



OCTOBER 2008

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Protection of the Public

Protection of the general public is an integral and important part of everyday construction activities. Contractors should have a best practices guideline that is specific to their operations. Pedestrian and visitor safety is crucial, but there are many other public hazards associated with construction projects. For example: A contractor was performing work near a large apartment complex and started a fire that destroyed some of the occupied buildings. This left hundreds of people without a place to live, which resulted in a class action lawsuit against the contractor.

One reference source for building guidelines is the American National Standard A10.34-2001 (R2005). The standard is titled *Protection of the Public on or Adjacent to Construction Sites – American National Standard for Construction and Demolition Operations* and was developed by the American Society of Safety Engineers (ASSE) and the American National Standards Institute (ANSI).

The ASSE has provided the following overview of the standard.

PUBLIC HAZARD CONTROL PLAN GUIDELINES

The public hazard control plan evaluates, prevents or reduces, to a minimum, the hazards identified in the standard. If new hazards arise or if contractors or conditions change, the plan will be reviewed and updated as needed. The individual who prepares the public hazard control plan will include, or will consider, including in the plan:

- a policy that obligates all parties involved to protect the public;

- the responsibilities of the contractors and project constructor;
- who will conduct and coordinate accident investigations at the jobsite; and
- how public hazard control plans will be communicated to the authorities.

The public hazard control plan will consider these hazards:

- Noise
- Dust, fumes, mists, smoke and vapors
- Traffic hazards

JOBSITE SPECIFICATIONS

The A10.34 standard provides jobsite specifications for each of the following hazards:

PEDESTRIAN HAZARDS

- Areas for public pedestrian traffic should be clearly marked at the construction site at all times.
- Public pedestrian traffic areas should be maintained so that slipping, tripping and falling hazards are reduced.
- Non-level surfaces should be delineated with high-visibility markings, signs or notices.
- Stairs or ramps should have handrails on both sides.
- Elevated areas should have standard guardrails.
- The public should be notified of closed pedestrian areas, and they should be provided access to safe alternative areas. The expected path to the alternative area(s) should be clearly marked.
- The contractor should monitor public ingress and egress routes to make sure that construction operations do not block stairways, doors, entrances, exits, paths or hallways.
- Special attention should be given to the emergency evacuation of buildings, structures and jobsites and how the construction project may affect this evacuation.

LIGHTING

- Lighting and welding flash on the jobsite that may project to or illuminate areas offsite should be directed or shielded so that they do not create a public hazard.
- Walking surfaces and other public areas affected by the construction project should be adequately illuminated.

RADIATION

- Operations that may produce public radiation exposure hazards should be controlled and shielded.
- The area must be barricaded to prohibit public access.
- Signage that designates what type of radiation exposure may cause public harm or injury should be clearly displayed.

- Ionizing and non-ionizing radiation hazards, including nuclear, x-ray, laser, microwaves, ultraviolet and infrared radiation, welding rays or high-radiant heat sources and exposure, should be considered.

MACHINERY AND VEHICLES

- Contractors who use cranes, vehicles, machinery, ships, vessels, barges, boats, aircraft or other mobile equipment or devices should conduct an initial and periodic inspection of the equipment.
- Sufficient barricades, shields, guards, alarms, signs, markings and safety systems should be provided or installed on all equipment.
- If any machinery, ships, vessels, barges, boats, aircraft or vehicles require special licenses, permits or operator training before they are used, the contractor should secure or provide these before working with that equipment.
- Areas with mobile equipment that is accessible to the public should be barricaded or guarded before and during the operation of the equipment. Warning signs, fencing, barricading or personnel should be placed at a sufficient distance from the areas to prevent the public from entering the areas by mistake.
- If loads are hoisted or if other overhead hazards exist, a clear area below, which is sufficient to prevent public hazards, should be barricaded to prevent inadvertent public access. The area should be monitored during overhead work to ensure that it remains clear.
- If noise makes it difficult to hear warnings or signals from mobile equipment, ships, vessels, boats or aircraft, the decibels should be increased so that the warnings or signals can be heard. If this cannot be done, visual signals should be established to protect the public. Visual or radio contact should be maintained between the operators and those who will provide the signals.

FALLING AND WINDBORNE OBJECTS

- To prevent construction objects or debris from creating a public hazard, barriers, catch platforms, enclosures, perimeter or vertical debris netting or other administrative or engineering controls must be employed.
- Public areas adjacent to the jobsite should be protected by sheds, overhangs, perimeter netting systems, platforms, scaffolding or similar structures to protect pedestrians from falling objects or debris.
- Construction material, tools, debris, waste, equipment or other items should be contained, secured, tied-off, removed, braced, enclosed or restrained so that they do not fall, blow away or enter public areas.

