D. LIGHT AND SHADOW

1. Introduction

This section discusses existing visual conditions on the project site and the project vicinity, and analyzes the potential for the project to affect those conditions. The section focuses on the effects associated with light, glare, and shadow.

2. Setting

a. Environmental Setting

Project Vicinity. The approved Civiq Project is located to the east of the project site. The Civiq greenway is located on the property line between the Civiq project and the proposed project. The portion of the approved Civiq project buildings located to the east of the proposed Clarke Street building will be a four-story 37-foot tall residential building at Clarke Street and rise to 55 feet in the interior portion of the site. The portion of the approved Civiq project located adjacent to the south and southeast of the project site contains proposed rooftop solar collectors. The approved Civiq project located immediately to the south of the project site along Telegraph Avenue will be five stories tall and reach a maximum height of 57 feet at the corner of Telegraph Avenue and 51st Street.

The Oakland City Library Temescal Branch is located to the west of the project site, on the northwest corner of 52nd Street and Telegraph Avenue, and across Clarke Street to the south from the Redondo Playground of FROG Park. The Redondo Playground of FROG Park, a linear park that includes two children's playgrounds, is located to the northeast of the proposed project. The existing 5160 Claremont apartment building, which sits to the northwest of the project site, is a four-story residential building of 50 feet in height.

The project site is in close proximity to Highway 24. The site is well-served by transit, including bus lines operated by the Alameda-Contra Costa County Transit District (AC Transit). The site is within approximately .8 miles of the Rockridge BART station and approximately .7 miles of the MacArthur BART station.

Project Site. The site is currently occupied by a two-story building, which comprises ground floor retail space (video rental store) and second floor office space (vacant). The existing building was originally built as a bank building with a surface parking lot.

Property Uses of Light. Global Video, which currently occupies the first floor of the existing building, uses lights for its daily operation. The property also has security lights and flood lights in the parking lot. The second floor of the building is unoccupied office space, and does not use any light.

Neighboring Sources of Light. The project site is located in a built-out urban environment that has existing sources of light and glare associated with nearby land uses. Light sources in the area include lights from neighboring Claremont Towers apartments and traffic stop lights at the intersection of Telegraph and 52nd

Street. Additional sources of light include street lights along Telegraph Avenue, lights from cars traveling the major streets of Telegraph Avenue and 52nd Street during the evening and early morning hours and lights from neighboring residences.

b. Regulatory Setting

City of Oakland's Standard Conditions of Approval. The City's Standard Condition of Approval relevant to light and shadow is listed below for reference. The condition of approval will be adopted as requirements of the proposed project if the project is approved by the City to help ensure no significant impacts occur, as a result it not identified as mitigation measures.

Standard Condition AES-1: Lighting Plan. Prior to the issuance of an electrical or building permit, the proposed lighting fixtures shall be adequately shielded to a point below the light bulb and reflector and that prevent unnecessary glare onto adjacent properties. Plans shall be submitted to the Planning and Zoning Division and the Electrical Services Division of the Public Works Agency for review and approval. All lighting shall be architecturally integrated into the site.

3. Impacts and Mitigation Measures

a. Significance Criteria. Implementation of the proposed project would have a significant impact related to light and glare, or shadows, if it would:

1. Create a new source of substantial light or glare which would substantially and adversely affect day or nighttime views in the area;
2. Introduce landscape that would now or in the future cast substantial shadows on existing solar collectors (in conflict with California Public Resource Code Section 25980-25986);
3. Cast shadow that substantially impairs the function of a building using passive solar heat collection, solar collectors for hot water heating, or photovoltaic solar collectors;
4. Cast shadow that substantially impairs the beneficial use of any public or quasi-public park, lawn, garden, or open space;
5. Cast shadow on an historic resource, as defined by CEQA Section 15064.5(a), such that the shadow would materially impair the resource's historic significance by materially altering those physical characteristics of the resource that convey its historical significance and that justify its inclusion on or eligibility for listing in the National Register of Historic Places, California Register of Historical Resources, Local register of historical resources or a historical resource survey form (DPR Form 523) with a rating of 1-5; or
6. Require an exception (variance) to the policies and regulations in the General Plan, Planning Code, or Uniform Building Code, and the exception causes a fundamental conflict with policies and regulations in the General Plan, Planning Code, and Uniform Building Code addressing the provision of adequate light related to appropriate uses.

b. Less-than-Significant Light and Shadow Impacts

(1) Light and Glare. Lighting would be installed within the project site for the maintenance of public safety. This lighting, which would be directed downward to the sidewalk, is not expected to substantially adversely affect nighttime views. The project would incorporate non-reflective glass to eliminate glare from the residential and commercial windows. With the incorporation of the Standard Conditions of Approval regarding a lighting plan, the potential impact would be reduced to less than significant.

