Chapter 12: Construction

A. INTRODUCTION

As described in Chapter 1, "Project Description," the project site is the Large Scale Community Facility Development (LSCFD)—which extends from East 62nd Street to the centerline of demapped East 68th Street, between York Avenue and the bulkhead east of the Franklin Delano Roosevelt (FDR) Drive—and includes the entire Rockefeller University campus. The proposed project would develop three new buildings within the LSCFD—a two-story laboratory building with two one-story pavilions on its roof; a one-story Interactive Conference Center (ICC) on the North Terrace; and a one-story fitness center. Both the laboratory building and the North Terrace containing the ICC building would be constructed on a platform structure largely in air rights space over the FDR Drive. To support the platform of the laboratory building and North Terrace, twenty columns would be located west of the FDR Drive immediately adjacent to and within the existing schist retaining wall, and ten columns would be located flush with the FDR Drive's eastern edge within the western portion of the East River Esplanade. The new one-story fitness center would be built at the northwest corner of the campus. In addition, a five-foot-tall barrier would be constructed along the eastern edge of the FDR Drive between the FDR Drive and the East River Esplanade that would extend the entire length of the proposed platform structure.

This chapter summarizes the proposed project's construction plans and assesses the potential for significant adverse construction impacts. The city, state, and federal regulations and policies that govern construction are described, followed by the construction schedule and the types of activities likely to occur during construction. The types of equipment are also discussed, along with the expected number of workers and truck deliveries. Finally, potential impacts from construction activity are assessed, and the methods that may be employed to avoid significant adverse construction-related impacts are evaluated.

PRINCIPAL CONCLUSIONS

Based on the analyses presented in this chapter, construction of the proposed project would result in a significant adverse construction impact related to noise and open space. Potential mitigation for this significant adverse impact is discussed in Chapter 13, "Mitigation." Information regarding other key technical areas is summarized below.

TRANSPORTATION

Construction worker and truck trips associated with the proposed project would not result in any significant adverse traffic, parking, transit, or pedestrian impacts. Maintenance and Protection of Traffic (MPT) plans would be developed for any lane closures. Coordination with the New York City Department of Transportation's (NYCDOT) Office of Construction Mitigation and Coordination (OCMC) would be undertaken to ensure proper implementation of MPT plans and requirements. These measures would be included in a Restrictive Declaration to be recorded by the Applicant against the property.

AIR QUALITY

Construction activities associated with the proposed project would not result in any significant adverse stationary or mobile source air quality impacts. To ensure that construction of the proposed project would result in the lowest practicable diesel particulate matter (DPM) emissions, the applicant would implement through the Restrictive Declaration an emissions reduction program for construction activities that would include, to the extent practicable: reduction of the amount of diesel equipment to be used; use of clean fuel, best available tailpipe reduction technologies, and newer equipment; placement of emissions sources away from sensitive receptors; implementation of dust control measures; and restriction on vehicle idling.

NOISE

The proposed project would have the potential to result in significant adverse impacts with respect to construction noise. Rockefeller University is committed to implementing a program of source controls (i.e., the use of quiet construction equipment) and path controls (i.e., the use of noise barriers and noise shields) that exceed the noise control measures required by the New York City Noise Control Code, which will be included in the Restrictive Declaration. However, even with these measures, elevated noise levels resulting from construction are predicted to occur for an extended duration at two sensitive receptor locations immediately adjacent to the project site: the portion of the East River Esplanade between East 63rd Street and demapped East 68th Street (located immediately east of the project site) and the New York Presbyterian Hospital-Weill Cornell Medical Center (NYPH-Weill Cornell Medical College) (located immediately north of the project site). However, the existing noise levels on the East River Esplanade exceed the 55 $dBAL_{10(1)}$ noise level recommended for open space by City Environmental Quality Review (CEQR) noise exposure guidelines. In addition, the East River Esplanade is primarily used for active recreation during daytime hours, while most of the activities associated with the excavation and foundation task for the platform construction would occur during the night time when the esplanade is lightly used.

At this time, measures have not been identified to fully or partially mitigate the significant adverse construction noise impact, this impact has been identified in the DEIS as unmitigated and is included in Chapter 15, "Unavoidable Adverse Impacts." There are no feasible and practicable measures that could be implemented to mitigate the construction noise impact at this location. However, it is possible that new mitigation may be identified between Draft and Final EIS. Should any construction noise mitigation measures be identified between the Draft and Final EIS, they would be included in the Restrictive Declaration.

HISTORIC AND CULTURAL RESOURCES

No significant adverse impacts to archaeological resources would occur as a result of the proposed actions on the Laboratory Building Site, the North Terrace Site, or the Fitness Center Site during the construction of the proposed project.

Regarding architectural resources, construction of the proposed fitness center would involve the demolition of the canopy structure and parking area that are contributing elements to the Rockefeller University Historic District's Dan Kiley-designed landscape, resulting in a significant impact to historic and cultural resources. As partial mitigation for the removal of these landscape elements, a restoration plan for the Philosopher's Garden, which is located immediately south of the Fitness Center Site, would be prepared in consultation with the New York City Landmarks Preservation Commission (LPC) and implemented prior to construction of the fitness center. The restoration plan would be included in the Restrictive Declaration.

Since the proposed project is located within 90 feet of contributing elements of the Rockefeller University Historic District (State/National Register-eligible [S/NR-eligible], and New York City Landmark-eligible [NYCL-eligible]), a Construction Protection Plan (CPP) would be developed in consultation with LPC and implemented prior to construction to avoid inadvertent construction-related damage. With these measures in place, construction would not be expected to result in significant adverse impacts on historic or cultural resources. The CPP would be included in the Restrictive Declaration.

NATURAL RESOURCES

Implementation of erosion and sediment control measures and stormwater management measures identified in the Stormwater Pollution Prevention Plan (SWPPP) would minimize potential impacts to water quality of the East River from the discharge of stormwater runoff during land-disturbance construction activities. The SWPPP would comply with New York State Department of Environmental Conservation (NYSDEC) technical standards for erosion and sediment control and include structural (e.g., silt fencing) and non-structural (e.g., routine inspection, dust control, cleaning, and maintenance programs) best management practices (BMPs). With the implementation of these measures, the discharge of runoff and recovered sea water during excavation activities would not result in significant adverse impacts to East River water quality, aquatic biota, and any NYSDEC littoral zone tidal wetlands adjacent to the seawall. Implementation of a Pollution Prevention Plan developed for the in-water construction activities would minimize the potential for discharge of materials to the East River during caisson installation and construction activities conducted from barges. Installation of the caissons would require authorization from the U.S. Army Corps of Engineers (USACE) under Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act, and Section 401 water quality certification from NYSDEC. Therefore, potential impacts to aquatic resources would be limited to minor and temporary increases in suspended sediment. Any localized and temporary increases in suspended sediment and temporary loss of aquatic habitat would not result in significant adverse impacts to water quality, littoral zone tidal wetland, essential fish habitats (EFHs), or aquatic biota, including threatened and endangered species.

The proposed project would require the removal of approximately 23 trees along the East River Esplanade to allow for the construction of the new laboratory building and ICC and 5 to 10 trees would be removed at the Fitness Center Site to construct the fitness center. Tree replacement, protection, and transplanting would comply with the City's applicable rules and regulations. Trees under the jurisdiction of the New York City Department of Parks and Recreation (DPR) may not be removed without a permit pursuant to Title 18 of the Administrative Code of the City of New York. Chapter 5 of Title 56 of the Rules of the City of New York establishes rules for valuing trees that are approved for removal in order to determine the appropriate number of replacement trees. The majority of trees on the Rockefeller University campus would remain in place and be unaffected by construction activities. Overall, construction of the proposed project would have no significant adverse impacts to the floodplain, ecological communities, and terrestrial natural resources in the area.

OPEN SPACE

During the course of construction, the East River Esplanade immediately east of the project site (between East 63rd Street and demapped East 68th Street) may be narrowed or protected for varying periods of time. A minimum eight-foot-wide pathway through the affected portion of the esplanade would be provided except for the very limited times when the East River Esplanade is expected to be closed during the removal of the protective platform as well as when cranes are

lifting materials or equipment over the pedestrian walkway. This closure would only occur during the night time when the esplanade would be lightly used. No open space is located at the Fitness Center Site. Construction activities would be conducted with the care mandated by the close proximity of open space to the project site. Air emissions control measures—including watering of exposed areas and dust covers for trucks—would be implemented to ensure compliance with the New York City Air Pollution Control Code, which regulates construction-related dust emissions.

As described below, a significant construction period impact to open space, i.e., the portion of the East River Esplanade adjacent to the project site, would result from construction activities associated with the proposed project. As detailed in Chapter 13, "Mitigation," the applicant would provide a minimum eight-foot-wide pathway through the affected portion of the esplanade to serve as partial mitigation for this significant construction period impact to open space. Between the Draft and Final EIS, the applicant will consider whether there are additional mitigation measures that would be feasible and practicable to implement to alleviate this impact. Construction open space mitigation measures would be included in the Restrictive Declaration.
Hazardous Materials

Construction of the proposed project would not result in any significant adverse hazardous materials impacts. During and following demolition activities associated with the proposed project, applicable federal, state and local requirements pertaining to asbestos-containing materials (ACM), lead-based paint (LBP), polychlorinated biphenyls (PCB)-containing materials, and chemical use and storage would be followed. Based on the findings of the Phase I Environmental Site Assessment (ESA), a Subsurface (Phase II) Investigation Work Plan would be conducted in accordance with a New York City Department of Environmental Protection (DEP) approved Work Plan to determine whether past or present, on-site or off-site activities have affected subsurface conditions. Following implementation of this Phase II investigation and based on its findings, a Remedial Action Plan (RAP) and associated Construction Health and Safety Plan (CHASP) would be prepared (and submitted to DEP for review and approval) for implementation during proposed construction. These commitments would be included in a Restrictive Declaration. Consequently, with the implementation of the above measures, no significant adverse impacts related to hazardous materials would be expected during construction of the proposed project.

B. GOVERNMENTAL COORDINATION AND OVERSIGHT

Construction oversight involves several city, state, and federal agencies. **Table 12-1** lists the primary involved agencies and their areas of responsibilities. For projects in New York City, primary construction oversight lies with the New York City Department of Buildings (DOB), which ensures that the construction meets the requirements of the New York City Building Code and that the buildings constructed are structurally, electrically, and mechanically safe. In addition, DOB enforces safety regulations to protect the workers and the general public during construction. The areas of oversight include installation and operation of equipment such as cranes and lifts, safety netting and scaffolding. DEP enforces the New York City Noise Code, reviews and approves any needed RAPs and CHASPs, and regulates water disposal into the sewer system as well as removal of tanks and abatement of hazardous materials. The City of New York Department of Sanitation (DSNY) has regulatory and enforcement oversight of the storage, transport, and disposal of asbestos waste. The Fire Department of New York City (FDNY) has primary oversight for compliance with the New York City Fire Code and for the installation of tanks containing flammable materials. NYCDOT reviews and approves any traffic lane and

sidewalk closures. LPC approves the CPP and monitoring measures established to prevent damage to historic structures, as needed. DPR is responsible for the oversight, enforcement, and permitting of the replacement of street trees that are lost due to construction as well as construction permitting for any repair/rehabilitation work and closures at the East River Esplanade. Section 5-102 et. seq. of the Laws of the City of New York requires a permit to remove any trees and the replacement of the trees as determined by calculating the size, condition, species, and location rating of the tree proposed for removal.

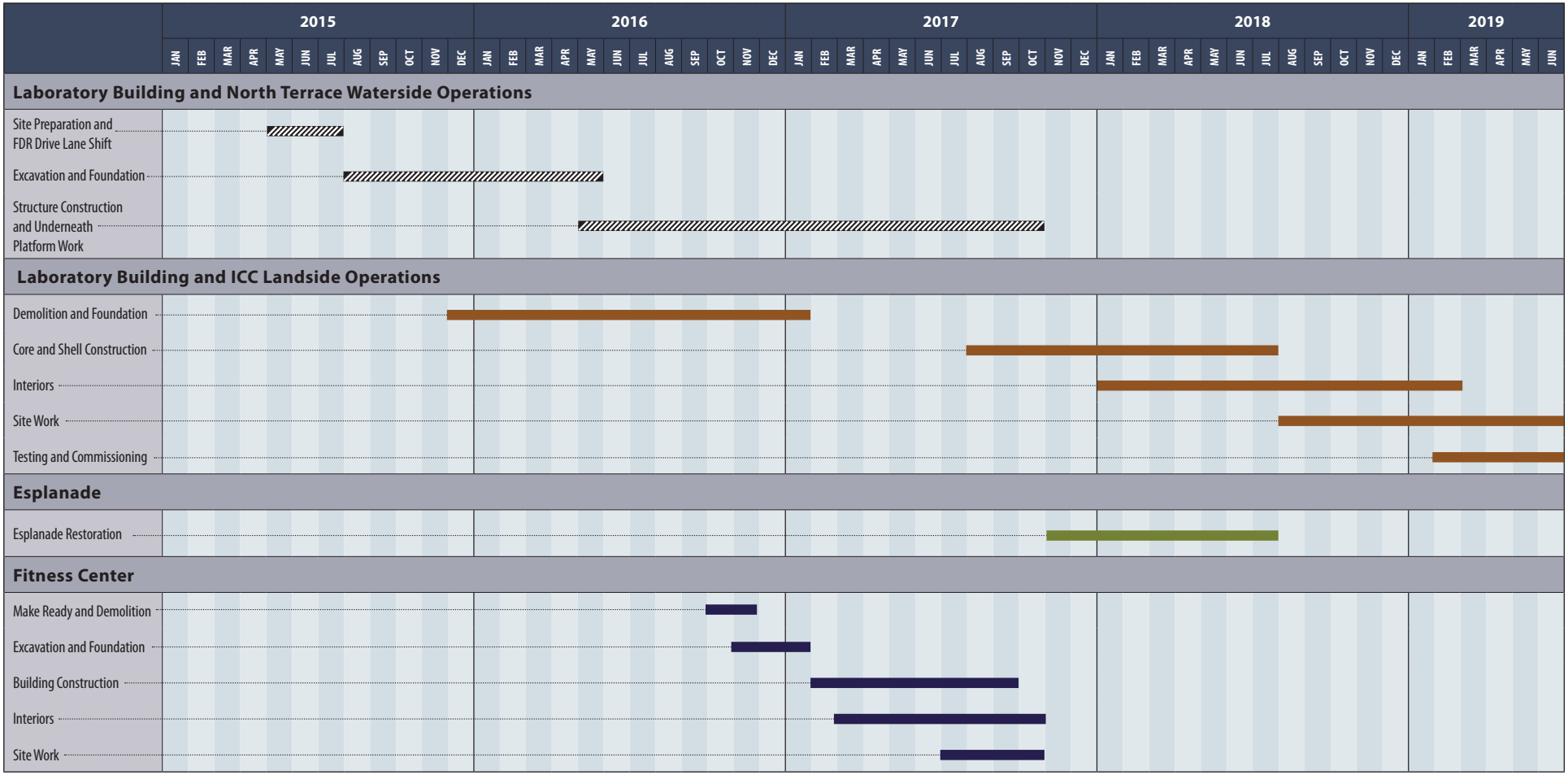
Table 12-1
Construction Coordination and Oversight in New York City

Agency	Areas of Responsibility
New York City	
Department of Buildings	Primary oversight for Building Code and site safety
Department of Environmental Protection	Noise, RAPs/CHASPs, dewatering, fuel tank removal, hazardous materials abatement
City of New York Department of Sanitation	Storage, transport, and disposal of asbestos waste
Fire Department	Compliance with Fire Code, fuel tank installation
Department of Transportation	Lane and sidewalk closures
Landmarks Preservation Commission	Archaeological and architectural protection
Department of Parks and Recreation	Street trees, Esplanade repair/rehabilitation work and closures
New York State	
Department of Transportation	FDR Drive lane closures
Department of Labor	Asbestos workers
Department of Environmental Conservation	Hazardous materials and tanks
United States	
Environmental Protection Agency	Air emissions, noise, hazardous materials, poisons
Occupational Safety and Health Administration	Worker safety

Along with NYCDOT, the New York State Department of Transportation (NYSDOT) also reviews and approves any FDR Drive traffic lane closures. The New York State Department of Labor (DOL) licenses asbestos abatement contractors. NYSDEC regulates disposal of hazardous materials, and construction and operation of bulk petroleum and chemical storage tanks. On the federal level, although the Environmental Protection Agency (EPA) has wide ranging authority over environmental matters, including air emissions, noise, hazardous materials, and the use of poisons, much of the responsibility is delegated to the state level. The Occupational Safety and Health Administration (OSHA) sets standards for work site safety and the construction equipment.

