



New York City Department of Investigation

Report on the Investigation into Construction at the Washington Irving Campus

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REPORT ON CONSTRUCTION AT THE WASHINGTON IRVING CAMPUS

EXECUTIVE SUMMARY

In 2016, the New York City School Construction Authority (SCA) began a comprehensive renovation project at the Washington Irving Campus (Washington Irving), a school building in Manhattan that is more than one hundred years old. The construction project involves an exterior modernization of the building, which includes removing the existing parapets, removing and replacing the face brick, cleaning and repairing the limestone and granite, and interior repairs to the walls and ceiling. The project is scheduled for completion by early 2020.

After the project began, some members of the community surrounding Washington Irving complained to the New York City Department of Investigation about the noise, the dust, and other safety issues created by the construction. After the complaint, the SCA Office of the Inspector General (OIG) investigated the complaints and reviewed the SCA project.

The OIG determined that the SCA has worked hard to communicate with the neighborhood surrounding Washington Irving and has not violated any city, state or federal regulations regarding the construction. Contrary to the complaints, the noise levels during construction are below some noise levels during the day when the SCA's contractors are not working. Similarly, the SCA has made efforts to mitigate the dust and other safety concerns. Below is a summary of the OIG's findings.

BACKGROUND

Scale and Work of the SCA

Since 1988, the SCA's mission has been to design and construct safe, attractive and environmentally sound public schools. The SCA is dedicated to building and modernizing schools in a responsible, cost-effective manner while achieving the highest standards of excellence in safety, quality and integrity.

The SCA oversees hundreds of construction projects each year. These projects include building new schools, expanding the capacity of existing schools, and repairing any part of more than 1,800 school properties throughout New York City. The current capital plan budget for the SCA (fiscal years 2015-2019) has \$14.9 billion in funding.

In general, the SCA completes three types of construction projects – capital improvement program projects (CIP), capacity or line projects, and mentor and graduate mentor projects. CIP projects maintain and upgrade existing school facilities. These projects generally involve work such as interior or exterior building upgrades, roof and boiler replacements, electrical work, security systems, room conversions and transportable classrooms. On the other hand, capacity or line projects are large-scale construction jobs that create additional seating capacity by constructing new schools or additions to existing schools. Mentor and graduate mentor projects are awarded to certified minority-owned businesses, woman-owned businesses, or locally-based enterprises.

To fulfill its mission, the SCA enters into contracts with architects, engineers, general contractors, specialty consultants and other businesses. Every project is overseen by a team of project officers from the SCA to ensure that the general contractor follows the scope of the project

and complies with SCA, New York City, New York State, and Federal regulations. In addition to the project officers, the SCA's Industrial and Environmental Hygiene (IEH) Division and Safety Division conduct routine inspections at the project to ensure the general contractor complies with environmental, regulatory and safety procedures.

Washington Irving Campus

Washington Irving, formerly known as the Washington Irving High School, is a public school building located at 40 Irving Place, between East 16th and 17th Street in the Gramercy Park neighborhood of Manhattan. The building was designed by architect C.B.J. Snyder and built in 1913. The original building was eight stories high; in 1938, the building was extended to twelve stories. Washington Irving now houses numerous schools, including the Gramercy Arts High School, the High School for Language and Diplomacy, the International High School at Union Square, the Union Square Academy for Health Sciences, and the Academy for Software Engineering. In addition to these schools, which are operated by the New York City Department of Education, one floor houses the Success Academy Charter School. These schools combined have more than 2,800 students.

There are five other large New York City high school buildings of comparable age that are still operating – Wadleigh High School (built in 1902), the original Stuyvesant High School (built in 1904 and now occupied by the High School for Health Professions), George Washington High School (built in 1917), Julia Richman High School (built in 1923), and Seward Park High School (built in 1929). All five buildings have undergone significant capital improvement projects. The SCA performed exterior modernizations at Wadleigh in 1991, Stuyvesant in 1996, George Washington in 2003, Julia Richman in 2003, and Seward Park in 2013. The SCA has not performed an exterior modernization capital improvement project of similar size or value at Washington Irving.

Building Façade Safety Program

According to New York City Local Law 11 of 1998, owners of properties higher than six stories must have exterior walls and appurtenances, such as balconies, inspected by a qualified exterior wall inspector every five years. A qualified exterior wall inspector is either a New York State licensed professional engineer or a New York State registered architect. After performing an inspection, the inspector must file a Local Law 11/98 report of critical examination with the Department of Buildings (DOB) indicating the condition of the building's façade. The façade's condition is classified in one of three categories:

- (1) **Safe:** No problems and in good condition; or
- (2) **Safe with a repair and maintenance program (SWARMP):** Safe, but requires repair or maintenance; or
- (3) **Unsafe:** Problems or defects threaten public safety.

