# Zoning for Coastal Flood Resiliency
# Chapter 20: Construction

## A. INTRODUCTION

This chapter assesses the potential impacts of the construction of buildings expected to result as a consequence of the Proposed Action. Construction impacts, although temporary, can include noticeable and disruptive effects from an action that is associated with construction or could induce construction. As stated in the 202014 *City Environmental Quality Review* (CEQR) *Technical Manual,* determination of the significance of construction impacts and need for mitigation is generally based on the duration and magnitude of the impacts. Construction impacts are usually important when construction activities could affect traffic conditions, hazardous materials, archaeological resources, the integrity of historic resources, community noise patterns, or air quality conditions. According to the *CEQR Technical Manual*, construction duration is often broken down into short-term (less than two years) and long-term (two or more years). Where the duration of construction is expected to be short-term, any impacts resulting from short-term construction generally do not require detailed assessment.

As detailed in **Chapter 1, "Project Description,"** the New York City Department of City Planning (DCP) is proposing a zoning text amendment to update the Special Regulations Applying in Flood Hazard Areas (Article VI, Chapter 4) of the New York City Zoning Resolution (ZR), which includes the "Flood Resilience Zoning Text" (the "2013 Flood Text") and "Special Regulations for Neighborhood Recovery" (the "2015 Recovery Text"). These temporary zoning rules were adopted on an emergency basis to remove zoning barriers that were hindering the reconstruction and retrofitting of buildings affected by Hurricane Sandy and to help ensure that new construction there would be more resilient. The 2013 Flood Text provisions are set to expire with the adoption of new and final Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRMs), which is anticipated to occur within the next few years. Applicability of the 2015 Recovery Text expired in July 2020. Therefore, DCP is proposing a citywide zoning text amendment, "Zoning for Coastal Flood Resiliency" (the "Proposed Action"), to improve upon and make permanent the relevant provisions of the existing temporary zoning rules of the 2013 Flood Text and 2015 Recovery Text. In addition, the Proposed Action includes special provisions to help facilitate the city's long-term recovery from the COVID-19 pandemic and its associated economic effects by providing more time for existing non-conforming uses to reopen and builders to undertake certain construction projects. The Proposed Action also includes updates to other sections of the ZR, including the Special Regulations Applying in the Waterfront Area (Article VI, Chapter 2) and provisions within various Special Purpose Districts. The Proposed Action would mostly affect New York City's current 1% annual and 0.2% annual chance floodplains. However, select provisions of the Proposed Action would be applicable citywide. To help the City prepare for or respond to other disasters, select provisions in the Proposed Action regarding power systems and other mechanical equipment, ramps and lifts, vulnerable populations, and disaster recovery rules, would be applicable citywide.

Due to the broad applicability of the Proposed Action, it is difficult to predict the sites where development would be facilitated. In addition, the Proposed Action is not in-and-of-itself expected to induce development where it would not otherwise have occurred absent the Proposed Action. Although the Proposed Action may allow developments and existing buildings to retrofit to resilient standards, the overall amount, type, and location of construction within the affected area is not anticipated to change. Owing to the generic nature of this action, there are no known or projected as-of-right development sites identified as part of the

Proposed Action's Reasonable Worst-Case Development Scenario (RWCDS). To produce a reasonable analysis of the likely effects of the Proposed Action, 14 representative Prototypical Analysis Sites containing either new developments, infill, reconstructions, or retrofits of existing buildings in the city's 1% and 0.2% annual chance floodplains were identified to demonstrate the wide range of proposed regulations for sites that would be able to develop as-of-right in the future with the Proposed Action, as detailed further in **Chapter 1**.

# B. PRINCIPAL CONCLUSIONS

As discussed below, the 14 Prototypical Analysis Sites are independent sites and would not require construction that exceeds two years. Although it is possible that a site could be developed or redeveloped in close proximity to other sites, the Proposed Action in-and-of-itself would not induce development or cause a significant chance in the overall amount, type, or location of development. Additionally, due to the broad geographic area across which Prototypical Analysis Sites would be located, there are unlikely to be clustering implications associated with geographic or temporal overlap of construction activities.

