



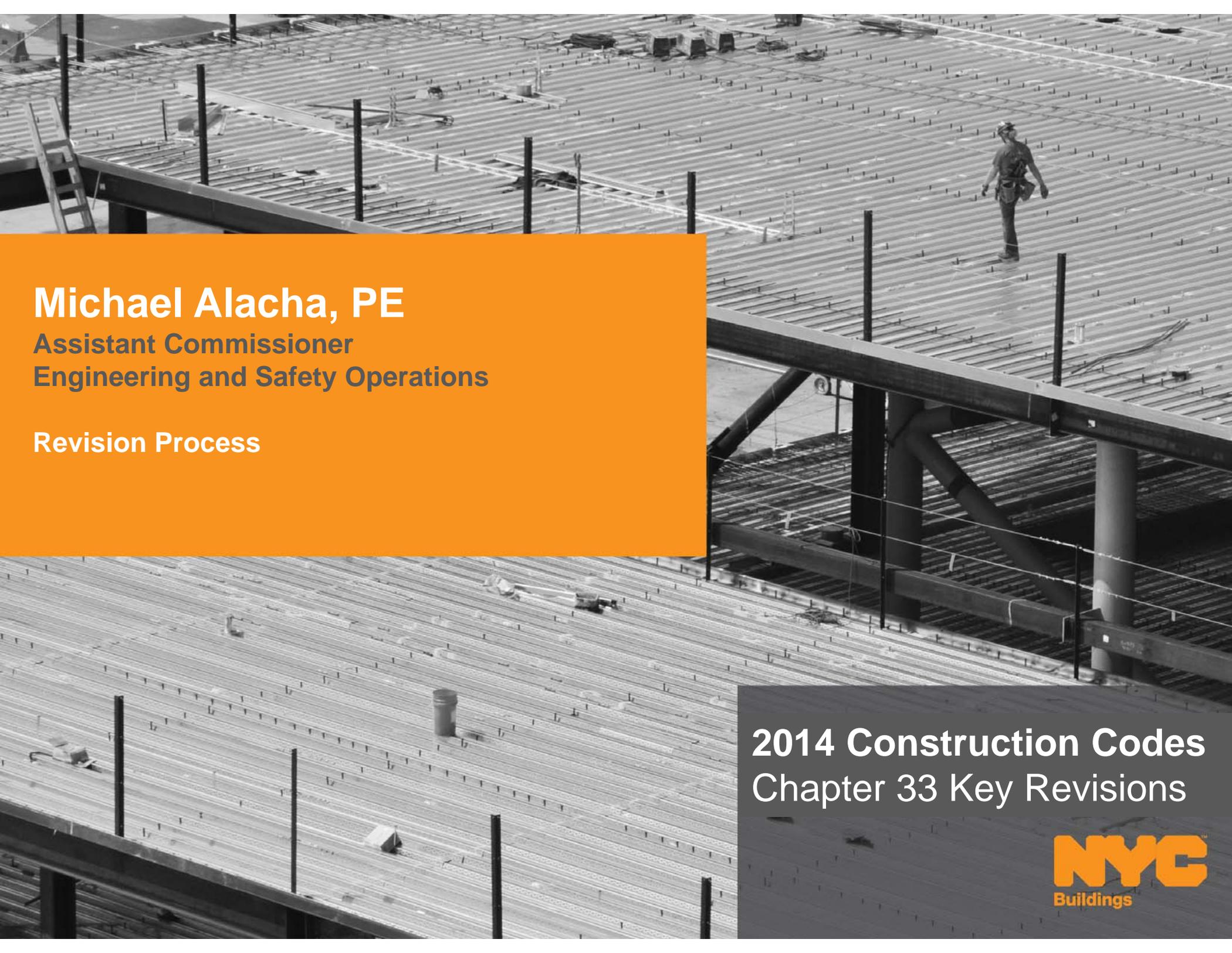
**Welcome**

**Pfizer Auditorium**

**NYU Polytechnic School of Engineering**

**2014 Construction Codes**  
**Chapter 33 Key Revisions**

**NYC**  
Buildings



**Michael Alacha, PE**

Assistant Commissioner  
Engineering and Safety Operations

Revision Process

**2014 Construction Codes**  
Chapter 33 Key Revisions

**NYC**  
Buildings

# Copyright Materials

*This presentation is protected by US and International Copyright laws. Reproduction, distribution, display and use of the presentation without written permission of the speaker is prohibited.*

*© New York City Department of Buildings 2014*

# Use of this Presentation

***LEGAL DISCLAIMER:*** *This presentation and associated handout should not be used as substitutes for codes and regulations. For specific requirements, please refer to the relevant laws and code provisions.*

*© New York City Department of Buildings 2014*

# Chapter 33 Revision Process

---

- Review and Revision Over 24 Month Period
- 27 Committee Members from Industry
- 9 Committee Members from Department of Buildings
- 34 Committee Meetings Held

# Code Committee Participants

---

- Industry Subject Matter Experts from Design, Contracting, and Safety Fields
- DOB Subject Matter Experts from Technical and Enforcement Units

# Goals of Code Revision

---

- Add Requirements to Enhance Construction Safety
- Incorporate New Technologies and Industry Best Practices
- Clarify Ambiguities in Code Language
- Consolidate Safety-Related Regulations into Chapter 33

# Scope of Chapter 33

---

- **Governs All Types of Construction**
  - New Buildings
  - Alterations
  - Demolitions
  - Repairs
  - Temporary Construction Equipment
- **Governs All Types of Buildings**
  - Residential, Commercial, Industrial
  - High Rise and Low Rise
  - Private Dwellings (1, 2, 3 Family)

# Effective Date Chapter 33: Site Safety Sites vs Non-Site Safety Sites

Type of Chapter 33 Work	Trigger	2008 Code (BC 33)	2014 Code (BC 33)
Non-Site Safety Jobs: New Buildings, Alterations, & Partial Demolitions	Construction docs submitted <i>before</i> Dec. 31, 2014	✓	
	Construction docs submitted <i>on or after</i> Dec. 31, 2014		✓
Site Safety Jobs: New Buildings, Alterations, and Partial Demolitions	Site safety plan approved <i>before</i> Dec 31, 2014	✓	
	Site safety plan approved <i>on or after</i> Dec. 31, 2014		✓

# Effective Date Chapter 33: Demolition Sites

---

Type of Chapter 33 Work	Trigger	2008 Code (BC 33)	2014 Code (BC 33)
Full Demolitions: (Non-Site Safety & Site Safety Jobs)	Demolition permit issued <i>before</i> Dec. 31, 2014	✓	
	Demolition permit issued <i>on or after</i> Dec. 31, 2014		✓