C. CONSTRUCTION PHASING AND SCHEDULE

The anticipated construction schedule is shown on **Figure 12-1**, is illustrated in **Figure 12-2**, and described in **Table 12-2.** The construction schedule reflects the sequencing of construction events as currently contemplated. In the anticipated construction schedule, site preparation and FDR Drive lane shift work is assumed to begin in May 2015 and is expected to take approximately three months to complete. Construction of the platform spanning over the FDR Drive (Waterside Operations) would begin in August 2015 and is expected to be completed by October 2017. The staging and laydown of materials for the laboratory building and North Terrace waterside operations would be done primarily from the esplanade and from barges. Construction of the proposed laboratory building and ICC located on the North Terrace (Landside Operations) would commence in December 2015, and would be completed by February 2019. The staging and laydown of materials for the laboratory building and the North Terrace landside operations would be done primarily from within the existing Rockefeller



[1.] Construction fences would be erected on the esplanade during the Site Preparation and FDR Drive Lane Shift tasks.

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Anticipated Construction Schedule
Figure 12-1

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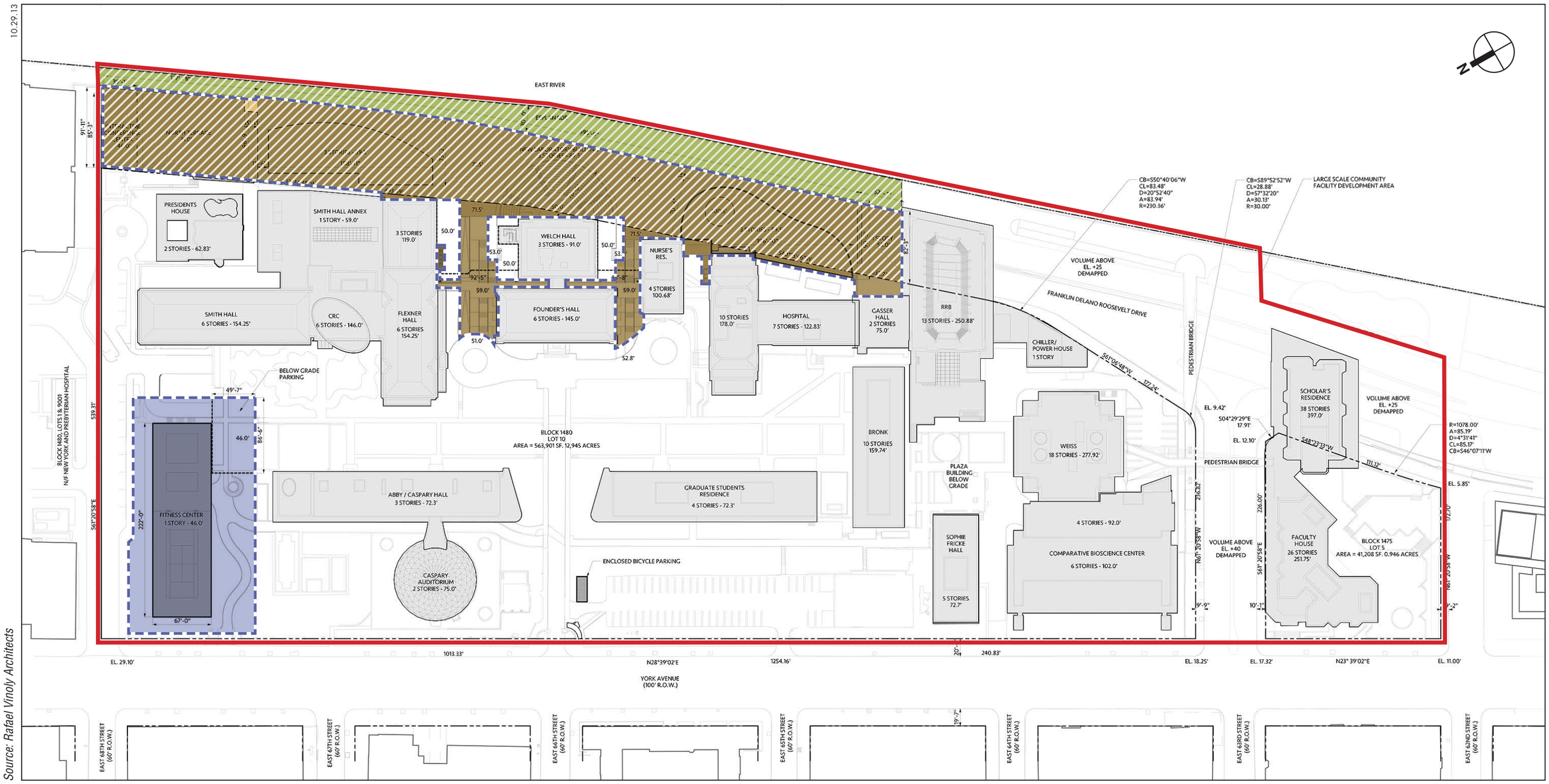


Source: Rafael Vinoly Architects

NOTES: FOR ILLUSTRATIVE PURPOSES ONLY
ELEVATIONS SHOWN ARE REFERENCED TO THE MANHATTAN BOROUGH DATUM

Large Scale Community Facility Development (LSCFD) (Rockefeller University Campus)

Development Sites

Laboratory Building and North Terrace Waterside Operations

Laboratory Building and ICC Landside Operations

Esplanade

Fitness Center

ROCKEFELLER UNIVERSITY

Site Plan—Future with Action Scenario
Figure 12-2

University campus. In August 2018, site work activities around the new laboratory building and ICC would begin and would last approximately 11 months. Finally, testing and commissioning of the laboratory building and ICC would start in February 2019 and would take approximately five months to complete.

Table 12-2
Anticipated Construction Schedule

Building	Start Month	Finish Month	Approximate duration (months)
Laboratory Building and North Terrace Waterside Operations			
Site Preparation and FDR Drive Lane Shift	May 2015	July 2015	3
Excavation and Foundation	August 2015	May2016	10
Structure Construction and Underneath Platform Work	May 2016	October2017	18
Laboratory Building and ICC Landside Operations			
Make Ready, Demolition, and Foundation	December 2015	January2017	14
Core and Shell Construction	August 2017	July 2018	12
Interior and Finishing	January 2018	February 2019	14
Site Work	August 2018	June 2019	11
Testing and Commissioning	February, 2019	June 2019	5
Esplanade			
Esplanade Restoration	November 2017	July 2018	9
Fitness Center			
Make Ready and Demolition	October 2016	November 2106	2
Excavation and Foundation	November 2016	January 2017	3
Core and Shell Construction	February 2017	September 2017	8
Interiors	March 2017	October 2017	8
Site Work	July 2017	October 2017	4
Source: Turner Construction Company, July 2013.			

The restoration of the East River Esplanade is anticipated to begin in November 2017, and would be completed by July 2018. The construction of the fitness center would commence around the same time as the demolition work for the laboratory building and ICC landside operation in October 2016 and would take approximately 13 months to complete.

D. CONSTRUCTION DESCRIPTION

OVERVIEW

This section describes the construction practices and construction tasks for the proposed project. The types of equipment to be used are discussed, and the number of workers and truck deliveries is estimated. A detailed description of each type of construction activity is also provided. This section establishes the framework used for the assessment of potential impacts from construction.

GENERAL CONSTRUCTION PRACTICES

Rockefeller University would have a community liaison officer throughout the entire construction period. The community liaison officer would serve as the contact point for the community and local leaders, and would be available to address any concerns or problems that may arise during the construction period. In addition, New York City maintains a 24-hour telephone hotline (311) so that concerns can be registered with the City.

HOURS OF WORK

Construction of the proposed laboratory building, ICC, and fitness center, and the excavation and foundation activities associated with the platform for both the laboratory building and the North Terrace, would be carried out in accordance with New York City laws and regulations, which allow construction activities between 7:00 AM and 6:00 PM. Construction work would begin at 7:00 AM on weekdays, with most workers arriving between 6:00 AM and 7:00 AM. Normally weekday work would end by 3:30 PM, but it can be expected that to meet the construction schedule or to complete certain construction tasks, the workday may occasionally be extended beyond normal work hours. Any extended workday would generally last until approximately 6:00 PM and would not include all construction workers on-site, but only those involved in the specific task requiring additional work time. The work could include such tasks as finishing a concrete pour for a floor deck, or completing the bolting of a steel frame erected that day.

Excavation and foundation activities for the platform would require night work due to the need for FDR Drive lane closures which are only permitted at night. The excavation and foundation work on the east side of the FDR Drive would be done during daytime hours with the exception of the narrow work zones to the north and south where lane closures may be required for construction access. For foundation work on the west side of the FDR Drive, construction activities would occur during daytime hours for the north half of the work zone but would generally require night time work for the southern half of the work zone as lane closures would be required for construction access. For the construction of the platform portion of the laboratory building and the North Terrace, night work and FDR Drive lane closures would be required during columns and girders installation. In addition, night work and FDR Drive lane closures would also be required when prefabricated sections, work platforms, or other heavy materials are lifted over the FDR Drive. Appropriate work permits from DOB and NYCDOT would be obtained for night time work. **Table 12-3** shows the schedule for FDR Drive lane closures currently permitted by NYCDOT and **Appendix F** shows the anticipated FDR Drive lane closures schedule during the construction of the proposed project. Coordination with the New NYCDOT's OCMC would be undertaken to ensure proper implementation of MPT plans and requirements.

Table 12-3
Schedule for Permitted FDR Drive Lane Closures—
Brooklyn Bridge to East 125th Street

Day of Week	One Lane	Two Lanes	Three Lanes (Full Closure)
Weekdays	11:00 PM to 5:30 AM	1:00 AM to 5:00 AM	Not Permitted
Saturday	12:01 AM to 6:30AM	2:00 AM to 6:00 AM	Not Permitted
Sunday	1:00 AM to 11:00 AM	2:00 AM to 7:00 AM	2:00 AM to 7:00 AM[1]

Note: [1]Number of full closures with detour per month may be limited.

For the remainder of the laboratory building and ICC construction, Saturday work would be scheduled up to approximately 50 percent of the time and Sunday work would be scheduled up to approximately 20 percent of the time. Appropriate work permits from DOB would be obtained for weekend work. Again, the numbers of workers and pieces of equipment in operation would be limited to those needed to complete the particular task at hand. For extended weekday and weekend work, the level of activity would be reduced from the normal workday. The typical weekend workday would be from 7:00 AM to 3:30 PM.

DELIVERIES AND ACCESS

During the construction of the proposed project, access to the construction sites would be controlled. The work areas may be fenced off, and limited access points for workers and trucks would be provided. Private worker vehicles would not be allowed into the construction area or the campus area. Security guards and flaggers may be posted as necessary, and all persons and trucks would have to pass through security points. Workers or trucks without a need to be on the site would not be allowed entry. Security guards may patrol the construction sites after work hours and over the weekends to prevent unauthorized access. Material deliveries to the site would be controlled and scheduled.

Construction worker access to the construction site during platform construction would be from the East 63rd Street pedestrian walkway. Due to site constraints, deliveries during platform construction would mostly be from barges. Small vans may also be used and would access the construction site via the East 60th Street ramp. Construction worker and truck delivery access to the construction site during laboratory building and ICC construction above the platform structure would be from demapped East 68th Street, with two supplemental access points at a light duty platform on the south side of Flexner Hall and a medium duty bridge between the Welch Hall and the Nurse's Residence. All access points would be needed for the entire construction duration of the proposed laboratory building and ICC landside operations. Access to the construction site during fitness center construction would also be from demapped East 68th Street.

STAGING AND LAY DOWN AREAS

During laboratory building waterside operation, the staging and laydown of materials would be done primarily from the esplanade and from barges due to site constraints. It is anticipated that four to five barges (one large barge for a 1,000 ton crane, one barge for a crawler assist crane, and two or three supply barges) would be moored along the shoreline at a given time. To ensure the safety of pedestrians/bicyclists using the esplanade during construction, construction fencing (most likely chain-link fencing) would be erected adjacent to the work areas on the esplanade. Access through the esplanade would be maintained via a pathway that would be open to the sky. Traffic lanes on the FDR Drive would also be shifted to provide space for adequate and safe work areas. Both trucks and barges would be used to transport materials from and to the site during laboratory and North Terrace platform waterside operations. Prefabricated steel modules of the platform are expected to arrive to the construction site via barges. Barge cranes would be used to lift these steel modules into place. All public pedestrian traffic on the esplanade would be stopped briefly by flaggers when materials are hoisted overhead for safety reasons. The anticipated schedule for esplanade narrowing during construction of the proposed project is discussed in detail below in "Esplanade."

During laboratory building and the ICC landside operations and the construction of the fitness center, the staging and laydown of materials would be done mostly from within the existing Rockefeller University campus. As described above in "Deliveries and Access," access to the construction site during laboratory building and the ICC landside operations would be from demapped East 68th Street, with two supplemental access points at a light duty platform on the south side of Flexner Hall and a medium duty bridge between the Welch Hall and the Nurse's Residence. Trucks would be expected to queue internally within the campus, with additional queuing, when necessary on curb lanes along East 68th Street during laboratory building and the ICC landside operation.

