

3.11.6 Construction Greenhouse Gas Emissions

3.11.6.1 Introduction

Construction of the Proposed Project would require the use of both stationary source (nonroad) construction equipment and on-road (mobile source) vehicles, both of which have the potential to impact regional greenhouse gas (GHG) emissions. Per the *City Environmental Quality Review (CEQR) Technical Manual*, evaluation of GHG emissions serves as a proxy for evaluating the Proposed Project's impact on climate change. A quantitative analysis of GHG emissions that would be generated by the construction and operation of the Proposed Project was performed (see Chapter 3.9, "Greenhouse Gas Emissions and Climate Change") and the Proposed Project's consistency with the citywide GHG reduction goals was assessed.

As discussed in the *CEQR Technical Manual*, climate change is projected to have wide-ranging effects on the environment, including rising sea levels, increases in temperature, and changes in precipitation levels. Although this is occurring on a global scale, the environmental effects of climate change are also likely to be experienced at the local level. The City of New York's sustainable development policy, starting with PlaNYC, and continued and enhanced in OneNYC, established sustainability initiatives and goals for greatly reducing GHG emissions and for adapting to climate change in the City.

3.11.6.2 Principal Conclusions

As discussed in Chapter 3.9, "Greenhouse Gas Emissions and Climate Change," the Proposed Project would result in up to approximately 40,385 metric tons of CO₂e emissions associated with fossil fuel usage in all forms during construction. Potential measures for reductions of emissions from construction of the Proposed Project are under consideration and may include the use of biodiesel, expanded use of recycled steel and aluminum, as well as expanded construction waste reduction.

3.11.6.3 Methodology for Predicting Pollutant Concentrations

A project's impact on climate change comes from the GHG emissions over the fully lifecycle a project, GHG emissions from both construction and operation of the Proposed Project. Since the Proposed Project is anticipated to have a construction schedule duration of more than two years and would be considered long-term, GHG emissions associated with construction were assessed quantitatively (a detailed discussion of methodology is discussed in Chapter 3.9, "Greenhouse Gas Emissions and Climate Change"). Construction emissions include emissions from on-road trips, on-site non-road engines, and materials extraction, production, and transport. Estimates of emissions of GHGs from the construction activity and materials were quantified, including on-site emissions from engines, emissions from vehicle use, and emissions associated with materials extraction, production, and transport.

A description of construction activities is provided in Chapter 3.11, "Construction." The analysis was based on the projected activity and materials developed for the Proposed Project. Under the Proposed Action condition, fill and other materials will be delivered via a combination of trucks and barges, using tugboats.

3.11.6.4 No Action Conditions

In the No Action condition, it is assumed that there would be no flood barrier system installed in the Project Area. While there would be one project to improve drainage in Rockefeller Park, independent of the Proposed Project and there is a possibility for some limited redevelopment activity to install resiliency measures at individual buildings within the Project Area and 400-foot study area, no significant

construction activities are anticipated. Therefore, there would be no significant GHG emissions associated with construction in the No Action condition.

3.11.6.5 Proposed Action Conditions

As discussed in Chapter 3.9, “Greenhouse Gas Emissions and Climate Change,” total GHG emissions associated with the construction of the Proposed Project, including direct emissions and upstream emissions associated with construction materials (excluding fuel), would be approximately 44 thousand metric tons of CO₂e emissions. GHG Emissions would be generated by on-site fuel consumption from equipment (including tugboat maneuvering while on-site) and truck idling (of ready-mix concrete truck and other necessary idling), truck and car fuel consumption while traveling on regional roadways, tug emissions while traveling to/from the Project Site, and the embodied carbon emissions associated with construction materials (including concrete and steel). Detailed methodology and GHG emissions are presented in Chapter 3.9, “Greenhouse Gas Emissions and Climate Change.” An overall summary of construction GHG emissions by source type for the Proposed Project are presented in **Table 3.11.6-1**.

Table 3.11.6-1
Total Transportation Emissions (metric ton CO₂e)

Vehicle Type	Emissions
On-Site	1,461
Transportation	34,155
Material	8,825
Total	44,442