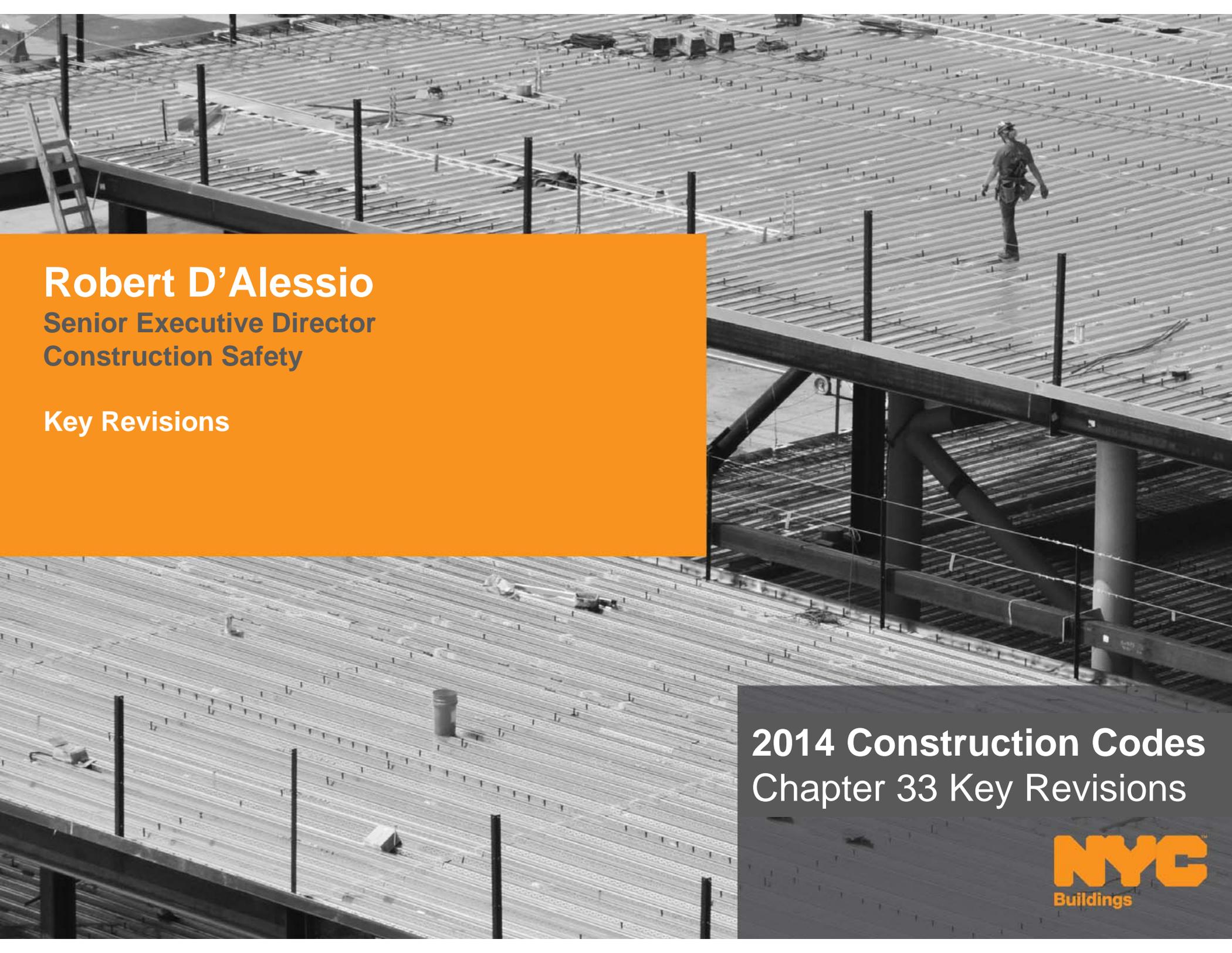
# Key Revision to Chapter 33

---

- Presentation covers ONLY KEY changes to the Chapter 33 of the NYC Construction Codes.
- DOB website contains a 300+ page document covering all Chapter 33 changes in detail, in addition to a full version of the 2014 Construction Codes.

[www.nyc.gov/buildings](http://www.nyc.gov/buildings)

- Codes & References > 2014 Construction Codes.
- This presentation, with related talking points, will be made available to the public and industry on our website in a few days.



**Robert D'Alessio**  
Senior Executive Director  
Construction Safety

Key Revisions

**2014 Construction Codes**  
Chapter 33 Key Revisions

**NYC**  
Buildings

## BC 3301.2: Safeguarding Public and Property

---

**3301.2 Safety measures and safeguards.** Contractors, construction managers, and subcontractors engaged in construction or demolition operations shall institute and maintain all safety measures required by this chapter and provide all equipment or temporary construction necessary to safeguard the public and property affected by such contractor's operations.

# BC 3303.10: Occupant and Tenant Protection

---

**3303.10 Operations in occupied buildings.** When construction or demolition activity occurs in an occupied building, barricades, signs, drop cloths, and other protective means shall be installed and maintained as necessary to provide reasonable protection for the occupants against hazard and nuisance. Such protective means shall be indicated on an occupant protection plan, or where a tenant protection plan is required by Section 3303.10.1, on a tenant protection plan.

**3303.10.1 Tenant protection plan.** In buildings containing occupied dwelling units, including newly constructed buildings that are partially occupied where work is still ongoing within the building, all construction or demolition work shall be performed in accordance with a tenant protection plan as required by Chapter 1 of Title 28 of the *Administrative Code*.

## BC 3301.1.3: Manufacturer's Specifications

---

**3301.1.3 Manufacturer specifications.** All equipment shall be used in accordance with the specifications of the manufacturer, where such specifications exist, and the requirements of this code. Where there is a discrepancy, the stricter requirement shall apply.

# Accidents and Damage to Adjoining Property

---



# BC 3301.8: Notification – Accident and Damage

---

## **3301.8 Accidents and damage to adjoining property.**

The department shall be notified immediately by the permit holder, or a duly authorized representative, of an accident at a construction or demolition site, or of any damage to adjoining property caused by construction or demolition activity at the site.

# BC 3302.1: Definition of Accident

---

**3302.1 Definitions.** The following words and terms shall, for the purposes of this chapter, have the following meanings.

**ACCIDENT.** An occurrence directly caused by construction or demolition activity or site conditions that result in one or more of the following:

1. A fatality to a member of the public, or
2. Any type of injury to a member of the public; or
3. A fatality to a worker; or
- 4. An injury to a worker that requires transport by emergency medical services or requires immediate emergency care at a hospital or offsite medical clinic; or**
5. Any complete or partial structural collapse or material failure; or
6. Any complete or partial collapse or failure of pedestrian protection, scaffolding, hoisting equipment, or material handling equipment; or
7. Any material fall exterior to the building or structure.

# BC 3301.8.1: Accidents – Tampering Prohibited

---

**3301.8.1 Use and tampering prohibited.** Following an accident, no person shall permit any of the following without the permission of the commissioner, or without a lawful order from the New York City Police or Fire Department:

Use or operation of any equipment or structure damaged or involved in the accident; or

Removal or alteration of any equipment, structure, material, or evidence related to the accident.

**Exception:** Immediate emergency procedures taken to secure structures, temporary construction, operations, or equipment that pose a continued imminent danger or to facilitate assistance for persons who are trapped or who have sustained bodily injury.

# Stalled or “Abandoned” Sites

---



## BC 3303.13.2: Monitoring Plan for Stalled Sites

---

**3303.13.2 Safety monitoring plan.** Where work has been interrupted or abandoned and discontinued for a period of at least three months, a safety monitoring plan shall be prepared and submitted to the department. Such safety monitoring plan shall be specific to the site, shall identify safeguards to be instituted and maintained to secure the site, and shall specify monitoring to be performed during the duration of suspension of work. The site shall be monitored in accordance with such plan.

## BC 3303.13.3: Backfill – Abandoned Sites

---

**3303.13.3 Filling and grading.** Where work has been interrupted or abandoned and discontinued for a period of at least three months, all open excavations shall be filled and graded to eliminate all steep slopes, holes, obstructions or similar sources of hazard. Fill shall consist of clean, noncombustible material. The final surface shall be graded in such a manner as to drain the lot, eliminate pockets in the fill, and prevent the accumulation of water without damaging any foundations on the premises or on adjoining property.

**Exception:** Filling and grading is not required for abandoned, discontinued, or interrupted excavations that are:

Secured in accordance with Section 3303.13.2, and

Inspected periodically by an engineer to verify continued stability of the excavation, with a record of such inspections signed, sealed, and dated by the engineer.

