

**Appendix A:
Shade and Shadow Analysis**



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July 2, 2014

City of Costa Mesa
Planning Department
77 Fair Drive
Costa Mesa, CA 92626

**RE: Lighthouse
Shadow Analysis**

Dear Sirs,

Shade and shadow exhibits for the existing and proposed condition have been prepared for the above referenced project. This study demonstrates that there will be minimal net impact to the surrounding properties. The only property with any impact is the property immediately to the north, 1660 Whittier Avenue. This adjacent property has an identical industrial and urban plan zoning as the subject property, but is currently being utilized as an age-restricted mobile home park. There are 13 mobile homes along the north property line of the subject properties, identified as units 3, 4, 14-22, 24 and 25. Units 3, 4, 14-17, and 24-25 are separated from the subject property by an internal access road. Units 18-22 are directly adjacent to the north property line of the subject property. Only a few of the structures have outdoor areas along the south side, and some of these outdoor areas are protected from the sun by awnings or other shade structures.

With the possible exception of units 24 and 25, it appears that all of these units currently experience some level of shadowing from the existing buildings, trees and overhead utility structures on the adjacent properties. Units 24 and 25 are two of the units that have shade structures along the south side. Units 18-22 are situated very near to the existing building on the subject property and are the most impacted by the existing conditions. The outdoor areas on the south sides of these properties appear to be in perpetual shade during the winter months.

While the proposed homes are taller than the existing building along the north side of the subject property, they are set farther away from the property line. In addition, each proposed home will be separated by several feet unlike the existing monolithic structure which aids in providing mid-day solar access during the winter months. As such, for the majority of the year, the mobile home units will not incur any additional significant shading impacts from the proposed project. In the winter months they will incur slightly longer shadow projections from the proposed homes.

Solar access is maintained along the northerly portions of Units 18-22 and are not shaded for more than 2 hours per day. Early morning and late afternoon winter sun exposures are already impacted by the existing building orientations as well as existing awnings and shade structures that cast shadows on adjacent mobile homes. Attached are shade and shadow exhibits for each month out of the year for the proposed project, as well as a shade and shadow exhibit for the existing condition during the winter solstice.

Thank you for your assistance with our project. Please do not hesitate to call our office if questions.

A handwritten signature in blue ink, appearing to read "Erick Van Wechel".

Erick Van Wechel
Summa Architecture DE, Inc.

