

Public Safety Management Plan (PSMP)

Introduction

Contractors are responsible for protecting their employees, their subcontractors, and the general public from adverse health and safety conditions that occur on a construction site.

The **public** is generally defined as all persons not associated with a construction project.

This includes people invited to the construction site.

Contractors must also

- protect the public from nuisance conditions (ie ambient noise, dust),
- implement the necessary controls to avoid disruption of public routes and services, and
- maintain a continuous separation between construction zones and public areas.

Although all construction projects have the potential for public exposures, projects within urban centres pose significant risks to the public and require comprehensive planning and execution. Implementing an effective public control plan is essential for a successful construction project. This should be given the same attention to detail as the site safety program and site security plan.

Separating the construction areas from the public is only one component of an effective public safety management plan (PSMP). Other factors that must be considered include:

- Pedestrian routes (including provision for accessibility)
- Warning signs
- Falling and wind blown objects
- Noise, dust and fumes
- Debris/rubbish control & removal
- Vibration & subsidence
- Vehicle routes for deliveries (including set down location)
- Operation of plant & mobile equipment

- Access to the site by the emergency services
- Illumination
- Existing utilities
- Provisions for inclement weather
- Coordination & communication with the BCA/TA.

Public safety management plan

The project designer and/or main contractor should develop a site-specific public safety management plan (PSMP) designed to prevent public exposures during all construction phases of the project.

The plan must be specific for the location and type of construction project. It should be:

- documented in writing,
- include a site map which clearly identifies access roads, traffic routes, pedestrian walkways, and adjacent buildings or structures,
- made available to all contractors working on the project,
- submitted with the application for a certificate for public use (Form 15) as part of the building consent application before construction commences, and
- reviewed for effectiveness, and re-evaluated as conditions and exposures change or following any public exposure incident.

The plan should include:

- Hazard analysis
- Job responsibilities
- Separation methods
- Traffic and pedestrian routes
- Mobile equipment and deliveries
- Site utilities
- Inspections and surveillance
- Special operations
- Emergency action.

More detailed information on these is covered below.

Hazard analysis

- Conduct a jobsite hazard analysis during the planning phase of a construction project to determine conditions or operations that may impact the public.
- Proper planning to prevent an adverse or nuisance hazard to the public is more than just requiring contractors to segregate or separate their work from any public area.
- Each contractor should evaluate their operations and work areas to determine the level of public protection that is needed and relay this information via the PSMP, taking into consideration:
 - proximity of work to pedestrian walkways,
 - traffic routes,
 - emergency exits,
 - adjacent buildings,
 - existing utilities (water, waste, electricity, gas and telephone), and
 - other areas accessed or used by members of the public.
- Work shifts must be also considered to determine security needs, illumination requirements and traffic control plans.

Job responsibilities

- The PSMP should clearly define responsibilities for main and subcontractors.
- The main contractor (ie the entity with general oversight and day-to-day control of the site) should identify personnel responsible for implementing and enforcing the PSMP and coordinating with the BCA/TA (for a CPU).
- The site foreman/project manager should be responsible for communicating/coordinating subcontractors to ensure that:
 - adequate controls are installed and maintained,
 - access roads and emergency routes remain operational, and
 - traffic control plans are enforced.
- The plan should identify personnel responsible for work scheduling, material deliveries, debris removal, mobile equipment transport, traffic reroutes, worksite inspections, and monitoring for natural events such as heavy rainfall, windstorm, flooding, or earthquake.
- These site foreman/project manager should have the authority to shut down an operation, delay installations, or stop all

construction whenever conditions result in the public being at risk.

Separation methods

- The PSMP should include the controls established to temporarily, or permanently, separate the construction work area from the public – eg most contract specifications for projects reference NZBC F5/AS1 as their compliance pathway and show a perimeter fence which surrounds the entire site.
- The plan should identify barriers, catch platforms, enclosures, perimeter debris netting, vertical debris netting, and other engineering controls designed to prevent construction objects or debris from reaching or creating a hazard to the public.
- Public access areas directly adjacent to the jobsite should be protected by overhangs, netting systems, platforms, scaffolding, or similar structures with sufficient structural strength to reduce hazards to pedestrians from falling objects or debris (eg the provision of kick plates to scaffolding).
- The plan should require contractors to secure, brace, enclose, restrain, or remove construction materials, tools, debris, and equipment to prevent them from falling or being propelled by the wind and entering public areas.