# Fire Safety

---



## BC 3303.3: Watch Person

---

**3303.3 Watchperson.** Where an individual building being constructed or demolished has a footprint of between 5,000 square feet (1524 m<sup>2</sup>) and 40,000 square feet (12 192 m<sup>2</sup>), a competent watchperson shall be on duty at the site during all hours when operations are not in progress, from the time when the foundation is poured to when all work has concluded and the certificate of occupancy or temporary certificate of occupancy has been issued. Where the building has a footprint of more than 40,000 square feet (12 192 m<sup>2</sup>), at least one additional watchperson shall be on duty for each additional 40,000 square feet (12 192 m<sup>2</sup>) of building footprint, or fraction thereof. The watchperson shall be familiar with emergency notification procedures to the Fire Department, shall possess a valid security guard registration with the State of New York, shall hold a valid fire guard certificate from the Fire Department, and for a major building shall have completed the training required by Section 3310.10.

## BC 3303.7.1.1: Water Supply – Large Footprint Buildings

---

**3303.7.1.1 Large footprint construction.** For a building that has a footprint of 100,000 square feet (30 480 m<sup>2</sup>) or more, regardless of the height of the building, and the building is substantially enclosed, permanent or temporary fire hydrants available for fire department use shall be provided during the course of construction:

Within 50 feet (15 240 mm) of the main entrance; and

Along the perimeter of the building, with the hydrants located so that there is at least one hydrant along every 250 feet (76 200 mm) of building perimeter, and with no hydrant more than 50 feet (15 240 mm) from the exterior wall.

# BC 3303.8 (1): Construction Standpipe

---

## **3303.8 Standpipe systems during construction, alteration or demolition.**

During construction, alteration or demolition operations, standpipe systems shall comply with the following:

1. When, during the course of the construction of a new building the working deck reaches a height of 75 feet (22 860 mm) or greater above the ground in a building for which a standpipe system will be required, a permanent or temporary standpipe system meeting the requirements of Section 905 shall be kept in a state of readiness at all times for use by fire-fighting personnel. The standpipe system shall serve all floors where the permanent stairs are required per Section 3303.11. No standpipe shall be considered to be in a state of readiness unless it is painted red in accordance with the provisions of Section 905.11 of this code. When freezing conditions may be encountered, the system in whole, or the part of the system subject to freezing conditions, shall be maintained as a dry system.

## BC 3303.8 (3): Construction Standpipe

---

### **3303.8 Standpipe systems during construction, alteration or demolition.**

During construction, alteration or demolition operations, standpipe systems shall comply with the following:

3. When, during the course of the construction of a new building which will have a occupiable space at a depth of 75 feet (22 860 mm) or greater below the level of the ground in a building for which a standpipe system will be required, a permanent or temporary standpipe system meeting the requirements of Section 905 shall be installed and shall be kept in a state of readiness at all times for use by fire-fighting personnel. The standpipe system shall serve all stories below grade and shall be installed as soon as a temporary or permanent stair is installed below grade. No standpipe shall be considered to be in a state of readiness unless it is painted red in accordance with the provisions of Section 905.11 of this code. When freezing conditions may be encountered, the system in whole, or the part of the system subject to freezing conditions, shall be maintained as a dry system.

## BC 3303.8.1.4.13: Standpipe Pressure Gauges

---

**4.13 Pressure gauges.** A system of pressure gauges shall be installed at the compressor and at the most remote points of the system from the compressor.

# BC 3303.12.2: Elevator or Hoist In Readiness

---

**3303.12.2 Floors closed to the public.** All floors closed to the public in a new or existing building undergoing construction or demolition work shall be served by, at least, either:

An elevator meeting the requirements of Chapter 30, which shall be kept in readiness at all times for Fire Department use; or

A hoist meeting the requirements of Section 3318, which shall be available at all times for fire department use.

**Exceptions:** An elevator or hoist is not required during the course of construction or demolition for:

A building that does not require a permanent elevator.

Floors that are located within a vertical distance of seven stories or 75 feet (22 860 mm) or less from the working deck.

## BC 3303.12.3: Hoist – Deep Excavations

---

**3303.12.3 Deep excavations.** Where the proposed lowest level of a building with a footprint of 10,000 square feet (3048 m) or greater is constructed at a depth greater than 75 feet (22 860 mm), a hoist meeting the requirements of Section 3318 shall be available at all times for Fire Department use once such floor has been poured and set . The hoist shall serve the level at grade and all stories below grade.

**Exception:** Subject to the approval of the commissioner, alternate means available at all times for Fire Department use, including but not limited to a vehicular ramp, shall be provided.

## BC 3303.16: Contractor Shanties

---

**3303.16 Contractors sheds and offices.** Contractors sheds and offices located within 30 feet (9144 mm) of new construction, existing buildings, or another contractor shed or office shall be made of metal or other noncombustible material.

**Exception:** Contractor sheds and offices located within a building and protected from weather may use fire retardant treated wood, provided the shed does not exceed one story in height and 120 square feet (36.58 square meters) in area and is at least 30 feet (9144 mm) from another shed.

# Soil and Foundation Work

---



## BC 3302: Definitions: Excavation & Soil and Foundation Work

---

**EXCAVATION.** The removal of earth from its natural position; except for any incidental removal that occurs during the course of auguring, drilling, vibrating, or driving.

**SOIL AND FOUNDATION WORK.** Excavation, fill, grading, auguring, or drilling, whether in soil or rock; or the installation or removal of foundations, piles, underpinning, sheeting, shoring, or supports of excavation.

## BC 3304.2: SOE Design and Drawings

---

**3304.2 Support of excavation drawings.** The sides of all excavations, including related or resulting embankments, shall be supported as specified on drawings. Such drawings shall be site specific and shall clearly illustrate all related protection and support of the excavation, including but not limited to sloping, stepping, sheeting, shoring, bracing, guardrail systems, and fences as required by Section 3304.4, with all dimensions indicated. Such drawings shall also indicate any utilities or public infrastructure impacted by the excavation. The drawings shall be prepared by a registered design professional who has demonstrated knowledge or experience in the design of retaining structures or bracing systems for the support of excavation.

## BC 3309.4.1:

### Excavation Safeguards For Adjacent Property

#### **3309.4.1 Additional safeguards during excavation.**

The following additional requirements shall apply during excavation:

1. The person causing the excavation shall support the vertical and lateral load of the adjoining structure by proper foundations, underpinning, or other equivalent means where the level of the foundations of the adjoining structure is at or above the level of the bottom of the new excavation.

## BC 3309.6:

### Subsurface Operations – Precautions

---

**3309.6 Subsurface operations affecting adjacent properties.** Whenever subsurface operations, other than excavation or fill, are conducted that may impose loads or movements on adjoining property, including but not limited to the driving of piles, compaction of soils, or soil solidification, the effects of such operations on adjoining property and structures shall be monitored in accordance with Section 3309.16.

**Exception:** Monitoring during underpinning shall be in accordance with Section 1814.

## BC 3309.4.4: Excavation – Movement Monitoring

---

**3309.4.4 Monitoring.** During the course of excavation work the following shall be monitored in accordance with Section 3309.16:

1. Buildings that are within a distance from the edge of the excavation that is equal to or less than the maximum depth of the excavation.
2. Historic structures that are contiguous to or within a lateral distance of 90 feet (27 432 mm) from the edge of the lot where an excavation is occurring.

