



**Thornton  
Tomasetti**

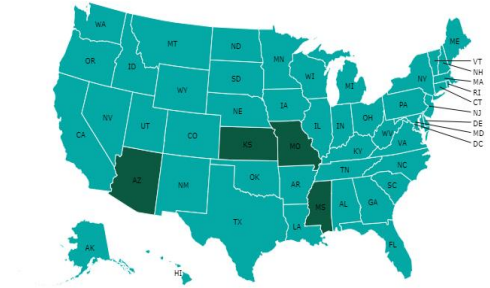
# A PERSPECTIVE ON PROBLEMS RELATING TO THE PROPERTY NEXT DOOR

APRIL 26, 2023

# Bureaus of the NYC Dep't. of Buildings

- **Development. Pre-permit. Planning side.**
- **Compliance. Post permit. Construction.**
- **Enforcement. Post permit. Construction.**

# Structure of NYC Building Code



## ■ 2022 NYC Building Code: 36 chapters

- 34 chapters focus on Development / Planning chapters / pre-permit
- 2 chapters focus on Post Permit / Construction / Enforcement
  - Ch 17 for Compliance Inspections.
    - Inspectors only confirm what's constructed is what's on the permitted drawings
  - Ch 33 for Construction Safety and Demolition Operations

# Protection of Adjacent Property Owners

- **Notice of Demolition/Construction**
- **Preconstruction Survey**
- **Access License Agreements**
  - Timing
  - Insurance
  - Indemnity
  - Nature of work
  - Entry on and into adjacent property
  - Protection of building and building equipment
- **Underpinning**
- **Monitoring**

# Typical list of items covered by a license agreement

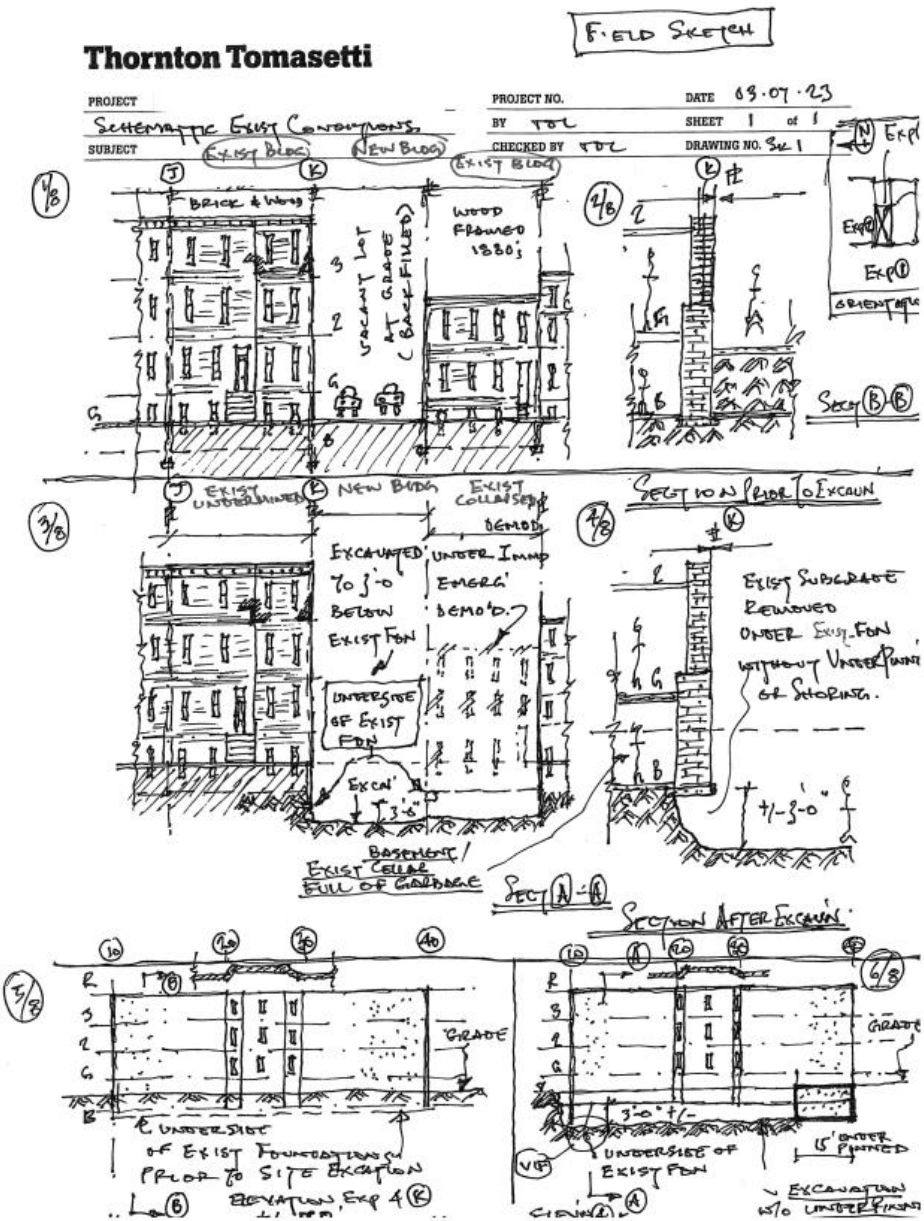
- 1. Preconstruction survey (**Ch 1817, 3309**)
- 2. Monitoring equipment (**Ch 3309**)
- 3. Work plans (**Ch 3306**)
- 4. Temporary protection (**Ch 3309**)
- 5. Controlled access zones (**BC 3309**)
- 6. Sidewalk sheds (**BC 3307**)
- 7. Lot line window closure (**BC 3309**)
- 8. Weather protection and flashing (**BC 3306**)
- 9. Air space over roof (**Zoning Resolution ZLDA**)
- 10. Insurance (**A/C 28-105.12.7**)
- 11. Repair of damage (**BC 3305**)
- 12. Underpinning – permanent easement (**BC 3309**)
- 13. SOE (**BC 3309, BC1817**)
- 14. Vibration thresholds (**BC 1817**)
- 15. Chimney work (**BC 3306**)
- 16. Roof protection (**BC 3309**)
- 17. DOB stop work orders (**BC 3302**)
- 18. Fees and escrow (**AC 28-112**)
- 19. Quality of life: dust, noise, hours (**BC 3306**)
- 20. Zoning Lots (**A/C 28-105.12.3**)

