## RIVERSIDE COUNTY AIRPORT LAND USE COMMISSION

## STAFF REPORT

AGENDA ITEM:	3.2				
HEARING DATE:	January 12, 2023				
CASE NUMBER:	ZAP1107RI22 – Riverside Property Owner, LLC (Representative: Jamie Chapman)				
APPROVING JURISDICTION:	City of Riverside				
JURISDICTION CASE NO:	PR-2022-001252 (General Plan Amendment, Rezone, Plot Plan, Tentative Parcel Map No. 38638)				
LAND USE PLAN:	2005 Riverside Municipal Airport Land Use Compatibility Plan				
Airport Influence Area:	Riverside Municipal Airport				
Land Use Policy:	Airport Compatibility Zones B1, C, and D				
Noise Levels:	Between 55 - 65 CNEL contour				

MAJOR ISSUES: The proposed project is inconsistent with the following airport land use compatibility criteria:

- The project's residential density of 28.0 dwelling units per acre in Zone B1 and 1.0 dwelling unit per acre in Zone C are inconsistent with the Zone B1 maximum residential density criteria of 0.05 dwelling units per acre and Zone C maximum residential density criteria of 0.2 dwelling units per acre.
- The project's non-residential intensity for the multi-family amenity facility results in an average intensity 49 people per acre and a single acre intensity of 769 people, both of which are inconsistent with Zone B1 average intensity criterion of 25 people per acre, and maximum single acre intensity of 50 people.
- The project's non-residential intensity for the grocery store building in Zone B1 results in an average intensity of 81 people per acre and a single acre intensity of 203 people, both of which are inconsistent with Zone B1 average intensity criterion of 25 people per acre, and maximum single acre intensity of 50 people.
- The project's non-residential intensity for the retail store building in Zone C results in an average intensity of 134 people per acre, which is inconsistent with Zone C average intensity criterion of 75 people per acre.

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- The project's proposed three-story buildings are inconsistent with Zone B1 criteria prohibiting buildings with more than two aboveground habitable floors.
- The project does not provide the required 4.99 acres of ALUC qualified open area and is therefore inconsistent with the Zone B1, C, and D open area criteria.
- The project's proposed general plan amending the site's general plan land use designation from Commercial to Mixed Use Village, and rezoning the site from Commercial General Zone to Mixed Use-Village Zone, are inconsistent with the airport land use compatibility criteria for the reasons indicated above.

**RECOMMENDATION:** Staff recommends that the Commission find the proposed General Plan Amendment and Rezone <u>INCONSISTENT</u> with the 2005 Riverside Municipal Airport Land Use Compatibility Plan, and also find the proposed Plot Plan and Tentative Parcel Map <u>INCONSISTENT</u>, based on the fact that the project is inconsistent with the residential density, non-residential intensity, prohibited use, and open area criteria.

**PROJECT DESCRIPTION**: A proposal to construct a mixed-use multi-family/commercial development consisting of 388 multifamily residential units, a 20,320 square foot grocery store building, and a 5,000 square foot retail building on 17.37 acres, located at the formers Sears building (which will be demolished) site at 5261 Arlington Avenue. The applicant also proposes amending the site's general plan land use designation from Commercial to Mixed Use Village, and rezoning the site from Commercial General Zone to Mixed Use-Village Zone. The applicant also proposes a tentative parcel map to divide the site into two parcels.

**PROJECT LOCATION:** The site is located at the formers Sears building (which will be demolished) site at 5261 Arlington Avenue southerly of Sierra Street, easterly of Streeter Avenue, and westerly of Capistrano Way, approximately 5,151 feet southeasterly of the easterly terminus of Runway 9-27 at Riverside Municipal Airport.

## BACKGROUND:

<u>Residential Density</u>: Pursuant to the Riverside Municipal Airport Land Use Compatibility Plan, the project is located within Zones B1 (15.76 acres), C (1.07 acres), and D (0.48 acres), which restricts maximum residential density in Compatibility Zone B1 to 0.05 dwelling units per acre, Zone C to 0.2 dwelling units per acre, and Zone D to either below 0.2 dwelling units per acre or above 4.0 dwelling units per acre, through Additional Policy #2.3a.

The residential component of the project includes:

- 382 units on 13.58 acres in Zone B1 resulting in a density of 28.0 dwelling units per acre which is inconsistent with Zone B1 maximum residential density criteria of 0.05 dwelling units per acre;
- 1 unit on 0.50 acres in Zone C resulting in a density of 2.0 dwelling units per acre which is inconsistent with Zone C maximum residential density criteria of 0.2 dwelling units per acre; and

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> 5 units on 0.48 acres in Zone D resulting in a density of 10 dwelling units per acre which is consistent with Zone D maximum residential density criteria of either below 0.2 dwelling units per acre or above 4.0 dwelling units per acre, per Additional Policy #2.3a.

It is important to note that Zone B1 is identified as the inner approach/departure zone where risk level and noise impacts are considered "high" in the ALUC Countywide policies Table 3A Compatibility Zone Factors. Table 3A states that Zone B1 has a high risk level due to "encompassing areas overflown by aircraft at low altitude – typically 200 to 400 feet above the runway" and "some 10% to 20% of off-runway general aviation accidents near airports take place here". Table 3A also states that Zone B1 has a high noise impact where "single-event noise is sufficient to disrupt a wide range of land use activities including indoors if windows are open".

Based on the safety and noise factors raised above, the intent and purpose of Zone B1 is to restrict residential density in order to limit the potential risk of an off-field aircraft landing. The project's density of <u>28.0 dwelling units per acre significantly exceeds</u> the maximum allowable residential density for Zone B1 of 0.05 dwelling units per acre.

<u>Non-Residential Average-Acre Intensity:</u> Pursuant to the Riverside Municipal Airport Land Use Compatibility Plan, the project is located within Zones B1 (15.76 acres), C (1.07 acres), and D (0.48 acres), which restricts average intensity in Compatibility Zone B1 to 25 people per acre, 75 people per acre in Zone C, and 100 people per acre in Zone D.

The project proposes non-residential intensity in two separate areas of the site: the clubhouse and pool area in the multi-family residential portion on 14.23 acres, and the grocery and retail buildings portion on 3.14 acres, both of which will be analyzed separately.

Pursuant to Appendix C, Table C-1 of the Riverside County Airport Land Use Compatibility Plan, the following rates were used to calculate projected occupancy for the proposed building:

- Clubhouse assembly 1 person per 15 square feet,
- Office 1 person per 200 square feet,
- Swimming pool 1 person per 50 square feet,
- Pool deck area 1 person per 15 square feet,
- Retail 1 person per 60 square feet, and
- Grocery 1 person per 100 square feet.

The proposed 388 multifamily development (located on a separate 14.23 acre parcel) contains amenities located in Zone B1, which includes a 2,240 square foot swimming pool, a 8,069 square foot pool deck area, a 2,655 square foot clubhouse/fitness area, and a 1,748 square foot leasing office, accommodating 769 people, resulting in an average intensity of 49 people per acre, which is inconsistent with Compatibility Zone B1 average intensity criterion of 25 people per acre.

The project also proposes to construct 2 commercial buildings totaling 25,320 square feet on 3.14 acres of commercial area located in (split) Zones B1 (2.52 acres) and C (0.62 acres). Therefore, the average intensity must be considered based by each zone:

 Zone B1 on 2.52 acres includes a 20,320 square foot grocery store accommodating 203 people, resulting in an average intensity of 81 people per acre, which is inconsistent with Staff Report Page 4 of 10

Compatibility Zone B1 average intensity criterion of 25 people per acre.

 Zone C on 0.62 acres includes a 5,000 square foot retail accommodating 83 people, resulting in an average intensity of 134 people per acre, which is inconsistent with Compatibility Zone C average intensity criterion of 75 people per acre.

A second method for determining total occupancy involves multiplying the number of parking spaces provided or required (whichever is greater) by average vehicle occupancy (assumed to be 1.5 persons per standard vehicle). Based on the number of vehicle parking spaces provided (815), the total occupancy would be estimated at 1,223 persons, resulting in an average intensity of 70 persons per acre, which is inconsistent with the average intensity criterion for Zone B1 of 25 people per acre and Zone C of 75 people per acre.