**Exception:** Monitoring is not required for excavations to a depth of five feet (1523 mm) or less, provided:

1. The excavation occurs more than 5 feet (1524 mm) from all footings and foundations;  
or
2. Where the excavation occurs within five feet (1524 mm) or less from a footing or foundation, such excavation does not occur below the level of the footing or foundation.

## BC 3309.16:

### Excavation – Movement Monitoring Design

---

**3309.16 Monitoring plan.** Where monitoring is required by Section 3309, such monitoring shall be in accordance with a monitoring plan developed by a registered design professional and acceptable to the commissioner. The monitoring plan shall be specific to the structures to be monitored and operations to be undertaken, and shall specify the scope and frequency of monitoring, acceptable tolerances, and reporting criteria for when tolerances are exceeded.

## BC 3304.10: Excavation Dewatering

---

**3304.10 Dewatering.** The person causing the soil or foundation work to be performed shall dewater the site, as needed, for the progress of the work. Measures shall be taken to prevent settlement, slope failure, and damage to adjacent buildings, structures, and property affected by dewatering operations.

## BC 3304.12: Excavation – Slurry Operations

---

**3304.12 Slurry.** Where slurry is utilized to support an excavation, trench, or drill or bore hole, slurry mix proportions and installation procedures shall be provided by a registered design professional on signed and sealed design and installation procedures. The installation procedures shall account for all imposed loads, including those from the earth, adjacent structures, and adjacent equipment. The use of slurry to support excavations shall be subject to special inspection in accordance with Section 1704.20. Where such construction methods are used to install foundation elements, the new foundation elements installed as part of such operations shall be subject to special inspection as a permanent installation in accordance with the applicable sections of this chapter, including but not limited to special inspection for concrete, and welding.

# Concrete Form Work

---



## BC 3305.3.2.1: Form Work – New Design Triggers

---

### **3305.3.2.1 Design drawings. (New Design Triggers Only)**

1. For concrete formwork is in a structure classified as a major building; or
6. Wherever the slab thicknesses or beam heights equal or exceed 10 inches; or
7. Wherever there are concentrated loads exceeding 2000 lbs. imposed on the formwork; or
8. Wherever there are loads imposed on existing structures in accordance with Section 3305.3.1.2.1.

## BC 3305.3.1.2.1: Concrete Load On Exist Structures

---

**3305.3.1.2.1 Use of existing structures to support vertical or lateral loads.** The use of existing structures to support vertical or lateral loads imposed by concrete construction operations shall require an evaluation of the existing structure for the loads imposed by a registered design professional. The registered design professional shall prepare design drawings documenting the findings of the evaluation, indicate the location of formwork elements, and the interface between the formwork and the existing structure.

## BC 3305.3.4.5: Perimeter Form Work

---

**3305.3.4.5 Perimeter formwork.** Horizontal formwork deck panels and beam formwork located within 16 feet (4877 mm) from the building perimeter shall be positively attached to all formwork support systems at a minimum.

## BC 3305.3.3.2: Form Work Observation

---

**3305.3.3.2 Formwork observation.** In addition to the inspections by the contractor required pursuant to Section 3305.3.3.1, visual observations of the formwork for the general conformance with the design intent shall be performed .....

## BC 3305.3.6.8: Concrete Formwork Reshoring

---

**3305.3.6.8 Reshoring Schedule.** A signed and sealed reshoring schedule shall be provided and maintained at the construction site whenever reshoring is employed.

**Exception:** A separate reshoring schedule is not required when the required reshoring information is covered on the approved construction documents prepared by the applicant of record

# Demolition Operations

---



## BC 3306.2.1: Demolition Safety Zone

---

**3306.2.1 Safety zone.** A safety zone shall be provided around all demolition areas to prevent persons other than workers from entering such zone. Where demolition occurs on the exterior of a building, such zone shall be approved by the commissioner prior to the commencement of demolition. Where mechanical demolition equipment, other than handheld devices, is to be used for the full demolition of a building, the safety zone shall be equal to or greater than half the height of the building to be demolished; such safety zone may be reduced by the same ratio as the building is being demolished.

**Exception:** Approval of the commissioner is not required for a safety zone established for demolition on the exterior of a building, provided the work is a minor alteration or ordinary repair and is accomplished without any mechanical demolition equipment, other than handheld devices.

# BC 3306.5: Demolition Submission Documents

---

**3306.5 Submittal documents for demolition.** Full and partial demolition operations shall be conducted in accordance with submittal documents. Such submittal documents shall comply with Sections 3306.5.1 through 3306.5.3. ....

## BC 3306.10:

### Demolition – Removal of Foundation and Backfill

---

**3306.10 Removal of foundations and slabs.** Where a building, or any portion, has been demolished to grade, the floor slab or foundation of such building, or portion, shall be removed and the site backfilled to grade.

#### Exceptions:

1. Cellar floors may remain provided the cellar floor slab is broken up to the extent necessary to provide ground drainage and prevent accumulation of water, and also provided that all fixtures or equipment that would cause voids in the fill are removed.
2. Where portions, other than a cellar floor, are to remain and covered with backfill, a waiver approved by the commissioner shall be obtained. Drawings prepared by a registered design professional depicting the remaining buried structure shall be submitted with the waiver request.
3. Where a floor slab or foundation is to remain and not be backfilled, a waiver approved by the commissioner shall be obtained. Such request for waiver shall be accompanied by a statement and drawings prepared by a registered design professional demonstrating the necessity for retaining the existing floor slab or foundation for future construction or site remediation, as well as demonstrating positive cellar drainage to an approved place of disposal.

# Sidewalk Sheds and Temporary Walkways



## BC 3307.2.3:

### Temporary Public Walkways Within Constuction Site

---

**3307.2.3 Temporary public walkway within the site.** Where authorized by the commissioner, a temporary walkway open to the public may be provided through a site that is otherwise fenced and closed to the public. Such temporary walkway shall be:

Protected by a sidewalk shed, or where acceptable to the commissioner, provided with overhead protection and lighting equivalent to that afforded by a sidewalk shed;

Enclosed along the side facing the site with a solid fence that meets the requirements of Section 3307.7. Where the sidewalk shed or equivalent overhead protection extends beyond the height of the fence, the gap shall be enclosed with a wire screen comprised of not less than number 18 gage wire mesh, or equivalent synthetic netting, with openings in the wire or synthetic mesh no larger than ½ inch (13 mm); and

Enclosed along the side facing the street with a wire screen comprised of not less than number 18 gage wire mesh, or equivalent synthetic netting, with openings in the wire or synthetic mesh no larger than ½ inch (13 mm), or where a special hazard exists, protected in accordance with Section 3307.4.7.

## BC 3307.4.7: Storage Zones Adjacent to SWS

---

**3307.4.7 Work or storage zones.** Where work or storage related to the construction or demolition of a building or structure is occurring adjacent to a sidewalk shed or equivalent overhead protection, and such area is not closed with a fence in accordance with Section 3307.7 or a permanent facade, a solid barrier extending at least 4 feet (1219 mm) in height from the level of the ground shall be provided. The space between the top of the barrier and the deck of the overhead protection shall be enclosed with a wire screen comprised of not less than number 18 gage wire mesh, or equivalent synthetic netting, with openings in the wire or synthetic mesh no larger than ½ inch (13 mm).

**Exception:** In the area where a material hoist, personnel hoist, hoistway, or chute is located, the solid barrier shall extend from level of the ground to the deck of the overhead protection.

## BC 3307.6.2: Sidewalk Sheds – When Required

---

**3307.6.2 Where required.** A sidewalk shed shall be installed and maintained to protect all sidewalks, walkways, and pathways within the property line of a site, and all public sidewalks that abut the property ....

