Addendum to Environmental Impact Report

Date:	October 26, 2022
Case No.:	2021-008560ENV
Project Title:	Transbay Block 2 Redevelopment Project
EIR Case No.:	Case No. 2000.048E
State Clearinghouse No.:	95063004, certified April 22, 2004
Project Sponsors:	Office of Community Investment and Infrastructure (OCII) Block 2 East: Michael Kaplan, Mercy Housing California; mkaplan@mercyhousing.com (415.355.7126) Block 2 West: Abigail Brown, Chinatown Community Development Center; abigail.brown@chinatowncdc.org (415.935.2458)
OCII Contact:	José Campos, Office of Community Investment and Infrastructure, jose.campos@sfgov.org (415.749.2554)
Staff Contact:	Michael Li, San Francisco Planning Department, michael.j.li@sfgov.org (628.652.7538)

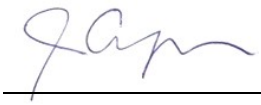
DETERMINATION

Based on the analysis included herein, it is concluded that the analyses conducted and the conclusions reached in the final environmental impact statement/environmental impact report (as supplemented by Addendum No. 1 through No. 9, inclusive, the EIS/EIR) for the Transbay Transit Center/Caltrain Downtown Extension/Redevelopment Project certified on April 22, 2004 (and as modified by Addendum No. 1 through No. 9, inclusive, the EIS/EIR Project)[1,2] remain valid. Revisions to the EIS/EIR Project associated with the proposed project would not cause new significant impacts that were not identified in the EIS/EIR, nor would the proposed project cause significant impacts that were previously identified in the EIS/EIR to become substantially more severe. No new mitigation measures would be necessary to reduce significant impacts. No changes have occurred with respect to circumstances surrounding the EIS/EIR Project as modified by the proposed project that would cause new or substantially more-severe significant environmental impacts, and no new information has become available that shows that the EIS/EIR Project as modified by the proposed project would cause new or substantially more-severe significant environmental impacts. Therefore, no supplemental environmental review is required beyond this Addendum.

[1] U.S. Department of Transportation, Federal Transit Administration (FTA); City and County of San Francisco; Peninsula Corridor Joint Powers Board; and San Francisco Redevelopment Agency, *Transbay Transit Center/Caltrain Downtown Extension/Redevelopment Project Final Environmental Impact Statement/Environmental Impact Report and Section 4(f) Evaluation* (March 2004), accessed July 8, 2022, https://tjpa.org/documents/final-eiseir.

[2] Development contemplated for Block 4 was the subject of Addendum No. 9, which was published in June 2022. The Block 4 project has not yet been approved, but this Addendum conservatively considers the Block 4 project as part of the environmental baseline.

I do hereby certify that the above determination has been made pursuant to state and local requirements.



October 26, 2022

José Campos
Manager of Planning and Design Review
Office of Community Investment and Infrastructure

Date of Determination

REMARKS

The Successor Agency to the Redevelopment Agency of the City and County of San Francisco, commonly referred to as the Office of Community Investment and Infrastructure (OCII), proposes to fund and oversee development of two affordable housing developments on Block 2 within the Transbay Redevelopment Project Area (**Figure 1**). To implement this development, OCII proposes an amendment to the Redevelopment Plan for the Transbay Redevelopment Project Area (Transbay Redevelopment Plan) to modify building bulk limitations applicable to Block 2 and an amendment to the Development Controls and Design Guidelines for the Transbay Redevelopment Project Area (DCDG) to modify certain height and bulk restrictions, setback requirements, and other development controls applicable to Block 2. The Transbay Block 2 Project (proposed project) consists of these planning amendments and new construction of two affordable housing developments on Block 2 (including associated approval actions for this construction).

A. PROJECT DESCRIPTION

Project Location and Site Characteristics

As shown in **Figure 1**, the approximately 43,000-square-foot project site is located in the northeast portion of San Francisco, generally at 200 Folsom Street, on Assessor's Block 3739, Lot 014 (a portion of former Lot 008), bounded by Main, Folsom, and Beale Streets and extending approximately 155 feet northwest from Folsom Street. The proposed project site formerly contained the Temporary Transbay Terminal, in use until the completion of the Salesforce Transit Center in 2020. The project site contains a single-story bus terminal building (constructed in 2010), bus benches, and small terminal structures.[3]

Proposed Project

The proposed project includes the demolition of existing structures on the project site, subdivision of the project site into two proportional eastern and western development lots (hereafter referred to as "Block 2 East" and "Block 2 West"), ground leasing of the lots from OCII to the respective affordable housing developers in contract with OCII for development of each lot, and thereafter construction of one new building, with associated infrastructure, on and immediately adjacent to each lot, and necessary project entitlements as described in Tables 1 and 2 and Section E, *Required Project Approvals*, below.

[3] Portions of the former Temporary Transbay Terminal are currently in use on an interim basis with a variety of publicly accessible activities, including a beer garden, food trucks, soccer/sports fields, and public art. An outdoor cinema, food and retail kiosks, and a community marketplace have been included on a seasonal basis. These interim uses are expected to continue into 2023.

SOURCE: ICF, 2022

Transbay Block 2 Project

FIGURE 1
PROJECT SITE

Overall, the proposed project includes approximately 308,127 gross square feet (gsf) of building space, including approximately 296,776 gsf of residential space (as further delineated in Table 3), approximately 4,904 gsf of retail space, and approximately 6,447 gsf of childcare space. The proposed project would construct a total of 335 residential units.

As shown in **Figure 2**, the proposed project includes: (a) on Block 2 West, a residential building 85 feet in height with attached low-rise townhomes up to 50 feet tall along Clementina Street; (b) on Block 2 East, a residential building primarily 144 feet in height but extending to approximately 165 feet tall at the southeastern (Folsom Street) side of the building, and with attached low-rise townhomes up to 50 feet tall along Clementina Street; and (c) a pedestrian-oriented open space connecting Folsom Street and Clementina Street constructed on portions of both Bock 2 East and Block 2 West. **Figures 3 through 8**, on the following pages, show a level 1 plan, a section of the Block 2 East building, a section of the Block 2 West building, perspectives, and an axonometric view of the proposed project.

Block 2 East

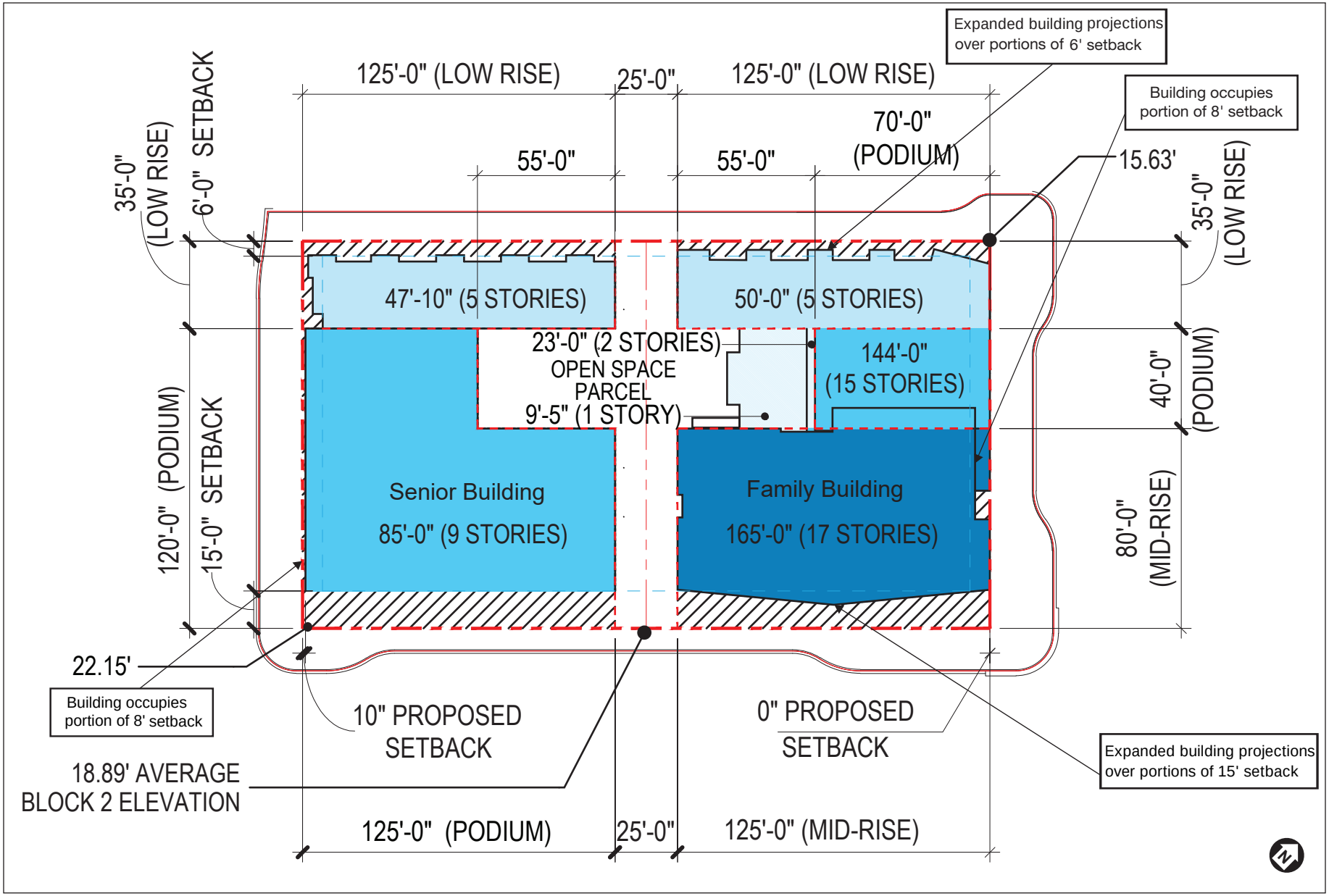
As shown in Figure 3, OCII and Mercy Housing California (Mercy), the affordable developer for Block 2 East, propose to construct an approximately 198,472 gsf residential building containing 184 affordable rental residential units. The building on Block 2 East would be of varying heights, rising from approximately 50 feet in height along Clementina Street to 144 feet/15 stories and finally to 165 feet/ 17 stories (181.5 feet including rooftop mechanical equipment) at the southeastern edge of Block 2 East, along Folsom Street. This building would also include an approximately 6,447-square-foot childcare center split between the first and second level, a landscaped open space for the childcare facility on floor 2; a bicycle storage room; residential open space roof decks on floors 6 and 16; and approximately 1,959 square feet of ground-floor retail. Block 2 East would contain half of Block 2's 8,275-square-foot ground-level open space parcel as indicated in the DCDG.

Block 2 West

As shown in Figure 3, OCII and Chinatown Community Development Center (CCDC), the affordable developer for Block 2 West, propose to construct an approximately 109,655gsf residential building containing 151 affordable rental units available exclusively as senior housing. The building on Block 2 West would be of varying heights, rising from approximately 50 feet in height along Clementina Street to approximately 85 feet/nine stories (95 feet total, including rooftop mechanical equipment). This building would also include a bicycle storage room, approximately 2,945square feet of ground-floor retail, a community room, and a roof deck on floor 6. Block 2 West would also contain half of Block 2's 8,275 sf ground-level open space parcel as indicated in the DCDG.

Parking and Loading

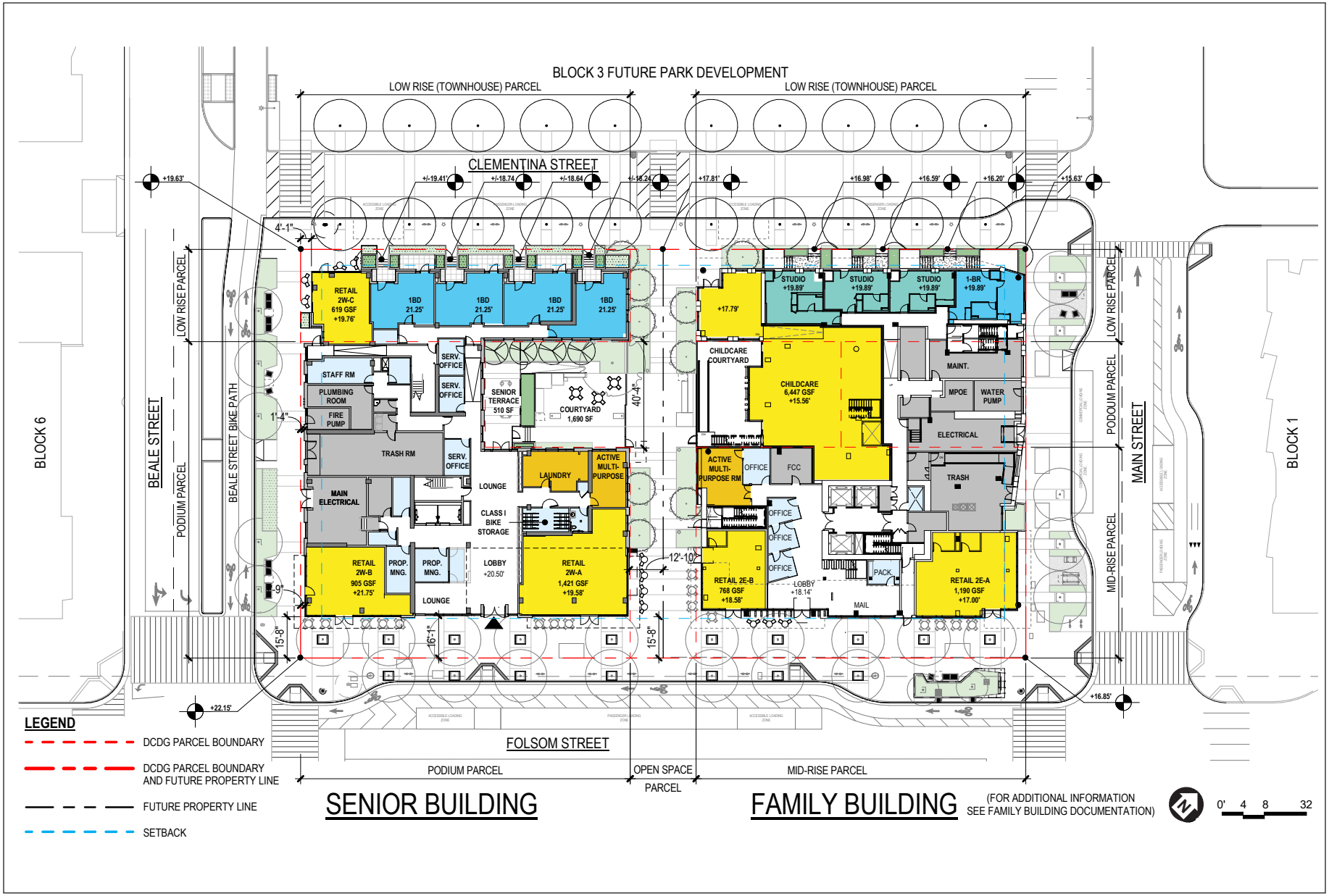
The proposed project would not include off-street vehicular parking. The proposed project would provide 104 class I and 16 class II bicycle parking spaces. The Block 2 East building would provide 92 class I bicycle parking spaces, which would be split between two bicycle storage rooms on the second floor of the building. The Block 2 West building would provide 12 class I bicycle parking spaces in a bicycle storage room located on the first floor. Additionally, there would be 16 class II bicycle parking spaces (bicycle racks) located on sidewalks adjacent to both buildings.



SOURCE: Kennerly Architecture & Planning, August 18, 2022; Mithun, October 21, 2022

Transbay Block 2 Project

FIGURE 2
PROPOSED SITE PLAN

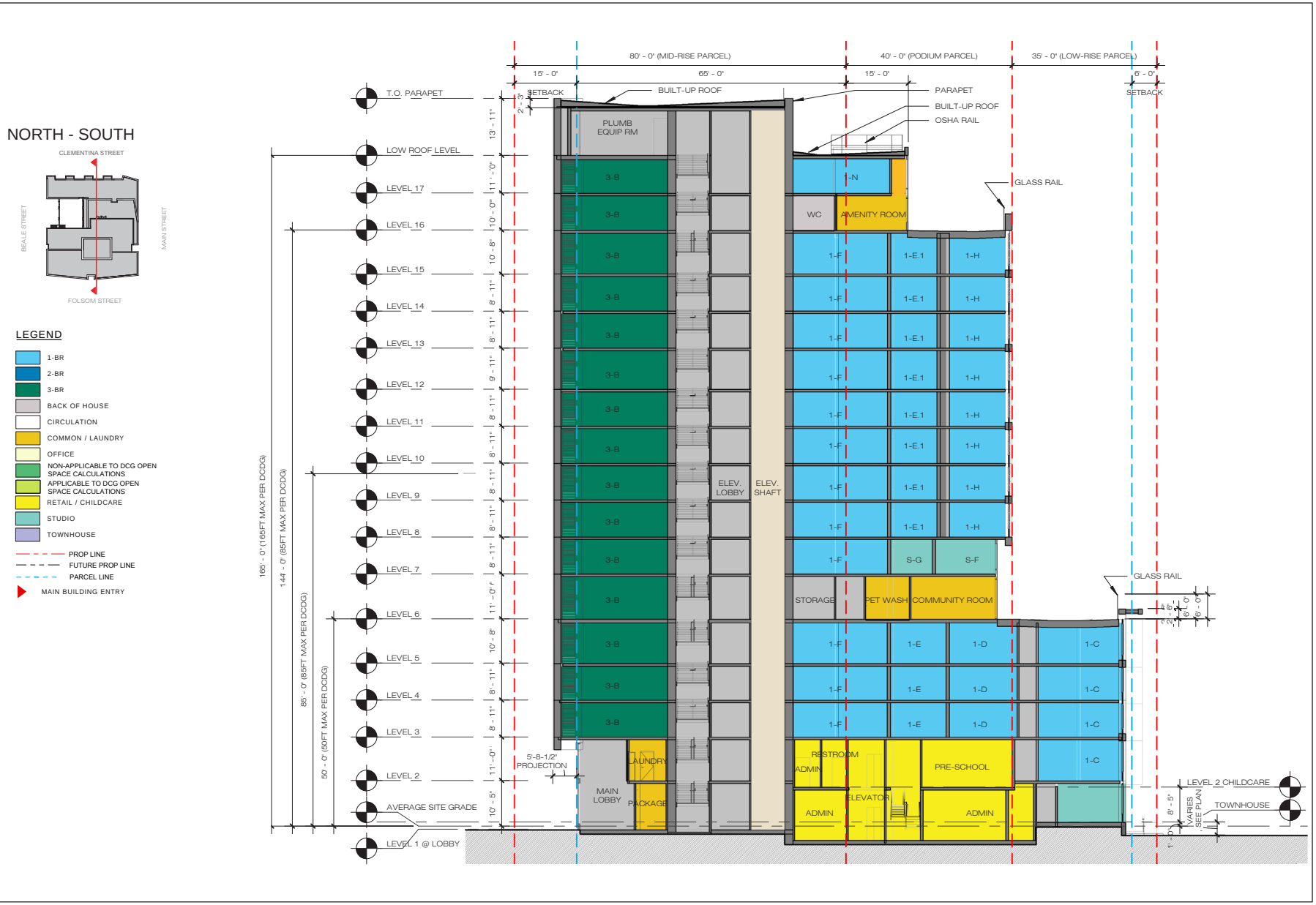


SOURCE: Kennerly Architecture & Planning, August 18, 2022; Mithun, October 21, 2022

Transbay Block 2 Project

FIGURE 3

PROPOSED LEVEL 1 PLAN

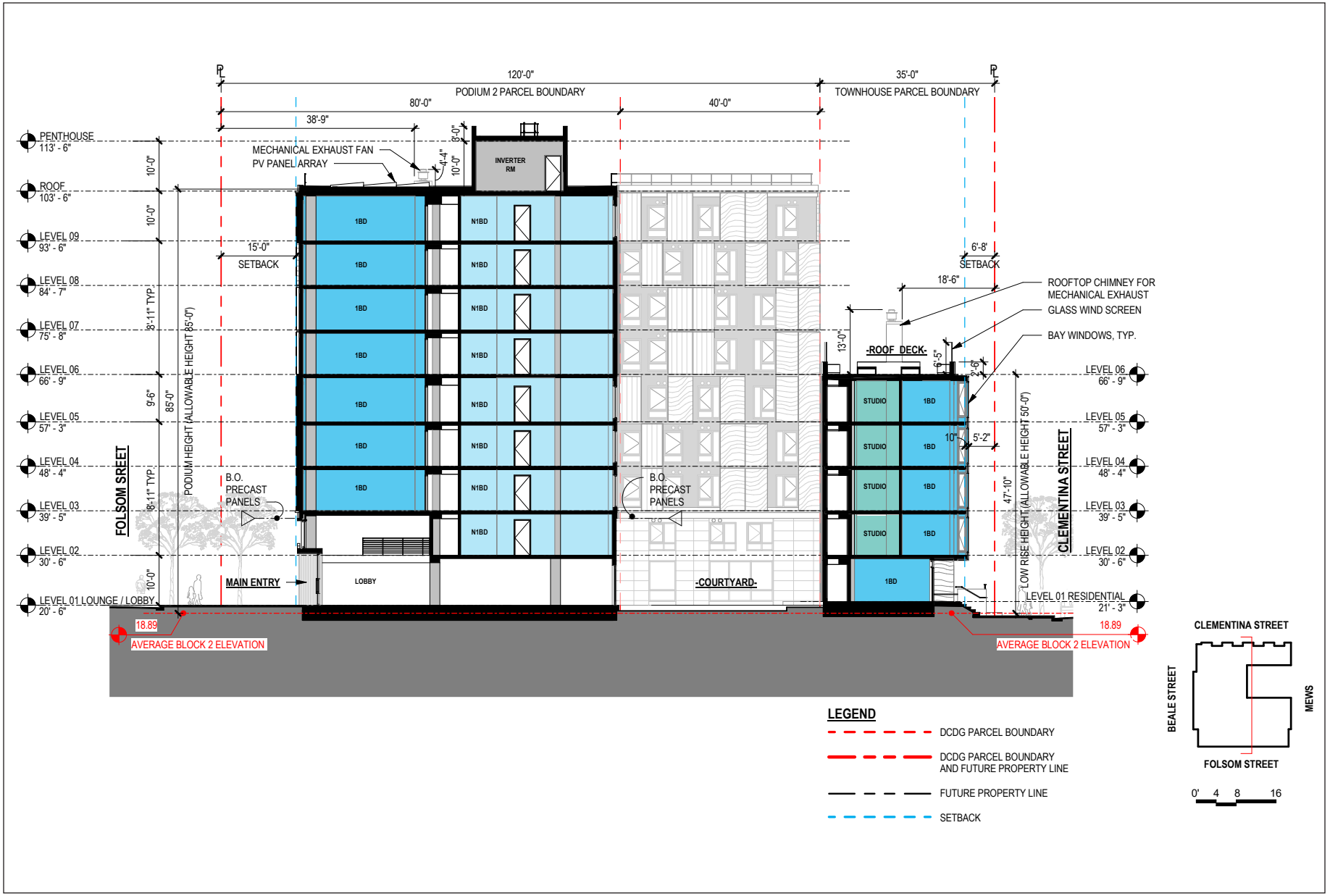


SOURCE: Kennerly Architecture & Planning, October 21, 2022

Transbay Block 2 Project

FIGURE 4

PROPOSED BLOCK 2 EAST: FAMILY BUILDING SECTION



SOURCE: Kennerly Architecture & Planning, August 18, 2022; Mithun, October 21, 2022

Transbay Block 2 Project

FIGURE 5

PROPOSED BLOCK 2 WEST: SENIOR BUILDING SECTION

SOURCE: Kennerly Architecture & Planning, August 18, 2022; Mithun, October 21, 2022

Transbay Block 2 Project

FIGURE 6

PROPOSED PERSPECTIVE FROM CORNER OF FOLSOM AND BEALE STREETS

SOURCE: Kennerly Architecture & Planning, October 21, 2022

Transbay Block 2 Project

FIGURE 7

PROPOSED PERSPECTIVE FROM THE NORTHEAST, LOOKING SOUTHWEST

SOURCE: Kennerly Architecture & Planning, August 18, 2022; Mithun, October 21, 2022

Transbay Block 2 Project

FIGURE 8
PROPOSED AXONOMETRIC VIEW FROM NORTHWEST

On-street loading zones would be provided on adjacent streets, including Clementina Street, Main Street, and Folsom Street. Block 2 East would have a commercial loading zone along Main Street. The trash pick-up loading areas would be on Beale Street for Block 2 West, and on Main Street for Block 2 East. A passenger/accessible loading zone along Clementina Street would also serve as a child-care loading zone. Additionally, the proposed project includes an accessible loading zone along Folsom Street which would provide access to the lobby and retail areas of both buildings. The proposed project would provide a total of 4 accessible on-street loading spaces, approximately 246 linear feet of on-street passenger loading space, and approximately 54 linear feet of on-street commercial loading space. Passenger and commercial loading would be in effect 24 hours per day, seven days per week.

Streetscape and Circulation

The applicable affordable developer would be responsible for implementing streetscape improvements adjacent to its respective leased portions of the project site between the property line and the curb on Folsom, Beale, and Main streets. The City would implement streetscape improvements beyond the curb as part of separate projects.

The proposed project would include the following streetscape improvements between the property line and the curb:

- **Folsom Street.** An approximately 24-foot-wide sidewalk with an 8-foot-wide pedestrian walkway surrounded by two tree pits (a 4-foot 6-inch tree pit adjacent to the bicycle lane and a 6-foot tree pit on the building side) would be constructed on the north side of the street adjacent to the project site. There would also be a 5-foot-wide minimum active frontage separating the tree pit from the building. A rain garden would also be constructed within the sidewalk near the intersection of Main and Folsom streets.
- **Beale Street.** An approximately 17.5-foot-wide sidewalk with a 9-foot-wide pedestrian walkway and an 8-foot planter would be constructed on the east side of the street adjacent to the project site.
- **Main Street.** An approximately 17.5 to 25.5-foot-wide sidewalk with a 9-foot-wide pedestrian walkway.
- **Clementina Street.** An approximately 12-foot-wide sidewalk, a 6-foot-wide walkway, a 4-foot tree zone, loading zones, travel lanes, and a raised tabletop crosswalk.

As part of other projects previously approved or undergoing separate environmental review, Folsom Street would be improved with new two-way vehicular travel lanes, a westbound bicycle lane with a buffer separating it from the passenger and accessible loading zone. An eastbound bicycle lane and a passenger and accessible loading zone would be provided on the south side of the street. Beale Street would be improved with a two-way cycle track on the east side of the street, and Main Street would be improved with loading zones, two one-way travel lanes, and a bicycle lane on the east side of the street.

Construction

Site Grading and Preparation

Construction would require demolition of existing structures on the project site, including the terminal building at 200 Folsom Street (constructed in 2010) and interim use facilities, if not previously removed, removal of pavement, utility lines, and other below-grade infrastructure in preparation for below-ground excavation. Following excavation, the area below grade would be backfilled using fill consisting of onsite soil or imported soil that is non-corrosive, free of organic matter or other deleterious material, contains no

rucks or lumps larger than 4 inches in greatest dimension, and is approved by the geotechnical engineer. Excavations for utility trenches would require use of a backhoe.

Foundations

Both the Block 2 East and West buildings could be supported by two types of foundation systems: (1) a deep foundation, such as driven/drilled piers or augered piles; or (2) a mat foundation supported by columns. The mat foundation is a type of shallow slab foundation that carries the entire load of the structure and spreads it over the whole area beneath the building. The mat foundation option is the preferred option and would consist of deep soil mix columns or panels,[4] which would extend through the fill and marine deposits and into competent soils. The mat foundation could also be supported by drilled displacement columns, which use a displacement auger, or drill, to create a soil shaft that is filled with low-strength material while the auger is withdrawn from the hole. Both foundation options would extend to approximately 55 feet below ground.[5,6]

Construction Schedule

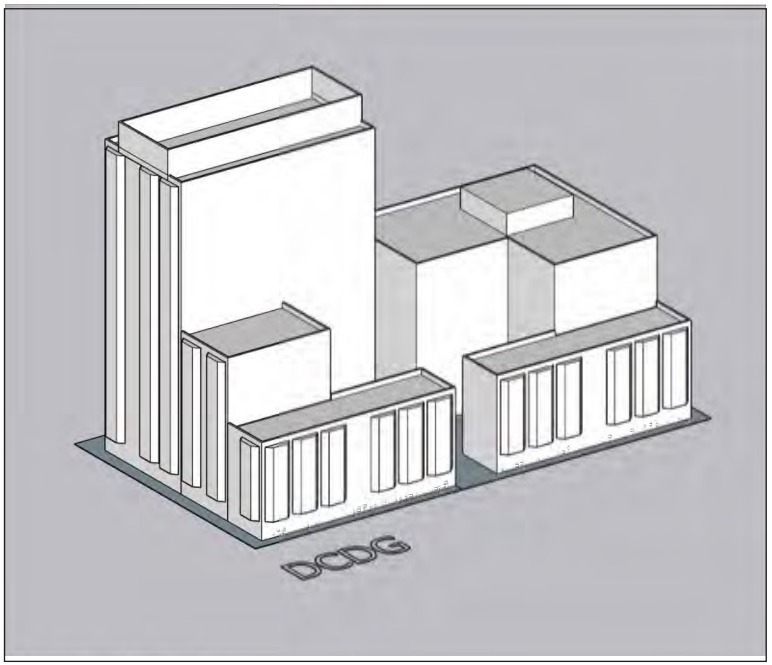
Detailed construction plans have not been finalized. However, based on preliminary plans, it is anticipated that construction on one or both buildings would begin in 2024 and occur over a 24-month period. Both buildings may be constructed simultaneously, or they may be staggered, meaning that the total work period could last up to four years. Work is expected to occur Monday through Friday from 7 a.m. to 8 p.m. On occasion, construction may also take place on weekends on an as-needed basis. Construction staging would occur primarily within the project site but occasionally use portions of the public right-of-way along Folsom, Main, and Beale streets; and possibly Clementina Street. Travel-lane, parking-lane, and sidewalk closures would most likely be needed. During periods of travel-lane and sidewalk closures, wayfinding signs and pedestrian protection would be erected, as appropriate, in accordance with the public works code and the "Blue Book."[7]

B. TRANSBAY REDEVELOPMENT PLAN AND DCDG AMENDMENTS

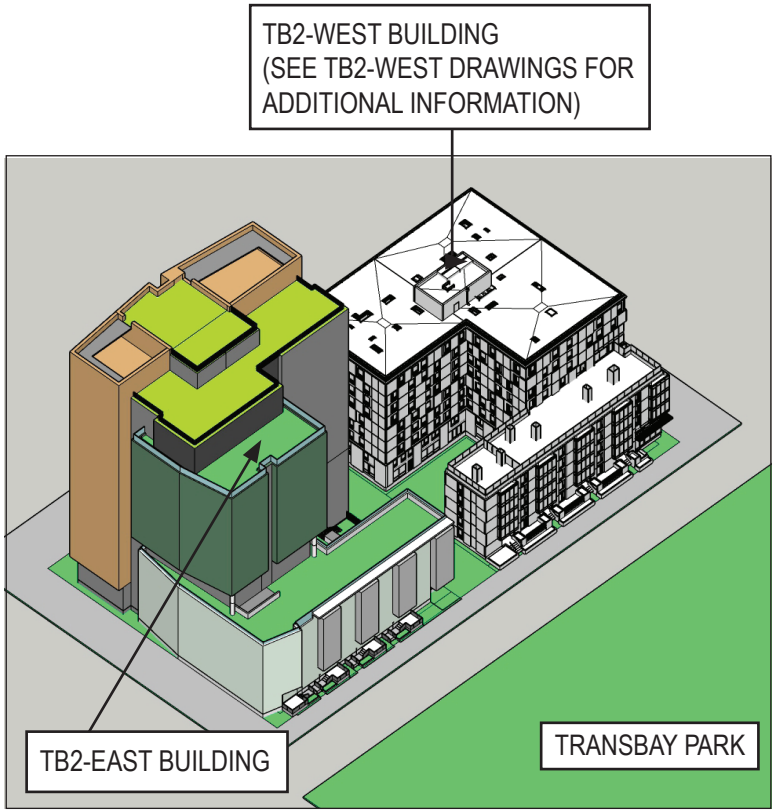
Block 2 East Redevelopment Plan Amendment

As shown on **Figure 9**, OCII and Mercy would seek an amendment to the Transbay Redevelopment Plan to increase bulk limits applicable to the portion of the Block 2 East building between 85 and 165 feet in height, as described in **Table 1**.

[4] Deep Soil Mix columns or panels improve the ground by mixing soil and cement in place using a specialized drill rig to create a column or panel of strengthened soil.
[5] Langan Engineering and Environmental Services, Inc, *Geotechnical Investigation Transbay Block 2E – Family Building, San Francisco, California* (October 19, 2022).
[6] Langan Engineering and Environmental Services, Inc, *Geotechnical Investigation Transbay Block 2W – Senior Building, San Francisco, California* (October 19, 2022).
[7] San Francisco Municipal Transportation Agency, *Regulations for Working in San Francisco Streets, 8th edition* (revised October 2021), accessed July 8, 2022, https://www.sfmta.com/sites/default/files/reports-and-documents/2022/05/blue_book_8th_ed_accessible_rev_5-2022_v3.7.4.pdf.



DCDG-Compliant Building Massing



Proposed Block 2 East Building Massing

SOURCE: Kennerly Architecture & Planning, August 18, 2022; Mithun, August 15, 2022

Transbay Block 2 Project

FIGURE 9

COMPARISON OF PROPOSED BLOCK 2 EAST BUILDING AND DCDG-COMPLIANT BUILDING MASSING

Table 1 Transbay Redevelopment Plan Amendment for the Proposed Project

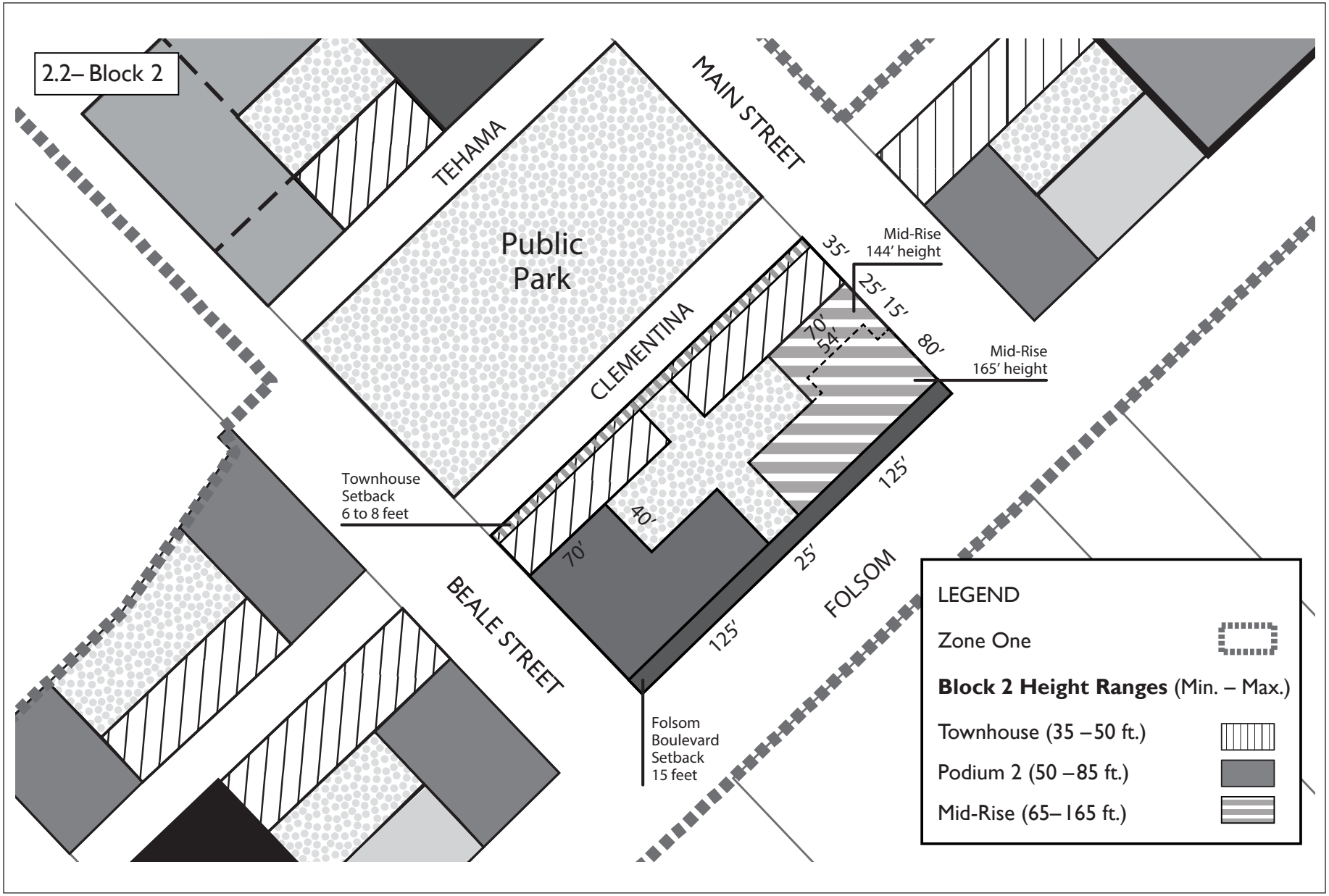
No.	Topic	Plan Standards	Proposed Changes
1	Increase Bulk Limit on Mid-Rise Section (maximum floor plate area)	Maximum floor plate is 7,500 square feet for buildings 85 to 250 feet in height	Maximum Floor Plate Size of 11,100 square feet is permitted for the portion of the building between 85 feet and 144 feet in height and a Maximum Floor Plate Size of 9,200 square feet is permitted for the portion of the building between 144 feet and 165 feet in height.

Block 2 DCDG Amendments

Figure 10 and **Table 2** describe the DCDG amendments required for the proposed project. Figure 10 is the DCDG Amendments, Block 2 Alternative Map, which removes the requirement of 8- to 10-feet Townhouse Setbacks fronting Main and Beale streets, expands the mid-rise parcel and refines the height limits in accordance with the proposed project. **Table 2** shows the text changes proposed by the DCDG amendments.

Table 2 DCDG Amendments for the Proposed Project

No.	Topic	Development Control	Proposed Amendment
Block 2 Alternative Development Controls: Overall Block			
1	Retail Bays	Retail bays must be created every 25 to 35 feet to allow multiple storefronts, even if initial retail tenants occupy more than one bay.	Retail bays must be created every 20 to 35 feet to allow multiple storefronts, even if initial retail tenants occupy more than one bay.
2	Active Ground Floor Uses	Ground floor commercial spaces are required along the Folsom Boulevard frontage, along the retail mews of Block 2, and at the corners of buildings on Howard Street. These commercial spaces must conform to the general standards and guidelines for ground floor retail development below.	The Block 2 mews shall include a mix of retail, childcare and affordable housing supportive service uses.
3	Open Space Parcel Softscape	At least 40% of the shared open space parcel must be softscaped.	At least 19% of the shared open space parcel must be softscape.
4	Open Space Parcel Allocation	A portion of an open space parcel may be reserved for childcare facilities.	The first floor of the eastern building may encroach onto the open space parcel to accommodate childcare services or neighborhood-serving retail. The roof of the encroachment shall be open space.
Block 2 Alternative Development Controls: Townhouse Parcels			
5	Townhouse Floors	The “Maximum Number of Floors” in the Townhouse Parcels shall be four.	The “Maximum Number of Floors” in the Townhouse Parcels shall be five.
6	Townhouse Projections	Projections, either bay windows or those of a purely architectural or decorative character such as cornices, eaves, sills, and belt courses, must meet the dimensional requirements of planning code section 136.	Bay window projection dimensions over the setback on Clementina Street shall not exceed 4 feet in depth and 12 feet in width. The maximum area of any individual projection shall be 48 square feet.
7	Retail Floor Height	Ground floor commercial spaces must have at least 15-foot floor-to-floor heights.	Ground floor commercial spaces with an entrance from a Townhouse Parcel must have at least 11-foot floor-to-floor heights.



SOURCE: OCII, 2022

Transbay Block 2 Project

FIGURE 10

DCDG AMENDMENTS, BLOCK 2 ALTERNATIVE MAP

8	Retail Depth	In order to make commercially viable spaces, the minimum depth of any retail space shall be 30 feet. Exceptions may be made for liner retail designed to wrap around larger floor plate retailers.	Retail spaces fronting Clementina Street shall have a minimum depth of 27 feet.
9	Townhouse Setback Softscape	At least 40% of the front yard setback area for townhouses must be softscaped, and a maximum of 60% of the space may be hardscaped, impermeable surfaces.	At least 24% of the front yard setback area for townhouses must be softscaped, and a maximum of 76% of the space may be hardscaped, impermeable surfaces.
10	Retaining Wall Height	Retaining and/or decorative walls between the right-of-way and front yard setback may not exceed 3 feet in height.	Retaining and/or decorative walls between the right-of-way and front yard setback may not exceed 5 feet 9 inches in height.
11	Townhouse Module Width	Development is to consist of individually accessible townhouse units with a maximum width of 30 feet per unit, facing along alleyways and neighborhood streets.	The 30-foot maximum width of the Townhouse modules shall be applied to the architectural façade expression of the Townhouse Parcel, and not to the interior demising walls of the units.
Block 2 Alternative Development Controls: Podium 2 Parcel			
12	Podium 2 Floors	The "Maximum Number of Floors" in the Podium 2 Parcel shall be eight.	The "Maximum Number of Floors" in the Podium 2 Parcel shall be nine.
Block 2 Alternative Development Controls: Mid-Rise Parcel			
13	Mid-Rise Floor Plate	The "Maximum Floor Plate" area for the portion of the Mid-Rise Building between 85 feet and 250 feet shall be 7,500 square feet.	A "Maximum Floor Plate" area of 11,100 square feet is permitted for the portion of the building between 85 feet and 144 feet in height and a "Maximum Floor Plate" area of 9,200 square feet is permitted for the portion of the building between 144 feet and 165 feet in height.
14	Mid-Rise Maximum Plan Dimension	The "Maximum Plan Dimension" for the Mid-Rise Building shall be 100 feet.	The "Maximum Plan Dimension" for the Mid-Rise Building shall be 125 feet.
15	Mid-Rise Maximum Floor Plate Aspect Ratio	The "Maximum Floor Plate Aspect Ratio" for the Mid-rise Building shall be 1:6.	The "Maximum Floor Plate Aspect Ratio" for the Mid-Rise Building shall be 1:1.76.
16	Mid-Rise Projections	Projections, either bay windows or those of a purely architectural or decorative character such as cornices, eaves, sills, and belt courses, must meet the dimensional requirements of planning code section 136.	Building projection dimensions over the setback on Folsom Street shall not exceed 8 feet 5 inches in depth and 60 feet 4 inches in width. The maximum area of any individual projection shall be 254 square feet.

C. BACKGROUND

On April 22, 2004, the San Francisco Planning Commission and the Transbay Joint Powers Board jointly certified the final environmental impact statement/environmental impact report (Initial EIS/EIR) for the Transbay Transit Center/Caltrain Downtown Extension/Redevelopment Project (Initial EIS/EIR Project),[8] San Francisco Planning Department (planning department) case number 2000.048E and State Clearinghouse number 95063004. The Initial EIS/EIR Project consisted of: (1) alternative designs for the new Transbay Transit Center (now Salesforce Transit Center); (2) an underground extension to the Caltrain commuter rail system, extending 1.3 miles from its current terminus at Fourth and King streets to

[8] U.S. Department of Transportation, FTA; City and County of San Francisco; Peninsula Corridor Joint Powers Board; and San Francisco Redevelopment Agency, *Transbay Transit Center/Caltrain Downtown Extension/Redevelopment Project Final Environmental Impact Statement/Environmental Impact Report and Section 4(f) Evaluation* (March 2004), accessed July 8, 2022, https://tjpa.org/documents/final-eisеir.

downtown San Francisco; and (3) transit-oriented land uses in the vicinity of the Transbay Transit Center, providing a mix of residential and commercial space, represented by two redevelopment scenarios for the Redevelopment Project Area ("Full Build" and "Reduced Scope" development alternatives, presenting the reasonable range of development that would occur in the Project Area). The Transbay Transit Center/Caltrain Downtown Extension/Redevelopment Project EIS/EIR has been supplemented with nine addenda issued by the co-lead agencies and/or the responsible agencies administering the Initial EIS/EIR Project (the full document as supplemented by Addendum No. 1 through No. 9 is referred to herein as the EIS/EIR. The project, as modified by Addendum No. 1 through No. 9, is referred to herein as the EIS/EIR Project). Each addenda is described below.