SECURITY

- Measures should be established to restrict public access to the jobsite.
- If access control is not possible, items that may create a hazard should be locked, barricaded or removed.

- Security systems or personnel may be employed during or after work hours to ensure that the public cannot gain access to the jobsite.
- Authorities and security personnel should receive a list of those individuals who are authorized to access the jobsite during non-work hours.
- Local enforcement authorities should be made aware of all security plans, and they should receive a list of personnel who will assist them.

POLLUTION

- Construction operations that generate waste, debris, byproducts or other contaminants that may result in pollution, degradation or contamination should be evaluated and controlled to reduce or eliminate the problem.
- Project waste should be moved only to facilities that are licensed, certified or qualified to accept and process that kind of waste.
- Waterborne run-off or contaminants that can be carried to a municipal storm or sanitary sewer system should be evaluated. If the run-off creates a pollution hazard, then steps should be taken to control the contaminants.
- Onsite sanitation facilities that are not linked to a sanitary sewer system must be provided in accordance with Table I of ANSI Z4.3-1987.

UTILITIES

- The location of all utilities must be established before the construction starts. The utilities should be located and marked as a visual warning to those who may come into contact with them. All affected contractors should receive this information in the project documents.
- Markings, warnings or drawings that show the location of the utilities should be updated as conditions change or as utilities are added or deactivated.
- The installation of temporary utilities and public exposures must conform to applicable standards.
- In all cases, the public must be protected from any hazards that the utilities may pose.

HAZARDOUS MATERIALS AND SUBSTANCES

- Hazardous materials should be stored away from the public in approved containers that are properly labeled.
- Hazardous material storage facilities should be built and located away from the public and separated from each other as required by the presiding authority.
- Warning signs should be posted at storage areas.
- Emergency response personnel should receive material safety data sheets (MSDS) on the hazardous materials as required by the presiding authority.

INJURIES AND DAMAGE

- Any public injury or damage should be immediately assessed and action should be taken to secure medical help and to minimize further injury or damage.
- The Public Hazard Control Plan supervisor should be notified immediately of any public injury or damage.
- The area in which the injury or damage has occurred should be secured until proper investigation and documentation have taken place.

VIBRATIONS AND SUBSIDENCE

- Construction operations that produce ground or air vibration should be analyzed to prevent damage or subsidence of adjacent land or structures.
- A pre-operations survey of the surrounding area, structures and accessories should be conducted before any construction activity begins. Any weaknesses or deterioration found during the survey should be reported to the presiding authority before construction.
- The contractor should provide data that show the maximum limits of expected vibrations or subsidence. These limits must not exceed those specified by the presiding authority. Seismographic recordings should be made if required.
- If warranted during the pre-operations survey, structural and geological investigation may be conducted.
- If there will be blasting at the jobsite, an audible blasting warning signal should be established, published and posted, and signage should be posted to warn the public. Blasting mats or administrative controls should be used to reduce any public fly rock hazards.
- Adjacent roadways, waterways, airways, sidewalks, buildings and utilities should be monitored periodically during construction operations.
- All excavations, cuts and trenches in public areas should be backfilled with approved material and then tamped and compacted as soon as possible.
- Any public areas or structures that are disturbed, cracked or broken during construction operations should be inspected, repaired or replaced.

EMERGENCY ACTION PLAN

- An emergency action plan that outlines the actions and responsibilities to be taken in the event of an emergency should be incorporated in the Public Hazard Control Plan.
- Jobsite personnel should be instructed in the emergency procedures to be followed in the event of an emergency that involves or affects the public.

PUBLIC CONTEMPT OR PROTEST

- A plan should be established for dealing with members of the public who purposely place themselves or others at risk by failing to observe or heed warnings, directives or safety precautions.
- Agencies with authority to control public activity may be notified and work may be ceased until the public is controlled.

THREATS

- A plan should be established for handling bomb threats or any other violence communicated to the job site.
- The plan should include directions for interacting with the authorities.

A detailed checklist is provided with the standard for reference in developing site specific guidelines for public protection. The complete standard can be purchased by contacting ASSE Customer Service at 847-699-2929 or by visiting ASSE's Web site at www.asse.org. The direct link to the A10.34 site is: <https://www.asse.org/shoponline/products/3834.php>

Permission to provide this overview of the A10.34 standard was granted by the ASSE.

FOR MORE INFORMATION

Visit our Risk Control Web site at www.riskcontrol.com for additional information regarding this topic. The following Travelers Risk Control technical bulletins are available for download:

- *Public Liability on Construction Sites*
- *Pre-Construction Surveys*
- *Demolition Planning and Engineering Surveys*
- *Controlling Theft and Vandalism on Construction Sites*
- *Construction Vibrations and Damages*
- *Call Before You Dig (811 National Call Number)*
- *One Call Systems*



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