## BC 3307.6.3: Sidewalk Shed Decking

---

**3307.6.3 Area to be protected.** The decking of the sidewalk shed shall extend the full length of the area that falls within the zone specified in Section 3307.6.2, plus an additional 5 feet (1524 mm) beyond such length, or to within 18 inches (457 mm) of curb line, whichever is less. The decking of the sidewalk shed shall also extend the full width of the sidewalk, walkway, or pathway that remains open to the public, except for a clearance to avoid existing obstructions, not to exceed 18 inches (457 mm) along the curb and not to exceed 1 inch (25 mm) along the face of the building or structure.

## BC 3307.6.4.2.2: Sidewalk Shed Storage

---

**3307.6.4.2.2 Storage.** Storage on sidewalk sheds shall be as follows:

No item shall be stored or placed upon a sidewalk shed designed as a light duty sidewalk shed under Section 3307.6.4.2.

No material shall be stored or placed upon a sidewalk shed designed as a heavy duty sidewalk shed under Section 3307.6.4.2 unless the shed is designed for such storage, with such areas of storage or placement clearly designated on the drawings. Where an item is to be stored or placed upon a heavy duty sidewalk shed, and such storage or placement is not in excess of 150 pounds per square foot (732.3 kg/m<sup>2</sup>) on any square foot area of the sidewalk shed, the design live load of 300 pounds per square foot (1464.6 kg/m<sup>2</sup>) need not be increased. Where an item is to be stored or placed upon a heavy duty sidewalk shed, and such storage or placement is in excess of 150 pounds per square foot (732.3 kg/m<sup>2</sup>) on any square foot area of the sidewalk shed, such shed shall be designed to carry:

2.1 The live load of 300 pounds per square foot (1464.6 kg/m<sup>2</sup>) required of a heavy duty sidewalk shed; and

2.2 The load of the item to be placed or stored upon the shed, minus 150 pounds per square foot (732.3 kg/m<sup>2</sup>).

## BC 3307.6.5.2 and 6.5.3: Sidewalk Shed – Installation and Maintenance

---

**3307.6.5.2 Supervision of installation, adjustment, repair, and removal.** The installation, adjustment, repair, or removal of a sidewalk shed shall be performed under the supervision of a competent person designated by the permit holder for the sidewalk shed.

**3307.6.5.3 Responsibility for maintenance and use.** Sidewalk sheds shall be maintained and used by the general contractor, or where there is no general contractor, the contractor causing the work to be performed, or where there is no active work, the building owner.

## BC 3307.6.5.10: Sidewalk Sheds – Daily Inspections

---

**3307.6.5.10 Daily inspection.** Sidewalk sheds shall be visually inspected daily by a person designated by the general contractor, or where there is no general contractor, the contractor causing the work to be performed, or where there is no active work, by the building owner to verify:

The lights are functioning;

No brace or rail is hanging unattached at one or more ends;

No portions of the support structure are disconnected;

No section of parapet is missing; and

All legs remain on their support and are supported to the ground.

**Exception:** The inspections for a scaffold suspended or supported above a sidewalk shed shall be in accordance with Section 3314.

## BC 3307.6.5.7 and 6.5.8: Periodic Sidewalk Shed Inspection

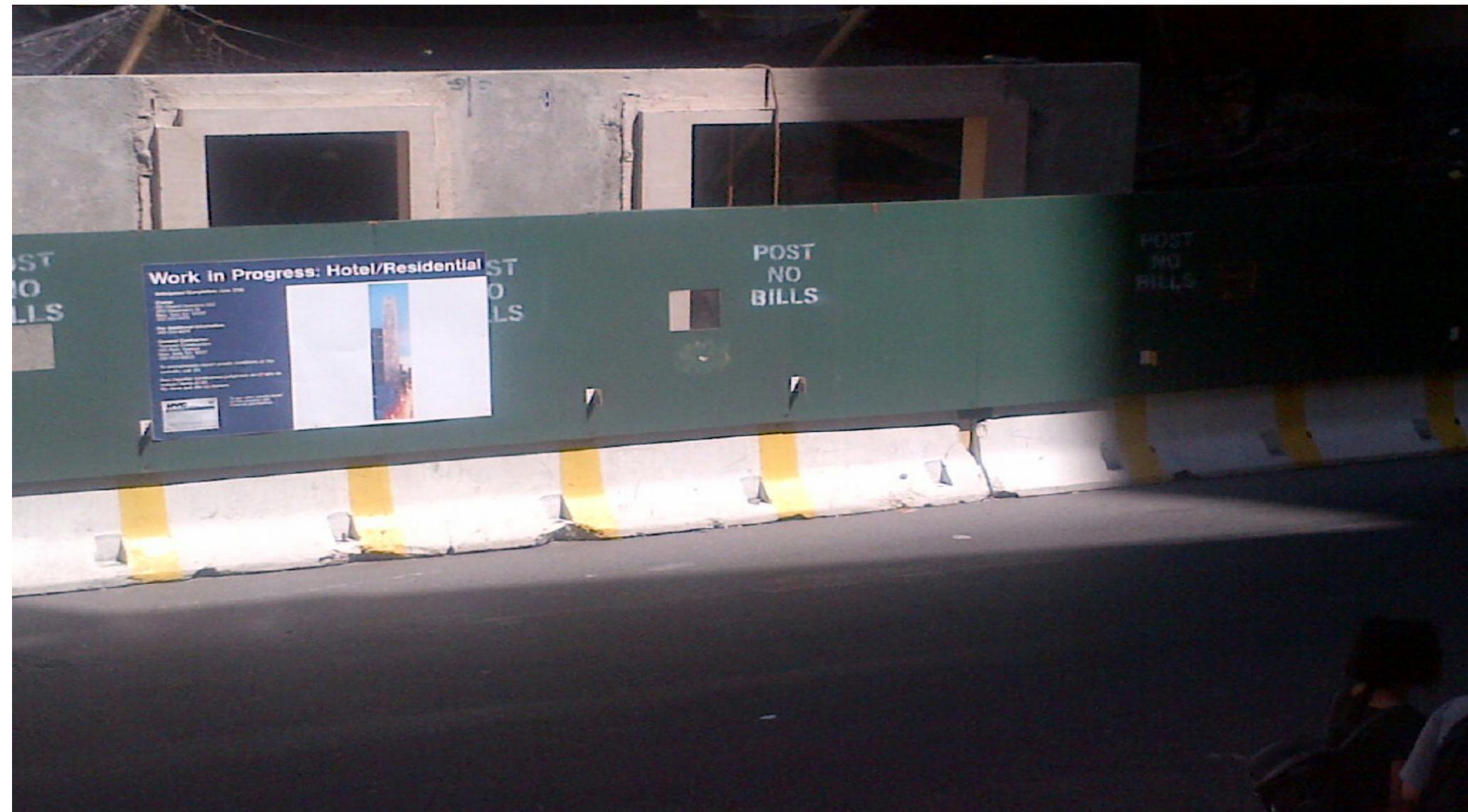
---

**3307.6.5.7 Installation inspection.** Upon completion of the installation of a sidewalk shed, the shed shall be inspected by a qualified person designated by the designer, the permit holder for the shed, or a third party acceptable to both the designer and the permit holder to verify that the sidewalk shed is in a safe condition and has been installed in accordance with drawings and the requirements of this chapter. Following the inspection, the qualified person who inspected the sidewalk shed shall prepare, sign, and date an installation inspection report. A new installation inspection report shall be prepared each time the sidewalk shed is reinstalled at the site.