(2) Shadow Impacts. In order to identify the proposed project's potential shadow-related impacts, existing and project-generated shade patterns were compared for each of the four seasons (from 9:00 a.m. until 4:00 p.m.). Specifically, the following four dates were used for analysis purposes: the winter and summer solstices (December 22 and June 21), when the sun is at its lowest and highest point, respectively, and the spring and fall equinoxes (March 21 and September 23), when day and night are of approximately equal length. The shadow analysis was based on the images in Appendix D. A three-dimensional digital model of the proposed project was used to calculate the shadows for each time of day and date evaluated. Project building heights assumed in the shadow study model are outlined in Sub-section A.4 of Chapter III "Project Description" in this EIR. During the winter solstice in December, the sun is at its lowest and the project shadows would be at their longest. During the summer solstice in June, the sun is at its highest and the project shadows would be at their shortest. During the spring and fall equinoxes in March and September, respectively, shadows are midway through a period of shortening and lengthening. In general, new shadows from the project would fall in a westerly to northwesterly direction during the morning hours and sweep eastward to terminate in a northeasterly and then easterly direction as the afternoon progresses.

The site reconnaissance conducted for this analysis did not identify any existing passive solar heat collectors, solar collection for hot water heating, or photovoltaic solar collectors in the areas adjacent to the project site. The project and proposed landscaping would not cast a shadow on a building currently using passive solar heat collection, solar collectors for hot water heating or photovoltaic solar collectors. The approved Civiq project located adjacent to the south and southeast of the project site contains proposed rooftop solar collectors.

(a) Shadow Analysis of Existing Conditions

(i) Approved Civiq Project

A. Solar Collectors. Each of the buildings in the approved Civiq project would have solar collectors on the rooftop. The height of these buildings exceeds the height of the existing building on the site, so the existing building would not cast shadows on these solar collectors.

B. Greenway. The Civiq greenway would primarily be a public walkway in the Civiq project located on the adjacent property to the east. During the equinoxes, the approved Civiq project would cast shadow over the greenway during the entire day. At 9:00 a.m. and 10:00 a.m. the greenway would be almost entirely covered by shadow from the building on the north of the approved Civiq project. (See Appendix D Figures D-1 and D-2).

This building would continue to cast shadow over the north and northeast portions of the greenway until approximately 2:00 p.m. (See Appendix D Figures D-3 – D-5). Starting at approximately 2:00 p.m. the building on the western side of the approved Civiq project would cast shadow on the southern and central portions of the greenway. (See Appendix D Figure D-6). At 3:00 p.m. the shadow from this building and the trees on the greenway would cast shadow over almost the entire greenway. (See Appendix D Figure D-7). At 4:00 p.m. the shadow from this building would cast shadow over almost the entire greenway. (See Appendix D Figure D-8).

During the summer solstice (June 21), the buildings on the north and east of the approved Civiq project would cast shadow over the entire greenway at 9:00 a.m. and 10:00 a.m. (See Appendix D Figures D-25 and D-26). At 11:00 a.m. the northern building of the approved Civiq project would cast shadow over the portion of the greenway adjacent to that building. (See Appendix D Figure D-27). Collectively, the buildings on the approved Civiq project would cast shadow over the central and northern portions of the greenway at 12:00 p.m. and 1:00 p.m. (See Appendix D Figures D-28 and D-29). At 2:00 p.m. and 3:00 p.m. the building on the western side of the approved Civiq project, the existing property line wall and the trees on the greenway would cast shadow over almost the entire greenway. (See Appendix D Figures D-30 and D-31). At 4:00 p.m. the building, wall and trees would cast a shadow over nearly the entire southern and most of the western portions of the greenway. (See Appendix D Figure D-32).