- Addendum 1, adopted in 2006, evaluated height and size changes related to the Transbay Transit Center Building, bus operations, Greyhound operations to the train mezzanine level, changes to a bus ramp, improvements to public access and pedestrian circulation at ground level; and modifications in the construction approach;
- Addendum 2, adopted in 2007, evaluated modifications to the Downtown Extension Project to allow for construction of a future Townsend/Embarcadero/Main loop track and a delay in the timing of construction of tail tracks on Main Street pending the outcome of future rail planning studies to accommodate California High-Speed Rail;
- Addendum 3, adopted in 2008, evaluated changes to the list of properties identified for full acquisition to include 546 Howard Street, which was identified in the Initial EIS/EIR for partial acquisition.
- Addendum 4, adopted in 2008, evaluated modifications to the configuration, boarding platforms and waiting areas, bus staging areas, and street design for the Temporary Terminal;
- Addendum 5, adopted in 2009, evaluated the building design for the Transbay Transit Center and identified additional public right-of-way needed for the facility;
- Addendum 6, adopted in 2011, evaluated design changes associated with the bus ramps connecting the Bay Bridge to the Transbay Transit Center;
- Addendum 7, adopted in 2013, evaluated a reduction in the bus capacity of the Transbay Transit Center from 140 buses to 73 buses, reconfiguration of a sound wall, changes related to signal locations, and changes in on-street parking;
- Addendum 8, adopted in 2016, evaluated a 100-foot height increase for the tower at the eastern edge of the Block 1 site. The tower evaluated in the Addendum was 400 feet tall, compared to the 300-foot-tall tower described in the Initial EIS/EIR. Despite the increase in height, the number of units in the tower was reduced by 140 and the overall square footage was reduced compared to Block 1 in the Initial EIS/EIR;
- Addendum 9, adopted in 2022, evaluated an increase in the maximum height on Transbay Block 4 (Assessor's Block 3739) from 450 feet to 513 feet and changes related to floor plate sizes for particular buildings.

For Assessor's Block 3739 (which includes the Block 2 project site), the land use plan studied in the EIS/EIR identified a development program consisting of primarily residential uses, with some office (under the Full Build Alternative only) and ground-floor retail uses and services. **Table 3** provides an overview of the development on Assessor's Block 3739 as analyzed in the Initial EIS/EIR under the Full Build Alternative and the Reduced Scope Alternative, as well as the proposed development on Block 4 analyzed in Addendum No. 9, and the proposed development on Block 2. As shown in Table 3, the EIS/EIR analyzed development

on Assessor's Block 3739 of up to 1,758,375 gsf of residential space (1,465 dwelling units), 397,360 gsf of office space, and 98,935 gsf of retail space under the Full Build Alternative; and up to 878,400 gsf of residential space (732 dwelling units) and 58,400 gsf of retail space under the Reduced Scope Alternative.

Table 3 Overview of EIS/EIR Full Build Alternative and Reduced Scope Alternative Assumptions Compared to the Proposed Block 4 Project and the Proposed Project

Square Footage	EIS/EIR Full-Build Alternative Assumptions for Assessor's Block 3739	EIS/EIR Reduced Scope Alternative Assumptions for Assessor's Block 3739	Proposed Block 4 (Included in Addendum No. 9)	Proposed Project (Block 2 East)	Proposed Project (Block 2 West)	Total Proposed Development at Blocks 2 and 4[a]
Demolition	All existing structures and parking lots on the site	All existing structures and parking lots on the site	All existing structures and parking lots on the site	All existing structures and parking lots on the site	All existing structures and parking lots on the site	—
Land Use Types	Residential, retail, office	Residential, retail, office	Residential, retail	Residential, retail, office, child care	Residential, retail	Residential, retail, office, child care
Residential (number of du)	1,758,375 gsf (1,465 du)	878,400 gsf (732 du)	839,341 gsf (683 du)	190,066 gsf (184 du)	106,710 gsf (151 du)	1,136,113 gsf (1,017 du)
Office	397,360 gsf	0 gsf	0 gsf	0 gsf	0 gsf	0 gsf
Retail	98,935 gsf	58,400 gsf	8,389 gsf	1,959 gsf	2,945 gsf	13,297 gsf
Child Care	—	—	—	6,447 gsf	—	6,447 gsf
Total gsf	***2,254,670 gsf***	***936,800 gsf***	***847,730 gsf***	***198,472 gsf***	***109,655 gsf***	***1,155,857 gsf***

SOURCE: Final EIS/EIR; Hines 2020; Mercy Housing 2022; Chinatown Community Development Center 2022.

NOTES:

du = dwelling unit; gsf = gross square feet

a. Block 3, which comprises the remainder of Assessor's Block 3729, is proposed as open space.

On April 22, 2004, the Transbay Joint Powers Authority (TJPA) adopted the Locally Preferred Alternative as its preferred project.[9] On October 7, 2004, the San Francisco Board of Supervisors adopted Resolution No. 612-04, which adopted CEQA findings for the EIS/EIR Project, including the development capacity identified as the Full Build Alternative in the EIS/EIR.[10] On January 25, 2005, the former Redevelopment Agency of the City and County of San Francisco (Former Agency) adopted Resolution Nos. 11-2005, 15-2005, and 19-2005, which adopted CEQA findings for the EIS/EIR Project, the DCDG and recommended approval of the Redevelopment Plan, respectively.[11] On June 21, 2005, and May 9, 2006, the Board of Supervisors adopted the Redevelopment Plan. The Redevelopment Plan sets forth land use and zoning standards as well as public street and streetscape improvements south of the Transbay Transit Center, providing additional office, retail/hotel, and residential development, including affordable housing, in the Redevelopment Project Area. Under the Redevelopment Plan, OCII, as the successor to the Former Agency,

[9] OCII, Resolution No. 11-2005 (adopted January 25, 2005), https://sfocii.org/sites/default/files/Documents/Project%20Areas/Transbay/Resolution%2011-2005.pdf.

[10] San Francisco Board of Supervisors, Resolution 612-04 (adopted October 7, 2004), https://www.sfbos.org/ftp/uploadedfiles/bdsupvrs/resolutions04/r0612-04.pdf.

[11] OCII, Resolution No. 11-2005 (adopted January 25, 2005), https://sfocii.org/sites/default/files/Documents/Project%20Areas/Transbay/Resolution%2011-2005.pdf.

has land use authority over Zone One of the Redevelopment Project Area (see Figure 1) and is the California Environmental Quality Act (CEQA) lead agency for approval actions under the Redevelopment Plan.

The DCDG is a companion document to the Transbay Redevelopment Plan and contains more detailed development requirements and specific design recommendations applicable to Zone One of the Project Area.

The Transbay Redevelopment Plan includes height limits and bulk limits (in the form of maximum and average floor plate area by building height) for each block within Zone One. The DCDG adds further specificity regarding height limits. For Block 2, the Transbay Redevelopment Plan specifies a maximum height of 165 feet, and a maximum floor plate of 7,500 square feet for buildings of 85 to 250 feet in height. The DCDG refines these limitations by establishing 35- to 50-foot height ranges on the northwestern portion of the project site (along future Clementina Street); 65- to 165-foot height ranges at the corner of Folsom and Main streets on the southeastern portion of the project site; and 50- to 85-foot height ranges at the corner of Folsom and Beale streets on the southern corner and along Main Street on the eastern portion of the project site, at the corner of Folsom and Beale streets.[12]

D. REVISIONS UNDER THE PROPOSED PROJECT

The Transbay Redevelopment Plan divides Assessor's Block 3739 into three separate development blocks: Block 2 (fronting Folsom Street),[13] Block 3 in the center of Assessor's Block 3739 (proposed to include a public park), and Block 4 (fronting Howard Street). The project site, and the focus of this Addendum, includes Block 2 only.

The proposed project includes an increase in bulk/massing on Block 2 from that currently included in the Redevelopment Plan and DCDG, as noted under Section B, *Transbay Redevelopment Plan and DCDG Amendments*, above. Generally summarized, the proposed project would increase the massing of the mid-rise parcel on Block 2 East by expanding it across the "podium 2" parcel, by raising the parcel's height limits from 85 feet to up to 144 feet and 165 feet, and by increasing the maximum floor plate size of that portion of the mid-rise building between 85 feet and 144 feet in height from 7,500 sf to 11,100 sf, and of that portion of the building between 144 feet 165 feet in height from 7,500 sf to 9,500 sf. The proposed project also increases the bulk of all Block 2 buildings by eliminating setback requirements on Main and Beale streets and allowing larger building projections than otherwise allowed under the DCDG. It also increases the number of floors allowed in the townhouse and podium parcels, thereby increasing the number of units. However, the overall buildings sizes and the intensities of land uses of the proposed project are well within that analyzed in the EIS/EIR for the Full Build Alternative. Table 3 provides a comparison between the proposed project and the development assumed for Assessor's Block 3739 analyzed in the EIS/EIR under the Full Build Alternative.

Due to the proposed project's increase in height and bulk compared to the Transbay Redevelopment Plan and DCDG, OCII is seeking amendments to the Transbay Redevelopment Plan and DCDG as well as approval of Schematic Designs for the proposed project and ground leases from OCII to the respective project developers.

[12] San Francisco Redevelopment Agency, *Development Controls and Design Guidelines for the Transbay Redevelopment Project* (amended June 21, 2016), accessed July 8, 2022, https://sfocii.org/sites/default/files/20180906_TB_DCDG_Revision.pdf.

[13] A Request for Proposals (RFP) was released by OCII in August 2020 for the development of mixed-use affordable family and senior rental housing units at Transbay Block 2.

As discussed above, the Transbay Redevelopment Plan divided Assessor's Block 3739 into three separate areas: Block 2 (fronting Folsom Street), Block 3 (future Transbay Park), and Block 4 (fronting Howard Street). The proposed project would not include any potential development on Blocks 3 or 4. The EIS/EIR assumed a maximum buildout on an assessor's block level as the basis for the impact conclusions. To understand the maximum buildout on Assessor's Block 3739 and whether the proposed project would fall within the development assumptions for Assessor's Block 3739 in the EIS/EIR, the proposed project and the proposed development on Block 4 are presented together in Table 3, which compares the development on Assessor's Block 3739 analyzed in the EIS/EIR under the Full Build Alternative to the proposed development on Blocks 2 and 4. As shown in Table 3, the total proposed development on Blocks 2 and 4 (Block 3 would be a public park) would be within the parameters analyzed in the EIS/EIR under the Full Build Alternative for residential, office, and retail square footage; total square footage; and total number of dwelling units. Therefore, this EIR Addendum will focus on the proposed increases in the floor plate of the Block 2 East building at a mid-rise height of up to 165 feet, compared to that analyzed in the EIS/EIR.

E. REQUIRED PROJECT APPROVALS

As shown in Tables 1 and 2, OCII is seeking an amendment to the Transbay Redevelopment Plan and DCDG; and approval of a ground lease and Schematic Design[14,15] (which includes all design aspects stated in Section A, Project Description) for the proposed project. The following approvals are required for the proposed project:

OCII Commission

- Redevelopment Plan Amendment
- Report to Board of Supervisors on Transbay Redevelopment Plan Amendment
- DCDG Amendment
- Schematic Design
- Ground Lease
- Development Loan

Planning Commission

- General Plan Consistency Findings – Report and Recommendation to Board of Supervisors

Board of Supervisors (BOS)

- Transbay Redevelopment Plan Amendment
- Property Disposition Report/Findings

F. ANALYSIS OF POTENTIAL ENVIRONMENTAL EFFECTS

Approach to Analysis

CEQA Guidelines section 15164 provides that the lead agency shall prepare an addendum to a previously certified EIR if some changes or additions are necessary but none of the conditions requiring a subsequent

[14] Kennerly Architecture & Planning, *Transbay Block 2 – East Family Building, OCII Schematic Design Report* (October 21, 2022).
[15] Mithun, *Transbay Block 2 – West Senior Building, OCII Schematic Design Report* (October 21, 2022).

or supplemental EIR have occurred. The lead agency's decision to use an addendum must be supported by substantial evidence that the conditions that would trigger preparation of a subsequent EIR, as provided in CEQA Guidelines section 15162, are not present. The following analysis of environmental effects provides the basis for that determination.

In 2005, the Former Agency approved the Redevelopment Plan and DCDG and adopted CEQA Findings for the Full Build Alternative studied under the EIS/EIR (which subsumes development contemplated by the Redevelopment Plan and DCDG). Thus, as a threshold matter, the analysis in this Addendum compares the impacts of the proposed project at Block 2 to those analyzed under the EIS/EIR Full Building Alternative for Block 2, to determine whether subsequent or supplemental analysis is necessary. As a result, CEQA conclusions in this Addendum are based on whether the proposed project would result in new significant impacts that were not identified in the EIS/EIR for the Full Build Alternative, or whether the proposed project could cause significant impacts that were previously identified in the EIS/EIR for the Full Build Alternative to become substantially more severe. As discussed further below, in all cases the proposed project would not cause new significant impacts that were not identified and analyzed in the EIS/EIR, nor would the proposed project cause significant impacts that were previously identified and analyzed in the EIS/EIR to become substantially more severe, nor has new information become available that shows that the Full Build Alternative analyzed in the EIS/EIR, as modified by the proposed project, would cause new or substantially more-severe significant environmental impacts.

In addition to the foregoing, this Addendum provides a detailed analysis of the proposed project as compared to development consistent with the current Redevelopment Plan and DCDG requirements applicable to Block 2, for informational purposes and to further support the conclusions above concerning the adequacy of the EIS/EIR analysis as applied to the proposed project.

The proposed project would not require revisions to the Full Build Alternative considered under the EIS/EIR and adopted by the Former Agency in 2005. The number of dwelling units and the total square footage of the proposed project (together with other planned projects on Assessor's Block 3739), including the square footage of retail uses, would not exceed the assumptions studied in the EIS/EIR Project for Assessor's Block 3739 (Assessor's Block 3739 includes Blocks 2, 3, and 4 in the Transbay Redevelopment Plan). In addition, the proposed project would not cause new significant impacts not identified in the EIS/EIR. Therefore, no new mitigation measures are necessary to reduce significant impacts. No changes have occurred with respect to circumstances surrounding the EIS/EIR Project as modified by the proposed project that would cause significant environmental impacts to which the proposed project would contribute considerably. No new information has become available that shows that the EIS/EIR Project as modified by the proposed project would cause significant environmental impacts that were not previously discussed in the EIS/EIR, that previously examined significant effects would be substantially more severe than shown in the EIS/EIR, that mitigation measures or alternatives that were previously found infeasible are feasible, or that new mitigation measures or alternatives that are considerably different from those in the EIS/EIR would substantially reduce significant impacts.

As a transit-oriented infill project, neither aesthetic nor parking impacts are considered significant impacts on the environment. Therefore, the only CEQA topics that are evaluated further are those related to the additional building bulk: wind and shadow. Wind and shadow studies for the proposed project are included as appendices to the Addendum to the EIS/EIR and are discussed in the subsections below. All other features of the proposed project, including demolition, land use types, building square footage, retail square footage, and the number of dwelling units, in combination with the development program for

Blocks 3 and 4 would be less than the maximum development for Assessor's Block 3739 as analyzed in the EIS/EIR. CEQA topics that were evaluated with respect to those features would not require further analysis because no new or more-severe significant impacts beyond those studied in the EIS/EIR would occur, and no new mitigation measures would be required.

Based on the analysis in the preliminary checklist, no further analysis is required for the following CEQA topics:

- Agricultural and Forest Resources
- Air Quality
- Biological Resources
- Cultural Resources
- Energy
- Geology and Soils
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Mineral Resources
- Noise
- Population and Housing
- Public Services
- Transportation
- Recreation
- Tribal Cultural Resources
- Utilities and Service Systems

The prior addenda to the EIS/EIR generally covered changes to the transportation infrastructure related to the Transbay Transit Center/Caltrain downtown rail extension (DTX) portions of the EIS/EIR and were administered by the TJPA and the Golden Gate Bridge Highway and Transportation District. In addition, an environmental review document also analyzed transportation infrastructure related to the Transbay Program Phase 2 (i.e., the Transbay Transit Center/Caltrain DTX as well as other transportation improvements and development opportunities associated with the Transbay Program).[16] Moreover, as stated above, the most recent addendum covered changes associated with the increase in height of the tower on Block 4. In November 2018, the Federal Transit Administration, in conjunction with the Federal Railroad Administration and the TJPA, published the Final Supplemental Environmental Impact Statement/ Environmental Impact Report (SEIS/SEIR) to evaluate refinements to the Caltrain DTX component of the Transbay Program. On July 22, 2019, the Federal Transit Administration issued an Amended Record of Decision for the Transbay Program's Final Supplemental EIS/EIR; this document amends the 2005 Record of Decision for the Transbay Program and covers the required environmental analysis of refinements to the DTX and other transportation improvements in the vicinity of the Transit Center. The SEIS/SEIR does not contain information that would alter the determination not to require a subsequent or supplemental EIR in connection with the proposed project, pursuant to CEQA Guidelines section 15164.

Overall land use impacts from the project analyzed in the SEIS/SEIR would be minimal, and none of the proposed components would conflict with any applicable land use, policy, or regulation in the Transbay Program area. The potential above-grade development opportunities analyzed under the SEIS/SEIR would be compatible with the development intensity and uses nearby. The proposed above-grade development would have no shadow impact on any parks under the jurisdiction of the San Francisco Recreation and Park Department (draft SEIS/SEIR, pp. 3.3-20 and 3.3-21.) The SEIS/SEIR notes that the proposed intercity bus facility would occupy the roof level of the Transit Center and, therefore, would be adjacent to the

[16] The Transbay Transit Center/Caltrain Downtown Extension/Redevelopment Project is referred to as the Transbay Program in the SEIS/SEIR.

proposed City Park (now the existing Salesforce Park). However, the elevation of this facility would be only slightly higher than the elevation of the City park (approximately 5 feet) and, therefore, would not cast shadow onto the park that would alter the analysis conducted for the proposed plan amendment and the proposed project.

OCII acknowledges that the COVID-19 pandemic has changed the city's circumstances related to land use, housing, and transportation in the short-term.[17] Although the long-term land use and housing impact of the COVID-19 pandemic cannot be predicted with certainty, it is anticipated that the short-term effects would not substantially alter the broader development patterns anticipated in the City.[18]

As discussed in this EIR Addendum, the changes in the proposed project would not require major revisions to the EIS/EIR. The number of dwelling units and the total square footage of the proposed project, including the square footage of retail uses, would not exceed the assumptions studied in the EIS/EIR Project. In addition, the proposed project would not cause new significant impacts not identified in the EIS/EIR. Therefore, no new mitigation measures are necessary to reduce significant impacts. No changes have occurred with respect to circumstances surrounding the proposed project that would cause significant environmental impacts to which the proposed project would contribute considerably. No new information has become available that shows that the proposed project would cause significant environmental impacts that were not previously discussed in the EIS/EIR, that previously examined significant effects would be substantially more severe than shown in the EIS/EIR, that mitigation measures or alternatives that were previously found infeasible are feasible, or that new mitigation measures or alternatives that are considerably different from those in the EIS/EIR would substantially reduce significant impacts.

Aesthetics

Analysis in EIS/EIR

The visual and aesthetics analysis in the EIS/EIR anticipated that the EIS/EIR Project would cause a relatively large increase in the number and size of buildings in the Transbay Redevelopment Plan area. The EIS/EIR also found that public views within and across the Transbay Redevelopment Plan area would generally be limited by new development. The EIS/EIR found that new buildings and vehicles would produce additional glare, although it would not be expected to result in a substantial visual change. The EIS/EIR noted that actual development proposals would undergo individual environmental review for aesthetics in subsequent steps of the redevelopment process, if necessary. The EIS/EIR determined that, although the proposed new development would alter the existing aesthetic nature of the area, the visual features that would be introduced by the proposed project are commonly accepted in urban areas and would not substantially degrade the existing visual quality, obstruct publicly accessible views, or generate obtrusive light or glare. For those reasons, no significant impacts were identified, and no mitigation measures were proposed.

[17] The COVID-19 pandemic began in March 2020 and is still ongoing as of the date of publication of this Addendum in October 2022

[18] San Francisco Planning Department, *San Francisco Housing Element 2022 Update, Draft Environmental Impact Report*, Case No. 2019-016230ENV, p. 2-9, https://citypln-m-extnl.sfgov.org/SharedLinks.aspx?accesskey=0742a3a798d0271ae41dcb51cf929001d75d29d1373a1b42bd4971fb3c76f4a0&VaultGUID=A4A7DACD-B0DC-4322-BD29-F6F07103C6E0.

Proposed Project and Cumulative Conditions

Under CEQA Guidelines section 21099(d), "Aesthetic and parking impacts of a residential, mixed-use residential, or employment center project on an infill site located within a transit priority area shall not be considered significant impacts on the environment."[19] Accordingly, aesthetics is no longer considered in determining if a project has the potential to result in significant environmental effects for projects that meet all three of the following criteria:

- The project is in a transit priority area.[20]
- The project is on an infill site.[21]
- The project is residential, mixed-use residential, or an employment center.[22]

The proposed project meets all three of the above criteria because the project (1) is in a transit priority area and is situated 0.3 miles from the Embarcadero BART station, a rail transit station; and 0.1 mile from the Transbay Transit Center, which is a major bus stop because it has a number of routes with service intervals of 15 minutes or less during the a.m. and p.m. peak commute periods; (2) is on an infill site that has been previously developed within an urban area of San Francisco; and (3) is a mixed-use project that includes residential uses. Thus, this section does not consider aesthetics, including the aesthetic impacts of light and glare, in determining the significance of project impacts under CEQA.[23]

Wind

Tall buildings and exposed structures can strongly affect the wind environment for pedestrians. A building that stands alone or is much taller than the surrounding buildings can intercept and redirect winds that might otherwise flow overhead and bring them down the vertical face of the building to ground level, where they create ground-level wind and turbulence (variability in wind speed and pressure). These redirected winds, or downwash, can be relatively strong and turbulent, and may in some instances be incompatible with the intended uses of nearby ground-level spaces. Conversely, a building with a height that is similar to the heights of surrounding buildings typically would cause little or no additional ground-level wind acceleration and turbulence. In addition to the localized effects from individual buildings, larger groups of buildings interact with and tend to slow the approaching winds, due to the friction and drag created by the many individual structures. Thus, wind impacts are generally caused by large building masses extending substantially above their surroundings, and by buildings oriented so that a large wall catches a prevailing wind, particularly if such a wall includes little or no articulation. In general, new

[19] CEQA Guidelines section 21099(d)(1).
[20] CEQA Guidelines section 21099(a)(7) defines a "transit priority area" as an area within one-half mile of an existing or planned major transit stop. A "major transit stop" is defined in CEQA Guidelines section 21064.3 as a rail transit station, a ferry terminal served by either a bus or rail transit service, or the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the a.m. and p.m. peak commute periods.
[21] CEQA Guidelines section 21099(a)(4) defines an "infill site" as either (1) a lot within an urban area that was previously developed; or (2) a vacant site where at least 75 percent of the site perimeter adjoins (or is separated by only an improved public right-of-way from) parcels that are developed with qualified urban uses.
[22] CEQA Guidelines Section 21099(a)(1) defines an "employment center" as a project situated on property zoned for commercial uses with a floor area ratio of no less than 0.75 and located within a transit priority area.
[23] CEQA Appendix G includes light and glare under the topic of aesthetics. Therefore, light and glare, in addition to aesthetics, is not a CEQA consideration. To the extent that safety impacts related to light and glare would result from conflicts with vessels navigating in the Estuary, this discussion is included in Section 4.10, *Land Use, Plans, and Policies*.

buildings less than 80 feet in height above ground surface are unlikely to result in substantial adverse effects on ground-level winds such that pedestrians would be uncomfortable. Such winds may occur under existing conditions, but shorter buildings typically do not cause substantial changes in ground-level winds.

Analysis in EIS/EIR

A wind tunnel test was performed for the EIS/EIR Project using conservative assumptions for the EIS/EIR project buildings. The land use program ultimately adopted for the Block 2 site as part of the Full Build Alternative analyzed in the EIS/EIR included two buildings, one with a maximum building height of 165 feet (Block 2 East) and one with a maximum building height of 85 feet (Block 2 West). Both buildings were included in the wind tunnel test prepared for the EIS/EIR. Wind speeds were modeled at 69 locations throughout the Transbay Redevelopment Plan area, including four locations adjacent to the project site. The Full Build Alternative modeling resulted in nine locations exceeding the comfort criterion[24] and one location exceeding the hazard criterion.[25] None of the comfort or hazard criterion exceedances was located on Block 2 or adjacent blocks. For the purposes of CEQA, a single new exceedance of the hazard criterion is generally considered a significant impact.

Proposed Project Conditions

A wind technical memo was prepared for the proposed project by CPP, Inc., and is included as Appendix A to this Addendum.[26] Based on prior wind tunnel testing in the area, the wind memo determined that ground-level winds are primarily caused by downwash and flow channeling of prevailing west through northwest winds. However, the memo also noted upwind buildings to the west through northwest, many of which are substantially taller than the proposed project, help to maintain wind speeds below the wind hazard criterion around the project site. The memo noted that CPP conducted a wind tunnel test for the proposed revised Block 4 project in 2020, which included a 553-foot tower with a 71-foot-tall podium and a 179-foot-tall building with a 116-foot-tall podium and 66-foot-tall townhomes.[27] The Block 4 wind tunnel test included measurement locations spanning approximately one block in all directions from the Block 4 site and included a 3-dimensional building model for Block 2 equivalent to the building modeled for Block 2 under the Full Build Alternative in the EIS/EIR wind tunnel testing. The updated wind tunnel test for the revised Block 4 design did not identify any new exceedances of the hazard criterion.

Compared to the Block 2 project analyzed in prior wind tunnel tests for the EIS/EIR and for the updated development program for Block 4, the proposed project would increase the bulk of the Block 2 East mid-rise portion from 7,500 gsf to 11,100 gsf, thereby allowing for a portion of the building that would previously have been limited to 85 feet in height to rise to heights of 144 and 165 feet; project into required setbacks along Folsom, Main, and Clementina streets; and use a portion of the required mid-block open space to satisfy open-space requirements for the childcare center within Block 2 East. The memo found that the increase in bulk of the mid-rise portion of the Block 2 East building and the concomitant increase in height of the former podium section could result in slightly increased wind activity at ground level.

[24] The comfort criterion in planning code section 148 is defined as equivalent wind speeds of 7 miles per hour (mph) in public seating areas, and 11 mph in areas of substantial pedestrian use, not to be exceeded more than 10 percent of the time year-round between 7 a.m. and 6 p.m. Equivalent wind speed is defined as the hourly wind speed adjusted to incorporate the effects of gustiness.

[25] The hazard criterion in planning code section 148 is defined as 26 mph, or when based on one-minute averages, as is the case for the comfort criterion, this criterion is increased to 36 mph.

[26] CPP, Inc., *Massing Changes and Expected Impact for Transbay Block 2* (March 22, 2022).

[27] CPP, Inc., *Pedestrian-Level Winds Report: Wind Tunnel Tests for Transbay Block 4* (July 14, 2020).

However, the memo determined that "due to the shelter provided by the surrounding buildings, these winds are not expected to exceed the wind hazard criterion, nor significantly change wind comfort conditions at grade within publicly assessable areas when compared to the previous wind tunnel test results for the Transbay Block 4 development." Accordingly, no new hazard exceedances are anticipated and the proposed changes would be unlikely to meaningfully alter wind conditions in the vicinity of the project site.

As stated earlier, wind impacts are generally caused by large building masses extending substantially above their surroundings, and by buildings oriented so that a large wall catches a prevailing wind. The wind memo further noted that the proposed project also includes several design features that would be expected to intercept downwashing winds from resulting in increases in ground-level wind speeds. These include the townhomes along Clementina Street and the position of the Block 2 West building, which would intercept prevailing winds from the west.

Therefore, as stated in the wind technical memo, the proposed changes to the Transbay Block 2 development program are unlikely to substantially change wind comfort conditions in the vicinity of the project site. Moreover, the one hazard criterion exceedance identified in EIS/EIR wind tunnel testing (test point 57), is approximately 1,600 feet southwest of the project site and on the opposite (southwest) side of Rincon Hill. Accordingly, the proposed project would not affect winds at this location. In summary, no substantial change in the proposed project, change in circumstances, or new information of substantial importance has been identified that indicates that more significant effects than those originally analyzed in the EIS/EIR would occur; and no further analysis is required.

Cumulative Conditions

The Block 4 wind analysis tested a cumulative configuration that included the following cumulative development projects in addition to existing buildings within 2,000 feet of the Block 4 site: Oceanwide Center (50 1st Street), 519 Mission Street, Parcel F (542-550 Howard Street), Transbay Block 8, 325 Fremont Street, Folsom Bay Tower (280 Spear Street), Block 4, and the Block 2 project as defined in the Transbay Redevelopment Plan. The cumulative configuration resulted in a net decrease of eight locations exceeding the comfort criterion compared to then-existing conditions, and no exceedances of the hazard criterion. Therefore, the wind analysis concluded construction of future buildings reduces wind speeds by providing additional shelter, particularly along Folsom Street.

As stated above, the proposed changes to the Transbay Block 2 development program were determined by the wind consultant to be unlikely to substantially change wind comfort conditions in the vicinity of the project site.[28] This is due to the several design features that would be expected to intercept downwashing winds from resulting in increases in ground-level wind speeds. In addition, it was determined that, due to the distance between the proposed project and test point 57 in the EIS/EIR wind tunnel test, the proposed project would have no effect on the one test point that exceeded the hazard criterion. Therefore, the proposed project, in combination with cumulative projects, would not result in a new significant effect that was not originally analyzed in the EIS/EIR; and no further analysis is required.

[28] CPP, Inc., *Massing Changes and Expected Impact for Transbay Block 2* (March 22, 2022).

Shadow

In an urban environment, shadow is a function of the height, size, and massing of buildings, topography, trees, other elements of the built and natural environments, and the angle of the sun. The angle of the sun varies with the time of day (from rotation of the Earth) and the change in the season. Longer midday shadows are cast during the winter (when the midday sun is lowest in the sky), and shorter midday shadows are cast during the summer (when the midday sun is higher in the sky). At the time of the summer solstice (approximately June 21 of every year), the midday sun is highest in the sky. The longest day and shortest night occur on this date. Conversely, the shortest day and longest night occur on the winter solstice (approximately December 21 of every year). The vernal/autumnal equinoxes (when day and night are equal in length) represent the halfway point between solstices. Therefore, measuring shadow lengths during the summer and winter solstices captures the extremes for the shadow patterns that occur throughout the year.

CEQA review in San Francisco is concerned with the shadow impacts of a proposed project on open spaces and recreation facilities near a project site. Therefore, existing publicly accessible open spaces and recreation facilities near the project site that could potentially be affected by the proposed project are described below.

The potential extent of shadow impacts of the proposed project is based on a digital shadow analysis prepared by an independent consultant that shows the extent of project shadow on existing publicly accessible open spaces near the proposed project at representative times of the year—generally, the solstices and equinoxes to bracket the impacts—throughout the day between one hour after sunrise to one hour before sunset.[29] Planned open spaces are also discussed for informational purposes.[30]

Analysis in EIS/EIR

The EIS/EIR included a shadow analysis performed in accordance with CEQA and San Francisco Planning Code section 295. The methodology analyzes the potential shadow impacts of the Full Build Alternative on public parks and open spaces as a percentage of theoretical annual available sunlight (TAAS) consumed. TAAS is a measure of the square-foot-hours (sfh) of sunlight that would theoretically be available at a given park or open space during a typical year, assuming that it is sunny during all daylight hours and no shadow is being cast by existing or proposed buildings. Under the section 295 methodology, the first hour of the day after sunrise and the last hour before sunset are excluded from TAAS calculations.

The EIS/EIR shadow analysis found that the Reduced Scope Alternative, Full Build Alternative, and Design for Development Vision would not cast shadow on any parks or open spaces subject to section 295.[31] Other public parks and open spaces not under the jurisdiction of the San Francisco Recreation and Park Commission were also evaluated for potential impacts under CEQA. The EIS/EIR indicated that some publicly accessible open spaces would see a reduction in sunlight during certain periods of the day and year, but that additional shading would not amount to a significant impact requiring mitigation measures. The EIS/EIR required all subsequent development projects in the Transbay Redevelopment Area to undergo a shadow analysis.

[29] Fastcast, *Shadow Analysis Report, Transbay Block 2, San Francisco, CA* (August 2022).
[30] Open spaces that do not currently exist are not part of the existing setting and thus are not subject to CEQA review.
[31] Section 295 of the planning code applies only to public parks and open spaces that are under the jurisdiction of the San Francisco Recreation and Park Commission. Furthermore, The planning code is not applicable to projects within Zone One of the Redevelopment Project Area. Thus, the methodology and criteria of section 295 are reflected in this analysis only for consistency with previous analysis performed under the EIS/EIR, not to imply substantive applicability to the proposed project.

As described under Approach to Analysis above, the impacts of the proposed project are within those analyzed under the EIS/EIR for the Full Build Alternative adopted by the Former Agency. In addition, the Redevelopment Plan and DCDG provide legislated development requirements and specific design recommendations that apply to all development within the Transbay Redevelopment Project Area, which result in less overall development than the Full Build Alternative. However, because the proposed project proposes revisions to the Redevelopment Plan and DCDG that will allow slightly greater development at Block 2, the shadow analysis for this Addendum also analyzed the incremental increase in shadow impacts from the proposed project compared to anticipated development under the existing DCDG. For this analysis, a significant shadow impact would occur under CEQA if a project were to create new shadow in a manner that would substantially affect outdoor recreation facilities or other public areas.[32]

Proposed Project Conditions

Information supporting this analysis of shadow impacts is included in Appendix B of this Addendum.

The shadow report shows that two existing privately owned public open spaces would be shaded by the proposed project. The affected privately owned public open spaces (POPOS) are the Main Street Plaza and Urban Park. The future publicly accessible open space would be constructed on Block 3 of the Transbay Redevelopment Plan Area and is currently referred to as Transbay Park. No public open spaces under the jurisdiction of the Recreation and Parks Commission would be affected by shadow from the proposed project.

The discussion below analyzes impacts of the proposed project on the two existing open spaces. Fastcast conducted site visits to the potentially affected open space at 211 Main Street Plaza and Urban Park to observe and establish current usage of each for purposes of this analysis. Because the future Transbay Park does not yet exist, net new shadow as a result of the proposed project could not result in a significant adverse impact on this future open space under CEQA. Therefore, the analysis of shadow on the future Transbay Park is presented for informational purposes at the end of this section.

Main Street Plaza

Main Street Plaza, constructed in 1973, is an approximately 0.25-acre POPOS located between buildings at 211 and 221 Main Street, as well as between the 211 Main Street building and the Main Street sidewalk. The plaza provides a mid-block pedestrian passageway between the two buildings, facilitating access, in conjunction with other POPOS, between Main Street and the waterfront to the east. The Main Street entry to the plaza has two concrete benches along with three planters that double as seating and landscaping. The eastern side of the plaza provides an expansive fenced play area for children. The park currently receives most sunlight in midday and afternoon hours throughout the year. The plaza is used primarily for

[32] Prior to 2019, the CEQA significance criterion for shadow was similar to the criterion used under planning code section 295 to determine if net new project shadow would have an adverse impact on the use of any property under the jurisdiction of the San Francisco Recreation and Park Commission. The section 295 criterion includes the consideration of the quantity of net new project shadow (i.e., the number of square-foot-hours of shadow expressed as a percentage of the total amount of annual sunlight on the affected park[s]). In 2019, the San Francisco Planning Department revised the CEQA significance criterion for shadow to focus less on the quantitative aspect of analyzing shadow impacts under section 295. Under the revised CEQA significance criterion, a project would result in a significant shadow impact if it would create new shadow that would substantially and adversely affect the use and enjoyment of publicly accessible open spaces. OCII acknowledges and accepts the use of the revised CEQA significance criterion for the analysis of the proposed project's shadow impact. For consistency with prior addenda to the EIS/EIR, quantitative information regarding the proposed project's shadow is included in this analysis.

passive activity by nearby office workers and as a pedestrian passage between Main and Spear streets; and experiences its maximum use around lunchtime.

As shown in **Table 4**, implementation of the Block 2 development as envisioned in the DCDG would increase shadow on the Main Street Plaza by 0.72 percent of TAAS (from 59.73 to 60.45 percent). Implementation of the proposed project would increase shadow on the plaza by 0.13 percent of TAAS (from 60.45 to 60.58 percent), as compared to the DCDG-compliant building massing. The proposed project's net new shadow would represent a 0.85 percent increase compared to existing conditions.

Table 4 Existing, DCDG-Compliant Massing, and Proposed Project Shadows on Affected Open Spaces

	Main Street Plaza (POPOS)	Urban Park (POPOS)	Future Transbay Park[a]
Total Shadow from Existing Buildings	59.73%	65.12%	41.15%
Existing Buildings + DCDG-Compliant Massing			
Total Shadow from Existing Buildings + DCDG-Compliant Massing	60.45%	65.32%	46.92%
Increase Due to DCDG-Compliant Massing Under Existing Baseline	0.72%	0.20%	5.77%
Existing Buildings + Proposed Project			
Total Shadow from Existing Buildings + Proposed Project	60.58%	65.37%	47.72%
Increase Due to Proposed Project Using Existing Baseline	0.85%	0.25%	6.57%
DCDG-Compliant Massing Compared to Proposed Project			
Additional Increase Due to Proposed Project Beyond Increase Due to DCDG-Compliant Massing	0.13%	0.05%	0.80%

SOURCE: Fastcast 2022.

NOTES:

a. The Future Transbay Park is analyzed for informational purposes only. Since the Future Transbay Park is not an existing park, shadow from the proposed project could not result in an impact under CEQA (see Informational Discussion of Future Parks and Open Spaces at the end of this section.

Net new shadow from the proposed project would occur on the Main Street Plaza in the morning and midday in the winter. At 10:45 a.m. on December 6 and January 4, the plaza would receive the most net new shadow. The DCDG-compliant massing would shade the plaza an average of 1 hour 34 minutes daily, while the proposed project would result in an average daily shadow of 1 hour 51 minutes.

The largest net new shadow, in terms of area of the plaza covered, would occur in the morning in late fall and early winter at about 10:45 a.m. On a daily basis, new shadow would reach this open space between mid-fall and mid-winter for an average of about 2 hours per day, and up to a maximum of 2 hours and 15 minutes in late fall and early winter. The proposed project's shadow would only increase shadow on this plaza by a minor amount compared to the DCDG-compliant massing. New shadow would affect the plaza in the fall and winter around lunchtime, during the time of day when the plaza experiences its highest usage; at other times of day, including the morning period when the plaza would be most affected by new shadow, this plaza is generally used as a pedestrian passage between Main and Spear streets. People walking or traveling through an area are not particularly sensitive to shadow, and do not require sunlight, as is the case with more passive uses like sunbathing, picnicking, sitting, or reading. Because most users of this park are walking or otherwise moving between one location and another, they would not be adversely affected by new shadow in the way that more passive recreational uses could be. Moreover, after

implementation of the proposed project, the plaza would continue to offer pedestrians a path between two buildings from Main Street to Spear Street. Therefore, net new shadow would not substantially or adversely affect the use and enjoyment of this space. This impact would be less than significant and would not result in any new impacts not previously identified in the EIS/EIR.

Urban Park

Urban Park, built circa 2020, is located at the northwestern corner of Howard and Main streets, is a 0.4-acre POPOS. The open space is mostly paved, and contains benches, artificial grass berms, lighting, and landscaping. The park currently receives sunlight in midday hours but is completely shaded by existing buildings in the morning and afternoon.

As shown in Table 4, implementation of the Block 2 development as envisioned in the DCDG would increase shadow on Urban Park by 0.20 percent of TAAS (from 65.12 to 65.32 percent). Implementation of the proposed project would increase shadow on Urban Park by an additional 0.05 percent of TAAS (from 65.32 to 65.37 percent), as compared to the DCDG-compliant building massing. Implementation of the proposed project would thus result in a 0.25 percent increase over existing conditions.

Net new shadow from the proposed project would affect this park in the morning in late fall and early winter. On the winter solstice, net new shadow from the proposed project would affect Urban Park from about 8:30 a.m. to 9 a.m. Because this park would be substantially shaded by existing buildings when shadow from the proposed project would reach the park, the daily duration of shadow under the DCDG-compliant massing and proposed project would be the same. The DCDG-compliant massing and proposed project would have a daily duration of net new shadow on the park for a maximum of 1 hour, 3 minutes around the winter solstice, with the average daily duration being about 42 minutes.

Park users likely use this park for eating, sitting, reading, and walking. Because park usage is typically lighter in the morning and late afternoon in fall and winter than during midday hours in the summer, new shadow would likely not be noticeable to park users. As a result, net new shadow would not substantially or adversely affect the use and enjoyment of this space.

As stated above, both the proposed project and the DCDG would include smaller buildings than under the EIS/EIR Full Build Alternative. Therefore, this impact would be less than significant and would not result in any new impacts not previously identified in the EIS/EIR.

Cumulative Conditions

As shown in the shadow diagrams in Appendix B, cumulative shadow would affect the Main Street Plaza from about 3 to 5 p.m. on the summer solstice, from 4 to 5 p.m. on the spring/fall equinoxes, and from about 11 a.m. to 12 noon on the winter solstice. As shown in **Table 5**, development of cumulative projects would increase shadow on the Main Street Plaza by 4.39 percent of TAAS.

Regarding cumulative effects on Urban Park, cumulative shadow would affect the park from 12 to 1 p.m. on the summer solstice. Shadow would recede from the park after 1 p.m. and would not affect the park for the rest of the day. On the spring/fall equinoxes, cumulative shadow would affect Urban Park from about 10 a.m. to 1 p.m. On the winter solstice, cumulative shadow would affect Urban Park from 8:20 a.m. until 12 noon. As shown in Table 5, development of cumulative projects would increase shadow on Urban Park by 14.94 percent of TAAS.

While cumulative shadow would represent a substantial increase in shadow on these open spaces, particularly on Urban Park, the proposed project would contribute less than 1 percent of net new shadow under the cumulative scenario to either park. These open spaces are primarily used by people walking, either for exercise, leisure, commuting, or walking a pet. In addition, these open spaces are located in Downtown San Francisco, which contains the tallest buildings citywide, and thus, the greatest extent and duration of shadow within the public realm citywide. Because these open spaces are partially shaded for most of the day by existing buildings, park users would be accustomed to shadow, and would not be adversely affected by net new shadow under the cumulative scenario when using these open spaces. Furthermore, the types of uses commonly seen at these open spaces (people walking), could occur when the park is shaded. Therefore, while the cumulative shadow impact would be significant, the proposed project would not make a cumulatively considerable contribution to the cumulative impact. The proposed project's cumulative impact would be less than significant and would not result in any new cumulative impacts not previously identified in the EIS/EIR.

Table 5 Existing and Cumulative Shadows on Affected Open Spaces

	Main Street Plaza (POPOS)	Urban Park (POPOS)	Future Transbay Park[a]
Total Shadow from Existing Buildings	59.73%	65.12%	41.15%
Existing Buildings + Cumulative Development			
Total Shadow from Existing Buildings + Cumulative Development	64.12%	80.06%	48.00%
Increase Due to Cumulative Development Under Existing Baseline	4.39%	14.94%	6.85%

SOURCE: Fastcast 2022.

NOTES:

a. The Future Transbay Park is analyzed for informational purposes only. Since the Future Transbay Park is not an existing park, shadow from the proposed project could not result in an impact under CEQA (see Informational Discussion of Future Parks and Open Spaces at the end of this section.

Informational Discussion of the Future Parks and Open Spaces

As stated earlier, because the future Transbay Park does not yet exist, it is not part of the baseline environmental conditions against which proposed project impacts are compared. Therefore, net new shadow as a result of the proposed project could not result in a significant adverse impact on this future open space under CEQA.

Future Transbay Park

The future Transbay Park on Block 3 of the Transbay Redevelopment Plan Area would be an approximately 1.1-acre public park located between Block 2 (project site) and Block 4 of the plan area. The future park space would occupy land that was used as the temporary Transbay Terminal while the Salesforce Transit Center was being built. The design and programming of this park are still under development and have not yet been finalized, but the park is anticipated to include the following features:

- Main Deck: The main deck size and placement is intended to take advantage of its year-round sunny location within the park. Its programming could range from larger social events, such as group exercise or neighborhood picnics, to more solitary ones like sunbathing, reading, or viewing the meadow from various seating locations.

- Habitat Meadow Area, Exploration Area, and Central Deck: these areas are located in the center of the park and feature walking paths, boulders, benches, and a deck at the center.
- Flexible Plaza: this area is located between the stewardship building and the meadow and provides a transition from the urban street edge to the habitat meadow. This space would include movable furniture and seat walls.
- Stewardship Building: this building anchors the west side of the park along Beale Street. The building would include storage and maintenance space for the San Francisco Department of Recreation and Parks and the East Cut Community Benefit District; and would also include an all-gender restroom adjacent to the playground.
- Playground: The playground would be a multilevel playground that would feature a saucer swing, waterfowl play structure, toddler swing, picnic tables, a deck, and other recreational features.
- Dog Relief: the dog relief area would be located along Main Street and would feature a permeable surface material and an automatic irrigation system for daily cleaning.

As shown in Table 4, implementation of the Block 2 development as envisioned in the DCDG would increase shadow on the future Transbay Park by 5.77 percent of TAAS (from 41.15 to 46.92 percent). Implementation of the proposed project would increase shadow on the future Transbay Park by 0.80 percent of TAAS (from 46.92 to 47.72 percent), as compared to the DCDG-compliant building massing. With implementation of the proposed project, the park would be shaded 47.72 percent of TAAS, which would be a 6.57 percent increase over existing conditions.

Net new shadow from the proposed project would affect this park in the morning from about 7 a.m. until about 11 a.m. year-round. In late fall and winter (from late October through December), new shadow from the proposed project would also affect this future park during morning and midday hours, from around 8 a.m. to 1 p.m., with shadow during at least part of the noon hour between late August and late April.

