6.4 SOCIOECONOMIC CONDITIONS

6.4.1 Introduction

Following the methodology described in Section 3.4 "Socioeconomic Conditions" of Chapter 3, "Impact Methodologies," this Section evaluates whether the construction and operation of the E. 59th Street/Second Avenue Shaft Site would result in adverse socioeconomic impacts. Potential socioeconomic impacts include direct and indirect displacement. According to the *CEQR Technical Manual*, direct displacement is the involuntary displacement of residents, employees, and businesses from the site of a proposed action, while indirect displacement is the involuntary displacement of residents, employees, or businesses due to changes in living conditions or costs that could potentially result from the project.

The E. 59th Street/Second Avenue Shaft Site is located on City-owned property and, therefore, would not result in the direct displacement of businesses or residents. Therefore, this Section focuses on potential indirect displacement due to, for example, noise, vibration, and traffic and pedestrian circulation impacts resulting from the project. As discussed in the technical Sections of this Chapter, construction of the shaft at the E. 59th Street/Second Avenue Shaft Site has the potential to result in potential significant noise impacts on nearby residents and businesses. With the exception of blasting, noise effects would be most noticeable to residents and businesses that face the Shaft Site. Blasting effects would not be highly noticeable at receptors located beyond this immediate area, particularly after the first four months of blasting; these effects are considered short term and temporary. Therefore, the assessment focuses on those residents and businesses facing the Site.

In addition to the Shaft Site itself, this alternative would also involve construction of water main connections. The water mains could travel one block beneath E. 59th Street from the Shaft Site to First Avenue where they would join the potential First Avenue or Sutton Place water main routes, could travel along the E. 59th Street/E. 61st Street route discussed in Chapter 5, "Water Main Connections." There would be no direct displacement from these potential water main connections. In addition, as described in the technical impact assessments of this Chapter, there are no significant adverse impacts associated with these potential water main connections. Therefore, there would be no indirect displacement effects and no further analysis is warranted.

Another potential socioeconomic effect could result from the cost to construct the project that would be borne by water and sewer ratepayers. This Section evaluates whether these construction costs would have the potential to result in the indirect displacement of residential water and sewer users.

6.4.2 Existing Conditions

Residents and Businesses in the Vicinity of the E. 59th Street/Second Avenue Shaft Site

As discussed in Section 6.2, "Land Use and Community Facilities, Zoning, and Public Policy," the E. 59th Street/Second Avenue Shaft Site is located in a densely populated residential neighborhood with a high ground-floor retail presence. As described in Section 4.3, "Open Space," in Chapter 4, "Preferred Shaft Site," according to Census 2000, a total of nearly 27,000 people live within approximately ¼ mile of the alternative Shaft Site, in the area generally extending from E. 54th to E. 64th Streets, east of Third Avenue. The residences and businesses that face the site also face onto a high trafficked corridor that includes the entrance to the Queensboro Bridge (Bridge), E. 59th Street, and Second Avenue. The residential buildings across from the site include a high rise building located on the southeast corner of E. 59th Street and Second Avenue and several walk-up apartment buildings along E. 59th Street.

Retail shops and other businesses are located at the ground floor of these residences and in standalone buildings. On the south side of E. 59th Street, between Second Avenue and the Queensboro Bridge on ramp, is the 35-story apartment building, with offices located on the lower floors of the building. The Humane Society and an antique shop are located further east on E. 59th Street. Several businesses are also located diagonally across Second Avenue from the Shaft Site, including a lighting store, hair salon, and fitness club.

Water and Sewer Rates

Information on the current water rate structure for City customers of the New York City Water Supply System and available funding mechanisms for capital projects is discussed in Section 4.4, "Socioeconomic Conditions," of Chapter 4, "Preferred Shaft Site." This information is used to assess the potential socioeconomic indirect displacement effects from increased water rates due to the construction of the Shaft 33B and the associated water main connection.

The water rate for City customers effective in Fiscal Year (FY) 2006 is $1.65 per hundred cubic feet (ccf). Charges for sewer service are assessed at 159 percent of water charges. For a typical single family customer using 100,000 gallons per year, this represents a combined annual water and sewer charge of $571. The actual annual charge for any specific customer will be proportionally more or less depending on actual usage.