With an unsafe classification, the owner must immediately install protection, such as a sidewalk shed or construction fence, to prevent debris from falling from the building onto the street.

Façade Conditions at Washington Irving

In 2012, in order to comply with New York City Local Law 11 of 1998, the SCA hired WASA Architects (WASA) to inspect the Washington Irving building. WASA classified the Washington Irving building as safe, but requiring repair or maintenance. The SCA subsequently

hired Nelligan White Architects (Nelligan) to assess the needed repairs. Nelligan embarked on a comprehensive review of the building. The review included research of the original architectural documents, the observation and mapping of damage at the exterior and interior of the building, the extensive testing of the building including roof scanning, infrared thermal imaging, riley testing (a procedure for measuring the water absorption under low pressure), spray testing, and inspection for lead based paints (through x-ray fluorescence analysis). Nelligan also conducted an exterior exploratory probe of the bulkhead and hanging scaffold inspections at the north, west and south elevations. Nelligan recommended, among other things, the following exterior and interior repair work to correct the deficiencies: removing and replacing the existing parapet, removing and replacing the face brick, cleaning and repairing the limestone and granite façade, and interior repairs to the walls and ceiling damaged by water filtration.¹

The SCA incorporated this recommended interior and exterior work into Solicitation No. SCA 16-15087D-1 and, on May 18, 2016, the SCA invited firms to bid on this project. On June 21, 2016, the bids were opened and the project was awarded to the lowest bidder. SCA Contract #14410 was signed on September 6, 2016 and on December 12, 2016 a notice to proceed was issued to the general contractor. According to the design plans, substantial completion is expected on December 11, 2019 and the project is expected to be fully complete on March 10, 2020.

COMPLAINTS

In July 2018, the OIG received complaints from some community residents that the SCA was not complying with New York City regulations governing construction noise and dust.² The OIG responded to the community complaints and investigated the project, the SCA's oversight and compliance with the regulations, as well as the SCA's response to the community's complaints.

OIG REVIEW

The OIG reviewed all available information related to the SCA's construction project at Washington Irving under Contract #14410. The OIG reviewed all relevant regulations, including the Federal Occupational Safety and Health Act of 1970, New York City Noise Control Code, New York City Administrative Code Section 24-146 and Chapter 13 of Title 15 of the Rules of the City of New York, which are regulations related to dust debris caused by construction. The OIG also reviewed all relevant SCA documents including notice of directions, requests for information, changes in conditions, daily and weekly safety reports, scheduling calendars of evening and night work, monthly conference call schedules, meeting minutes from monthly conference calls, data and reports from third party compliance monitors, Contract #14410, the contract justification memorandum, the notice of intent to award the contract, the contract routing sheet, the pre-award meeting memorandum, and the bid bond and the bid tabulation. In addition, the OIG interviewed all relevant individuals, including SCA personnel (project officers, safety officers and community relations), the general contractor's project supervisor, and other personnel at the site. The OIG retrieved and reviewed all city reports of 311 complaints regarding the project and all corresponding information including DOB and New York City Department of Environmental Protection (DEP) reports of over 80 visits to the building. The OIG also visited the site numerous times during

¹ A copy of the Washington Irving Building Rehabilitation PowerPoint presentation can be found on the SCA's dedicated website for this project.

² In July 2017, a sidewalk shed was erected around Washington Irving. The SCA received complaints that the shed caused congestion around the school and that homeless people were congregating and sleeping on the sidewalk under the shed and posed a safety concern. The SCA immediately addressed these concerns.

construction and non-construction hours and hired a sound monitoring company to monitor the noise levels at the project for twelve weeks.

FINDINGS

Based on the above review, the OIG makes the following findings regarding the SCA's interaction with the community, the noise levels, the dust levels, and other safety issues at Washington Irving.

Community Outreach

Since the Washington Irving project would affect the surrounding community, the SCA took extensive steps to engage and address the community's concerns. First, the SCA held numerous meetings with the community, including local businesses, to discuss the scope of the work and address any concerns. These meetings began prior to the commencement of construction. During one of these meetings, the SCA learned that a local church held an annual festival in September. To prevent congestion and construction noise during the festival, the SCA halted construction at the site on the day of the festival. The SCA also scheduled the crane activity to not interfere with parking during the church's services. During another meeting, the SCA learned that two community members were undergoing serious surgeries. To aid in their recovery, the SCA halted construction for several days after each surgery. The community also expressed concerns about the light coming from the site and the health of the trees surrounding the site. To reduce the light exposure to the community, the SCA purchased and installed shields to place on the interior courtyard lights. The SCA also hired an arborist and consulted with the New York City Parks Department regarding the health of the trees on and around the building and paid to replace a tree across the street from the building.