However, as discussed below, retrofits/reconstructions of existing buildings are expected to occur on eight of the 14 Prototypical Analysis Sites in the future with the Proposed Action. Due to their generic nature, it is not known whether any of these sites would be located within close proximity to any New York City Landmark (NYCL)-eligible and/or State/National Register of Historic Places (S/NR)-eligible historic resources. For conservative analysis purposes, it was assumed that the Prototypical Analysis Sites would be located within 90 linear feet of NYCL-eligible and/or S/NR-eligible historic resources. Therefore, the Proposed Action has the potential to result in construction-related impacts to eligible resources.

As detailed below, these eligible resources would continue to be afforded limited protection under the New York City Department of Buildings (DOB) regulations applicable to all buildings located adjacent to construction sites. However, as the resources are not S/NR-listed or NYCL-designated, or calendared for designation, they would not be afforded the added special protections under DOB's Technical Policy and Procedure Notice (TPPN) #10/88. Additional protective measures afforded under DOB's TPPN #10/88 would only become applicable if the eligible resources are calendared or designated in the future prior to the initiation of construction work. If the eligible resources are not calendared or designated, however, they would not be subject to TPPN #10/88, and may therefore be adversely impacted by adjacent retrofitting work resulting from the Proposed Action.

On sites located within 90 linear feet of eligible historic resources that are owned or controlled by the City, or that require discretionary approvals, LPC would review any potential construction-related impacts to architectural resources and would require that construction on sites incorporates construction protection plans pursuant to the *CEQR Technical Manual* in order to avoid significant adverse construction-related impacts. However, on privately owned sites that do not require discretionary actions within 90 linear feet of eligible historic resources, there is to mechanism for the City to enforce added special protections under DOB's TPPN #10/88, and potential construction-related impacts would be unmitigated.

# C. CONSTRUCTION REGULATIONS & GENERAL PRACTICES

## Construction Oversight

Governmental oversight of construction in New York City is extensive and involves a number of City, State, and Federal agencies, each with specific areas of responsibility, as follows:

- DOB has primary oversight of construction, and oversees compliance with the New York City Building Code to ensure that buildings are structurally, electrically, and mechanically safe. In addition, DOB enforces safety regulations to protect both workers and the general public during construction. Areas of oversight include installation and operation of equipment such as cranes and lifts, sidewalk sheds, safety netting, and scaffolding.
- The New York City Department of Environmental Protection (DEP) enforces the New York City Noise Code, reviews and approves any needed Remedial Action Plans (RAPs) and associated Construction Health and Safety Plans (CHASPs), as well as the removal of fuel tanks and abatement of hazardous materials. DEP also regulates water disposal into the sewer system and review and approves any rerouting of wastewater flow.
- The New York City Fire Department (FDNY) has primary oversight of compliance with the New York City Fire Code and the installation of tanks containing flammable materials.
- The New York City Department of Transportation Office of Construction Mitigation and Coordination (DOT OCMC) reviews and approves any traffic lane and sidewalk closures.
- New York City Transit (NYCT) is responsible for bus stop relocations and subsurface construction within 200 feet of a subway, if needed.
- The New York City Landmarks Preservation Commission (LPC) approves studies and testing to prevent the loss of archaeological resources and to prevent damage to architectural resources.
- The New York State Department of Environmental Conservation (NYSDEC) regulates disposal of hazardous materials and construction, operation, and removal of bulk petroleum and chemical storage tanks. NYSDEC also regulates discharge of water into rivers and streams.
- The New York State Department of Labor (NYSDOL) licenses asbestos workers.
- The New York State Department of Transportation (NYSDOT) reviews and approves any traffic lane closures on its roadways, should any be necessary.
- The U.S. Environmental Protection Agency (EPA) has wide-ranging authority over environmental matters, including air emissions, noise, hazardous materials, and the use of poisons, however, much of its responsibility is delegated to the state level.
- The Occupational Safety and Health Administration (OSHA) sets standards for work site safety and construction equipment.