<u>Non-Residential Single-Acre Intensity</u>: Pursuant to the Riverside Municipal Airport Land Use Compatibility Plan, the project is located within Zones B1 (15.76 acres), C (1.07 acres), and D (0.48 acres), which restricts single acre intensity maximum in Compatibility Zone B1 to 50 people per acre, 150 people per acre in Zone C, and 300 people per acre in Zone D.

Based on the site plan provided and the occupancies as previously noted, the maximum single-acre area for the proposed 388 multifamily development amenities located in Zone B1, includes a 2,240 square foot swimming pool, a 8,069 square foot pool deck area, a 2,655 square foot clubhouse/fitness area, and a 1,748 square foot leasing office, resulting in a single acre occupancy of 769 people, which is inconsistent with Compatibility Zone B1 maximum single acre intensity criterion of 50 people.

The project also proposes to construct 2 commercial buildings on a separate a 3.14 acre commercial parcel located in Zones B1 (2.52 acres) and C (0.62 acres). Therefore, a separate single acre intensity analysis for each building in each airport zone was performed:

- Zone B1 on 2.52 acres includes a 20,320 square foot grocery store, resulting in a single acre occupancy of 203 people, which is inconsistent with Compatibility Zone B1 maximum single acre intensity criterion of 50 people.
- Zone C on 0.62 acres includes a 5,000 square foot retail, resulting in 83 people, resulting in a single acre occupancy of 83 people per acre, which is consistent with Compatibility Zone C maximum single acre intensity criterion of 150 people.

<u>Flight Hazard Issues</u>: Structure height, electrical interference, and reflectivity/glare are among the issues that solar panels in the airport influence area must address. The project proposes various rooftop and carport solar panel systems throughout the site, located within Compatibility Zones B1, C, and D.

## Glint and Glare/Reflectivity

Based on the Federal Aviation Administration's Interim Policy for Review of Solar Energy System Projects on Federally Obligated Airports, no glare potential or low potential for temporary afterimage ("green" level) are acceptable levels of glare on final approach (within 2 miles from end of runway) for solar facilities located on airport property and is the recommended standard for properties near airports. However, potential for temporary after-image" ("yellow" level) and potential Staff Report Page 5 of 10

for permanent eye damage ("red" level) are not acceptable levels of glare on final approach. No glare is permitted at air traffic control towers.

The project proposes a variety of rooftop and carport solar panels with a fixed tilt of 10 degrees with no rotation, and an orientation of 90 degrees. The solar glare study completed by Forge Solar was based on a 2 mile straight in approach (as per FAA Interim Policy Standards) to runways 9-27, and runways 16-34, as well as analyzing glare impacts to the air traffic control tower. All times are in standard time.

The analysis concluded that some potential glare would occur within the 2 mile approach to runways 9-27, totaling 23,165 minutes of "green" level glare, lasting up to 150 minutes a day, between May to September from 2:00 p.m. to 7:00 p.m. No glare would occur at the air traffic control tower.

The total of 23,165 minutes of "green" level glare represents less than 9 percent of total day light time.

### Electrical and Communication Interference

The applicant has indicated that they do not plan to utilize equipment that would interfere with aircraft communications. The PV panels themselves present little risk of interfering with radar transmission due to their low profiles. In addition, solar panels do not emit electromagnetic waves over distances that could interfere with radar signal transmissions, and any electrical facilities that do carry concentrated current will be buried beneath the ground and away from any signal transmission. There are no radar transmission or receiving facilities within the site.

<u>Prohibited and Discouraged Uses:</u> The project proposes buildings with more than two aboveground habitable floors located in Compatibility Zone B1 which is identified as a 'prohibited use', which is 'explicitly prohibited' in the Table 2A of the Countywide policies. The project's three-story residential buildings exceed this criterion, significantly jeopardizing the safety of the residents inside the building as well as the pilots on approach or departure from the runway, by being proposed in an area where 10% to 20% of off-runway general aviation accidents near airports occur.

<u>Noise:</u> The site is located between the Riverside Municipal Airport Compatibility Plan 55 - 65 CNEL contour relative to aircraft noise contour. Multifamily residences and Retail uses are identified as 'normally acceptable' and 'marginally acceptable' within this noise contour range. Specifically, 'marginally acceptable' is defined (in Supporting Compatibility Criteria: Noise Table 2B) as:

"The indicated noise exposure will cause moderate interference with outdoor activities and with indoor activities when windows are open. The land use is acceptable on the conditions that outdoor activities are minimal and construction features which provide sufficient noise attenuation are used (e.g., installation of air conditioning so that window scan be kept closed). Under other circumstances, the land use should be discouraged".

The project proposes extensive as opposed to 'minimal' outdoor recreational areas like parks, dog parks, pedestrian promenades, swimming pool area, and playgrounds that would expose users to a moderate level of interference from aircraft noise. Additionally, aircraft noise would moderately impact indoor resident activities in the event windows are open (or if they or on an outdoor balcony/patio). Although standard construction is normally considered to provide for a 15 dB

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reduction from exterior noise levels, it is recommended to incorporate noise attenuation measures into the design of the residences to such extent as may be required to ensure that interior noise levels from aircraft operations are at or below 45 CNEL. Table 3A of the Compatibility Zone Factors also identifies Zone B1 as a "High" Noise Impact, indicating that single-event noise from an aircraft is sufficient to disrupt a wide range of land use activities including indoor activities if the windows were open. There is concern that aircraft noise would impact the project's residents day-to-day indoor and outdoor activities.

<u>Part 77</u>: The elevation of Runway 9-27 at its easterly terminus is 815.8 feet above mean sea level (AMSL). At a distance of approximately 5,151 feet from the runway to the site, Federal Aviation Administration (FAA) review would be required for any structures with top of roof exceeding 867 feet AMSL. The project site elevation is 791 feet AMSL. With a maximum building height of 41.5 feet, the resulting top point elevation is 832.5 feet AMSL. Therefore, review of the buildings by the FAA Obstruction Evaluation Service (FAAOES) for height/elevation reasons was not required.

<u>Open Area</u>: Pursuant to the Riverside Municipal Airport Land Use Compatibility Plan, the project site is located within Compatibility Zones B1 (15.76 acres), C (1.07 acres), and D (0.48 acres). The Compatibility Plan requires projects greater than 10 acres to designate 30% of project area in Zone B1, 20% in Zone C, and 10% in Zone D as ALUC qualifying open area that could potentially serve as emergency landing areas.

Based on the project areas as mentioned above, the project is required to provide a minimum 4.99 acres of open area consistent with the ALUC open area criteria, which is defined as having a minimum shape of 75 feet in width and 300 feet in length and shall contain no objects greater than 4 feet in height with a diameter of four inches.

Although the project identifies 2.14 acres of 'open space', it does not comply with the ALUC open area criteria as having a minimum shape of 75 feet in width and 300 feet in length and shall contain no objects greater than 4 feet in height with a diameter of four inches (or having the required amount). The intent of the ALUC open area is to provide a safe area for an aircraft to land in the event of an emergency. By not providing these important areas within the project boundary, it jeopardizes the safety of the pilots and the people on the ground.

<u>Hazards to Flight:</u> Land use practices that attract or sustain hazardous wildlife populations on or near airports significantly increase the potential of Bird Aircraft Strike Hazards (BASH). The FAA strongly recommends that storm water management systems located within 5,000 or 10,000 feet of the Airport Operations Area, depending on the type of aircraft, be designed and operated so as not to create above-ground standing water. To facilitate the control of hazardous wildlife, the FAA recommends the use of steep-sided, rip-rap lined, narrow, linearly shaped water detention basins. All vegetation in and around detention basins that provide food or cover for hazardous wildlife should be eliminated. (FAA Advisory Circular 5200-33C). The project is located 5,151 feet from the runway, and therefore would be subject to the above requirement.