Second, the SCA increased the community's access to the staff managing the project and to up-to-date information about the project. Usually, one project officer is assigned to each project and each officer oversees two to three other projects. For this project, the SCA assigned two project officers who do not have any other assignments. The two project officers and the senior project officer also attend monthly conference calls with the community. The project officers and senior project officer also provided the community with their email addresses and cellular telephone numbers and are contacted by the community at all times of day, even on weekends and on their days off. In addition, the SCA created a special website designated for this project. Community members can view the website for up-to-date information about the project, including a two-week look ahead of construction activity, construction permits, the noise mitigation plan, and the dust mitigation plan.

Noise

As described below, the SCA has complied with all regulations regarding construction noise levels at Washington Irving. The general contractor has a noise mitigation plan, which includes using quieter makes and models of equipment, perimeter barriers around the site, and temporary barriers around the equipment being used. Testing of noise levels has determined that the SCA has not violated noise levels. Neither the DEP nor the DOB has written a violation for this project.

1. Regulations

Generally, sound is measured in decibels and the decibel is the unit used to measure the intensity of a sound. On a decibel scale, the smallest audible sound (near total silence) is 0 decibels and distance affects the intensity of the sound: the farther away from a sound an individual or monitoring device is, the lower the decibel measurement would be because the power of the sound is diminished. To put decibel readings into context, here are some common decibel levels: a soft whisper five feet away is 40 decibels while a conversation three feet away is 60 decibels; a freight train one hundred feet away is typically 80 decibels while a night club with music is 110 decibels; and a jet taking off approximately two hundred feet away is typically 130 decibels.

Federal noise regulations for workers are governed by the Occupational Safety and Health Act of 1970. The Act created the Occupational Safety and Health Administration (OSHA) to ensure safe and healthy working conditions for working men and women. Among other things, OSHA is responsible for setting and enforcing a permissible noise standard for workers. OSHA's permissible noise standard is 90 decibels for an eight hour time period. A worker cannot be exposed to 90 decibels for longer than an eight hour period. The standard uses a 5 decibel exchange rate: when the noise is increased by 5 decibels, the amount of time a person can be exposed is cut in half. For example, a person exposed to 95 decibels can only be exposed to that noise level for four hours.

Whereas OSHA protects workers, the New York City Noise Control Code³ protects the community from unsafe construction noise. The Code requires all construction projects to implement a construction noise mitigation plan and, for projects commenced before July 16, 2018, the construction noise cannot exceed 85 decibels for more than five continuous minutes.⁴ The New York City Department of Environmental Protection (DEP) enforces the Code. When DEP receives a noise complaint, an inspector is sent to the site. If an inspector is not immediately available, an inspector visits the site the following day during similar hours. The inspector observes the construction work being performed, reviews the contractor's noise mitigation plan, and, if necessary, takes readings of the noise level. If there is a violation, the inspector issues a summons or a stop work order, depending on the severity of the violation.

2. Noise Levels at Washington Irving

The general contractor implemented a noise mitigation plan for the construction at Washington Irving.⁵ The plan includes using quieter makes and models of equipment, perimeter barriers around the site, and temporary barriers around the equipment being used. In addition to implementing a noise mitigation plan, the SCA employed several additional measures to minimize the noise. First, the SCA purchased ninety-seven permanent noise mitigation blankets to be placed where the loudest construction is being performed. The SCA also purchased an additional twenty noise mitigation blankets to be moved throughout the site to where work is being performed. To maximize their effectiveness, the SCA hired a professional engineer to evaluate where the blankets should be placed.

Second, the SCA reduced the working hours at the site. The regular working hours at an SCA site are from 4:00 pm to 12:00 am because the SCA does not allow construction work to take

³ New York City Administrative Code Section 24.

⁴ Construction activities that commenced on or after July 16, 2018 cannot exceed 80 decibels for more than five continuous minutes.

⁵ A copy of the noise mitigation plan for Washington Irving can be found on the SCA's dedicated website for this project.

place while children are in school. The work occurs after school hours and the SCA obtains an After Hours Variance from DOB to perform work during these hours.⁶ On this project, the hours are shortened to 4:00 pm to 10:00 pm. The workers are not allowed on the site before 4:00 pm, even if it is to prepare. The workers also have to be off the site before 10:00 pm because at 10:00 pm the lights on the site are turned off. Interior work must also follow the shortened schedule. On other projects, work is sometimes scheduled for Saturdays and there are makeup days on the weekends for missed days during the week due to inclement weather. However, on this project, there is no Saturday work and no makeup days on the weekends.