In fall, spring, and summer, new shadow would primarily affect the park from one hour after sunrise to just before midday. The affected areas would include the stewardship building, playground, and flexible plaza. In winter, new shadow would affect both the east and west portions of the park until about 11 a.m. On the winter solstice, between 11 a.m. and 1 p.m. new shadow would cover the southeastern portion of the park, which is anticipated to be a grove of trees; however, in terms of area covered, more project shadow would fall on the park on the fall equinox than on the winter solstice. Once the trees mature, this area may ultimately be shaded by future trees and the proposed project.

The main deck, located in the northeast corner of the park, has been designed and programmed to take advantage of its sunny location within the park. This area would be programmed to accommodate passive activities such as sunbathing, reading, or viewing the meadow from various seating locations.

Because the park has been designed and programmed to take advantage of sunlight, park users are expected to use the main deck when sunlight is available and use other portions of the park when shaded. Activity areas such as the playground, flexible plaza, habitat meadow area, exploration area, and central deck are intended to be used for active uses such as playing, exploring, or socializing, which are less dependent on sunlight. Moreover, since shading would occur mostly in the morning, when park usage is anticipated to be lower than during midday or afternoon hours, net new shadow would not be expected to substantially or adversely affect the use and enjoyment of this space.

Future Pedestrian MEWS/Required Open Space

Similar to the Future Transbay Park, the future pedestrian mews does not yet exist, and thus it is not part of the baseline environmental conditions against which proposed project impacts are compared. Therefore, net new shadow as a result of the proposed project could not result in a significant adverse impact on this future open space under CEQA.

The proposed project includes an approximately 3,900-square-foot privately owned publicly accessible pedestrian mews, which is a shared mid-block pedestrian walkway running between the Block 2 East and West buildings and connecting Folsom Street and Clementina Street (and the future Transbay Park). This walkway would be shaded year-round by the proposed project and the DCDG-compliant massing. This space is anticipated to be used by pedestrians traveling through the space who are not typically as sensitive to shadow as people sunbathing, sitting, reading, or eating. Therefore, new shadow would not be expected to substantially or adversely affect the use and enjoyment of this space.

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Appendix A
Wind Technical Memorandum

March 22, 2022

Elliott Schwimmer
Managing Associate | Environmental Planner
ESA | Environmental Science Associates
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Re: Massing Changes and Expected Impact for Transbay Block 2
CPP Project 16469

ESA Associates retained CPP to conduct an experienced-based assessment of wind conditions around the proposed Transbay Block 2 development. Within this assessment, CPP leveraged data obtained from a previous test conducted for the Transbay Redevelopment Plan / Caltrain Downtown Extension EIR, and previous wind tunnel tests conducted by CPP in support of the Transbay Block 4 development (summarized in the report dated July 14, 2020).

INTRODUCTION AND PLANNING CODE SUMMARY

The Transbay Block 2 project is located north of Folsom Street between Beale Street and Main Street within the Transbay District, as shown in Image 1. The Transbay Block 2 project includes the Senior Building, and the Family Building which are separated by the Common Mews (Image 2).

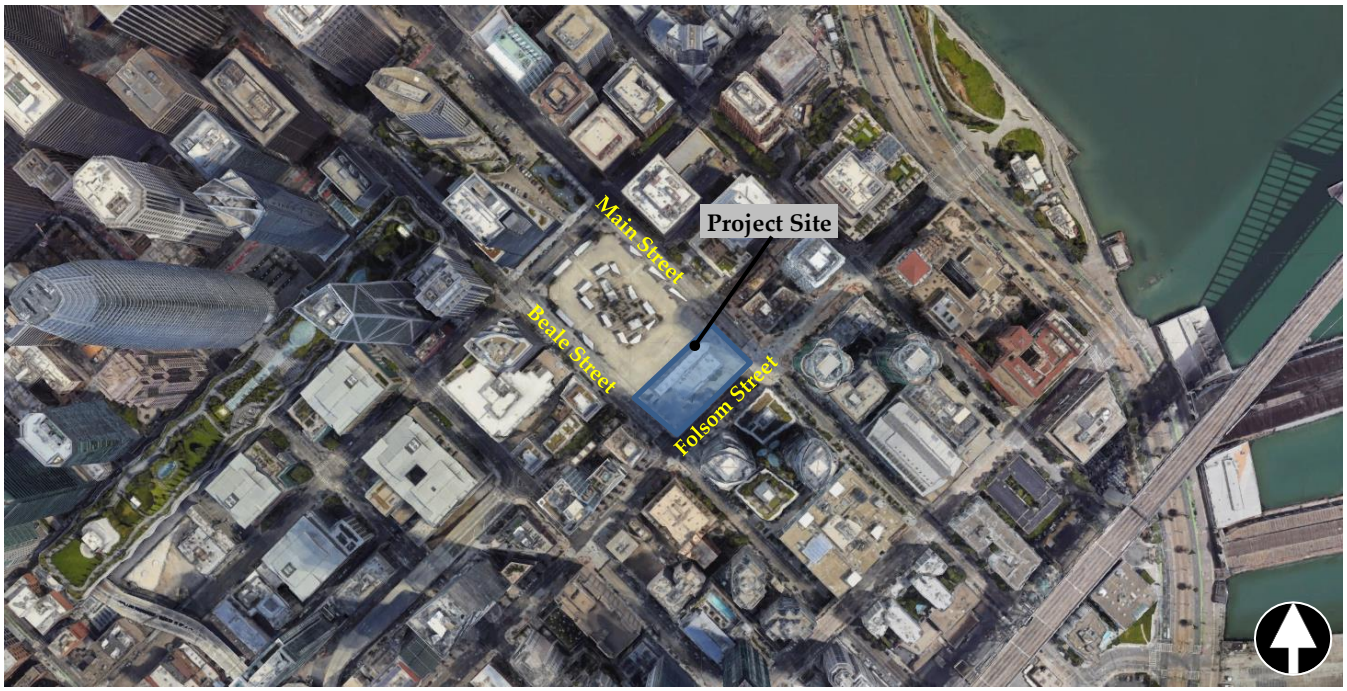

Image 1: Location of the Proposed Transbay Block 2 Development

Relative to the previous studies, the proposed massing changes to the Family Building include an increase in height to approximately 150' on a small portion of the podium for which the approved massing permitted a height of 85', along with some added façade articulation, slightly modified setbacks, and a slight bump-out of the Folsom Street façade. The overall 165' height of the proposed tower would not change.

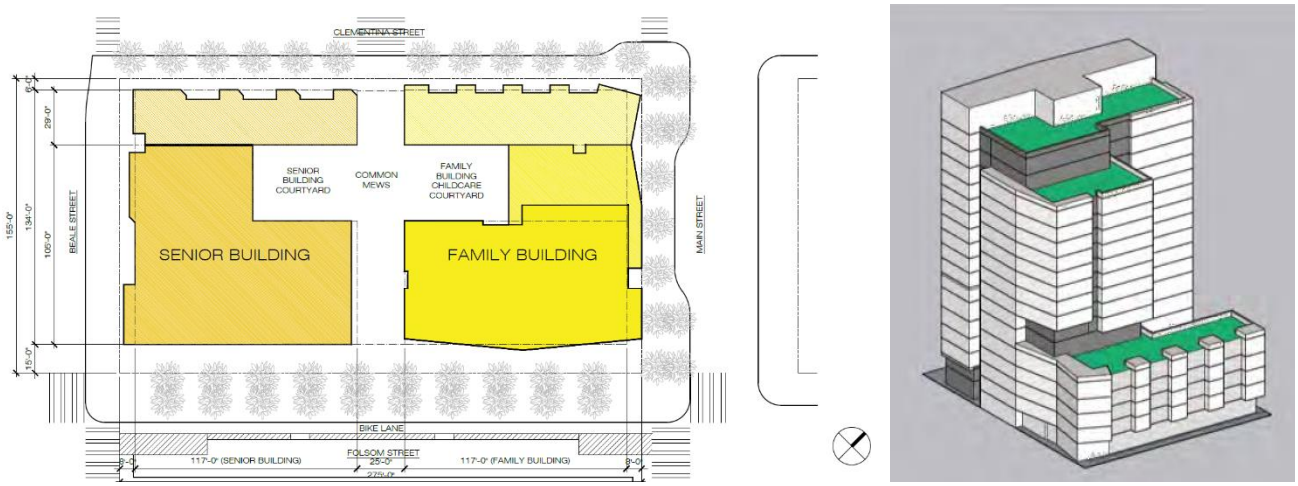

Image 2: Proposed Site Plan (Left) and Axonometric View of the Revised Family Building Massing (Right)

As CPP understands, the project site is under the jurisdiction of the Office of Community Investment and Infrastructure (OCII); and as we understand may not be subject to the requirements of Planning Code Section 148. However, the OCII typically applies the requirements of Planning Code Section 148 in reviewing proposed development projects that are under their jurisdiction. In addition, the wind hazard criterion established in Planning Code Section 148 is used as the threshold to determine if a project would result in a significant wind impact under the California Environmental Quality Act (CEQA).

Planning Code Section 148, Reduction of Ground-level Wind Currents in C-3 Districts, establishes comfort criteria as equivalent wind speeds of 7 mph in public seating areas, and 11 mph in areas of substantial pedestrian use, not to be exceeded more than 10 percent of the time year-round between 7:00 a.m. and 6:00 p.m. Equivalent wind speed is defined as the hourly wind speed adjusted to incorporate the effects of gustiness. According to the Planning Code, if wind speeds exceed the comfort criteria, new buildings and additions must be designed to reduce wind speeds to meet these requirements, unless certain requirements are met for an allowable exception. In addition, wind speeds are not permitted to exceed the hazard level of 26 mph for a single hour of the year.

The wind hazard criterion as stated in the Planning Code is based on wind speeds that are averaged hourly. When based on one-minute averages, as is the case for the comfort criteria, this criterion is increased to 36 mph (Arens et al. 1989).

PLANNED DESIGN CHANGES

Image 3 illustrates the previously evaluated Transbay Block 2 massing of the proposed Senior and Family buildings. The proposed modifications to the massing are illustrated at right in Image 3. These changes include an increase in height of the central podium from approximately 85′ to a total height of approximately 150′. Other minor changes in massing include modifications to the façade to include setbacks, and slight angled projections.

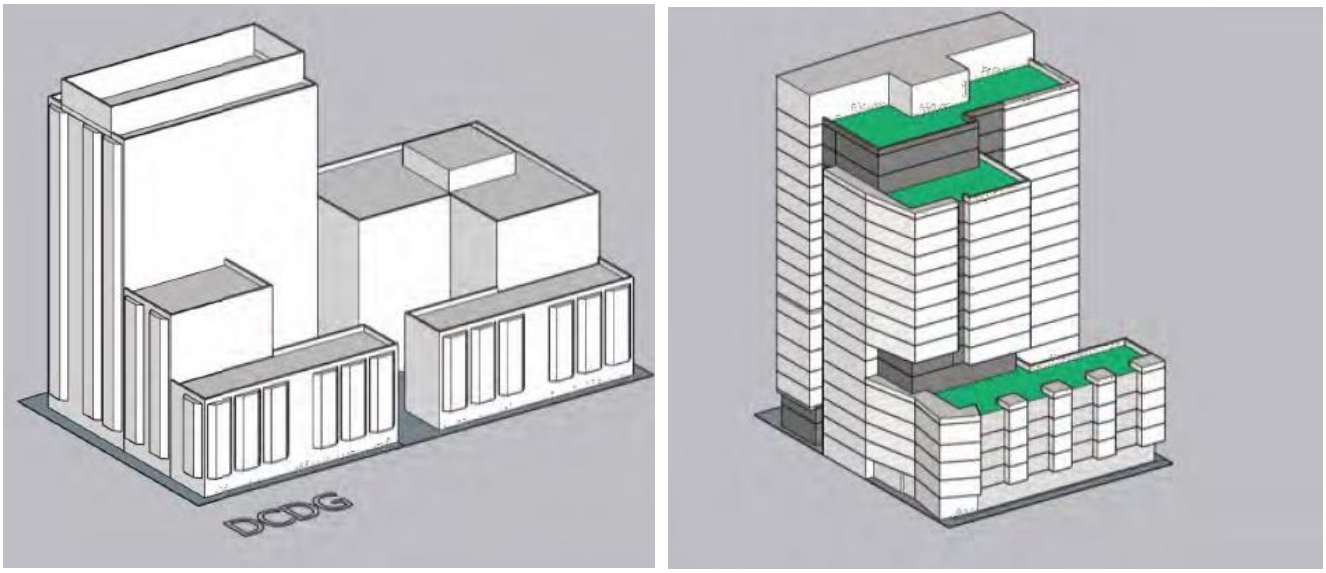

Image 3: Baseline Massing (Left) Proposed Family Building Massing (Right)

DOMINANT WIND DIRECTIONS

Guidance from Bruce White on "Analysis and wind-tunnel simulation of pedestrian winds in San Francisco" provides the framework for wind impact assessments for CEQA compliance. A meteorological data set from the weather station located on top of the old Federal Building at 50 United Plaza is used for all CEQA assessments.

As indicated in Image 4, winds occur most frequently from the west-southwest, west, west-northwest, and northwest directions within this meteorological data set. This assessment will focus on the impact of these winds on the proposed massing.

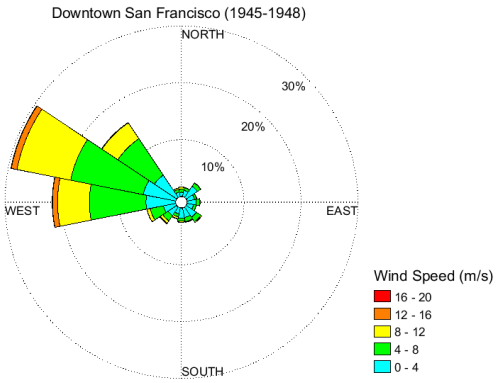

Image 4: Probability of Occurrence of Wind Speed by Direction

EXPECTED IMPACT

As mentioned previously, CPP's assessment of the massing changes to the Transbay Block 2 development leveraged data obtained from a previous wind tunnel test conducted for the Transbay Redevelopment Plan / Caltrain Downtown Extension EIR, and previous wind tunnel tests conducted by CPP in support of the Transbay Block 4 development.

The detailed evaluation of the proposed Transbay Block 4 development was conducted in accordance with San Francisco City Planning Code Section 148 in which three configurations (Exiting, Project, and Cumulative) were evaluated to determine the impact of the development on the local wind environment. Measurement locations spanning approximately 1 block in all directions from the Project site were taken. All measurement locations were found to meet the wind hazard criterion and continue to meet the wind hazard criterion with the addition of the Transbay Block 4 development and surrounding cumulative developments (including the previous massing of the Transbay Block 2 development).

Although the Transbay Redevelopment Plan / Caltrain Downtown Extension EIR study that was conducted identified a single point of wind hazard exceedance (test point 57), this location is a considerable distance from the Transbay Block 2 site and is not expected to be affected by the project changes.

As evident from the previous wind tunnel results conducted, the flow mechanism that dominates the ground level winds and thus the pedestrian comfort ratings around the Transbay Block 2 development are mainly through downwash and flow channeling of the prevailing west through northwest winds. Downwash is generated when the flow is caught by the building façade and is redirected downwards to ground level. This leads to accelerated winds at the base of the structure and around the windward corners. However, the frequency and severity of these winds are expected to be moderated by the significant density of buildings to the west through northwest. These upwind buildings to the west through northwest help to maintain wind speeds below the wind hazard criterion around the project site.

The baseline building massing includes several positive design features from a pedestrian wind comfort and hazard perspective. These features include the five-story podium along the north side of the development (which is expected to intercept down-washing winds from otherwise impacting the sidewalks), and the position of the mid-rise Senior building sited to the west (Image 3) (which is expected to shelter the site from approaching winds). The combined position of these podium structures relative to the taller Family building and prevailing winds are expected to reduce the frequency and intensity of winds at grade. The increase in height of the central podium on the Family building (see Image 3 for reference) may result in slightly increased wind activity at grade when compared to the baseline building massing. However, due to the shelter provided by the surrounding building, these winds are not expected to exceed the wind hazard criterion, nor significantly change wind comfort conditions at grade within publicly assessable areas when compared to the previous wind tunnel test results for the Transbay Block 4 development.

CONCLUSIONS

Several positive wind control features have been included in the design of the proposed development, such as the large podium, orientation, and placement of the taller Family building relative to the Senior building and prevailing winds. The proposed changes in the Transbay Block 2 development are unlikely to result in a substantial change in wind comfort conditions in the vicinity of the project.

No locations are anticipated to exceed the wind hazard criterion with the proposed project changes as wind speeds closest to the project site were all below the wind hazard speed in CPP's previous wind impact assessment for the Transbay Block 4 development. The single point of wind hazard exceedance (test point 57) reported in the Transbay Redevelopment Plan / Caltrain Downtown Extension EIR is a considerable distance from the Transbay Block 2 site and is not expected to be affected by the project changes.

We trust this satisfies your requirements for the project. Should you have any questions or require additional information, please do not hesitate to contact us.

Yours very truly,

CPP Inc.

Albert Brooks, M.A.Sc., P.Eng.
Senior Project Engineer

Kevin Bauman. P.Eng.
Project Engineer

Jon Galsworthy, PhD, P.Eng.
Managing Director

Appendix B
Shadow Report

SHADOW ANALYSIS REPORT
TRANSBAY BLOCK 2
SAN FRANCISCO, CA

Prepared By:
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October 2022

Submitted to:
OFFICE OF COMMUNITY INVESTMENT AND INFRASTRUCTURE
CITY AND COUNTY OF SAN FRANCISCO
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SAN FRANCISCO, CA 94103

Contents

I. Executive Summary

Fastcast has conducted a detailed analysis of the potential shadow impacts from the planned residential project known as Transbay Block 2 (the 'Project'). The Project is part of the Transbay Redevelopment Project Area, development of which was initially studied by the Transbay Transit Center/Caltrain Downtown Extension/Redevelopment Project Environmental Impact Statement/Environmental Impact Report, jointly certified on April 22, 2004 by the San Francisco Planning Commission and the Transbay Joint Powers Board. This report supplements the initial analysis performed in the EIS/EIR, by providing quantitative and qualitative analyses of sunlight access issues related to the Project and deemed significant to stakeholders and members of the public. Direction and oversight of this report is ongoing by the Office of Community Investment and Infrastructure ('OCII') in cooperation with the San Francisco Planning Department.

The report serves as a technical study to support OCII's compliance with the California Environmental Quality Act ("CEQA") in reviewing and approving the Project. In accordance with OCII's direction, this Report uses methodologies established consistent with Section 295 of the San Francisco Planning Code (commonly referred to as the Sunlight Ordinance) to analyze shadow impacts of the Project for the purposes of CEQA compliance.

The Project is guided by three planning documents:

- **Transbay Redevelopment Plan**[1] (originally approved by the Board of Supervisors in 2005 and as currently amended, the 'Plan'), which defines the development framework for each of the sites in the Transbay Redevelopment Project Area, including overall objectives, permitted land uses, and procedures and processes.

- **Transbay Redevelopment Project Area Design for Development**[2] (2003, the "D for D"), which provides non-binding guidance on land use and urban design issues within the Project Area; and

- **Development Controls and Design Guidelines for the Transbay Redevelopment Project**[3] (adopted by the former San Francisco Redevelopment Agency in 2005 and as currently amended, the "DCDG"), which establishes site-specific standards for building design including height limits, density, design criteria and other development controls.

The EIS/EIR determined that the projects consistent with the foregoing planning documents would not have significant shadow impacts. However, the Project proposes the following amendments to the Plan and the DCDG:

No.	Topic	Development Control	Proposed Amendment
Block 2 Alternative Development Controls: Overall Block			
1	Retail Bays	Retail bays must be created every 25 to 35 feet to allow multiple storefronts, even if initial retail tenants occupy more than one bay.	Retail bays must be created every 20 to 35 feet to allow multiple storefronts, even if initial retail tenants occupy more than one bay.
2	Active Ground Floor Uses	Ground floor commercial spaces are required along the Folsom Boulevard frontage, along the retail mews of Block 2, and at the corners of buildings on Howard Street. These commercial spaces must conform to the general standards and guidelines for ground floor retail development below.	The Block 2 mews shall include a mix of retail, childcare and affordable housing supportive service uses.
3	Open Space Parcel Softscape	At least 40% of the shared open space parcel must be softscaped.	At least 19% of the shared open space parcel must be softscape.
4	Open Space Parcel Allocation	A portion of an open space parcel may be reserved for childcare facilities.	The first floor of the eastern building may encroach onto the open space parcel to accommodate childcare services or neighborhood-serving retail. The roof of the encroachment shall be open space.
Block 2 Alternative Development Controls: Townhouse Parcels			
5	Townhouse Floors	The "Maximum Number of Floors" in the Townhouse Parcels shall be four.	The "Maximum Number of Floors" in the Townhouse Parcels shall be five.
6	Townhouse Projections	Projections, either bay windows or those of a purely architectural or decorative character such as cornices, eaves, sills, and belt courses, must meet the dimensional requirements of planning code section 136.	Bay window projection dimensions over the setback on Clementina Street shall not exceed 4 feet in depth and 12 feet in width. The maximum area of any individual projection shall be 48 square feet.
7	Retail Floor Height	Ground floor commercial spaces must have at least 15-foot floor-to-floor heights.	Ground floor commercial spaces with an entrance from a Townhouse Parcel must have at least 11-foot floor-to-floor heights.
8	Retail Depth	In order to make commercially viable spaces, the minimum depth of any retail space shall be 30 feet. Exceptions may be made for liner retail designed to wrap around larger floor plate retailers.	Retail spaces fronting Clementina Street shall have a minimum depth of 27 feet.
9	Townhouse Setback Softscape	At least 40% of the front yard setback area for townhouses must be softscaped, and a maximum of 60% of the space may be hardscaped, impermeable surfaces.	At least 24% of the front yard setback area for townhouses must be softscaped, and a maximum of 76% of the space may be hardscaped, impermeable surfaces.
10	Retaining Wall Height	Retaining and/or decorative walls between the right-of-way and front yard setback may not exceed 3 feet in height.	Retaining and/or decorative walls between the right-of-way and front yard setback may not exceed 5 feet 9 inches in height.
11	Townhouse Module Width	Development is to consist of individually accessible townhouse units with a maximum width of 30 feet per unit, facing along alleyways and neighborhood streets.	The 30-foot maximum width of the Townhouse modules shall be applied to the architectural façade expression of the Townhouse Parcel, and not to the interior demising walls of the units.
Block 2 Alternative Development Controls: Podium 2 Parcel			
12	Podium 2 Floors	The "Maximum Number of Floors" in the Podium 2 Parcel shall be eight.	The "Maximum Number of Floors" in the Podium 2 Parcel shall be nine.

No.	Topic	Development Control	Proposed Amendment
Block 2 Alternative Development Controls: Mid-Rise Parcel			
13	Mid-Rise Floor Plate	The "Maximum Floor Plate" area for the portion of the Mid-Rise Building between 85 feet and 250 feet shall be 7,500 square feet.	A "Maximum Floor Plate" area of 11,100 square feet is permitted for the portion of the building between 85 feet and 144 feet in height and a "Maximum Floor Plate" area of 9,200 square feet is permitted for the portion of the building between 144 feet and 165 feet in height.
14	Mid-Rise Maximum Plan Dimension	The "Maximum Plan Dimension" for the Mid-Rise Building shall be 100 feet.	The "Maximum Plan Dimension" for the Mid-Rise Building shall be 125 feet.
15	Mid-Rise Maximum Floor Plate Aspect Ratio	The "Maximum Floor Plate Aspect Ratio" for the Mid-rise Building shall be 1:6.	The "Maximum Floor Plate Aspect Ratio" for the Mid-Rise Building shall be 1:1.76.
16	Mid-Rise Projections	Projections, either bay windows or those of a purely architectural or decorative character such as cornices, eaves, sills, and belt courses, must meet the dimensional requirements of planning code section 136.	Building projection dimensions over the setback on Folsom Street shall not exceed 8 feet 5 inches in depth and 60 feet 4 inches in width. The maximum area of any individual projection shall be 254 square feet.

Thus, this Report compares the additional shadows cast by the proposed Project to the shadows studied under the EIS/EIR (i.e., those shadows that would have been cast by the DCDG-Compliant massing). This requires three separate shadow calculations for the surrounding area and for each of the affected open spaces. Detailed table of all scenarios including cumulative provided under Evaluation Criteria section.

- **Scenario #1 - Existing Conditions:** The shadows cast by existing and under-construction buildings and structures in the San Francisco downtown area. Although the temporary transit center structure has yet to be demolished this scenario assumes the existing vacant site for Transbay Block 2.

- **Scenario #2 - Proposed Project**: The additional shadows, relative to the Proposed Project: The additional shadows, relative to the Existing Conditions, that would be cast by the Transbay Block 2 Project sponsor's current proposed design. This design would require the Plan amendments listed above.

- **Scenario #3 - DCDG Compliant Massing** DCDG-Compliant Massing: The additional shadows, relative to the Existing Conditions, that would be cast by the Transbay Block 2 DCDG-Compliant Massing as provided by OCII. The additional shadows, relative to the DCDG-Compliant Massing as described against existing conditions are specified in the results of Scenario #3 and used for comparison purposes.

The Project site is bounded by Folsom, Main, and Beale streets and a future extension of Clementina Street; it lies within the Transbay Redevelopment Project Area and is classified as Zone One Downtown Residential.

Figure 1: Block 2 Project location within the Transbay Redevelopment Project Area

The Project will include two buildings: Transbay Block 2 West with 151 units of affordable rental housing for seniors, which will be developed by Chinatown Community Development Center, and Transbay Block 2 East with 183 units of affordable rental housing for families, which will be developed by Mercy Housing.

The Block 2 Project analyzed here is a multi-part development comprising:

A) Low-rise Townhomes on both Blocks 2 East and 2 West
B) Podium height housing on Block 2 West
C) Podium and Mid-rise height housing on Block 2 East

Summary of Findings

An initial shadow fan analysis identified two publicly accessible open spaces that will potentially be affected by the proposed Project. These include the future Block 3 Park, and the future privately owned common open-space mews that would bisect the Block 2 East and 2 West buildings on the Project site and provide a connection between the new Transbay Park and Folsom Street. In addition, the analysis includes evaluation of potential shadow on two smaller neighboring Privately Owned Public Open Spaces (POPOS): 211 Main Street Plaza and Urban Park. The Block 2 proposal includes the 8,275 square foot Mews privately owned public open space within the center of the block but is not specifically analyzed in this report because it is not an existing open space but rather a component of the proposed project.

Following the methodologies described in the report, Fastcast analyzed each of these open spaces in detail. The shadow impacts on each of these open spaces is summarized in the table below, and detailed analysis of each of the open spaces is documented in the section Analysis of Affected Open Spaces.

Publicly Owned Open Spaces	***Transbay Park***	
	Existing	**Cumulative**
Total Shadow from ***Existing Buildings***	41.15%	41.15%
Total Shadow from ***Existing Buildings + DCDG-Compliant Massing***	46.92%	47.20%
Increase due to ***DCDG-Compliant Massing*** *using Existing Baseline*	5.77%	6.05%
Total Shadow from ***Existing Buildings + Proposed Project***	47.72%	48.00%
Increase due to ***Proposed Project*** *using Existing Baseline*	6.57%	6.85%
Increase due to ***Proposed Project*** *over* ***DCDG-Compliant Massing***	**0.80%**	0.80%
Privately Owned Public Open Spaces (POPOS)	***Main Street Plaza***	***Urban Park***
Total Shadow from ***Existing Buildings***	59.73%	65.12%
Total Shadow from ***Existing Buildings + DCDG-Compliant Massing***	60.45%	65.32%
Increase due to ***DCDG-Compliant Massing*** *using Existing Baseline*	0.72%	0.20%
Total Shadow from ***Existing Buildings + Proposed Project***	60.58%	65.37%
Increase due to ***Proposed Project*** *using Existing Baseline*	0.85%	0.25%
Increase due to ***Proposed Project*** *over* ***DCDG-Compliant Massing***	**0.13%**	**0.05%**

Table 1: Affected Spaces Shadow Impact Summary, Shown as % of Theoretically Annual Available Sunlight (TAAS)

More detail on the design of the project is provided as Appendix A: Transbay Block 2 Schematic Design Excerpts .

Full year quantification data of project shadow on each open space are included as Appendix B: Quantification of Shadow Impact per Open Space.

Shadow diagrams graphically depicting the shading conditions, identifying existing conditions and the project's potential shadow are included as Appendix C: Detailed Shadow Diagrams.

II. Study overview and purpose

The purpose of this study is to identify, locate, quantify and analyze any potential shadow impact on publicly accessible open spaces within the shadow reach of the proposed Transbay Block 2 development. Fastcast has been retained by Project sponsor Mercy Housing to conduct a review of the potential shadow impacts on all publicly accessible parks and open spaces from the proposed construction of a residential development located on Transbay Block 2 and lying within Transbay Land Use Plan Zone One..

III. Description of Proposed Project

Figure 2 Location of project within the Transbay Redevelopment Project Area

Block 2 Project Location

The Project site is located on San Francisco Assessor's Block 3739; the parcel spans 275 feet at both Folsom and Clementina Streets and 155 feet at Main and Beale Streets. The site was formerly used as a temporary bus terminal. Adjacent development is planned to include a public park (Block 3), and residential development, (Block 4) to the northwest.

Project Summary

The Project will include two buildings: Transbay 2 West would be developed by Chinatown Community Development Center. This nine-story, 85-foot-tall building would contain 151 dwelling units and approximately 2,945 square feet of retail space. Transbay 2 East would be developed by Mercy Housing. This 17-story, 162-foot-tall building would contain 184 dwelling units and approximately 6,447 square feet of childcare space and 1,959 square feet of retail space. The project site would be bisected by an 8,275-square-foot privately owned publicly accessible open space that would provide a pedestrian connection between Folsom Street and the future Transbay Park to the north of the project site.

Figure 3: Block 2 East Project. Architect's rendering from northwest with Transbay Park in foreground. Source Kennerly Architects

Figure 4: Block 2 West Project. Architect's rendering from the corner of Beale and Clementina. Source Kennerly Architects

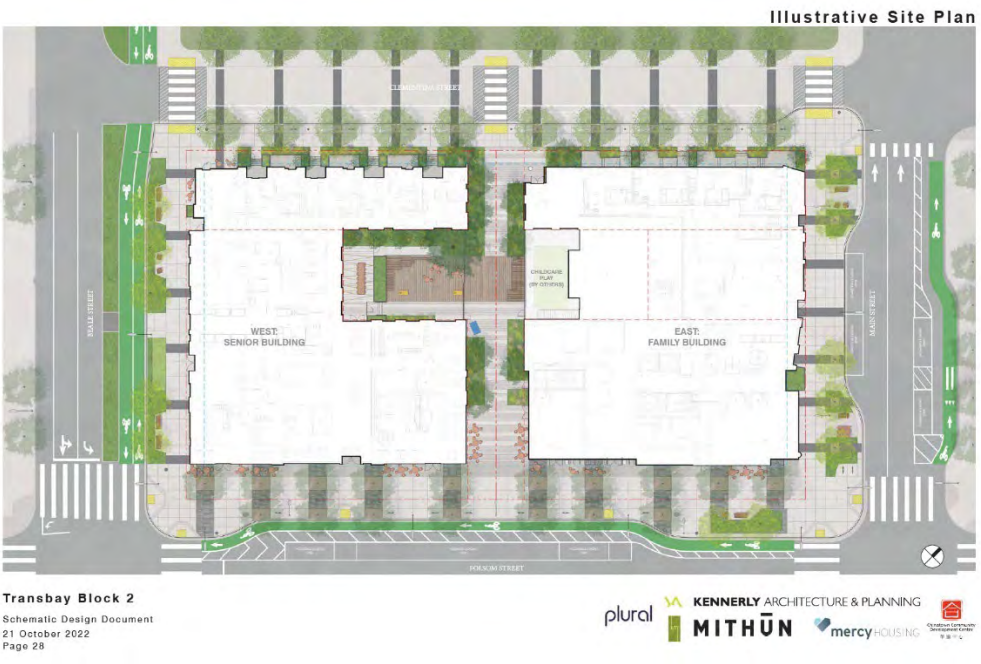

Figure 5: Transbay Block 2 Project East & West Site Plan. Source: Kennerly Architects.

IV. Evaluation Criteria & Methodology

Evaluation Criteria

OCII has determined that a detailed shadow study of the proposed Transbay Block 2 Project is required to determine if any adverse or significant shadow impacts will be created on surrounding open spaces. OCII has mandated the study be conducted in alignment with the development goals established for the Transbay Redevelopment Plan. Based on guidance provided by OCII, the approach and methodology to achieve these goals are to be aligned with the established processes documented in the Planning Department's July 2014 memo regarding Shadow Analysis Procedures and Scope.[4] In addition, following the direction of OCII:

- The study includes a detailed analysis of the proposed public park situated directly north of the project on Transbay Block 3[1] for informational purposes but not required under CEQA.
- The proposed housing massing on Block 4 on the northern edge of the Transbay Block 3 Park will be included as part of the base shadow conditions.

Trees will not be considered for any of the quantified analysis but may be mentioned in the qualitative discussion if applicable

[1] Transbay Block 3 Park is a placeholder name, and the final park name will be determined through a public naming process.

Identifying Potentially Affected Open Spaces

In the early Project planning stages, Fastcast generated a Shadow Fan diagram to identify the maximum potential reach of new shadows, shown with red, generated by the proposed development around the Project site. Figure 6 below.

To determine the area and features that would be affected by net new project shadow, Fastcast used the 3D context model to generate a full-year shadow fan diagram, which depicts all areas which would receive net new shadow (factoring in the presence of current, intervening shadow from existing buildings) between one hour after sunrise and one hour before sunset ("the daily analysis period") throughout the year.

A Shadow Fan generated in this way and ignoring the substantial shadow impacts from existing buildings represents the theoretical "worst case" scenario for how far from the project site shadow impacts could possibly occur. Any open space *within* the boundary *might possibly be* affected by new shadow from the project, but conversely any open space *outside* the boundary can be eliminated as a sunlight access concern. The Shadow Fan identified one affected public open space in the future Transbay Block 3 Park and two privately owned open spaces 211 Main Street Plaza and Urban Park. Figure 6.

The blue region shown in Figure 6, referred to as the Shadow Accrual Map, shows only those areas at the ground level and at the level of public open spaces where some additional shadow would be introduced by the Project during some time of the year. The Shadow Accrual Map accounts for shadows already cast by existing buildings on these spaces. Stated in another way, the Shadow Accrual map takes into account the existing buildings that block new project shadow from reaching these spaces.

In order to visually document the difference in the extent of net new shadow between a DCDG-Compliant project and the current proposed project, the Annual Shadow Accrual Map identifies the DCDG-Compliant shadow in blue and the Proposed Project shadow in orange.

There two existing POPOS and one planned publicly owned park (Transbay Park) that the Shadow Accrual Map indicates would experience net new shadow from the project. These three open spaces are indicated in Figure 6 on the map and legend with bold outlines. Analysis of the extent and nature of these impacts for each of the affected public open spaces, and a comparison of the proposed project and the DCDG-Compliant massing, is detailed in Section V. Analysis in Section V concerning Transbay Park is provided for informational purposes only, as it is not part of the existing environmental baseline for this analysis.

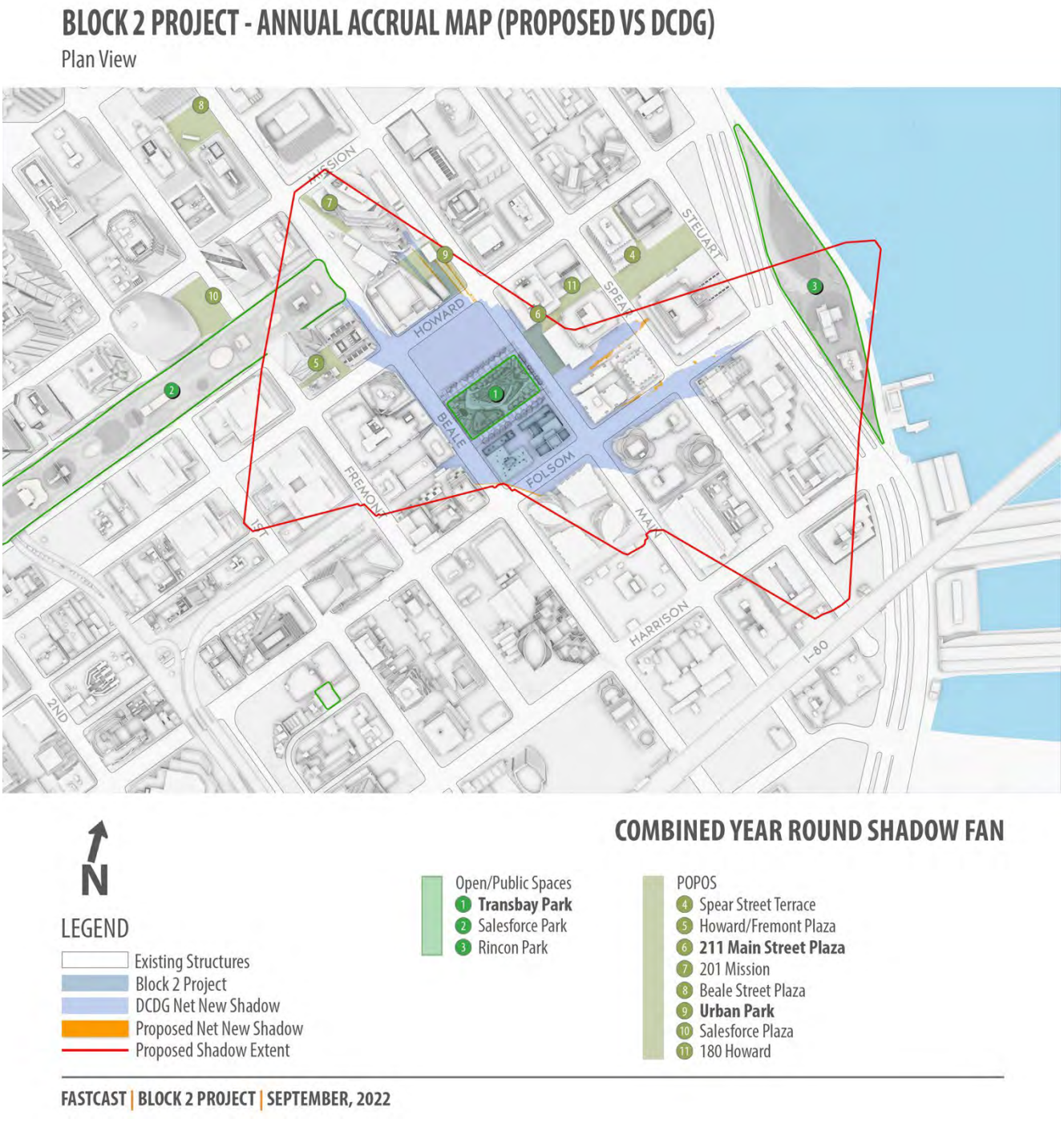

Figure 6: Shadow Fan and Net New Shadow, DCDG-Compliant Massing & Proposed Project.

The Shadow Fan diagram (the red line on Figure 6), which does not account for the presence of existing buildings. identified seven potentially affected open spaces. The Shadow Accrual Map (the blue and orange areas on Figure 6), which accounts for the presence of existing buildings, narrowed the scope of potential shadow impacts to three public or private open spaces, which were each then analyzed in detail. Regardless of whether these open spaces are publicly owned or privately owned, all of them are publicly accessible.

The Public Open Spaces analyzed in detail are:

- The future Transbay Block 3 Park (for informational purposes)

The Privately Owned Public Open Spaces (POPOS) analyzed in detail are:

- 211 Main Street Plaza
- Urban Park

Shadow Analysis Computational Methodology

A shadow analysis for the proposed Transbay Block 2 Project was performed by Fastcast under the direction of OCII and the San Francisco Planning Department. Using a geolocated 3D digital model of the proposed project and all existing elements within a potential shadow area, Fastcast conducted a comprehensive series of digital simulations to locate and quantify projected shadow conditions representing essentially every time of day for every day of the year as defined by Planning Code Section 295, the "Sunlight Ordinance". The results of this analysis are documented below in terms of both qualitative impacts) and quantitative effects.

The San Francisco geolocated 3D digital shadow model used in this study analyzed the following layers of data:

SCENARIO #1	EXISTING SHADOW DETAILS

The shadows cast by existing and under-construction buildings and structures in the San Francisco downtown area. Although the temporary transit center structure has yet to be demolished this scenario assumes the existing vacant site for Transbay Block 2.

SCENARIO #2	PROPOSED PROJECT NET NEW SHADOW DETAILS

Proposed Project: The additional shadows, relative to the Existing Conditions, that would be cast by the Transbay Block 2 Project sponsor's current proposed design. This design would require the Plan amendments listed above.

SCENARIO #3	DCDG-COMPLIANT MASSING NET NEW SHADOW DETAILS

DCDG-Compliant Massing: The additional shadows, relative to the Existing Conditions, that would be cast by the Transbay Block 2 DCDG-Compliant Massing as provided by OCII. The additional shadows, relative to the DCDG-Compliant Massing as described against existing conditions are specified in the results of Scenario #3 and used for comparison purposes.

SCENARIO #4	CUMULATIVE INCLUDING PROPOSED PROJECT NET NEW SHADOW DETAILS

Cumulative including Proposed Project: Scenario #4 is defined by the proposed 'cumulative" building projects that have been submitted to the City but are yet to be built and under review including the fully proposed project for Block 2. The additional shadows, relative to the Cumulative projects as described against existing conditions are specified in the results of Scenario #4.

SCENARIO #5	CUMULATIVE INCLUDING DCDG-COMPLIANT MASSING NET NEW SHADOW DETAILS

Cumulative + DCDG-Compliant Massing: Scenario #5s is defined by the proposed 'cumulative" building projects that have been submitted to the City but are yet to be built and under review as well as the DCDG-Compliant Massing for Block 2. The additional shadows, relative to the Cumulative including DCDG-Compliant Massing as described against existing conditions are specified in the results of Scenario #5 and used for comparison purposes.

The existing and proposed shadow areas were evaluated on each of the identified open spaces in a way that reflects the shadow impact for every day of the year. Shadow simulations for both existing and future shadows are generated for each open space on fifteen-minute intervals, beginning one hour after sunrise and ending one hour before sunset.[5] To account for variations in the movement of the sun through the seasons of the year, daily study sets are generated with solar angle data representing every week from June 21st through December 20th. This half-year encompassing the Summer and Fall seasons is referred to as the "solar year", since it is statistically representative of the full annual celestial path of the sun. During the other half of the year (i.e. in Winter and Spring), the sun's movement across the sky mirrors its movement in Summer and

Fall. For this reason, the sun angles for the other half of the calendar year (December 21st through June 20th) are not calculated again. Instead, a multiplier is used to align the sample results into calendar year units. Representative mirror dates are called out in all graphics and exhibits.[6] (Note that using a multiplier does not change the percentages of increased shadow reported.)

Both quantitative findings (how large the shadows would be and where and when they would occur) as well as qualitative findings (the nature and intensity of any affected open space areas) are presented. The raw data from these multiple projections (over 2000 separate computer simulations in total) comprise shadow projection diagrams and tabular data for each simulation performed. This dataset, supplemented by on-site investigations of each open space by Fastcast, form the basis for the quantitative and qualitative analyses described below.

As an aid to understanding the differential impacts at different times of the year, and pursuant to established requirements, shadow diagrams depicting existing and proposed project shadow are provided for the Winter Solstice (December 21), Summer Solstice (June 21) and both the Spring and Fall Equinox (March 21 and September 21, respectively). On these defined days, shadows are shown on an hourly basis from one hour after sunrise to one hour before sunset. These exhibits can be viewed below in APPENDIX C: Transbay Block 2 Detailed Shadow Diagrams.

Quantitative Methodology

The dataset produced as described above, reflecting hourly samples for 27 representative days of the year stretching from June 21 to December 21, was then extrapolated to determine the full-year shading impacts. The difference between the current level of shading and the level of shading that would be present with the addition of the new buildings (either Scenario #2 or Scenario #3) yields the total annual increase in square-foot-hours of shade. These two values were calculated for each of the three open spaces identified as potentially affected by the proposed project.

Additionally, for each of the three identified open spaces, a baseline value was calculated that represents the highest theoretical amount of sunshine each of these open spaces would receive if there were no structures casting shadows on them. This baseline maximum value is referred to as the *Theoretically Annual Available Sunlight*, or TAAS, expressed in square-foot-hours of sunlight. The TAAS is calculated by multiplying the area of the park/open space by the total number of annual hours that fall between one hour after sunrise and one hour before sunset.

Comparing the existing shadow, future shadow, and TAAS values to each other (all expressed in square-foot-hours) provides a quantitative summary of key shadow impacts. These are summarized for each affected open space in Section V. Analysis of Affected Open Spaces. Details of these results can be viewed in APPENDIX B: Transbay Park Quantification of Shadow Impact.

Qualitative Methodology

Fastcast conducted site visits to the potentially affected open space at 211 Main Street Plaza and Urban Park to observe the current usage. Activities and interactions within the open space were observed and generally tabulated for activity, location within the open space, and usage count. Since the future Transbay Block 3 Park has yet to be realized no observations were able to make but the proposed layout and programming was considered in the review of potential impacts.

The qualitative impacts on the affected spaces are discussed based on:

- the nature of existing shadow profiles,
- size, location and duration of existing vs. potential new shadows and
- whether or not the identified new shadows could be considered adverse to the quality of observed and established usage. A

These observations follow the prescribed method in CEQA for characterizing environmental impacts associated with increased shading. These include the shadow characteristics (size, duration, and location of new shadows) as well as the value of sunlight for the identified activity (time of day and year and location for new shadows vs observed open space use.)