ESPLANADE

As shown in **Figure 12-1** and **Table 12-4,** and as described below, esplanade narrowing related to construction activities would occur during site preparation and waterside operations and during the esplanade restoration activities. The total duration that the esplanade could be affected during construction is estimated to be approximately 35 months stating from May 2015 when the site preparation and FDR Drive lane shift task would commence.[1] During this 35-month period, a pathway would always be maintained to allow for pedestrian and bike movement through the esplanade except for the very limited night time closures, as described below. A minimum eight-foot-wide pathway would be provided for approximately 17 months and a minimum 12-foot-wide pathway would be provided for approximately 8 to 9 months. In addition, during the esplanade restoration, at least 50 percent of the width of the esplanade (including at a minimum, an 8-foot-wide pathway) would be available for public use at all times during this task. To ensure the safety of pedestrians/bicyclists using the area during construction, construction fencing would be erected adjacent to the work areas on the esplanade. Access through the esplanade would be maintained via a pathway that would be open to the sky. Adequate lighting would be provided per consultation with DPR.

The segment of the esplanade adjacent to the project site would be narrowed during construction for the installation of the caissons and tie-backs and esplanade reconstruction work. This segment of the esplanade would also be closed for certain limited times during specific construction activities to allow for the installation of columns and girders at the esplanade and the lifting of construction materials over the walkway/bikeway from barges located in the East River to the project site. However, the closure periods would only occur at night, and would not prevent or limit access to the esplanade during the day. Following the completion of construction of the foundation and platform structure, construction staging, including cranes, would be relocated to sites on the Rockefeller University campus and would not require any closures of esplanade space except for the removal of the protective platform, which would occur at night. Esplanade restoration work may require the narrowing of the esplanade but at least 50 percent of the width of the esplanade (including at a minimum, an 8-foot-wide pathway) would be available for public use during this task. Therefore, the construction of the proposed project would have a temporary effect on the East River Esplanade. **Table 12-4** shows the anticipated esplanade narrowing schedule during the construction of the proposed project.

[1] The 35-month esplanade construction period does not include bulkhead repair and rebuilding and substantial esplanade upgrades, which are described in Chapter 13, "Mitigation." To partially mitigate the proposed project's significant adverse shadows impact, Rockefeller University—in consultation with the New York City Department of City Planning (DCP) and DPR—would undertake a substantial upgrade to the portion of the esplanade adjacent to the project site (between the area north of the Rockefeller Research Building north of East 64th Street and demapped East 68th Street) and the segment of the esplanade extending an additional approximately 150 feet south of the project site. The bulkhead repair and rebuilding would extend the entire length of the portion of the esplanade adjacent to the project site and would also extend an additional approximately 150 feet south of the project site. The bulkhead repair and rebuilding work is anticipated to start in February 2015.

Table 12-4
Anticipated Schedule for Esplanade Narrowing during Construction of the Proposed Project[1]

Task	Approximate Duration (Weeks)	Narrowing Description
Site Preparation and FDR Drive Lane Shift – Esplanade Clearing	12	A 12-foot-wide walkway would be maintained to allow for pedestrian and bike movement through the area.
Laboratory Building and North Terrace Waterside Operations – Foundation Work at the Esplanade	18	An 8-foot-wide walkway would be maintained to allow for pedestrian and bike movement through the area.
Laboratory Building and North Terrace Waterside Operations – Foundation Work at the Schist Wall/ Installation of Columns and Girders at the Schist Wall	26	A 12-foot-wide walkway would be maintained to allow for pedestrian and bike movement through the area.
Laboratory Building and North Terrace Waterside Operations– Installation of Columns and Girders at the Esplanade	12	An 8-foot-wide walkway would be maintained to allow for pedestrian and bike movement through the area. The esplanade would be closed for pedestrian and bike movement through the area on Sunday from 2:00 AM to 7;00AM and would not prevent access to the esplanade during the day
Laboratory Building and North Terrace Waterside Operations– Removal of Protective Platform	6	An 8-foot-wide walkway would be maintained to allow for pedestrian and bike movement through the area. The esplanade would be closed for pedestrian and bike movement through the area on Sunday from 2:00 AM to 7;00AM and would not prevent access to the esplanade during the day
Laboratory Building and North Terrace Waterside Operations – Laboratory Building and North Terrace Steel Structure Erection	25	An 8-foot-wide walkway would be maintained to allow for pedestrian and bike movement through the area. The esplanade would be closed for pedestrian and bike movement through the area on Sunday from 2:00 AM to 7;00AM and would not prevent access to the esplanade during the day
Esplanade Restoration	36	Intermittent narrowing; a minimum 8-foot-wide walkway would always be maintained to allow for pedestrian and bike movement through the area.

Note: Pedestrian and bike movement through the East River Esplanade would always be maintained during other periods of construction. Esplanade narrowing is expected to occur for the full length of the Esplanade between East 63rd Street and demapped East 68th Street.

RODENT CONTROL

Construction contracts would include provisions for a rodent (i.e., mouse and rat) control program. Before the start of construction, the contractor would survey and bait the appropriate areas and provide for proper site sanitation. During construction, the contractor would carry out a maintenance program (i.e., continuation of baiting appropriate areas), as necessary. Signage would be posted, and coordination would be maintained with appropriate public agencies. Only EPA- and NYSDEC-registered rodenticides would be permitted, and the contractor would be required to perform rodent control programs in a manner that avoids hazards to the general public, domestic animals, and non-target wildlife.

GENERAL CONSTRUCTION TASKS

LABORATORY BUILDING AND NORTH TERRACE WATERSIDE OPERATIONS

Site Preparation and FDR Drive Lane Shift

As part of site preparation, the existing East River Esplanade landscaping between East 63rd Street and demapped East 68th Street would be removed, with any light poles and benches stored for future reuse. Then, a site fence with entry gates would be installed on the western

portion of the esplanade between East 63rd Street and demapped East 68th Street to minimize interference with users using the esplanade passing by the construction site. As discussed above in "Esplanade," an initial 12-foot-wide pathway would be maintained to allow for pedestrian and bike movement through the area during this task. Trailers for the construction engineers and managers would be hauled to the site and installed within the fenced in area. In addition, portable toilets, dumpsters for trash, and water and fuel tankers would be brought to the site and installed. All temporary power and water would be serviced from existing services within the campus. The boiler plant located on the FDR Drive street level would temporarily feed water to the Esplanade through new water pipes along the Rockefeller Research Building. Temporary lighting would be installed on the top of the existing schist retaining wall for any night time construction work.

All existing building windows near the schist wall area construction activities would be sealed. Mooring caissons would be drilled along the existing seawall for barge protection and anchorage. The existing seawall would not be impacted during any construction operation. All utilities that may be present on site and that may be affected by construction activities would be relocated in accordance with all applicable New York City regulations. In order to maintain traffic flow and to provide work zones for the platform foundation work on both sides of the FDR Drive, the traffic lanes on the FDR Drive would first be shifted to the west for the work on the esplanade side of the FDR Drive and then be shifted to the east for work on the schist wall side of the FDR Drive (see **Appendix F** for the anticipated FDR Drive lane closures schedule during the construction of the proposed project). The FDR Drive center median would be removed and replaced with Jersey barriers during this time to allow for the roadway shifts. Equipment used during the site preparation and lane shift task would include bulldozers, front end loaders, bobcats, jack hammers, concrete breakers, air compressors, and a variety of small hand-held tools. During site preparation and FDR Drive lane shift, about 15 to 30 workers per day would be expected to be on site, and typically five trucks would be needed per day. This site preparation and lane shift work is expected to last approximately three months.

Excavation and Foundation

In order to expedite platform construction and minimize disruption to the FDR Drive and the East River Esplanade, multiple work areas would be established at the beginning of the excavation and foundation task. In addition, several moveable barges would be located on the East River adjacent to the project site, to serve as equipment and material staging areas for the construction of the platform. Excavation and foundation work would first commence along the esplanade and would include excavation, auguring and drilling for caissons, drilling for tie-backs, and forming and pouring of grade beams. The excavated soil would be loaded onto dump trucks or placed on barges for transport to a licensed disposal facility or for reuse on another construction site. The FDR Drive would be shifted to the west to allow for adequate work area for this operation. Next, excavation and foundation work would proceed to the west side of the FDR Drive, where the west footings would require rock anchoring. The FDR Drive would then be shifted to the east to allow for adequate work area. No blasting is anticipated for either the east or the west footings. As discussed above in "Esplanade," an eight-foot-wide walkway would be maintained to allow for pedestrian and bike movement through the area during the platform excavation and foundation task. These activities would occur during the night time when the East River Esplanade is lightly used. Equipment used during excavation and foundation work would include excavators, hydraulic drill rigs, generators, grout mixers and pumps, cranes, concrete pumps, concrete trucks, air compressors, and a variety of small hand-held tools. During excavation and foundation, anywhere from 15 to 50 workers would be expected on-site at any

given time. About 5 to 10 trucks per day would be expected for this phase of work. The excavation and foundation task is expected to last approximately ten months.

Below-Grade Hazardous Materials

As described in more detail below in "Hazardous Materials," all construction subsurface soil disturbances would be performed in accordance with an DEP-approved RAP and CHASP, as established in the Restrictive Declaration. The RAP would provide for the appropriate handling, stockpiling, testing, transportation, and disposal of excavated materials, as well as any unexpectedly encountered tanks, in accordance with all applicable federal, state, and local regulatory requirements. The CHASP would ensure that all subsurface disturbances are done in a manner protective of workers, the community, and the environment.

Dewatering

Sea water is anticipated to be encountered during excavation along the esplanade. The water would either be transferred for offsite disposal or deposited back into the East River. Testing would be performed to ensure that the discharged water would meet all applicable DEP regulations. If necessary, the water would be pretreated prior to discharge, as required by DEP.

Structure Construction and Underneath Platform Work

The construction of the deck supporting the laboratory building would first begin with the erection of structural columns east and west of the FDR Drive. This work would be conducted as per NYCDOT requirements regarding lane closures. Prefabricated steel modules of the platform deck would then be delivered to the project area via barges for installation. Barge cranes situated on the East River would be used to lift these steel modules into place. Short-term esplanade closures from 2:00 AM to 7:00 AM on three separate Sundays would be required for the construction of the columns and the girders. In addition, three northbound and one southbound traffic lanes on the FDR Drive would be closed during columns and girders installation work on the esplanade side of the FDR Drive. Three southbound and one northbound traffic lanes on the FDR Drive would also be closed during columns and girders installation work on the schist wall side of the FDR Drive (see **Appendix F** for the anticipated FDR Drive lane closures schedule during the construction of the proposed project). FDR Drive lane closures would also be expected to be short-term and would occur during night time only. MPT plans would be developed in consultation with NYCDOT for any lane closures. Next, the separate prefabricated steel modules would be tied in and a protective deck below the platform would be installed. The protective deck would allow for any necessary work underneath the platform, including fireproofing, mechanical work, electrical work, and cladding. Once the work underneath the platform is completed, the protective deck would be removed. Full FDR Drive (see **Appendix F**) and esplanade closures (see **Table 12-4**) would be required during the removal of the protective deck.

In addition, prior to the construction of the laboratory building and North Terrace steel structure, two small segments of the existing schist wall (the areas immediately north and south of Welch Hall) would be removed for future connection points to the proposed laboratory building and ICC. Construction activities that would occur adjacent to the FDR Drive such as the schist wall removals, rock removal, and foundations, would not commence until the platform structure is completed so as to ensure that a protective area would be present for these operations. Other limited areas of the schist wall at the sublevels of adjacent campus buildings would also need to be removed to establish future connections to the new laboratory building and North Terrace. All public traffic on the esplanade would be stopped briefly when materials are hoisted overhead.

Equipment used during platform structure construction would include cranes, concrete pumps, concrete trucks, boom trucks, air compressors, welders, and a variety of small hand-held tools. During structure construction and underneath platform work, approximately 35 to 100 workers per day would be expected to be on site, and typically 5 to 15 trucks per day would be expected for this task, depending on the operation. The structure construction task is expected to last approximately 18 months.

LABORATORY BUILDINGAND ICC LANDSIDE OPERATIONS

Make Ready, Demolition, and Foundations

As shown in **Figure 12-1** and **Table 12-2**, the make ready task would be performed simultaneously with platform construction. This task would involve any site clean-up work regarding hazardous or contaminated materials, safety and protection installation, decanting efforts, and utility relocations. Material and personnel access points to the Laboratory Building Site and North Terrace Site would also be established during this task. The main entry point to the construction site is expected to be from demapped East 68th Street, with two supplemental access points at a light duty platform on the south side of Flexner Hall and a medium duty bridge between Welch Hall and the Nurse's Residence. The existing parking lane along the south side of demapped East 68th Street would be used for truck staging and an unloading area. Overhead protection for the esplanade would be installed. In addition, existing building facades and campus structures would be protected. Trailers for the construction engineers and managers would be hauled to the construction site and installed within the campus and located on the south side of the demapped East 68th street sidewalk. A site crane would also be brought to the site and installed at the south side of Flexner Hall. This site crane would be present only for intermittent durations during those tasks as needed, including steel erection, equipment rigging, and exhaust stack installation. Otherwise, the crane would be demobilized and removed from the project site. All temporary power and water would be provided from existing services within the campus. The lifting of any materials over buildings and the esplanade would require the decanting of these spaces as per DOB regulations and would only be performed on a weekend.

In addition to the site crane, equipment used during this task would also include air compressors, welders, and a variety of small hand-held tools. Approximately 5 to 15 workers per day would be expected to be on site, and typically two to five trucks per day would be expected for the make ready, demolition, and foundations task, depending on the operation. This task is expected to last approximately 14 months.

Core and Shell Construction

Core and shell construction of the laboratory building and the ICC would commence when the platform structure is complete. Construction of the interior structure, or core, of the proposed laboratory building would include elevator shafts; and for both the laboratory building and the ICC, construction would include vertical risers for mechanical, electrical, and plumbing systems; electrical and mechanical equipment rooms; core stairs; and restroom areas. The shell is the outside of the building. The exterior wall system of the laboratory building and ICC would be panelized and would be lifted into place via a crane. The construction of the laboratory building and ICC's east façade would require partial closure of the esplanade. Equipment used during core and shell construction would include cranes, backhoes, concrete pumps, concrete trucks, boom trucks, air compressors, welders, and a variety of small hand-held tools. During core and shell construction, about 25 to 115 workers per day would be expected to be on site, and

typically 5 to 25 trucks per day are would be expected for this task, depending on the operation. The core and shell construction task would be expected to last approximately 12 months.

Interior and Finishing

As shown in **Figure 12-1** and **Table 12-2**, interior and finishing would start approximately five months after core and shell construction of the laboratory building and ICC commences. This stage would include the construction of interior partitions, installation of lighting fixtures, and interior finishes (flooring, painting, etc.), and mechanical and electrical work. In addition, after the proposed laboratory building is substantially enclosed, breakthroughs into existing campus buildings would be made to establish connection points from the existing campus to the laboratory building. The ICC would not be connected to any existing campus buildings. Equipment used during interiors work for both the laboratory building and the ICC would include hydro cranes, boom trucks, pneumatic equipment, welders, and a variety of small hand-held tools. During interior and finishing, about 30 to 170 workers per day would be expected to be on site, and typically 10 to 35 trucks per day would be expected for this task, depending on the operation. The interior and finishing task is expected to last approximately 14 months. This stage of construction is the quietest because most of the construction activities would occur within the proposed buildings.