6.4.3 Future Conditions Without the Project

Residents and Businesses in the Vicinity of the E. 59th Street/Second Avenue Shaft Site

As discussed in Section 6.2, "Land Use and Community Facilities, Zoning and Public Policy," there are no proposals or planned residential or commercial projects in the areas that face the project site in the Future Without the Project. Therefore, conditions would be expected to be comparable to those currently existing in the immediate vicinity of the E. 59th Street/Second Avenue Shaft Site.

Water and Sewer Rates

Information on the projected water and sewer payments is provided in Section 4.4, "Socioeconomic Conditions," of Chapter 4, "Preferred Shaft Site." Water rates per household, assuming a household usage of 100,000 gallons per year (gpy), would increase from $571 in FY 2006 to $775 in FY 2010. For the lowest income group in New York City, current water and sewer costs account for 4.5 percent and would increase to 4.8 percent of annual household income in the Future Without the Project.

6.4.4 Future Conditions With the Project

Residents and Businesses in the Vicinity of the E. 59th Street/Second Avenue Shaft Site

Construction

Certain residents and businesses facing the Shaft Site would experience significant noise impacts, and at times, noticeable, but intermittent vibration effects during shaft construction. As discussed in Sections 6.12, "Noise," and 6.13, "Vibration," NYCDEP will put numerous protective measures in place to minimize and/or prevent both noise and vibration effects.

As described in Section 6.1, "Project Description," depending on the construction schedule for the project at this site, different construction techniques (either the raise bore or method or the surface excavation method) would need to be utilized for shaft construction. Under the surface excavation method, blasting would occur over a 24 month period (18 months for the shaft and 6 months for the distribution chamber), as compared to the eight month period for the raise bore method. While the time period is longer for the surface excavation method, there would be one, rather than two, blasts per day for the shaft work, and two per day for the distribution chamber work (as with the raise bore method). If surface excavation were to be used, the peak hour noise levels during Stage 2 generated by construction equipment would be comparable because similar types of equipment would be used, but the equipment would be used for a greater number of hours and the duration of noise impacts would be longer on a given day. In addition, noise levels would also be expected to be higher due to the higher level of construction activity associated with moving rock at the surface, rather than below ground.

The noise and vibration levels from blasting and other construction activities will be noticeable and, at times, intrusive and annoying to certain residents, business owners, and customers of local businesses across from the Shaft Site. However, they would not be expected to prevent the conduct of routine activities. The existing environment surrounding the Shaft Site is very noisy resulting from high traffic volumes associated with the Bridge. Therefore, retail and other businesses in the immediate area are accustomed to elevated noise levels and traffic congestion. These businesses include offices, an antique shop, lighting store, hair salon, and fitness club. The noise from the construction site may make several of these businesses less attractive to customers, particularly during intense construction activities. In general, however, the businesses are either not highly dependent on the environment outside their businesses and would be minimally affected or are neighborhood-based destinations and it is unlikely that customers

would travel longer distances to do business that could, otherwise, be done in their neighborhoods.

The construction activities would have no effect on pedestrian access to these uses. No other significant environmental impacts on these businesses, residents, or other uses would occur. Although local economic conditions in the immediate vicinity of the Shaft Site could decline somewhat during intense construction periods, the net effect on the area's economy would be negligible. It is very unlikely that businesses or residents would relocate from the area as a result of construction of the project. Overall, the effects of the project are not unlike the effects from other major construction in Manhattan that involves the use of heavy construction in close proximity to residential and commercial uses. Given the Shaft Site's location in a well-established neighborhood of Midtown Manhattan, large-scale neighborhood character or socioeconomic changes would not be expected to occur. Therefore, it is not anticipated that construction of Shaft 33B at this site would result in the potential for significant adverse socioeconomic effects during construction.

Operation

Once constructed, the shaft would not be very visible. Short-term maintenance and repair activities would routinely occur at the site, as discussed in Section 6.1, "Project Description." As discussed in the technical impact analyses in this Chapter, these activities would not result in long term adverse noise or other environmental impacts. Therefore, it is not anticipated that operation of the shaft would result in potential significant adverse socioeconomic impacts on residents and businesses.