## Construction Hours

New York City regulates the hours of construction work through the New York City Noise Control Code, as amended in December 2005 and effective July 1, 2007. Construction is limited to weekdays between the hours of 7:00 AM and 6:00 PM, and noise limits are set for certain specific pieces of construction equipment. The City may permit work outside of these hours to accommodate: (1) emergency conditions; (2) public safety; (3) construction projects by or on behalf of City agencies; (4) construction activities with minimal noise impacts; and (5) undue hardship resulting from unique site characteristics, unforeseen conditions, scheduling conflicts, and/or financial considerations. The DOB issues these work permits, and in some instances, approval of a noise mitigation plan from the DEP under the City's Noise Code is also required.

In New York City, construction work typically occurs on weekdays and begins at 7:00 AM, with most workers arriving between 6:00 AM and 7:00 AM. Work typically ends at 4:00 PM, with some exceptions

when certain critical tasks (e.g., finishing a concrete pour for a floor deck, completing the drilling of piles, or completing the bolting of a steel frame erected that day) require that the workday be extended beyond normal work hours. Any extended workdays generally last until approximately 5:30 PM or 6:00 PM and do not include all construction workers onsite, but only those involved in the specific task requiring additional work time. For work outside of normal construction hours, work permits are obtained from DOB prior to such work commencing. The numbers of workers and pieces of equipment in operation for work outside normal hours is generally limited to those needed to complete the particular authorized task. Overall, the level of activity for any work outside of normal construction hours is less than a normal workday.

## Construction Practices

### *Access, Deliveries, and Staging Areas*

Access to construction sites is controlled. Work areas are fenced off, and limited access points for workers and construction-related trucks are provided. Typically, worker vehicles are not allowed into the construction area, and workers or trucks without a need to be on the site are not allowed entry. After work hours, the gates are closed and locked. Security guards may patrol the construction site after work hours and over weekends to prevent unauthorized access.

Material deliveries to the site are controlled and scheduled. To aid in adhering to the delivery schedules, as is normal for building construction in New York City, flaggers are employed at each of the construction site's access points. Flaggers are typically supplied by either the subcontractor on-site at the time or by the construction manager. The flaggers control trucks entering and exiting the project site so that they would not interfere with one another. In addition, they provide an additional traffic aid as trucks enter and exit the on-street traffic streams.

### *Lane and Walkway Closures*

Temporary curb-lane and sidewalk closures are typical for construction projects in New York City. To manage such closures, a Maintenance and Protection of Traffic (MPT) plan is developed consistent with DOT requirements. DOT OCMC reviews and approves MPT plans, and the implementation of the closures is also coordinated with DOT OCMC. In general, construction managers for major projects on adjacent sites also coordinate their activities to avoid delays and inefficiencies.

### *Public Safety*

A variety of measures are employed to ensure public safety during construction at sites within New York City. Examples include the use of sidewalk bridges to provide overhead protection for pedestrians passing by the construction site and the employment of flaggers to control trucks entering and exiting the construction site, to provide guidance to pedestrians, and/or to alert or slow down the traffic. Other safety measures include following DOB requirements during the installation and operation of tower cranes to ensure safe operation of the equipment and the installation of safety nettings on the sides of the project as the superstructure advances upward to prevent debris from falling to the ground.

### *Rodent Control*

Construction projects in New York City typically include provisions for a rodent (i.e., mouse and rat) control program with provisions for this formalized in construction contracts for the development. Rodent control programs are typically carried out throughout construction, beginning with surveying and baiting appropriate areas prior to construction and providing for proper site sanitation and maintenance during

construction. Signage would be posted, and coordination would be conducted with appropriate public agencies. Only EPA- and NYSDEC-registered rodenticides would be permitted, and the contractor would be required to implement the rodent control program in a manner that is not hazardous to the general public, domestic animals, and non-target wildlife.

