A. INTRODUCTION

This chapter summarizes the construction effects from the proposed project (the school facility) and identifies impacts that could result from these activities. Construction stages and activities are first described, followed by the types of impacts likely to occur during construction, and an assessment of methods that may be employed to minimize those impacts.

B. CONSTRUCTION ACTIVITIES AND SCHEDULE

It is expected that the proposed school facility would involve construction of four school buildings, rising up to four stories in height, upon a common platform constructed at the street level. Several shared facilities would be constructed within a podium extending from the existing grade level to the street level.

Construction of the school facility would commence in 2007, and last for approximately three years. Construction activities would normally take place Monday through Friday, although the delivery or installation of certain critical equipment could occur on weekend days. Construction activity would generally be conducted between 8 AM and 4 PM. Occasionally, overtime may be required to complete some time-sensitive tasks outside the typical work day.

C. PROBABLE IMPACTS OF THE PROPOSED PROJECT

Construction of the proposed school facility may be disruptive to the surrounding area. The following analysis describes the types of construction-period impacts likely to occur on traffic and transportation, air quality, noise, and soil and groundwater conditions. Overall, construction of the proposed project would not result in any significant adverse construction impacts.

TRAFFIC AND TRANSPORTATION

The proposed project would generate trips from workers traveling to and from the area, as well as from the movement of goods and equipment. Given the typical construction hours, construction workers traveling to and from the area would be concentrated in off-peak hours and would not represent a substantial increment during peak travel periods. Truck movements would be spread throughout the day and would generally occur between the hours of 9:00 AM and 3:30 PM, depending on the period of construction. Therefore, vehicle trips associated with construction would not be likely to have any significant adverse impacts on surrounding streets. In addition, these inconveniences from the construction would not be any different from other construction projects throughout the city and would be temporary in nature.

AIR QUALITY

The principle air quality impact associated with construction activities is the generation of fugitive dust. Dust suppression measures, including water spraying practices, will be implemented to prevent exposure of students, residents or workers to any fugitive dust during construction. In addition, a comprehensive Community Air Monitoring Program (CAMP) will be implemented to provide an added level of protection for occupants of adjacent schools and residences from potential airborne releases. Excavation of all contaminated soil will be conducted within temporary enclosures (tent structures) which will be maintained at a negative pressure to contain and treat any fugitive dust and vapors from discharging to the outside air. All construction-related dust emissions are regulated by the New York City Air Pollution Control Code.

Construction should not result in any significant or permanent disruption of local traffic, so carbon monoxide levels would not be affected. In addition, emissions from diesel-powered equipment would not be enough to produce any significant local or regional impacts.

NOISE

Typical uncontrolled noise levels expected from construction equipment are shown in Table 13-1. The level of impact from these noise sources depends on the noise characteristics of the equipment and activities involved, the construction schedule (i.e., the kind and number of pieces of construction equipment being operated), the hours when construction activities are taking place, and the location of potentially sensitive noise receptors.

In general, construction noise during the early phases of construction, site clearing, and excavation would be intrusive and be readily perceptible. Typical $Leq_{(1)}$ noise levels during this phase of construction would range from a high of approximately 78 dBA to a low of approximately 65 dBA at 500 feet. However, these peak construction noise levels would persist for only a short period of time.

In addition, small increases in noise levels from the operation of trucks delivering equipment and supplies and removing debris, and worker trips to the project area are expected to occur in the immediate vicinity of the project area and near the defined truck routes. These increases would be expected to be less than 5 dBA, and significantly less than the noise due to construction equipment operations. Construction activities would generally occur between the hours of 8 AM and 4 PM, 5 days per week. The New York City Noise Control Code limits construction activities, except for special circumstances, to weekdays between these hours. It is expected that the construction of the proposed roadway improvements would follow these parameters.

CONTROL METHODS

Construction noise is regulated by the New York City Noise Code and by the U.S. Environmental Protection Agency (EPA) noise emissions standards for construction equipment. These local and federal requirements mandate that certain classifications of construction equipment and motor vehicles meet specified noise emissions standards; that, except under exceptional circumstances, construction activities be limited to weekdays between the hours of 8 AM and 4 PM; and that construction material be handled and transported in such a manner as not to create unnecessary noise. The contract documents would require that the contractor comply with both the New York City Noise Code and EPA noise emission standards for

construction equipment. In addition, appropriate low-noise emission level equipment and operational procedures would be used.