V. Analysis of Affected Open Spaces

Public Open Space: The future Transbay Block 3 Park

Description

Transbay Block 3 Park is a proposed 39,961 square feet (0.92 acres) public park located in the Financial District of San Francisco over portions of Assessor's Block 3739 / Lots 002, 006 and 008 – also known as Transbay Block 3. The future park will occupy land that was used as the temporary Transbay Terminal while the Salesforce Transit Center was being built.

The park will be bounded by Main Street to the northeast and Beale Street to the southwest. The development of this park will also involve establishing new segments of Tehama Street and Clementina Street between Main and Beale streets.

The quantitative analysis of the Transbay park uses the dimensions for the Transbay Park as specified in the Tentative Transfer Map survey dated January 21, 2020, the key portion of which is reproduced in Figure 7. As shown in the survey, Tehama Street will be 40 feet wide and form the northwest boundary of the park (shown as "Lot 2" in Figure 8), and Clementina Street will be 45 feet wide and form the southeast boundary ("Lot 4") of the park. Both streets will be city owned.

Tehama and Clementina Streets are wider than reported in the Streetscape Plan, resulting in a narrower remaining dimension for the Transbay Block 3 Park. The streets were widened so that, as new public rights of way, they would meet City standards. Because of Fire Department and SFMTA's requirements to accommodate fire vehicles, minimum sidewalk widths, and curb loading/drop-off features on Clementina and Tehama Streets, rights of way had to be expanded in a manner consistent with the anticipated adjacent construction type. Accordingly, the Tehama Street right of way increased from a previous 35' to 40' because the project on Block 4 will be Concrete/Type 1 construction, for which the unobstructed fire clearance (roadway + mountable sidewalk) can be 21 feet. The Clementina Street right of way increased from 35' to 45' to allow for future development flexibility in Block 2 construction typology in and unobstructed fire clearance (roadway + mountable sidewalk) of 26 feet. Along both project blocks, the minimum sidewalk is 12 feet wide and loading areas are required to be 7 feet wide.

These revised dimensions for the Transbay Block 3 Park were used for both massing Scenario #2 and Scenario #3 in the following analysis.

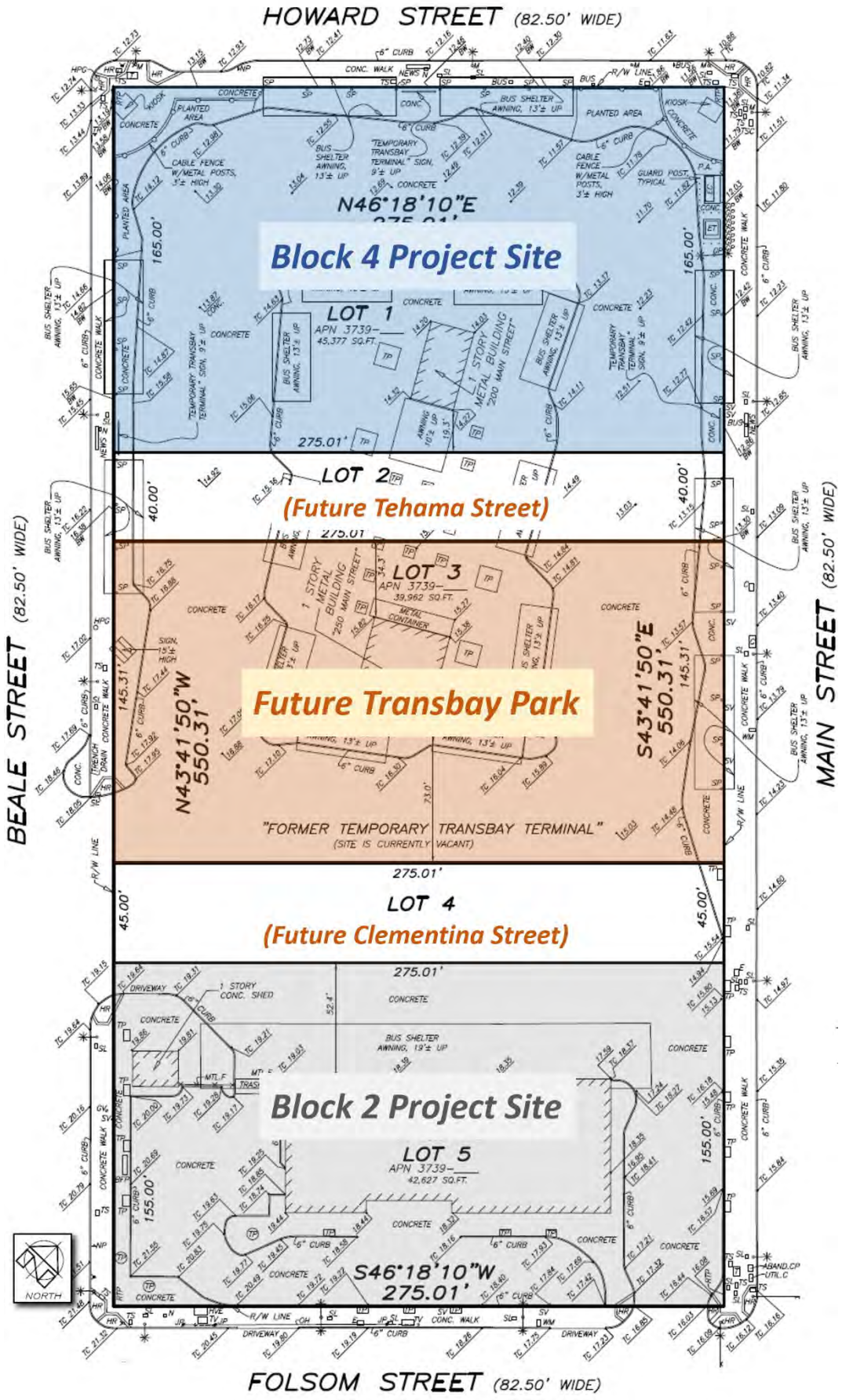

Figure 7: Future Transbay Block 3 Park (middle shaded area), bound by the Block 4 project site (blue) to the northwest and Block 2 site (gray). Source: Tentative Transfer Map, Marin M. Ron Associates, Inc., January 21, 2020.

Quantitative Analysis Summary for Transbay Block 3 Park

The future Transbay Park has a total area of approximately 39,961 square feet (0.92 acres) which, when complete, will have approximately 61,191,484 sfh of shade annually. Based on a Theoretical Annual Available Sunlight (TAAS) of 148,711,185 sfh, the open space would be shaded 41.15% of the year if no new structures were built.

Scenario #2, the **proposed project**, would contribute 9,776,892 sfh (6.57%) new shading throughout the year. The maximum impact by area within the analysis period would occur on October 4 (*March 8*) at 8:45 a.m., when new shadows from the project would cast 19,474 sf of net new shadow on the park. During this time, approximately 48.73% of the park would see an increase in shadow due to the proposed project. New shading, when present, would occur from early morning to midday. Net new project shadow would reach the park on average of 4 hrs. 39 min. primarily during the morning hours, until no later than 1:30 p.m. (Dec. 21).

By comparison, **Scenario #3,** the **DCDG-Compliant massing**, would contribute 8,576,319 sfh (5.77%) new shading throughout the year. The maximum impact by area within the analysis period would also occur on October 4 (March 8) at 8:45 a.m., when new shadows from the project would cast 19,490 sf of potential shadow on the park. During this time, approximately 48.8% of the park would see an increase in shadow due to the DCDG-Compliant massing. New shading, when present, would occur from Net new project shadow would reach the park primarily during the morning hours, and be present no later than 1:30 p.m.

With **Scenario #2**, the **proposed project**, the daily duration of net new project shadow on the park would range from 0.0% to a maximum 48.73%, with the average daily duration being approximately 4 hours 39 minutes.

By comparison, with **Scenario #3**, the **DCDG-Compliant massing**, the daily duration of potential project shadow on the park would range from 0.0% to a maximum of 48.77%, with the average daily duration being about 4 hours 7 minutes.

The net increase of **Scenario #2**, **proposed project** over **Scenario #3**, the **DCDG-Compliant massing** is 1,200,573 sf or **0.80%** of TAAS.

Under cumulative conditions for Scenario #2, the impacts on the Transbay Block 3 Park is an increase of 10,190,979 sfh or **6.85%** of TAAS compared to Scenario #3, the DCDG-Complaint massing contributing 6.05% of TAAS. This comparison represents a Scenario #2 proposed project increase over the Scenario #3 DCDG-Compliant massing of 0.80% of TAAS contribution.

Detailed summary of quantified results for Scenario #1, Scenario #2 and Scenario #3massing are provided in Table 2.

TRANSBAY PARK ANNUAL SHADOW LOADS / SQUARE FOOT HOURS (sfh)			
Existing / Current Shadow 41.15% 61,191,484 sfh	Project Net New Shadow 6.57% 9,776,892 sfh	Cumulative Net New Shadow 6.85% 10,190,979 sfh	Project Remaining Sunlight 52.28% 77,746,211 sfh
Existing / Current Shadow 41.15% 61,191,484 sfh	DCDG Net New Shadow 5.77% 8,576,319 sfh	Cumulative DCDG Net New Shadow 6.05% 8,991,053 sfh	DCDG Remaining Sunlight 53.08% 78,946,784 sfh
	Proposed Project Increase over DCDG 0.80%	Proposed Project Cumulative increase over DCDG 0.80%	

Transbay Park Annual Shadow Load with Project (sfh)	47.72% (70,968,376 sfh)
Transbay Park Annual Shadow Load with Cumulative+Proj (sfh)	48.00% (71,382,463 sfh)
Transbay Park Annual Shadow Load with DCDG (sfh)	46.92% (69,767,803 sfh)
SCENARIO #1: EXISTING SHADOW DETAILS	
Range in existing shadow area coverage throughout the year	Between 0% - 100%
Time of year / time of day most affected by existing shadow	Winter / Late Afternoon (after 4:30 PM)
SCENARIO #2: PROJECT NET NEW SHADOW DETAILS	
Days net new shadow would occur (date range)	Year-round
Date(s) with most sfh net new shadow	September 27 & March 15
Season / Time of day most affected by net new shadow	Winter / Early Morning (before 8:00 AM)
Area of largest net new shadow (date and time)	19,474 sf (October 4 & March 8 @ 8:45 AM)
Percentage of Transbay Park covered by largest shadow	48.73%
Range in shadow coverage throughout the year (area range)	Between 0% - 48.73% (0 - 19,474 sf)
Average shadow size across affected dates (percent coverage)	6,009 sf (15.04%)
Date(s) with the longest duration of net new shadow (duration)	December 6 & January 4 (5 hr 13 min +/- 7 min)
Range in daily net new shadow duration across affected dates	Between zero minutes up to 5 hr 13 min (+/- 7 min)
Average daily net new shadow duration across affected dates	4 hr 39 min
SCENARIO #3 DCDG NET NEW SHADOW DETAILS	
Days net new shadow would occur (date range)	Year-round
Date(s) with most sfh net new shadow	September 27 & March 15
Season / Time of day most affected by net new shadow	Winter / Early Morning (before 8:00 AM)
Area of largest net new shadow (date and time)	19,490 sf (Oct 4/Mar 8 @ 8:45 AM)
Percentage of Transbay Park covered by largest shadow	48.77%
Range in shadow coverage throughout the year (area range)	Between 0% - 48.77% (0 - 19,490 sf)
Average shadow size across affected dates (percent coverage)	5,991 sf (14.99%)
Date(s) with the longest duration of net new shadow (duration)	Dec 13/Dec 28 (5 hr 7 min +/- 7 min)
Range in daily net new shadow duration across affected dates	Between zero minutes up to 5 hr 7 min (+/- 7 min)
Average daily net new shadow duration across affected dates	4 hr 7 min

Table 2: Summary of Quantified Results for Transbay Park

Cumulative Analysis Results for Transbay Park

Scenario #4, the **proposed project under cumulative conditions** would contribute 10,190,979 sfh (6.85%) new shading throughout the year. The maximum impact by area within the analysis period would occur on September 27 (*March 15*) at 8:45 a.m. Net new project shadow would reach the park on average of 5 hrs. 23 min. primarily during the morning hours, until no later than 1:30 p.m. (Dec. 21).

By comparison, Scenario #5, the **DCDG-Compliant massing under cumulative conditions** would also contribute 8,991,053 sfh (0.80%) new shading throughout the year. The maximum impact by area within the analysis period would occur on October 4 (March 8) at 8:45 a.m., Net new project shadow would reach the park primarily during the morning hours, no later than 1:30 p.m. and then again contributing smaller impacts in the afternoons from approximately 4:15 p.m.-5:30 p.m. There is a 0.80% decrease in shadow for the DCDG-Compliant massing from the project under cumulative conditions.

The net increase of Scenario #4, the **proposed project** over Scenario #5, the **DCDG-Compliant massing** under cumulative conditions is 1,199,9296 sf or **0.80%** of TAAS. Details of impacts available in Table 3

SCENARIO #4 CUMULATIVE+ PROPOSED PROJECT NET NEW SHADOW DETAILS	
Days net new shadow would occur (date range)	Year-round
Date(s) with most sfh net new shadow	September 27 & March 15
Season / Time of day most affected by net new shadow	Winter / Early Morning (before 8:00 AM)
Area of largest net new shadow (date and time)	19,474 sf (Oct 4/Mar 8 @ 8:45 AM)
Percentage of Transbay Park covered by largest shadow	48.73%
Range in shadow coverage throughout the year (area range)	Between 0% - 48.73% (0 - 19,474 sf)
Average shadow size across affected dates (percent coverage)	5,423 sf (13.57%)
Date(s) with the longest duration of net new shadow (duration)	Sep 20/Mar 22 (6 hr 11 min +/- 21 min)
Range in daily net new shadow duration across affected dates	Between zero minutes up to 6 hr 11 min (+/- 21 min)
Average daily net new shadow duration across affected dates	5 hr 23 min
SCENARIO #5 CUMULATIVE+ DCDG-COMPLIANT MASSING NET NEW SHADOW DETAILS	
Days net new shadow would occur (date range)	Year-round
Date(s) with most sfh net new shadow	September 27 & March 15
Season / Time of day most affected by net new shadow	Winter / Early Morning (before 8:00 AM)
Area of largest net new shadow (date and time)	19,490 sf (Oct 4/Mar 8 @ 8:45 AM)
Percentage of Transbay Park covered by largest shadow	48.77%
Range in shadow coverage throughout the year (area range)	Between 0% - 48.77% (0 - 19,490sf)
Average shadow size across affected dates (percent coverage)	5,423 sf (13.57%)
Date(s) with the longest duration of net new shadow (duration)	Sep 20/Mar 22 (6 hr 11 min +/- 21 min)
Range in daily net new shadow duration across affected dates	Between zero minutes up to 6 hr 11 min (+/- 21 min)
Average daily net new shadow duration across affected dates	5 hr 23 min

Table 3: Summary of Quantified Results for Transbay Block 3 Park under Cumulative Conditions.

Qualitative Analysis Findings

A qualitative analysis of the future Transbay Park is complicated by the fact that as it is not yet constructed there is no opportunity to observe how the park is actually being used. The park is currently in the Schematic Design phase, and the park design and program has been informed by a preliminary solar study (See Figure 8). This informal

Figure 8: Future Transbay Park with proposed programming

solar study assumed a variety of massing options for Block 2 and provided rough estimates of the areas of the park that may receive the most solar access, thus allowing the park design team to locate specific program uses in the most appropriate solar zones. The proposed Schematic Design for the park was considered in this shadow analysis.[7] Figure 8.

Based on observations of other open spaces in the immediate neighborhood, it is assumed that park usage will be heaviest during the weekdays and especially from lunch time to early evening. The other affected parks and open spaces observed in this report predominantly involve activities during this time that revolve around eating, relaxing, or smoking, either alone or in small informal groups. Given that the residential population of the immediate neighborhood will grow, one can expect that informal gatherings and activities involving families and children may grow in popularity in the Transbay Block 3 Park over what is seen currently in adjacent open spaces. The increased residential population may also have the effect of increasing park usage in the mornings and on weekends as well.

The Value of Sunlight

The portions of the future Transbay Park that would likely be sensitive to the addition of new shadow would be those elements that are fixed in location, conducive to more designed activities (users remain rather than pass through) and that are programmed to be actively utilized by the public. Based on the schematic design of the open space, the park is to serve as "*a neighborhood hub that allows for small community gatherings, children's play, walks along a looping pathway or simply sitting on a park bench*"[8] With this in mind the playground area, including the park's fixed play equipment and decking, located in the southwestern quadrant of the parcel, the meadow and main deck situated in the center of the parcel, and the fixed sidewalk benching along Main Street on the eastern edge and various fixed benches on the northern and southern edges of the park along Tehama and Clementina Streets respectively would all qualify as sensitive to additional shadow.

Potential shadow from both Scenarios #2 and #3 would impact up to nearly half of the park in the early morning hours from 7:00 a.m. to 1:15 p.m. with highest coverage of approximately 38% - 48% of the overall parcel. This shadow coverage would generally be concentrated in the southern half of the parcel in area of the playground and southern grove from 8:45 a.m. to 10:00 a.m. Potential impacts of the proposed project Scenario #2 by season are described below.

Summer Solstice: Shadow at maximum coverage would occur at 8:15 a.m. on the summer solstice and potentially impacts portions of the northern half of the playground and associated decking and fixed seating as well as the western grove off Beale Street near the area of the proposed Stewardship Building within the park. These shadows would move across the middle section of the park from west to east with the highest coverage of approximately 10% -18% occurring between 7:30 a.m. to 9:30 a.m. and then rapidly decreasing to zero by 10:30 a.m. The proposed street trees along Clementina on the southern edge of the playground would also create shadows in this area.

Fall and Spring Equinox: Shadow at maximum coverage would occur at 9:30 a.m. on the fall and spring equinox and potentially impact approximately 48% of the entire western half of the park including the playground and associated decking, the fixed seating along Clementina as well as the western grove off Beale Street near the area of the proposed Stewardship Building. These shadows would move across the middle section of the park from west to east with the highest coverage occurring between 9:15 a.m. to 11:15 a.m. and then rapidly moving entirely off the park by approximately 12:45 p.m. The proposed street trees along Clementina on the southern edge of the playground as well as those proposed in and around the southwestern grove would also create shade for park users in these areas.

Winter Solstice: Shadow during the winter solstice maximum potential impact would occur at 10:00 a.m. and cover approximately 41% across the center of the park, including portions of the playground, the center meadow, and main deck area. Long winter solstice shadows from the low sun angles under both scenarios that intermingle with shadow from proposed landscaping would provide shading throughout the morning but is most likely expected by park users during this time of year. The general distribution of scenario #2 shadow is show in table 4.

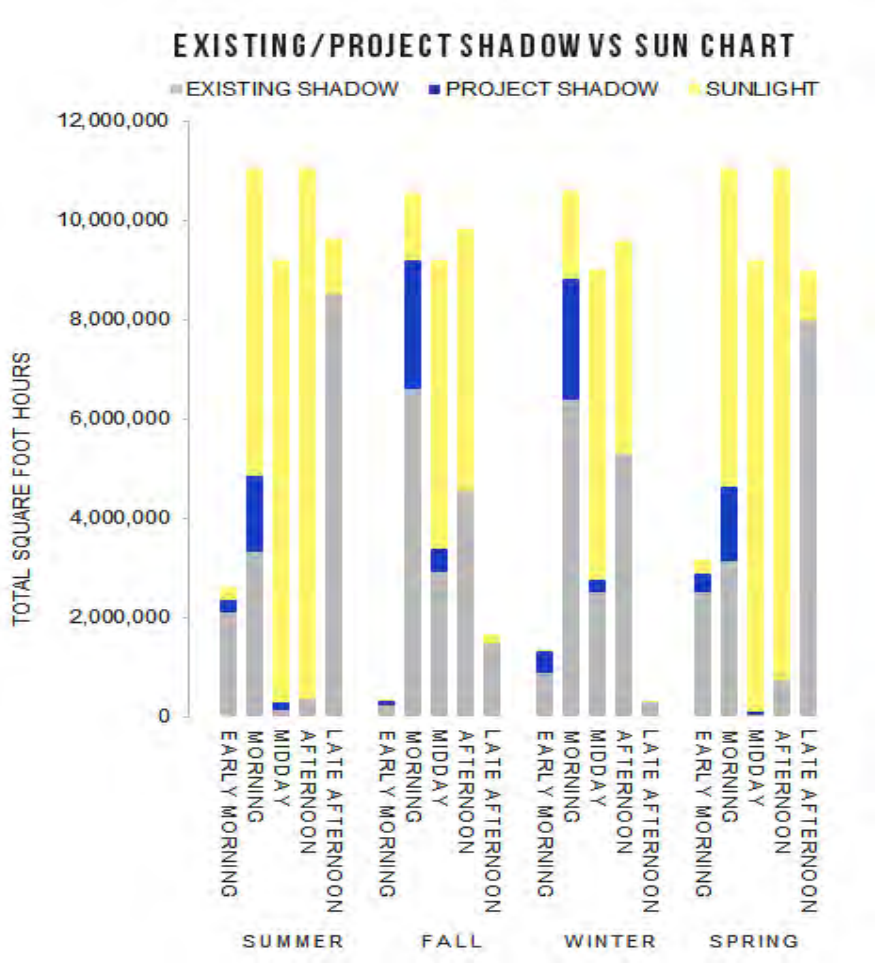

Table 4: Seasonal Distribution of Proposed Project Shadow

Project Shadow over DCDG-Compliant massing

One of the prescribed goals of this shadow analysis is to analyze and describe the additional potential shadow the proposed Transbay Block 2 project would create over the DCDG-Compliant massing. This section provides qualitative details of this potential additional shadow in terms of time of day, general season and location of shadow relative to the proposed park's design and programming. As described the 'proposed project' shadow results include both the Transbay West Senior Building and East Family Building.

Summer Solstice: Shadow from the proposed project, in comparison to the shadow contribution of the DCDG-Compliant massing, is most substantial in terms of coverage and duration during the summer months. The additional shadow coverage runs across the length of the middle section of the park. This additional proposed project shadow would extend the potential impacts from the DCDG-Compliant massing in the area of the western grove and proposed stewardship building, northern portions of the playground and the southeastern grove along Clementina Street. These areas include portions of the southern pathway and fixed seating proposed along Clementina Street and would be considered both active and passive areas of anticipated usage.

Fall and Spring Equinox: Shadow from the proposed project, in comparison to the shadow contribution of the DCDG-Compliant massing, is substantially less on the fall and spring equinoxes than the summer solstice in terms of coverage and duration. The shadow coverage from the proposed project compared to that of the DCDG-Compliant massing is consolidated in the eastern quarter of the of park along Main Street, mid-block between Clementina and Tehama Streets. This proposed project shadow would extend the potential impacts from the DCDG-Compliant massing in the area of the proposed main deck and dog relief area. Portions of the Main Street entry pathways and the fixed seating along Main Street potentially would receive additional shadow from the proposed project in comparison to the DCDG-Compliant massing. These affected areas would be considered both active and passive areas of anticipated usage.

Winter Solstice: Shadow from the proposed project, in comparison to the shadow of the DCDG-Compliant massing, is similar to but slightly increased on the winter solstice. The incremental additional shadow from the proposed project would be distributed throughout the proposed park throughout the morning and midday but for durations of less than 15 minutes. Additional shadows from the project over the DCDG-Compliant massing could be characterized as minimal during the winter solstice.

Background: Privately Owned Public Open Spaces in the General Plan

The Recreation and Open Space Element of the San Francisco General Plan[9] characterizes Privately Owned Public Open Spaces (POPOS) in the denser neighborhoods of the city as "…a critical strategy to promote livability and provide much-needed spaces for relaxation, enjoyment of greenery, and socializing with others."[10] Such a network of open spaces is described as a vital element in making the city livable and sustainable.

The document makes plain that POPOS are especially important to downtown residents and workers, where open space opportunities are limited. Though these spaces are not subject to the provisions of Section 295 of the City Planning Code, the Recreation and Open Space Element is clear that protecting sunlight access to these spaces, especially in the areas and times of highest use[11], should be a high priority for city officials and private groups.

Some specific policies from the Recreation and Open Space Element that may relate to POPOS identified here as being affected by the Block 2 proposed project are listed below.

As part of **Objective 1: Ensure a Well-maintained, Highly utilized, and Integrated Open Space System…**

- POLICY 1.1 Encourage the dynamic and flexible use of existing open spaces and promote a variety of recreation and open space uses, where appropriate.
- POLICY 1.9 Preserve sunlight in public open spaces.

As part of **Objective 2: Increase Recreation and Open Space to Meet the Long-Term Needs of The City and Bay Region…**

- POLICY 2.2 Provide and promote a balanced recreation system which offers a variety of high-quality recreational opportunities for all San Franciscans.
- POLICY 2.7 Expand partnerships among open space agencies, transit agencies, private sector and nonprofit institutions to acquire, develop and/or manage existing open spaces.
- POLICY 2.11 Assure that privately developed residential open spaces are usable, beautiful, and environmentally sustainable.
- POLICY 2.12 Expand the Privately-owned Public Open Spaces (POPOS) requirement to new mixed–use development areas and ensure that spaces are truly accessible, functional and activated.

As part of **Objective 3. Improve Access and Connectivity to Open Space…**

- POLICY 3.2 Establish and Implement a network of Green Connections that increases access to parks, open spaces, and the waterfront.

211 Main Street Plaza (POPOS)

Figure 12: 211 Main Street Plaza

Description

The Main Street Plaza open space totals 10,026 square feet (0.23 acres)[12] of publicly accessible urban open space located in the Financial District of San Francisco on Assessor's Block 3740 / Lots 033-034. It provides a mid-block pedestrian passageway between the 221 Main Tower and 211 Main Street, facilitating pedestrian access between the proposed Block 2 project and the future Transbay Park on the west, and (via the Spear Street Terraces) Rincon Park and the waterfront to the east. Accordingly, Main Street Plaza fits the profile highlighted in the General Plan for a POPOS that facilitates access to the waterfront.[13]

The Main Street entry of the plaza, which benefits from a sunny exposure, has two concrete benches along with three planters that double as seating along their edges, and modest landscaping. The addition of moveable seating could make it into a pleasant space for tenants and visitors. At the eastern edge of the plaza is an expansive fenced play lot for children.[14]

This plaza offers four benches in a sea of paving. Another plaza, at the southern portion of the building facing Main St., has concrete benches and retaining walls at a height comfortable for sitting, as well as some greenery.[15]

Main Street Plaza Analysis Summary

The Main Street Plaza open space has a total area of 10,026 square feet (0.23 acres) which currently receives approximately 22,284,438 sfh of shade annually. Based on a TAAS of 37,310,756.4 sfh, the open space is already shaded 59.73% of its theoretical capacity to receive sunlight.

The **proposed project** would contribute 315,588 sfh (0.85%) approximately 140 days annually from mid-October through late February. The maximum impact by area within the analysis period would occur on December 13 and December 28 at 10:45 a.m., when new shadows from the project would cast 5,235 sf net new shadow on the park. During this time, approximately 52.2% of the park surface would see an increase in shadow because of the proposed project. Net new project shadow would reach the plaza during the Winter months, primarily morning hours, from 8:00 – 11:00 a.m. and again from 12:00 noon to 1:30 p.m.

By comparison, the **DCDG-Compliant** massing would contribute 268,897 sfh (0.72%) new shading during the same 5 months of the year. The maximum impact by area within the analysis period would occur on December 6 and January 4 at 10:45 a.m., when new shadows from the project would cast 4,890 sf net new shadow on the park as opposed to 5,235 sf cast by the proposed project. During this time, approximately 48.8% of the park would see an increase in shadow while the proposed project largest shadow covers 52.2%. Net new project shadow would reach the park during the Winter months, primarily during midday hours, 11:00 a.m. – 1:30 p.m.

With the **proposed project**, the daily duration of net new project shadow on the park would range from 0 minutes to a maximum of 2 hours 15 min, with the average daily duration being about 1 hour and 51 minutes.

With the **DCDG-Compliant** massing, the daily duration of net new project shadow on the park would range from 0 minutes to a maximum of 2 hours 15 min, with the average daily duration being about 1 hour and 34 minutes. Summary of quantified results shown in Table 6-7.

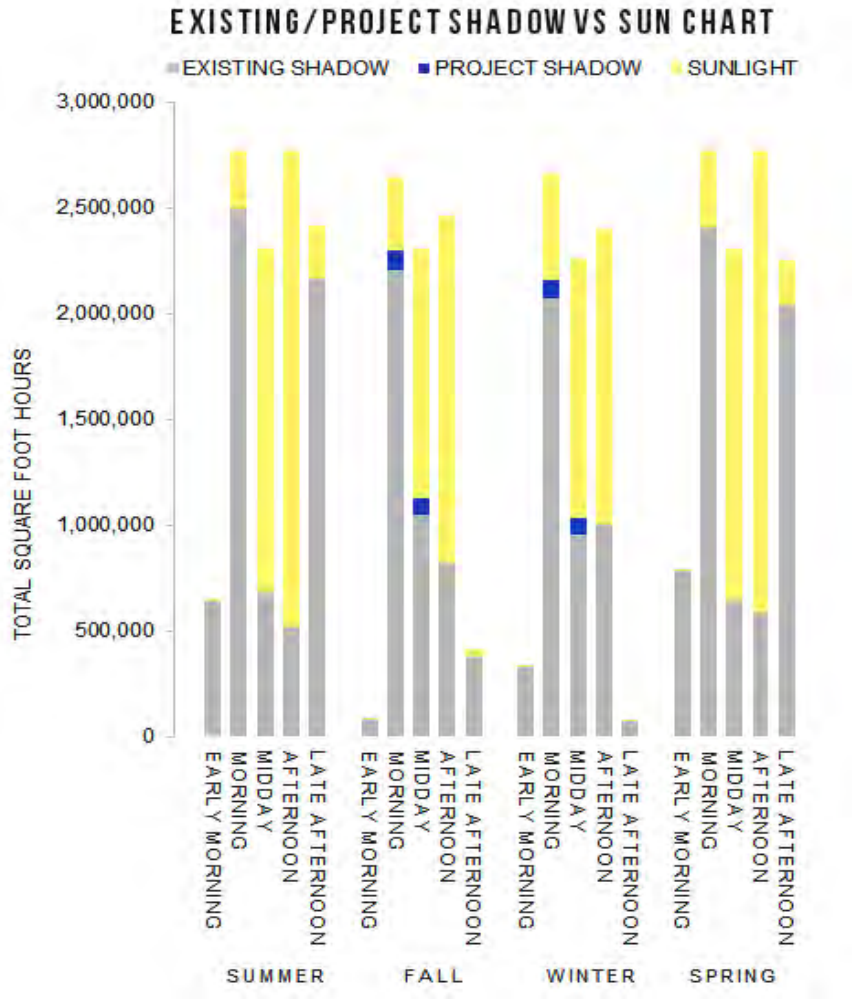

Table 5: Main Street Plaza - Seasonal Distribution of Proposed Project Shadow

The most substantial effects from the proposed project and DCDG-Compliant massing on the Main Street Plaza are during the morning and midday hours, reaching their highest coverage levels between 10:00 a.m. and 11:00 a.m.

There are no potential impacts from the project during the summer and spring months on the Main Street Plaza when usage is at its highest. During the Fall and Winter months the results show incremental new shadow from both the DCDG-Compliant massing and the proposed project during the morning and midday hours. The potential fall and winter shadow on the plaza would fall on the areas of the plaza with fixed seating and benching which would otherwise be in sunlight.

Winter solstice impacts occur in two sperate time ranges with the first being from 10:30 a.m. to 11:15 a.m. and then again from 12:00 noon to 1:00 p.m. Both the project and DCDG-Compliant massing contribute shadow during the morning midday impact time range. Existing shadows block proposed project and DCDG-Compliant shadows after 11:15 a.m. until 12:00 noon when both the project and DCDG-Compliant massing again add shadow on the plaza for the next hour until 1:00 p.m. These shadows occur in the area of the building entry and along the southern edge of the plaza. Although shadow duration is only an hour these potential shadow impacts occur during the lunch period when use is expected to be at its highest. The plaza currently experiences high to moderate sunlight during midday these times and the new shadow could be a noticeable change to the users of the plaza seating.

Quantification and potential impacts, including under cumulative conditions, for the Main Street Plaza are summarized in Tables 6-7.

MAIN ST PLAZA ANNUAL SHADOW LOADS / SQUARE FOOT HOURS (sfh)			
Existing / Current Shadow 59.73% 22,284,438 sfh	Project Net New Shadow 0.85% 315,588 sfh	Cumulative Net New Shadow 4.39% 1,639,176 sfh	Project Remaining Sunlight 39.42% 14,710,730 sfh
Existing / Current Shadow 59.73% 22,284,438 sfh	DCDG Net New Shadow 0.72% 268,897 sfh	Cumulative+DCDG Net New Shadow 4.27% 1,592,484 sfh	DCDG Remaining Sunlight 39.55% 14,757,422 sfh
	Proposed Project Increase over DCDG 0.13%	Proposed Project Cumulative increase over DCDG 0.12%	

Main St Plaza Annual Shadow Load with Project (sfh)	60.58% (22,600,026 sfh)
Main St Plaza Annual Shadow Load with Cumulative+Proj (sfh)	64.12% (23,923,614 sfh)
Main St Plaza Annual Shadow Load with DCDG (sfh)	60.45% (22,553,334 sfh)
EXISTING SHADOW DETAILS	
Range in existing shadow area coverage throughout the year	Between 3% - 100%
Time of year / time of day most affected by existing shadow	Summer / Early Morning (before 8:00 AM)
SCENARIO #1: PROJECT NET NEW SHADOW DETAILS	
Days net new shadow would occur (date range)	140 days annually (October 12 - February 28)
Date(s) with most sfh net new shadow	December 20 & December 21
Season / Time of day most affected by net new shadow	Fall / Morning (8:00-11:00 AM)
Area of largest net new shadow (date and time)	5,235 sf (December 13 & December 28 @ 10:45 AM)
Percentage of Main St Plaza covered by largest shadow	52.21%
Range in shadow coverage throughout the year (area range)	Between 0% - 52% (0 - 5,235 sf)
Average shadow size across affected dates (percent coverage)	1,263 sf (12.60%)
Date(s) with the longest duration of net new shadow (duration)	November 15 & January 25 (2 hr 15 min +/- 28 min)
Range in daily net new shadow duration across affected dates	Between zero minutes up to 2 hr 15 min (+/- 28 min)
Average daily net new shadow duration across affected dates	1 hr 51 min
SCENARIO #2: DCDG NET NEW SHADOW DETAILS	
Days net new shadow would occur (date range)	140 days annually (October 12 - February 28)
Date(s) with most sfh net new shadow	December 20 & December 21
Season / Time of day most affected by net new shadow	Winter / Midday (11:00 AM-1:30 PM)
Area of largest net new shadow (date and time)	4,890 sf (Dec 6/Jan 4 @ 10:45 AM)
Percentage of Main St Plaza covered by largest shadow	48.77%
Range in shadow coverage throughout the year (area range)	Between 0% - 49% (0 - 4,890 sf)
Average shadow size across affected dates (percent coverage)	1,265 sf (12.61%)
Date(s) with the longest duration of net new shadow (duration)	Nov 29/Jan 11 (2 hr 15 min +/- 28 min)
Range in daily net new shadow duration across affected dates	Between zero minutes up to 2 hr 15 min (+/- 28 min)
Average daily net new shadow duration across affected dates	1 hr 34 min

Table 6: Summary of Quantified Results for Main Street Plaza

SCENARIO #4: CUMULATIVE+PROJ NET NEW SHADOW DETAILS	
Days net new shadow would occur (date range)	Year-round
Date(s) with most sfh net new shadow	July 12 & May 31
Season / Time of day most affected by net new shadow	Spring / Afternoon (1:30-4:30 PM)
Area of largest net new shadow (date and time)	5,816 sf (Nov 15/Jan 25 @ 3:30 PM)
Percentage of Main St Plaza covered by largest shadow	58.01%
Range in shadow coverage throughout the year (area range)	Between 0% - 58% (0 - 5,816 sf)
Average shadow size across affected dates (percent coverage)	1,886 sf (18.81%)
Date(s) with the longest duration of net new shadow (duration)	June 21 (3 hr 15 min +/- 14 min)
Range in daily net new shadow duration across affected dates	Between zero minutes up to 3 hr 15 min (+/- 14 min)
Average daily net new shadow duration across affected dates	2 hr 21 min
SCENARIO #5: CUMULATIVE+DCDG NET NEW SHADOW DETAILS	
Days net new shadow would occur (date range)	Year-round
Date(s) with most sfh net new shadow	July 12 & May 31
Season / Time of day most affected by net new shadow	Spring / Afternoon (1:30-4:30 PM)
Area of largest net new shadow (date and time)	5,816 sf (Nov 15/Jan 25 @ 3:30 PM)
Percentage of Main St Plaza covered by largest shadow	58.01%
Range in shadow coverage throughout the year (area range)	Between 0% - 58% (0 - 5,816 sf)
Average shadow size across affected dates (percent coverage)	1,915 sf (19.10%)
Date(s) with the longest duration of net new shadow (duration)	June 21 (3 hr 15 min +/- 14 min)
Range in daily net new shadow duration across affected dates	Between zero minutes up to 3 hr 15 min (+/- 14 min)
Average daily net new shadow duration across affected dates	2 hr 15 min

Table 7: Summary of Quantified Results for Main Street Plaza under Cumulative Conditions

Urban Park (POPOS)

Description

Urban Park, located on the western corner of Howard and Main Streets, is a new open space, seemingly inspired by traditional Japanese raked-gravel gardens. Its surface is asphalt painted with blue contour lines, punctuated by white artificial river-rock stones, fixed bench seating, artificial-grass berms, and new landscaping. Its location immediately north and west of the proposed Block 4 tower blocks much of the potential shadow from Block 2 however a small amount of new shadow was identified.

Figure 13: Urban Park, view from West. Source Fastcast.

Urban Park Analysis Summary

Urban Park totals 17,330 square feet (0.4 acres) and currently receives approximately 41,996,851 sfh of shade annually. Based on a TAAS of 64,491,423 sfh, the park is currently shaded 65.12% of its total capacity to receive sunlight.

The **proposed project** would contribute 158,644 sfh (0.25%) new shading. New shading would be introduced to the park for approximately 98 days annually from November 2 to February 7. The maximum shadow by area within the analysis period would occur December 6 (*Jan 4*), when the project would cast 6,390 sf net new shadow on the park. During this time, approximately 36.87% of the park would see an increase in shadow because of the proposed project. Net new project shadow would reach the park during the Winter months, primarily morning hours, 8:00 a.m.–11:00 a.m.

By comparison, the **DCDG-Compliant** massing would contribute 129,330 sfh (0.20%) new shading. New shading would be introduced to the park during the same months from November 2 to February 7. The maximum shadow by area within the analysis period would occur December 6 (*January 4*) at 8:30 a.m., when the project would cast 2,085 sf net new shadow on the park. At this time, approximately 30.19% of the park would see an increase in shadow because of the proposed project. Net new project shadow would reach the park during the Winter months, primarily morning hours, 8:00 a.m.–11:00 a.m. The DCDG-Complaint and proposed project impacts are only slightly different and most likely would not be perceptible to those using the open space.

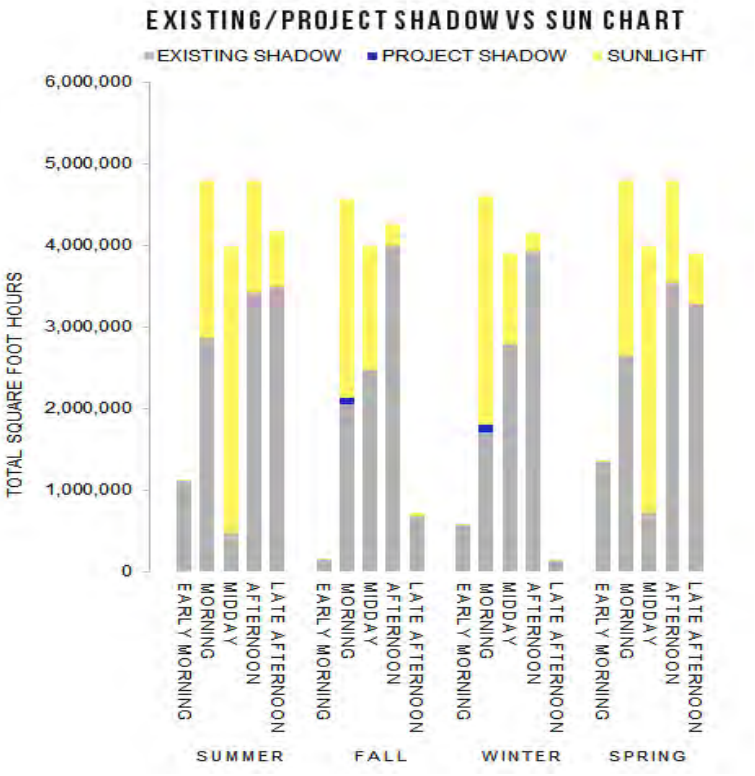

Table 8: Urban Park - Seasonal Distribution of Proposed Project Shadow

With the **proposed project,** the daily duration of net new project shadow on the park would range from 0 minutes to a maximum of 1 hours 3 minutes, with the average daily duration being about 42 minutes.

With the **DCDG-Compliant** massing, the daily duration of net new project shadow on the park would range from 0 minutes to a maximum of 1 hours 3 minutes, with the average daily duration being about 42 minutes.

The recorded impacts from the proposed project and DCDG-Compliant massing on the Urban Park are during the Fall and Winter morning hours. The additional coverage during this short time period is a narrow band of shade crossing the length of the park from south to north.

The potential morning impacts on Urban Plaza are very narrow and last for a short time and are not expected to affect any aspect of the park's user experience. Due to the locations of the new shadow as a narrow band running length wise across the park relative to the existing shadow and current seating arranged throughout the park the potential impact on usage is minimal.

URBAN PARK ANNUAL SHADOW LOADS / SQUARE FOOT HOURS (sfh)			
Existing / Current Shadow 65.12% 41,996,851 sfh	Project Net New Shadow 0.25% 158,644 sfh	Cumulative Net New Shadow 14.94% 9,634,186 sfh	Project Remaining Sunlight 34.63% 22,335,928 sfh
Existing / Current Shadow 65.12% 41,996,851 sfh	DCDG Net New Shadow 0.20% 129,330 sfh	Cumulative+DCDG Net New Shadow 14.94% 9,634,186 sfh	DCDG Remaining Sunlight 34.68% 22,365,242 sfh
65.32%	Proposed Project Increase over DCDG 0.05%	Proposed Project Cumulative increase over DCDG 0.00%	

Urban Park Annual Shadow Load with Project (sfh)	65.37% (42,155,495 sfh)
Urban Park Annual Shadow Load with Cumulative+Proj (sfh)	80.06% (51,631,037 sfh)
Urban Park Annual Shadow Load with DCDG (sfh)	65.32% (42,126,181 sfh)
SCENARIO #1: EXISTING SHADOW DETAILS	
Range in existing shadow area coverage throughout the year	Between 0% - 100%
Time of year / time of day most affected by existing shadow	Winter / Late Afternoon (after 4:30 PM)
SCENARIO #2: PROJECT NET NEW SHADOW DETAILS	
Days net new shadow would occur (date range)	98 days annually (November 2 - February 7)
Date(s) with most sfh net new shadow	December 13 & December 28
Season / Time of day most affected by net new shadow	Fall / Morning (8:00-11:00 AM)
Area of largest net new shadow (date and time)	6,390 sf (December 6 & January 4 @ 8:30 AM)
Percentage of Urban Park covered by largest shadow	36.87%
Range in shadow coverage throughout the year (area range)	Between 0% - 37% (0 - 6,390 sf)
Average shadow size across affected dates (percent coverage)	2,607 sf (15.04%)
Date(s) with the longest duration of net new shadow (duration)	December 20 & December 21 (1 hr 3 min +/- 7 min)
Range in daily net new shadow duration across affected dates	Between zero minutes up to 1 hr 3 min (+/- 7 min)
Average daily net new shadow duration across affected dates	41.6 minutes
SCENARIO #3: DCDG NET NEW SHADOW DETAILS	
Days net new shadow would occur (date range)	98 days annually (November 2 - February 7)
Date(s) with most sfh net new shadow	December 13 & December 28
Season / Time of day most affected by net new shadow	Fall / Morning (8:00-11:00 AM)
Area of largest net new shadow (date and time)	5,231 sf (Dec 6/Jan 4 @ 8:30 AM)
Percentage of Urban Park covered by largest shadow	30.19%
Range in shadow coverage throughout the year (area range)	Between 0% - 30% (0 - 5,231 sf)
Average shadow size across affected dates (percent coverage)	2,085 sf (12.03%)
Date(s) with the longest duration of net new shadow (duration)	Dec 20/Dec 21 (1 hr 3 min +/- 7 min)
Range in daily net new shadow duration across affected dates	Between zero minutes up to 1 hr 3 min (+/- 7 min)
Average daily net new shadow duration across affected dates	41.6 minutes

Table 9: Summary of Quantified Results for Urban Park

SCENARIO #4: CUMULATIVE+PROJ NET NEW SHADOW DETAILS	
Days net new shadow would occur (date range)	Year-round
Date(s) with most sfh net new shadow	November 8 & February 1
Season / Time of day most affected by net new shadow	Winter / Morning (8:00-11:00 AM)
Area of largest net new shadow (date and time)	17,330 sf (Aug 30/Apr 12 @ 11:30 AM)
Percentage of Urban Park covered by largest shadow	100.00%
Range in shadow coverage throughout the year (area range)	Between 0% - 100% (0 - 17,330 sf)
Average shadow size across affected dates (percent coverage)	6,389 sf (36.87%)
Date(s) with the longest duration of net new shadow (duration)	Oct 4/Mar 8 (5 hr 15 min +/- 28 min)
Range in daily net new shadow duration across affected dates	Between zero minutes up to 5 hr 15 min (+/- 28 min)
Average daily net new shadow duration across affected dates	4 hr 13 min
SCENARIO #5: CUMULATIVE+DCDG NET NEW SHADOW DETAILS	
Days net new shadow would occur (date range)	Year-round
Date(s) with most sfh net new shadow	November 8 & February 1
Season / Time of day most affected by net new shadow	Winter / Morning (8:00-11:00 AM)
Area of largest net new shadow (date and time)	17,330 sf (Aug 30/Apr 12 @ 11:30 AM)
Percentage of Urban Park covered by largest shadow	100.00%
Range in shadow coverage throughout the year (area range)	Between 0% - 100% (0 - 17,330 sf)
Average shadow size across affected dates (percent coverage)	6,389 sf (36.87%)
Date(s) with the longest duration of net new shadow (duration)	Oct 4/Mar 8 (5 hr 15 min +/- 28 min)
Range in daily net new shadow duration across affected dates	Between zero minutes up to 5 hr 15 min (+/- 28 min)
Average daily net new shadow duration across affected dates	4 hr 13 min

Table 10: Summary of Quantified Results for Urban Park under Cumulative Conditions

List of Appendices

Notes

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1 See Redevelopment Plan for the Transbay Redevelopment Project Area, as last amended April 28, 2016. https://sfocii.org/sites/default/files/20170214_TB%20Redevelopment%20Plan.pdf

2 Transbay Redevelopment Project Area Design for Development. https://sfocii.org/transbay#D4D

3 Development Controls and Design Guidelines for the Transbay Redevelopment Project. https://sfocii.org/sites/default/files/20180906_TB_DCDG_Revision.pdf

4 Documentation of these procedures are available in the Planning Departments website under Shadow Analysis Procedures and Scope Requirements dated July 2014.