**3307.6.5.8 Periodic inspection.** Six months following the initial installation inspection, and every six months thereafter, the sidewalk shed shall be inspected by a qualified person designated by the designer, the permit holder for the shed, or a third party acceptable to both the designer and the permit holder to verify that the sidewalk shed is in a safe condition and is in compliance with drawings and the requirements of this chapter. Following the inspection, the qualified person who inspected the sidewalk shed shall prepare, sign, and date an inspection report.

# Construction Fences

---



# BC 3307.7: Construction Fences

---

**3307.7 Fences.** All sites where a new building is being constructed, or a building is being demolished to grade, shall be enclosed with a fence. Fences shall also be installed to fully or partially enclose sites, as necessary, where there exists an open excavation, an unenclosed portion of a building accessible at grade, or other hazard to the public. Such fences shall be at least 8 feet (2438 mm) high, built solid for their entire length out of wood or other suitable material, and shall be returned at the ends to the extent necessary to effectively close off the site.

**Exceptions:** The commissioner may approve the use of a chain link fence to:

1. Secure a site where work has been interrupted or abandoned and discontinued, and a registered design professional has certified that all construction or demolition equipment and material that pose a hazard to the safety of the public and property have been removed from the site or safely secured. Prior to the resumption of work, the chain link fence shall be replaced by a solid fence meeting the requirements of this section.
2. Secure portions of a site where a one- two- or three-family building, or a commercial building 40 feet (12 192 mm) or less in height, is being constructed or demolished and such building is setback at least 15 feet (4572 mm) from sidewalks or spaces accessible to the public and 5 feet (1524 mm) from adjoining buildings or structures.

## BC 3307.7.5: Construction Fence Design

---

**3307.7.5 Design of fences.** Fence installations shall be designed by a registered design professional. The effect of wind on the fence shall be considered in the design in accordance with Chapter 16.

### Exceptions:

1. Fences installed in connection with the construction or demolition of a one- two- or three-family building.
2. Fences that conform to a standard design approved by the commissioner provided the fence is installed at the site in accordance with the standard design.

# Safety Netting and Guardrails

---



# BC 3302.1:

## Key Definitions – Walkable Floor and Working Deck

---

**WALKABLE FLOOR (CONCRETE CONSTRUCTION).** A floor where the concrete slab has been poured and the formwork stripped.

**WALKABLE FLOOR (PRECAST CONCRETE CONSTRUCTION).** A floor where the frame is erected and the precast concrete floor is fixed in place.

**WALKABLE FLOOR (STEEL CONSTRUCTION).** A floor where the frame is erected and the deck is tack welded or fixed in place.

**WORKING DECK (CONCRETE CONSTRUCTION).** The level where the floor is being formed.

**WORKING DECK (DEMOLITION).** The level where the floor is being broken up.

**WORKING DECK (PRECAST CONCRETE CONSTRUCTION).** The level where the floor is being placed.

**WORKING DECK (STEEL CONSTRUCTION).** The floor where the metal decking and steel components are being placed before concrete is poured.

## BC 3308.1 and .2: Safety Netting

---

**3308.1 Scope.** Safety netting systems and guardrail systems shall be provided as required by this section to protect unenclosed perimeters. Except where this section authorizes the temporary removal of unenclosed perimeter protection, no work shall occur, nor shall materials be stored on any level where required unenclosed perimeter protection is not installed.

**3308.2 Permit.** A permit is not required for the installation of safety netting systems and guardrail systems that are in accordance with this section. A permit is required for alternative methods granted under Section 3308.8, including but not limited to cocoon systems, climbing formwork, and enclosure panels.

## BC 3302: Definitions – Unenclosed Perimeter

---

**UNENCLOSED PERIMETER.** Any exterior portion of a building that is not solidly enclosed with the permanent façade, including the windows; or any exterior edge of a roof that is not enclosed with its permanent parapet or guardrail.

## BC 3308.5.6:

### Vertical Safety Netting – Temporary Removal

---

**3308.5.6 Temporary removal.** Vertical safety netting may be temporarily removed in the immediate area where active loading or unloading operations are occurring, or where perimeter work is occurring, provided that:

1. A controlled access zone is established to prevent unauthorized personnel from entering the area where the nets are removed; and
2. Immediately prior to the removal of the nets the floor is broom swept and cleared of all material, equipment, and debris to a distance of at least 10 feet (3048 mm), in all directions, from the area where the vertical nets will be removed.

**Exceptions:** The following material does not have to be removed to a distance of at least 10 feet (3048 mm), in all directions:

1. Material and equipment related to the loading or unloading operation or perimeter work.
2. Stored materials in accordance with Section 3303.4.5.2.

## BC 3308.6.1.1: Horizontal Netting

---

**3308.6.1.1 During construction.** When, during the course of new building construction, or during the vertical or horizontal enlargement of an existing building, the uppermost walkable floor reaches a height of six stories or 75 feet (22 860 mm) above the level of the ground or an adjoining roof, horizontal safety netting shall be provided at a level not more than two stories or 30 feet (9144 mm) below:

1. In concrete structures: the stripping floor; or
2. In steel structures: at the uppermost story where the concrete floor slab has been poured.

**Exception:** When tarpaulins encase one or more floors immediately below the finished concrete floor in order to maintain temporary heat, the horizontal netting may be located no more than three floors below the finished concrete floor.

## BC 3308.6.1.3:

### Horizontal Netting – Façade Work

---

**3308.6.1.3 During façade construction, alteration, maintenance, or repair.** Where unique hazards associated with the construction, alteration, maintenance, or repair of a façade exist to the public and property, horizontal safety netting shall be provided as required by the commissioner.

## BC 3308.7: Guardrails at Perimeter

---

**3308.7 Guardrail system.** A guardrail system shall be installed and maintained to protect all unenclosed perimeters.

**Exceptions:** A guardrail system is not required at:

1. The story at grade.
2. Levels where vertical safety netting is installed in accordance with Section 3308.5.
3. Levels where a supported scaffold covers the full width of the unenclosed perimeter, provided the scaffold is decked and flush against the building at such level where the unenclosed perimeter exists, with no gap between the scaffold and the building greater than 3 inches (76 mm), and also provided that the scaffold is provided with netting and guardrails in accordance with Section 3314.8.

## BC 3308.7.2: Guardrail Specifications

---

**3308.7.2 Height of railings and toeboard.** Toprails, midrails, and toeboards shall be located as follows:

1. The top of the toprail shall be located at a height of 39 to 45 inches (991 and 1143 mm) above the floor.
2. The midrail shall be located at a height approximately midway between the toprail and the floor, or where more than one midrail is utilized, each shall be located equidistant from each other, the floor, and the toprail.
2. The toeboard shall be at least 3 ½ inches (89 mm) high and shall be installed so that there is not more than a ¼ inch (6 mm) gap between the floor and the bottom of the toeboard.

**Exception:** When conditions warrant, the height of the toprail may exceed the 45-inch (1143 mm) height provided additional midrails are installed so that there is no vertical gap larger than 24 inches (610 mm) between any toeboard, midrail, or toprail.

# BC 3308.7.3: Guardrail Specs: Material and Dimensions

---

**3308.7.3 Dimensions and materials.** Toprails, midrails, toeboards, and posts shall have the following dimensions and be constructed out of the following materials:

.....

## Exceptions:

1. Guardrail systems designed by a registered design professional capable of withstanding, without failure:

1.1 A force of at least 200 pounds (890 n) applied within 2 inches (51 mm) of the top edge, in any outward or downward direction, at any point along the top edge. Where the force is applied in a downward direction, the top edge shall not deflect more than 6 inches (152 mm) and in no case to a height less than 39 inches (991 mm) above the floor; and

1.2 A load of at least 50 pounds (222 n) applied in any downward or horizontal direction at any point along the toeboard.