Table 13-1
Typical Noise Emission Levels for Construction Equipment

Equipment Item	Noise Level at 50 feet (dBA)
Air Compressor	81
Asphalt Spreader (paver)	89
Asphalt Truck	88
Backhoe	85
Bulldozer	87
Compactor	80
Concrete Plant	83[(1)]
Concrete Spreader	89
Concrete Mixer	85
Concrete Vibrator	76
Crane (derrick)	76
Delivery Truck	88
Diamond Saw	90[(2)]
Dredge	88
Dump Truck	88
Front End Loader	84
Gas-driven Vibro-compactor	76
Hoist	76
Jack Hammer (Paving Breaker)	88
Line Drill	98
Motor Crane	93
Pile Driver/Extractor	101
Pum	76
Roller	80
Shovel	82
Truck	88
Vibratory Pile Driver/Extractor	89[(3)]

Notes:

[1] Wood, E.W. and A.R. Thompson, Sound Level Survey, Concrete Batch Plant; Limerick Generating Station, Bolt Beranek and Newman Inc., Report 2825, Cambridge, MA, May 1974.

[2] New York State Department of Environmental Conservation, Construction Noise Survey, Report No. NC-P2, Albany, NY, April 1974.

[3] F.B. Foster Company, Foster Vibro Driver/Extractors, Electric Series Brochure, W-925-10-75-5M.

Source: Patterson, W.N., R.A. Ely, and S.M. Swanson, *Regulation of Construction Activity Noise*, Bolt Beranek and Newman, Inc., Report 2887, for the Environmental Protection Agency, Washington, D.C., November 1974, except for notated items.

Compliance with noise control measures would be ensured by including them in the contract documents and by directives to the construction contractors.

SOIL AND GROUNDWATER CONDITIONS

As described in Chapter 13, "Soil and Groundwater Conditions," a Phase I Environmental Site Assessments (ESA), a Phase II Environmental Site Investigation (ESI), and a remedial investigation (RI) were performed to identify any potential sources of hazardous materials resulting from previous and existing uses on the site that could pose a hazard during and after construction of the proposed project. The results of the Phase II ESI and RI identified soil and groundwater contamination above New York State Department of Environmental Conservation (NYSDEC) Recommended Soil Cleanup Objectives (RSCOs) and groundwater quality standards, specifically associated with volatile organic compounds (VOCs) and semivolatile organic compounds (SVOCs). The majority of the contamination identified was generally confined to the northwest portion of the project site as well as upgradient to the north and off-site.

With the implementation of the following measures, no significant adverse soil and groundwater impacts would result: 1) Construction of a hydraulic barrier along the northern and western boundaries of the project site to prevent contaminated groundwater from entering the site and to limit dewatering during site excavation; 2) Removal and off-site disposal of contaminated soil (approximately 19,000 cubic yards in a 40,000 square foot area) from the northwestern portion of the project site and backfill this excavated area with environmentally clean soil; 3) During the construction of the school, monitor groundwater quality downgradient of the hydraulic barriers and at the downgradient property line to confirm that there are no changes in the existing groundwater quality; 4) Installation of a 24-inch layer of environmentally clean fill over any landscaped or exposed soil areas of the site after construction activities are completed to prevent direct contact with the subsurface soils; and 5) Construction of a vapor barrier and active sub-slab depressurization system beneath the proposed school to prevent any potential residual vapors from entering the school in the future.

To minimize construction workers' exposure, standard industry practices for the removal of contaminated soils will be utilized, including the employment of an appropriate health and safety plan (HASP). In addition, measures will be taken to prevent exposure of residents or workers in the area to any fugitive dusts or vapors during construction. These measures include the implementation of dust and vapor controls (e.g., water spraying, negative pressure enclosures of contaminated soil excavation areas) and a monitoring program (CAMP), as described above, to insure there is no off-site migration of dust/vapors. With these measures in place, there are no anticipated exposure pathways to the surrounding community from construction operations and there would be no significant adverse construction impacts related to soil and groundwater conditions.

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