5 Section 295 excludes the first and last hours of sunshine in recognition of the fact that very long, fast-moving shadows cover much of the city during these times.

6 Shadow effects are presented in this document for both the "solar year" dates and the mirror dates. Mirror dates are shown in italics.

7 Transbay OSS Plan – Section 2.8. https://sfocii.org/ftp/uploadedfiles/Projects/Transbay%20OSS%20Plan%20-%20Section%202.8.pdf

8 Block 3 Schematic Design May 2021

9 Recreation and Open Space Element of the General Plan, accessed March 2020 at https://generalplan.sfplanning.org/Recreation_OpenSpace_Element_ADOPTED.pdf

10 Recreation and Open Space Element of the General Plan, p35

11 Recreation and Open Space Element of the General Plan, pp18-19

12 Revised from TB4 Report to include full area of plaza along Main St frontage.

13 Policy 3.2 of Recreation and Open Space Element of the General Plan, pp 5, 38

14 SPUR: A Guide to San Francisco's Privately Owned Public Open Space https://www.spur.org/sites/default/files/blog_post_pdfs/POPOSGuide_0.pdf

15 SPUR popos-guide.pdf (spur.org)

APPENDIX A- October 21, 2022 OCII SD Submission

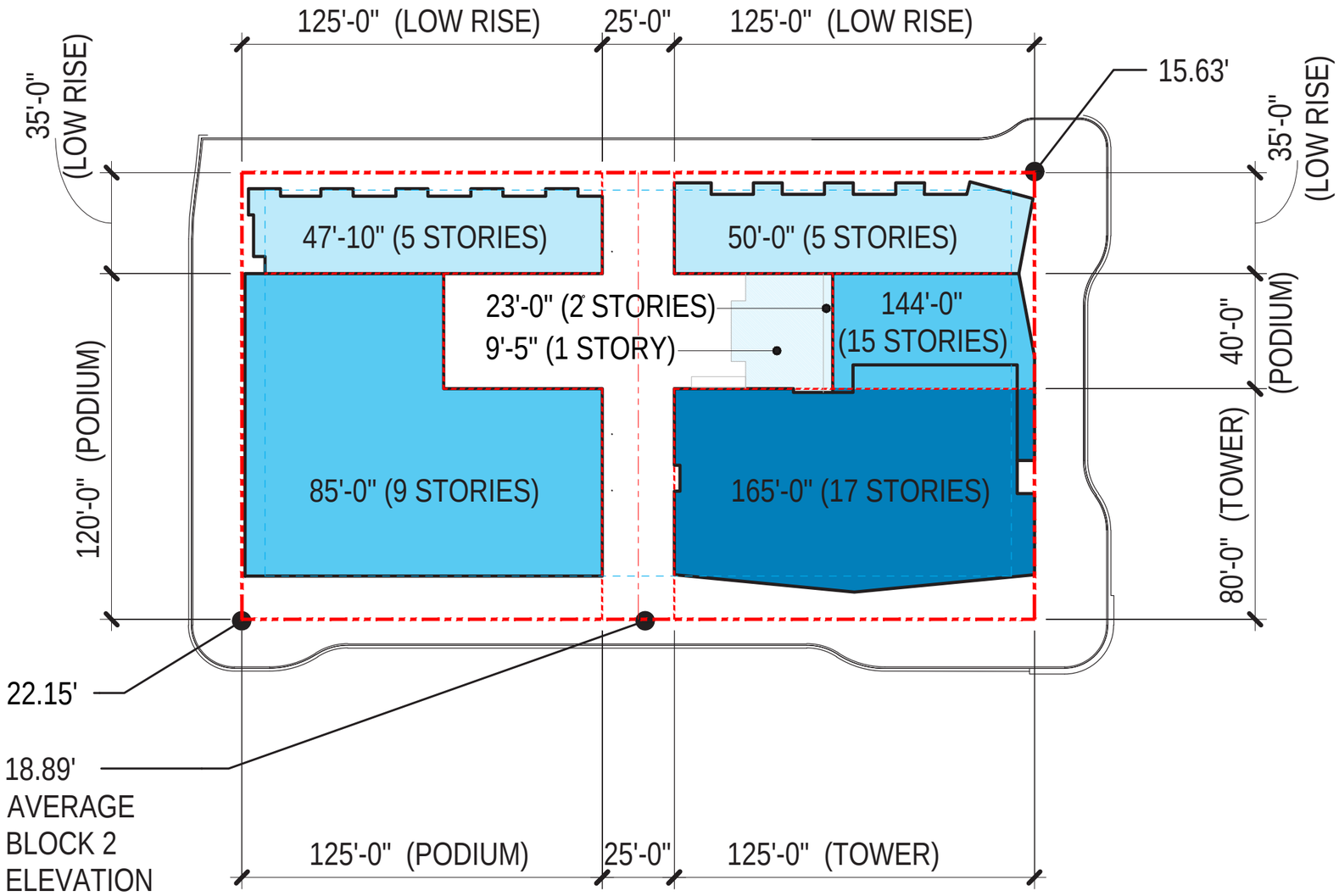
Transbay Block 2 West

Schematic Design Document

21 October 2022

Site Context - Vicinity Map

plural KENNERLY ARCHITECTURE & PLANNING MITHŪN mercy HOUSING Chinatown Community Development Center 華協中心



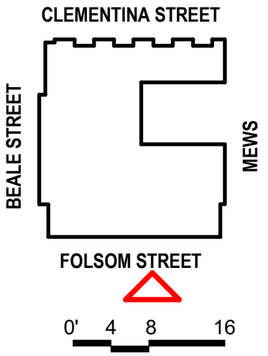
SENIOR BUILDING FAMILY BUILDING

Building Height Diagram

plural KENNERLY ARCHITECTURE & PLANNING MITHŪN mercy HOUSING Chinatown Community Development Center 華協中心

Illustrative Site Plan

plural KENNERLY ARCHITECTURE & PLANNING MITHŪN mercy HOUSING Chinatown Community Development Center 華協中心



LEGEND

- DCDG PARCEL BOUNDARIES
- DCDG PARCEL BOUNDARY AND FUTURE PROPERTY LINE
- FUTURE PROPERTY LINE
- SETBACK

NOTES

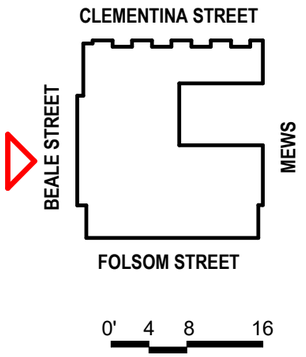
1. ALL RETAIL ESTABLISHMENTS & RESIDENTIAL UNITS WILL INCLUDE OPERABLE WINDOWS TO ALLOW FOR NATURAL VENTILATION OF INDOOR AREAS.
2. ALUMINUM STOREFRONT W/ CLEAR NON-TINTED & LOW REFLECTIVITY GLAZING
3. VENTING / EXHAUST STANDARD: SPACE FOR THE LOCATION OF DUCTS, EXHAUST PIPES & OTHER APPURTENANCES ASSOCIATED WITH COMMERCIAL USES ADJACENT TO THE OPEN SPACE PARCELS TO BE INTEGRATED INTO THE BUILDING. NO DUCTS OR EXHAUST PIPES WILL ENCROACH IN AREAS DESIGNATED FOR OPEN SPACE.

MATERIAL LEGEND:

CONCRETE FINISH 1 | CONCRETE FINISH 2 | CONCRETE FINISH 3 | CONCRETE FINISH 4 | PORCELAIN TILE PANELS | WINDOW MULLION & FRAME (1A: WITH OBSCURED) | 10" VERTICAL SUNSHADES | ALUMINUM STOREFRONT (3A: WITH OBSCURED) | METAL & WOOD AWNING | CAST-IN-PLACE CONCRETE | GLASS WITH INTEGRAL OKAWOOD | VERTICAL WOOD SCREEN | GLASS GUARD RAIL | METAL CLADDING | GLASS FIBER REINFORCED CONCRETE CORNICE

Folsom Street Elevation

plural km MITHŪN Chinatown Community Development Center 華協中心



LEGEND

- DCDG PARCEL BOUNDARIES
- DCDG PARCEL BOUNDARY AND FUTURE PROPERTY LINE
- FUTURE PROPERTY LINE
- SETBACK

NOTES

1. ALL RETAIL ESTABLISHMENTS & RESIDENTIAL UNITS WILL INCLUDE OPERABLE WINDOWS TO ALLOW FOR NATURAL VENTILATION OF INDOOR AREAS.
2. ALUMINUM STOREFRONT W/ CLEAR NON-TINTED & LOW REFLECTIVITY GLAZING
3. VENTING / EXHAUST STANDARD: SPACE FOR THE LOCATION OF DUCTS, EXHAUST PIPES & OTHER APPURTENANCES ASSOCIATED WITH COMMERCIAL USES ADJACENT TO THE OPEN SPACE PARCELS TO BE INTEGRATED INTO THE BUILDING. NO DUCTS OR EXHAUST PIPES WILL ENCROACH IN AREAS DESIGNATED FOR OPEN SPACE.

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Transbay Block 2W - Senior Building

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Beale Street Elevation

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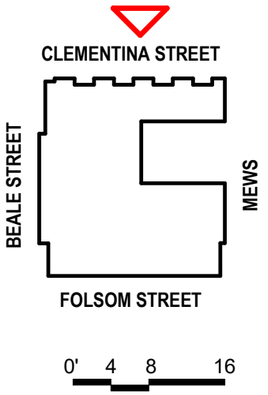

LEGEND

- DCDG PARCEL BOUNDARIES
- DCDG PARCEL BOUNDARY AND FUTURE PROPERTY LINE
- FUTURE PROPERTY LINE
- SETBACK

NOTES

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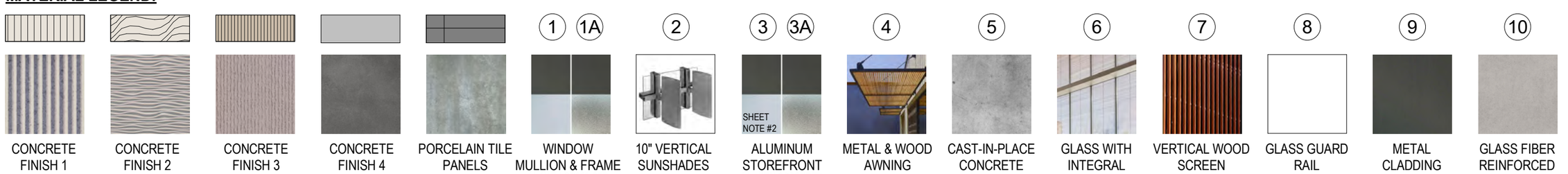
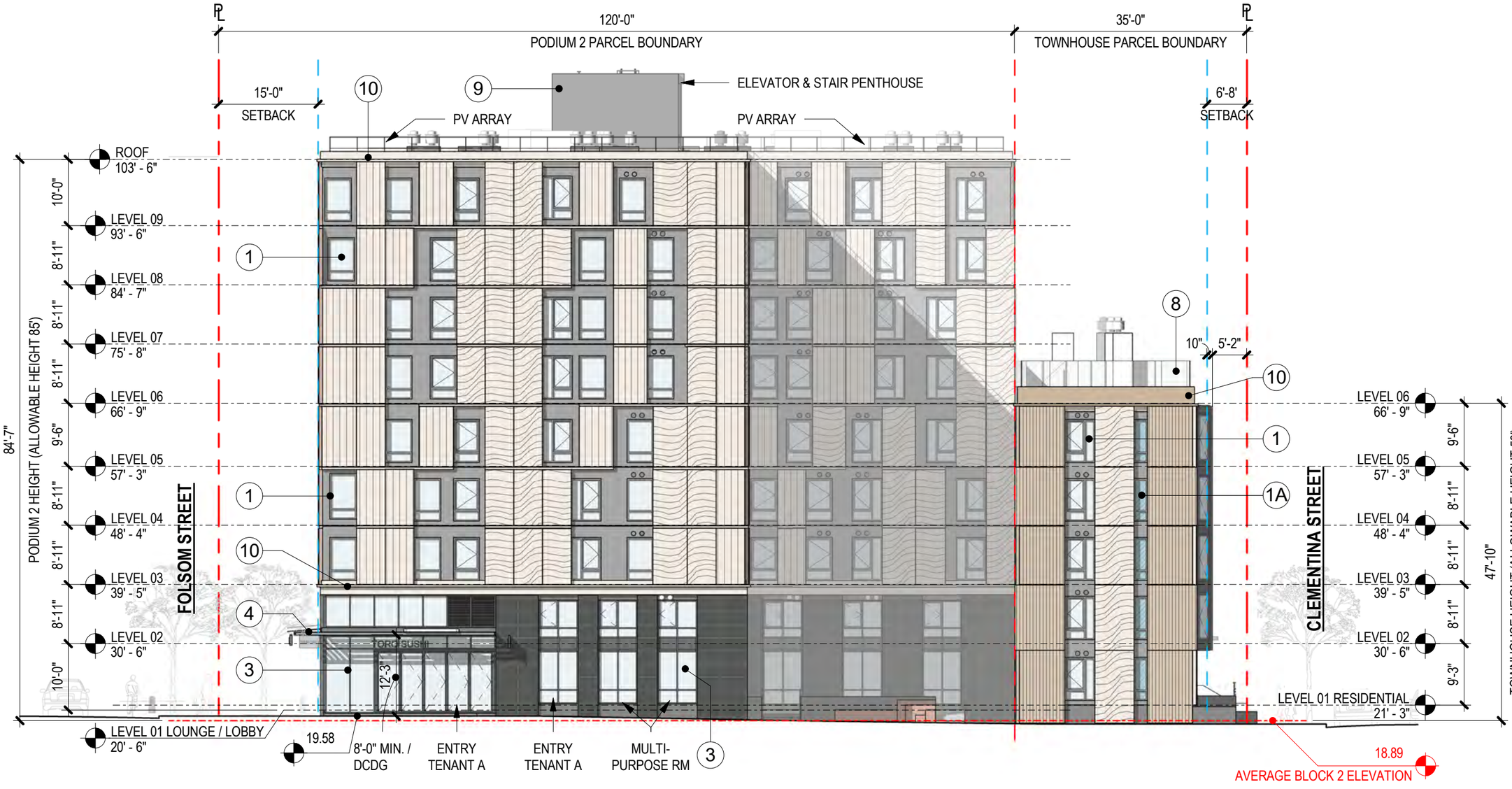
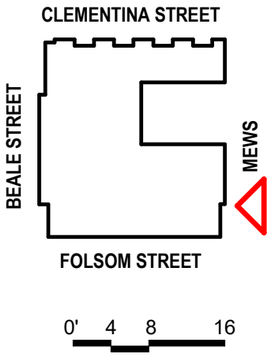
MATERIAL LEGEND:



CONCRETE FINISH 1	CONCRETE FINISH 2	CONCRETE FINISH 3	CONCRETE FINISH 4	PORCELAIN TILE PANELS	WINDOW MULLION & FRAME 1A: WITH OBSCURED	10" VERTICAL SUNSHADES	ALUMINUM STOREFRONT 3A: WITH OBSCURED	METAL & WOOD AWNING	CAST-IN-PLACE CONCRETE	GLASS WITH INTEGRAL OKAWOOD	VERTICAL WOOD SCREEN	GLASS GUARD RAIL	METAL CLADDING	GLASS FIBER REINFORCED CONCRETE CORNICE





LEGEND

- DCDG PARCEL BOUNDARIES
- DCDG PARCEL BOUNDARY AND FUTURE PROPERTY LINE
- FUTURE PROPERTY LINE
- SETBACK

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Mews Elevation

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Eye level perspective - View from the corner of Folsom and Beale

Eye level perspective - View from the corner of Beale and Clementina

Transbay Block 2W - Senior Building

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Block Level Axonometric - View from the Northwest

Block Level Axonometric - View from the Southwest

Transbay Block 2 East

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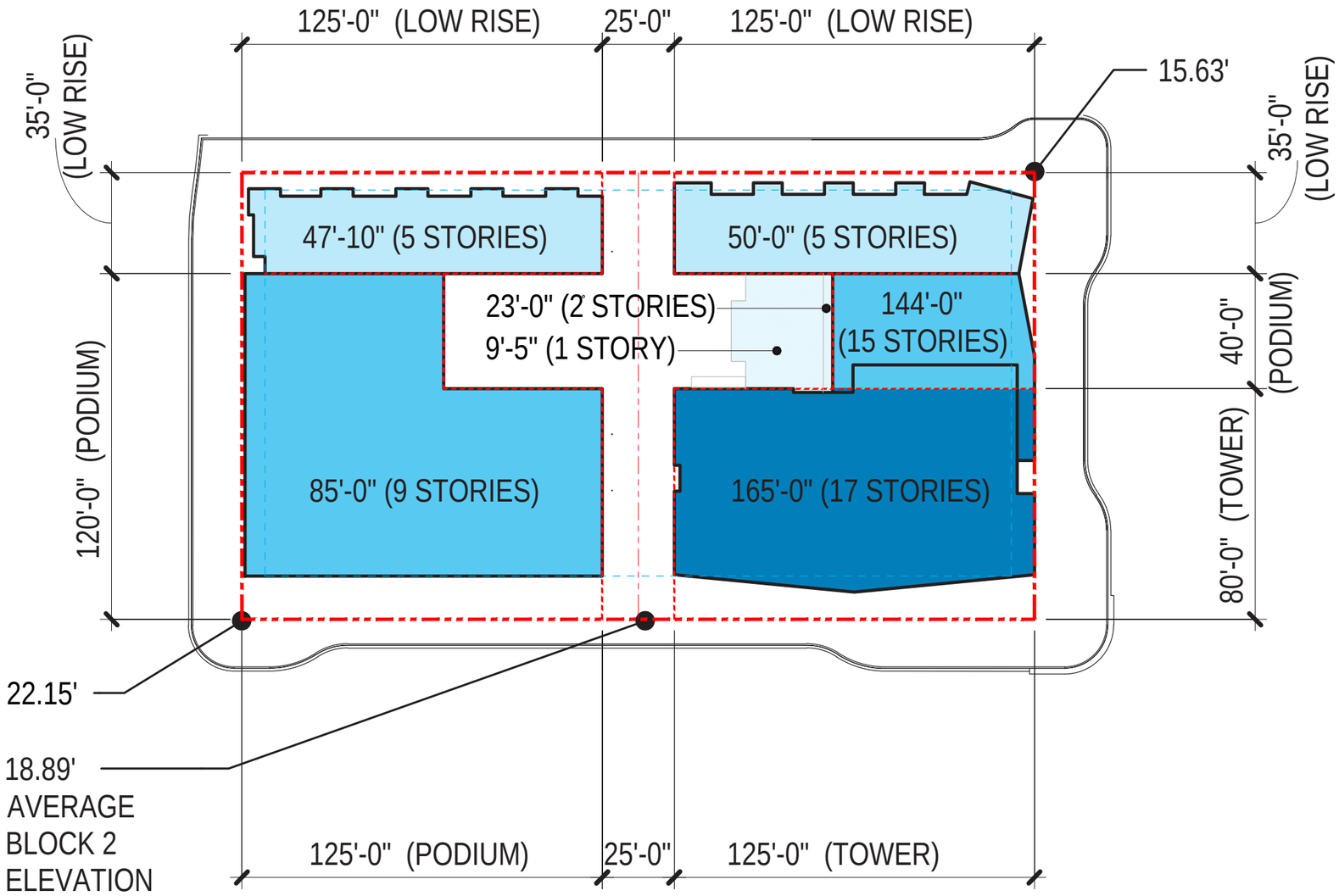
21 October 2022

Vicinity Map

Block 2 East & West Building Height Diagram



SENIOR BUILDING

FAMILY BUILDING

Illustrative Site Plan

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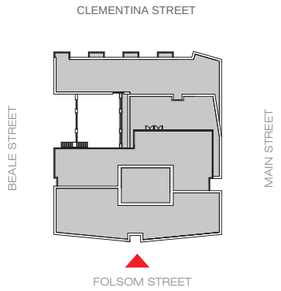
Building Elevation -South (Folsom Street)



Legend:

- Operable Window
- Louver
- Color 1 w/ 2 finishes
- Color 2 w/ 2 finishes
- Color 3 w/ 2 finishes
- Color 4 w/ texture

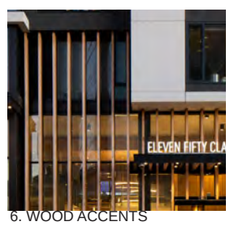
1. UNITIZED WALL PANEL

2. WINDOW MULLION, LOUVER, AND SPANDREL

3. CURTAIN/ WINDOW WALL & GLASS RAIL

4. METAL SCREEN OVER GLASS

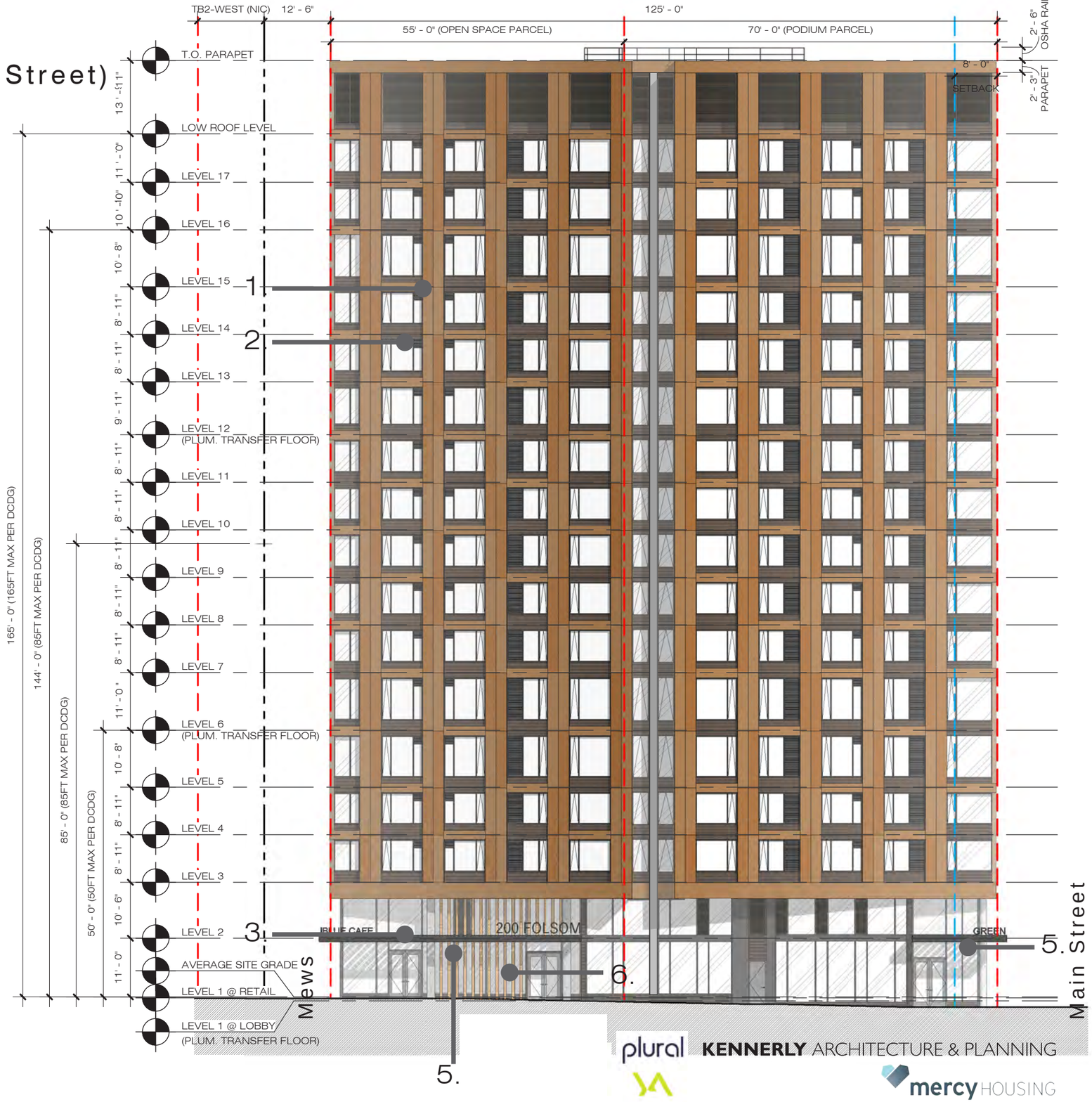
5. AWNING



6. WOOD ACCENTS

7. CONCRETE ACCENTS

NOTE:
1. All retail establishments and residential units will include operable windows to allow for natural ventilation of indoor areas.
2. The glazing at the storefront and residential ground-floor glazing will be clear non-tinted and low reflectivity.
3. Graffiti coating will be applied at ground floor unitized concrete panels and exposed concrete.



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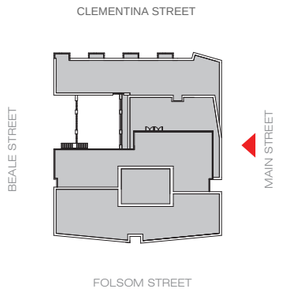
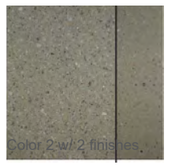
Building Elevation -East (Main Street)



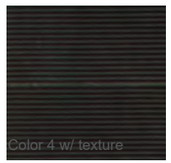
Legend:

- Operable Window
- Louver
- Color 1 w/ 2 finishes
- Color 2 w/ 2 finishes
- Color 3 w/ 2 finishes
- Color 4 w/ texture


Color 1 w/ 2 finishes


Color 2 w/ 2 finishes

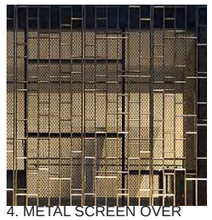

Color 3 w/ 2 finishes


Color 4 w/ texture

1. UNITIZED WALL PANEL


2. WINDOW MULLION, LOUVER, AND SPANDREL


3. CURTAIN/ WINDOW WALL & GLASS RAIL

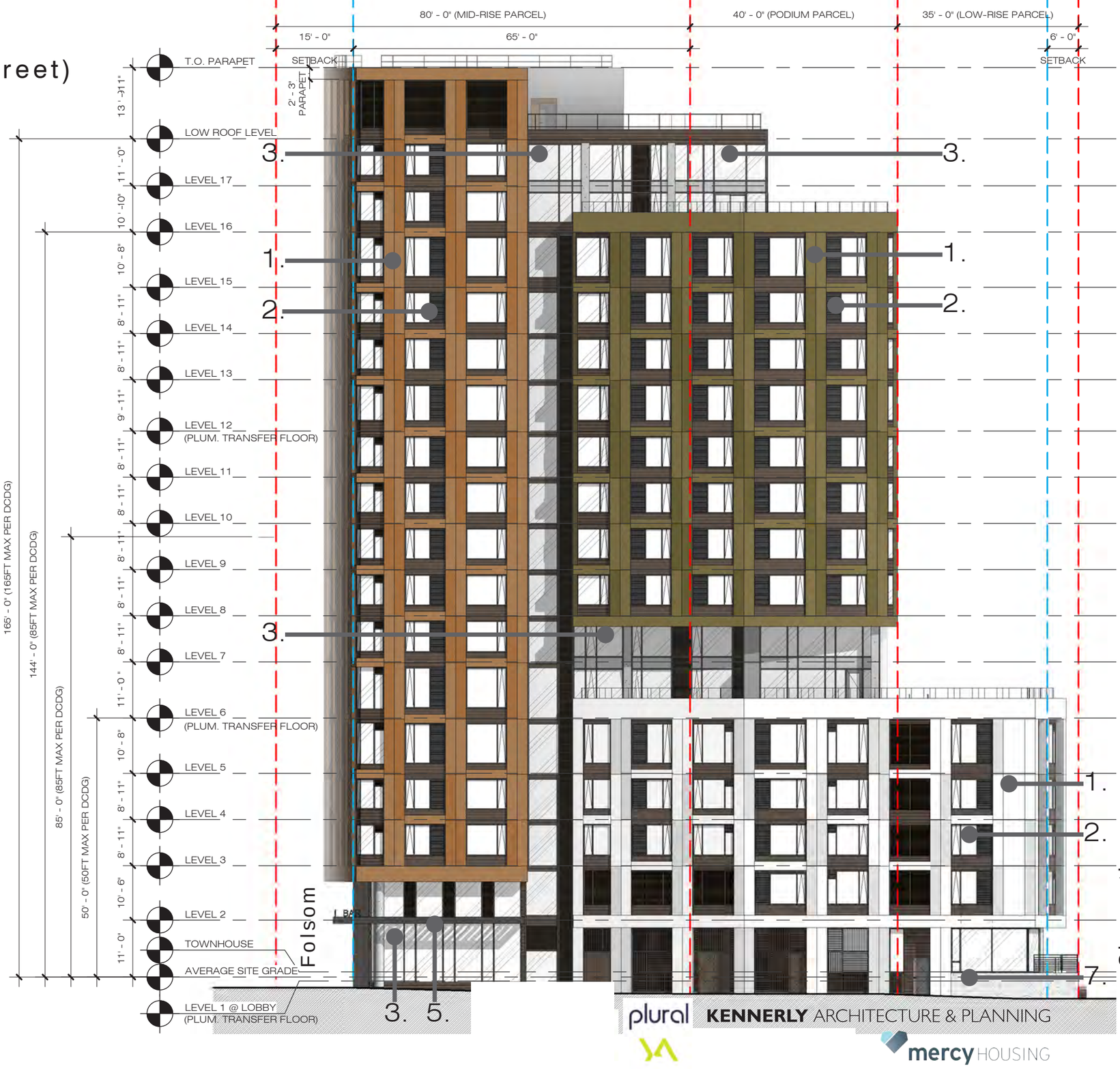

4. METAL SCREEN OVER GLASS

5. AWNING

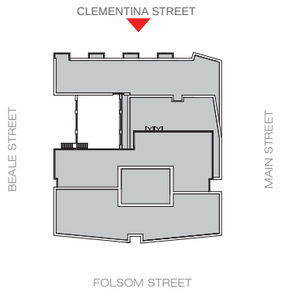
6. WOOD ACCENTS


7. CONCRETE ACCENTS

NOTE:
1. All retail establishments and residential units will include operable windows to allow for natural ventilation of indoor areas.
2. The glazing at the storefront and residential ground-floor glazing will be clear non-tinted and low reflectivity.
3. Graffiti coating will be applied at ground floor unitized concrete panels and exposed concrete.

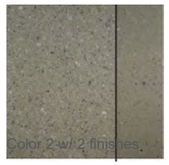


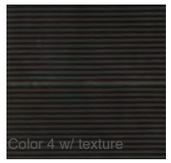
Building Elevation -North (Clementina)



Legend:

- Operable Window
- Louver
- Color 1 w/ 2 finishes
- Color 2 w/ 2 finishes
- Color 3 w/ 2 finishes
- Color 4 w/ texture





1. UNITIZED WALL PANEL

2. WINDOW MULLION, LOUVER, AND SPANDREL

3. CURTAIN/ WINDOW WALL & GLASS RAIL

4. METAL SCREEN OVER GLASS

5. AWNING

6. WOOD ACCENTS

7. CONCRETE ACCENTS

NOTE:
1. All retail establishments and residential units will include operable windows to allow for natural ventilation of indoor areas.
2. The glazing at the storefront and residential ground-floor glazing will be clear non-tinted and low reflectivity.
3. Graffiti coating will be applied at ground floor unitized concrete panels and exposed concrete.

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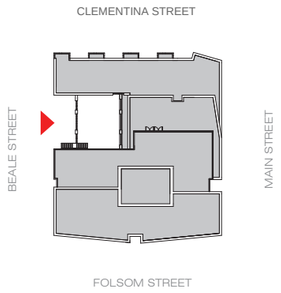
Building Elevation -West (Mews)



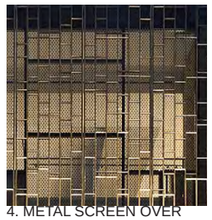
Legend:

- Operable Window
- Louver
- Color 1 w/ 2 finishes
- Color 2 w/ 2 finishes
- Color 3 w/ 2 finishes
- Color 4 w/ texture

1. UNITIZED WALL PANEL

2. WINDOW MULLION, LOUVER, AND SPANDREL

3. CURTAIN/ WINDOW WALL & GLASS RAIL



4. METAL SCREEN OVER GLASS

5. AWNING

6. WOOD ACCENTS

7. CONCRETE ACCENTS

NOTE:
1. All retail establishments and residential units will include operable windows to allow for natural ventilation of indoor areas.
2. The glazing at the storefront and residential ground-floor glazing will be clear non-tinted and low reflectivity.
3. Graffiti coating will be applied at ground floor unitized concrete panels and exposed concrete.

Transbay Block 2 East

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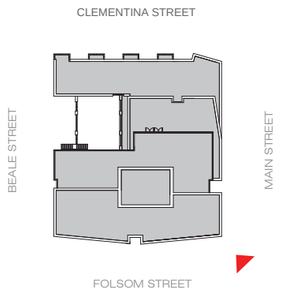
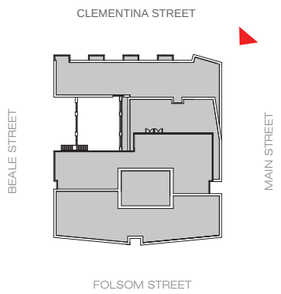
Building Rendering at Folsom



Building Rendering at Main



Transbay Block 2 East

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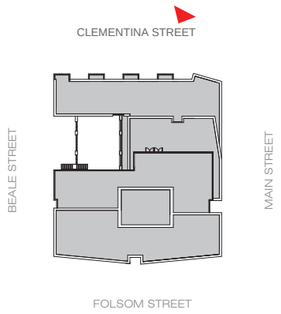
Building Rendering from Park



Transbay Block 2 East

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21 October 2022

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APPENDIX B:
Transbay Block 2

Transbay Park:
Quantification of Shadow Impact

Oct 2022

TRANSBAY PARK ANNUAL SHADOW LOADS / SQUARE FOOT HOURS (sfh)			
Existing / Current Shadow 41.15% 61,191,484 sfh	Project Net New Shadow 6.57% 9,776,892 sfh	Cumulative Net New Shadow 6.85% 10,190,979 sfh	Project Remaining Sunlight 52.28% 77,746,211 sfh
Existing / Current Shadow 41.15% 61,191,484 sfh	DCDG Net New Shadow 5.77% 8,576,319 sfh	Cumulative+DCDG Net New Shadow 6.05% 8,991,053 sfh	DCDG Remaining Sunlight 53.08% 78,946,784 sfh
	Proposed Project Incease over DCDG 0.80%	Proposed Project Cumulative increase over DCDG 0.80%	

Transbay Park Annual Shadow Load with Project (sfh)	47.72% (70,968,376 sfh)
Transbay Park Annual Shadow Load with Cumulative+Proj (sfh)	48.00% (71,382,463 sfh)
Transbay Park Annual Shadow Load with DCDG (sfh)	46.92% (69,767,803 sfh)

EXISTING SHADOW DETAILS	
Range in existing shadow area coverage throughout the year	Between 0% - 100%
Time of year / time of day most affected by existing shadow	Winter / Late Afternoon (after 4:30 PM)

PROJECT NET NEW SHADOW DETAILS	
Days net new shadow would occur (date range)	Year-round
Date(s) with most sfh net new shadow	September 27 & March 15
Season / Time of day most affected by net new shadow	Winter / Early Morning (before 8:00 AM)
Area of largest net new shadow (date and time)	19,474 sf (October 4 & March 8 @ 8:45 AM)
Percentage of Transbay Park covered by largest shadow	48.73%
Range in shadow coverage throughout the year (area range)	Between 0% - 49% (0 - 19,474 sf)
Average shadow size across affected dates (percent coverage)	6,009 sf (15.04%)
Date(s) with the longest duration of net new shadow (duration)	December 6 & January 4 (5 hr 13 min +/- 7 min)
Range in daily net new shadow duration across affected dates	Between zero minutes up to 5 hr 13 min (+/- 7 min)
Average daily net new shadow duration across affected dates	4 hr 39 min

DCDG NET NEW SHADOW DETAILS	
Days net new shadow would occur (date range)	Year-round
Date(s) with most sfh net new shadow	September 27 & March 15
Season / Time of day most affected by net new shadow	Winter / Early Morning (before 8:00 AM)
Area of largest net new shadow (date and time)	19,490 sf (Oct 4/Mar 8 @ 8:45 AM)
Percentage of Transbay Park covered by largest shadow	48.77%
Range in shadow coverage throughout the year (area range)	Between 0% - 49% (0 - 19,490 sf)
Average shadow size across affected dates (percent coverage)	5,991 sf (14.99%)
Date(s) with the longest duration of net new shadow (duration)	Dec 13/Dec 28 (5 hr 7 min +/- 7 min)
Range in daily net new shadow duration across affected dates	Between zero minutes up to 5 hr 7 min (+/- 7 min)
Average daily net new shadow duration across affected dates	4 hr 7 min

CUMULATIVE+PROJ NET NEW SHADOW DETAILS	
Days net new shadow would occur (date range)	Year-round
Date(s) with most sfh net new shadow	September 27 & March 15
Season / Time of day most affected by net new shadow	Winter / Early Morning (before 8:00 AM)
Area of largest net new shadow (date and time)	19,474 sf (Oct 4/Mar 8 @ 8:45 AM)
Percentage of Transbay Park covered by largest shadow	48.73%
Range in shadow coverage throughout the year (area range)	Between 0% - 49% (0 - 19,474 sf)
Average shadow size across affected dates (percent coverage)	5,423 sf (13.57%)
Date(s) with the longest duration of net new shadow (duration)	Sep 20/Mar 22 (6 hr 11 min +/- 21 min)
Range in daily net new shadow duration across affected dates	Between zero minutes up to 6 hr 11 min (+/- 21 min)
Average daily net new shadow duration across affected dates	5 hr 23 min

CUMULATIVE+DCDG NET NEW SHADOW DETAILS	
Days net new shadow would occur (date range)	Year-round
Date(s) with most sfh net new shadow	September 27 & March 15
Season / Time of day most affected by net new shadow	Winter / Early Morning (before 8:00 AM)
Area of largest net new shadow (date and time)	19,490 sf (Oct 4/Mar 8 @ 8:45 AM)
Percentage of Transbay Park covered by largest shadow	48.77%
Range in shadow coverage throughout the year (area range)	Between 0% - 49% (0 - 19,490 sf)
Average shadow size across affected dates (percent coverage)	5,344 sf (13.37%)
Date(s) with the longest duration of net new shadow (duration)	Sep 27/Mar 15 (5 hr 49 min +/- 48 min)
Range in daily net new shadow duration across affected dates	Between zero minutes up to 5 hr 49 min (+/- 48 min)
Average daily net new shadow duration across affected dates	4 hr 51 min

PROJECT: TB2 Kennerly Mithune
OPEN SPACE: Transbay Park (39,962 sf)

June 21

Summer solstice
Analysis hours: 6:46 AM-7:36 PM (PDT)

Shadow / Sunlight Balance Key

Analysis Time	EXISTING SHADOW		PROJECT NET NEW SHADOW		CUMULATIVE+PROJ SHADOW		SHADOW/SUNLIGHT BALANCE
	Shadow Area	Coverage	Shadow Area	Coverage	Shadow Area (sf)	Coverage	ative levels of Existing/Project/Cumulative Shadow vs. S
6:46 AM	39,950 sf	99.97%	0 sf	0.00%	0 sf	0.00%	
7:00 AM	39,899 sf	99.84%	0 sf	0.00%	0 sf	0.00%	
7:15 AM	37,773 sf	94.52%	1,022 sf	2.56%	1,022 sf	2.56%	
7:30 AM	32,801 sf	82.08%	4,384 sf	10.97%	4,384 sf	10.97%	
7:45 AM	29,517 sf	73.86%	5,625 sf	14.08%	5,625 sf	14.08%	
8:00 AM	26,035 sf	65.15%	6,621 sf	16.57%	6,621 sf	16.57%	
8:15 AM	21,996 sf	55.04%	7,240 sf	18.12%	7,240 sf	18.12%	
8:30 AM	18,830 sf	47.12%	6,479 sf	16.21%	6,479 sf	16.21%	
8:45 AM	16,495 sf	41.28%	4,639 sf	11.61%	4,639 sf	11.61%	
9:00 AM	13,283 sf	33.24%	3,508 sf	8.78%	3,508 sf	8.78%	
9:15 AM	8,220 sf	20.57%	4,168 sf	10.43%	4,168 sf	10.43%	
9:30 AM	4,237 sf	10.60%	4,058 sf	10.15%	4,058 sf	10.15%	
9:45 AM	1,756 sf	4.40%	2,775 sf	6.94%	2,775 sf	6.94%	
10:00 AM	0 sf	0.00%	1,878 sf	4.70%	1,878 sf	4.70%	
10:15 AM	0 sf	0.00%	1,297 sf	3.24%	1,297 sf	3.24%	
10:30 AM	0 sf	0.00%	781 sf	1.96%	781 sf	1.96%	
10:45 AM	0 sf	0.00%	369 sf	0.92%	369 sf	0.92%	
11:00 AM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
11:15 AM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
11:30 AM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
11:45 AM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
12:00 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
12:15 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
12:30 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
12:45 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
1:00 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
1:15 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
1:30 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
1:45 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
2:00 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
2:15 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
2:30 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
2:45 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
3:00 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
3:15 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
3:30 PM	878 sf	2.20%	0 sf	0.00%	0 sf	0.00%	
3:45 PM	2,986 sf	7.47%	0 sf	0.00%	0 sf	0.00%	
4:00 PM	5,631 sf	14.09%	0 sf	0.00%	134 sf	0.33%	
4:15 PM	11,606 sf	29.04%	0 sf	0.00%	740 sf	1.85%	
4:30 PM	24,515 sf	61.34%	0 sf	0.00%	0 sf	0.00%	
4:45 PM	34,807 sf	87.10%	0 sf	0.00%	194 sf	0.49%	
5:00 PM	38,437 sf	96.19%	0 sf	0.00%	188 sf	0.47%	
5:15 PM	38,886 sf	97.31%	0 sf	0.00%	474 sf	1.19%	
5:30 PM	39,457 sf	98.74%	0 sf	0.00%	300 sf	0.75%	
5:45 PM	39,950 sf	99.97%	0 sf	0.00%	0 sf	0.00%	
6:00 PM	39,950 sf	99.97%	0 sf	0.00%	0 sf	0.00%	
6:15 PM	39,950 sf	99.97%	0 sf	0.00%	0 sf	0.00%	
6:30 PM	39,950 sf	99.97%	0 sf	0.00%	0 sf	0.00%	
6:45 PM	39,950 sf	99.97%	0 sf	0.00%	0 sf	0.00%	
7:00 PM	39,950 sf	99.97%	0 sf	0.00%	0 sf	0.00%	
7:15 PM	39,950 sf	99.97%	0 sf	0.00%	0 sf	0.00%	
7:36 PM	39,950 sf	99.97%	0 sf	0.00%	0 sf	0.00%	

PROJECT: TB2 Kennerly Mithune
OPEN SPACE: Transbay Park (39,962 sf)

June 28

Mirror date: June 14
Analysis hours: 6:48 AM-7:36 PM (PDT)