Although the nearest portion of the proposed project is located within 10,000 feet of the runway (approximately 5,151 feet), the project utilizes underground basins which will not contain surface water or attract wildlife and, therefore, would not constitute a hazard to flight.

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<u>General Plan Amendment/Rezone</u>: The applicant proposes amending the site's general plan land use designation from Commercial to Mixed Use Village, and rezoning the site from Commercial General Zone to Mixed Use-Village Zone.

The City's General Plan Mixed Use Village land use designation allows for a maximum 30 to 40 dwelling units per acre and a maximum 2.5 Floor Area Ratio (FAR), and identifies village mixed use as "retail, office and residential uses in the same building; horizontal integration as appropriate; 2-3 stories in height". The Mixed Use Village designation density of 30 to 40 dwelling units per acre is inconsistent with the maximum residential density criteria for Compatibility Zone B1 of 0.05 dwelling units per acre, and Zone C of 0.2 dwelling units per acre. (The project proposes 6 two-story town homes on 0.48 acres located in Zone D, which allows for either below 0.2 dwelling units per acre or above 4.0 dwelling units per acre, through Additional Policy #2.3a, resulting in a density of 13 dwelling units per acre, which is consistent with the Zone D residential density criteria). Also, the proposed Mixed Use Village land use designation allows for 2-3 stories in building height, which is inconsistent with the Compatibility Zone B1 prohibited uses for buildings with more than two aboveground habitable floors.

The City's Mixed Use Village Zone allows for a maximum 30 dwelling units per acre, which is also inconsistent with the Zone B1 maximum residential density criteria of 0.05 dwelling units per acre, and Zone C of 0.2 dwelling units per acre.

The following sections are taken from the City's existing Zoning Ordinance with references to the airport land use compatibility plan (ALUCP):

- Section 19.149 contains an entire section dedicated to the ALUCP. Sub-section 19.149.020 identifies that: "For property located within a compatibility zone and subject to airport land use compatibility plan policies and criteria, land use, density, and intensity limitations of the ALUCP may be more restrictive than what would otherwise be allowed per City zoning designation applicable to the property. In addition to complying with the Zoning requirements of this title, proposed uses and development on property within an airport compatibility zone must be determined to be consistent with, and comply with the compatibility criteria of the applicable compatibility zone and airport land use compatibility plan".
- Section 19.149.030 provides the purpose of the ALUC "is to conduct airport land use compatibility planning. ALUCs protect public health, safety, and welfare by ensuring the orderly expansion of airports and the adoption of land use measures that minimize the public's exposure to excessive noise and safety hazards within areas around public airports".
- Section 19.150.020 is the City's Permitted Land Uses and it states (sub-section 19.150.020.B) "Airport Land Use Compatibility includes additional Airport Land Use Compatibility Plan requirements for discretionary actions proposed on property located within an Airport Compatibility Zone. When located within an Airport Land Use Compatibility Zone, greater land use, restrictions for airport compatibility may apply per the applicable Airport Land Use Compatibility Plan". Specifically, the permitted land use table identifies multiple-family dwellings in the Mixed Use Village zone as a permitted use by the City, but it also identifies (via footnote \*\*\*) that the uses are also subject to the ALUCP criteria "where use may be strictly prohibited".

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Based on the points stated above, the proposed general plan amendment and rezone would be inconsistent with the compatibility plan criteria.

### CONDITIONS (in the event of an overrule):

- 1. Any outdoor lighting installed shall be hooded or shielded to prevent either the spillage of lumens or reflection into the sky. Outdoor lighting shall be downward facing.
- 2. The following uses shall be prohibited:
  - (a) Any use which would direct a steady light or flashing light of red, white, green, or amber colors associated with airport operations toward an aircraft engaged in an initial straight climb following takeoff or toward an aircraft engaged in a straight final approach toward a landing at an airport, other than an FAA-approved navigational signal light or visual approach slope indicator.
  - (b) Any use which would cause sunlight to be reflected towards an aircraft engaged in an initial straight climb following takeoff or towards an aircraft engaged in a straight final approach towards a landing at an airport.
  - (c) Any use which would generate smoke or water vapor or which would attract large concentrations of birds, or which may otherwise affect safe air navigation within the area. (Such uses include landscaping utilizing water features, aquaculture, outdoor production of cereal grains, sunflower, and row crops, composting operations, wastewater management facilities, artificial marshes, trash transfer stations that are open on one or more sides, recycling centers containing putrescible wastes, construction and demolition debris facilities, fly ash disposal, and incinerators.)
  - (d) Any use which would generate electrical interference that may be detrimental to the operation of aircraft and/or aircraft instrumentation.
  - (e) Children's schools, day care centers, libraries, hospitals, nursing homes, places of worship, buildings with more than two aboveground habitable floors, critical community infrastructure facilities, and aboveground bulk storage of 6,000 gallons or more of flammable or hazardous materials.
  - (f) Highly noise-sensitive outdoor nonresidential uses.
  - (g) Any use which results in a hazard to flight, including physical (e.g. tall objects), visual, and electronic forms of interference with the safety of aircraft operations.
- Prior to issuance of building permits, the landowner shall convey an avigation easement to the City of Riverside as owner of the Riverside Municipal Airport, or provide evidence that such easement has been previously conveyed. Contact the City of at (951) 351-6113 for additional information.
- 4. The attached "Notice of Airport in Vicinity" shall be provided to all prospective purchasers and occupants of the property.

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5. The project has been conditioned to utilize underground detention systems, which shall not contain surface water or attract wildlife. Any proposed stormwater basins or facilities shall be designed and maintained to provide for a maximum 48-hour detention period following the design storm, and remain totally dry between rainfalls. Vegetation in and around the basins that would provide food or cover for birds would be incompatible with airport operations and shall not be utilized in project landscaping. Trees shall be spaced so as to prevent large expanses of contiguous canopy, when mature. Landscaping in and around the basin(s) shall not include trees or shrubs that produce seeds, fruits, or berries.

Landscaping in the stormwater basin, if not rip-rap, should be in accordance with the guidance provided in ALUC "LANDSCAPING NEAR AIRPORTS" brochure, and the "AIRPORTS, WILDLIFE AND STORMWATER MANAGEMENT" brochure available at <u>RCALUC.ORG</u> which list acceptable plants from Riverside County Landscaping Guide or other alternative landscaping as may be recommended by a qualified wildlife hazard biologist.

A notice sign, in a form similar to that attached hereto, shall be permanently affixed to the stormwater basin with the following language: "There is an airport nearby. This stormwater basin is designed to hold stormwater for only 48 hours and not attract birds. Proper maintenance is necessary to avoid bird strikes". The sign will also include the name, telephone number or other contact information of the person or entity responsible to monitor the stormwater basin.

- 6. The project has been evaluated to construct a mixed-use multi-family/commercial development consisting of 388 multifamily residential units, a 20,320 square foot grocery store building, and a 5,000 square foot retail building on 17.37 acres, located at the formers Sears building (which will be demolished) site at 5261 Arlington Avenue. Any increase in building area, change in use to any higher intensity use, change in building location, or modification of the tentative parcel map lot lines and areas will require an amended review to evaluate consistency with the ALUCP compatibility criteria, at the discretion of the ALUC Director.
- 7. Noise attenuation measures shall be incorporated into the design of the residences, office areas, and retail areas, to the extent such measures are necessary to ensure that interior noise levels from aircraft operations are at or below 45 CNEL.
- 8. Buildings shall be limited to a maximum height of 41.5 feet and a maximum top point elevation of 867 feet above mean sea level unless a "Determination of No Hazard to Air Navigation" letter authorizing a higher top point elevation has been issued by the Federal Aviation Administration Obstruction Evaluation Service.
- 9. The ALUC overflight informational brochure shall be provided to prospective purchasers showing the locations of aircraft flight patterns, the frequency of overflights, the typical altitudes of the aircraft, and the range of noise levels that can be expected from individual aircraft overflights, as well as Compatibility Factors exhibit from the Riverside Municipal Airport Land Use Compatibility Plan.