The SCA also hired an independent third party company to provide noise monitoring. On September 14, 2018, the company visited Washington Irving and reviewed the general contractor's noise mitigation plan and performed noise monitoring. From 3:55 pm to 9:29 pm, the company recorded 42 sound readings sporadically through the night. None of the readings exceeded the 85 decibel threshold. The highest reading was 81.1 decibels and the remaining readings were between 55.9 and 78.2 decibels.

From March 24, 2017 through December 17, 2018, DEP received over 80 complaints and its inspectors visited Washington Irving over 80 times. Each time, the DEP inspector observed the work being performed and reviewed the noise mitigation plan. During some inspections, the DEP inspector took sound readings. None of DEP's sound readings exceeded the 85 decibel threshold. To date, DEP has never issued a summons for a noise violation at Washington Irving.

The OIG also hired an independent third party noise monitoring company to monitor the noise levels at Washington Irving from September 13, 2018 through December 3, 2018. The company and the OIG installed a noise monitoring device on the roof of 146 East 16th Street, across the street from Washington Irving (see attached pictures). Every minute, during the aforementioned dates, the noise monitoring device recorded the sound level. The OIG examined the results to see if there were instances where the sound readings exceeded 85 decibels for more than five continuous minutes. As stated above, the New York City Noise Control Code mandates that construction noise not exceed 85 decibels for more than five continuous minutes. There were seven instances where the sound readings exceeded the New York City Noise Control Code. However, all seven instances occurred either early in the morning or on the weekend --- in other words, none occurred during periods when construction was being performed at Washington Irving.

The OIG also noted the five loudest sound readings during the twelve week monitoring period. The loudest reading was 106 decibels at 11:51 am on Monday, December 10, 2018. The other four readings ranged between 103 and 105 decibels and occurred during the week, in the morning or early afternoon, before construction was being performed at Washington Irving.

The OIG also determined the average daily decibel level when construction was not being performed and when construction was being performed. When construction was not being performed, the average daily decibel level was 69.2. When construction was being performed, the average daily decibel level was only slightly higher at 70.7. There were also several days when the average daily decibel level was higher when construction was not being performed as opposed to when construction was being performed.

⁶ To perform work after normal business hours in New York City, general contractors are required to obtain an After Hours Variance from the DOB. Normal business hours are weekdays from 7:00 am to 6:00 pm.

In addition to the New York City regulations governing noise, there are DOB regulations regarding the hours of the day when construction can take place. According to the DOB, construction hours are restricted to Monday through Friday, between 7:00 am and 6:00 pm. To perform work before or after these hours, a general contractor must obtain an After Hours Variance from the DOB. The DOB received numerous complaints regarding after-hours construction at Washington Irving. The DOB reviewed these complaints and concluded that the SCA complied with all DOB regulations by obtaining an After Hours Variance for all work performed after 6:00 pm or on the weekend. To date, the DOB has never issued a summons for an after-hours violation at Washington Irving.

Dust

In addition to noise complaints, community members have also complained about construction dust. Similar to the efforts to reduce noise, the SCA has complied with all New York City regulations and has implemented additional protocols and procedures to reduce the construction dust at Washington Irving.

1. New York City Regulations

Similar to the regulations regarding noise, New York City also regulates dust emitted from construction sites. DEP issues and enforces these regulations. Under Section 24-146(c) of the New York City Administrative Code “No person shall cause or permit a building or road to be constructed without taking such cautions as may be ordered by the commissioner to prevent particulate matter from becoming airborne.” Chapter 13 of Title 15 of the Rules of the City of New York requires the general contractor to complete and maintain a dust mitigation plan that includes the measures being utilized to reduce dust emissions at the construction site. This plan must be accessible to DEP inspectors.