Site Work

Site work would commence when the core and shell construction of the laboratory building and ICC is complete. The site work and landscaping for the new laboratory building and ICC would be extensive and would include a green roof for the laboratory building and landscaped terraces for both buildings. This task would commence at the same as the interior work of the laboratory building and ICC is occurring. During construction of the green roof, top soil may be imported for installation of the grassy areas and landscaping. Trees and shrubs would be planted and furniture, such as benches and tables, would be installed. Any of the campus infrastructure used for temporary access would be restored. Equipment used during landscaping would include backhoes, rubber tire crane, jackhammer, asphalt saws, asphalt paver, and mini excavators. During the site work task, about 15 to 25 workers would be expected on-site per day. In addition, approximately five trucks would be expected to enter and leave the project site per day. The site work task is expected to last approximately 11 months.

Testing and Commissioning

Testing and commissioning would occur towards the end of construction and would involve completing all of the punch list items (i.e., testing of mechanical, plumbing, and electrical systems), which are typically small tasks that were not completely finished. In addition, final cleanup and touchup of the site and final approvals from city and state authorities would be part of the commissioning process. Approximately25 to 55 workers per day would be expected for testing and commissioning, and approximately 5 to 10trucks per day would be expected for this task. The testing and commissioning task is expected to last approximately five months.

ESPLANADE

Esplanade Restoration

The portion of the East River Esplanade from East 63rd Street to demapped East 68th Street that would be disturbed during construction would be restored once the platform and east façade of

the laboratory building and ICC landside operations are complete.[1] Esplanade restoration activities are expected to take place between November 2017 and July 2018. During the restoration of the esplanade, top soil may be imported for installation of the planted areas and landscaping. Concrete and stone sidewalks would be placed and street furniture, such as benches and tables, and lighting would be installed. Dump trucks would bring the soil to the site for spreading. Trees, shrubs, and other plantings would be installed. In general, esplanade restoration work would proceed from west to east. Esplanade restoration work may require the narrowing of the esplanade but at least 50 percent of the width of the esplanade (including at a minimum, an 8-foot-wide pathway) would be available for public use during this task. Equipment used during landscaping would include backhoes, rubber tire crane, jackhammer, asphalt saws, asphalt paver, and mini excavators. During the esplanade restoration task, about 10 to 40 workers would be expected on-site per day. In addition, approximately 5 to 10 trucks would be expected to enter and leave the project site per day. The phased site work task is expected to last approximately nine months.

FITNESS CENTER

Fitness Center—Make Ready and Demolition

As shown in **Figure 12-1** and **Table 12-2,** fitness center construction is expected to start in October 2016. The fitness center site would require existing utility relocation. All temporary power and water would be serviced from existing services within the campus. Material and personnel access points and staging areas would be from the East 67th Street gate and would utilize the parking lane on demapped East 68th Street. The sidewalk on the south side of demapped East 68th Street would be closed to pedestrian access but York Avenue (including the campus' main access point on East 66th Street and York Avenue) would not be affected. A portion of the existing metal and brick fence on demapped East 68th Street would be removed during this task. Trailers for the construction engineers and managers would be hauled to the site and installed on the south sidewalk of demapped East 68th Street. In coordination with Rockefeller University, the existing demapped East 68th Street campus truck dock would be utilized for certain construction material deliveries. The existing surface parking lot, concrete canopy structure and rooftop tennis court, and perimeter landscaping within the construction zone would be removed from the fitness center site.

During the make ready and demolition task, about 5 to 15 workers would be expected on-site per day. In addition, approximately 5 to 10 trucks would be expected to enter and leave the project site per day. This work operation is expected to last approximately two months.

Fitness Center—Excavation and Foundation

Excavation and foundation for the fitness center would start after the make ready and demolition task for the fitness center is complete. Since the footprint of the proposed fitness center consists

[1] To partially mitigate the proposed project's significant adverse shadows impact, Rockefeller University—in consultation with DCP and DPR—would undertake a substantial upgrade to the portion of the esplanade adjacent to the project site (between the area north of the Rockefeller Research Building north of East 64th Street and demapped East 68th Street) and the segment of the esplanade extending an additional approximately 150 feet south of the project site. The bulkhead repair and rebuilding would extend the entire length of the portion of the esplanade adjacent to the project site and would also extend an additional approximately 150 feet south of the project site. See discussion of bulkhead repair and rebuilding and substantial esplanade upgrades as described in Chapter 13, "Mitigation."

of a high outcrop of rock, rock removal would be required. Hammering and line drilling methods would be employed but blasting is not anticipated. A spread footing foundation system is expected to be used for the fitness center. For this type of foundation, concrete column footings would be used to accommodate the concentrated load placed on them and support the structure above. These concrete footings would be reinforced with rebar.

Excavators and front end loaders would be used for the task of soil excavation. The soils would be loaded onto dump trucks for transport to a licensed disposal facility or for reuse on a construction site that needs fill. Next, the concrete footings would be erected and subsequently the basement floor would be installed. The installation of the footings would require concrete trucks, concrete pumps, backhoes, cranes, air compressors, and various hand tools. There is also a considerable amount of underground work required for the building and pool systems. During the excavation and foundation task, approximately10 to 15 workers would be expected on-site per day. In addition, approximately 5 to 10 trucks would be expected to enter and leave the project site per day. The excavation and foundation task is expected to last approximately three months.

Fitness Center—Core and Shell Construction

Core and shell construction for the fitness center would start after the excavation and foundation task for the fitness center is complete. Construction of the fitness center's core would include vertical risers for mechanical, electrical, and plumbing systems; electrical and mechanical equipment rooms; core stairs; and restroom areas. The building's structural frame and façade would then be erected. Construction of the exterior enclosure, or "shell" of the building, would include construction of the building's framework (installation of beams and columns), floor decks, façade (exterior walls and cladding), and roof construction. These activities would require the use of cranes, delivery trucks, concrete pumps, concrete trowels, welding equipment, and a variety of handheld tools. Each day, approximately 20 to 45 workers and 10 to 15 trucks would be expected to be required. The core and shell construction task is expected to last approximately eight months.

Fitness Center—Interiors

Construction of the fitness center interior would commence one month after the start of the core and shell construction task for the fitness center. This stage would include the construction of interior partitions, installation of lighting fixtures, and interior finishes (flooring, painting, etc.), and mechanical and electrical work. This task would also include the development of a swimming pool within the building and a rooftop tennis court. Equipment used during interior construction would include delivery trucks and a variety of small hand-held tools. This activity would be expected to employ about 25 to 45 workers per day. In addition, about 15 to 20 trucks per day would be expected arrive and leave the construction site. While the greatest number of construction workers would be on-site during this stage of construction, this is the quietest because most of the construction activities would occur within the building envelope. The interiors task is expected to last approximately eight months.

Fitness Center—Site Work[1]

Fitness center site work would occur towards the end of fitness center construction. During construction of the street level landscaping, top soil may be purchased from suppliers for installation of the grassy areas and landscaping. Walkways would be paved and trees and shrubs maybe planted. Equipment used during landscaping would include backhoes, rubber tire crane, jackhammer, asphalt saws, asphalt paver, and mini excavators. About 15 workers would be expected on-site per day during the site work task. In addition, approximately five trucks would be expected to enter and leave the project site per day. The site work task is expected to last approximately four months.

NUMBER OF CONSTRUCTION WORKERS AND MATERIAL DELIVERIES

Table 12-5 shows the estimated average daily numbers of workers and deliveries to the project area by calendar quarter for the duration of the construction period. The average number of workers throughout the entire period would be approximately107 per day. The peak number of workers would be 251 per day, and would be expected to occur during the second quarter of 2018. For truck trips, the average number of trucks throughout the entire construction period would be expected to be 22 per day, and the peak would also be expected to occur in the second quarter of 2018 with 50 trucks per day.

Table 12-5
Average Number of Daily Workers and Trucks by Quarter

Year	2015				2016				2017				2018				2019			
Quarter	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	Average	Peak
Workers	-	21	22	48	50	52	94	111	92	140	149	117	201	**251**	180	98	87	56	107	251
Trucks	-	6	5	10	10	11	17	24	22	30	33	26	41	**50**	36	19	16	10	22	50

Sources: Turner Construction Company

E. FUTURE NO ACTION SCENARIO

Absent the proposed actions, in the Future No Action scenario no new development will occur within the LSCFD. In this scenario, the air rights spanning the FDR Drive will not be developed and the surface parking lot and canopy structure will remain. Certain areas of the Bronk Building, the Smith Hall Annex, and other campus buildings will be used for storage of University equipment and furniture, as needed, as part of the typical University operations.

In the Future No Action scenario, the temporary IT Pavilion, located south of the University's East 66th Street entrance near York Avenue, will be removed and the site will become a landscaped area. The IT population and equipment will be relocated to other existing buildings and spaces on campus.

In the Future No Action scenario, the existing 108 parking spaces, including the 52 parking spaces at the East 68th Street surface parking lot, will be maintained. A 2006 survey of the Rockefeller LSCFD's East 68th Street surface parking lot identified 70 parking spaces. However, the East 68th Street parking lot has been functioning at a reduced capacity with 52

[1] The site work task for the Fitness Center does not include restoration plan for the Philosopher's Garden, which is located immediately south of the Fitness Center Site, and is described in Chapter 13, "Mitigation." Since the restoration plan for the Philosopher's Garden would not require extensive construction activities, it would not materially affect the construction duration of the Fitness Building.

parking spaces since 2007 when trailers were installed for the construction of the CRC. At that time, parking spaces were relocated elsewhere on campus. However, since then, Rockefeller University has gradually reduced the number of campus parking permits issued, with 39 permits eliminated through attrition and not reassigned. Therefore, since 2007, the number of parking spaces on campus has been permanently reduced from 147 spaces to 108 spaces.

F. ENVIRONMENTAL EFFECTS OF PROJECT CONSTRUCTION ACTIVITIES

Construction of the proposed project, as is the case with any construction activities, may result in some temporary disruptions in the surrounding area. The following analysis describes the overall temporary effects on transportation, air quality, noise and vibration, open space, historic and cultural resources, hazardous materials, natural resources, socioeconomic conditions, community facilities, and land use and neighborhood character.

TRANSPORTATION

As previously described, the proposed construction effort involves three major components: construction of the platform over the FDR Drive, construction of the laboratory building and ICC, and construction of the fitness center. The transportation analysis for construction conditions is based on a study of peak construction-related activities including construction workers and truck trips. For the proposed project, the cumulative peak construction worker vehicle and truck trip generation would occur during the construction the laboratory building and ICC (second quarter of 2018). This period coincides with the peak demand for parking, transit, and pedestrian activity when there is the greatest number of construction workers traveling to/from the site. Since the construction duration is expected to exceed two years, the *CEQR Technical Manual* requires a detailed transportation screening assessment for the construction condition. The detailed transportation screening assessment is provided below.

TRAFFIC

Construction activities would generate construction worker and truck traffic. An evaluation of construction sequencing and worker/truck projections was undertaken to assess potential transportation-related impacts. As demonstrated below, the construction of the proposed project is not expected to result in any significant adverse traffic impacts.

Level 1 Construction Trip Generation Screening Assessment

Average daily construction worker and truck activities by quarter were projected for the entire construction period. As detailed above, construction activities related to the proposed project are expected to be completed by 2019. The projected quarterly average worker and truck trip projections were further refined to account for worker modal splits and vehicle occupancy, arrival and departure distribution, and passenger car equivalent (PCE) factor for construction truck traffic.

Daily Workforce and Truck Deliveries

For a reasonable worst-case analysis of potential transportation-related impacts during construction, the daily workforce and truck trip projections in the peak quarter were used as the basis for estimating peak hour construction trips.

It is expected that construction activities would generate the highest amount of incremental daily traffic in the second quarter of 2018, with a projection of 251 daily workers and 50 truck deliveries per day (see **Table 12-5** above for details).

Construction Worker Modal Splits and Vehicle Occupancy

Based on 2000 U.S. Census data on workers in the construction and excavation industry, it is anticipated that 59 percent of construction workers commute to the project site by private autos at an average occupancy of approximately 1.13 persons per vehicle.

Peak Hour Construction Worker Vehicle and Truck Trips

Similar to other typical construction projects in New York City, most of the construction activities at the project site during the construction of the laboratory building and ICC are expected to take place during the construction shift of 7:00 AM to 3:30 PM. While construction truck trips would be made throughout the day (with more trips typically made during the early morning), and most trucks would remain in the area for short durations, construction workers would typically commute during the hours before and after the work shift. For analysis purposes, each worker vehicle was assumed to arrive in the morning and depart in the afternoon, whereas each truck delivery was assumed to result in two truck trips during the same hour (one "in" and one "out"). Further, in accordance with the *CEQR Technical Manual*, the traffic analysis assumed that each truck has a PCE of 2.0.

The estimated daily vehicle trips were distributed throughout the workday based on projected work shift allocations and conventional arrival/departure patterns of construction workers and trucks. For construction workers, the majority (80 percent) of the arrival and departure trips would take place during the hour before and after each shift. For construction trucks, deliveries would occur throughout the day when the construction site is active. Construction truck deliveries typically peak during the early morning (25 percent), overlapping with construction worker arrival traffic.

The peak construction hourly trip projections for the second quarter of 2018 are summarized in **Table 12-6**. As shown, the maximum incremental construction activities would result in 97 PCEs between 3:00 to 4:00 PM on weekdays.

Table 12-6
2018 With-Action Peak Construction Vehicle Trip Projections

	Auto Trips			Truck Trips			Total					
	Regular Shift			Regular Shift			Vehicle Trips			PCE Trips		
Hour	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total
6 AM - 7 AM	105	0	105	13	13	26	118	13	131	131	26	157
7 AM - 8 AM	26	0	26	5	5	10	31	5	36	36	10	46
8 AM - 9 AM	0	0	0	5	5	10	5	5	10	10	10	20
9 AM -10 AM	0	0	0	5	5	10	5	5	10	10	10	20
10 AM -11 AM	0	0	0	5	5	10	5	5	10	10	10	20
11 AM - 12 PM	0	0	0	5	5	10	5	5	10	10	10	20
12 PM - 1 PM	0	0	0	5	5	10	5	5	10	10	10	20
1 PM - 2 PM	0	0	0	3	3	6	3	3	6	6	6	12
2 PM - 3 PM	0	7	7	3	3	6	3	10	13	6	13	19
3 PM - 4 PM	0	105	105	3	3	6	3	108	111	6	111	117
4 PM - 5 PM	0	19	19	0	0	0	0	19	19	0	19	19
Daily Total	**131**	**131**	**262**	**52**	**52**	**104**	**183**	**183**	**366**	**235**	**235**	**470**

Note: Hourly construction worker and truck trips were derived from an estimated quarterly average number of construction workers and truck deliveries per day, with each truck delivery resulting in two daily trips (arrival and departure).

Since the projected peak hour vehicle trip estimates (in PCEs) exceed the *CEQR* analysis threshold of 50 peak hour vehicle trips for the weekday AM (6:00 to 7:00 AM) and PM (3:00 to 4:00 PM) peak hours, a Level 2 screening assessment was conducted for each peak hour to determine the need for additional quantified traffic analyses, as discussed below.