# Case Study – What can go wrong

- Case study of real situation: no agreement w/ neighbors
- Ongoing right now
  - Six-story new building on vacant lot – permitted by DOB.
  - Two INDEPENDENT occupied tenements on LOT LINE.
  - DOB accepted the drawings and permitted the NB with UNDERPINNING of the two adjacent INDEPENDENT buildings without the consent of the neighbors.
  - No license agreement, no access agreement, no insurance, no engineering supervision.
  - GC mass excavated the site. Building collapsed.

Violations issued to the construction site:  
 3301.2 Safety measures and safeguards.  
 SWO's, Fines, DOB orders and audits

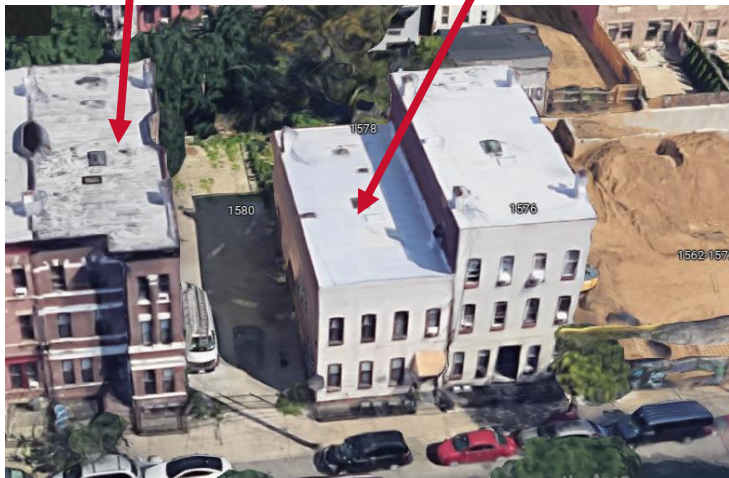
A/C Orders ALSO issued to the owner of adjacent building. A/C 28-301.1 Failure to Maintain. Vacates. Requirements to shore. Monitor...





