety and security procedures cover more than just emergency response. Procedures must be in place to conduct audits of security matters systematically and daily. They must be geared towards discovering and preventing dangerous drugs or weapons from being brought into the school building. And they must be designed to identify and correct any inappropriate or illegal behavior by students, staff members, or guests at the school.

REPORT (cont'd)

When considering a whole host of procedures, thought should be given to the following (at a minimum):

- Schools should conduct emergency drills and exercises, to include those conducted jointly with outside agencies (which allows for these agencies to know the layout of the school). These should involve all school staff, to include substitute teachers, office staff, kitchen staff, custodial staff, and the like.
- Both informal and formal safety and security audits should be conducted. Some are required by law while others are designed to take a snapshot of the security effort on a given day and time. All findings and recommendations should be shared with the principal, and prioritized and action-planned according to a thorough cost/benefit analysis.
- The use of security devices should be governed by procedure; as a case in point, metal detectors should be strictly utilized according to board policy.
- Measures to keep drugs, alcohol, and weapons from being introduced into the school should be in place and monitored daily. Such measures could include the use of random searches by qualified K9 teams.
- How schools manage classroom doors…how principals announce the need for lockdown…how evacuation occurs: all should be managed by procedure.
- No code words should ever be used; plain and descriptive language only (example: "Teachers and students, we have a lockdown in the building; lockdown the school").
- Visitor registry and control should be in place at every campus; staff should be trained to know what to do if they should engage a stranger to the campus who is without a visitor's badge.
- Each campus staff member should be taught to positively engage all visitors, sound the alarm when things are amiss, and teach with classroom doors locked.
- Each school principal should have a campus emergency management plan that is written and available to staff members.
- The built environment should accommodate communication, lockdown, lockout, evacuation, shelter, and other essential issues related to emergency response.

RECOMMENDATIONS

The intent of the security summit was to create a concise Safe Schools Planning Guide. This document is designed to provide a best practices' guide for a variety of publics. It is the hope of the committee that it effectively serves the needs of those most concerned with creating and maintaining a secure learning environment.

CONCLUSION

Many people today have asked if the public schoolhouse is still the safest place in the community. It certainly takes a collaborative effort on the part of agencies and community members to bolster that security such that students and staff feel safe while in school. No school administrator wants to have to face the challenges of violence; yet all must come to grips with that possibility. They must plan and prepare for a broad array of threats. They must work to narrow the risk associated with those threats by creating a concentric circle of protection. They must train for response options associated with each threat. Train as though this very day violence should come near. All who are associated in any way with public education must do the same, as students, teachers, administrators, staff, parents, and the community-at-large deserve to know that we have prepared for such exigencies as we wish never again to encounter.

APPENDIX

Speakers & Attendees to the Washington, D.C. Security Summit

The following individuals were guest speakers during the summit:
David Esquith, Director, Office of Safe and Healthy Schools, U.S. Department of Education
John Cohen, Senior Advisor to the Secretary, U.S. Department of Homeland Security
John Ramsey, CEO/Executive Director, CEFPI
Irene Nigaglioni, Chair, CEFPI
Scott Layne, SR Board Member, CEFPI
Pat Lamb, Director, School Safety & Operations, Irving Independent School District

The following individuals attended the summit and participated in the committee work:
Andrea Falken, U.S. Department of Education Green Ribbon School
Barbara Worth, CEFPI
Barbara Bice, Maryland State Department of Education
Brian Gordon, American Federation of Teachers
Caroline Simmons, U.S. Department of Homeland Security
Caroline Lobo, AIA Committee on Architecture in Education
Claire Barnett, Healthy Schools Network
Mark Young, Nova Scotia Department of Education
David Waggoner, Heery International
David Schrader, SCHRADERGROUP Architects
Doug Westmoreland, Moseley Architects
Ed Schmidt, Fanning Howey
Eric Hansen, Rochester City School District
Franklin Brown, Ohio Schools Facilities Commission
Harvey Bernstein, McGraw Hill Construction
Jason Hartke, U.S. Green Building Council
Jennie Young, Boys and Girls Clubs of America
Jim McGarry, National School Supply & Equipment Association
Jimmy Disler, Leander Independent School District
John Fannin, III, KCI Protection Technologies
Kathleen Moore, California Department of Education
Kelly Pollitt, National Association of Elementary School Principals
Larry Johnson, Grand Rapids Public Schools
Laura Kaiser, Architectural Record
Lee Posey, National Conference of State Legislatures
Mark Egan, National Education Association
Mary Filardo, 21st Century School Fund
Mavonne Garrity, Senior Policy Advisor to Congressman Alan Lowenthal (California)
Michelle Mitchell, CEFPI
Nate Allen, U.S. Green Building Council
Nora Howley, National Education Association

Rachel Gutter, U.S. Green Building Council
Renee Parker, National Association of School Safety and Law Enforcement Officials
Ron Bogle, American Architectural Foundation
Sean O'Donnell, Perkins Eastman
Steve Turkes, Perkins+Will
Yasmin Bowers, American Association of School Administrators

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