Level 2 Construction Generated Trip Assignment Screening Assessment

Auto trips made by construction workers were assigned to the nearby available off-street parking facilities (discussed in further details below) in the traffic network via reasonable and direct routes. Delivery trips made by construction trucks were assigned to NYCDOT-designated truck routes, including First Avenue, Second Avenue, Third Avenue, 65th Street, and 66th Street. Illustrative traffic assignments for the construction-generated vehicle trips during the weekday AM and PM peak hours of the second quarter of 2018 are shown in **Figures 12-3 and 12-4**. These assignments show that incremental construction vehicle trips (In PCEs) during the 6:00 to 7:00 AM, and 3:00 to 4:00 PM peak hours would be below the *CEQR* threshold of 50 peak hour vehicle trips at all area intersections. Therefore, a quantitative traffic analysis is not warranted and weekday construction activities would not have the potential to result in significant adverse traffic impacts. These findings are based on the following considerations:

- *Trip Distribution.* Approximately 40 percent of the overall project construction-generated worker vehicle trips were estimated to approach the project site from the south, 25 percent from the west, 20 percent from the north, and 15 percent from the east. During the AM peak hour, most intersections would experience an increment of less than 36 total vehicle trips with the exception of the site driveway at East 66th Street (37 vehicle trips), York Avenue and East 71st Street (38 vehicle trips), and Second Avenue and East 65th Street (36 vehicle trips). During the PM peak hour, most intersections would experience an increment less than 30 total vehicle trips, with the exception of York Avenue and 63rd Street (31 vehicle trips), York Avenue and 62nd Street (31 vehicle trips), and Second Avenue and East 61st Street (30 vehicle trips).
- *Construction Worker Parking.* Construction worker parking would be distributed over the study area at and off-street locations in the vicinity of the site. As a result, worker trips approaching the site would be distributed over a greater roadway network.

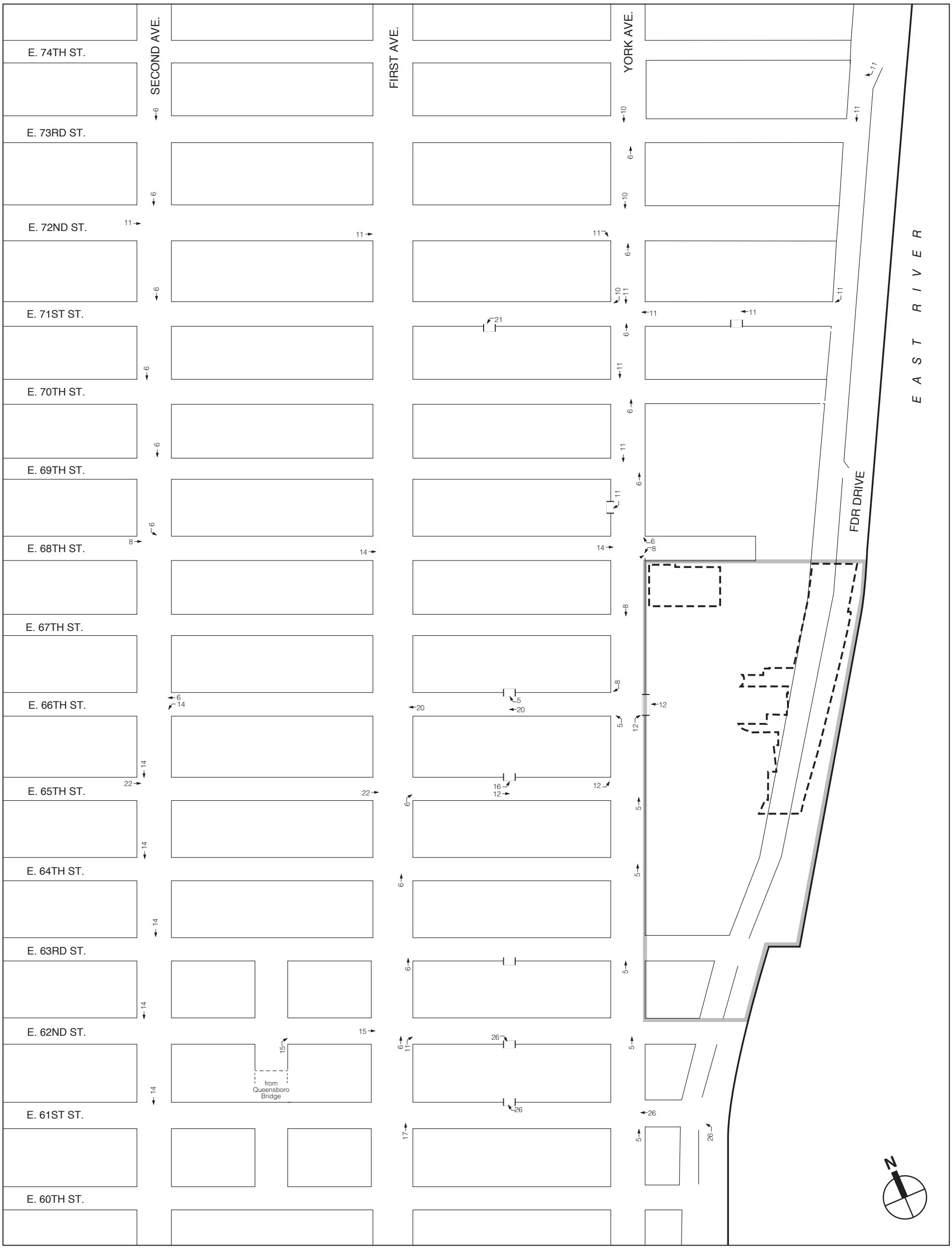
Curb Lane Closures and Staging

Temporary curb lane and sidewalk closures are expected to be required at demapped East 68th Street adjacent to the project site, which would have dedicated gates, driveways, or ramps for delivery vehicle access. Flag-persons are expected to be present at these active driveways, where needed, to manage the access and movement of trucks and to ensure no on-street queuing. MPT plans would be developed for any curb lane and sidewalk closures. Approval of these plans and implementation of all temporary sidewalk and curb lane closures during construction would be coordinated with NYCDOT's OCMC. It is expected that traffic and pedestrian flow along all surrounding streets would be maintained throughout the entire construction period.

PARKING

The construction activities of the proposed project would generate a maximum daily parking demand of up to 131 spaces during the second quarter of 2018. Construction worker vehicles were assigned to the nearest off-street parking facilities that are expected to have available parking capacity to accommodate this demand. The area surrounding the Rockefeller University campus is characterized by medical and hospital uses supported by parking facilities. As shown in **Figure 12-5**, there are 41 parking facilities within a ¼-mile of the project site between York Avenue and Second Avenue from East 58th Street to East 72nd Street. The existing parking utilization summarized in **Table 12-7** demonstrates that the projected parking demand can be readily accommodated, such that there would not be a potential for a parking shortfall during the project's construction.

10.29.13



NOT TO SCALE

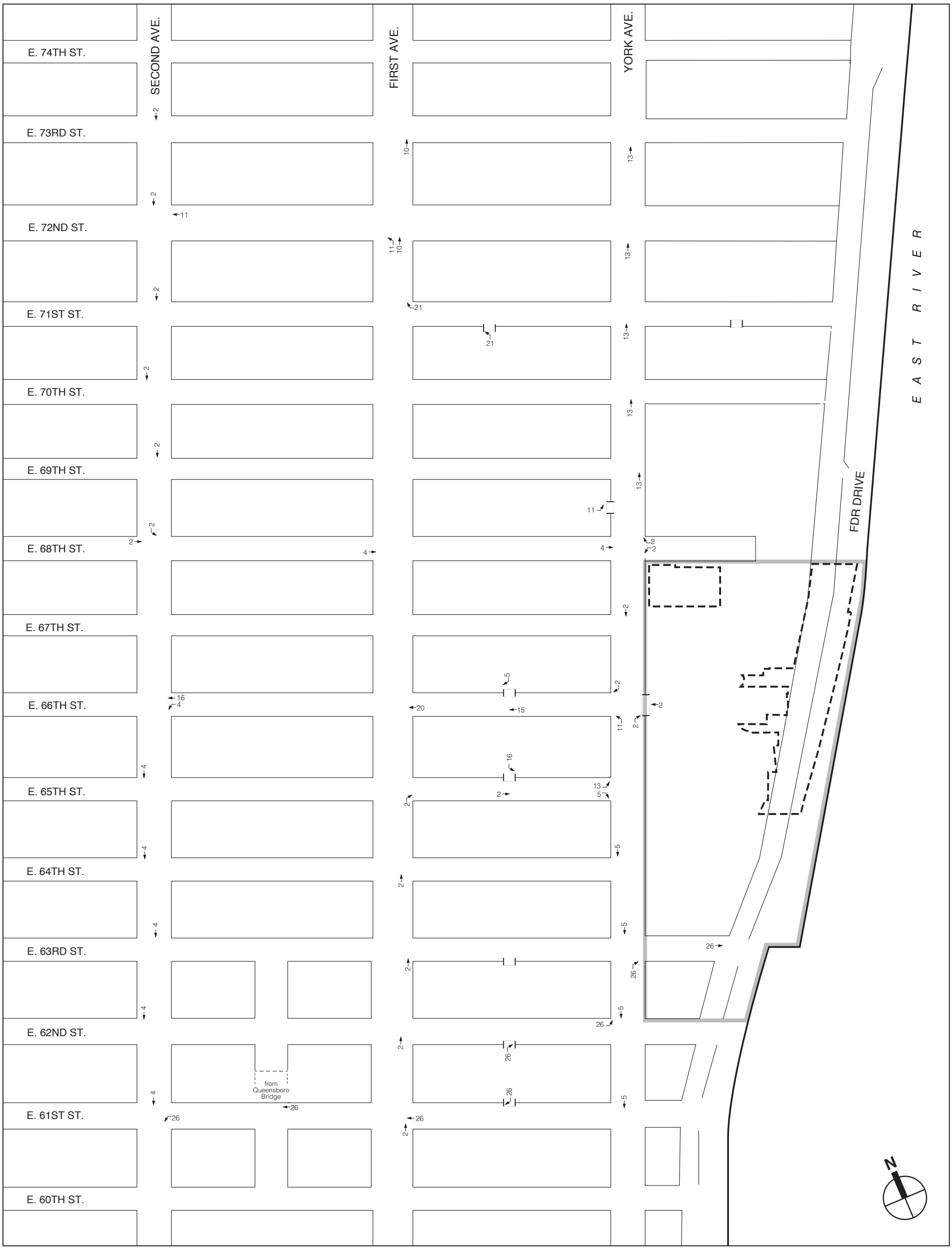
Large Scale Community Facility Development (LSCFD) (Rockefeller University Campus)

Development Sites

Peak Construction Generated Traffic Volumes
Weekday (6AM to 7AM)
Figure 12-3

ROCKEFELLER
UNIVERSITY

10.29.13



NOT TO SCALE

Large Scale Community Facility Development (LSCFD) (Rockefeller University Campus)

Development Sites

ROCKEFELLER UNIVERSITY

Peak Construction Generated Traffic Volumes
Weekday (3PM to 4PM)
Figure 12-4

10.29.13

Project Site Boundary

Study Area Boundary (1/4-Mile Perimeter)

1 *Off-Street Parking Facility*

Entry/Exit

Exit Only

0 400 1000 FEET

SCALE

ROCKEFELLER UNIVERSITY

Off-Street Parking Facilities
Figure 12-5

TRANSIT

Approximately 41 percent of the construction workers are estimated to travel to and from the construction site via transit, including subway and bus. During peak construction (maximum of 251 average daily construction workers), this distribution would represent correspondingly up to 103 daily workers traveling by transit. With 80 percent of these workers arriving or departing during the construction peak hours, the estimated number of total peak hour transit trips would be 82. Since these construction worker trips would occur outside of peak periods of transit ridership and be distributed among the nearby transit facilities, travel by construction workers would not result in any significant adverse transit impacts.

PEDESTRIANS

As summarized above, up to 251 average daily construction workers were projected during peak construction. With 80 percent of these workers arriving or departing during the construction traffic peak hours (6:00 to 7:00 AM and 3:00 to 4:00 PM), the corresponding numbers of peak hour pedestrian trips traversing the area's sidewalks, corners, and crosswalks would be up to 201 during the weekday AM (6:00 to 7:00 AM) and PM (3:00 to 4:00 PM) peak hours. Although the projected peak hour pedestrian estimates exceed the *CEQR* threshold for a Level 2 screen assessment, since there are two access points to the construction site, no individual pedestrian element is expected to result in 200 trips during the construction traffic peak hours. Considering that these pedestrians would primarily occur outside of the typical commuter peak hours and access to the project site would be at two locations along York Avenue, there would not be a potential for significant adverse pedestrian impacts attributed to construction worker pedestrian trips.

VEHICULAR AND PEDESTRIAN SAFETY

As summarized above, the projected construction activities would not warrant quantified analyses of potential impacts on traffic and pedestrians. Therefore, an evaluation of crash data at nearby intersections is also unwarranted and construction of the proposed project would not result in any significant adverse impacts on vehicular or pedestrian safety.

AIR QUALITY

Emissions from on-site construction equipment and on-road construction-related vehicles, as well as dust generating activities, have the potential to affect air quality. In general, much of the heavy equipment used in construction has diesel-powered engines and produces relatively high levels of nitrogen oxides (NO_x) and particulate matter (PM). Fugitive dust generated by construction activities is composed of particulate matter. Finally, gasoline engines produce relatively high levels of carbon monoxide (CO). As a result, the primary air pollutants of concern for construction activities include nitrogen dioxide (NO_2), particulate matter with an aerodynamic diameter of less than or equal to 10 micrometers (PM_{10}) and 2.5 micrometers ($PM_{2.5}$), and CO.

CEQR IMPACT CRITERIA

The *CEQR Technical Manual* lists several factors for consideration in determining whether a quantified on-site and/or off-site construction impact assessment for air quality is appropriate. For on-site assessment, these factors include the duration and intensity of construction activities, the location of nearby sensitive receptors, and the use of emission control measures. For off-site assessment, if a quantified transportation analysis is required, a corresponding air quality analysis for mobile sources is generally also conducted.