2. SCA’s Dust Protocol Procedures

In addition to the New York City regulations regarding dust, every SCA construction contract contains Section S01900, which among other things, sets forth additional dust protocol procedures that must be followed on all SCA work sites. Subsection 1.24(b) (2) requires that:

- a. All paint chips, waste and debris shall be collected without dispersing any of it and sealed in a disposal container.
- b. Remove dust mats, construction paper and protective dust barrier sheeting by misting with water, detaching it, folding it dirty side inward, and either taping to seal it or sealing it in heavy-duty bags. Sheeting separating contaminated rooms from non-contaminated rooms must remain in place until after removing other sheeting. Dispose of sheeting as waste.
- c. Clean interior walls starting at the ceiling and working down to the floor by either HEPA vacuuming or wiping with a damp cloth. Thoroughly HEPA vacuum all remaining surfaces and objects in the work area, including furniture and fixtures. The HEPA vacuum must be equipped with a beater bar when vacuuming carpets and rugs.⁷
- d. Wipe all remaining surfaces and objects in interior work areas, except for carpeted or upholstered surfaces, with a damp cloth. Mop uncarpeted floors thoroughly, using a

⁷ A beater bar is a rotating brush unit within the powerhead of a vacuum cleaner.

mopping method that keeps the wash water separate from the rinse water, such as the 2-bucket mopping method or wet mopping system (i.e., mop head designed to be used with disposable absorbent cleaning pads, a reservoir for cleaning solution, and a built-in mechanism for distributing cleaning solution onto a floor, or a method of equivalent efficacy).

- e. Inspect all interior and exterior work areas (an EPA certified renovator is required for lead-based paint work inspection). Repeat the above cleaning if any dust, debris or residue is present or as required to restore work areas to the same state of cleanliness existing before work began. Repeat the inspection after re-cleaning.

3. Dust at Washington Irving

The exterior modernization at Washington Irving includes removing and replacing the existing parapet, removing and replacing the face brick and cleaning and repairing the limestone and granite. This process creates construction dust. In addition to complying with the SCA's dust protocol, the general contractor is also complying with New York City's regulations by preparing and filing a dust mitigation plan with the DEP. The dust mitigation plan includes using handheld water hoses to wet down the materials and the equipment to prevent dust from becoming airborne and making sure that all trucks are covered.⁸

In addition, the SCA implemented additional measures for this project. The general contractor is required to use garden hoses on the scaffolding to mist the areas while work is being performed. The mist helps prevent the dust from becoming airborne. To ensure the general contractor is compliant with the SCA protocol and the New York City regulations, the SCA also hired an independent third party company. The company conducted daily inspections at Washington Irving from November 13, 2017 through June 29, 2018 and from July 13, 2018 through August 9, 2018. The company reported that the general contractor complied with all NYC Regulations and SCA dust protocol and procedures. In addition, visual inspections by the company confirmed that no construction related debris or dust was in or around the school property.

The SCA also hired an independent third party company to measure the indoor air quality inside Washington Irving. On December 13, 2017, the company measured the general indoor air quality and comfort parameters of temperature, relative humidity, carbon monoxide and carbon dioxide. The company reported that no odor was detected and all parameters sampled were within respective regulatory limits or guidelines with the exception of relative humidity (relative humidity was low but this is common in the Northeastern part of the United States during the winter season).

Safety

Exterior modernization construction projects, like the one at Washington Irving, require sidewalk sheds erected around the property prior to work commencing. A sidewalk shed is a temporary structure built around the property to protect people and property from falling debris. A general contractor must receive the DOB's prior approval and a DOB permit before installing a sidewalk shed. NYC Building Code §3307 provides the technical requirements for the sidewalk shed, including the length, width, passageway height, lighting, strength and deck storage of the shed.

⁸ A copy of the dust mitigation plan for Washington Irving can be found on the SCA's dedicated website for this project.

To comply with DOB regulations, the general contractor at Washington Irving received prior approval from the DOB and filed the appropriate permits to erect a sidewalk shed around the building. When the sidewalk shed was erected, the community complained that the shed caused congestion around the school and that homeless people were congregating and sleeping on the sidewalk under the shed and posed a safety concern.

To address the community's concerns, the SCA took several steps. First, to reduce the congestion around the school, the SCA minimized the staging areas for materials and modified and reduced the sidewalk shed around the building. The SCA also placed the SCA and the general contractor's offices, which are usually in trailers on the street, in the basement of the building. Second, to address the issue of homeless people congregating and sleeping under the sidewalk shed, the SCA hired a second security guard. One security guard was hired for a 24 hour period while the other security guard was hired for the evening and overnight. The SCA also replaced the black netting around the sidewalk shed with white netting and doubled the amount of light fixtures affixed to the sidewalk shed to increase visibility. After the SCA took these additional steps, the community no longer complained of homeless people congregating and sleeping under the sidewalk shed.

CONCLUSION

An extensive and independent review by the OIG revealed that the SCA complied with all New York City regulations governing construction noise and dust. In addition to complying with New York City regulations, the SCA implemented additional protocols and procedures to further minimize the construction noise and dust and to address the community's concerns.

The location of the sound monitoring device on the roof of 146 East 16th Street.





Washington Irving Campus
40 Irving Place



Sound Monitoring Device
146 East 16th Street