From 9:00 a.m. until 12:00 p.m. during the winter solstice (December 22), the approved Civiq project would cast shadows that cover nearly the entire greenway. (See Appendix D Figures D-9, 10 and 11). At 12:00 and 1:00 p.m the northern building on the approved Civiq project and the trees on the greenway would cast shadow over the northern half of the greenway. (See Appendix D Figures D-12 and D-13). At 2:00 p.m. and 3:00 p.m. the building on the western portion of the approved Civiq project and the trees on the greenway would cast significant shadow that covers nearly all of the greenway. (See Appendix D Figures D-14 and D-15). At 4:00 p.m. the approved Civiq project would cast shadows that entirely cover the greenway. (See Appendix D Figure D-16).

(ii) Redondo Playground. The Redondo Playground of Frog Park is situated to the northeast of the proposed project and contains a number of large evergreen (mostly Redwood) conifer trees, play areas, benches and a picnic area. The park is situated at the northwest corner of Clarke Street and Redondo Avenue directly across Clarke Street from the project site. The existing mature trees in the park cast significant shadow on the park at all times of the year.

During the autumnal and spring equinoxes, the existing trees cast shadow on the playground equipment, benches and picnic area of the park at all hours. (See Appendix D Figures D-34 through D-41). These shadows begin in a westerly or northwesterly direction in the morning hours, and move easterly throughout the course of the day.

During the summer solstice, the existing trees cast shadow on the playground that covers the playground equipment, benches and picnic area at 9:00 and 10:00 a.m. After this, the shadow from the existing trees beings to dissipate. (See Appendix D Figures D-42 through D-43).

During the winter solstice, the shadow cast by the existing trees, the fence on the park and the buildings across Redondo Street is lightest at 9:00 a.m. As the day progresses, the shadows begin to move northwesterly, allowing more sunlight to the playground equipment, benches and picnic area. (See Appendix D Figures D-50 through D-57).

(iii) Temescal Library. The Temescal Library has trees that line Telegraph Avenue which cast shadow over the eastern façade at all times of the year. Additionally, the roof of the library casts shadow along the eastern façade starting at noon at all times during the year. At 1:00 p.m. during the four seasons studied, the shadow cast by the roof covers almost the entire eastern façade. Due to the library's orientation respective to the sun, these shadows last for the remainder of the day.

The existing building and trees on the project site do not cast any shadows on the Temescal Library during the autumnal or spring equinoxes and the summer solstice. (See Appendix D Figures D-59 through D-65 and D-82 through D-89). The existing trees located in front of the eastern façade of the Temescal Library cast small shadows on the library in the mornings during the autumnal and spring equinoxes at 9:00 a.m. and 10:00 a.m. (See Appendix D Figures D-58, D-59, D-74 and D-75).

The existing building on the project site and the trees in front of the project site along Telegraph Avenue cast shadows on the Temescal Library during the winter solstice at 9:00 a.m. and 10:00 a.m. (See Appendix D Figures D-66 and D-67). The remaining hours of the Winter Solstice are shown in Appendix D Figures D-68 – D-73.

(iv) Claremont Towers Apartments. 5160 Claremont (Claremont Towers) is four (4) stories tall and there are three (3) units on each floor that face the common property line across an irregularly shaped yard. There is existing vegetation that impedes light to and views from the 1st, 2nd and 3rd floor south- and east-facing windows of the Claremont Park Apartments. The design of Claremont Park Apartments causes the building to cast shadows on itself throughout the day during the autumnal and spring equinoxes. Nearly the entire façade facing the project site is covered by shadow from the building at 3:00 p.m. At 4:00 p.m. the entire façade is covered by shadow from its own building. (See Appendix D Figures D-97 and D-98).

At 9:00 a.m. During the summer solstice, the Claremont Tpwers building casts shadow westward onto its own façade. (See Appendix D Figure D-99). This westward shadow reaches its peak at approximately 11:00 a.m. (See Appendix D Figure D-101). At 1:00 p.m. the building begins casting shadow eastward. (See Appendix D Figure D-103). This eastward shadow completely covers the façade facing the project at 2:00 p.m. (See Appendix D Figure D-104). The façade facing the project site is completely covered in shadow for the rest of the day. (See Appendix D Figures D-105 and D-106).

During the winter solstice, the existing vegetation casts shadow over Claremont Towers in the early morning hours. (See Appendix D Figures D-107 and D-108). As the day progresses, the shadow cast by the vegetation dissipates to the east. (See Appendix D Figures D-109 – D-112). At approximately 3:00 p.m. the building casts shadow that begins to cover the east-facing façade. (See Appendix D Figure D-113). At approximately 4:00 p.m. the eastern façade of the building is nearly completely covered in shadow. (See Appendix D Figure D-114).