Table 12-7
2013 Existing Off-Street Parking—1/4-Mile
Weekday Utilization

Map #	Name/Operator and Address/Location	License Number	Licensed Capacity	Utilization Rate				Utilized Spaces				Available Spaces			
				AM	MD	PM	ON	AM	MD	PM	ON	AM	MD	PM	ON
1	Sharp Car Park LLC - 357 East 57th Street	1192361	75	50%	70%	75%	50%	38	53	56	38	37	22	19	37
2	Sovereign Car Park LLC - 425 East 58th Street	904133	200	40%	70%	60%	20%	80	140	120	40	120	60	80	160
3	Quik Park - 338-342 59th Street	1383664	288	30%	60%	40%	30%	86	173	115	86	202	115	173	202
4	Bridge Parking Corp - 321 East 60th Street	738230	44	80%	100%	80%	50%	35	44	35	22	9	0	9	22
5	CPS - 403-407 East 60th Street	1130359	168	65%	75%	80%	15%	109	126	134	25	59	42	34	143
6	Quik Park - 500 East 62nd Street	1313248	120	55%	66%	66%	40%	66	79	79	48	54	41	41	72
7	Champion Parking LLC - 1113 York Avenue	1401121	148	33%	80%	80%	50%	49	118	118	74	99	30	30	74
8	Quik Park 61st Street LLC - 425 East 61st Street	1192888	225	45%	80%	60%	30%	101	180	135	68	124	45	90	157
9	Bridgetow Parking LLC - 401 East 60th Street	1184568	99	40%	85%	75%	25%	40	84	74	25	59	15	25	74
10	330 East 61st Street	1127531	75	30%	90%	80%	20%	23	68	60	15	52	7	15	60
11	Enterprise 62nd Parking - 301 East 62nd Street	1396795	40	75%	90%	100%	50%	30	36	40	20	10	4	0	20
12	Quik Park 61st Street - 510 East 62nd Street	1192969	50	75%	90%	80%	25%	38	45	40	13	12	5	10	37
13	Metro Parking Corp - 301 East 63rd Street	469866	39	80%	90%	90%	60%	31	35	35	23	8	4	4	16
14	Mutual Parking Systems - 340 East 64th Street	889934	91	66%	80%	80%	50%	60	73	73	46	31	18	18	45
15	GMC - 337 East 64th Street	1312358	300	50%	70%	70%	25%	150	210	210	75	150	90	90	225
16	301 Park Corporation - 301 E. 64th Street	932155	84	80%	90%	50%	20%	67	76	42	17	17	8	42	67
17	Quik Park 65th Street LLC - 403 East 65th Street	1228864	180	50%	85%	60%	33%	90	153	108	59	90	27	72	121
18	Enterprise York Garage LLC - 1175 York Avenue	1460721	94	60%	90%	75%	25%	56	85	71	24	38	9	23	70
19	Kinney Parking Systems - 450 East 63rd Street	1137035	433	40%	70%	80%	30%	173	303	346	130	260	130	87	303
20	Imperial Parking LLC - 405 East 63rd Street	1455314	39	80%	80%	80%	80%	31	31	31	31	8	8	8	8
21	Memorial Sloan Kettering - 1231-1241 York Avenue	368585-81098	263	65%	65%	65%	25%	171	171	171	66	92	92	92	197
22	Laz Parking of NY/NJ - 360 E. 65th Street	1431566	69	70%	70%	50%	40%	48	48	35	28	21	21	34	41
23	GMC - 322 E. 66th Street	1251169	50	45%	95%	90%	45%	23	48	45	23	27	2	5	27
24	Kinney System on 66th Street - 301 E. 66th Street	1196437	70	70%	85%	85%	50%	49	60	60	35	21	10	10	35
25	The NY Hospital Toyal Charter Properties - 1285 York Avenue	957484	77	50%	80%	70%	20%	39	62	54	15	38	15	23	62
26	Alliance E. 69th Parking LLC - 301 E. 69th Street	1300930	40	80%	100%	100%	60%	32	40	40	24	8	0	0	16
27	333 Garage Corporation - 333 E. 69th Street	367866	67	25%	75%	85%	25%	17	50	57	17	50	17	10	50
28	Cornell Weill Greenburg Center - 1375 York Avenue	1247310	95	60%	80%	75%	25%	57	76	71	24	38	19	24	71
29	Jacob S. Lasdon House Garage - 430 E. 70th Street	369751	180	50%	80%	80%	20%	90	144	144	36	90	36	36	144
30	Quik Park - 400 E. 71st Street	1192968	180	50%	75%	65%	35%	90	135	117	63	90	45	63	117
31	Park 70 LLC - 400 E. 70th Street	1357129	56	80%	80%	80%	80%	45	45	45	45	11	11	11	11
32	Helmsley Medical Tower Garage - 507 E. 70th Street	831026	175	55%	80%	70%	50%	96	140	123	88	79	35	52	87
33	The NY Hospital Laurence G. Payson House - 426-438 E. 71st Street	369314	174	45%	85%	30%	30%	78	148	52	52	96	26	122	122
34	Independent Parking LLC - 417 E. 71st Street	897040	77	66%	80%	50%	20%	51	62	39	15	26	15	38	62
35	72nd Street LLC - 517 E. 71st Street	1152232	50	30%	85%	75%	30%	15	43	38	15	35	7	12	35
36	Quik Park E. 73rd St. LLC - 524 E. 73rd Street	1376342	320	40%	70%	60%	25%	128	224	192	80	192	96	128	240
37	E. River 72nd Garage LLC - 515 E. 72nd Street	813280	130	30%	80%	60%	15%	39	104	78	20	91	26	52	110
38	420 E. 72nd Garage Corp. - 420 E. 72nd Street	1412461	51	60%	90%	75%	25%	31	46	38	13	20	5	13	38
39	E. 72nd Realty LLC - 1353-1367 York Avenue	1070441	235	33%	80%	70%	20%	78	188	165	47	157	47	70	188
40	Quik Park East 72 LLC - 525 E. 72nd Street	1330577	146	65%	65%	65%	15%	95	95	95	22	51	51	51	124
41	Quik Park East 72 LLC - 530-546 E. 73rd Street	1330560	62	40%	90%	80%	30%	25	56	50	19	37	6	12	43
			5,359	**49%**	**76%**	**68%**	**33%**	**2,650**	**4,097**	**3,631**	**1,626**	**2,709**	**1,262**	**1,728**	**3,733**

Notes: MD = Midday; ON = Overnight
Sources: Survey conducted by AKRF Inc. May 2013.

ON-SITE SOURCES – DURATION

While the overall construction duration for the proposed project is anticipated to be approximately four years, the most intense construction activities in terms of air pollutant emissions, excavation and foundation activities for the platform where a handful of large non-road diesel engines will operate throughout the site, would be short-term (less than two years) and is expected to take approximately 10 months. As described above, most of these activities would take place during the limited night time hours when FDR Drive lane closure is permitted. Although structure construction and underneath platform work, in addition to laboratory building and ICC landside operations and fitness center construction, would continue after demolition,

excavation, and foundation activities for the platform are complete, those efforts would result in much lower air emissions compared to demolition, excavation and foundation activities since they would require few pieces of heavy duty diesel equipment. The equipment required for these tasks would generally have smaller engines and would be dispersed vertically throughout the building and/or throughout the construction site, resulting in very low concentration increments in adjacent areas. Although site cranes would be needed for lifting work, it would be present only for intermittent durations during those tasks as needed, including steel erection, equipment rigging, and exhaust stack installation.

ON-SITE SOURCES – INTENSITY

During the construction of the proposed project, construction equipment engines would generally move throughout the site, although a concrete pump would be located in one location during concrete pours. The proposed project includes the construction of a two-story laboratory building, a one-story ICC, and a one-story fitness center, and is therefore not as intense as some large-scale multi-building construction projects. In addition, activities associated with platform construction would be spread out due to site constraints and the need for FDR Drive lane closures, which is permitted on a limited basis as shown in **Table 12-3**. Based on the nature of the construction work for the proposed project, construction activities would not be considered out of the ordinary in terms of intensity, and emissions would be reduced through implementation of the measures described below under "Emission Control Measures."

ON-SITE SOURCES – LOCATION OF NEARBY SENSITIVE RECEPTORS

The construction activities associated with the platform structure, laboratory building, ICC, and the fitness center would take place within the Rockefeller campus and at the FDR Drive, away from other sensitive residential uses in the area. The nearest sensitive receptor locations to the proposed project site would be the East River Esplanade, located immediately east of the FDR Drive between East 63rd Street and demapped East 68th Street, and NYPH-Weill Cornell Medical College, located approximately 30 feet north of the proposed platform over the FDR Drive. However, a majority of the most intense construction activities in terms of air pollutant emissions (i.e., demolition, excavation, and foundation work for the platform) would occur during the night time when the East River Esplanade is lightly used. Moreover, the esplanade is for transient use and people would not be expected to be present for extended durations. Since NYPH-Weill Cornell Medical College is located approximately at least 30 feet from the construction activities, air emissions generated by construction sources would be dispersed before reaching the receptor, and would result in low concentration increments. Furthermore, NYPH-Weill Cornell Medical College has central air-conditioning and windows are not expected to be opened during construction; therefore, there is no direct pathway between the equipment sources and this sensitive receptor location.

The next furthest sensitive receptor is the Graduate Student Residence on the existing Rockefeller University campus, located approximately 160 feet east of the construction work area. Based on the distance to the Graduate Student Residence, air emissions generated by construction activities would be greatly dispersed before reaching the receptor, and would result in very low concentration increments.

EMISSION PROFILE

The East Midtown Rezoning construction analysis concluded that no significant adverse air quality impacts would result from construction-related sources. As demonstrated in the short-term emission profile (see **Appendix F**), the maximum 24-hour $PM_{2.5}$ emission rate during

construction of the proposed project is approximately half of the maximum emission rate predicted for the East Midtown Rezoning FEIS.

ON-SITE SOURCES – EMISSION CONTROL MEASURES

To ensure that the construction of the proposed project would results in the lowest practicable DPM emissions, the applicant would implement an emissions reduction program for all construction activities to the extent practicable, consisting of the following components which will be included in a Restrictive Declaration:

- *Diesel Equipment Reduction.* Construction of the proposed project would minimize the use of diesel engines and would utilize electric engines to the extent practicable. Grid power would be seek at the construction site where practicable, thereby reducing the number and size of generators required.
- *Clean Fuel.* To the extent practicable, ultra-low sulfur diesel (ULSD) would be used for diesel engines throughout the construction site.
- *Best Available Tailpipe Reduction Technologies*. Nonroad diesel engines with a power rating of 50 horsepower (hp) or greater would utilize the best available tailpipe (BAT) technology for reducing DPM emissions. Diesel particle filters (DPF) are the tailpipe technology currently proven to have the highest PM reduction capability. Construction contracts would specify that all diesel nonroad engines rated at 50 hp or greater would utilize DPFs, either installed by the original equipment manufacturer (OEM) or retrofitted. Retrofitted DPFs must be verified by EPA or the California Air Resources Board (CARB), Active DPFs or other technology proven to reduce an equivalent emissions reduction, may also be used.
- *Utilization of Newer Equipment*. EPA's Tier 1 through 4 standards for nonroad engines regulate the emission of criteria pollutants from new engines, including PM, CO, NO_x, and hydrocarbons (HC). All nonroad construction equipment with a power rating of 50 hp or greater would meet at least the Tier 3 emissions standard. Tier 3 NO_x emissions range from 40 to 60 percent lower than Tier 1 emissions and considerably lower than uncontrolled engines. Since Tier 3 emission standard is not applicable to non-road engines rated less than 50 hp, all non-road engines in the project rated less than 50 hp would meet at least the Tier 2 emissions standard.
- *Dust Control.* Fugitive dust control plans would be required as part of contract specifications. For example, stabilized truck exit areas would be established for washing off the wheels of all trucks that exit the construction site. Truck routes within the site would be watered as needed to avoid the re-suspension of dust. All trucks hauling loose material would be equipped with tight fitting tailgates and their loads securely covered prior to leaving the site. In addition to regular cleaning by the City, streets adjacent to the site would be cleaned as frequently as needed by the construction contractor. Water sprays would be used for all transfer of spoils to ensure that materials are dampened as necessary to avoid the suspension of dust into the air.
- *Restrictions on Vehicle Idling.* In addition to adhering to the local law restricting unnecessary idling on roadways, on-site vehicle idle time would also be restricted to three minutes for all equipment and vehicles that are not using their engines to operate a loading, unloading, or processing device (e.g., concrete mixing trucks) or otherwise required for the proper operation of the engine.

Overall, this emissions control program is expected to significantly reduce DPM emissions by a similar reduction level that would be achieved by applying the currently defined best available

control technologies under New York City Local Law 77, which are required only for publically funded City projects.

OFF-SITE SOURCES

As mentioned above, a quantified construction air quality analysis for off-site mobile sources is generally conducted if a corresponding detailed transportation analysis is required, which as demonstrated above under "Transportation," is not necessary for the proposed project. Furthermore, the maximum construction-related trip increments at an intersection would be approximately 32 auto vehicle and 6 truck PCE trips, during the second quarter of 2018, well below the *CEQR Technical Manual* thresholds of 170auto and 20 truck trips, respectively, for conducting a detailed air quality analysis.

CONCLUSION

Based on the detailed qualitative analysis presented above, along with the emissions control program (and its inclusion in the Restrictive Declaration) that would be implemented during construction, the proposed project would not result in any significant adverse construction air quality impacts, and no further analysis is required.

NOISE AND VIBRATION

NOISE

Introduction

Impacts on community noise levels during construction would include noise from the operation of construction equipment and noise from construction and delivery vehicles traveling to and from the site. Noise and vibration levels at a given location are dependent on the type and quantity of construction equipment being operated, the acoustical utilization factor of the equipment (i.e., the percentage of time a piece of equipment is operating), the distance from the construction site, and any shielding effects (from structures such as buildings, walls, or barriers). Noise levels caused by construction activities would vary widely, depending on the phase of construction (i.e., structure rehabilitation, interior fit-outs, etc.) and the location of the construction activities relative to noise-sensitive receptor locations. The most significant construction noise sources are expected to be the operation of hydraulic drill rigs, tower cranes, and paving breakers, as well as movements of trucks to and from the project site.

Construction noise is regulated by the requirements of the New York City Noise Control Code (also known as Chapter 24 of the Administrative Code of the City of New York, or Local Law 113), the DEP Notice of Adoption of Rules for Citywide Construction Noise Mitigation (also known as Chapter 28), and the EPA's noise emission standards. These local and federal requirements mandate that specific construction equipment and motor vehicles meet specified noise emission standards; that construction activities be limited to weekdays between the hours of 7 AM and 6 PM; and that construction materials be handled and transported in such a manner as not to create unnecessary noise. As described above, for weekend and after hour work, permits would be required to be obtained, as specified in the New York City Noise Control Code and Parks would be consulted and would need to approve of such activities. As part of the New York City Noise Control Code, a site-specific noise mitigation plan would be developed and implemented that may include source controls, path controls, and receiver controls.

Construction Noise Impact Criteria

The *CEQR Technical Manual* states that significant noise impacts due to construction would occur "only at sensitive receptors that would be subjected to high construction noise levels for an extensive period of time." This has been interpreted to mean that such impacts would occur only at sensitive receptors where the activity with the potential to create high noise levels (the "intensity") would occur continuously for approximately two years or longer (the "duration"). The *CEQR Technical Manual* states that the impact criteria for vehicular sources, using the No Action noise level as the baseline, should be used for assessing construction impacts. As recommended in the *CEQR Technical Manual*, this study uses the following criteria to define a significant adverse noise impact from mobile and on-site construction activities:

- If the No Action noise level is less than 60 $dBAL_{eq(1)}$, a 5 $dBAL_{eq(1)}$ or greater increase would be considered significant.
- If the No Action noise level is between 60 $dBAL_{eq(1)}$ and 62 $dBAL_{eq(1)}$,a resultant $L_{eq(1)}$ of 65 dBA or greater would be considered a significant increase.
- If the No Action noise level is equal to or greater than 62 $dBAL_{eq(1)}$, or if the analysis period is a night time period (defined in the CEQR criteria as being between 10:00 PM and 7:00 AM), the incremental significant impact threshold would be 3 $dBAL_{eq(1)}$.

