
Appendix O

Additional Shadows Mitigation Analysis of St. Bartholomew's Episcopal Church

Appendix O.1

Additional Shadows Mitigation Analysis of St. Bartholomew's Episcopal Church

Appendix O.2

Incremental Shadows Comparison Table

Appendix O.3

Building Massing Comparison Figure



Appendix O.1

Additional Shadows Mitigation Analysis of St. Bartholomew's Episcopal Church



Appendix O.1: Additional Shadows Mitigation Analysis of St. Bartholomew's Episcopal Church

As discussed in Chapter 5, "Shadows," the Proposed Action would result in a significant adverse shadows impact on one historic architectural resource, the St. Bartholomew's Church and Community House (see Resource H19 on Figure 5-1). These impacts are the result of incremental shadows during limited time periods on certain analysis days cast by Projected Development Site 7. Based on shadow modeling, it was determined that the height of any new development on Projected Development Site 7 would need to be limited to the height of the existing buildings on this site (approximately 300 feet tall) in order to eliminate the significant adverse shadows impacts on St. Bartholomew's Church and Community House. However, if Projected Development Site 7 were limited to its existing height of 300 feet, it is anticipated significant adverse shadow impacts would be caused by Potential Development Sites C and D which are directly southwest of Projected Development Site 7 and would cast shadows in the same direction towards St. Bartholomew's. It should be noted, as discussed further in Chapter 5, that both the individual building massings and their projected combined shadow effect on sunlight sensitive resources in the shadow screening study area represent a very conservative approach to this analysis, that by definition would not occur.

Between the Draft and Final EIS, measures to mitigate the identified shadows impact on St. Bartholomew's Church and Community House were examined, including exploration of feasible changes to the bulk and setback regulations governing Projected Development Site 7 and Potential Development Sites C and D that would reduce or eliminate the incremental shadow that causes the impact. Specifically, a design option was considered where restrictions would be placed to require narrower towers on these sites.

An alternative development scenario for Projected Development Site 7 was explored (hereinafter the "Projected Development Site 7 Alternative Massing" - see Figure O.3-1 for an illustrative comparison of Projected Development Site 7 under the Proposed Action and under the Projected Development Site 7 Alternative Massing). The development was modeled with additional setback restrictions above 300 feet (the height of the existing building at the site), to determine whether the setbacks may reduce or eliminate the significant adverse shadow impact on St. Bartholomew's Episcopal Church projected under the Proposed Action. The building was modeled which maintains the maximum proposed floor area, with more setbacks and narrower upper tiers was analyzed via 3D modeling software (see Chapter 5, "Shadows," for more detail regarding shadow impact assessment methodology).

The results showed that the total incremental shadow duration on sunlight sensitive features of the church would be reduced by approximately 30 minutes in each of the May and June analysis periods compared to the Proposed Action (see Table O.2-1). However, these reduced incremental shadow durations during these analysis periods would still shade multiple stained glass windows on the resource for extended periods of time, from over 2 to 2.5 hours (see Table O.2-1). Therefore, shadows associated with the Projected Development Site 7 Alternative Massing would result in significant adverse impacts to St. Bartholomew's Episcopal Church in a manner similar to the Proposed Action. As such, modification to the built form of Projected Development Site 7 does not offer a practical mitigation measure to reduce significant adverse impacts associated with shadows on this historic resource.

Appendix 0.2

Incremental Shadows Comparison Table



Table O.2-1: St. Bartholomew’s Episcopal Church Incremental Shadow Comparison – Projected Development Site 7, With-Action vs. Alternative Massing

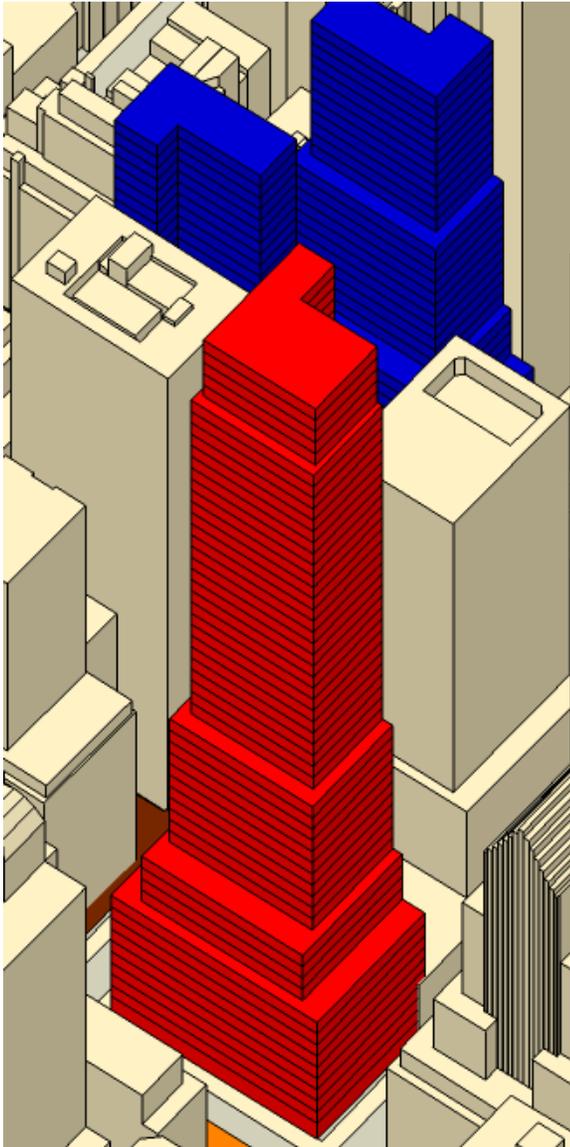
Resource ID	Resource Name	ANALYSIS DAYS			
		December 21: 8:51 AM – 2:53 PM	March 21 / September 21: 7:36 AM – 4:29 PM	May 6 / August 6: 6:27 AM – 5:18 PM	June 21: 5:57 AM – 6:01 PM
H19	<i>St. Bartholomew’s Episcopal Church – Proposed Action</i>				
	Shadow Enter-Exit Time	No New Incremental Shadows	No New Incremental Shadows	1:54 PM – 4:41 PM	1:41 PM – 4:45 PM
	Incremental Shadow Duration			2 hours, 47 minutes	3 hours, 4 minutes
	<i>St. Bartholomew’s Episcopal Church –Alternative Massing Only</i>				
	Shadow Enter-Exit Time	No New Incremental Shadows	No New Incremental Shadows	2:04 PM – 4:22 PM	1:42 PM – 4:11 PM
	Incremental Shadow Duration			2 hours, 18 minutes	2 hours, 29 minutes
	TIME DIFFERENCE:		N/A	N/A	-29 minutes

Appendix O.3

Building Massing Comparison Figure



**Projected Development Site 7
Proposed Action**



**Projected Development Site 7
Alternative Massing**