# BC 3308.8 and .8.1: Alternate Safety Systems

---

**3308.8 Modifications and alternative systems.** The commissioner may, based upon a written request from a registered design professional, modify the requirements for safety netting systems and guardrail systems required by this section, including but not limited to the installation of alternative systems, provided such modification or alternative system meets or exceeds the level of safety afforded to the public and property by safety netting systems and guardrail systems installed in accordance with this section.

**3308.8.1 Request content.** A request submitted under Section 3308.8 shall include .....

## BC 3309.1.1:

### Notification to Adjoining Property Owner

---

**3309.1.1 Notification.** Where a construction or demolition project will require access to adjoining property in accordance with this section, written notification shall be provided to the adjoining property owner at least 60 calendar days prior to the commencement of work. Such notification shall describe the nature of work, estimated schedule and duration, details of inspections or monitoring to be performed on the adjoining property, protection to be installed on the adjoining property, and contact information for the project. Where no response is received, a second written notification shall be made no more than 45 calendar days, and not less than 30 calendar days, prior to the commencement of work.

## BC 3309.10: Roof Protection

---

**3309.10 Protection of roofs.** Whenever any building is to be constructed or demolished above the roof of an adjoining building, it shall be the duty of the person causing such work to protect from damage at all times during the course of such work and at his or her own expense the roof, skylights, other roof outlets, and equipment located on the roof of the adjoining building , and to use every reasonable means to avoid interference with the use of the adjoining building during the course of such work, provided such person causing such work is afforded a license in accordance with the requirements of Section 3309.2 to enter and inspect the adjoining building and perform such work thereon as may be necessary for such purpose; otherwise, the duty of protecting the roof, skylights, other roof outlets, and equipment on the roof of the adjoining building shall devolve upon the owner of such adjoining building.

Adjoining roof protection shall be secured to prevent dislodgement by wind. Where construction or demolition work occurs at a height of at least 48 inches (1219 mm) above the level of the adjoining roof, adjoining roof protection shall consist of 2 inches (51 mm) of flame-retardant foam under 2 inches (51 mm) of flame-retardant wood plank laid tight and covered by flame-retardant plywood, or shall consist of equivalent protection acceptable to the commissioner, and shall extend to a distance of at least 20 feet (508 mm) from the edge of the building being constructed or demolished.

## BC 3309.13:

### Overhead Protection – Adjacent Spaces and Equipment

---

**3309.13 Protection of adjoining equipment and spaces.** Whenever a major building is constructed or demolished, and provided such work requires a site safety plan in accordance with Section 3310, it shall be the duty of the person causing such work to protect from damage, at all times during the course of such work and at his or her own expense, all mechanical, electrical, and similar equipment on the adjoining property that are within 20 feet (508 mm) from an unenclosed perimeter of the major building, and to protect all publically accessible spaces on the adjoining property that are within 20 feet (508 mm) from an unenclosed perimeter of the major building, and also to use every reasonable means to avoid interference with the use of such equipment and spaces during the course of such construction or demolition work, provided such person causing such work is afforded a license in accordance with the requirements of Section 3309.2 to enter and inspect the adjoining property and perform such work thereon as may be necessary for such purpose; otherwise, the duty of protecting such adjoining equipment and spaces shall devolve upon the owner of such adjoining property.

**Exception:** Equipment on an adjoining roof shall be protected in accordance with Section 3309.10.

# BC 3309.14: Protection of Adjacent Windows

---

**3309.14 Protection of windows.** Whenever exterior construction or demolition work occurs, and such work results in an unenclosed perimeter, it shall be the duty of the person causing such work to protect from damage, at all times during the course of such work and at his or her own expense, all windows on adjoining private property that face such work and are 20 feet (508 mm) or less from an unenclosed perimeter, provided such person causing such work is afforded a license in accordance with the requirements of Section 3309.2 to enter and inspect the adjoining property and perform such work thereon as may be necessary for such purpose; otherwise, the duty of protecting the adjoining windows shall devolve upon the owner of such adjoining building.

Where the window provides required means of lighting, ventilation, or egress, such protection shall not be allowed to interfere with such required means.

**Exceptions:** Window protection is not required for:

- 1.Minor alterations and ordinary repairs.
- 2.Work performed on a 1-, 2- or 3-family detached house or accessory use to such.
- 3.Where all unenclosed perimeters are protected by vertical netting that meets the requirements of Section 3308.5, or an approved alternate system, that extends to cover the full height and width of the unenclosed perimeter; or a supported scaffold covers the full width of the unenclosed perimeter, provided the scaffold is decked and flush against the building at such level where the unenclosed perimeter exists, with no gap between the scaffold and the building greater than 3 inches (76 mm), and also provided that the scaffold is provided with netting and guardrails in accordance with Section 3314

# Major Buildings

---



## BC 3302.1: Key Definitions – Major Building

---

**MAJOR BUILDING.** An existing or proposed building 10 or more stories or 125 feet (38 100 mm) or more in height, or an existing or proposed building with a building footprint of 100,000 square feet (30 480 m<sup>2</sup>) or more regardless of height, or an existing or proposed building so designated by the commissioner due to unique hazards associated with the construction or demolition of the structure.

## BC 3310.3 and 3310.4: Site Safety Programs

---

**3310.3 Site safety plan.** No permit shall be issued for the type of work listed in Section 3310.1 until a site safety plan that meets the requirements of Article 110 of Chapter 1 of Title 28 of the *Administrative Code* has been approved by the department.

**3310.4 Site safety monitoring program.** For a project that requires a site safety plan, the general contractor shall enact and maintain a site safety monitoring program to implement such site safety plan. The site safety monitoring program shall, at a minimum, comply with Sections 3310.5 through 3310.10.

**Exception:** Subject to the approval of the commissioner, a site safety monitoring program may be waived, reduced, or modified in accordance with Section 3310.11.

## BC 3310.5.1: Site Safety Manager (SSM-SSC) Designation and Notification of Withdrawal

---

**3310.5.1 Notification to the department of the primary manager or coordinator.** The department shall be notified of the primary site safety manager or coordinator prior to the commencement of work. In the event that an alternate site safety manager or coordinator will be acting as the primary site safety manager or coordinator for a period longer than two consecutive weeks, the department must be so notified. Any permanent change of the primary site safety manager or coordinator requires immediate notification to the department.

## BC 3310.8.2.1: SSM-SSC Notification Requirements

---

### **3310.8.2.1 Notification of conditions to the department.**

The site safety manager or coordinator shall immediately notify the department directly if he or she discovers any of the following conditions in the routine performance of the job:

## BC 3310.8.3: SSM-SSC Inspection Duties

---

**3310.8.3 Inspections.** It shall be the responsibility of the site safety manager or coordinator to inspect personally, on a regular basis throughout the day while active work is occurring, the site to ensure compliance with the requirements of this chapter. At a minimum, inspections shall consist of those prescribed in rules promulgated by the commissioner, with such inspections performed personally by an individual certified by Chapter 4 of Title 28 of the *Administrative Code* as a site safety manager or coordinator.

## BC 3310.8.4: Site Safety Log

---

**3310.8.4 Site safety log.** A site safety log shall be maintained and kept at the site. The log, or where there is more than one log, the logs in total, shall, at a minimum, contain the following information .....

# Scaffolding: Suspended and Supported

---



## BC 3314.4.4.6: Scaffolds – Wind Restrictions

---

**3314.4.4.6 Winds.** Where sustained winds or wind gusts at the site exceed 30 miles per hour, the use and operation of scaffolds located on the roof of a building, exterior to a building or structure, on a working deck, or in an area with an unenclosed perimeter shall cease. If the manufacturer or designer of the scaffold recommends work to cease at a lower wind speed, such recommendation shall instead apply. Wind speed shall be determined based on data from the nearest United States weather bureau reporting station, or an anemometer located at the site, freely exposed to the wind, and calibrated in accordance with ASTM D5096-02.