Traffic and pedestrian routes

- Many construction projects require temporary closure of public roads, walkways, building access points, and emergency exit routes – therefore the plan should outline detour routes which will be used for vehicular and pedestrian traffic.
- Warning signs must be posted for all traffic and pedestrian route closures or detours to provide sufficient advanced notice to the public that their normal route has been altered by the construction project.
- All detour pedestrian routes must comply with requirements of NZBC Clause D1 for accessible routes such as walkway widths, ramp inclines, and step heights, etc (refer to NZBC D1/AS1 and NZS4121 for more information).
- Pedestrian routes should not put the public at risk by extending into or having to cross a public street without the appropriate barrier protection and signage – a poorly planned pedestrian detour at a construction site is an invitation for personal injury.
- The territorial authority should:
 - approve all temporary traffic control plans from contractors, and

- assign competent personnel to drive or walk all traffic and pedestrian routes before issuing the CPU.
- The CPU should be conditioned to allow the public to use them and inspect these detours on a regular basis to ensure they remain as designed – eg pedestrian detours should be inspected following inclement weather such as snowfall, heavy rainfall, windstorm, or flooding.
- Any deficiencies noted during the inspection process must be corrected immediately to avoid a public exposure incident.

Mobile equipment and deliveries

- The PSMP should include:
 - the controls established for the transport and use of mobile equipment (eg cranes, excavators, loaders, concrete trucks & pumps, delivery trucks) to ensure that the public is protected,
 - engineering and administrative control measures to protect the public from mobile equipment (eg installing barriers or fencing, barricading the swing radius of equipment, prohibiting deliveries during peak traffic hours, and the use of flag-persons), and
 - the delivery route(s) to be used by vendors and locations where construction employees are allowed to park.
- Public protection measures must extend to off-site areas related to the construction project, eg equipment lay-down areas, material storage areas, fabrication shops, and employee parking lots.

Site utilities

- The PSMP should include or reference:
 - the location of all existing utilities on the site (ie overhead or underground electrical lines, water, sewer, or gas lines), and
 - establish a process to notify all affected contractors.
- Subcontractors should submit their plans to the BCA/TA on methods they will use to maintain safe distances and avoid damaging the utility during the transport, assembly, use, and disassembly of scaffolds, cranes, and mobile equipment.
- The main contractor should ensure that utility markings, warnings, or drawings showing the site utilities are updated as conditions change or new utilities are installed during the course of the project.

Inspections and surveillance

- The PSMP should specify the personnel responsible for monitoring the site throughout the workday for conditions or operations which may impact the public.
- Deficiencies noted during inspections should be documented in writing and/or with photographs and immediately referred to supervisory personnel with the authority to take appropriate action.
- Inspection personnel should ensure that:
 - separation methods are enforced,
 - means of ingress and egress used by the public (i.e. stairways, entrances, exits, paths, hallways) are not blocked,
 - site access points are secured,
 - appropriate warning signs are posted,
 - traffic and pedestrian route closures and detours remain as designed,
 - materials and debris are removed from public areas,
 - appropriate lighting of public areas is provided,
 - dust levels are controlled by the use of water spray trucks and/or wet methods of cutting or grinding,
 - controls are in place to minimize noise levels from construction equipment,
 - the site remains accessible to the emergency services, and
 - all elements of the PSMP are being enforced.

Special operations

- The PSMP should address construction operations that:
 - produce ground or air vibration, or
 - could result in damage to, or subsidence of, adjacent land or structures (eg pile driving, drilling, excavating/trenching, and demolition).
- A pre-operations evaluation should be conducted before the start of any construction activity in the proximity of building structures or land that could be affected by such operations.
- Transport, assembly, use, and disassembly of scaffolds and specialised construction equipment (eg tower cranes) should be addressed or referenced in the plan to ensure that adequate separation is maintained and the public is protected at all times.

Emergency action

- Sites must be prepared to handle severe injuries to construction workers and members of the public, natural events such as heavy rainfall, windstorm, flooding, or earthquake, and man-made events such as an equipment collapse, bomb threat, or act of terrorism.
- The plan should include or reference:
 - an emergency action plan to delineate responsibilities,
 - outline procedures to be followed in the event of a serious injury, natural disaster, or man-made disaster, and
 - identify personnel responsible for contacting emergency medical services, coordinating with local authorities, and acting as the site community relations representative.
- Any injury to a member of the public or damage to public property should be thoroughly investigated using the policies and procedures included in the site incident investigation program (OSH).