Noise Analysis Fundamentals

Construction activities for the proposed project would be expected to result in increased noise levels as a result of: (1) the operation of construction equipment on-site; and (2) the movement of construction-related vehicles (i.e., worker trips, and material and equipment trips) on the roadways to and from the project site.

Noise from the operation of construction equipment on-site at a specific receptor location near a construction site is generally calculated by computing the sum of the noise produced by all pieces of equipment operating at the construction site. For each piece of equipment, the noise level at a receptor site is a function of the following:

- The noise emission level of the equipment;
- A usage factor, which accounts for the percentage of time the equipment is operating at full power;
- The distance between the piece of equipment and the receptor;
- Topography and ground effects; and
- Shielding.

Similarly, noise levels due to construction-related traffic are a function of the following:

- The noise emission levels of the type of vehicle (e.g., auto, light-duty truck, heavy-duty truck, bus, etc.);
- Volume of vehicular traffic on each roadway segment;
- Vehicular speed;
- The distance between the roadway and the receptor;
- Topography and ground effects; and
- Shielding.

Location of Nearby Sensitive Receptors

As discussed above in "Air Quality," the project site includes the proposed laboratory building, ICC, and fitness center would take place within the Rockefeller campus and at the FDR Drive, away from other sensitive residential uses in the area. The nearest sensitive receptor locations to the proposed project site would be the East River Esplanade, located immediately east of the FDR Drive between East 63rd Street and demapped East 68th Street, and NYPH-Weill Cornell Medical College, located north of the proposed platform over the FDR Drive. The East River Esplanade is located immediately adjacent to the proposed platform to be constructed over the FDR Drive, and NYPH-Weill Cornell Medical College is located approximately 30 feet north of the proposed platform. The East River Esplanade is publicly accessible open space that is primarily used during the daytime hours. The NYPH-Weill Cornell Medical College building has double-glazed windows and central air-conditioning and would be expected to provide at least 28-35 dBA of attenuation of exterior noise. (To the south the nearest sensitive receptor would be the Scholars Residence, located partially over the FDR Drive between East 62nd and East 63rd Streets, on the Rockefeller University campus. However, this building would be shielded from noise from construction-related activities by the Rockefeller Research Building, located over the FDR Drive at East 64th Street.)

Noise Reduction Measures

The construction noise analysis takes into account the noise reduction measures that Rockefeller University will require of its construction contractors and which are included in the Restrictive Declaration. This applicant intends on employing a wide variety of measures that exceed standard construction practices, but the implementation of which is deemed feasible and practicable to minimize construction noise and reduce potential noise impacts. These measures would be implemented and described in the Construction Noise Mitigation Plan required by the New York City Noise Control Code.[1] This program includes both source controls and path controls, which are described below.

In terms of source controls (i.e., reducing noise levels at the source or during most sensitive time periods), the following measures for construction would be implemented in accordance with the New York City Noise Control Code (commitments relating to the items set forth below will be included in the Restrictive Declaration):

- The contractors would use equipment that meets the sound level standards for equipment (specified in Subchapter 5 of the New York City Noise Control Code) from the start of construction activities and use a wide range of equipment, including construction trucks, which produce lower noise levels than typical construction equipment. **Table 12-8** shows the noise levels for typical construction equipment and the mandated noise levels for the equipment that would be used for construction under the proposed actions.
- Where feasible and practicable, construction procedures and equipment (e.g., dump truck, excavator) that produce noise levels below the requirements of the New York City Noise Control Code would be used.
- As early in the construction period as practicable, electrical-powered equipment, such as electric scissor lifts and electric articulating forklifts (i.e., early electrification), would be used.

[1] New York City Noise Control Code (i.e., Local Law 113). Citywide Construction Noise Mitigation, Chapter 28, Department of Environmental Protection of New York City, 2007.

- Where practicable and feasible, construction sites would be configured to minimize back-up alarm noise. In addition, trucks would not be allowed to idle more than three minutes at the construction site based upon New York City Local Law.
- Limit equipment on-site (only necessary equipment on-site).
- All contractors and subcontractors would be required to properly maintain their equipment and have quality mufflers installed.

In terms of path controls (e.g., placement of equipment and implementation of barriers between equipment and sensitive receptors), the following measures for construction would be implemented as required by the New York City Noise Control Code (commitments relating to the items set forth below will be included in the Restrictive Declaration):

- Perimeter noise barriers would be constructed that satisfy New York City Noise Control Code requirements (i.e., the construction sites would have a minimum 15-foot barrier adjacent to sensitive locations, and, where possible, truck deliveries would take place behind these barriers).
- To the extent feasible, noisy equipment, such as generators, cranes, trailers, concrete pumps, concrete trucks, and dump trucks, would be located away from and shielded from sensitive receptor locations.
- Acoustical curtains will be used for internal construction activities in the buildings under construction adjacent to sensitive locations, to break the line-of-sight and provide acoustical shielding between noise sources and sensitive receptors.

Construction Noise Analysis

The construction noise analysis considers the noise generated by construction-related traffic, including delivery trucks and worker vehicles, traveling to and from the project site as well as by on-site construction equipment and activity. As discussed above, the analysis looks first at the intensity of noise levels during construction, then assesses the potential duration of those noise levels, and finally makes a determination of the potential for impact. The most noise-intensive construction activities (activities where construction equipment with higher noise levels such as drill rigs and excavators would be used) would occur during the excavation and foundation stages of the platform construction, which would last approximately 10 months; as well as the demolition, excavation, and foundation stages of the laboratory building, ICC, and fitness center construction, which would last approximately 14 months.

Mobile Construction Noise Sources

Throughout the construction period, vehicles including construction related trucks and vehicles driven by workers at the construction site would travel to and from the project site. Most of these vehicles would be expected to use the FDR Drive, First Avenue, and Second Avenue. These large roadways are already heavily trafficked, and the construction traffic would therefore not be expected to result in substantially increased noise at locations along these roadways. Some vehicles associated with construction of the proposed project would be expected to use York Avenue, East 68th Street, and East 66th Street, although further away from the project, the vehicles would be distributed among the different routes to and from the project, and the amount of construction traffic would be low compared to the existing and No Build traffic levels on these streets. Consequently, the construction noise analysis focuses on noise receptors adjacent to the site and the roadways immediately surrounding the site.

Table 12-8
Construction Equipment Noise Emission Levels (dBA)

Equipment List	Typical L_{max} at 50 feet	Reduction for Quieter Equipment	Reduction for Path Control	Mandated L_{max} at 50 feet
Backhoe	80			80
Chainsaw	85			85
Compressor	58			58
Concrete Pump	82			82
Concrete Trowel (finisher)	85		10[3]	75
Concrete Truck	85			85
Crane	85		10[4]	75
Crane (Tower Crane)	85		10[4]	75
Delivery Truck	84			84
Drill Rig	85		10[3]	75
Drum Mixer	80			80
Dump Truck	84	10[2]		74
Dumpster/Rubbish removal	78			78
Excavator	85			85
Fuel/Flatbed Truck	84			84
Front End Loader	80			80
Generator	82		10[3]	72
Jack Hammer	73			73
Mounted Impact Hammer (Hoe Ram)	85	3[5]		82
Paver	85			85
Pickup Truck	55			55
Pneumatic Tools	85			85
Pump	77			77
Rivet Buster / Chipping Gun	85			85
Rock Drill	85			85
Tractor	84			84
Welder	73			73

Notes:
1. Sources: Citywide Construction Noise Mitigation, Chapter 28, Department of Environmental Protection of New York City, 2007.Transit Noise and Vibration Impact Assessment, FTA, May 2006.
2. 10 dB reduction is estimated (p15-16 on Chapter 28 "Citywide Construction Noise Mitigation").
3. 10 dB reduction is estimated (p19-20 on Chapter 28 "Citywide Construction Noise Mitigation").
4. 10 dB reduction is estimated (p17-18 on Chapter 28 "Citywide Construction Noise Mitigation").
5. 3 dB reduction for using a muffler. Jason Markesino, and., Study of Noise Transmission from an Electric Impact Wrench, NOISE-CON 2004

Intensity of Construction Noise from On-Site Sources

The East River Esplanade and NYPH-Weill Cornell Medical College represent the two locations most likely to experience increased noise levels resulting from the operation of stationary construction equipment. With the construction noise control measures described, maximum $L_{eq(1)}$ noise levels during the loudest periods of construction would be expected to be approximately in the mid to high 80s dBA at the Esplanade and the low to mid 80s dBA at the NYPH-Weill Cornell Medical College, based on detailed noise analyses prepared for several other large-scale construction projects with comparable noise-control measure commitments, including Seward Park, Riverside Center, and Domino Sugar. Measured existing noise levels at the East River Esplanade were in the mid to high 70s depending on the proximity to the FDR Drive. Measured existing noise levels within the Rockefeller University campus, which would be representative of existing noise levels at the NYPH-Weill Cornell Medical College, were in the low to mid 60s dBA. Consequently, noise generated by on-site construction activities would be expected to result in exceedances of the *CEQR Technical Manual* noise impact criteria at both of these locations. Therefore, these two receptors are discussed further in the following section “Duration of Construction Noise” and the potential for significant noise impacts is evaluated.

Duration of Construction Noise from On-Site Sources

The noisiest construction activities would include the excavation and foundation stages of the platform construction, which would last approximately 10 months; as well as the demolition, excavation, and foundation stages of the laboratory building, ICC, and fitness center construction, which would last approximately 14 months. Other phases of construction would include structural construction of the platform and underneath platform work, which would last approximately 18 months; as well as core and shell work on the buildings, which would last approximately 18 months. These other phases would require less heavy construction equipment as compared to the demolition, excavation and foundation work. Construction equipment with higher noise levels such as drill rigs, excavators, etc. will not be used during the later phases. In addition, fewer dump trucks would travel to and from the site during core and shell construction than during demolition, excavation, and foundation activities. Therefore, core and shell construction activities would be expected to result in noise levels less than those during demolition/excavation/foundation work, although it still would be expected to result in exceedances of the *CEQR Technical Manual* noise impact criteria at the East River Esplanade and NYPH-Weill Cornell Medical College due to the very close proximity of these noise receptor locations.

The loudest noise levels that would be expected to result from construction associated with the proposed project would occur during pile drilling for the footings of the proposed platform over the FDR Drive, which would last approximately 4 months. For each pile, the actual drilling time would be short, for approximately 45 minutes. Within this time period, pile driving may be intermittent, with 45 minutes of drilling followed by an interval of an hour when no pile drilling occurs, followed by tapping down to the final elevation.

Interiors and finishing, which would last up to 14 months, would require much less heavy construction equipment, and would be better shielded from the nearby sensitive receptors by the buildings being constructed. Equipment used during interiors and finishing would mainly include a variety of small hand-held tools, along with cranes and boom trucks. In addition, most of the construction activities would occur within the buildings so this stage of construction is usually the quietest. Therefore, during these later phases of construction (i.e., interiors and finishing), the noise levels from construction would not be expected to result in exceedances of the *CEQR Technical Manual* noise impact criteria.

Based on the above, the locations on the East River Esplanade and NYPH-Weill Cornell Medical College would be likely to experience over two years of exceedances of the *CEQR Technical Manual* noise impact criteria resulting from construction associated with the proposed project.

Construction Noise Impacts

Based on the above-described intensity and duration of construction-related noise at the East River Esplanade along the FDR Drive between East 63rd Street and demapped East 68th Street (immediately east of the construction site for the laboratory building and ICC) and the NYPH-Weill Cornell Medical College building (immediately north of construction site for the laboratory building, ICC, and fitness center), these locations would be expected to experience significant construction noise impacts due to noise generated by construction equipment operating on the project site.

At the East River Esplanade, $L_{10(1)}$ values during the loudest portions of construction, which would be the excavation and foundation work associated with the proposed platform, especially the pile drilling, would reach the mid-80sdBA, which would be greater than the 55 dBA $L_{10(1)}$ noise level recommended for open space by CEQR noise exposure guidelines. However, the existing noise levels on the East River Esplanade exceed the 55 dBA $L_{10(1)}$ noise level recommended for open

space by CEQR noise exposure guidelines. In addition, the East River Esplanade is primarily used for active recreation during daytime hours, while most of the activities associated with the excavation and foundation task for the platform construction would occur during the night time when the esplanade is lightly used. There are no feasible and practicable measures that could be implemented to mitigate the construction noise impact at this location.

The NYPH-Weill Cornell Medical College buildings have double-glazed windows and central air-conditioning and would be expected to provide at least 28-35 dBA of attenuation of exterior noise. Consequently, this building would be expected to experience interior $L_{10(1)}$ values during most of the time that are below 45 dBA $L_{10(1)}$ (the CEQR acceptable interior noise level criteria). However, although the NYPH-Weill Cornell Medical College buildings have double-glazed windows and alternate ventilation, during some limited time periods, construction activities may result in interior noise levels that would be above the 45 dBA $L_{10(1)}$ noise level recommended by CEQR.

At other noise sensitive receptor locations in the project study area, either due to the distance between the receptor location and the construction work area or due to shielding by other structures no significant noise impacts resulting from construction of the proposed project would be expected to occur.

VIBRATION

The proposed project is not expected to result in significant adverse construction impacts with respect to vibration. As described in Chapter 5, "Historic and Cultural Resources," a CPP would be developed to protect known architectural resources within a lateral distance of 90 feet from the proposed construction activities. The CPP would include a monitoring component to ensure that if vibration levels approach the 0.5 inches per second peak particle velocity (PPV) criterion, corrective action would be taken to reduce vibration levels, thereby avoiding architectural damage and significant vibration impacts. The CPP would be included in the Restrictive Declaration.

Construction resulting in vibration levels greater than 65 vibration decibels (VdB) (e.g., equipment used during pile driving) would be perceptible and annoying and would have the potential to result in significant adverse impacts if they were to occur for a prolonged period of time. However, as described above, pile driving activities are not anticipated for the construction of the proposed project. Furthermore, the operations which would result in these perceptible vibration levels would only occur for finite periods of time at any particular location and therefore the resulting vibration levels, while perceptible and annoying, would not result in any significant adverse impacts.

OTHER TECHNICAL AREAS

HISTORIC AND CULTURAL RESOURCES

Historic and cultural resources include both archaeological and architectural resources. Chapter 5, "Historic and Cultural Resources," provides a detailed assessment of potential impacts on archaeological and architectural resources. This section summarizes potential impacts during construction.

The Laboratory Building Site and North Terrace Site have no sensitivity for archaeological resources. These buildings would largely occupy air space over the FDR Drive. The areas of in-ground disturbance for columns and footings and the small areas of the Rockefeller University campus where the new building would connect to the campus level have previously been

disturbed. Therefore, construction of the proposed project would have no adverse impacts on archaeological resources in these areas of the project site.