# D. PRELIMINARY SCREENING

As discussed above and detailed in **Chapter 1, "Project Description,"** the Proposed Action is not in-and-of-itself expected to induce development where it would not otherwise have occurred absent the Proposed Action. Although the Proposed Action may allow developments and existing buildings to retrofit to resilient standards, the overall amount, type, and location of development within the affected area is not anticipated to change. Owning to the generic nature of the action, there are no known or projected as-of-right development sites for the Proposed Action.

To produce a reasonable analysis of likely effect of the action, 14 representative development prototypes have been identified, as detailed in **Chapter 1**. Based on the prototypical analysis, the maximum development size that may occur at any one Prototypical Analysis Site is an approximately 247,200 gross square foot (gsf) residential building with 320 dwelling units (DUs) expected to be constructed on Prototypical Analysis Site 6 in the 1% annual chance floodplain scenario (refer to **Chapter 1**). The construction of development that is less than 250,000 gsf typically takes less than two years to complete in New York City. Based on *CEQR Technical Manual* guidelines, where the duration of construction is expected to be short-term (less than two years), detailed construction assessment is not warranted. If the duration of construction is expected to be short-term, potential impacts are considered temporary.

Although it is possible that a Prototypical Analysis Site could be developed or redeveloped in proximity to other sites, the Proposed Action in-and-of-itself is not expected to induce development or cause a significant change in the overall amount, type, or location of development. Additionally, due to the broad geographic area across which Prototypical Analysis Sites would be located, there are unlikely to be clustering implications associated with geographic or temporal overlap of construction activities.

Furthermore, all construction activities would be carried out in accordance with applicable building codes and regulations, and DOB building permits. In addition, as discussed in **Chapter 7, "Historic & Cultural Resources,"** any designated NYCL or S/NR-listed historic buildings located within 90 linear feet of a projected or potential new construction site would be subject to the protections of DOB's TPPN #10/88, which supplements the standard building protections afforded by the New York City Building Code by requiring, among other things, a monitoring program to reduce the likelihood of construction damage to adjacent LPC-designated or S/NR-listed resources (within 90 feet) and to detect at an early stage the beginnings of damage so that construction procedures can be changed. Under the TPPN, a construction protection plan must be provided to the LPC for review and approval prior to any demolition and construction on a development site. The construction protection plan would take into account the guidance provided in the *CEQR Technical Manual*, Chapter 9, Section 523, "Construction Protection Plan."

As detailed above, the Proposed Action would not induce development as compared to the No-Action scenarios. However, retrofits/reconstructions of existing buildings are expected to occur on eight of the 14 Prototypical Analysis Sites in the future with the Proposed Action (Nos. 1, 3, 4, 6, 8, 10, 12, and 13), as detailed in **Appendix A**. Due to their generic nature, it is not known whether any of the Prototypical Analysis Sites would be located within close proximity to any NYCL-eligible and/or S/NR-eligible historic resources. Therefore, for conservative analysis purposes, it was assumed that these Prototypical Analysis

Sites would be located within 90 linear feet of NYCL-eligible and/or S/NR-eligible resources. As such, the Proposed Action has the potential to result in significant adverse construction-related impacts.

As noted above, these resources would continue to be afforded limited protection under DOB regulations applicable to all buildings located adjacent to construction sites. However, as the resources are not S/NR-listed or NYCL-designated or calendared, they would not be afforded the added special protections under DOB's TPPN #10/88. Additional protective measures afforded under DOB's TPPN #10/88 would only become applicable if the eligible resources are calendared or designated in the future prior to the initiation of construction work. If the eligible resources are not calendared or designated, however, they would not be subject to TPPN #10/88, and may therefore be adversely impacted by adjacent retrofitting work resulting from the Proposed Action.

On sites located within 90 linear feet of eligible historic resources that are owned or controlled by the City, or that require discretionary approvals, LPC would review any potential construction-related impacts to architectural resources and would require that construction on sites incorporates construction protection plans pursuant to the *CEQR Technical Manual* in order to avoid significant adverse construction-related impacts. However, on privately owned sites that do not require discretionary actions within 90 linear feet of eligible historic resources, there is no mechanism for the City to enforce added special protections under DOB's TPPN #10/88, and potential construction-related impacts would be unmitigated.