Shadow / Sunlight Balance Key

Analysis Time	EXISTING SHADOW		PROJECT NET NEW SHADOW		CUMULATIVE+PROJ SHADOW		SHADOW/SUNLIGHT BALANCE
	Shadow Area	Coverage	Shadow Area	Coverage	Shadow Area (sf)	Coverage	ative levels of Existing/Project/Cumulative Shadow vs. S
6:48 AM	39,950 sf	99.97%	0 sf	0.00%	0 sf	0.00%	
7:00 AM	39,950 sf	99.97%	0 sf	0.00%	0 sf	0.00%	
7:15 AM	38,724 sf	96.90%	234 sf	0.59%	234 sf	0.59%	
7:30 AM	32,992 sf	82.56%	4,330 sf	10.84%	4,330 sf	10.84%	
7:45 AM	29,635 sf	74.16%	5,631 sf	14.09%	5,631 sf	14.09%	
8:00 AM	26,174 sf	65.50%	6,635 sf	16.60%	6,635 sf	16.60%	
8:15 AM	22,119 sf	55.35%	7,315 sf	18.31%	7,315 sf	18.31%	
8:30 AM	18,896 sf	47.28%	6,657 sf	16.66%	6,657 sf	16.66%	
8:45 AM	16,619 sf	41.59%	4,812 sf	12.04%	4,812 sf	12.04%	
9:00 AM	13,636 sf	34.12%	3,521 sf	8.81%	3,521 sf	8.81%	
9:15 AM	8,712 sf	21.80%	3,995 sf	10.00%	3,995 sf	10.00%	
9:30 AM	4,417 sf	11.05%	4,275 sf	10.70%	4,275 sf	10.70%	
9:45 AM	1,900 sf	4.75%	3,009 sf	7.53%	3,009 sf	7.53%	
10:00 AM	3 sf	0.01%	2,000 sf	5.01%	2,000 sf	5.01%	
10:15 AM	0 sf	0.00%	1,401 sf	3.50%	1,401 sf	3.50%	
10:30 AM	0 sf	0.00%	867 sf	2.17%	867 sf	2.17%	
10:45 AM	0 sf	0.00%	445 sf	1.11%	445 sf	1.11%	
11:00 AM	0 sf	0.00%	47 sf	0.12%	47 sf	0.12%	
11:15 AM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
11:30 AM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
11:45 AM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
12:00 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
12:15 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
12:30 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
12:45 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
1:00 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
1:15 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
1:30 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
1:45 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
2:00 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
2:15 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
2:30 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
2:45 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
3:00 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
3:15 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
3:30 PM	657 sf	1.64%	0 sf	0.00%	0 sf	0.00%	
3:45 PM	2,724 sf	6.82%	0 sf	0.00%	0 sf	0.00%	
4:00 PM	5,352 sf	13.39%	0 sf	0.00%	52 sf	0.13%	
4:15 PM	10,494 sf	26.26%	0 sf	0.00%	762 sf	1.91%	
4:30 PM	22,981 sf	57.51%	0 sf	0.00%	0 sf	0.00%	
4:45 PM	33,888 sf	84.80%	0 sf	0.00%	100 sf	0.25%	
5:00 PM	38,248 sf	95.71%	0 sf	0.00%	200 sf	0.50%	
5:15 PM	38,946 sf	97.46%	0 sf	0.00%	319 sf	0.80%	
5:30 PM	39,522 sf	98.90%	0 sf	0.00%	229 sf	0.57%	
5:45 PM	39,910 sf	99.87%	0 sf	0.00%	41 sf	0.10%	
6:00 PM	39,950 sf	99.97%	0 sf	0.00%	0 sf	0.00%	
6:15 PM	39,950 sf	99.97%	0 sf	0.00%	0 sf	0.00%	
6:30 PM	39,950 sf	99.97%	0 sf	0.00%	0 sf	0.00%	
6:45 PM	39,950 sf	99.97%	0 sf	0.00%	0 sf	0.00%	
7:00 PM	39,950 sf	99.97%	0 sf	0.00%	0 sf	0.00%	
7:15 PM	39,950 sf	99.97%	0 sf	0.00%	0 sf	0.00%	
7:36 PM	39,950 sf	99.97%	0 sf	0.00%	0 sf	0.00%	

PROJECT: TB2 Kennerly Mithune
OPEN SPACE: Transbay Park (39,962 sf)

July 5

Mirror date: June 7
Analysis hours: 6:52 AM-7:36 PM (PDT)

Shadow / Sunlight Balance Key

Analysis Time	EXISTING SHADOW		PROJECT NET NEW SHADOW		CUMULATIVE+PROJ SHADOW		SHADOW/SUNLIGHT BALANCE
	Shadow Area	Coverage	Shadow Area	Coverage	Shadow Area (sf)	Coverage	ative levels of Existing/Project/Cumulative Shadow vs. S
6:52 AM	39,950 sf	99.97%	0 sf	0.00%	0 sf	0.00%	
7:00 AM	39,950 sf	99.97%	0 sf	0.00%	0 sf	0.00%	
7:15 AM	39,405 sf	98.61%	0 sf	0.00%	0 sf	0.00%	
7:30 AM	32,998 sf	82.57%	4,381 sf	10.96%	4,381 sf	10.96%	
7:45 AM	29,330 sf	73.39%	5,850 sf	14.64%	5,850 sf	14.64%	
8:00 AM	25,738 sf	64.40%	6,911 sf	17.29%	6,911 sf	17.29%	
8:15 AM	21,676 sf	54.24%	7,532 sf	18.85%	7,532 sf	18.85%	
8:30 AM	18,535 sf	46.38%	6,881 sf	17.22%	6,881 sf	17.22%	
8:45 AM	16,472 sf	41.22%	4,955 sf	12.40%	4,955 sf	12.40%	
9:00 AM	13,969 sf	34.96%	3,397 sf	8.50%	3,397 sf	8.50%	
9:15 AM	9,251 sf	23.15%	3,618 sf	9.05%	3,618 sf	9.05%	
9:30 AM	4,709 sf	11.78%	4,252 sf	10.64%	4,252 sf	10.64%	
9:45 AM	1,854 sf	4.64%	3,465 sf	8.67%	3,465 sf	8.67%	
10:00 AM	31 sf	0.08%	2,239 sf	5.60%	2,239 sf	5.60%	
10:15 AM	0 sf	0.00%	1,605 sf	4.02%	1,605 sf	4.02%	
10:30 AM	0 sf	0.00%	1,036 sf	2.59%	1,036 sf	2.59%	
10:45 AM	0 sf	0.00%	592 sf	1.48%	592 sf	1.48%	
11:00 AM	0 sf	0.00%	168 sf	0.42%	168 sf	0.42%	
11:15 AM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
11:30 AM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
11:45 AM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
12:00 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
12:15 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
12:30 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
12:45 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
1:00 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
1:15 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
1:30 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
1:45 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
2:00 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
2:15 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
2:30 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
2:45 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
3:00 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
3:15 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
3:30 PM	387 sf	0.97%	0 sf	0.00%	0 sf	0.00%	
3:45 PM	2,429 sf	6.08%	0 sf	0.00%	0 sf	0.00%	
4:00 PM	5,094 sf	12.75%	0 sf	0.00%	15 sf	0.04%	
4:15 PM	9,439 sf	23.62%	0 sf	0.00%	669 sf	1.67%	
4:30 PM	21,064 sf	52.71%	0 sf	0.00%	141 sf	0.35%	
4:45 PM	32,366 sf	80.99%	0 sf	0.00%	0 sf	0.00%	
5:00 PM	37,961 sf	94.99%	0 sf	0.00%	193 sf	0.48%	
5:15 PM	39,058 sf	97.74%	0 sf	0.00%	22 sf	0.06%	
5:30 PM	39,532 sf	98.92%	0 sf	0.00%	127 sf	0.32%	
5:45 PM	39,874 sf	99.78%	0 sf	0.00%	71 sf	0.18%	
6:00 PM	39,950 sf	99.97%	0 sf	0.00%	0 sf	0.00%	
6:15 PM	39,950 sf	99.97%	0 sf	0.00%	0 sf	0.00%	
6:30 PM	39,950 sf	99.97%	0 sf	0.00%	0 sf	0.00%	
6:45 PM	39,950 sf	99.97%	0 sf	0.00%	0 sf	0.00%	
7:00 PM	39,950 sf	99.97%	0 sf	0.00%	0 sf	0.00%	
7:15 PM	39,950 sf	99.97%	0 sf	0.00%	0 sf	0.00%	
7:36 PM	39,950 sf	99.97%	0 sf	0.00%	0 sf	0.00%	

PROJECT: TB2 Kennerly Mithune
OPEN SPACE: Transbay Park (39,962 sf)

July 12

Mirror date: May 31
Analysis hours: 6:56 AM-7:33 PM (PDT)

Shadow / Sunlight Balance Key

Analysis Time	EXISTING SHADOW		PROJECT NET NEW SHADOW		CUMULATIVE+PROJ SHADOW		SHADOW/SUNLIGHT BALANCE
	Shadow Area	Coverage	Shadow Area	Coverage	Shadow Area (sf)	Coverage	ative levels of Existing/Project/Cumulative Shadow vs. S
6:56 AM	39,950 sf	99.97%	0 sf	0.00%	0 sf	0.00%	
7:00 AM	39,950 sf	99.97%	0 sf	0.00%	0 sf	0.00%	
7:15 AM	39,807 sf	99.61%	0 sf	0.00%	0 sf	0.00%	
7:30 AM	33,309 sf	83.35%	4,122 sf	10.32%	4,122 sf	10.32%	
7:45 AM	28,765 sf	71.98%	6,255 sf	15.65%	6,255 sf	15.65%	
8:00 AM	24,772 sf	61.99%	7,389 sf	18.49%	7,389 sf	18.49%	
8:15 AM	20,810 sf	52.08%	7,845 sf	19.63%	7,845 sf	19.63%	
8:30 AM	17,941 sf	44.89%	7,089 sf	17.74%	7,089 sf	17.74%	
8:45 AM	16,169 sf	40.46%	5,004 sf	12.52%	5,004 sf	12.52%	
9:00 AM	14,309 sf	35.81%	3,131 sf	7.84%	3,131 sf	7.84%	
9:15 AM	10,011 sf	25.05%	3,013 sf	7.54%	3,013 sf	7.54%	
9:30 AM	5,156 sf	12.90%	3,984 sf	9.97%	3,984 sf	9.97%	
9:45 AM	1,606 sf	4.02%	4,119 sf	10.31%	4,119 sf	10.31%	
10:00 AM	33 sf	0.08%	2,822 sf	7.06%	2,822 sf	7.06%	
10:15 AM	0 sf	0.00%	1,912 sf	4.78%	1,912 sf	4.78%	
10:30 AM	0 sf	0.00%	1,296 sf	3.24%	1,296 sf	3.24%	
10:45 AM	0 sf	0.00%	813 sf	2.04%	813 sf	2.04%	
11:00 AM	0 sf	0.00%	358 sf	0.90%	358 sf	0.90%	
11:15 AM	0 sf	0.00%	5 sf	0.01%	5 sf	0.01%	
11:30 AM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
11:45 AM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
12:00 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
12:15 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
12:30 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
12:45 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
1:00 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
1:15 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
1:30 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
1:45 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
2:00 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
2:15 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
2:30 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
2:45 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
3:00 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
3:15 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
3:30 PM	81 sf	0.20%	0 sf	0.00%	0 sf	0.00%	
3:45 PM	2,090 sf	5.23%	0 sf	0.00%	0 sf	0.00%	
4:00 PM	4,854 sf	12.15%	0 sf	0.00%	0 sf	0.00%	
4:15 PM	8,461 sf	21.17%	0 sf	0.00%	467 sf	1.17%	
4:30 PM	18,833 sf	47.13%	0 sf	0.00%	545 sf	1.36%	
4:45 PM	30,003 sf	75.08%	0 sf	0.00%	0 sf	0.00%	
5:00 PM	37,335 sf	93.43%	0 sf	0.00%	11 sf	0.03%	
5:15 PM	38,793 sf	97.07%	0 sf	0.00%	0 sf	0.00%	
5:30 PM	39,475 sf	98.78%	0 sf	0.00%	29 sf	0.07%	
5:45 PM	39,924 sf	99.90%	0 sf	0.00%	0 sf	0.00%	
6:00 PM	39,950 sf	99.97%	0 sf	0.00%	0 sf	0.00%	
6:15 PM	39,950 sf	99.97%	0 sf	0.00%	0 sf	0.00%	
6:30 PM	39,950 sf	99.97%	0 sf	0.00%	0 sf	0.00%	
6:45 PM	39,950 sf	99.97%	0 sf	0.00%	0 sf	0.00%	
7:00 PM	39,950 sf	99.97%	0 sf	0.00%	0 sf	0.00%	
7:15 PM	39,950 sf	99.97%	0 sf	0.00%	0 sf	0.00%	
7:33 PM	39,950 sf	99.97%	0 sf	0.00%	0 sf	0.00%	

PROJECT: TB2 Kennerly Mithune
OPEN SPACE: Transbay Park (39,962 sf)

July 19

Mirror date: May 24
Analysis hours: 7:01 AM-7:30 PM (PDT)

Shadow / Sunlight Balance Key

Analysis Time	EXISTING SHADOW		PROJECT NET NEW SHADOW		CUMULATIVE+PROJ SHADOW		SHADOW/SUNLIGHT BALANCE
	Shadow Area	Coverage	Shadow Area	Coverage	Shadow Area (sf)	Coverage	ative levels of Existing/Project/Cumulative Shadow vs. S
7:01 AM	39,950 sf	99.97%	0 sf	0.00%	0 sf	0.00%	
7:16 AM	39,936 sf	99.94%	14 sf	0.04%	14 sf	0.04%	
7:30 AM	34,162 sf	85.49%	3,874 sf	9.70%	3,874 sf	9.70%	
7:45 AM	27,872 sf	69.75%	6,838 sf	17.11%	6,838 sf	17.11%	
8:00 AM	23,353 sf	58.44%	7,969 sf	19.94%	7,969 sf	19.94%	
8:15 AM	19,732 sf	49.38%	8,150 sf	20.40%	8,150 sf	20.40%	
8:30 AM	17,292 sf	43.27%	7,203 sf	18.02%	7,203 sf	18.02%	
8:45 AM	15,978 sf	39.98%	4,871 sf	12.19%	4,871 sf	12.19%	
9:00 AM	14,904 sf	37.30%	2,791 sf	6.98%	2,791 sf	6.98%	
9:15 AM	11,166 sf	27.94%	2,174 sf	5.44%	2,174 sf	5.44%	
9:30 AM	6,000 sf	15.01%	3,407 sf	8.53%	3,407 sf	8.53%	
9:45 AM	2,192 sf	5.48%	4,050 sf	10.13%	4,050 sf	10.13%	
10:00 AM	23 sf	0.06%	3,616 sf	9.05%	3,616 sf	9.05%	
10:15 AM	0 sf	0.00%	2,414 sf	6.04%	2,414 sf	6.04%	
10:30 AM	0 sf	0.00%	1,644 sf	4.12%	1,644 sf	4.12%	
10:45 AM	0 sf	0.00%	1,110 sf	2.78%	1,110 sf	2.78%	
11:00 AM	0 sf	0.00%	620 sf	1.55%	620 sf	1.55%	
11:15 AM	0 sf	0.00%	219 sf	0.55%	219 sf	0.55%	
11:30 AM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
11:45 AM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
12:00 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
12:15 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
12:30 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
12:45 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
1:00 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
1:15 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
1:30 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
1:45 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
2:00 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
2:15 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
2:30 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
2:45 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
3:00 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
3:15 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
3:30 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
3:45 PM	1,700 sf	4.25%	0 sf	0.00%	0 sf	0.00%	
4:00 PM	4,589 sf	11.48%	0 sf	0.00%	0 sf	0.00%	
4:15 PM	7,917 sf	19.81%	0 sf	0.00%	464 sf	1.16%	
4:30 PM	16,605 sf	41.55%	0 sf	0.00%	970 sf	2.43%	
4:45 PM	27,209 sf	68.09%	0 sf	0.00%	77 sf	0.19%	
5:00 PM	36,068 sf	90.26%	0 sf	0.00%	0 sf	0.00%	
5:15 PM	38,395 sf	96.08%	0 sf	0.00%	0 sf	0.00%	
5:30 PM	39,307 sf	98.36%	0 sf	0.00%	0 sf	0.00%	
5:45 PM	39,904 sf	99.85%	0 sf	0.00%	0 sf	0.00%	
6:00 PM	39,950 sf	99.97%	0 sf	0.00%	0 sf	0.00%	
6:15 PM	39,950 sf	99.97%	0 sf	0.00%	0 sf	0.00%	
6:30 PM	39,950 sf	99.97%	0 sf	0.00%	0 sf	0.00%	
6:45 PM	39,950 sf	99.97%	0 sf	0.00%	0 sf	0.00%	
7:00 PM	39,950 sf	99.97%	0 sf	0.00%	0 sf	0.00%	
7:15 PM	39,950 sf	99.97%	0 sf	0.00%	0 sf	0.00%	
7:30 PM	39,950 sf	99.97%	0 sf	0.00%	0 sf	0.00%	

PROJECT: TB2 Kennerly Mithune
OPEN SPACE: Transbay Park (39,962 sf)

July 26

Mirror date: May 17
Analysis hours: 7:07 AM-7:25 PM (PDT)

Shadow / Sunlight Balance Key

Analysis Time	EXISTING SHADOW		PROJECT NET NEW SHADOW		CUMULATIVE+PROJ SHADOW		SHADOW/SUNLIGHT BALANCE
	Shadow Area	Coverage	Shadow Area	Coverage	Shadow Area (sf)	Coverage	ative levels of Existing/Project/Cumulative Shadow vs. S
7:07 AM	39,950 sf	99.97%	0 sf	0.00%	0 sf	0.00%	
7:15 AM	39,850 sf	99.72%	100 sf	0.25%	100 sf	0.25%	
7:30 AM	34,899 sf	87.33%	4,008 sf	10.03%	4,008 sf	10.03%	
7:45 AM	26,538 sf	66.41%	7,533 sf	18.85%	7,533 sf	18.85%	
8:00 AM	21,989 sf	55.03%	8,445 sf	21.13%	8,445 sf	21.13%	
8:15 AM	18,827 sf	47.11%	8,334 sf	20.85%	8,334 sf	20.85%	
8:30 AM	16,918 sf	42.34%	7,097 sf	17.76%	7,097 sf	17.76%	
8:45 AM	16,272 sf	40.72%	4,498 sf	11.26%	4,498 sf	11.26%	
9:00 AM	16,105 sf	40.30%	2,296 sf	5.74%	2,296 sf	5.74%	
9:15 AM	12,989 sf	32.50%	1,366 sf	3.42%	1,366 sf	3.42%	
9:30 AM	7,423 sf	18.58%	2,804 sf	7.02%	2,804 sf	7.02%	
9:45 AM	3,452 sf	8.64%	3,975 sf	9.95%	3,975 sf	9.95%	
10:00 AM	817 sf	2.05%	4,163 sf	10.42%	4,163 sf	10.42%	
10:15 AM	0 sf	0.00%	3,303 sf	8.27%	3,303 sf	8.27%	
10:30 AM	0 sf	0.00%	2,085 sf	5.22%	2,085 sf	5.22%	
10:45 AM	0 sf	0.00%	1,489 sf	3.73%	1,489 sf	3.73%	
11:00 AM	0 sf	0.00%	951 sf	2.38%	951 sf	2.38%	
11:15 AM	0 sf	0.00%	510 sf	1.28%	510 sf	1.28%	
11:30 AM	0 sf	0.00%	83 sf	0.21%	83 sf	0.21%	
11:45 AM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
12:00 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
12:15 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
12:30 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
12:45 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
1:00 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
1:15 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
1:30 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
1:45 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
2:00 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
2:15 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
2:30 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
2:45 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
3:00 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
3:15 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
3:30 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
3:45 PM	1,233 sf	3.08%	0 sf	0.00%	0 sf	0.00%	
4:00 PM	4,260 sf	10.66%	0 sf	0.00%	0 sf	0.00%	
4:15 PM	7,760 sf	19.42%	0 sf	0.00%	312 sf	0.78%	
4:30 PM	14,569 sf	36.46%	0 sf	0.00%	1,125 sf	2.82%	
4:45 PM	24,355 sf	60.95%	0 sf	0.00%	563 sf	1.41%	
5:00 PM	34,181 sf	85.53%	0 sf	0.00%	0 sf	0.00%	
5:15 PM	37,879 sf	94.79%	0 sf	0.00%	0 sf	0.00%	
5:30 PM	39,064 sf	97.75%	0 sf	0.00%	0 sf	0.00%	
5:45 PM	39,907 sf	99.86%	0 sf	0.00%	0 sf	0.00%	
6:00 PM	39,950 sf	99.97%	0 sf	0.00%	0 sf	0.00%	
6:15 PM	39,950 sf	99.97%	0 sf	0.00%	0 sf	0.00%	
6:30 PM	39,950 sf	99.97%	0 sf	0.00%	0 sf	0.00%	
6:45 PM	39,950 sf	99.97%	0 sf	0.00%	0 sf	0.00%	
7:00 PM	39,950 sf	99.97%	0 sf	0.00%	0 sf	0.00%	
7:15 PM	39,950 sf	99.97%	0 sf	0.00%	0 sf	0.00%	
7:25 PM	39,950 sf	99.97%	0 sf	0.00%	0 sf	0.00%	

PROJECT: TB2 Kennerly Mithune
OPEN SPACE: Transbay Park (39,962 sf)

August 2

Mirror date: May 10
Analysis hours: 7:12 AM-7:18 PM (PDT)

Shadow / Sunlight Balance Key

Analysis Time	EXISTING SHADOW		PROJECT NET NEW SHADOW		CUMULATIVE+PROJ SHADOW		SHADOW/SUNLIGHT BALANCE
	Shadow Area	Coverage	Shadow Area	Coverage	Shadow Area (sf)	Coverage	ative levels of Existing/Project/Cumulative Shadow vs. S
7:12 AM	39,858 sf	99.74%	92 sf	0.23%	92 sf	0.23%	
7:15 AM	39,812 sf	99.62%	139 sf	0.35%	139 sf	0.35%	
7:30 AM	35,289 sf	88.31%	4,474 sf	11.20%	4,474 sf	11.20%	
7:45 AM	25,429 sf	63.63%	7,877 sf	19.71%	7,877 sf	19.71%	
8:00 AM	21,090 sf	52.78%	8,695 sf	21.76%	8,695 sf	21.76%	
8:15 AM	18,479 sf	46.24%	8,228 sf	20.59%	8,228 sf	20.59%	
8:30 AM	17,147 sf	42.91%	6,590 sf	16.49%	6,590 sf	16.49%	
8:45 AM	17,486 sf	43.76%	3,616 sf	9.05%	3,616 sf	9.05%	
9:00 AM	18,788 sf	47.02%	1,008 sf	2.52%	1,008 sf	2.52%	
9:15 AM	16,032 sf	40.12%	767 sf	1.92%	767 sf	1.92%	
9:30 AM	9,575 sf	23.96%	2,805 sf	7.02%	2,805 sf	7.02%	
9:45 AM	5,511 sf	13.79%	4,031 sf	10.09%	4,031 sf	10.09%	
10:00 AM	2,734 sf	6.84%	4,515 sf	11.30%	4,515 sf	11.30%	
10:15 AM	637 sf	1.59%	4,186 sf	10.48%	4,186 sf	10.48%	
10:30 AM	0 sf	0.00%	2,991 sf	7.48%	2,991 sf	7.48%	
10:45 AM	0 sf	0.00%	1,937 sf	4.85%	1,937 sf	4.85%	
11:00 AM	0 sf	0.00%	1,335 sf	3.34%	1,335 sf	3.34%	
11:15 AM	0 sf	0.00%	863 sf	2.16%	863 sf	2.16%	
11:30 AM	0 sf	0.00%	384 sf	0.96%	384 sf	0.96%	
11:45 AM	0 sf	0.00%	7 sf	0.02%	7 sf	0.02%	
12:00 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
12:15 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
12:30 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
12:45 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
1:00 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
1:15 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
1:30 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
1:45 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
2:00 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
2:15 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
2:30 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
2:45 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
3:00 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
3:15 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
3:30 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
3:45 PM	821 sf	2.05%	0 sf	0.00%	0 sf	0.00%	
4:00 PM	3,848 sf	9.63%	0 sf	0.00%	0 sf	0.00%	
4:15 PM	7,782 sf	19.47%	0 sf	0.00%	181 sf	0.45%	
4:30 PM	13,346 sf	33.40%	0 sf	0.00%	1,142 sf	2.86%	
4:45 PM	22,085 sf	55.26%	0 sf	0.00%	1,226 sf	3.07%	
5:00 PM	32,107 sf	80.34%	0 sf	0.00%	75 sf	0.19%	
5:15 PM	37,097 sf	92.83%	0 sf	0.00%	0 sf	0.00%	
5:30 PM	38,795 sf	97.08%	0 sf	0.00%	0 sf	0.00%	
5:45 PM	39,929 sf	99.92%	0 sf	0.00%	0 sf	0.00%	
6:00 PM	39,950 sf	99.97%	0 sf	0.00%	0 sf	0.00%	
6:15 PM	39,950 sf	99.97%	0 sf	0.00%	0 sf	0.00%	
6:30 PM	39,950 sf	99.97%	0 sf	0.00%	0 sf	0.00%	
6:45 PM	39,950 sf	99.97%	0 sf	0.00%	0 sf	0.00%	
7:00 PM	39,950 sf	99.97%	0 sf	0.00%	0 sf	0.00%	
7:15 PM	39,950 sf	99.97%	0 sf	0.00%	0 sf	0.00%	
7:18 PM	39,950 sf	99.97%	0 sf	0.00%	0 sf	0.00%	

PROJECT: TB2 Kennerly Mithune
OPEN SPACE: Transbay Park (39,962 sf)

August 9

Mirror date: May 3
Analysis hours: 7:19 AM-7:10 PM (PDT)

Shadow / Sunlight Balance Key

Analysis Time	EXISTING SHADOW		PROJECT NET NEW SHADOW		CUMULATIVE+PROJ SHADOW		SHADOW/SUNLIGHT BALANCE
	Shadow Area	Coverage	Shadow Area	Coverage	Shadow Area (sf)	Coverage	ative levels of Existing/Project/Cumulative Shadow vs. S
7:19 AM	39,263 sf	98.25%	687 sf	1.72%	687 sf	1.72%	
7:30 AM	35,425 sf	88.65%	4,116 sf	10.30%	4,116 sf	10.30%	
7:45 AM	25,734 sf	64.40%	7,628 sf	19.09%	7,628 sf	19.09%	
8:00 AM	21,306 sf	53.32%	8,434 sf	21.11%	8,434 sf	21.11%	
8:15 AM	19,094 sf	47.78%	7,660 sf	19.17%	7,660 sf	19.17%	
8:30 AM	19,196 sf	48.04%	4,809 sf	12.03%	4,809 sf	12.03%	
8:45 AM	21,144 sf	52.91%	781 sf	1.95%	781 sf	1.95%	
9:00 AM	22,811 sf	57.08%	78 sf	0.20%	78 sf	0.20%	
9:15 AM	20,919 sf	52.35%	1,441 sf	3.61%	1,441 sf	3.61%	
9:30 AM	13,350 sf	33.41%	3,675 sf	9.20%	3,675 sf	9.20%	
9:45 AM	8,519 sf	21.32%	4,649 sf	11.63%	4,649 sf	11.63%	
10:00 AM	5,230 sf	13.09%	5,126 sf	12.83%	5,126 sf	12.83%	
10:15 AM	2,184 sf	5.46%	5,030 sf	12.59%	5,030 sf	12.59%	
10:30 AM	240 sf	0.60%	4,042 sf	10.11%	4,042 sf	10.11%	
10:45 AM	0 sf	0.00%	2,819 sf	7.05%	2,819 sf	7.05%	
11:00 AM	0 sf	0.00%	1,781 sf	4.46%	1,781 sf	4.46%	
11:15 AM	0 sf	0.00%	1,264 sf	3.16%	1,264 sf	3.16%	
11:30 AM	0 sf	0.00%	754 sf	1.89%	754 sf	1.89%	
11:45 AM	0 sf	0.00%	323 sf	0.81%	323 sf	0.81%	
12:00 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
12:15 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
12:30 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
12:45 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
1:00 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
1:15 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
1:30 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
1:45 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
2:00 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
2:15 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
2:30 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
2:45 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
3:00 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
3:15 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
3:30 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
3:45 PM	423 sf	1.06%	0 sf	0.00%	0 sf	0.00%	
4:00 PM	3,469 sf	8.68%	0 sf	0.00%	0 sf	0.00%	
4:15 PM	8,013 sf	20.05%	0 sf	0.00%	79 sf	0.20%	
4:30 PM	13,385 sf	33.50%	0 sf	0.00%	954 sf	2.39%	
4:45 PM	20,982 sf	52.50%	0 sf	0.00%	1,695 sf	4.24%	
5:00 PM	30,679 sf	76.77%	0 sf	0.00%	526 sf	1.32%	
5:15 PM	35,964 sf	90.00%	0 sf	0.00%	0 sf	0.00%	
5:30 PM	38,687 sf	96.81%	0 sf	0.00%	0 sf	0.00%	
5:45 PM	39,917 sf	99.89%	0 sf	0.00%	0 sf	0.00%	
6:00 PM	39,950 sf	99.97%	0 sf	0.00%	0 sf	0.00%	
6:15 PM	39,950 sf	99.97%	0 sf	0.00%	0 sf	0.00%	
6:30 PM	39,950 sf	99.97%	0 sf	0.00%	0 sf	0.00%	
6:45 PM	39,950 sf	99.97%	0 sf	0.00%	0 sf	0.00%	
7:10 PM	39,950 sf	99.97%	0 sf	0.00%	0 sf	0.00%	

PROJECT: TB2 Kennerly Mithune
OPEN SPACE: Transbay Park (39,962 sf)

August 16

Mirror date: April 26
Analysis hours: 7:25 AM-7:02 PM (PDT)

Shadow / Sunlight Balance Key

Analysis Time	EXISTING SHADOW		PROJECT NET NEW SHADOW		CUMULATIVE+PROJ SHADOW		SHADOW/SUNLIGHT BALANCE
	Shadow Area	Coverage	Shadow Area	Coverage	Shadow Area (sf)	Coverage	ative levels of Existing/Project/Cumulative Shadow vs. S
7:25 AM	38,442 sf	96.20%	1,508 sf	3.77%	1,508 sf	3.77%	
7:30 AM	36,569 sf	91.51%	2,791 sf	6.98%	2,791 sf	6.98%	
7:45 AM	28,252 sf	70.70%	6,516 sf	16.30%	6,516 sf	16.30%	
8:00 AM	23,088 sf	57.78%	7,463 sf	18.68%	7,463 sf	18.68%	
8:15 AM	22,376 sf	55.99%	4,973 sf	12.44%	4,973 sf	12.44%	
8:30 AM	23,720 sf	59.36%	1,092 sf	2.73%	1,092 sf	2.73%	
8:45 AM	25,786 sf	64.53%	12 sf	0.03%	12 sf	0.03%	
9:00 AM	27,220 sf	68.11%	699 sf	1.75%	699 sf	1.75%	
9:15 AM	26,073 sf	65.24%	2,947 sf	7.37%	2,947 sf	7.37%	
9:30 AM	18,915 sf	47.33%	5,163 sf	12.92%	5,163 sf	12.92%	
9:45 AM	12,391 sf	31.01%	5,958 sf	14.91%	5,958 sf	14.91%	
10:00 AM	7,771 sf	19.45%	6,313 sf	15.80%	6,313 sf	15.80%	
10:15 AM	3,724 sf	9.32%	6,168 sf	15.44%	6,168 sf	15.44%	
10:30 AM	1,036 sf	2.59%	5,241 sf	13.12%	5,241 sf	13.12%	
10:45 AM	4 sf	0.01%	3,879 sf	9.71%	3,879 sf	9.71%	
11:00 AM	0 sf	0.00%	2,611 sf	6.53%	2,611 sf	6.53%	
11:15 AM	0 sf	0.00%	1,717 sf	4.30%	1,717 sf	4.30%	
11:30 AM	0 sf	0.00%	1,177 sf	2.94%	1,177 sf	2.94%	
11:45 AM	0 sf	0.00%	718 sf	1.80%	718 sf	1.80%	
12:00 PM	0 sf	0.00%	223 sf	0.56%	223 sf	0.56%	
12:15 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
12:30 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
12:45 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
1:00 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
1:15 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
1:30 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
1:45 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
2:00 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
2:15 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
2:30 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
2:45 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
3:00 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
3:15 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
3:30 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
3:45 PM	147 sf	0.37%	0 sf	0.00%	0 sf	0.00%	
4:00 PM	3,349 sf	8.38%	0 sf	0.00%	0 sf	0.00%	
4:15 PM	8,303 sf	20.78%	0 sf	0.00%	24 sf	0.06%	
4:30 PM	14,339 sf	35.88%	0 sf	0.00%	648 sf	1.62%	
4:45 PM	21,334 sf	53.39%	0 sf	0.00%	1,848 sf	4.63%	
5:00 PM	30,216 sf	75.61%	0 sf	0.00%	1,078 sf	2.70%	
5:15 PM	35,657 sf	89.23%	0 sf	0.00%	63 sf	0.16%	
5:30 PM	38,614 sf	96.63%	0 sf	0.00%	0 sf	0.00%	
5:45 PM	39,896 sf	99.83%	0 sf	0.00%	0 sf	0.00%	
6:00 PM	39,950 sf	99.97%	0 sf	0.00%	0 sf	0.00%	
6:15 PM	39,950 sf	99.97%	0 sf	0.00%	0 sf	0.00%	
6:30 PM	39,950 sf	99.97%	0 sf	0.00%	0 sf	0.00%	
6:45 PM	39,950 sf	99.97%	0 sf	0.00%	0 sf	0.00%	
7:02 PM	39,950 sf	99.97%	0 sf	0.00%	0 sf	0.00%	

PROJECT: TB2 Kennerly Mithune
OPEN SPACE: Transbay Park (39,962 sf)

August 23

Mirror date: April 19
Analysis hours: 7:31 AM-6:52 PM (PDT)

Shadow / Sunlight Balance Key

Analysis Time	EXISTING SHADOW		PROJECT NET NEW SHADOW		CUMULATIVE+PROJ SHADOW		SHADOW/SUNLIGHT BALANCE
	Shadow Area	Coverage	Shadow Area	Coverage	Shadow Area (sf)	Coverage	ative levels of Existing/Project/Cumulative Shadow vs. S
7:31 AM	37,976 sf	95.03%	1,830 sf	4.58%	1,830 sf	4.58%	
7:45 AM	32,352 sf	80.96%	4,797 sf	12.00%	4,797 sf	12.00%	
8:00 AM	28,203 sf	70.57%	4,123 sf	10.32%	4,123 sf	10.32%	
8:15 AM	27,826 sf	69.63%	1,109 sf	2.78%	1,109 sf	2.78%	
8:30 AM	28,522 sf	71.37%	12 sf	0.03%	12 sf	0.03%	
8:45 AM	29,866 sf	74.74%	726 sf	1.82%	726 sf	1.82%	
9:00 AM	30,812 sf	77.10%	2,572 sf	6.44%	2,572 sf	6.44%	
9:15 AM	29,135 sf	72.91%	5,746 sf	14.38%	5,746 sf	14.38%	
9:30 AM	22,897 sf	57.30%	7,500 sf	18.77%	7,500 sf	18.77%	
9:45 AM	16,131 sf	40.36%	8,037 sf	20.11%	8,037 sf	20.11%	
10:00 AM	10,204 sf	25.53%	8,103 sf	20.28%	8,103 sf	20.28%	
10:15 AM	4,859 sf	12.16%	7,931 sf	19.85%	7,931 sf	19.85%	
10:30 AM	1,567 sf	3.92%	6,613 sf	16.55%	6,613 sf	16.55%	
10:45 AM	281 sf	0.70%	5,053 sf	12.64%	5,053 sf	12.64%	
11:00 AM	401 sf	1.00%	3,647 sf	9.13%	3,647 sf	9.13%	
11:15 AM	441 sf	1.10%	2,522 sf	6.31%	2,522 sf	6.31%	
11:30 AM	0 sf	0.00%	1,643 sf	4.11%	1,643 sf	4.11%	
11:45 AM	0 sf	0.00%	1,154 sf	2.89%	1,154 sf	2.89%	
12:00 PM	0 sf	0.00%	566 sf	1.42%	566 sf	1.42%	
12:15 PM	0 sf	0.00%	130 sf	0.33%	130 sf	0.33%	
12:30 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
12:45 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
1:00 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
1:15 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
1:30 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
1:45 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
2:00 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
2:15 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
2:30 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
2:45 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
3:00 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
3:15 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
3:30 PM	105 sf	0.26%	0 sf	0.00%	0 sf	0.00%	
3:45 PM	432 sf	1.08%	0 sf	0.00%	0 sf	0.00%	
4:00 PM	3,402 sf	8.51%	0 sf	0.00%	0 sf	0.00%	
4:15 PM	8,760 sf	21.92%	0 sf	0.00%	2 sf	0.00%	
4:30 PM	15,643 sf	39.14%	0 sf	0.00%	376 sf	0.94%	
4:45 PM	23,089 sf	57.78%	0 sf	0.00%	1,351 sf	3.38%	
5:00 PM	29,987 sf	75.04%	0 sf	0.00%	1,467 sf	3.67%	
5:15 PM	35,465 sf	88.75%	0 sf	0.00%	156 sf	0.39%	
5:30 PM	38,613 sf	96.62%	0 sf	0.00%	0 sf	0.00%	
5:45 PM	39,895 sf	99.83%	0 sf	0.00%	0 sf	0.00%	
6:00 PM	39,950 sf	99.97%	0 sf	0.00%	0 sf	0.00%	
6:15 PM	39,950 sf	99.97%	0 sf	0.00%	0 sf	0.00%	
6:30 PM	39,950 sf	99.97%	0 sf	0.00%	0 sf	0.00%	
6:45 PM	39,950 sf	99.97%	0 sf	0.00%	0 sf	0.00%	
6:52 PM	39,950 sf	99.97%	0 sf	0.00%	0 sf	0.00%	

PROJECT: TB2 Kennerly Mithune
OPEN SPACE: Transbay Park (39,962 sf)

August 30

Mirror date: April 12
Analysis hours: 7:37 AM-6:42 PM (PDT)

Shadow / Sunlight Balance Key

Analysis Time	EXISTING SHADOW		PROJECT NET NEW SHADOW		CUMULATIVE+PROJ SHADOW		SHADOW/SUNLIGHT BALANCE
	Shadow Area	Coverage	Shadow Area	Coverage	Shadow Area (sf)	Coverage	ative levels of Existing/Project/Cumulative Shadow vs. S
7:37 AM	38,933 sf	97.42%	1,004 sf	2.51%	1,004 sf	2.51%	
7:45 AM	37,613 sf	94.12%	1,519 sf	3.80%	1,519 sf	3.80%	
8:00 AM	34,800 sf	87.08%	627 sf	1.57%	627 sf	1.57%	
8:15 AM	33,028 sf	82.65%	26 sf	0.06%	26 sf	0.06%	
8:30 AM	32,183 sf	80.53%	774 sf	1.94%	774 sf	1.94%	
8:45 AM	31,836 sf	79.67%	2,716 sf	6.80%	2,716 sf	6.80%	
9:00 AM	31,388 sf	78.55%	5,942 sf	14.87%	5,942 sf	14.87%	
9:15 AM	29,003 sf	72.58%	9,607 sf	24.04%	9,607 sf	24.04%	
9:30 AM	23,517 sf	58.85%	10,754 sf	26.91%	10,754 sf	26.91%	
9:45 AM	18,363 sf	45.95%	10,581 sf	26.48%	10,581 sf	26.48%	
10:00 AM	11,833 sf	29.61%	10,682 sf	26.73%	10,682 sf	26.73%	
10:15 AM	5,588 sf	13.98%	10,244 sf	25.63%	10,244 sf	25.63%	
10:30 AM	1,652 sf	4.13%	8,235 sf	20.61%	8,235 sf	20.61%	
10:45 AM	1,382 sf	3.46%	6,330 sf	15.84%	6,330 sf	15.84%	
11:00 AM	2,111 sf	5.28%	4,775 sf	11.95%	4,775 sf	11.95%	
11:15 AM	2,206 sf	5.52%	3,592 sf	8.99%	3,592 sf	8.99%	
11:30 AM	959 sf	2.40%	2,418 sf	6.05%	2,418 sf	6.05%	
11:45 AM	0 sf	0.00%	1,544 sf	3.86%	1,544 sf	3.86%	
12:00 PM	0 sf	0.00%	885 sf	2.21%	885 sf	2.21%	
12:15 PM	0 sf	0.00%	394 sf	0.99%	394 sf	0.99%	
12:30 PM	0 sf	0.00%	43 sf	0.11%	43 sf	0.11%	
12:45 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
1:00 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
1:15 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
1:30 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
1:45 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
2:00 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
2:15 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
2:30 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
2:45 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
3:00 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
3:15 PM	119 sf	0.30%	0 sf	0.00%	0 sf	0.00%	
3:30 PM	385 sf	0.96%	0 sf	0.00%	0 sf	0.00%	
3:45 PM	788 sf	1.97%	0 sf	0.00%	0 sf	0.00%	
4:00 PM	3,481 sf	8.71%	0 sf	0.00%	0 sf	0.00%	
4:15 PM	9,315 sf	23.31%	0 sf	0.00%	0 sf	0.00%	
4:30 PM	16,638 sf	41.64%	0 sf	0.00%	133 sf	0.33%	
4:45 PM	23,428 sf	58.62%	0 sf	0.00%	338 sf	0.84%	
5:00 PM	29,766 sf	74.49%	0 sf	0.00%	540 sf	1.35%	
5:15 PM	35,057 sf	87.73%	0 sf	0.00%	274 sf	0.68%	
5:30 PM	38,685 sf	96.81%	0 sf	0.00%	0 sf	0.00%	
5:45 PM	39,939 sf	99.94%	0 sf	0.00%	0 sf	0.00%	
6:00 PM	39,950 sf	99.97%	0 sf	0.00%	0 sf	0.00%	
6:15 PM	39,950 sf	99.97%	0 sf	0.00%	0 sf	0.00%	
6:30 PM	39,950 sf	99.97%	0 sf	0.00%	0 sf	0.00%	
6:42 PM	39,950 sf	99.97%	0 sf	0.00%	0 sf	0.00%	

PROJECT: TB2 Kennerly Mithune
OPEN SPACE: Transbay Park (39,962 sf)

September 6

Mirror date: April 5
Analysis hours: 7:44 AM-6:31 PM (PDT)

Shadow / Sunlight Balance Key

Analysis Time	EXISTING SHADOW		PROJECT NET NEW SHADOW		CUMULATIVE+PROJ SHADOW		SHADOW/SUNLIGHT BALANCE
	Shadow Area	Coverage	Shadow Area	Coverage	Shadow Area (sf)	Coverage	ative levels of Existing/Project/Cumulative Shadow vs. S
7:44 AM	39,950 sf	99.97%	0 sf	0.00%	0 sf	0.00%	
8:00 AM	38,981 sf	97.55%	50 sf	0.12%	50 sf	0.12%	
8:15 AM	36,277 sf	90.78%	906 sf	2.27%	906 sf	2.27%	
8:30 AM	33,430 sf	83.65%	2,866 sf	7.17%	2,866 sf	7.17%	
8:45 AM	31,464 sf	78.74%	6,242 sf	15.62%	6,242 sf	15.62%	
9:00 AM	29,104 sf	72.83%	10,508 sf	26.29%	10,508 sf	26.29%	
9:15 AM	25,094 sf	62.80%	14,322 sf	35.84%	14,322 sf	35.84%	
9:30 AM	21,775 sf	54.49%	14,338 sf	35.88%	14,338 sf	35.88%	
9:45 AM	18,533 sf	46.38%	13,457 sf	33.68%	13,457 sf	33.68%	
10:00 AM	11,899 sf	29.78%	13,515 sf	33.82%	13,515 sf	33.82%	
10:15 AM	5,479 sf	13.71%	12,851 sf	32.16%	12,851 sf	32.16%	
10:30 AM	2,427 sf	6.07%	10,015 sf	25.06%	10,015 sf	25.06%	
10:45 AM	3,880 sf	9.71%	7,691 sf	19.25%	7,691 sf	19.25%	
11:00 AM	5,130 sf	12.84%	6,028 sf	15.08%	6,028 sf	15.08%	
11:15 AM	5,349 sf	13.38%	4,742 sf	11.87%	4,742 sf	11.87%	
11:30 AM	2,882 sf	7.21%	3,423 sf	8.57%	3,423 sf	8.57%	
11:45 AM	947 sf	2.37%	2,086 sf	5.22%	2,086 sf	5.22%	
12:00 PM	0 sf	0.00%	1,155 sf	2.89%	1,155 sf	2.89%	
12:15 PM	0 sf	0.00%	632 sf	1.58%	632 sf	1.58%	
12:30 PM	0 sf	0.00%	237 sf	0.59%	237 sf	0.59%	
12:45 PM	0 sf	0.00%	8 sf	0.02%	8 sf	0.02%	
1:00 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
1:15 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
1:30 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
1:45 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
2:00 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
2:15 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
2:30 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
2:45 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
3:00 PM	107 sf	0.27%	0 sf	0.00%	0 sf	0.00%	
3:15 PM	336 sf	0.84%	0 sf	0.00%	0 sf	0.00%	
3:30 PM	674 sf	1.69%	0 sf	0.00%	0 sf	0.00%	
3:45 PM	1,169 sf	2.93%	0 sf	0.00%	0 sf	0.00%	
4:00 PM	3,588 sf	8.98%	0 sf	0.00%	0 sf	0.00%	
4:15 PM	9,060 sf	22.67%	0 sf	0.00%	0 sf	0.00%	
4:30 PM	15,654 sf	39.17%	0 sf	0.00%	0 sf	0.00%	
4:45 PM	22,143 sf	55.41%	0 sf	0.00%	0 sf	0.00%	
5:00 PM	29,059 sf	72.72%	0 sf	0.00%	20 sf	0.05%	
5:15 PM	35,058 sf	87.73%	0 sf	0.00%	276 sf	0.69%	
5:30 PM	38,903 sf	97.35%	0 sf	0.00%	0 sf	0.00%	
5:45 PM	39,950 sf	99.97%	0 sf	0.00%	0 sf	0.00%	
6:00 PM	39,950 sf	99.97%	0 sf	0.00%	0 sf	0.00%	
6:15 PM	39,950 sf	99.97%	0 sf	0.00%	0 sf	0.00%	
6:31 PM	39,950 sf	99.97%	0 sf	0.00%	0 sf	0.00%	