In November 2012, a Phase 1A Archaeological Documentary Study of the Rockefeller campus was prepared to identify the boundaries of the historic burial ground and to determine the potential of each of the development sites to contain intact archaeological resources. As discussed in Chapter 5, "Historic and Cultural Resources," the LPC-approved Phase 1A Archaeological Documentary Study of the development sites determined that the laboratory building site has no sensitivity for archaeological resources dating to either the precontact or historic periods. Therefore, no additional archaeological analysis is recommended for the laboratory building site. The Phase 1A study also determined that the Fitness Center Site has no sensitivity for archaeological resources dating to the precontact period and low sensitivity for archaeological resources dating to the historic period. The Fitness Center Site is adjacent to an area of moderate archaeological sensitivity, which extends between the northern line of East 67th Street to a point 50 feet to the north (the approximate location of an existing stone retaining wall) and between the existing Abby Aldrich Rockefeller Hall and a point approximately 75 feet to the east. As currently proposed, no excavation will take place to the south of the existing stone wall and therefore, no disturbance will occur within the area of archaeological sensitivity as part of the proposed project. No further archaeological investigation of the Fitness Center Site is recommended. However, if project plans are altered in such a way that impacts would occur in that location, a Phase 1B archaeological investigation would be recommended to confirm the presence or absence of human remains and archaeological resources associated with the cemetery. In addition, an unanticipated discoveries plan was prepared and submitted to LPC in response to an LPC comment letter dated April 16, 2013. Therefore, because the proposed project would not involve construction activities in any areas identified in the Phase 1A study as being archaeologically sensitive, no significant adverse impacts to archaeological resources would occur on the laboratory building site or the Fitness Center Site during the construction of the proposed project.

The proposed project would involve construction activities that would directly and indirectly affect historic architectural resources within the Rockefeller University Historic District (S/NR-eligible, NYCL-eligible). The resources that would be directly affected by construction of the laboratory building include certain limited areas within the eastern portions of the Flexner Hall Extension, Welch Hall, the Nurse's Residence, the Hospital, the Boiler House, and the schist retaining wall. The areas between Flexner Hall and Founder's Hall and between Founder's Hall and the Nurse's Residence would also be altered to allow for physical connections to the new laboratory building's rooftop.

The proposed fitness center would replace an existing canopy structure and parking area that are contributing elements to the Rockefeller University Historic District's Dan Kiley-designed landscape, resulting in an adverse impact to the historic district. (Partial mitigation for the removal of these landscape elements is described in Chapter 5, "Historic and Cultural Resources." The restoration plan would be included in a Restrictive Declaration). In addition, Smith Hall, Abby Aldrich Rockefeller Hall, the portion of the perimeter campus fence along demapped East 68th Street and York Avenue, and the Kiley-designed landscape to the south of the Fitness Center Site could also be potentially indirectly affected by construction-related activities on the Fitness Center Site.

The proposed developments sites are located within 90 feet of contributing elements of the Rockefeller University Historic District (S/NR-eligible, NYCL-eligible), including historic

buildings. Therefore, Rockefeller University would develop and implement a CPP would be developed in consultation with LPC and implemented prior to construction to avoid inadvertent construction-related damage, such as falling debris and vibration from heavy machinery on the construction site, to the contributing elements in the historic district located within 90 feet of the development sites. The CPP would comply with the procedures set forth in the DOB's *Technical Policy and Procedure Notice* (TPPN) #10/88. The CPP would also follow the guidelines set forth in section 523 of the *CEQR Technical Manual*, including conformance with LPC's *New York City Landmarks Preservation Commission Guidelines for Construction Adjacent to a Historic Landmark* and *Protection Programs for Landmark Buildings*. The historic structures to be included in the CPP include the President's House, Flexner Hall and the Flexner Hall Extension, Welch Hall, Founder's Hall, the Nurse's Residence, the Hospital, and the Boiler House, which would either be modified as part of the proposed connection with the new laboratory building or are within 90 feet of the Laboratory Building Site. In addition, Smith Hall, Abby Aldrich Rockefeller Hall, the perimeter campus fence, and the Kiley-designed Philosopher's Garden and Lasker Fountain would be included in the CPP as these contributing elements to the historic district are located within 90 feet of the Fitness Center Site. The CPP would be included in the Restrictive Declaration.

As indicated above, the proposed project would remove the canopy structure that is part of the historic district's Dan Kiley-designed landscape. The removal of this structure would be a significant impact to historic and cultural resources that would be partially mitigated, as described in Chapter 5, "Historic and Cultural Resources, and Chapter 13, "Mitigation."

HAZARDOUS MATERIALS

As described in Chapter 7, "Hazardous Materials," hazardous wastes generated at the Rockefeller University are managed by the Department of Laboratory Safety and Environmental Health in accordance with strict regulations. There is some potential for historical releases from hospital/laboratory research facilities at Rockefeller University or releases at other nearby hospital/research or other facilities to have affected subsurface conditions beneath the development sites. Fill materials of unknown origin may also be present, although past testing in other portions of the campus identified no significant soil contamination associated with fill materials. Known and suspect ACM, PCB-containing materials, and/or LBP may be associated with subsurface utilities and existing buildings that would be disturbed by the proposed project.

Although the demolition and construction activities associated with the proposed project could increase pathways for human exposure to hazardous materials, impacts would be avoided by performing site development activities in accordance with the following measures (which will be included in the Restrictive Declaration):

- Based on the likely subsurface disturbance associated with the proposed project, a Subsurface (Phase II) Investigation Work Plan to determine whether past or present on-site or off-site activities have affected subsurface conditions would be prepared and submitted to DEP for review and approval. Following implementation of this Phase II investigation and based on its findings, a RAP and associated CHASP would be prepared (and submitted to DEP for review and approval) for implementation during proposed construction. The RAP would address requirements for items such as: soil stockpiling, soil disposal and transportation; dust control; quality assurance; and contingency measures should petroleum storage tanks or contamination be unexpectedly encountered. The CHASP would include measures for worker and community protection, including personal protective equipment, dust control and air monitoring.

- If dewatering is necessary as part of the proposed construction activities, water would be discharged to sewers in accordance with DEP requirements.
- Unless information exists that suspect ACM do not contain asbestos, prior to any activities with the potential to disturb suspect ACM, an asbestos survey of the areas to be disturbed would be conducted and any ACM that would be disturbed would be removed and disposed of in accordance with local, state, and federal requirements.
- Any activities with the potential to disturb lead-based paint would be performed in accordance with applicable requirements (including federal Occupational Safety and Health Administration regulation 29 CFR 1926.62 - *Lead Exposure in Construction*).
- Unless there is labeling or test data indicating that suspect PCB-containing electrical equipment and fluorescent lighting fixtures do not contain PCBs, and that fluorescent lighting bulbs do not contain mercury, if disposal is required, it would be conducted in accordance with applicable federal, state and local requirements.
- Any chemicals, biological waste and/or radioactive waste stored in portions of existing buildings that would be disturbed by the proposed project would be properly disposed of in accordance with applicable requirements.

With the implementation of the above measures, no significant adverse impacts related to hazardous materials would be expected during construction of the proposed project.

NATURAL RESOURCES

Aquatic Resources

Project construction would be conducted under coverage of the NYSDEC State Pollutant Discharge Elimination System (SPDES) General Permit for Stormwater Discharges from Construction Activity, in accordance with the SWPPP prepared for the project. The SWPPP would comply with NYSDEC technical standards for erosion and sediment control and include structural (e.g., silt fencing) and non-structural (e.g., routine inspection, dust control, cleaning, and maintenance programs) best management practices (BMPs). Implementation of erosion and sediment control measures and stormwater management measures identified in the SWPPP would minimize potential impacts to water quality of the East River from the discharge of stormwater runoff during land-disturbing construction activities. Any seawater encountered during excavation would be recovered during dewatering and transferred to containers for off-site disposal, or treated and discharged to the East River in accordance with authorization received from DEP or NYSDEC. With the implementation of these measures, the discharge of runoff and recovered sea water during excavation activities would not result in significant adverse impacts to East River water quality, aquatic biota, and any NYSDEC littoral zone tidal wetlands adjacent to the seawall.

Nine mooring caissons would need to be installed in the East River waterward of the seawall for anchorage of the construction and supply barges from which cranes would construct the new laboratory building and ICC on a platform spanning the FDR Drive. The caissons would be installed as close to the seawall as possible without interfering with its foundations (approximately 6 to 8 feet), and used along with anchors to hold the barges away from the seawall. Caissons would be 24 inches in diameter, unbraced, and drilled approximately 10 feet into bedrock. To install each caisson, a 36-inch diameter pipe would be pushed or drilled into the river bottom, and the caisson would then be drilled within the larger outer pipe. Water and river bottom material displaced during the drilling of the caissons and pouring of tremie concrete (if

necessary) would be collected in containers on the barge for disposal in accordance with regulatory requirements.

Implementation of a Pollution Prevention Plan developed for the in-water construction activities would minimize the potential for discharge of materials to the East River during caisson installation and construction activities conducted from barges. Potential impacts to aquatic resources would be limited to minor and temporary increases in suspended sediment during installation and removal of the 36-inch diameter pipe and cutting of the caissons below the mud line when construction of the proposed project is completed, and temporary loss of benthic habitat (approximately 31 square feet) within the footprint of the caissons. Installation of the caissons would require authorization from the USACE under Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act, and Section 401 water quality certification from NYSDEC. The localized and temporary increases in suspended sediment during caisson installation and removal(which would occur over a span of approximately 3 to 5 days each), and the temporary loss of aquatic habitat due to caisson placement would not result in significant adverse impacts to water quality, littoral zone tidal wetland, EFHs, or aquatic biota, including threatened and endangered species.

It is anticipated that four to five barges (one large barge for a 1,000 ton crane, one barge for a crawler assist crane, and two or three supply barges) would be moored along the shoreline at a given time and that individual barges would not be moored for more than two weeks at a given location. This temporary presence of the construction and supply barges would not result in significant adverse impacts to aquatic resources of the East River due to shading.

Floodplains

Construction within the floodplain would be limited to the construction of the new platform structure's supporting piers adjacent to the FDR Drive and East River Esplanade. Construction of these piers would not have the potential to result in significant adverse impacts to the floodplain or adversely affect flooding in the surrounding area, which is caused by coastal rather than local flooding.

Terrestrial Resources

The proposed project would require the removal of approximately 23 trees[1] along the East River Esplanade to allow for the construction of the new laboratory building and ICC and 5 to 10 trees would be removed at the Fitness Center Site to construct the fitness center. Tree replacement, protection, and transplanting that would be undertaken as part of the proposed project would comply with the City's applicable rules and regulations. Trees under the jurisdiction of DPR may not be removed without a permit pursuant to Title 18 of the Administrative Code of the City of New York. Chapter 5 of Title 56 of the Rules of the City of New York establishes rules for valuing trees that are approved for removal in order to determine the appropriate number of replacement trees. The majority of trees on the Rockefeller University campus would remain in place and be unaffected by construction activities. The minimal tree removal that would occur as a result of the proposed project would not have a significant adverse impact to ecological communities or change the types of ecological communities currently represented in the area. Tree removal would not result in significant adverse impacts to wildlife.

[1] Four trees were removed post Hurricane Sandy, November 2012.

Human activity and noise associated with construction of the proposed project would not be expected to impact wildlife because wildlife in the surrounding area consists of urban-adapted, highly disturbance-tolerant species. The species of wildlife in the area are ubiquitous throughout the city and commonly inhabit areas with extensive levels of human disturbance and degraded habitat conditions. Some wildlife would potentially be temporarily displaced during project construction, but, as generalists, would not be expected to have difficulty relocating to suitable habitat nearby. Similar habitat conditions (mowed lawn with trees, artificial structures, etc.) are abundant throughout the surrounding area. No impacts to federally- or state-listed terrestrial wildlife species would occur. Overall, construction of the proposed project would have no significant adverse impacts to terrestrial natural resources.

OPEN SPACE

During the course of construction, the East River Esplanade immediately east of the project site (between East 63rd Street and demapped East 68th Street) may be partially closed or protected for varying periods of time. As described above in "Esplanade," during very limited times, the East River Esplanade is expected to be closed during the removal of the protective platform as well as when cranes are lifting materials or equipment over the pedestrian walkway. This closure would only occur during the night time when the esplanade would be lightly used. However, the construction of the proposed project would have a temporary significant impact on the East River Esplanade during a portion of the construction period.

As described in Chapter 13, "Mitigation," as partial mitigation for the significant construction period impact to open space, the applicant would provide a minimum eight-foot-wide pathway through the affected portion of the esplanade. In addition, between the Draft and Final EIS, the applicant will consider whether there are additional mitigation measures that would be feasible and practicable to implement to alleviate this impact. No open space is located at the Fitness Center Site.[1] Construction activities would be conducted with the care mandated by the close proximity of open space to the project site. Air emissions control measures—including watering of exposed areas and dust covers for trucks—would be implemented to ensure compliance with the New York City Air Pollution Control Code, which regulates construction-related dust emissions. Construction open space mitigation measures would be included in the Restrictive Declaration.

SOCIOECONOMIC CONDITIONS

Construction activities associated with the proposed project would not result in any significant adverse impacts on socioeconomic conditions. Construction of the proposed project would not block or restrict access to any facilities in the area or affect the operations of any nearby businesses. Lane closures are not expected to occur in front of entrances to any existing or planned retail businesses, and construction activities would not obstruct major thoroughfares used by customers or businesses. Utility service would be maintained to all businesses. Overall, construction of the proposed project is not expected to result in any significant adverse impacts on surrounding businesses.

Construction could create direct benefits resulting from expenditures on labor, materials, and services, and indirect benefits created by expenditures by material suppliers, construction

[1] The restoration plan for the Philosopher's Garden, which is located immediately south of the Fitness Center Site, is described in Chapter 13, "Mitigation."

workers, and other employees involved in the construction activity. Construction also could contribute to increased tax revenues for the City and State, including those from personal income taxes.

COMMUNITY FACILITIES

While construction of the proposed project would result in temporary increases in traffic during the construction period, access to and from any facilities in the area would not be affected during the construction period. Construction workers would not place any burden on public schools and would have minimal, if any, demands on libraries, child care facilities, and health care. Construction of the proposed buildings would not block or restrict access to any facilities in the area, including nearby hospital facilities, and would not materially affect emergency response times significantly. New York City Police Department (NYPD) and FDNY emergency services and response times would not be materially affected due to the geographic distribution of the police and fire facilities and their respective coverage areas.

LAND USE AND NEIGHBORHOOD CHARACTER

Construction activities would affect land use on the project. As is typical with construction projects, during periods of peak construction activity there would be some disruption, predominantly noise, to the nearby area, including the Esplanade. There would be construction trucks and construction workers coming to the construction sites. There would also be noise, sometimes intrusive, from building construction as well as trucks and other vehicles backing up, loading, and unloading. These disruptions would be temporary in nature and would have limited effects on land uses within the study area, particularly as most construction activities would take place within the project site (including at the Esplanade) or within portions of sidewalks, curbs, and travel lanes of public streets immediately adjacent to the construction sites. Overall, while the construction at the site would be evident to the local community, construction would not result in significant or long-term adverse impacts on local land use patterns or the character of the nearby area. ✷