Foundations  
Undermined

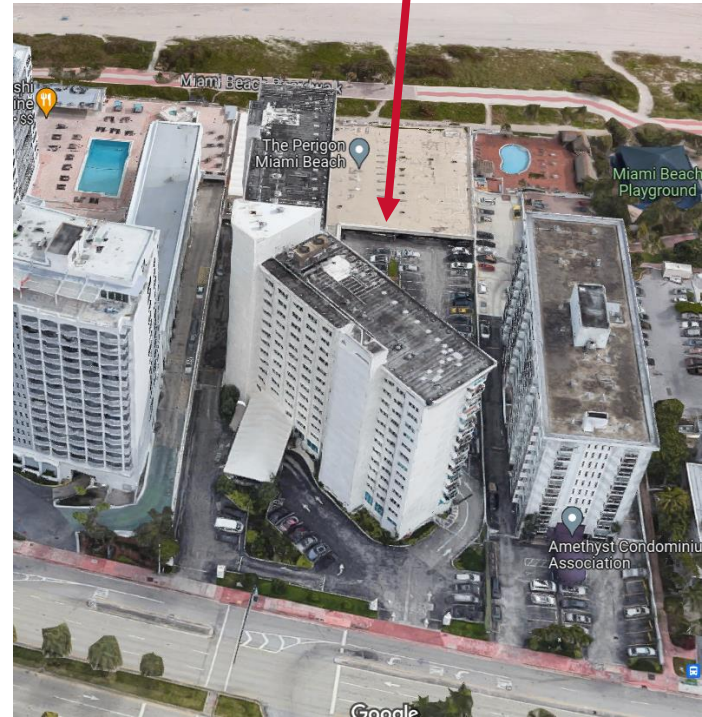
Collapsed



Brooklyn. Six-story new building  
March 2023

Thornton Tomasetti

To be demolished – no building  
department requirements



Miami demolition. No DOB requirements

# Ch 33 Subject Matter

*Ch 33: construction safety : public / worker safety => POST permit  
however*

*Ch 33 also addresses some PRE-permit areas :  
zone of influence from construction operations*

## 1. Post permit:

- Demolitions
- Fences
- Sidewalk sheds
- Scaffolds
- Sidewalks
- Windows
- Cranes and derricks
- Hoisting and rigging of steel, concrete, material
- Supervision / worker safety
- Reporting of accidents and incident
- Site maintenance
- Standpipes

## 2. Pre-permit:

- Demolitions
- Excavations
- Adjacent buildings:
  - Soil and foundation work affecting adjacent property
  - Support of party wall
  - Pre-con survey monitoring
  - Underpinning
  - Insurance
    - Many policies exclude subgrade problems
  - Roof protection
  - Windows

## 3. Adjacent buildings:

- *Start in the planning phase – required in the code*
- License agreements
- Pre-con surveys
- Roof protection
- Sheds in front
- Underpinning
- Insurance
- Correct damage if this occurs
- RPAPL 881



# Ch 33

*NYC Ch 33 addresses construction safety for public and worker => post-permit  
however*

*NYC Ch 33 also addresses some pre-permit areas: zone of influence from construction operations*

## Post-permit: Under control of the permittee

- Demolitions
- Fences
- Sidewalk sheds
- Scaffolds
- Sidewalks
- Cranes and derricks:
- Hoisting and rigging of steel, concrete, material..
- Supervision / worker safety
- Reporting of accidents and incident
- Site maintenance
- Standpipes
- Windows

**Violations issued to the construction site:  
3301.2 Safety measures and safeguards.  
SWOs, Fines, DOB orders and audits**

Something goes wrong ->

## Pre-permit: under control of the permittee AND THE ADJACENT PROPERTY OWNER

- Demolitions
- Excavations
- Adjacent buildings:
  - Soil and foundation work affecting adjacent property
  - Support of party wall
  - Preconstruction survey monitoring
  - Underpinning
  - Insurance
  - Roof protection

**B/C Violations issued to the construction site:  
3301.2 Safety measures and safeguards.  
SWOs, Fines, DOB orders and audits**

**A/C Orders ALSO issued to the owner of adjacent building. A/C 28-301.1 Failure to Maintain. Vacates. Requirements to shore. Monitor...**

Something goes wrong ->

# Recommendations for Adjacent Property Owners

- **Monitor neighboring property**
  - Monitoring Filings
  - Don't ignore activity
  - Building on My Block in Building Information System - [https://a810-bisweb.nyc.gov/bisweb/my\\_community.jsp](https://a810-bisweb.nyc.gov/bisweb/my_community.jsp)
  - Building on My Block in DOB NOW – [https://a810-bisweb.nyc.gov/bisweb/my\\_community.jsp](https://a810-bisweb.nyc.gov/bisweb/my_community.jsp)
- **Professional Representation**
  - Don't negotiate yourself – get an experienced lawyer
  - Get professional engineering and/or architectural advice
    - Geotechnical engineer?
- **Know your local legislators and call on them when needed**
- **What to do if you believe unauthorized activity is happening next door**
  - Call 311
  - Write to Borough Commissioner citing unauthorized or dangerous activity

# Pending Legislation

- **State Legislature**

- A1321, S1305 – Adds standards and procedures to RPAPL §881

- **City Council**

- Intro 955 – Scaffolding lighting
- Intro 956 – Penalties for failure to start work after installing scaffolding
- Intro 970 – Scaffold design requirements
- Intro 972 – Scaffold removal timelines if no work is being done
- Intro 966 – Requires DOB to inspect scaffolding every 6 months

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# Selected Code Provisions

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## 3301.2 Safety measures and safeguards

- **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 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 3307.6.2

- **BC 3307.6.2** 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, as follows: When a new building is over 40ft and the distance between the sidewalk and the building is equal to or less than half the height of the building. When a portion of a façade over 40 feet above curb level is to be constructed, altered, maintained, or repaired, or a vertical or horizontal enlargement is to occur at a height over 40 feet and the building is equal to or less than half the height of the building. When the structure being demolished is over 25 feet or exterior partial demolition is to occur at a height greater than 25 feet. When such sidewalk, walkway, or pathway is to be located immediately below a scaffold, mast climber, or chute.