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- At least 4.99 acres of ALUC-eligible open areas (at least 75 feet in width and 300 feet in length) shall be kept obstacle and obstruction free per ALUC open area definition (no objects greater than four feet in height with a diameter of four inches or greater).
- 11. All solar arrays installed on the project site shall consist of smooth glass photovoltaic solar panels without anti-reflective coating, a fixed tilt of 10 degrees and orientation of 90 degrees. Solar panels shall be limited to the locations and coordinates as specified in the glare study. Any deviation from these specifications (other than reduction in square footage of panels), including change in orientation, shall require a new solar glare analysis to ensure that the amended project does not result in any glare impacting the air traffic control tower or creation of any "yellow" or "red" level glare in the flight paths, and shall require a new hearing by the Airport Land Use Commission.
- 12. In the event that any glint, glare, or flash affecting the safety of air navigation occurs as a result of project operation, upon notification to the airport operator of an event, the airport operator shall notify the project operator in writing. Within 30 days of written notice, the project operator shall be required to promptly take all measures necessary to eliminate such glint, glare, or flash. An "event" includes any situation that results in an accident, incident, "near-miss," or specific safety complaint regarding an in-flight experience to the airport operator or to federal, state, or county authorities responsible for the safety of air navigation. The project operator shall work with the airport operator to prevent recurrence of the incidence. Suggested measures may include, but are not limited to, changing the orientation and/or tilt of the source, covering the source at the time of day when events of glare occur, or wholly removing the source to diminish or eliminate the source of the glint, glare, or flash. For each such event made known to the project operator, the necessary remediation shall only be considered to have been fulfilled when the airport operator states in writing that the situation has been remediated to the airport operator's satisfaction.
- 13. In the event that any electrical interference affecting the safety of air navigation occurs as a result of project operation, upon notification to the airport operator of an event, the airport operator shall notify the project operator in writing. Within 30 days of written notice, the project operator shall be required to promptly take all measures necessary to eliminate such interference. An "event" includes any situation that results in an accident, incident, "nearmiss," report by airport personnel, or specific safety complaint to the airport operator or to federal, state, or county authorities responsible for the safety of air navigation. The project operator shall work with the airport operator to prevent recurrence of the event. For each such event made known to the project operator, the necessary remediation shall only be considered to have been fulfilled when the airport operator states in writing that the situation has been remediated to the airport operator's satisfaction.

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## NOTICE OF AIRPORT IN VICINITY

This property is presently located in the vicinity of an airport, within what is known as an airport influence area. For that reason, the property may be subject to some of the annoyances or inconveniences associated with proximity to airport operations (for example: noise, vibration, or odors). Individual sensitivities to those annoyances [can vary from person to person. You may wish to consider what airport annoyances], if any, are associated with the property before you complete your purchase and determine whether they are acceptable to you. Business & Professions Code Section 11010 (b) 13)(A

# NOTICE

## THERE IS AN AIRPORT NEARBY.

## THIS STORM WATER BASIN IS DESIGNED TO HOLD

## **STORM WATER FOR ONLY 48 HOURS AND**

## **NOT TO ATTRACT BIRDS**

## PROPER MAINTENANCE IS NECESSARY TO AVOID BIRD STRIKES



IF THIS BASIN IS OVERGROWN, PLEASE CONTACT:

Name:

Phone:

Seneral InFormation > Airport Ownership: City of Riverside > Year Openad: c. 1930 > Propenty Size > Fee Title: 441 acres > Airgation Easements: Required for all development in airport influence area; acreage uncertain > Airport Classification: General Aviation > Airport Elevation: 818 feet MSL	Airport PLANNING DOCUMENTS > Airport Master Plan > Adopted by Riverside City Council, November 1999 > Airport Layout Plan Drawing > Last updated January 2001 > FAR Part 150 Airport Noise Compatibility Program > Approved by FAA, March 1995
Runway/Taxiway Design Runway 9-27 > Critical Aircraft: Small business jet > Aliport Reference Code: B-II Dimensions: 5,401 ft. long, 100 ft. vide > Pavement Strength (main landing gear configuration) > 48,000 lbs (dual-tandem wheel) > 70,000 lbs (dual-tandem wheel) > Aurorage Gradient: 1.1% (rising to east) > Aurorage Gradient: 1.1% (rising to east) > Auroway Lighting > Medium-intensity edge lights (MIRL) > Hunway 2: Approach lights (MIRL) > Hunway 2: Approach lights (MIRL) > Pinnary Taxiways: Full-length parallel on south tanway 16:45 > Critical Aircraft: Single-engine, piston > Airport Reference Code: B-I > Dimensions: 2,2651 ft. long, 48 ft. wide > Pavement Strength (main landing gear configuration) > 40,000 lbs (dual-tandem wheel) > 0,000 lbs (dual-tandem wheel) > Aurorage Gradient: 0.8% (rising to north) > Runway Lighting > Medium-intensity edge lights (MIRL) > Average Gradient: 0.8% (rising to north) > Furmary Taxiways: Full-length parallel tadway on west	<ul> <li>TRAFFIC PATTERNS AND APPROACH PROCEDURES</li> <li>Airplane Traffic Patterns</li> <li>Flurways 9, 27, 34: Left traffic</li> <li>Patrems 916: Right traffic</li> <li>Pattern altitude: 1,000 ft. AGL light aircraft; 1,500 ft. AGL jets and others</li> <li>Instrument Approach Procedures (lowest minimums)</li> <li>Patrem altitude: 1,000 ft. AGL light aircraft; 1,500 ft. AGL jets and others</li> <li>Instrument Approach Procedures (lowest minimums)</li> <li>Parway 9 ILS:</li> <li>Stratight-in (l/-mile-visibility, 200 ft. descent height); co circling north of Runway 9:27</li> <li>Runway 9 VOR of CPS</li> <li>Stratight-in (l/-mile visibility, 446 ft. descent height)</li> <li>Circling (1-mile visibility, 446 ft. descent height)</li> <li>Circling 1-mile visibility, 446 ft. descent height)</li> <li>Circling 1-mile visibility, 446 ft. descent height)</li> <li>Stratidard Inst. Departure Procedures: None</li> <li>Visual Approach Slope Indicator (3.0°)</li> <li>Runway 34: Procision Approach Slope Indicator</li> <li>Operational Restrictions / Noise Abatement Procedures &gt; Runway 16:34 usage limited to 12,500 Hb aircraft</li> </ul>
Building AREA           > Location: Southeast quadrant of airport           > Aircraft Parking Capacity           > Hangar spaces: 137 indix, units; add1 in large hangars           > Tiedowns: Uncertain           Other Major Facilities           > Air traffic control towar           > Lighted helipad southeast of runway intersection           > Terminal building with pilots' lounge, restaurant           > Services           > Fueb: Jet A, 100LL (by truck)           > Other: Aircraft rental & charter; flight instruction	PLANNED FACILITY IMPROVEMENTS A didfield > Extend Rwy 9-27 eastward to 6,153 ft. length > Establish Rwy 27 straight-in nonprecision approach > Building Area > Increase based aircraft parking > Property > None

Exhibit RI-1

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#### **Airport Features Summary**