(b) Shadow Analysis of Project on Neighboring Parcels

(i) Civiq project.

A. Solar Collectors. The approved Civiq project located adjacent to the south and southeast of the project site contains proposed rooftop solar collectors. Due to solar orientation relative to the project site and the Civiq site, the project would not cast shadows on the proposed Civiq solar collectors.

B. Greenway. The project would cast additional shadow covering a small portion of the northern portion of the greenway at approximately 3:00 p.m. during the autumn and spring equinoxes. (See Appendix D Figures D-23 and D-7). During the equinoxes, the approved Civiq project would cast shadow over the greenway starting at 4:00 p.m. that would cover almost the entire greenway. (See Appendix D Figures D-24 and D-8.) The project would cast shadows that cover the remaining portion of the greenway. The additional shadow cast by the project is approximately 98 feet long, and covers an area of 590 square feet.

During the summer solstice the project would cast additional shadow at approximately 3:00 p.m. and 4:00 p.m. (See Appendix D Figures D-31 and D-32.) At 3:00 p.m. the shadow cast by the project is approximately 90 feet long and covers an area of 540 square feet. At 4:00 p.m. this shadow increases to approximately 140 feet in length and covers an area of approximately 900 square feet. During the winter solstice the project would not cast any additional shadow on the greenway.

The project would not cast any additional shadow on the greenway during the months of November, December or January. During the months of February, March, April, August, September and October the project would not have a shadow impact on the greenway before 4:00 p.m. During the months of May, June and July the project would not have a shadow impact on the greenway before 3:00 p.m.

The shadow impact of the project on the greenway is less than significant. The buildings in the approved Civiq project would cast shadow covering most of the greenway during the year. The amount of shadow that would be cast by the project on the greenway is limited in size and duration. The amount of shadow the project would cast on the greenway would not impair the use of the greenway as a public walkway.

(ii) Redondo Playground. The project would cast afternoon shadow on the park during the months of September, October, November, December, January, February and March (See Appendix D Figures D-34 through D-41, D-50 through D-57 through, and D-58 through D-65.) During the fall equinox (September 23) the project would cast shadow on the park beginning at approximately 3:00 p.m. (4:00 p.m. during the spring equinox on March 21). This shadow would extend up to approximately ten feet into the southeast side of the park near Clarke Street at a width up to approximately 50 feet. The new 500 square feet of shadow cast by the project would shadow approximately four percent of the park's total area. The shadow would be cast on an open area not occupied by play equipment or seating/picnic areas.

During the winter solstice (December 22) the project would cast shadow on the park beginning at approximately 1:30 p.m. This shadow would extend up to approximately 20 feet into the southeast side of the park near Clarke Street at a width up to approximately 50 feet. The new 1,000 square feet of shadow cast by the project would shadow approximately nine percent of the park's total area. The shadow would be cast primarily on an open area not occupied by play equipment or seating/picnic areas with a small portion of the shadow encroaching onto the southeast portion of the southeastern-most play area replacing existing scattered light which is currently filtered by existing trees and fences.

The project would not cast any shadow on the park during the months of April, May, June, July and August.

The shadow cast by the proposed project on the park would not substantially impair the beneficial use of the park. No new shadow would be cast during the summer and during the morning and the middle of the day during the remainder of the year. Shadow cast by the project during the fall, winter and spring would be restricted to the afternoon and shadow only a small percentage of the park. Except during winter when the project would cast a new shadow on only a limited portion of one of the play areas thereby replacing existing filtered sunlight, new shadow cast by the project would cover an open area not occupied by play equipment or seating/picnic areas. Park users would continue to be able to use the park's play areas, benches and picnic areas beneficially. Thus, the new shadow cast by the project on the park would be considered a less than significant impact.

(iii) Temescal Library. The Oakland City Library Temescal Branch located on the northwest corner of 52nd Street and Telegraph Avenue is City of Oakland Historical Landmark #43 and is, therefore, considered an historic resource under CEQA.