# C 3309.13: Overhead Protection

- **C 3309.13: Overhead Protection—Adj 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.

# 2014 Administrative Code §28-301.1

## Owner's Responsibilities

- **Owner's Responsibility: 2014 Administrative Code §28-301.1**  
Owner's responsibilities. All buildings and all parts thereof and all other structures shall be maintained in a safe condition... Whenever persons engaged in building operations have reason to believe in the course of such operations that any building or other structure is dangerous or unsafe, such person shall forthwith report such belief in writing to the department. The owner shall be responsible at all times to maintain the building and its facilities and all other structures regulated by this code in a safe and code-compliant manner and shall comply with the inspection and maintenance requirements of this chapter.

# BC 3309.4.1

## BC 3309.4.1: Excavation: Safeguards For Adj. Property

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**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

## BC 3309.6: Subsurface Operations--Precautions

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**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

## BC 3309.4.4: Excavation- Movement Monitoring

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**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

## BC 3309.16: Excavation- Movement Monitoring Design

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**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 1814

## Underpinning and Support of Adjacent Property – Section BC 1814

2014 Code

**1814.1 General.** Where the protection and/ or support of a structure or property adjacent to an excavation is required, an engineer shall prepare a preconstruction report summarizing the condition of the structure or property. The preconstruction report shall be prepared based on an examination of the structure or property, the review of available documents and, if necessary, the excavation of test pits. The engineer shall determine the requirements for underpinning or other protection and prepare site and structure-specific plans, including details and sequence of work for submission to the commissioner. Such protection may be provided by underpinning, sheeting, and bracing, or by other means acceptable to the commissioner.



# 1704.20

## 1704.20 Structural Stability

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1704.20.1 Structural stability of existing buildings.

1704.20.1.1 Construction operations influencing adjacent structures.

1704.20.2 Excavations

1704.20.2.1 Slurry

1704.20.3 Underpinning.

1704.20.4 Demolition.

1704.20.5 Raising and moving of a building

1704.20.6 Inspection program.

1704.20.7 Design documents.

1704.20.7.1 Monitoring.

# Monitoring – Protocol of Actions

## Monitoring - Protocol of Actions

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- The monitoring program shall include necessary actions to address exceedence of pre-established thresholds
- Notification protocol
- Adjust construction operations
- Re-evaluate construction operations

# BC 3305.3.1.2.1

## BC 3305.3.1.2.1: Concrete Load on Existing Structures


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### **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 Section 3306

## Where to Find Demo Requirements BC Section 3306: Demolition

- BC 3306.1 – Scope
  - BC 3306.2 – Protection of Pedestrians and Adjoining Properties
    - BC 3306.2.1 – Safety Zones
  - BC 3306.3 – Notification
    - BC 3306.3.1 – The permit holder shall notify the department via phone or electronically at least 24 hours, but no more than 48 hours prior to the commencement of such work
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# Errors and Omissions

## Most Common Errors

### Noticed during Engineering Audits

1. Adjacent buildings structure not shown on the plans. Bottom of existing adjacent footings not indicated.
2. Deficient design of SOE systems where the lateral loads and eccentricities are not accounted for in the design. Existing footing projections are removed.
3. No SOE provided for excavations less than 5ft., but within 5ft. of adjacent foundation.
4. Inadequate bracing for underpinning or SOE systems. Excessive vertical and horizontal displacements. Deflection/lateral movements must be considered in the design (only stress accounted for).



# BC 107

## 2014 Building Code – Chapter 1 Administration

### BC 107 Construction Documents

#### BC 107.7.1 Foundation Plans

Foundation plans shall show compliance with the requirements of Chapter 18 of this code regarding foundation design and shall show the plan locations, design loads, design elevations of the bottoms, and details as to sizes, reinforcement, and construction of all footings, piers, foundation walls, pile groups, and pile caps. **The levels of footings of adjacent structures shall be indicated or, if the adjacent structures are pile supported, this shall be stated.** Where applicable, the plans shall include underpinning details.



# BC 1814

## 2014 Building Code *Chapter 18: Foundations*

### BC 1814 Underpinning and Support of Adjacent Property

#### 1814.3 Monitoring

When excavation, foundation construction, or underpinning is required, adjacent structures and properties shall be monitored in accordance with a plan prepared by the engineer. The engineer shall develop the scope of the monitoring program, including location and type of instruments, frequency and duration of readings, and permissible movement and vibration criteria.







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