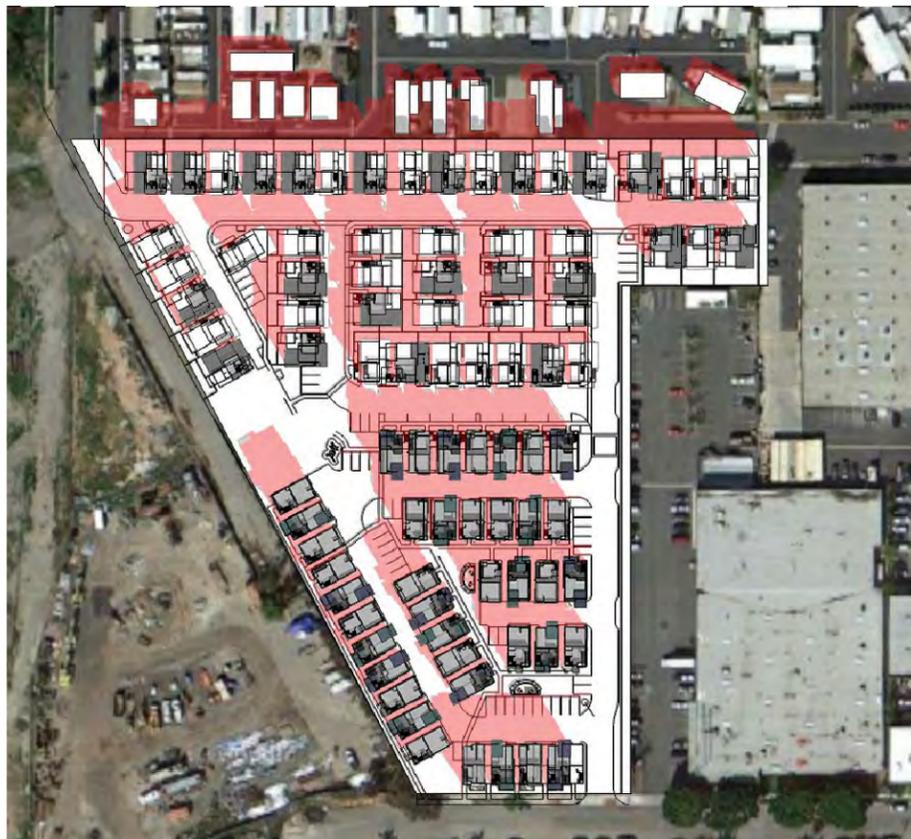


EXISTING CONDITION
2 PM - DECEMBER 21



EXISTING CONDITION
10 AM - DECEMBER 21

SHADE/SHADOW EXHIBITS



10 AM - JANUARY 21



10 AM - FEBRUARY 21



10 AM - MARCH 21



2 PM - JANUARY 21



2 PM - FEBRUARY 21



2 PM - MARCH 21

SHADE/SHADOW EXHIBITS



10 AM - APRIL 21



10 AM - MAY 21



10 AM - JUNE 21



2 PM - APRIL 21



2 PM - MAY 21



2 PM - JUNE 21

SHADE/SHADOW EXHIBITS



10 AM - JULY 21



10 AM - AUGUST 21



10 AM - SEPTEMBER 21



2 PM - JULY 21



2 PM - AUGUST 21



2 PM - SEPTEMBER 21 SHADE/SHADOW EXHIBITS



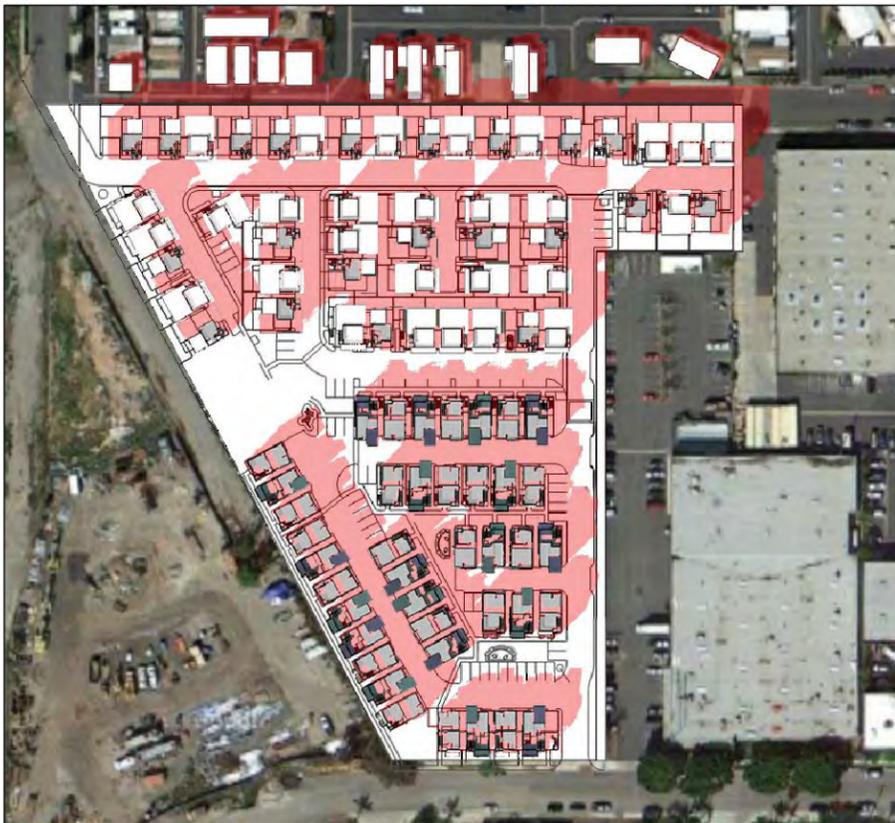
10 AM - OCTOBER 21



10 AM - NOVEMBER 21



10 AM - DECEMBER 21



2 PM - OCTOBER 21



2 PM - NOVEMBER 21



2 PM - DECEMBER 21 SHADE/SHADOW EXHIBITS