**Riverside Municipal Airport** 

BASED AIRCRAFT		1.1.1.		TIME OF DAY DISTRIBUTION		
	Current <sup>a</sup>		Ultimate		Current	Future & & Ultimate
	2002 data	2025		Single-Engine		& Unimate
Aivcraft Type				Dav	80%	00
Single-Engine	205	250		Evening	18%	change
Twin-Engine Piston			data		2%	citation
& Turboprop	24	100	not	Night Other Aircraft	270	
Business Jeta	1	50	available		90%	
Helicopters / Others		50		Day	9%	RO
Total	240	450		Evening Night	1%	change
				Ngni	178	
AIRCRAFT OPERATIONS				RUNWAY USE DISTRIBUTION	c	
	Current <sup>a</sup>		Ultimate <sup>c</sup>	HONMAN OOL DIGITAIDOTICI	Current	Future &
	2002 data	2025			Current	& Ultimate
Total				Business Jets & Turbo Props		G. Ditingen
		160,800	220,000	Day/Evening/Night		
Average Day	312	441	603	Takeoffs		
Distribution by Aircraft T	una.			Runway 9	10%	10%
Single-Engine	84%	62%	41%	Runway 27	90%	90%
Twin-Engine Piston	10%	8%	5%	Runway 16	0%	0%
Twin-Engine,	10.10	0.0	0.0	Runway 34	0%	0%
Turboprop	2%	11%	23%	Landings		
Business Jet	1%	17%	20%	Runway 9	10%	50%
Helicopters / Other	3%	2%	11%	Runway 27	90%	50%
Heijcopters / Citter	070	270	11.20	Runway 16	0%	0%
				Runway 34	0%	0%
Distribution by Type of Operation *				Other Airplanes - Day/Evening/Night		
Local (ind. touch-ar	d-goes)			Takeoffs & Landings		
Single-Engine			45%	Runway 9	9%	no
Twin-Engine Pist	on		20%	Runway 27	88%	change
Helicopter			45%	Runway 16	1%	
All Others			0%	Runway 34	2%	
Total	43%	45%	24%	-	1992	
ltinerant				FLIGHT TRACK USAGE		
Single-Engine			55%	I LIGHT THANK OGHOL		
Twin-Engine Pist	on		80%	Data summary not available		
Helicopter			55%	urana our innary invit avdidUR		
All Others			100%			
Total	57%	55%	76%			

#### Notes

- <sup>a</sup> Source: Riverside Municipal Airport Forecast Update (2002)
- <sup>b</sup> Source: Air Traffic Control (ATC) tower counts plus estimated night operations
- <sup>e</sup> Source: Estimated/projected for compatibility planning purposes based on discussion with Airport Manager (February 2004)

## Presence of Aircraft Overflight: Riverside Municipal Airport

#### EXPANDED BUYER AWARENESS MEASURES

As stipulated in the Riverside County Airport Land Use Compatibility Plan (ALUCP) for Riverside Municipal Airport, any new single-family or multi-family residential development within the Riverside Municipal Airport Influence Area (except Compatibility Zone E) shall be provided measures intended to ensure that prospective buyers or renters are informed about the presence of aircraft overflights of the property.

This brochure provides buyers or renters with information showing the locations of aircraft flight patterns, frequency of overflights, typical altitudes of the aircraft, and range of noise levels that can be expected from individual aircraft overflight.

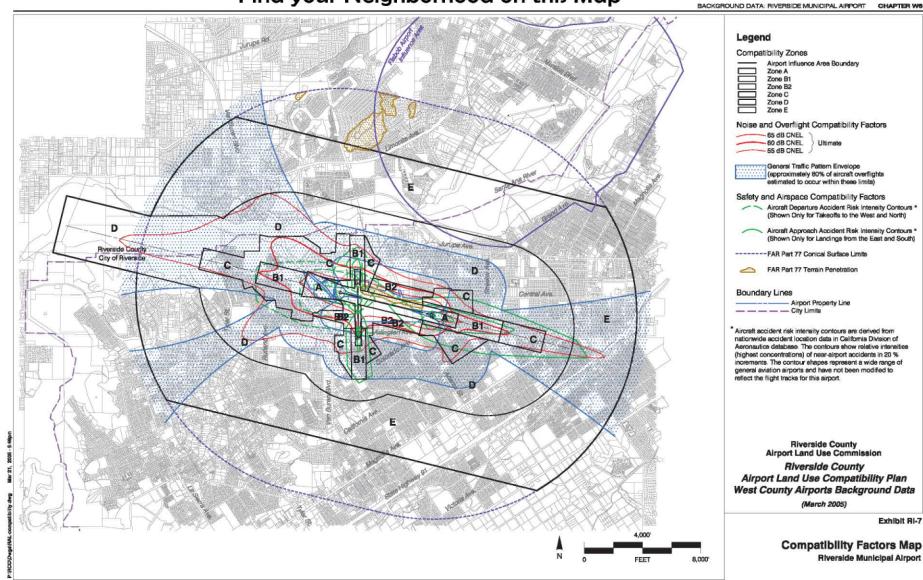


For more information contact us: Airport Land Use Commission (951) 955-5132 www.rcaluc.org