Water and Sewer Rates

Costs

Construction of Shaft 33B at the E. 59th Street/Second Avenue Shaft Site would occur in four stages over a 52 month period (2007-2011) with an estimated cost of approximately $67 million (all amounts are in 2005 dollars, assuming a 4 percent escalation in costs to the mid-point of construction). The water main connection along First Avenue from this Shaft Site (including the additional connection to First Avenue) would cost approximately $11 million, with a combined shaft and water main cost of $78 million while the Sutton Place route would cost approximately $15.5 million, with a combined shaft and water main cost of $82.5 million. The cost to construct the water main connection along the E. 59th Street/E. 61st Street route would be lower.

The lower costs for construction of the shaft at this location are due to the fact that the shaft diameter would need to be smaller to fit on the site and, therefore, only able to accommodate one riser. There is the potential that at this site, the shaft would need to be constructed from the surface downward (the surface excavation method). Under this scenario, costs would be $15 million higher, for a total cost of up to $97.5 million. The cost estimates include construction costs, fees for engineering, and construction management. Operation and maintenance (O&M) costs would be approximately $2 million per year beginning in the year 2012 when the shaft would be operational.

Probable Impacts on Residential Users

Financing the project through New York City Municipal Water Finance Authority ("Authority") bonds would result in a repayment (or amortization) period of 30 years. For purposes of analysis, we have assumed an interest rate of 6.34 percent. Repayment begins in the first year of the bond issue.

The probable impacts of the project are assessed for residential users on the basis of an average annual water usage of 100,000 gallons per year (gpy) per household. The years 2008 to 2015 were used as the basis for the assessment since these are the years when the costs would be fully reflected in the debt service on the bonds issued to finance the capital costs and the largest rate increases due to the project would be incurred. The average monthly payment per household unit required to amortize the bonds (or portions of bonds) issued to fund the shaft and pay for O&M costs would begin at a low of roughly $0.05 in 2008, increase to a high of $0.22 in 2014, and then decrease to $0.15 in 2015 and each year thereafter for 20 years. The water main connection would add another approximately 23 percent to these costs, while the surface excavation method would add another approximately 22 percent, or less than $0.05 in the peak years for each.

To assess the impact this cost would have on New York City water consumers, three indicators are typically reviewed – median monthly gross rent of renter occupied units, median monthly costs of owner-occupied units and annual income of low income residents. These indicators are as follows:

- The median monthly gross rent of renter occupied units in the five boroughs in 2000 ranged from $620 in the Bronx to $796 in Manhattan, with a citywide average of $705.
- The median monthly costs of owner-occupied units in the five boroughs in 2000 (including mortgages, equity loans, real estate taxes, insurance, utilities (including water, electricity, and gas), heating fuel, condominium fees, mobile home fees, and other miscellaneous fees) were highest in Manhattan, $3,615, and lowest in Staten Island, $1,431, with a City-wide average of $1,562.
- The average household income for City customers in the lowest income block in New York City (Tract 271.01) is estimated to have been $12,664 in 2004.

The additional monthly rate charge of approximately $0.22 related to implementation of the project would be negligible to renters, home owners and low income residents. Based on these costs, it is unlikely that renters or owners of residential units would relocate from the City as a result of the proposed project. Therefore, the project is not expected to result in potential significant adverse socioeconomic impacts on New York City residential water consumers.

Conclusions

Construction of Shaft 33B at the alternative Shaft Site and the water mains would not result in significant adverse impacts on socioeconomic conditions. While construction of the Shaft Site would be noticeable, and at times, intrusive and annoying to certain residents, business owners, and customers of local businesses, the effects of construction would not be unlike the effects

from other major construction in Manhattan. Construction of the water mains would also not result in significant adverse impacts on local businesses, as construction would be of short duration in any one area (typically 12 weeks for the street segment and another 10 weeks for each intersection). With implementation of the traffic mitigation plan for the construction zone, the potential increase in traffic congestion along the selected water main route would not be anticipated to result in significant adverse impacts to nearby businesses. Nearby businesses would continue to receive and make deliveries, and customers would continue to be able to access the businesses. In terms of water and sewer rates, the additional monthly rate charge of $0.22 would be negligible to renters, home owners, and low income residents. Overall, construction and operation of Shaft 33B at the alternative Shaft Site and the water mains would not result in significant adverse impacts on socioeconomic conditions.

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