PROJECT: TB2 Kennerly Mithune
OPEN SPACE: Transbay Park (39,962 sf)

September 13

Mirror date: March 29
Analysis hours: 7:50 AM-6:21 PM (PDT)

Shadow / Sunlight Balance Key

Analysis Time	EXISTING SHADOW		PROJECT NET NEW SHADOW		CUMULATIVE+PROJ SHADOW		SHADOW/SUNLIGHT BALANCE
	Shadow Area	Coverage	Shadow Area	Coverage	Shadow Area (sf)	Coverage	ative levels of Existing/Project/Cumulative Shadow vs. S
7:50 AM	39,581 sf	99.05%	315 sf	0.79%	315 sf	0.79%	
8:00 AM	38,644 sf	96.70%	883 sf	2.21%	883 sf	2.21%	
8:15 AM	36,347 sf	90.95%	3,153 sf	7.89%	3,153 sf	7.89%	
8:30 AM	32,229 sf	80.65%	6,501 sf	16.27%	6,501 sf	16.27%	
8:45 AM	28,870 sf	72.24%	10,839 sf	27.12%	10,839 sf	27.12%	
9:00 AM	25,061 sf	62.71%	14,709 sf	36.81%	14,709 sf	36.81%	
9:15 AM	21,730 sf	54.38%	17,220 sf	43.09%	17,220 sf	43.09%	
9:30 AM	20,409 sf	51.07%	18,068 sf	45.21%	18,068 sf	45.21%	
9:45 AM	18,913 sf	47.33%	16,551 sf	41.42%	16,551 sf	41.42%	
10:00 AM	12,427 sf	31.10%	15,361 sf	38.44%	15,361 sf	38.44%	
10:15 AM	5,815 sf	14.55%	14,256 sf	35.67%	14,256 sf	35.67%	
10:30 AM	4,557 sf	11.40%	11,737 sf	29.37%	11,737 sf	29.37%	
10:45 AM	7,924 sf	19.83%	9,309 sf	23.29%	9,309 sf	23.29%	
11:00 AM	9,560 sf	23.92%	7,369 sf	18.44%	7,369 sf	18.44%	
11:15 AM	8,430 sf	21.09%	5,935 sf	14.85%	5,935 sf	14.85%	
11:30 AM	5,446 sf	13.63%	4,207 sf	10.53%	4,207 sf	10.53%	
11:45 AM	2,968 sf	7.43%	2,764 sf	6.92%	2,764 sf	6.92%	
12:00 PM	782 sf	1.96%	1,526 sf	3.82%	1,526 sf	3.82%	
12:15 PM	0 sf	0.00%	811 sf	2.03%	811 sf	2.03%	
12:30 PM	0 sf	0.00%	369 sf	0.92%	369 sf	0.92%	
12:45 PM	0 sf	0.00%	98 sf	0.25%	98 sf	0.25%	
1:00 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
1:15 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
1:30 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
1:45 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
2:00 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
2:15 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
2:30 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
2:45 PM	85 sf	0.21%	0 sf	0.00%	0 sf	0.00%	
3:00 PM	258 sf	0.65%	0 sf	0.00%	0 sf	0.00%	
3:15 PM	542 sf	1.36%	0 sf	0.00%	0 sf	0.00%	
3:30 PM	965 sf	2.41%	0 sf	0.00%	0 sf	0.00%	
3:45 PM	1,572 sf	3.93%	0 sf	0.00%	0 sf	0.00%	
4:00 PM	3,409 sf	8.53%	0 sf	0.00%	0 sf	0.00%	
4:15 PM	8,141 sf	20.37%	0 sf	0.00%	0 sf	0.00%	
4:30 PM	14,524 sf	36.34%	0 sf	0.00%	172 sf	0.43%	
4:45 PM	24,383 sf	61.02%	0 sf	0.00%	355 sf	0.89%	
5:00 PM	28,375 sf	71.00%	0 sf	0.00%	0 sf	0.00%	
5:15 PM	35,477 sf	88.78%	0 sf	0.00%	0 sf	0.00%	
5:30 PM	39,179 sf	98.04%	0 sf	0.00%	15 sf	0.04%	
5:45 PM	39,950 sf	99.97%	0 sf	0.00%	0 sf	0.00%	
6:00 PM	39,950 sf	99.97%	0 sf	0.00%	0 sf	0.00%	
6:15 PM	39,950 sf	99.97%	0 sf	0.00%	0 sf	0.00%	
6:21 PM	39,950 sf	99.97%	0 sf	0.00%	0 sf	0.00%	

PROJECT: TB2 Kennerly Mithune
OPEN SPACE: Transbay Park (39,962 sf)

September 20

Fall equinox (Spring equinox on March 22 similar)
Analysis hours: 7:57 AM-6:09 PM (PDT)

Shadow / Sunlight Balance Key

Analysis Time	EXISTING SHADOW		PROJECT NET NEW SHADOW		CUMULATIVE+PROJ SHADOW		SHADOW/SUNLIGHT BALANCE
	Shadow Area	Coverage	Shadow Area	Coverage	Shadow Area (sf)	Coverage	ative levels of Existing/Project/Cumulative Shadow vs. S
7:57 AM	37,922 sf	94.90%	2,028 sf	5.08%	2,028 sf	5.08%	
8:00 AM	37,530 sf	93.91%	2,360 sf	5.91%	2,360 sf	5.91%	
8:15 AM	32,940 sf	82.43%	6,926 sf	17.33%	6,926 sf	17.33%	
8:30 AM	28,883 sf	72.28%	11,041 sf	27.63%	11,041 sf	27.63%	
8:45 AM	24,829 sf	62.13%	15,122 sf	37.84%	15,122 sf	37.84%	
9:00 AM	21,756 sf	54.44%	17,656 sf	44.18%	17,656 sf	44.18%	
9:15 AM	20,412 sf	51.08%	18,885 sf	47.26%	18,885 sf	47.26%	
9:30 AM	20,911 sf	52.33%	19,040 sf	47.64%	19,040 sf	47.64%	
9:45 AM	20,921 sf	52.35%	18,114 sf	45.33%	18,114 sf	45.33%	
10:00 AM	14,744 sf	36.90%	15,470 sf	38.71%	15,470 sf	38.71%	
10:15 AM	9,141 sf	22.87%	13,395 sf	33.52%	13,395 sf	33.52%	
10:30 AM	8,557 sf	21.41%	12,838 sf	32.13%	12,838 sf	32.13%	
10:45 AM	11,849 sf	29.65%	10,916 sf	27.32%	10,916 sf	27.32%	
11:00 AM	14,351 sf	35.91%	8,826 sf	22.09%	8,826 sf	22.09%	
11:15 AM	11,760 sf	29.43%	6,970 sf	17.44%	6,970 sf	17.44%	
11:30 AM	8,486 sf	21.23%	4,859 sf	12.16%	4,859 sf	12.16%	
11:45 AM	5,650 sf	14.14%	3,079 sf	7.71%	3,079 sf	7.71%	
12:00 PM	2,829 sf	7.08%	1,850 sf	4.63%	1,850 sf	4.63%	
12:15 PM	793 sf	1.98%	986 sf	2.47%	986 sf	2.47%	
12:30 PM	0 sf	0.00%	421 sf	1.05%	421 sf	1.05%	
12:45 PM	0 sf	0.00%	114 sf	0.28%	114 sf	0.28%	
1:00 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
1:15 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
1:30 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
1:45 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
2:00 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
2:15 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
2:30 PM	31 sf	0.08%	0 sf	0.00%	0 sf	0.00%	
2:45 PM	158 sf	0.40%	0 sf	0.00%	0 sf	0.00%	
3:00 PM	386 sf	0.97%	0 sf	0.00%	0 sf	0.00%	
3:15 PM	725 sf	1.81%	0 sf	0.00%	0 sf	0.00%	
3:30 PM	1,259 sf	3.15%	0 sf	0.00%	0 sf	0.00%	
3:45 PM	2,086 sf	5.22%	0 sf	0.00%	0 sf	0.00%	
4:00 PM	3,446 sf	8.62%	0 sf	0.00%	0 sf	0.00%	
4:15 PM	7,343 sf	18.37%	0 sf	0.00%	0 sf	0.00%	
4:30 PM	23,041 sf	57.66%	0 sf	0.00%	1,310 sf	3.28%	
4:45 PM	33,037 sf	82.67%	0 sf	0.00%	236 sf	0.59%	
5:00 PM	30,016 sf	75.11%	0 sf	0.00%	22 sf	0.06%	
5:15 PM	35,814 sf	89.62%	0 sf	0.00%	334 sf	0.84%	
5:30 PM	39,591 sf	99.07%	0 sf	0.00%	12 sf	0.03%	
5:45 PM	39,950 sf	99.97%	0 sf	0.00%	0 sf	0.00%	
6:00 PM	39,950 sf	99.97%	0 sf	0.00%	0 sf	0.00%	
6:09 PM	39,950 sf	99.97%	0 sf	0.00%	0 sf	0.00%	

PROJECT: TB2 Kennerly Mithune
OPEN SPACE: Transbay Park (39,962 sf)

September 27

Mirror date: March 15
Analysis hours: 8:03 AM-5:58 PM (PDT)

Shadow / Sunlight Balance Key

Analysis Time	EXISTING SHADOW		PROJECT NET NEW SHADOW		CUMULATIVE+PROJ SHADOW		SHADOW/SUNLIGHT BALANCE
	Shadow Area	Coverage	Shadow Area	Coverage	Shadow Area (sf)	Coverage	ative levels of Existing/Project/Cumulative Shadow vs. S
8:03 AM	34,920 sf	87.38%	5,031 sf	12.59%	5,031 sf	12.59%	
8:15 AM	30,993 sf	77.56%	8,958 sf	22.42%	8,958 sf	22.42%	
8:30 AM	24,738 sf	61.90%	15,212 sf	38.07%	15,212 sf	38.07%	
8:45 AM	21,686 sf	54.27%	18,264 sf	45.70%	18,264 sf	45.70%	
9:00 AM	20,444 sf	51.16%	19,075 sf	47.73%	19,075 sf	47.73%	
9:15 AM	20,914 sf	52.34%	19,036 sf	47.64%	19,036 sf	47.64%	
9:30 AM	21,535 sf	53.89%	18,415 sf	46.08%	18,415 sf	46.08%	
9:45 AM	22,276 sf	55.74%	16,580 sf	41.49%	16,580 sf	41.49%	
10:00 AM	19,307 sf	48.31%	13,469 sf	33.70%	13,469 sf	33.70%	
10:15 AM	15,360 sf	38.44%	11,861 sf	29.68%	11,861 sf	29.68%	
10:30 AM	14,464 sf	36.19%	11,757 sf	29.42%	11,757 sf	29.42%	
10:45 AM	15,717 sf	39.33%	11,750 sf	29.40%	11,750 sf	29.40%	
11:00 AM	15,624 sf	39.10%	10,267 sf	25.69%	10,267 sf	25.69%	
11:15 AM	15,097 sf	37.78%	8,004 sf	20.03%	8,004 sf	20.03%	
11:30 AM	12,147 sf	30.40%	5,009 sf	12.53%	5,009 sf	12.53%	
11:45 AM	9,034 sf	22.61%	2,713 sf	6.79%	2,713 sf	6.79%	
12:00 PM	5,654 sf	14.15%	1,454 sf	3.64%	1,454 sf	3.64%	
12:15 PM	2,963 sf	7.42%	669 sf	1.67%	669 sf	1.67%	
12:30 PM	638 sf	1.60%	340 sf	0.85%	340 sf	0.85%	
12:45 PM	0 sf	0.00%	65 sf	0.16%	65 sf	0.16%	
1:00 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
1:15 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
1:30 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
1:45 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
2:00 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
2:15 PM	29 sf	0.07%	0 sf	0.00%	0 sf	0.00%	
2:30 PM	27 sf	0.07%	0 sf	0.00%	0 sf	0.00%	
2:45 PM	686 sf	1.72%	0 sf	0.00%	0 sf	0.00%	
3:00 PM	480 sf	1.20%	0 sf	0.00%	0 sf	0.00%	
3:15 PM	903 sf	2.26%	0 sf	0.00%	0 sf	0.00%	
3:30 PM	1,590 sf	3.98%	0 sf	0.00%	0 sf	0.00%	
3:45 PM	2,601 sf	6.51%	0 sf	0.00%	0 sf	0.00%	
4:00 PM	4,017 sf	10.05%	0 sf	0.00%	0 sf	0.00%	
4:15 PM	9,401 sf	23.53%	0 sf	0.00%	353 sf	0.88%	
4:30 PM	35,623 sf	89.14%	0 sf	0.00%	212 sf	0.53%	
4:45 PM	39,950 sf	99.97%	0 sf	0.00%	0 sf	0.00%	
5:00 PM	33,459 sf	83.73%	0 sf	0.00%	3,591 sf	8.99%	
5:15 PM	36,793 sf	92.07%	0 sf	0.00%	2,149 sf	5.38%	
5:30 PM	39,916 sf	99.89%	0 sf	0.00%	0 sf	0.00%	
5:45 PM	39,878 sf	99.79%	0 sf	0.00%	72 sf	0.18%	
5:58 PM	39,950 sf	99.97%	0 sf	0.00%	0 sf	0.00%	

PROJECT: TB2 Kennerly Mithune
OPEN SPACE: Transbay Park (39,962 sf)

October 4

Mirror date: March 8
Analysis hours: 8:09 AM-5:47 PM (PDT)

Shadow / Sunlight Balance Key

Analysis Time	EXISTING SHADOW		PROJECT NET NEW SHADOW		CUMULATIVE+PROJ SHADOW		SHADOW/SUNLIGHT BALANCE
	Shadow Area	Coverage	Shadow Area	Coverage	Shadow Area (sf)	Coverage	ative levels of Existing/Project/Cumulative Shadow vs. S
8:09 AM	33,027 sf	82.65%	6,924 sf	17.33%	6,924 sf	17.33%	
8:15 AM	31,308 sf	78.34%	8,642 sf	21.63%	8,642 sf	21.63%	
8:30 AM	23,020 sf	57.60%	16,931 sf	42.37%	16,931 sf	42.37%	
8:45 AM	20,461 sf	51.20%	19,474 sf	48.73%	19,474 sf	48.73%	
9:00 AM	20,945 sf	52.41%	19,005 sf	47.56%	19,005 sf	47.56%	
9:15 AM	21,558 sf	53.95%	18,393 sf	46.03%	18,393 sf	46.03%	
9:30 AM	22,172 sf	55.48%	17,132 sf	42.87%	17,132 sf	42.87%	
9:45 AM	22,877 sf	57.25%	14,062 sf	35.19%	14,062 sf	35.19%	
10:00 AM	22,993 sf	57.54%	11,075 sf	27.71%	11,075 sf	27.71%	
10:15 AM	22,722 sf	56.86%	9,167 sf	22.94%	9,167 sf	22.94%	
10:30 AM	21,123 sf	52.86%	9,609 sf	24.05%	9,609 sf	24.05%	
10:45 AM	19,414 sf	48.58%	10,704 sf	26.79%	10,704 sf	26.79%	
11:00 AM	16,706 sf	41.81%	11,346 sf	28.39%	11,346 sf	28.39%	
11:15 AM	16,721 sf	41.84%	8,466 sf	21.19%	8,466 sf	21.19%	
11:30 AM	15,953 sf	39.92%	5,098 sf	12.76%	5,098 sf	12.76%	
11:45 AM	13,127 sf	32.85%	2,231 sf	5.58%	2,231 sf	5.58%	
12:00 PM	9,377 sf	23.46%	261 sf	0.65%	261 sf	0.65%	
12:15 PM	5,283 sf	13.22%	2 sf	0.00%	2 sf	0.00%	
12:30 PM	1,936 sf	4.84%	0 sf	0.00%	0 sf	0.00%	
12:45 PM	223 sf	0.56%	33 sf	0.08%	33 sf	0.08%	
1:00 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
1:15 PM	0 sf	0.00%	0 sf	0.00%	0 sf	0.00%	
1:30 PM	25 sf	0.06%	0 sf	0.00%	0 sf	0.00%	
1:45 PM	692 sf	1.73%	0 sf	0.00%	0 sf	0.00%	
2:00 PM	1,037 sf	2.60%	0 sf	0.00%	0 sf	0.00%	
2:15 PM	810 sf	2.03%	0 sf	0.00%	0 sf	0.00%	
2:30 PM	3,374 sf	8.44%	0 sf	0.00%	0 sf	0.00%	
2:45 PM	4,676 sf	11.70%	0 sf	0.00%	0 sf	0.00%	
3:00 PM	1,295 sf	3.24%	0 sf	0.00%	0 sf	0.00%	
3:15 PM	1,033 sf	2.59%	0 sf	0.00%	0 sf	0.00%	
3:30 PM	1,860 sf	4.65%	0 sf	0.00%	0 sf	0.00%	
3:45 PM	3,095 sf	7.75%	0 sf	0.00%	0 sf	0.00%	
4:00 PM	5,239 sf	13.11%	0 sf	0.00%	0 sf	0.00%	
4:15 PM	10,166 sf	25.44%	0 sf	0.00%	231 sf	0.58%	
4:30 PM	27,740 sf	69.41%	0 sf	0.00%	0 sf	0.00%	
4:45 PM	39,708 sf	99.36%	0 sf	0.00%	0 sf	0.00%	
5:00 PM	38,548 sf	96.46%	0 sf	0.00%	1,403 sf	3.51%	
5:15 PM	38,731 sf	96.92%	0 sf	0.00%	1,219 sf	3.05%	
5:30 PM	39,950 sf	99.97%	0 sf	0.00%	0 sf	0.00%	
5:47 PM	39,950 sf	99.97%	0 sf	0.00%	0 sf	0.00%	

PROJECT: TB2 Kennerly Mithune
OPEN SPACE: Transbay Park (39,962 sf)

October 11

Mirror date: March 1
Analysis hours: 8:16 AM-5:37 PM (PDT)

Shadow / Sunlight Balance Key

Analysis Time	EXISTING SHADOW		PROJECT NET NEW SHADOW		CUMULATIVE+PROJ SHADOW		SHADOW/SUNLIGHT BALANCE
	Shadow Area	Coverage	Shadow Area	Coverage	Shadow Area (sf)	Coverage	ative levels of Existing/Project/Cumulative Shadow vs. S
8:16 AM	32,753 sf	81.96%	7,197 sf	18.01%	7,197 sf	18.01%	
8:30 AM	25,249 sf	63.18%	14,701 sf	36.79%	14,701 sf	36.79%	
8:45 AM	21,055 sf	52.69%	18,896 sf	47.28%	18,896 sf	47.28%	
9:00 AM	21,538 sf	53.90%	18,413 sf	46.08%	18,413 sf	46.08%	
9:15 AM	22,245 sf	55.66%	17,400 sf	43.54%	17,400 sf	43.54%	
9:30 AM	22,825 sf	57.12%	14,950 sf	37.41%	14,950 sf	37.41%	
9:45 AM	23,161 sf	57.96%	12,005 sf	30.04%	12,005 sf	30.04%	
10:00 AM	25,347 sf	63.43%	9,262 sf	23.18%	9,262 sf	23.18%	
10:15 AM	27,853 sf	69.70%	6,151 sf	15.39%	6,151 sf	15.39%	
10:30 AM	27,711 sf	69.34%	6,444 sf	16.12%	6,444 sf	16.12%	
10:45 AM	22,035 sf	55.14%	10,121 sf	25.33%	10,121 sf	25.33%	
11:00 AM	18,054 sf	45.18%	11,703 sf	29.29%	11,703 sf	29.29%	
11:15 AM	17,652 sf	44.17%	8,709 sf	21.79%	8,709 sf	21.79%	
11:30 AM	17,858 sf	44.69%	5,067 sf	12.68%	5,067 sf	12.68%	
11:45 AM	17,136 sf	42.88%	1,458 sf	3.65%	1,458 sf	3.65%	
12:00 PM	11,657 sf	29.17%	334 sf	0.84%	334 sf	0.84%	
12:15 PM	6,130 sf	15.34%	12 sf	0.03%	12 sf	0.03%	
12:30 PM	2,084 sf	5.21%	0 sf	0.00%	0 sf	0.00%	
12:45 PM	81 sf	0.20%	214 sf	0.53%	214 sf	0.53%	
1:00 PM	0 sf	0.00%	12 sf	0.03%	12 sf	0.03%	
1:15 PM	457 sf	1.14%	0 sf	0.00%	0 sf	0.00%	
1:30 PM	2,066 sf	5.17%	0 sf	0.00%	0 sf	0.00%	
1:45 PM	3,134 sf	7.84%	0 sf	0.00%	0 sf	0.00%	
2:00 PM	3,361 sf	8.41%	0 sf	0.00%	0 sf	0.00%	
2:15 PM	6,863 sf	17.17%	0 sf	0.00%	0 sf	0.00%	
2:30 PM	10,709 sf	26.80%	0 sf	0.00%	0 sf	0.00%	
2:45 PM	12,755 sf	31.92%	0 sf	0.00%	0 sf	0.00%	
3:00 PM	6,821 sf	17.07%	0 sf	0.00%	0 sf	0.00%	
3:15 PM	1,072 sf	2.68%	0 sf	0.00%	0 sf	0.00%	
3:30 PM	2,111 sf	5.28%	0 sf	0.00%	0 sf	0.00%	
3:45 PM	4,085 sf	10.22%	0 sf	0.00%	0 sf	0.00%	
4:00 PM	6,657 sf	16.66%	0 sf	0.00%	0 sf	0.00%	
4:15 PM	10,304 sf	25.79%	0 sf	0.00%	0 sf	0.00%	
4:30 PM	22,589 sf	56.53%	0 sf	0.00%	0 sf	0.00%	
4:45 PM	35,904 sf	89.84%	0 sf	0.00%	0 sf	0.00%	
5:00 PM	39,950 sf	99.97%	0 sf	0.00%	0 sf	0.00%	
5:15 PM	39,950 sf	99.97%	0 sf	0.00%	0 sf	0.00%	
5:30 PM	39,950 sf	99.97%	0 sf	0.00%	0 sf	0.00%	
5:37 PM	39,950 sf	99.97%	0 sf	0.00%	0 sf	0.00%	

PROJECT: TB2 Kennerly Mithune
OPEN SPACE: Transbay Park (39,962 sf)

October 18

Mirror date: February 22
Analysis hours: 8:22 AM-5:27 PM (PDT)

Shadow / Sunlight Balance Key

Analysis Time	EXISTING SHADOW		PROJECT NET NEW SHADOW		CUMULATIVE+PROJ SHADOW		SHADOW/SUNLIGHT BALANCE
	Shadow Area	Coverage	Shadow Area	Coverage	Shadow Area (sf)	Coverage	ative levels of Existing/Project/Cumulative Shadow vs. S
8:22 AM	32,390 sf	81.05%	7,560 sf	18.92%	7,560 sf	18.92%	
8:30 AM	29,474 sf	73.75%	10,476 sf	26.22%	10,476 sf	26.22%	
8:45 AM	24,012 sf	60.09%	15,938 sf	39.88%	15,938 sf	39.88%	
9:00 AM	22,114 sf	55.34%	17,800 sf	44.54%	17,800 sf	44.54%	
9:15 AM	22,835 sf	57.14%	15,828 sf	39.61%	15,828 sf	39.61%	
9:30 AM	23,378 sf	58.50%	12,881 sf	32.23%	12,881 sf	32.23%	
9:45 AM	24,682 sf	61.76%	10,426 sf	26.09%	10,426 sf	26.09%	
10:00 AM	27,200 sf	68.06%	7,787 sf	19.49%	7,787 sf	19.49%	
10:15 AM	30,143 sf	75.43%	4,143 sf	10.37%	4,143 sf	10.37%	
10:30 AM	30,057 sf	75.22%	4,515 sf	11.30%	4,515 sf	11.30%	
10:45 AM	23,245 sf	58.17%	10,507 sf	26.29%	10,507 sf	26.29%	
11:00 AM	18,663 sf	46.70%	11,953 sf	29.91%	11,953 sf	29.91%	
11:15 AM	18,027 sf	45.11%	8,768 sf	21.94%	8,768 sf	21.94%	
11:30 AM	18,818 sf	47.09%	4,682 sf	11.72%	4,682 sf	11.72%	
11:45 AM	16,779 sf	41.99%	1,656 sf	4.14%	1,656 sf	4.14%	
12:00 PM	11,698 sf	29.27%	969 sf	2.43%	969 sf	2.43%	
12:15 PM	5,732 sf	14.34%	451 sf	1.13%	451 sf	1.13%	
12:30 PM	1,550 sf	3.88%	69 sf	0.17%	69 sf	0.17%	
12:45 PM	16 sf	0.04%	351 sf	0.88%	351 sf	0.88%	
1:00 PM	667 sf	1.67%	20 sf	0.05%	20 sf	0.05%	
1:15 PM	3,501 sf	8.76%	0 sf	0.00%	0 sf	0.00%	
1:30 PM	5,828 sf	14.58%	0 sf	0.00%	0 sf	0.00%	
1:45 PM	7,014 sf	17.55%	0 sf	0.00%	0 sf	0.00%	
2:00 PM	7,233 sf	18.10%	0 sf	0.00%	0 sf	0.00%	
2:15 PM	11,853 sf	29.66%	0 sf	0.00%	0 sf	0.00%	
2:30 PM	19,826 sf	49.61%	0 sf	0.00%	0 sf	0.00%	
2:45 PM	23,197 sf	58.05%	0 sf	0.00%	0 sf	0.00%	
3:00 PM	15,420 sf	38.59%	0 sf	0.00%	0 sf	0.00%	
3:15 PM	2,848 sf	7.13%	0 sf	0.00%	0 sf	0.00%	
3:30 PM	2,802 sf	7.01%	0 sf	0.00%	0 sf	0.00%	
3:45 PM	5,047 sf	12.63%	0 sf	0.00%	0 sf	0.00%	
4:00 PM	8,094 sf	20.25%	0 sf	0.00%	0 sf	0.00%	
4:15 PM	12,638 sf	31.62%	0 sf	0.00%	0 sf	0.00%	
4:30 PM	20,951 sf	52.43%	0 sf	0.00%	0 sf	0.00%	
4:45 PM	32,768 sf	82.00%	0 sf	0.00%	914 sf	2.29%	
5:00 PM	39,950 sf	99.97%	0 sf	0.00%	0 sf	0.00%	
5:15 PM	39,950 sf	99.97%	0 sf	0.00%	0 sf	0.00%	
5:27 PM	39,950 sf	99.97%	0 sf	0.00%	0 sf	0.00%	

PROJECT: TB2 Kennerly Mithune
OPEN SPACE: Transbay Park (39,962 sf)

October 25

Mirror date: February 15
Analysis hours: 7:30 AM-4:18 PM (PST)

Shadow / Sunlight Balance Key

Analysis Time	EXISTING SHADOW		PROJECT NET NEW SHADOW		CUMULATIVE+PROJ SHADOW		SHADOW/SUNLIGHT BALANCE
	Shadow Area	Coverage	Shadow Area	Coverage	Shadow Area (sf)	Coverage	ative levels of Existing/Project/Cumulative Shadow vs. S
7:30 AM	32,185 sf	80.54%	7,765 sf	19.43%	7,765 sf	19.43%	
7:45 AM	27,009 sf	67.59%	12,941 sf	32.38%	12,941 sf	32.38%	
8:00 AM	23,854 sf	59.69%	16,082 sf	40.24%	16,082 sf	40.24%	
8:15 AM	23,344 sf	58.42%	13,925 sf	34.85%	13,925 sf	34.85%	
8:30 AM	24,195 sf	60.54%	11,582 sf	28.98%	11,582 sf	28.98%	
8:45 AM	26,505 sf	66.33%	9,258 sf	23.17%	9,258 sf	23.17%	
9:00 AM	28,892 sf	72.30%	6,141 sf	15.37%	6,141 sf	15.37%	
9:15 AM	31,261 sf	78.23%	3,899 sf	9.76%	3,899 sf	9.76%	
9:30 AM	28,204 sf	70.58%	6,579 sf	16.46%	6,579 sf	16.46%	
9:45 AM	23,048 sf	57.67%	11,236 sf	28.12%	11,236 sf	28.12%	
10:00 AM	18,499 sf	46.29%	12,488 sf	31.25%	12,488 sf	31.25%	
10:15 AM	18,323 sf	45.85%	8,740 sf	21.87%	8,740 sf	21.87%	
10:30 AM	18,904 sf	47.30%	4,222 sf	10.56%	4,222 sf	10.56%	
10:45 AM	15,495 sf	38.78%	2,365 sf	5.92%	2,365 sf	5.92%	
11:00 AM	10,410 sf	26.05%	1,701 sf	4.26%	1,701 sf	4.26%	
11:15 AM	4,772 sf	11.94%	1,240 sf	3.10%	1,240 sf	3.10%	
11:30 AM	1,174 sf	2.94%	651 sf	1.63%	651 sf	1.63%	
11:45 AM	807 sf	2.02%	460 sf	1.15%	460 sf	1.15%	
12:00 PM	3,117 sf	7.80%	14 sf	0.04%	14 sf	0.04%	
12:15 PM	7,013 sf	17.55%	0 sf	0.00%	0 sf	0.00%	
12:30 PM	10,270 sf	25.70%	0 sf	0.00%	0 sf	0.00%	
12:45 PM	12,304 sf	30.79%	0 sf	0.00%	0 sf	0.00%	
1:00 PM	11,833 sf	29.61%	0 sf	0.00%	0 sf	0.00%	
1:15 PM	15,394 sf	38.52%	0 sf	0.00%	0 sf	0.00%	
1:30 PM	25,077 sf	62.75%	0 sf	0.00%	0 sf	0.00%	
1:45 PM	32,772 sf	82.01%	0 sf	0.00%	0 sf	0.00%	
2:00 PM	21,614 sf	54.09%	0 sf	0.00%	0 sf	0.00%	
2:15 PM	8,404 sf	21.03%	0 sf	0.00%	0 sf	0.00%	
2:30 PM	3,472 sf	8.69%	0 sf	0.00%	0 sf	0.00%	
2:45 PM	5,891 sf	14.74%	0 sf	0.00%	0 sf	0.00%	
3:00 PM	9,513 sf	23.80%	0 sf	0.00%	0 sf	0.00%	
3:15 PM	14,988 sf	37.50%	0 sf	0.00%	0 sf	0.00%	
3:30 PM	23,247 sf	58.17%	0 sf	0.00%	236 sf	0.59%	
3:45 PM	34,207 sf	85.60%	0 sf	0.00%	5,557 sf	13.90%	
4:00 PM	39,950 sf	99.97%	0 sf	0.00%	0 sf	0.00%	
4:15 PM	39,950 sf	99.97%	0 sf	0.00%	0 sf	0.00%	
4:18 PM	39,950 sf	99.97%	0 sf	0.00%	0 sf	0.00%	

PROJECT: TB2 Kennerly Mithune
OPEN SPACE: Transbay Park (39,962 sf)

November 1

Mirror date: February 8
Analysis hours: 7:36 AM-4:10 PM (PST)

Shadow / Sunlight Balance Key

Analysis Time	EXISTING SHADOW		PROJECT NET NEW SHADOW		CUMULATIVE+PROJ SHADOW		SHADOW/SUNLIGHT BALANCE
	Shadow Area	Coverage	Shadow Area	Coverage	Shadow Area (sf)	Coverage	ative levels of Existing/Project/Cumulative Shadow vs. S
7:36 AM	31,994 sf	80.06%	7,956 sf	19.91%	7,956 sf	19.91%	
7:45 AM	29,972 sf	75.00%	9,979 sf	24.97%	9,979 sf	24.97%	
8:00 AM	25,822 sf	64.62%	12,685 sf	31.74%	12,685 sf	31.74%	
8:15 AM	24,269 sf	60.73%	12,349 sf	30.90%	12,349 sf	30.90%	
8:30 AM	25,626 sf	64.13%	11,040 sf	27.63%	11,040 sf	27.63%	
8:45 AM	28,095 sf	70.30%	8,528 sf	21.34%	8,528 sf	21.34%	
9:00 AM	30,490 sf	76.30%	4,493 sf	11.24%	4,493 sf	11.24%	
9:15 AM	30,783 sf	77.03%	4,451 sf	11.14%	4,451 sf	11.14%	
9:30 AM	26,446 sf	66.18%	8,821 sf	22.07%	8,821 sf	22.07%	
9:45 AM	21,685 sf	54.27%	12,333 sf	30.86%	12,333 sf	30.86%	
10:00 AM	18,074 sf	45.23%	12,783 sf	31.99%	12,783 sf	31.99%	
10:15 AM	19,018 sf	47.59%	8,539 sf	21.37%	8,539 sf	21.37%	
10:30 AM	21,215 sf	53.09%	3,784 sf	9.47%	3,784 sf	9.47%	
10:45 AM	15,854 sf	39.67%	2,170 sf	5.43%	2,170 sf	5.43%	
11:00 AM	9,447 sf	23.64%	2,488 sf	6.22%	2,488 sf	6.22%	
11:15 AM	4,124 sf	10.32%	2,121 sf	5.31%	2,121 sf	5.31%	
11:30 AM	1,000 sf	2.50%	1,572 sf	3.93%	1,572 sf	3.93%	
11:45 AM	1,595 sf	3.99%	1,109 sf	2.78%	1,109 sf	2.78%	
12:00 PM	4,779 sf	11.96%	166 sf	0.42%	166 sf	0.42%	
12:15 PM	9,370 sf	23.45%	0 sf	0.00%	0 sf	0.00%	
12:30 PM	14,501 sf	36.29%	0 sf	0.00%	0 sf	0.00%	
12:45 PM	17,723 sf	44.35%	0 sf	0.00%	0 sf	0.00%	
1:00 PM	17,517 sf	43.83%	0 sf	0.00%	0 sf	0.00%	
1:15 PM	19,475 sf	48.73%	0 sf	0.00%	0 sf	0.00%	
1:30 PM	27,738 sf	69.41%	0 sf	0.00%	0 sf	0.00%	
1:45 PM	35,655 sf	89.22%	0 sf	0.00%	0 sf	0.00%	
2:00 PM	26,586 sf	66.53%	0 sf	0.00%	0 sf	0.00%	
2:15 PM	13,492 sf	33.76%	0 sf	0.00%	0 sf	0.00%	
2:30 PM	4,011 sf	10.04%	0 sf	0.00%	0 sf	0.00%	
2:45 PM	6,600 sf	16.52%	0 sf	0.00%	0 sf	0.00%	
3:00 PM	10,684 sf	26.74%	0 sf	0.00%	0 sf	0.00%	
3:15 PM	17,172 sf	42.97%	0 sf	0.00%	0 sf	0.00%	
3:30 PM	27,228 sf	68.14%	0 sf	0.00%	6,431 sf	16.09%	
3:45 PM	35,196 sf	88.07%	0 sf	0.00%	4,754 sf	11.90%	
4:00 PM	39,950 sf	99.97%	0 sf	0.00%	0 sf	0.00%	
4:10 PM	39,950 sf	99.97%	0 sf	0.00%	0 sf	0.00%	

PROJECT: TB2 Kennerly Mithune
OPEN SPACE: Transbay Park (39,962 sf)

November 8

Mirror date: February 1
Analysis hours: 7:43 AM-4:03 PM (PST)

Shadow / Sunlight Balance Key

Analysis Time	EXISTING SHADOW		PROJECT NET NEW SHADOW		CUMULATIVE+PROJ SHADOW		SHADOW/SUNLIGHT BALANCE
	Shadow Area	Coverage	Shadow Area	Coverage	Shadow Area (sf)	Coverage	ative levels of Existing/Project/Cumulative Shadow vs. S
7:43 AM	31,637 sf	79.17%	8,277 sf	20.71%	8,277 sf	20.71%	
7:45 AM	31,257 sf	78.22%	8,591 sf	21.50%	8,591 sf	21.50%	
8:00 AM	27,941 sf	69.92%	9,455 sf	23.66%	9,455 sf	23.66%	
8:15 AM	25,981 sf	65.01%	10,691 sf	26.75%	10,691 sf	26.75%	
8:30 AM	26,850 sf	67.19%	10,599 sf	26.52%	10,599 sf	26.52%	
8:45 AM	29,275 sf	73.26%	7,790 sf	19.49%	7,790 sf	19.49%	
9:00 AM	31,785 sf	79.54%	3,874 sf	9.70%	3,874 sf	9.70%	
9:15 AM	29,406 sf	73.58%	6,187 sf	15.48%	6,187 sf	15.48%	
9:30 AM	25,197 sf	63.05%	10,690 sf	26.75%	10,690 sf	26.75%	
9:45 AM	20,476 sf	51.24%	13,425 sf	33.59%	13,425 sf	33.59%	
10:00 AM	17,991 sf	45.02%	12,831 sf	32.11%	12,831 sf	32.11%	
10:15 AM	22,176 sf	55.49%	8,400 sf	21.02%	8,400 sf	21.02%	
10:30 AM	25,908 sf	64.83%	3,318 sf	8.30%	3,318 sf	8.30%	
10:45 AM	20,303 sf	50.81%	1,050 sf	2.63%	1,050 sf	2.63%	
11:00 AM	10,202 sf	25.53%	2,029 sf	5.08%	2,029 sf	5.08%	
11:15 AM	3,784 sf	9.47%	3,055 sf	7.64%	3,055 sf	7.64%	
11:30 AM	912 sf	2.28%	2,593 sf	6.49%	2,593 sf	6.49%	
11:45 AM	1,645 sf	4.12%	2,047 sf	5.12%	2,079 sf	5.20%	
12:00 PM	5,377 sf	13.46%	884 sf	2.21%	884 sf	2.21%	
12:15 PM	10,666 sf	26.69%	179 sf	0.45%	179 sf	0.45%	
12:30 PM	16,691 sf	41.77%	0 sf	0.00%	0 sf	0.00%	
12:45 PM	22,180 sf	55.50%	0 sf	0.00%	0 sf	0.00%	
1:00 PM	23,538 sf	58.90%	0 sf	0.00%	0 sf	0.00%	
1:15 PM	24,912 sf	62.34%	0 sf	0.00%	0 sf	0.00%	
1:30 PM	29,969 sf	74.99%	0 sf	0.00%	0 sf	0.00%	
1:45 PM	36,821 sf	92.14%	0 sf	0.00%	0 sf	0.00%	
2:00 PM	31,223 sf	78.13%	0 sf	0.00%	0 sf	0.00%	
2:15 PM	18,369 sf	45.97%	0 sf	0.00%	0 sf	0.00%	
2:30 PM	6,960 sf	17.42%	0 sf	0.00%	0 sf	0.00%	
2:45 PM	7,196 sf	18.01%	0 sf	0.00%	0 sf	0.00%	
3:00 PM	11,432 sf	28.61%	0 sf	0.00%	0 sf	0.00%	
3:15 PM	18,832 sf	47.12%	0 sf	0.00%	0 sf	0.00%	
3:30 PM	28,460 sf	71.22%	0 sf	0.00%	6,539 sf	16.36%	
3:45 PM	36,954 sf	92.47%	0 sf	0.00%	2,996 sf	7.50%	
4:00 PM	39,950 sf	99.97%	0 sf	0.00%	0 sf	0.00%	
4:03 PM	39,950 sf	99.97%	0 sf	0.00%	0 sf	0.00%	

PROJECT: TB2 Kennerly Mithune
OPEN SPACE: Transbay Park (39,962 sf)

November 15

Mirror date: January 25
Analysis hours: 7:51 AM-3:57 PM (PST)

Shadow / Sunlight Balance Key

Analysis Time	EXISTING SHADOW		PROJECT NET NEW SHADOW		CUMULATIVE+PROJ SHADOW		SHADOW/SUNLIGHT BALANCE
	Shadow Area	Coverage	Shadow Area	Coverage	Shadow Area (sf)	Coverage	ative levels of Existing/Project/Cumulative Shadow vs. S
7:51 AM	31,222 sf	78.13%	8,207 sf	20.54%	8,207 sf	20.54%	
8:00 AM	28,736 sf	71.91%	8,068 sf	20.19%	8,068 sf	20.19%	
8:15 AM	27,849 sf	69.69%	9,167 sf	22.94%	9,167 sf	22.94%	
8:30 AM	28,388 sf	71.04%	9,506 sf	23.79%	9,506 sf	23.79%	
8:45 AM	30,124 sf	75.38%	6,741 sf	16.87%	6,741 sf	16.87%	
9:00 AM	31,741 sf	79.43%	4,341 sf	10.86%	4,341 sf	10.86%	
9:15 AM	28,497 sf	71.31%	7,732 sf	19.35%	7,732 sf	19.35%	
9:30 AM	24,403 sf	61.07%	11,922 sf	29.83%	11,922 sf	29.83%	
9:45 AM	19,812 sf	49.58%	14,275 sf	35.72%	14,275 sf	35.72%	
10:00 AM	18,101 sf	45.30%	13,009 sf	32.55%	13,009 sf	32.55%	
10:15 AM	23,642 sf	59.16%	8,621 sf	21.57%	8,621 sf	21.57%	
10:30 AM	30,126 sf	75.39%	3,428 sf	8.58%	3,428 sf	8.58%	
10:45 AM	25,717 sf	64.35%	847 sf	2.12%	847 sf	2.12%	
11:00 AM	14,879 sf	37.23%	818 sf	2.05%	818 sf	2.05%	
11:15 AM	5,227 sf	13.08%	2,906 sf	7.27%	2,906 sf	7.27%	
11:30 AM	1,086 sf	2.72%	3,594 sf	8.99%	4,297 sf	10.75%	
11:45 AM	1,516 sf	3.79%	3,045 sf	7.62%	4,237 sf	10.60%	
12:00 PM	5,119 sf	12.81%	1,815 sf	4.54%	1,815 sf	4.54%	
12:15 PM	10,772 sf	26.96%	897 sf	2.25%	897 sf	2.25%	
12:30 PM	17,632 sf	44.12%	140 sf	0.35%	140 sf	0.35%	
12:45 PM	24,296 sf	60.80%	0 sf	0.00%	0 sf	0.00%	
1:00 PM	28,655 sf	71.71%	0 sf	0.00%	0 sf	0.00%	
1:15 PM	30,212 sf	75.60%	0 sf	0.00%	0 sf	0.00%	
1:30 PM	31,045 sf	77.69%	0 sf	0.00%	0 sf	0.00%	
1:45 PM	36,600 sf	91.59%	0 sf	0.00%	0 sf	0.00%	
2:00 PM	35,119 sf	87.88%	0 sf	0.00%	0 sf	0.00%	
2:15 PM	22,935 sf	57.39%	0 sf	0.00%	0 sf	0.00%	
2:30 PM	11,683 sf	29.23%	0 sf	0.00%	0 sf	0.00%	
2:45 PM	7,533 sf	18.85%	0 sf	0.00%	0 sf	0.00%	
3:00 PM	11,758 sf	29.42%	0 sf	0.00%	0 sf	0.00%	
3:15 PM	20,489 sf	51.27%	0 sf	0.00%	0 sf	0.00%	
3:30 PM	29,069 sf	72.74%	0 sf	0.00%	2,776 sf	6.95%	
3:45 PM	39,444 sf	98.70%	0 sf	0.00%	507 sf	1.27%	
3:57 PM	39,950 sf	99.97%	0 sf	0.00%	0 sf	0.00%	

PROJECT: TB2 Kennerly Mithune
OPEN SPACE: Transbay Park (39,962 sf)

November 22

Mirror date: January 18
Analysis hours: 7:57 AM-3:54 PM (PST)