Exhibit RI-3

Airport Activity Data Summary Riverside Municipal Airport



## Find your Neighborhood on this Map

Zone A Zone B1 Zone B2 Zone C Zone D Zone E

Airport Influence Area Boundary

Height Review Overlay Zone

Airport Property Line
 City Limits

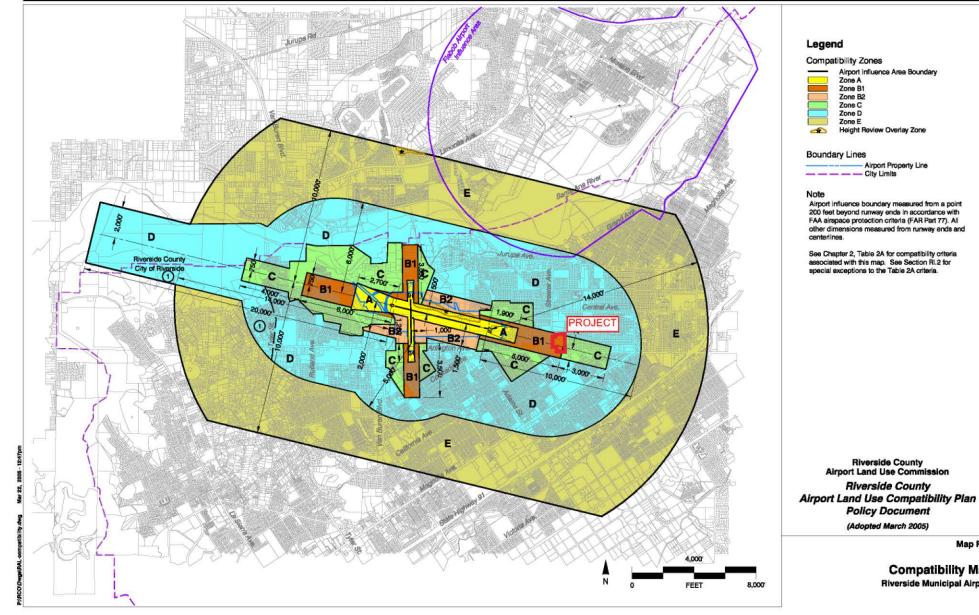
**Riverside County** 

**Policy Document** (Adopted March 2005)

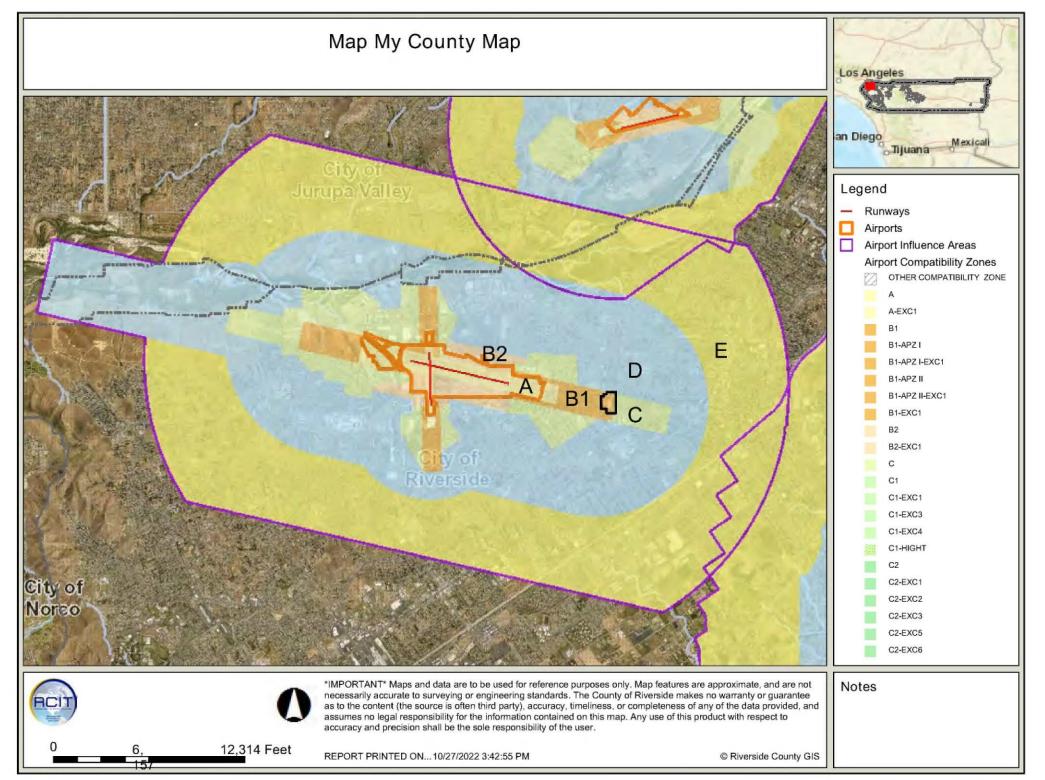
Map RI-1

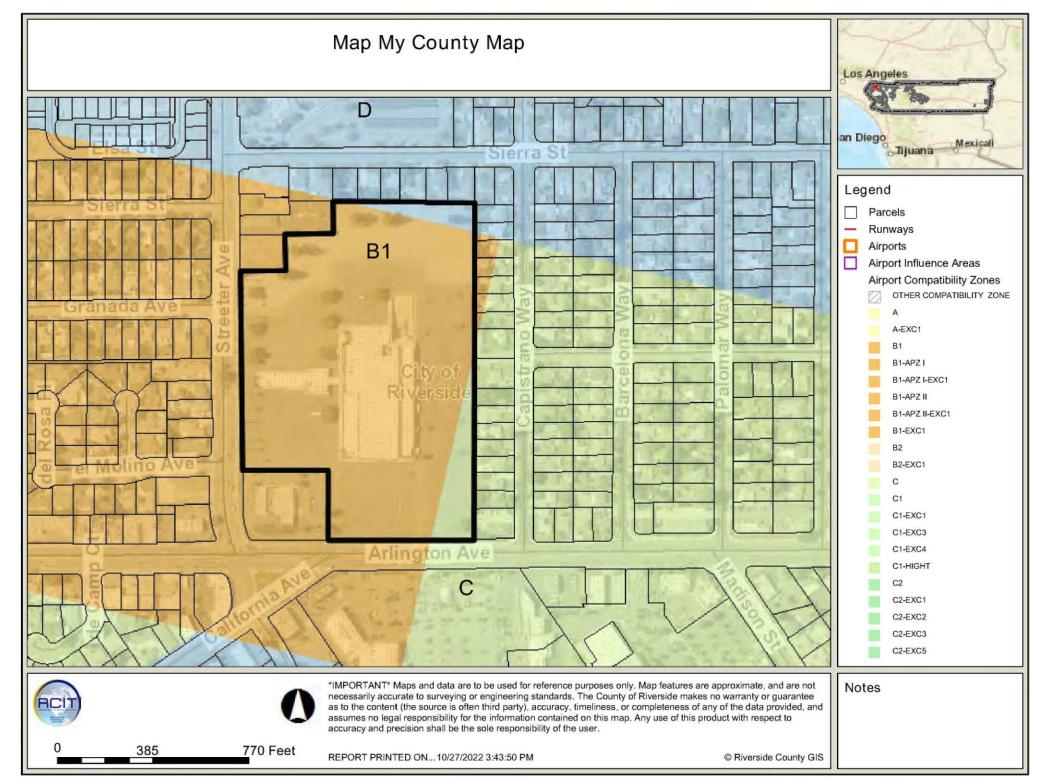
**Compatibility Map** 

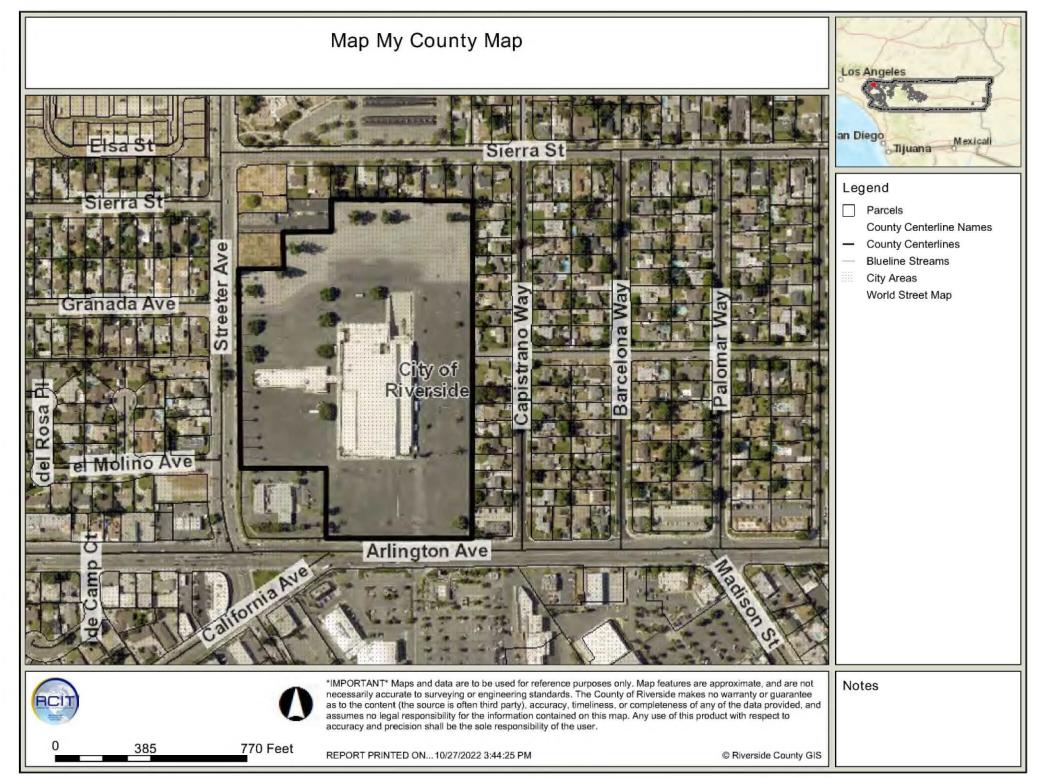