CEQA Section 21084.1 states "a project that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment." A "substantial adverse change" is defined by CEQA Guidelines Section 15064.5 as "demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired." The significance of an historical resource is "materially impaired," according to Guidelines Section 15064.5(b)(2), when a project demolishes or materially alters, in an adverse manner, those physical characteristics of the resource that:

- convey its historic significance and that justify its inclusion in, or eligibility for inclusion in, the California Register of Historical Resources (including a determination by the lead agency that the resource is eligible for inclusion in the California Register); or
- account for its inclusion in a local register of historical resources adopted by local agency ordinance or resolution (in accordance with Public Resources Code Section 5020.1(k)); or account for its identification in an historical resources survey that meets the requirement of Public Resources Code Section 5024.1(g), including, among other things, that "the resource is evaluated and determined by the [State Office of Historic Preservation] to have a significance rating of Category 1 to 5 on DPR Form 523," unless the lead agency "establishes by a preponderance of evidence that the resource is not historically or culturally significant."

In November, December, January and February the proposed project would cast approximately 30 minutes of new shadow before 10:00 a.m. on the front (east) façade of the library. (See Appendix D Figures D-66 and D-67.) The project would not cast shadow on the library during the remainder of the day during the months of November to February nor cast shadow on the library at any time of day during the remaining months of the year. The amount of new shadow cast on the library is considered relatively minor due to the short duration of the shadow and due to the limited period of the year when it would be cast. Therefore, the shadow cast by the project would not result in a significant physical effect such that the shadow would materially impair the resource's historical significance identified by the four criteria above (event, person, architecture, or informational potential) and would not affect the listing in the National Register of Historic Places, California Register of Historical Resources, Local register of historical resources or a historical resource survey form (DPR Form 523) with a rating of 1-5.

(iv) Claremont Towers Apartments. The project would cast shadow on the units at Claremont Towers that face a common property line with the project site during the autumn and spring equinoxes. The project would cast shadow on the same units during the winter solstice. The project would not cast shadows on Claremont Towers that face the property line during the summer solstice.

As with the project's view and light impacts (discussed in Chapter IV.B), the shadow impacts would not be considered unreasonable and would be considered less than significant because the shadow cast on these units is from an adjacent lot (the project site) in an urbanized commercial corridor designated "Grow and Change" in the General Plan. One would reasonably expect certain shadow impacts of development consistent with the General Plan along a "Grow and Change" corridor. Completely avoiding any potential light and view impacts would require unreasonably reducing the height of the project thereby reducing the project's ability to provide the density called for in the General Plan. Potential light impacts to east-facing windows of 5160 Claremont would be minimized due to the proposed distance between these windows and the project.

(3) Exceptions or Variances. The proposed project requires no exceptions or variances which could cause a fundamental conflict to the policies and regulations in the General Plan, Planning Code, or Uniform Building Code addressing the provision of light. It is possible that a Minor Variance will be required for building height. However, the potential impacts of the project's height on the provision of light would be less than significant as explained previously in this chapter and in Chapter IV.B.

c. Significant Light and Shadow Impacts. The project would not result in any significant light or shadow impacts.

d. Cumulative Light and Shadow Impacts. The geographic area considered for the light and shadow cumulative analysis includes the area in the Temescal area of North Oakland, which includes the project site and the surrounding parcels as generally depicted in Figure III-1. This area was defined because it includes the project site, the immediately surrounding neighborhoods, and the larger City context for the project

As analyzed throughout this section, the proposed project would not result in a significant light and shadow impact by creating substantial light or glare, casting substantial shadows that impair solar access, the beneficial use of a park, or a historic resource, or requiring an exception or variance to policies and regulations in the General Plan, Planning Code, or Uniform Building Code, and the exception causes a fundamental conflict with policies addressing the provision of light.

The proposed project is consistent with the City's General Plan Land Use designation for the site and together with the majority of past, present, existing, pending and reasonably foreseeable future development projects, is subject to the City's design review process. The purpose of the design review process is to consider the design treatment and relationship of buildings to the surrounding built environment and ensure no significant adverse light and shadow impacts would result. Thus, the proposed project would not combine with, or add to, any potential adverse aesthetic impacts that may be associated with other cumulative development.

Cumulative development, in combination with the proposed project, has and would continue to result in new buildings of varying size and scale being developed on infill or vacant sites throughout the area. A review of cumulative development in the defined geographic area, including past, present, existing, pending and reasonably foreseeable future development reveals the proposed structures within the project site are of similar size and scale to other development projects in the area. The project is generally consistent with adopted plans and the overall vision for the area. Based on the information in this light and shadow section and for the reasons summarized above, the project would not contribute to any significant adverse light or shadow impacts when considered together with past, present and reasonably foreseeable future development.