Shadow / Sunlight Balance Key

Analysis Time	EXISTING SHADOW		PROJECT NET NEW SHADOW		CUMULATIVE+PROJ SHADOW		SHADOW/SUNLIGHT BALANCE
	Shadow Area	Coverage	Shadow Area	Coverage	Shadow Area (sf)	Coverage	ative levels of Existing/Project/Cumulative Shadow vs. S
7:57 AM	30,031 sf	75.15%	8,030 sf	20.09%	8,030 sf	20.09%	
8:00 AM	29,259 sf	73.22%	7,996 sf	20.01%	7,996 sf	20.01%	
8:15 AM	29,490 sf	73.79%	7,766 sf	19.43%	7,766 sf	19.43%	
8:30 AM	29,766 sf	74.49%	8,354 sf	20.91%	8,354 sf	20.91%	
8:45 AM	31,111 sf	77.85%	5,567 sf	13.93%	5,567 sf	13.93%	
9:00 AM	31,656 sf	79.22%	4,483 sf	11.22%	4,483 sf	11.22%	
9:15 AM	27,895 sf	69.80%	8,852 sf	22.15%	8,852 sf	22.15%	
9:30 AM	24,057 sf	60.20%	12,775 sf	31.97%	12,775 sf	31.97%	
9:45 AM	19,612 sf	49.08%	14,912 sf	37.32%	14,912 sf	37.32%	
10:00 AM	18,194 sf	45.53%	13,446 sf	33.65%	13,446 sf	33.65%	
10:15 AM	24,220 sf	60.61%	9,224 sf	23.08%	9,224 sf	23.08%	
10:30 AM	30,701 sf	76.83%	3,775 sf	9.45%	3,775 sf	9.45%	
10:45 AM	30,105 sf	75.33%	979 sf	2.45%	979 sf	2.45%	
11:00 AM	20,266 sf	50.71%	936 sf	2.34%	936 sf	2.34%	
11:15 AM	9,128 sf	22.84%	2,942 sf	7.36%	3,875 sf	9.70%	
11:30 AM	3,639 sf	9.11%	3,927 sf	9.83%	4,674 sf	11.70%	
11:45 AM	2,599 sf	6.50%	3,758 sf	9.40%	5,990 sf	14.99%	
12:00 PM	4,584 sf	11.47%	2,769 sf	6.93%	4,298 sf	10.76%	
12:15 PM	9,934 sf	24.86%	1,777 sf	4.45%	1,777 sf	4.45%	
12:30 PM	17,246 sf	43.16%	744 sf	1.86%	744 sf	1.86%	
12:45 PM	24,867 sf	62.23%	123 sf	0.31%	123 sf	0.31%	
1:00 PM	30,800 sf	77.07%	0 sf	0.00%	0 sf	0.00%	
1:15 PM	32,591 sf	81.56%	0 sf	0.00%	0 sf	0.00%	
1:30 PM	31,776 sf	79.52%	0 sf	0.00%	0 sf	0.00%	
1:45 PM	35,767 sf	89.50%	0 sf	0.00%	0 sf	0.00%	
2:00 PM	38,312 sf	95.87%	0 sf	0.00%	0 sf	0.00%	
2:15 PM	27,616 sf	69.11%	0 sf	0.00%	0 sf	0.00%	
2:30 PM	16,117 sf	40.33%	0 sf	0.00%	0 sf	0.00%	
2:45 PM	8,160 sf	20.42%	0 sf	0.00%	0 sf	0.00%	
3:00 PM	11,858 sf	29.67%	0 sf	0.00%	0 sf	0.00%	
3:15 PM	20,886 sf	52.26%	0 sf	0.00%	0 sf	0.00%	
3:30 PM	30,052 sf	75.20%	0 sf	0.00%	0 sf	0.00%	
3:45 PM	39,950 sf	99.97%	0 sf	0.00%	0 sf	0.00%	
3:54 PM	39,950 sf	99.97%	0 sf	0.00%	0 sf	0.00%	

PROJECT: TB2 Kennerly Mithune
OPEN SPACE: Transbay Park (39,962 sf)

November 29

Mirror date: January 11
Analysis hours: 8:04 AM-3:51 PM (PST)

Shadow / Sunlight Balance Key

Analysis Time	EXISTING SHADOW		PROJECT NET NEW SHADOW		CUMULATIVE+PROJ SHADOW		SHADOW/SUNLIGHT BALANCE
	Shadow Area	Coverage	Shadow Area	Coverage	Shadow Area (sf)	Coverage	ative levels of Existing/Project/Cumulative Shadow vs. S
8:04 AM	28,998 sf	72.56%	7,802 sf	19.52%	7,802 sf	19.52%	
8:15 AM	29,687 sf	74.29%	7,707 sf	19.29%	7,707 sf	19.29%	
8:30 AM	30,991 sf	77.55%	7,253 sf	18.15%	7,253 sf	18.15%	
8:45 AM	32,136 sf	80.42%	4,960 sf	12.41%	4,960 sf	12.41%	
9:00 AM	31,281 sf	78.28%	4,875 sf	12.20%	4,875 sf	12.20%	
9:15 AM	27,608 sf	69.09%	9,302 sf	23.28%	9,302 sf	23.28%	
9:30 AM	23,979 sf	60.00%	13,354 sf	33.42%	13,354 sf	33.42%	
9:45 AM	19,783 sf	49.50%	15,345 sf	38.40%	15,345 sf	38.40%	
10:00 AM	18,207 sf	45.56%	14,139 sf	35.38%	14,139 sf	35.38%	
10:15 AM	24,179 sf	60.51%	10,070 sf	25.20%	10,070 sf	25.20%	
10:30 AM	30,590 sf	76.55%	4,384 sf	10.97%	4,384 sf	10.97%	
10:45 AM	31,747 sf	79.44%	1,181 sf	2.96%	1,181 sf	2.96%	
11:00 AM	25,646 sf	64.18%	908 sf	2.27%	908 sf	2.27%	
11:15 AM	14,621 sf	36.59%	3,235 sf	8.09%	4,503 sf	11.27%	
11:30 AM	9,022 sf	22.58%	4,056 sf	10.15%	4,431 sf	11.09%	
11:45 AM	5,492 sf	13.74%	4,170 sf	10.43%	6,569 sf	16.44%	
12:00 PM	4,588 sf	11.48%	2,860 sf	7.16%	6,528 sf	16.34%	
12:15 PM	8,466 sf	21.19%	2,711 sf	6.78%	3,678 sf	9.20%	
12:30 PM	15,884 sf	39.75%	1,535 sf	3.84%	1,535 sf	3.84%	
12:45 PM	24,040 sf	60.16%	653 sf	1.63%	653 sf	1.63%	
1:00 PM	30,775 sf	77.01%	53 sf	0.13%	53 sf	0.13%	
1:15 PM	32,815 sf	82.11%	0 sf	0.00%	0 sf	0.00%	
1:30 PM	32,744 sf	81.94%	0 sf	0.00%	0 sf	0.00%	
1:45 PM	34,866 sf	87.25%	0 sf	0.00%	0 sf	0.00%	
2:00 PM	39,080 sf	97.79%	0 sf	0.00%	0 sf	0.00%	
2:15 PM	32,378 sf	81.02%	0 sf	0.00%	0 sf	0.00%	
2:30 PM	20,195 sf	50.54%	0 sf	0.00%	0 sf	0.00%	
2:45 PM	11,626 sf	29.09%	0 sf	0.00%	0 sf	0.00%	
3:00 PM	11,858 sf	29.67%	0 sf	0.00%	0 sf	0.00%	
3:15 PM	20,543 sf	51.41%	0 sf	0.00%	0 sf	0.00%	
3:30 PM	30,615 sf	76.61%	0 sf	0.00%	0 sf	0.00%	
3:45 PM	39,821 sf	99.65%	0 sf	0.00%	0 sf	0.00%	
3:51 PM	39,950 sf	99.97%	0 sf	0.00%	0 sf	0.00%	

PROJECT: TB2 Kennerly Mithune
OPEN SPACE: Transbay Park (39,962 sf)

December 6

Mirror date: January 4
Analysis hours: 8:10 AM-3:51 PM (PST)

Shadow / Sunlight Balance Key

Analysis Time	EXISTING SHADOW		PROJECT NET NEW SHADOW		CUMULATIVE+PROJ SHADOW		SHADOW/SUNLIGHT BALANCE
	Shadow Area	Coverage	Shadow Area	Coverage	Shadow Area (sf)	Coverage	ative levels of Existing/Project/Cumulative Shadow vs. S
8:10 AM	29,799 sf	74.57%	7,359 sf	18.42%	7,359 sf	18.42%	
8:15 AM	29,808 sf	74.59%	7,622 sf	19.07%	7,622 sf	19.07%	
8:30 AM	31,922 sf	79.88%	6,350 sf	15.89%	6,350 sf	15.89%	
8:45 AM	32,890 sf	82.30%	4,696 sf	11.75%	4,696 sf	11.75%	
9:00 AM	31,793 sf	79.56%	4,580 sf	11.46%	4,580 sf	11.46%	
9:15 AM	27,660 sf	69.22%	9,284 sf	23.23%	9,284 sf	23.23%	
9:30 AM	24,077 sf	60.25%	13,412 sf	33.56%	13,412 sf	33.56%	
9:45 AM	20,178 sf	50.49%	15,620 sf	39.09%	15,620 sf	39.09%	
10:00 AM	18,182 sf	45.50%	14,939 sf	37.38%	14,939 sf	37.38%	
10:15 AM	23,592 sf	59.04%	11,024 sf	27.59%	11,024 sf	27.59%	
10:30 AM	30,136 sf	75.41%	5,229 sf	13.08%	5,229 sf	13.08%	
10:45 AM	33,462 sf	83.74%	1,504 sf	3.76%	1,504 sf	3.76%	
11:00 AM	29,424 sf	73.63%	110 sf	0.28%	203 sf	0.51%	
11:15 AM	19,325 sf	48.36%	3,267 sf	8.18%	4,749 sf	11.88%	
11:30 AM	13,924 sf	34.84%	4,554 sf	11.40%	4,940 sf	12.36%	
11:45 AM	8,886 sf	22.24%	3,696 sf	9.25%	6,382 sf	15.97%	
12:00 PM	6,294 sf	15.75%	2,529 sf	6.33%	7,148 sf	17.89%	
12:15 PM	8,099 sf	20.27%	3,157 sf	7.90%	5,300 sf	13.26%	
12:30 PM	14,257 sf	35.68%	2,230 sf	5.58%	2,271 sf	5.68%	
12:45 PM	22,283 sf	55.76%	1,281 sf	3.21%	1,281 sf	3.21%	
1:00 PM	29,661 sf	74.22%	392 sf	0.98%	392 sf	0.98%	
1:15 PM	32,817 sf	82.12%	12 sf	0.03%	12 sf	0.03%	
1:30 PM	33,296 sf	83.32%	0 sf	0.00%	0 sf	0.00%	
1:45 PM	34,005 sf	85.09%	0 sf	0.00%	0 sf	0.00%	
2:00 PM	38,577 sf	96.54%	0 sf	0.00%	0 sf	0.00%	
2:15 PM	37,051 sf	92.72%	0 sf	0.00%	0 sf	0.00%	
2:30 PM	23,921 sf	59.86%	0 sf	0.00%	0 sf	0.00%	
2:45 PM	15,049 sf	37.66%	0 sf	0.00%	0 sf	0.00%	
3:00 PM	11,302 sf	28.28%	0 sf	0.00%	0 sf	0.00%	
3:15 PM	19,480 sf	48.75%	0 sf	0.00%	0 sf	0.00%	
3:30 PM	30,483 sf	76.28%	0 sf	0.00%	0 sf	0.00%	
3:45 PM	39,166 sf	98.01%	0 sf	0.00%	0 sf	0.00%	
3:51 PM	39,915 sf	99.88%	0 sf	0.00%	0 sf	0.00%	

PROJECT: TB2 Kennerly Mithune
OPEN SPACE: Transbay Park (39,962 sf)

December 13

Mirror date: December 28
Analysis hours: 8:15 AM-3:52 PM (PST)

Shadow / Sunlight Balance Key

Analysis Time	EXISTING SHADOW		PROJECT NET NEW SHADOW		CUMULATIVE+PROJ SHADOW		SHADOW/SUNLIGHT BALANCE
	Shadow Area	Coverage	Shadow Area	Coverage	Shadow Area (sf)	Coverage	ative levels of Existing/Project/Cumulative Shadow vs. S
8:15 AM	30,540 sf	76.42%	6,855 sf	17.15%	6,855 sf	17.15%	
8:30 AM	31,759 sf	79.47%	6,446 sf	16.13%	6,446 sf	16.13%	
8:45 AM	33,349 sf	83.45%	4,766 sf	11.93%	4,766 sf	11.93%	
9:00 AM	32,676 sf	81.77%	3,990 sf	9.98%	3,990 sf	9.98%	
9:15 AM	28,039 sf	70.16%	8,797 sf	22.01%	8,797 sf	22.01%	
9:30 AM	24,511 sf	61.34%	13,066 sf	32.70%	13,066 sf	32.70%	
9:45 AM	20,702 sf	51.81%	15,736 sf	39.38%	15,736 sf	39.38%	
10:00 AM	18,200 sf	45.54%	15,719 sf	39.33%	15,719 sf	39.33%	
10:15 AM	22,419 sf	56.10%	12,073 sf	30.21%	12,073 sf	30.21%	
10:30 AM	29,283 sf	73.28%	6,334 sf	15.85%	6,334 sf	15.85%	
10:45 AM	34,161 sf	85.48%	2,069 sf	5.18%	2,069 sf	5.18%	
11:00 AM	32,137 sf	80.42%	220 sf	0.55%	344 sf	0.86%	
11:15 AM	23,560 sf	58.96%	2,665 sf	6.67%	4,217 sf	10.55%	
11:30 AM	17,139 sf	42.89%	4,731 sf	11.84%	5,191 sf	12.99%	
11:45 AM	11,848 sf	29.65%	4,136 sf	10.35%	6,379 sf	15.96%	
12:00 PM	7,782 sf	19.47%	2,669 sf	6.68%	7,823 sf	19.58%	
12:15 PM	8,397 sf	21.01%	2,579 sf	6.45%	6,175 sf	15.45%	
12:30 PM	12,591 sf	31.51%	2,789 sf	6.98%	3,535 sf	8.85%	
12:45 PM	20,232 sf	50.63%	1,808 sf	4.52%	1,863 sf	4.66%	
1:00 PM	28,236 sf	70.66%	801 sf	2.00%	801 sf	2.00%	
1:15 PM	32,522 sf	81.38%	144 sf	0.36%	144 sf	0.36%	
1:30 PM	33,588 sf	84.05%	0 sf	0.00%	0 sf	0.00%	
1:45 PM	33,670 sf	84.25%	0 sf	0.00%	0 sf	0.00%	
2:00 PM	37,911 sf	94.87%	0 sf	0.00%	0 sf	0.00%	
2:15 PM	39,213 sf	98.13%	0 sf	0.00%	0 sf	0.00%	
2:30 PM	27,831 sf	69.64%	0 sf	0.00%	0 sf	0.00%	
2:45 PM	17,999 sf	45.04%	0 sf	0.00%	0 sf	0.00%	
3:00 PM	11,145 sf	27.89%	0 sf	0.00%	0 sf	0.00%	
3:15 PM	17,884 sf	44.75%	0 sf	0.00%	0 sf	0.00%	
3:30 PM	29,221 sf	73.12%	0 sf	0.00%	0 sf	0.00%	
3:45 PM	38,395 sf	96.08%	0 sf	0.00%	0 sf	0.00%	
3:52 PM	39,714 sf	99.38%	0 sf	0.00%	0 sf	0.00%	

PROJECT: TB2 Kennerly Mithune
OPEN SPACE: Transbay Park (39,962 sf)

December 20

Winter solstice (December 21 similar)
Analysis hours: 8:19 AM-3:54 PM (PST)

Shadow / Sunlight Balance Key

Analysis Time	EXISTING SHADOW		PROJECT NET NEW SHADOW		CUMULATIVE+PROJ SHADOW		SHADOW/SUNLIGHT BALANCE
	Shadow Area	Coverage	Shadow Area	Coverage	Shadow Area (sf)	Coverage	ative levels of Existing/Project/Cumulative Shadow vs. S
8:19 AM	30,782 sf	77.03%	6,703 sf	16.77%	6,703 sf	16.77%	
8:30 AM	31,343 sf	78.43%	6,713 sf	16.80%	6,713 sf	16.80%	
8:45 AM	33,457 sf	83.72%	5,080 sf	12.71%	5,080 sf	12.71%	
9:00 AM	33,137 sf	82.92%	3,916 sf	9.80%	3,916 sf	9.80%	
9:15 AM	28,991 sf	72.55%	7,615 sf	19.06%	7,615 sf	19.06%	
9:30 AM	25,190 sf	63.04%	12,510 sf	31.30%	12,510 sf	31.30%	
9:45 AM	21,428 sf	53.62%	15,323 sf	38.34%	15,323 sf	38.34%	
10:00 AM	18,355 sf	45.93%	16,259 sf	40.69%	16,259 sf	40.69%	
10:15 AM	20,878 sf	52.24%	13,074 sf	32.72%	13,074 sf	32.72%	
10:30 AM	28,088 sf	70.29%	7,657 sf	19.16%	7,657 sf	19.16%	
10:45 AM	33,277 sf	83.27%	2,838 sf	7.10%	2,838 sf	7.10%	
11:00 AM	34,003 sf	85.09%	508 sf	1.27%	542 sf	1.36%	
11:15 AM	26,256 sf	65.70%	1,359 sf	3.40%	2,884 sf	7.22%	
11:30 AM	18,512 sf	46.32%	4,657 sf	11.65%	5,187 sf	12.98%	
11:45 AM	13,902 sf	34.79%	4,543 sf	11.37%	6,238 sf	15.61%	
12:00 PM	8,771 sf	21.95%	3,069 sf	7.68%	7,992 sf	20.00%	
12:15 PM	8,534 sf	21.36%	2,338 sf	5.85%	6,927 sf	17.33%	
12:30 PM	11,044 sf	27.64%	3,171 sf	7.94%	4,618 sf	11.56%	
12:45 PM	18,317 sf	45.84%	2,166 sf	5.42%	2,324 sf	5.81%	
1:00 PM	26,619 sf	66.61%	1,122 sf	2.81%	1,122 sf	2.81%	
1:15 PM	31,895 sf	79.81%	366 sf	0.92%	366 sf	0.92%	
1:30 PM	33,633 sf	84.16%	0 sf	0.00%	0 sf	0.00%	
1:45 PM	33,726 sf	84.39%	0 sf	0.00%	0 sf	0.00%	
2:00 PM	36,780 sf	92.04%	0 sf	0.00%	0 sf	0.00%	
2:15 PM	39,708 sf	99.37%	0 sf	0.00%	0 sf	0.00%	
2:30 PM	31,383 sf	78.53%	0 sf	0.00%	0 sf	0.00%	
2:45 PM	20,396 sf	51.04%	0 sf	0.00%	0 sf	0.00%	
3:00 PM	12,645 sf	31.64%	0 sf	0.00%	0 sf	0.00%	
3:15 PM	15,979 sf	39.99%	0 sf	0.00%	0 sf	0.00%	
3:30 PM	27,026 sf	67.63%	0 sf	0.00%	0 sf	0.00%	
3:45 PM	37,321 sf	93.39%	0 sf	0.00%	0 sf	0.00%	
3:54 PM	39,673 sf	99.28%	0 sf	0.00%	0 sf	0.00%	

APPENDIX C:
Transbay Block 2
Detailed Shadow Diagrams

Oct 2022

C2.1

BLOCK 2 PROJECT (CUMULATIVE SCENARIO)

Summer Solstice (*No Mirror Date*)

N

SUMMER SOLSTICE (*NO MIRROR DATE*)
JUNE 21

6:47 AM

LEGEND

- Existing Structures
- Existing Shadows
- Block 2 Project
- Proposed Project's Net Shadow
- Cumulative Structures
- Cumulative Shadows

Open/Public Spaces
1. **Transbay Park**
2. Salesforce Park
3. Rincon Park

POPOS
4. Spear Street Terrace
5. Howard/Fremont Plaza
6. **Main Street Plaza**
7. 201 Mission
8. Beale Street Plaza
9. **Urban Park**
10. Salesforce Plaza
11. 180 Howard

C2.2

BLOCK 2 PROJECT (CUMULATIVE SCENARIO)

Summer Solstice (*No Mirror Date*)

N

SUMMER SOLSTICE (*NO MIRROR DATE*)
JUNE 21

7:00 AM

LEGEND

- Existing Structures
- Existing Shadows
- Block 2 Project
- Proposed Project's Net Shadow
- Cumulative Structures
- Cumulative Shadows

Open/Public Spaces
1. **Transbay Park**
2. Salesforce Park
3. Rincon Park

POPOS
4. Spear Street Terrace
5. Howard/Fremont Plaza
6. **Main Street Plaza**
7. 201 Mission
8. Beale Street Plaza
9. **Urban Park**
10. Salesforce Plaza
11. 180 Howard

C2.3

BLOCK 2 PROJECT (CUMULATIVE SCENARIO)

Summer Solstice (*No Mirror Date*)

N

SUMMER SOLSTICE (*NO MIRROR DATE*)
JUNE 21

8:00 AM

LEGEND

- Existing Structures
- Existing Shadows
- Block 2 Project
- Proposed Project's Net Shadow
- Cumulative Structures
- Cumulative Shadows

Open/Public Spaces
1. **Transbay Park**
2. Salesforce Park
3. Rincon Park

POPOS
4. Spear Street Terrace
5. Howard/Fremont Plaza
6. **Main Street Plaza**
7. 201 Mission
8. Beale Street Plaza
9. **Urban Park**
10. Salesforce Plaza
11. 180 Howard

C2.4

BLOCK 2 PROJECT (CUMULATIVE SCENARIO)

Summer Solstice (*No Mirror Date*)

N

SUMMER SOLSTICE (*NO MIRROR DATE*)
JUNE 21

9:00 AM

LEGEND

- Existing Structures
- Existing Shadows
- Block 2 Project
- Proposed Project's Net Shadow
- Cumulative Structures
- Cumulative Shadows

Open/Public Spaces
1. **Transbay Park**
2. Salesforce Park
3. Rincon Park

POPOS
4. Spear Street Terrace
5. Howard/Fremont Plaza
6. **Main Street Plaza**
7. 201 Mission
8. Beale Street Plaza
9. **Urban Park**
10. Salesforce Plaza
11. 180 Howard

C2.5

BLOCK 2 PROJECT (CUMULATIVE SCENARIO)

Summer Solstice (*No Mirror Date*)

N

SUMMER SOLSTICE (*NO MIRROR DATE*)
JUNE 21

10:00 AM

LEGEND

- Existing Structures
- Existing Shadows
- Block 2 Project
- Proposed Project's Net Shadow
- Cumulative Structures
- Cumulative Shadows

Open/Public Spaces

1. **Transbay Park**
2. Salesforce Park
3. Rincon Park

POPOS

4. Spear Street Terrace
5. Howard/Fremont Plaza
6. **Main Street Plaza**
7. 201 Mission
8. Beale Street Plaza
9. **Urban Park**
10. Salesforce Plaza
11. 180 Howard

C2.6

BLOCK 2 PROJECT (CUMULATIVE SCENARIO)

Summer Solstice (*No Mirror Date*)

N

SUMMER SOLSTICE (*NO MIRROR DATE*)
JUNE 21

11:00 AM

LEGEND

- Existing Structures
- Existing Shadows
- Block 2 Project
- Proposed Project's Net Shadow
- Cumulative Structures
- Cumulative Shadows

Open/Public Spaces

1. **Transbay Park**
2. Salesforce Park
3. Rincon Park

POPOS

4. Spear Street Terrace
5. Howard/Fremont Plaza
6. **Main Street Plaza**
7. 201 Mission
8. Beale Street Plaza
9. **Urban Park**
10. Salesforce Plaza
11. 180 Howard

C2.7

BLOCK 2 PROJECT (CUMULATIVE SCENARIO)

Summer Solstice (*No Mirror Date*)

N

SUMMER SOLSTICE (*NO MIRROR DATE*)
JUNE 21

12:00 PM

LEGEND

- Existing Structures
- Existing Shadows
- Block 2 Project
- Proposed Project's Net Shadow
- Cumulative Structures
- Cumulative Shadows

Open/Public Spaces
1. **Transbay Park**
2. Salesforce Park
3. Rincon Park

POPOS
4. Spear Street Terrace
5. Howard/Fremont Plaza
6. **Main Street Plaza**
7. 201 Mission
8. Beale Street Plaza
9. **Urban Park**
10. Salesforce Plaza
11. 180 Howard

C2.8

BLOCK 2 PROJECT (CUMULATIVE SCENARIO)

Summer Solstice (*No Mirror Date*)

N

SUMMER SOLSTICE (*NO MIRROR DATE*)
JUNE 21

1:00 PM

LEGEND

- Existing Structures
- Existing Shadows
- Block 2 Project
- Proposed Project's Net Shadow
- Cumulative Structures
- Cumulative Shadows

Open/Public Spaces
1. **Transbay Park**
2. Salesforce Park
3. Rincon Park

POPOS
4. Spear Street Terrace
5. Howard/Fremont Plaza
6. **Main Street Plaza**
7. 201 Mission
8. Beale Street Plaza
9. **Urban Park**
10. Salesforce Plaza
11. 180 Howard

C2.9

BLOCK 2 PROJECT (CUMULATIVE SCENARIO)

Summer Solstice (*No Mirror Date*)

N

SUMMER SOLSTICE (*NO MIRROR DATE*)
JUNE 21

2:00 PM

LEGEND

- Existing Structures
- Existing Shadows
- Block 2 Project
- Proposed Project's Net Shadow
- Cumulative Structures
- Cumulative Shadows

Open/Public Spaces
1. **Transbay Park**
2. Salesforce Park
3. Rincon Park

POPOS
4. Spear Street Terrace
5. Howard/Fremont Plaza
6. **Main Street Plaza**
7. 201 Mission
8. Beale Street Plaza
9. **Urban Park**
10. Salesforce Plaza
11. 180 Howard

C2.10

BLOCK 2 PROJECT (CUMULATIVE SCENARIO)

Summer Solstice (*No Mirror Date*)

N

SUMMER SOLSTICE (*NO MIRROR DATE*)
JUNE 21

3:00 PM

LEGEND

- Existing Structures
- Existing Shadows
- Block 2 Project
- Proposed Project's Net Shadow
- Cumulative Structures
- Cumulative Shadows

Open/Public Spaces
1. **Transbay Park**
2. Salesforce Park
3. Rincon Park

POPOS
4. Spear Street Terrace
5. Howard/Fremont Plaza
6. **Main Street Plaza**
7. 201 Mission
8. Beale Street Plaza
9. **Urban Park**
10. Salesforce Plaza
11. 180 Howard

C2.11

BLOCK 2 PROJECT (CUMULATIVE SCENARIO)

Summer Solstice (*No Mirror Date*)

N

SUMMER SOLSTICE (*NO MIRROR DATE*)
JUNE 21

4:00 PM

LEGEND

- Existing Structures
- Existing Shadows
- Block 2 Project
- Proposed Project's Net Shadow
- Cumulative Structures
- Cumulative Shadows

Open/Public Spaces
1. **Transbay Park**
2. Salesforce Park
3. Rincon Park

POPOS
4. Spear Street Terrace
5. Howard/Fremont Plaza
6. **Main Street Plaza**
7. 201 Mission
8. Beale Street Plaza
9. **Urban Park**
10. Salesforce Plaza
11. 180 Howard

C2.12

BLOCK 2 PROJECT (CUMULATIVE SCENARIO)

Summer Solstice (*No Mirror Date*)

N

SUMMER SOLSTICE (*NO MIRROR DATE*)
JUNE 21

5:00 PM

LEGEND

- Existing Structures
- Existing Shadows
- Block 2 Project
- Proposed Project's Net Shadow
- Cumulative Structures
- Cumulative Shadows

Open/Public Spaces
1. **Transbay Park**
2. Salesforce Park
3. Rincon Park

POPOS
4. Spear Street Terrace
5. Howard/Fremont Plaza
6. **Main Street Plaza**
7. 201 Mission
8. Beale Street Plaza
9. **Urban Park**
10. Salesforce Plaza
11. 180 Howard

C2.13 BLOCK 2 PROJECT (CUMULATIVE SCENARIO)

Summer Solstice (*No Mirror Date*)

N

SUMMER SOLSTICE (*NO MIRROR DATE*)
JUNE 21

6:00 PM

LEGEND

- Existing Structures
- Existing Shadows
- Block 2 Project
- Proposed Project's Net Shadow
- Cumulative Structures
- Cumulative Shadows

Open/Public Spaces
1. **Transbay Park**
2. Salesforce Park
3. Rincon Park

POPOS
4. Spear Street Terrace
5. Howard/Fremont Plaza
6. **Main Street Plaza**
7. 201 Mission
8. Beale Street Plaza
9. **Urban Park**
10. Salesforce Plaza
11. 180 Howard

C2.14

BLOCK 2 PROJECT (CUMULATIVE SCENARIO)

Summer Solstice (*No Mirror Date*)

N

SUMMER SOLSTICE (*NO MIRROR DATE*)
JUNE 21

7:00 PM

LEGEND

- Existing Structures
- Existing Shadows
- Block 2 Project
- Proposed Project's Net Shadow
- Cumulative Structures
- Cumulative Shadows

Open/Public Spaces
1. **Transbay Park**
2. Salesforce Park
3. Rincon Park

POPOS
4. Spear Street Terrace
5. Howard/Fremont Plaza
6. **Main Street Plaza**
7. 201 Mission
8. Beale Street Plaza
9. **Urban Park**
10. Salesforce Plaza
11. 180 Howard

C2.15 BLOCK 2 PROJECT (CUMULATIVE SCENARIO)

Summer Solstice (*No Mirror Date*)

N

SUMMER SOLSTICE (*NO MIRROR DATE*)
JUNE 21

7:36 PM

LEGEND

- Existing Structures
- Existing Shadows
- Block 2 Project
- Proposed Project's Net Shadow
- Cumulative Structures
- Cumulative Shadows

Open/Public Spaces

1. **Transbay Park**
2. Salesforce Park
3. Rincon Park

POPOS

4. Spear Street Terrace
5. Howard/Fremont Plaza
6. **Main Street Plaza**
7. 201 Mission
8. Beale Street Plaza
9. **Urban Park**
10. Salesforce Plaza
11. 180 Howard

C2.16 BLOCK 2 PROJECT (CUMULATIVE SCENARIO)

Fall/Spring Equinoxes

N

FALL EQUINOX (*SPRING SIMILAR*)
SEPTEMBER 21

7:57 AM

LEGEND

- Existing Structures
- Existing Shadows
- Block 2 Project
- Proposed Project's Net Shadow
- Cumulative Structures
- Cumulative Shadows

Open/Public Spaces

1. **Transbay Park**
2. Salesforce Park
3. Rincon Park

POPOS

4. Spear Street Terrace
5. Howard/Fremont Plaza
6. **Main Street Plaza**
7. 201 Mission
8. Beale Street Plaza
9. **Urban Park**
10. Salesforce Plaza
11. 180 Howard

C2.17 BLOCK 2 PROJECT (CUMULATIVE SCENARIO)

Fall/Spring Equinoxes

N

FALL EQUINOX (*SPRING SIMILAR*)
SEPTEMBER 21

8:00 AM

LEGEND

- Existing Structures
- Existing Shadows
- Block 2 Project
- Proposed Project's Net Shadow
- Cumulative Structures
- Cumulative Shadows

Open/Public Spaces
1. **Transbay Park**
2. Salesforce Park
3. Rincon Park

POPOS
4. Spear Street Terrace
5. Howard/Fremont Plaza
6. **Main Street Plaza**
7. 201 Mission
8. Beale Street Plaza
9. **Urban Park**
10. Salesforce Plaza
11. 180 Howard

C2.18 BLOCK 2 PROJECT (CUMULATIVE SCENARIO)

Fall/Spring Equinoxes

N

FALL EQUINOX (*SPRING SIMILAR*)
SEPTEMBER 21

9:00 AM

LEGEND

- Existing Structures
- Existing Shadows
- Block 2 Project
- Proposed Project's Net Shadow
- Cumulative Structures
- Cumulative Shadows

Open/Public Spaces

1. **Transbay Park**
2. Salesforce Park
3. Rincon Park

POPOS

4. Spear Street Terrace
5. Howard/Fremont Plaza
6. **Main Street Plaza**
7. 201 Mission
8. Beale Street Plaza
9. **Urban Park**
10. Salesforce Plaza
11. 180 Howard

C2.19 BLOCK 2 PROJECT (CUMULATIVE SCENARIO)

Fall/Spring Equinoxes

N

FALL EQUINOX (*SPRING SIMILAR*)
SEPTEMBER 21

10:00 AM

LEGEND

- Existing Structures
- Existing Shadows
- Block 2 Project
- Proposed Project's Net Shadow
- Cumulative Structures
- Cumulative Shadows

Open/Public Spaces

1. **Transbay Park**
2. Salesforce Park
3. Rincon Park

POPOS

4. Spear Street Terrace
5. Howard/Fremont Plaza
6. **Main Street Plaza**
7. 201 Mission
8. Beale Street Plaza
9. **Urban Park**
10. Salesforce Plaza
11. 180 Howard

C2.20

BLOCK 2 PROJECT (CUMULATIVE SCENARIO)

Fall/Spring Equinoxes

N

FALL EQUINOX (*SPRING SIMILAR*)
SEPTEMBER 21

11:00 AM

LEGEND

- Existing Structures
- Existing Shadows
- Block 2 Project
- Proposed Project's Net Shadow
- Cumulative Structures
- Cumulative Shadows

Open/Public Spaces
1. **Transbay Park**
2. Salesforce Park
3. Rincon Park

POPOS
4. Spear Street Terrace
5. Howard/Fremont Plaza
6. **Main Street Plaza**
7. 201 Mission
8. Beale Street Plaza
9. **Urban Park**
10. Salesforce Plaza
11. 180 Howard

C2.21

BLOCK 2 PROJECT (CUMULATIVE SCENARIO)

Fall/Spring Equinoxes

N

FALL EQUINOX (*SPRING SIMILAR*)
SEPTEMBER 21

12:00 PM

LEGEND

- Existing Structures
- Existing Shadows
- Block 2 Project
- Proposed Project's Net Shadow
- Cumulative Structures
- Cumulative Shadows

Open/Public Spaces

1. **Transbay Park**
2. Salesforce Park
3. Rincon Park

POPOS

4. Spear Street Terrace
5. Howard/Fremont Plaza
6. **Main Street Plaza**
7. 201 Mission
8. Beale Street Plaza
9. **Urban Park**
10. Salesforce Plaza
11. 180 Howard

C2.22 BLOCK 2 PROJECT (CUMULATIVE SCENARIO)

Fall/Spring Equinoxes

N

FALL EQUINOX (*SPRING SIMILAR*)
SEPTEMBER 21

1:00 PM

LEGEND

- Existing Structures
- Existing Shadows
- Block 2 Project
- Proposed Project's Net Shadow
- Cumulative Structures
- Cumulative Shadows

Open/Public Spaces

1. **Transbay Park**
2. Salesforce Park
3. Rincon Park

POPOS

4. Spear Street Terrace
5. Howard/Fremont Plaza
6. **Main Street Plaza**
7. 201 Mission
8. Beale Street Plaza
9. **Urban Park**
10. Salesforce Plaza
11. 180 Howard

C2.23

BLOCK 2 PROJECT (CUMULATIVE SCENARIO)

Fall/Spring Equinoxes

N

FALL EQUINOX (*SPRING SIMILAR*)
SEPTEMBER 21

2:00 PM

LEGEND

- Existing Structures
- Existing Shadows
- Block 2 Project
- Proposed Project's Net Shadow
- Cumulative Structures
- Cumulative Shadows

Open/Public Spaces
1. **Transbay Park**
2. Salesforce Park
3. Rincon Park

POPOS
4. Spear Street Terrace
5. Howard/Fremont Plaza
6. **Main Street Plaza**
7. 201 Mission
8. Beale Street Plaza
9. **Urban Park**
10. Salesforce Plaza
11. 180 Howard

C2.24

BLOCK 2 PROJECT (CUMULATIVE SCENARIO)

Fall/Spring Equinoxes

N

FALL EQUINOX (*SPRING SIMILAR*)
SEPTEMBER 21

3:00 PM

LEGEND

- Existing Structures
- Existing Shadows
- Block 2 Project
- Proposed Project's Net Shadow
- Cumulative Structures
- Cumulative Shadows

Open/Public Spaces

1. **Transbay Park**
2. Salesforce Park
3. Rincon Park

POPOS

4. Spear Street Terrace
5. Howard/Fremont Plaza
6. **Main Street Plaza**
7. 201 Mission
8. Beale Street Plaza
9. **Urban Park**
10. Salesforce Plaza
11. 180 Howard

C2.25

BLOCK 2 PROJECT (CUMULATIVE SCENARIO)

Fall/Spring Equinoxes

N

FALL EQUINOX (*SPRING SIMILAR*)
SEPTEMBER 21

4:00 PM

LEGEND

- Existing Structures
- Existing Shadows
- Block 2 Project
- Proposed Project's Net Shadow
- Cumulative Structures
- Cumulative Shadows

Open/Public Spaces

1. **Transbay Park**
2. Salesforce Park
3. Rincon Park

POPOS

4. Spear Street Terrace
5. Howard/Fremont Plaza
6. **Main Street Plaza**
7. 201 Mission
8. Beale Street Plaza
9. **Urban Park**
10. Salesforce Plaza
11. 180 Howard

C2.26

BLOCK 2 PROJECT (CUMULATIVE SCENARIO)

Fall/Spring Equinoxes

N

FALL EQUINOX (*SPRING SIMILAR*)
SEPTEMBER 21

5:00 PM

LEGEND

- Existing Structures
- Existing Shadows
- Block 2 Project
- Proposed Project's Net Shadow
- Cumulative Structures
- Cumulative Shadows

Open/Public Spaces

1. **Transbay Park**
2. Salesforce Park
3. Rincon Park

POPOS

4. Spear Street Terrace
5. Howard/Fremont Plaza
6. **Main Street Plaza**
7. 201 Mission
8. Beale Street Plaza
9. **Urban Park**
10. Salesforce Plaza
11. 180 Howard

C2.27 BLOCK 2 PROJECT (CUMULATIVE SCENARIO)

Fall/Spring Equinoxes

N

FALL EQUINOX (*SPRING SIMILAR*)
SEPTEMBER 21

6:00 PM

LEGEND

- Existing Structures
- Existing Shadows
- Block 2 Project
- Proposed Project's Net Shadow
- Cumulative Structures
- Cumulative Shadows

Open/Public Spaces
1. **Transbay Park**
2. Salesforce Park
3. Rincon Park

POPOS
4. Spear Street Terrace
5. Howard/Fremont Plaza
6. **Main Street Plaza**
7. 201 Mission
8. Beale Street Plaza
9. **Urban Park**
10. Salesforce Plaza
11. 180 Howard

C2.28

BLOCK 2 PROJECT (CUMULATIVE SCENARIO)

Fall/Spring Equinoxes

N

FALL EQUINOX (*SPRING SIMILAR*)
SEPTEMBER 21

6:10 PM

LEGEND

- Existing Structures
- Existing Shadows
- Block 2 Project
- Proposed Project's Net Shadow
- Cumulative Structures
- Cumulative Shadows

Open/Public Spaces

1. **Transbay Park**
2. Salesforce Park
3. Rincon Park

POPOS

4. Spear Street Terrace
5. Howard/Fremont Plaza
6. **Main Street Plaza**
7. 201 Mission
8. Beale Street Plaza
9. **Urban Park**
10. Salesforce Plaza
11. 180 Howard

C2.29

BLOCK 2 PROJECT (CUMULATIVE SCENARIO)

Winter Solstice (*No Mirror Date*)

N

WINTER SOLSTICE (*NO MIRROR DATE*)
DECEMBER 21

8:20 AM

LEGEND

- Existing Structures
- Existing Shadows
- Block 2 Project
- Proposed Project's Net Shadow
- Cumulative Structures
- Cumulative Shadows

Open/Public Spaces
1. **Transbay Park**
2. Salesforce Park
3. Rincon Park

POPOS
4. Spear Street Terrace
5. Howard/Fremont Plaza
6. **Main Street Plaza**
7. 201 Mission
8. Beale Street Plaza
9. **Urban Park**
10. Salesforce Plaza
11. 180 Howard

C2.30

BLOCK 2 PROJECT (CUMULATIVE SCENARIO)

Winter Solstice (*No Mirror Date*)

N

WINTER SOLSTICE (*NO MIRROR DATE*)
DECEMBER 21

9:00 AM

LEGEND

- Existing Structures
- Existing Shadows
- Block 2 Project
- Proposed Project's Net Shadow
- Cumulative Structures
- Cumulative Shadows

Open/Public Spaces
1. **Transbay Park**
2. Salesforce Park
3. Rincon Park

POPOS
4. Spear Street Terrace
5. Howard/Fremont Plaza
6. **Main Street Plaza**
7. 201 Mission
8. Beale Street Plaza
9. **Urban Park**
10. Salesforce Plaza
11. 180 Howard

C2.31

BLOCK 2 PROJECT (CUMULATIVE SCENARIO)

Winter Solstice (*No Mirror Date*)

N

WINTER SOLSTICE (*NO MIRROR DATE*)
DECEMBER 21

10:00 AM

LEGEND

- Existing Structures
- Existing Shadows
- Block 2 Project
- Proposed Project's Net Shadow
- Cumulative Structures
- Cumulative Shadows

Open/Public Spaces
1. **Transbay Park**
2. Salesforce Park
3. Rincon Park

POPOS
4. Spear Street Terrace
5. Howard/Fremont Plaza
6. **Main Street Plaza**
7. 201 Mission
8. Beale Street Plaza
9. **Urban Park**
10. Salesforce Plaza
11. 180 Howard

C2.32

BLOCK 2 PROJECT (CUMULATIVE SCENARIO)

Winter Solstice (*No Mirror Date*)

N

WINTER SOLSTICE (*NO MIRROR DATE*)
DECEMBER 21

11:00 AM

LEGEND

- Existing Structures
- Existing Shadows
- Block 2 Project
- Proposed Project's Net Shadow
- Cumulative Structures
- Cumulative Shadows

Open/Public Spaces
1. **Transbay Park**
2. Salesforce Park
3. Rincon Park

POPOS
4. Spear Street Terrace
5. Howard/Fremont Plaza
6. **Main Street Plaza**
7. 201 Mission
8. Beale Street Plaza
9. **Urban Park**
10. Salesforce Plaza
11. 180 Howard

C2.33

BLOCK 2 PROJECT (CUMULATIVE SCENARIO)

Winter Solstice (*No Mirror Date*)

N

WINTER SOLSTICE (*NO MIRROR DATE*)
DECEMBER 21

12:00 PM

LEGEND

- Existing Structures
- Existing Shadows
- Block 2 Project
- Proposed Project's Net Shadow
- Cumulative Structures
- Cumulative Shadows

Open/Public Spaces
1. **Transbay Park**
2. Salesforce Park
3. Rincon Park

POPOS
4. Spear Street Terrace
5. Howard/Fremont Plaza
6. **Main Street Plaza**
7. 201 Mission
8. Beale Street Plaza
9. **Urban Park**
10. Salesforce Plaza
11. 180 Howard

C2.34

BLOCK 2 PROJECT (CUMULATIVE SCENARIO)

Winter Solstice (*No Mirror Date*)

N

WINTER SOLSTICE (*NO MIRROR DATE*)
DECEMBER 21

1:00 PM

LEGEND

- Existing Structures
- Existing Shadows
- Block 2 Project
- Proposed Project's Net Shadow
- Cumulative Structures
- Cumulative Shadows

Open/Public Spaces
1. **Transbay Park**
2. Salesforce Park
3. Rincon Park

POPOS
4. Spear Street Terrace
5. Howard/Fremont Plaza
6. **Main Street Plaza**
7. 201 Mission
8. Beale Street Plaza
9. **Urban Park**
10. Salesforce Plaza
11. 180 Howard

C2.35

BLOCK 2 PROJECT (CUMULATIVE SCENARIO)

Winter Solstice (*No Mirror Date*)

N

WINTER SOLSTICE (*NO MIRROR DATE*)
DECEMBER 21

2:00 PM

LEGEND

- Existing Structures
- Existing Shadows
- Block 2 Project
- Proposed Project's Net Shadow
- Cumulative Structures
- Cumulative Shadows

Open/Public Spaces
1. **Transbay Park**
2. Salesforce Park
3. Rincon Park

POPOS
4. Spear Street Terrace
5. Howard/Fremont Plaza
6. **Main Street Plaza**
7. 201 Mission
8. Beale Street Plaza
9. **Urban Park**
10. Salesforce Plaza
11. 180 Howard

C2.36

BLOCK 2 PROJECT (CUMULATIVE SCENARIO)

Winter Solstice (*No Mirror Date*)

N

WINTER SOLSTICE (*NO MIRROR DATE*)
DECEMBER 21

3:00 PM

LEGEND

- Existing Structures
- Existing Shadows
- Block 2 Project
- Proposed Project's Net Shadow
- Cumulative Structures
- Cumulative Shadows

Open/Public Spaces
1. **Transbay Park**
2. Salesforce Park
3. Rincon Park

POPOS
4. Spear Street Terrace
5. Howard/Fremont Plaza
6. **Main Street Plaza**
7. 201 Mission
8. Beale Street Plaza
9. **Urban Park**
10. Salesforce Plaza
11. 180 Howard

C2.37

BLOCK 2 PROJECT (CUMULATIVE SCENARIO)

Winter Solstice (*No Mirror Date*)

N

WINTER SOLSTICE (*NO MIRROR DATE*)
DECEMBER 21

3:54 PM

LEGEND

- Existing Structures
- Existing Shadows
- Block 2 Project
- Proposed Project's Net Shadow
- Cumulative Structures
- Cumulative Shadows

Open/Public Spaces
1. **Transbay Park**
2. Salesforce Park
3. Rincon Park

POPOS
4. Spear Street Terrace
5. Howard/Fremont Plaza
6. **Main Street Plaza**
7. 201 Mission
8. Beale Street Plaza
9. **Urban Park**
10. Salesforce Plaza
11. 180 Howard