**Riverside Municipal Airport** 

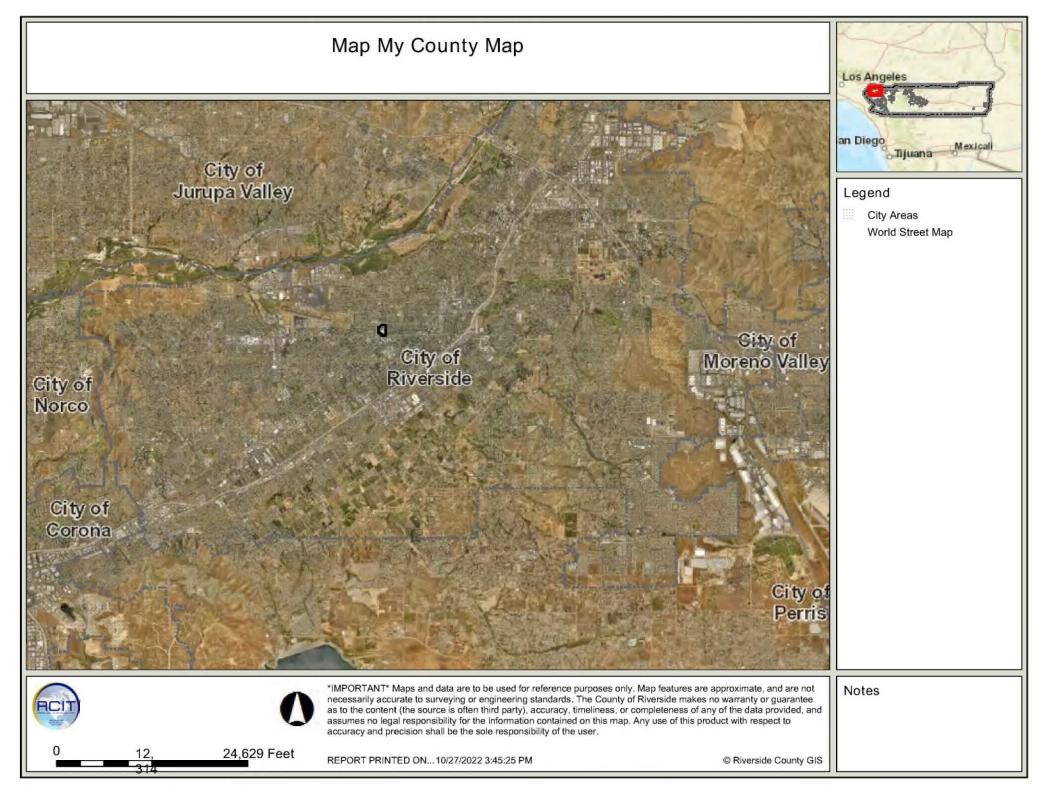


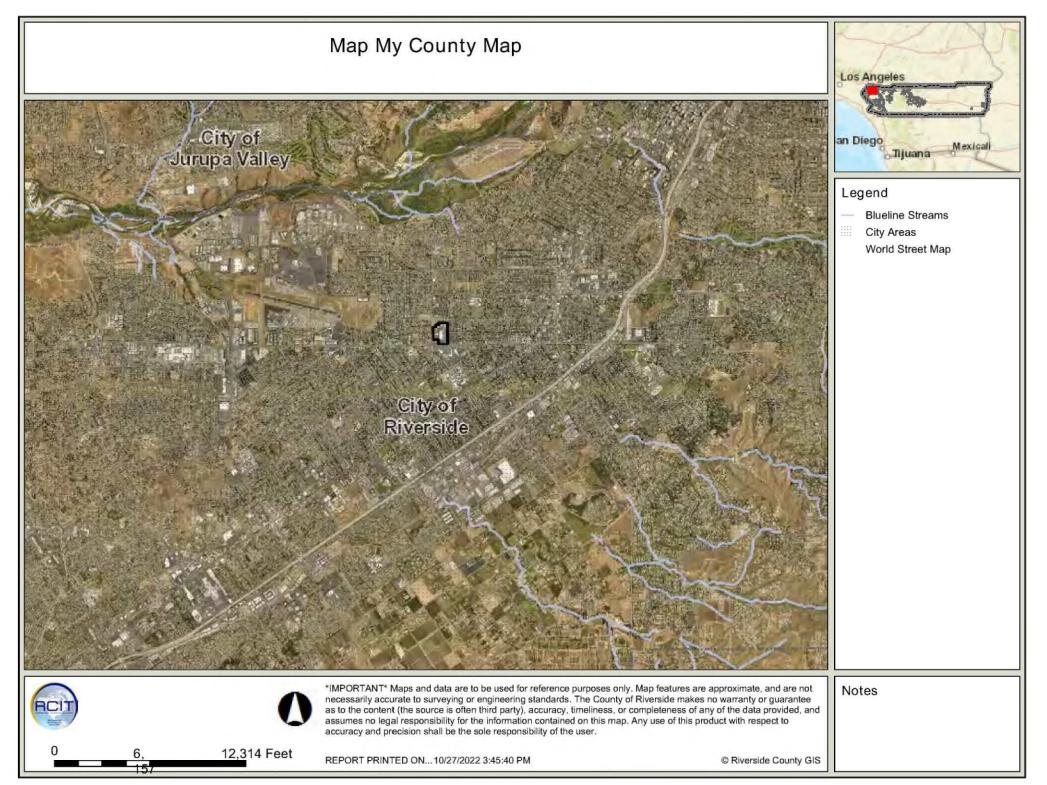
1

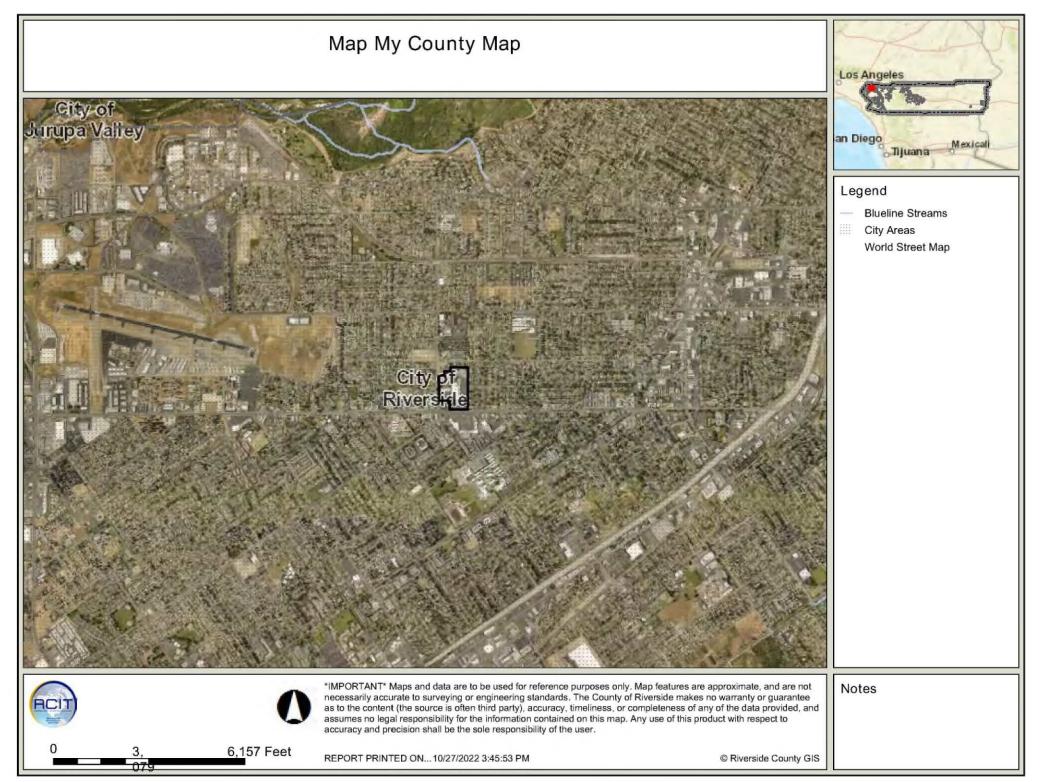














## **Project Description**

PROJECT TITLE: 5261 Arlington Avenue

PROJECT APPLICANT: Riverside Property Owner, LLC

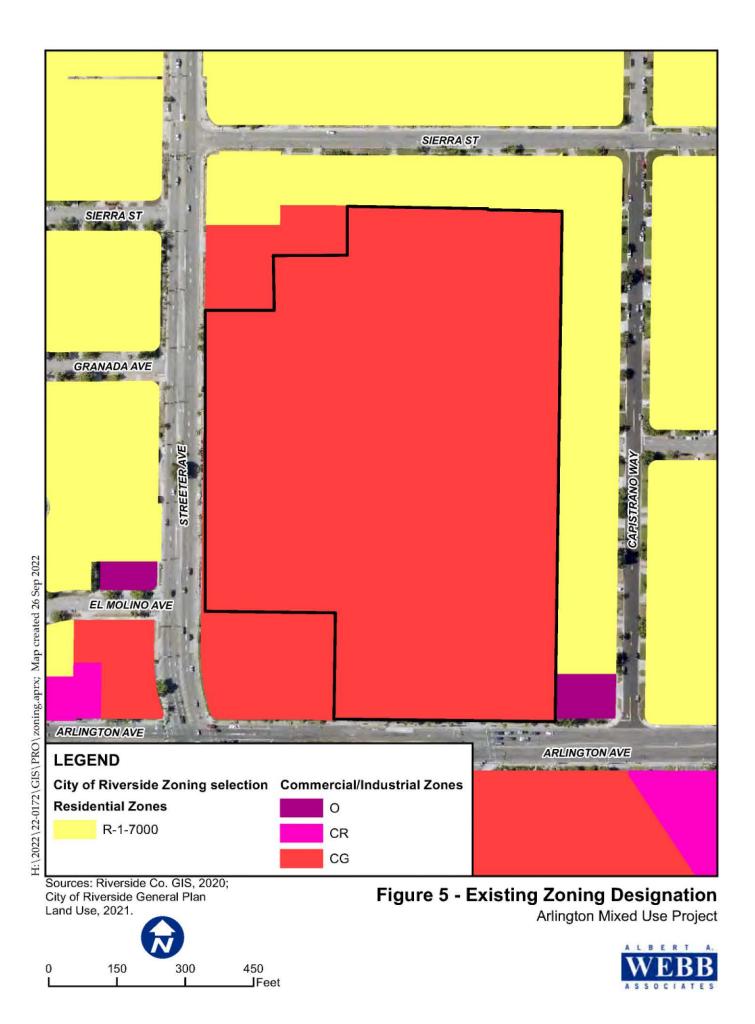
**PROJECT LOCATION:** The project site is situated at the northeast corner of Arlington Avenue and Streeter Avenue in the City of Riverside. The project site is comprised of the following single parcel: 226-180-015-1

