

OVERVIEW

Boulders solar access ordinance is intended to guarantee that new structures would not shade south oriented roof tops of northerly neighboring structures such that the effectiveness of solar collectors located primarily on roof tops would be compromised. The ordinance requires that the shadow cast from a new structure when the midday winter sun is at its lowest point, December 21st, can not exceed the height of a hypothetical solar fence located on the property line. The solar fence is 12 high in a single family low density zone where one story homes may occur, and is 25 ft high in a high density or multifamily zone, where structures are likely to be two or more stories.

Although the original Washington Village design met the 25 ft. requirement for the high density zone, because the Red Arrow buildings are only 10 ft. from the property common line and are also fairly low for two story structures, the Washington Village Broadway and North buildings both cast shadows on a portion of the Red arrow roof tops on December 21st.

In order to better accommodate solar access for Red Arrow the North building was both lowered by 3 ft and was redesigned with a 4 ft lower roof line, and the Broadway building has been redesigned and moved as far as it can go south. This has enabled full winter solar access to not only the roof tops but also a significant amount of the upper level window area (see solar elevation studies for December, January and February attached)

Red Arrow neighbors have claimed that their buildings are passive solar. While the buildings do have some passive solar features, with south glass and interior brick mass, they were not designed to rely on passive solar for a significant portion of their winter heating requirement. Six of the ten units do not have any south facing glass, and the four that do have a large amount of their south glass shaded by their own building overhangs even in the winter months.

Red arrow would like to have full solar access to the ground level windows on even the lowest solar day of the year. This is not feasible for Washington Village as it would require eliminating a large portion of the project. It also would be unprecedented to require that much solar access in a high density zone.

SUMMARY

In keeping with the Boulder Valley Comprehensive Plan's stated policy recognizing sustainability as a unifying goal, WHDC's proposed Washington Village incorporates energy efficient design into an overall community-oriented site plan. In relation to the Red Arrow complex to its north, it presents a minimal – and by City standards on solar access, acceptable – solar impact on four of the existing ten units.