As detailed in **Chapter 1, "Project Description,"** the Proposed Action would also modify provisions applying in waterfront areas to ensure that regulations allow sites to incorporate coastal flood resilient design, promoting site-scale resiliency and improved streetscapes on waterfront blocks. The proposed modifications would facilitate construction of elevated shore public walkways in order to address sea level rise and the risk of future tidal flooding, while also providing a higher degree of flood protection against future storm events. The modifications would increase flexibility for grading requirements, allow greater flexibility for elevating waterfront yards, and allow circulation paths to be designed to match sea level rise projections. Additionally, while raised waterfront yards are required to slope down to connect to the street or the adjacent neighbor's grade, if the waterfront yard terminates at an adjacent zoning lot without a waterfront public access area, the connecting yard would be able to be raised six feet above mean high water level to allow sites to have a more consistent grade.

The Proposed Action would also facilitate the construction of bi-level esplanades and circulation paths that allow for continued waterfront access, while grading up to meeting flood design elevations along the remainder of the waterfront site, and would facilitate the elevation of waterfront public access areas while maintaining visual connectivity to the waterfront (see Prototypical Analysis Site 14 in **Appendix A**). Moreover, the Proposed Action would facilitate graduated, stabilized, and planted shorelines that mitigate wave action and erosion from coastal storm surge and tidal flooding. Lastly, flood protection measures, such as temporary flood control devices and associated permanent fixtures, structural landscaped berms, flood gates, and associated emergency egress systems up to the highest design flood elevation allowed on the zoning lot or five feet above the lowest adjacent grade, whichever is higher, would be permitted obstructions on waterfront yards and visual corridors. These proposed modifications to waterfront regulations would not result in any construction-related impacts in the city's floodplains, but rather, would promote site-scale resiliency by allowing sites to incorporate coastal flood resilient design in construction. Therefore, the proposed modifications to waterfront regulations would not result in significant adverse construction impacts.

# E. CONCLUSIONS

As discussed above, the 14 Prototypical Analysis Sites are independent sites and would not require construction that exceeds two years. Although it is possible that a site could be developed or redeveloped in close proximity to other sites, the Proposed Action in-and-of-itself would not induce development or cause a significant chance in the overall amount, type, or location of development. Additionally, due to the broad geographic area across which Prototypical Analysis Sites would be located, there are unlikely to be clustering implications associated with geographic or temporal overlap of construction activities.

However, as discussed above, retrofits/reconstructions of existing buildings are expected to occur on eight of the 14 Prototypical Analysis Sites in the future with the Proposed Action. Due to their generic nature, it is not known whether any of these sites would be located within close proximity to any NYCL-eligible and/or S/NR-eligible historic resources. For conservative analysis purposes, it was assumed that the Prototypical Analysis Sites would be located within 90 linear feet of NYCL-eligible and/or S/NR-eligible historic resources. Therefore, the Proposed Action has the potential to result in construction-related impacts to eligible resources.

As detailed below, these eligible resources would continue to be afforded limited protection under DOB regulations applicable to all buildings located adjacent to construction sites. However, as the resources are not S/NR-listed or NYCL-designated, or calendared for designation, they would not be afforded the added special protections under DOB's TPPN #10/88. Additional protective measures afforded under DOB's TPPN #10/88 would only become applicable if the eligible resources are calendared or designated in the future prior to the initiation of construction work. If the eligible resources are not calendared or designated, however, they would not be subject to TPPN #10/88, and may therefore be adversely impacted by adjacent retrofitting work resulting from the Proposed Action.

On sites located within 90 linear feet of eligible historic resources that are owned or controlled by the City, or that require discretionary approvals, LPC would review any potential construction-related impacts to architectural resources and would require that construction on sites incorporates construction protection plans pursuant to the *CEQR Technical Manual* in order to avoid significant adverse construction-related impacts. However, on privately owned sites that do not require discretionary actions within 90 linear feet of eligible historic resources, there is to mechanism for the City to enforce added special protections under DOB's TPPN #10/88, and potential construction-related impacts would be unmitigated.