Appendix D
Wind Memorandum

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Re: **Candlestick Center – San Francisco, CA**
Pedestrian Wind Study – Qualitative Assessment
RWDI Project Number: 2401593

INTRODUCTION

Rowan Williams Davies & Irwin Inc. (RWDI) has been retained to conduct a qualitative assessment of potential wind conditions on and around the proposed Candlestick Point-Hunters Point Shipyard Phase 2 (CP-HPS2) Project Site, with a focus on the Candlestick Center portion of the Candlestick Point site. The CP-HPS2 Project was originally approved in 2010. The Project Sponsor now proposes the 2024 Modified Project Variant, which modifies and updates the previously approved 2019 Modified Project Variant and includes: (1) a change in maximum height allowances for Candlestick Center from a maximum of 120 feet to maximum 180 feet; and, relatedly, (2) a transfer of 2,050,000 square feet (sf) of Research & Development/Office space (R&D/office) from Hunters Point Shipyard to Candlestick Point. This letter provides Pedestrian Wind Conditions consulting for Addendum 7 to the 2010 Final Environmental Impact Report (2010 FEIR).

HISTORY

CP-HPS2 2010 FEIR

CP-HPS2 was initially approved in 2010. According to the 2010 Final EIR, “building structures near or greater than 100 feet in height could create pedestrian-level conditions such that the wind hazard criterion of 26-mph-equivalent wind speed for a single hour of the year would be exceeded.” However, with implementation of mitigation measure MM W-1a, as cited below, the potential impact would be reduced to a less-than-significant level.

MM W-1a Building Design Wind Analysis

Prior to design approval of Project buildings, for high-rise structures above 100 feet, the Project Applicant shall retain a qualified wind consultant to provide a wind review to determine if the exposure, massing, and orientation of the building would result in wind impacts that could exceed the threshold of 26-mph-equivalent wind speed for a single hour during the year. The wind analysis shall be conducted to assess wind conditions for the proposed building(s) in conjunction with the anticipated pattern of development on surrounding blocks to determine if the Project building(s) would cause an exceedance of the wind hazard standard. The analysis shall be conducted as directed by the City's wind study guidelines, including, if required, wind tunnel modeling of potential adverse effects relating to hazardous wind conditions. The [San Francisco Redevelopment] Agency [now the Office of Community Investment and Infrastructure] shall require the Project Applicant to identify design changes that would mitigate the adverse wind conditions to below the threshold of 26-mph-equivalent wind speed for a single hour of the year. These design changes could include, but are not limited to, wind-mitigating features, such as placing towers on podiums with a minimum 15-foot setback from street edges, placement of awnings on building frontages, street and frontage plantings, articulation of building facades, or the use of a variety of architectural materials.

Addendum 6 in 2019

Addendum 6 to the 2010 FEIR analyzed the 2019 Modified Project Variant. Among other proposed modifications to the 2010 Project, the 2019 Modified Project Variant) analyzed an increase of the maximum allowable height for buildings at Candlestick Center to 120 feet (ft) along the majority of Arelious Walker Drive and 85 ft in the remaining areas. After reviewing the 2010 FEIR and previous addenda, Addendum 6 to the CP-HPS2 2010 FEIR concluded that "To the extent that the increased heights could increase wind impacts, MM W-1a would address these impacts as it requires a wind study for all buildings exceeding 100 feet in height. With implementation of MM W-1a, there would be no new impacts or a substantial increase in the severity of previously identified impacts related to winds. As such the impact would remain less than significant with implementation of the identified mitigation measure."

CURRENT PROPOSAL FOR CANDLESTICK CENTER

Candlestick Center is a roughly triangular portion of the overall Candlestick Point site that is bordered by proposed extensions of Harney Way, Ingerson Avenue and Arelious Walker Drive, and is located immediately east of Bayview Hill. Based on the most recent design information received from FivePoint from October 2023 through January 2024, the current design of Candlestick Center proposes approximately 12 buildings plus a parking garage, including housing, commercial space, health and

wellness facilities, childcare and learning spaces, and community gathering spots. The allowable height limit at Candlestick Center is proposed to increase from 120 ft to 180 ft.

The prevailing winds in the area are from the west through northwest directions. Being on the leeward side of Bayview Hill, the Candlestick Center site is expected to have relatively low average wind speeds, but high turbulence and gusts, caused by the prevailing winds over and around the hill. Due to Candlestick Center's location, the wind speeds on this site would likely be lower than those in the surrounding development areas across Harney Way and Ingerson Avenue. In addition, the proposed development has several positive design features that would further reduce the wind speeds on site:

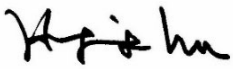
- even with the increased height limit at 180 ft, the proposed buildings at Candlestick Center would still be substantially lower than the height of Bayview Hill to the west;
- the proposed buildings at Candlestick Center would all be of similar height, meaning that upwind buildings - those closer to Bayview Hill - would tend to shelter downwind buildings from stronger wind speeds;
- the buildings would be staggered on site, not to form a straight passage for potential wind accelerations;
- the internal streets on site would be in a north-south direction, perpendicular to the prevailing winds, thereby avoiding potential wind acceleration that could occur with streets parallel to the prevailing winds;
- most proposed buildings would be situated on low podia, reducing the direct impact of downwashing winds off the proposed buildings onto the ground level; and
- the public promenade at the center of the site would have a relatively narrow opening at the west end and it would expand and turn towards the southeast, thereby avoiding potential wind acceleration that could occur with a wide and straight east-west opening between buildings.

Given the foregoing, it is our professional opinion that the hazard criterion of 26 mph for a single hour of the year would be met at most pedestrian areas on the Candlestick Center site. However, there would be the potential for exceedances of the wind hazard criterion around and between the "external" buildings that might have direct exposure to the prevailing winds. Similar to the conclusions from the 2010 FEIR and subsequent addenda, further wind studies would be required for individual buildings that are taller than 100 ft, but the implementation of Mitigation Measure W-1a would ensure that no exceedances would occur, and the potential wind impact would remain at a less-than-significant level with mitigation.

We trust this satisfies your current requirements. Please do not hesitate to contact us should you have any questions or require additional assistant.

Yours truly,

Rowan Williams Davies & Irwin Inc. (RWDI)



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