# BC 3314.2:

## Suspended Scaffolds – Permit Exceptions

---

### Exceptions:

1. A permit is not required for a two-point suspended scaffold suspended from a parapet using C-hooks.
  
2. A permit is not required for a suspended scaffold provided:
  - 2.1. The scaffold is installed and used in conjunction with a construction, alteration, or demolition project that holds a valid permit from the department for such project;
  
  - 2.2. The site is closed to the public and enclosed with a fence in accordance with Section 3307; and
  
  - 2.3. The installation, use, and removal of the scaffold is confined within the site or over an area protected by sidewalk sheds or roof protection.

# BC 3314.3:

## Suspended Scaffolds – Design Exceptions

---

**3314.3.2 Suspended scaffolds.** Suspended scaffolds shall be **designed** by a registered design professional.

### Exceptions:

1. Design is not required for a single tier non-adjustable suspended scaffold whose platform is 40 square feet (12 192mm) or less in size.
2. In lieu of a registered design professional, a two-point, single tier, suspended scaffold may be designed by a licensed rigger provided:
  - 2.1. The scaffold or scaffold outrigger beam or suspension member support structure is not anchored to the building or structure, other than tiebacks; and
  - 2.2. The scaffold will not be loaded, or designed to be loaded, in excess of 75 pounds per square foot (366.15 kg/m<sup>2</sup>); and either
    - 2.2.1. The scaffold utilizes c-hooks; or
    - 2.2.2. The distance from floor or roof on which the support structure is located to the top of the outrigger beam or suspension member support structure is less than 15 feet.
3. In lieu of a registered design professional or a licensed rigger, a two-point, single tier, suspended scaffold meeting the requirements of Item 2 of these exceptions that is used exclusively for sign hanging work may be designed by a licensed sign hanger.

# BC 3314.4:

## Suspended Scaffolds – Installation and Use

---

### Supervision of the Installation of Suspended Scaffolds:

1. A licensed sign hanger/designated sign hanging foreman may supervise the installation of a suspended scaffold utilized exclusively for sign hanging.
  
2. A licensed rigger/designated rigging foreman or a competent person designated by the contractor may supervise the installation of a suspended scaffold utilized for either:
  - 2.1 New building construction
  - 2.2 Full demolition
  - 2.3 A vertical or horizontal enlargement; or
  - 2.4 Façade work on a major building with a site safety plan
  
3. For all other work, the installation of a suspended scaffold must be supervised by a licensed rigger/designated rigging foreman.

# BC 3314.4: Suspended Scaffolds – Installation Inspection

---

## Suspended Scaffold Installation Inspection

1. The suspended scaffold, along with support devices (such as c-hooks and outrigger beams), and the support surface (such as the roof or parapet) must be inspected prior to installation, and at the completion of installation by the:

- 1.1 Licensed rigger/sign hanger/designated foreman supervising the installation; or
- 1.2 A qualified person designated by the scaffold designer (if the installation is supervised by a competent person); such qualified person must be a registered design professional or an employee of the registered design professional.

2. Following installation, the inspector must issue a sign-off letter.

**Note:** Inspections are not required for a non-adjustable suspended scaffold that does not require design (“floats”).

# BC 3314.4: Suspended Scaffolds – Pre-Shift Inspection

---

## Suspended Scaffold Pre-shift Inspection

1. A pre-shift suspended scaffold inspection checklist must be developed by the licensed rigger/sign hanger who installed the scaffold, or by the scaffold designer.
2. The checklist must be kept on site.
3. Suspended scaffolds must be inspected in accordance with the checklist prior to the start of each shift by the individual supervising the use of the suspended scaffold.

**Note:** Inspections are not required for a non-adjustable suspended scaffold that does not require design (“floats”).

## BC 3314.4.1.5: Suspended Scaffold – Notification

---

**3314.4.1.5 Notification of adjustable suspended scaffold installation and removal.** Prior to the initial installation of the adjustable suspended scaffold at a site, and prior to the final removal of the adjustable suspended scaffold at a site, the department shall be notified at least 24 hours, but not more than 48 hours, prior to such installation or removal.

## BC 3314.2:

### Supported Scaffolds – Permit Exceptions

---

4. A permit is not required for a supported scaffold, provided:

4.1. The scaffold is not an outrigger scaffold (thrust out);

4.2. No hoisting equipment with a manufacturer's rated capacity greater than 2,000 pounds (907kg) will be located on the scaffold;

4.3. The scaffold will not be loaded, or designed to be loaded, in excess of 75 pounds per square foot (366.15 kg/m<sup>2</sup>); and

4.4. The scaffold is less than 40 feet (12 192mm) in height.

## BC 3314.3: Supported Scaffolds – Design Exceptions

---

**Exception:** Design is not required for a **supported scaffold**, provided:

1. The scaffold is not an outrigger scaffold (thrust out);
2. No hoisting equipment with a manufacturer's rated capacity greater than 2,000 pounds (907kg) will be located on the scaffold;
3. The scaffold will not be loaded, or designed to be loaded, in excess of 75 pounds per square foot (366.15 kg/m<sup>2</sup>);
4. The scaffold is less than 40 feet (12 192mm) in height;
5. Side-arm or end-arm scaffold brackets are used exclusively for the support of workers; and
6. The scaffold is a light duty scaffold, a medium duty scaffold, or a heavy duty scaffold.

## BC 3314.4.1.2: Supported Scaffold – Installation

---

**3314.4.1.2 Supervision of supported scaffold installation and removal.** The installation and removal of a supported scaffold shall be supervised by a competent person designated by the contractor installing or removing the scaffold.

## BC 3314.4.2.2: Supported Scaffold Use

---

**3314.4.2.2 Supervision of supported scaffold use.** The use of a supported scaffold shall be supervised by a competent person designated by the scaffold controlling entity.

**Scaffold Controlling Entity:** The contractor or other entity that exercises responsibility for the site where scaffold is located.

# BC 3316.9.1: Rigging Supervision

---

## Supervision of Rigging:

1. A licensed sign hanger/designated sign hanging foreman may supervise the hoisting or lowering of a sign.
2. A licensed rigger/designated rigging foreman or a competent person designated by the contractor may supervise the hoisting or lowering of articles during the course of:
  - 2.1 New building construction
  - 2.2 Full demolition
  - 2.3 A vertical or horizontal enlargement; or
  - 2.4 Façade work on a major building with a site safety plan
3. However, boilers and tanks, tower crane assembly/jumping/disassembly, and industrial rope access must always be supervised by a licensed rigger/designated rigging foreman.
4. For all other work, the hoisting/lowering must be supervised by a licensed rigger/designated rigging foreman.

# BC 3316.9.1: Critical Picks

---

## Critical Picks shall either be:

1. Personally supervised by a licensed rigger (or a licensed sign hanger for sign hanging work), with the crew employed by the licensee; or
2. Performed in accordance with a plan developed by a licensed master rigger or a New York State licensed professional engineer who has relevant experience with cranes, hoisting machines, and rigging. Prior to the pick, the master rigger, professional engineer, or a registered design professional employed by the engineer must visit the site to verify compliance with the plan.



**Thank You**

**Pfizer Auditorium**

**NYU Polytechnic School of Engineering**

**2014 Construction Codes**  
**Chapter 33 Key Revisions**

**NYC**  
Buildings