**PROJECT SETTING:** The approximately 17.43-acre project site is currently vacant. The land use to the north, east, and west of the project site is single-family residential. The property to the south of the project site, across Arlington Avenue, is the Heritage Plaza shopping center.

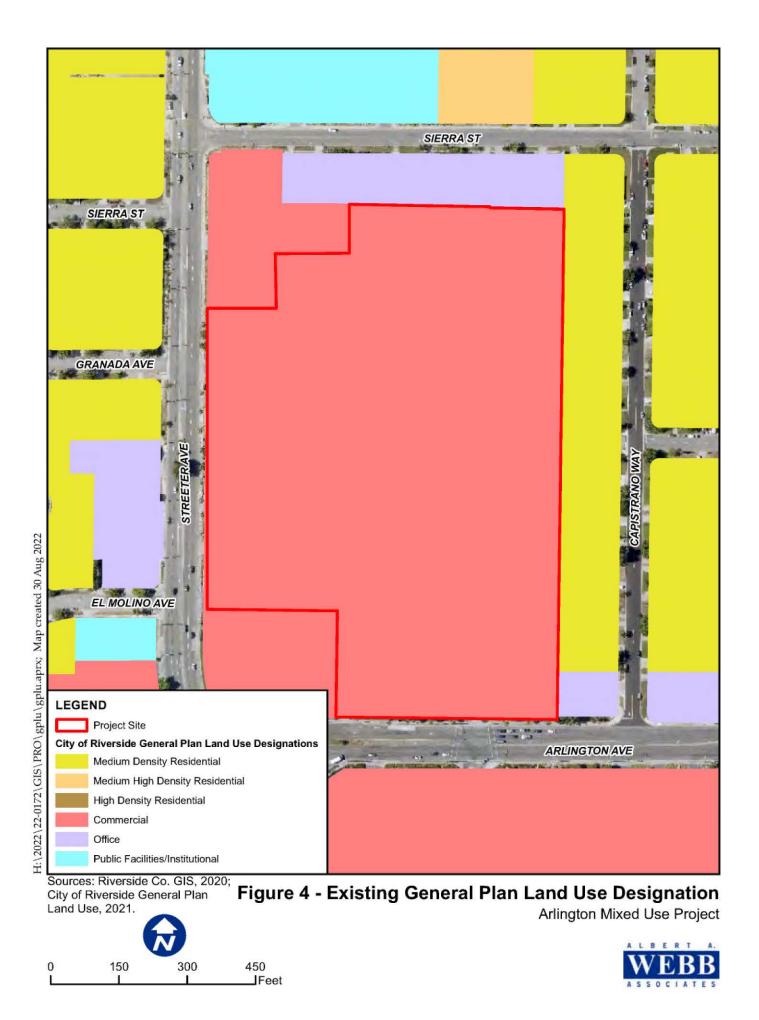
**PROJECT GENERAL PLAN AND ZONING DESIGNATIONS:** The project site currently has a General Plan Land Use designation of C - Commercial. It is zoned CG – Commercial General.

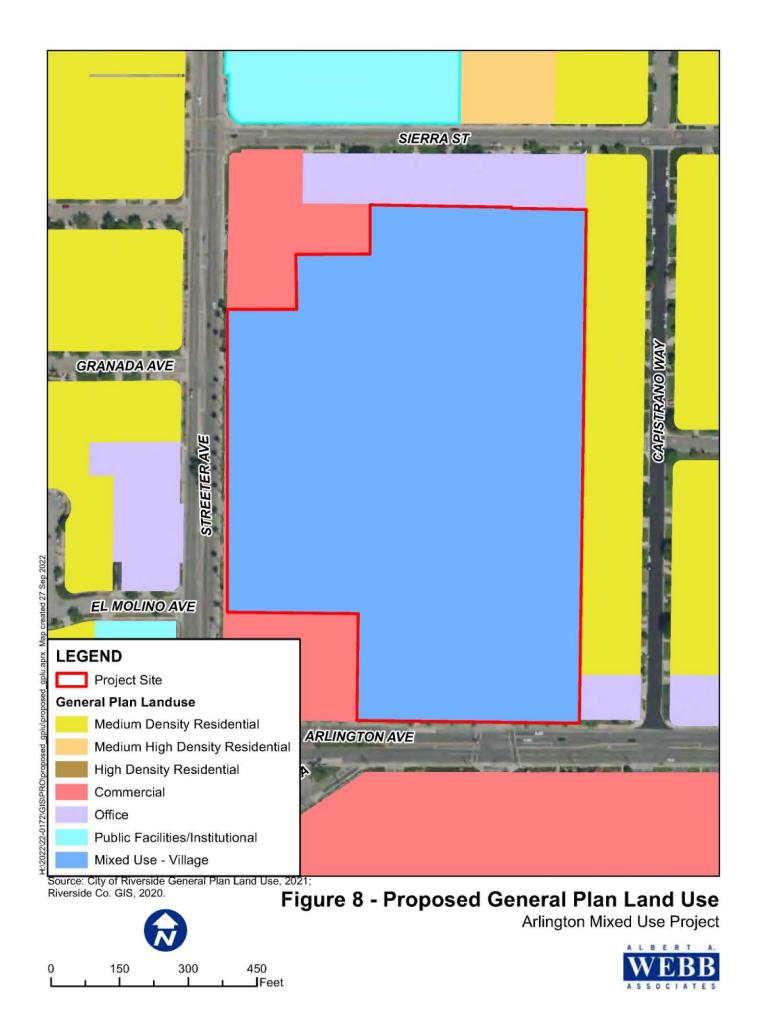
**PROJECT DESCRIPTION:** The proposed project includes demolition of the existing 205,350 sf. building and development of a total of 388 studio, one-, two-, and three-bedroom residential apartment units in twenty-two buildings, consisting of thirteen 3-story garden-style buildings and fourteen 2-story townhome buildings. A total of 18 units are proposed to be studios, 152 are proposed to be one-bedroom, 28 are proposed to be two-bedroom, and 42 are proposed to be three-bedroom units. The proposed project also includes a 21,000 square-foot ALDI grocery store and a 5,000 square-foot retail pad. The proposed project includes the following amenities: onsite leasing office, tuck-under garages, carports, public dog park, outdoor resort style pool and spa, fitness center, clubhouse, shade structures with barbecues and tables, multi-use turf areas, outdoor gaming, and play spaces. Primary access to the site is provided from Streeter Avenue on the western boundary and secondary access to the site is provided from Streeter Avenue on Streeter Avenue will be used for egress by future residents and as an emergency access. All entrances and exits will be gate controlled. Construction is anticipated to take approximately 27 months to be completed. It will begin around June 2023 and end around September 2025. The project is anticipated to be operational in 2025.

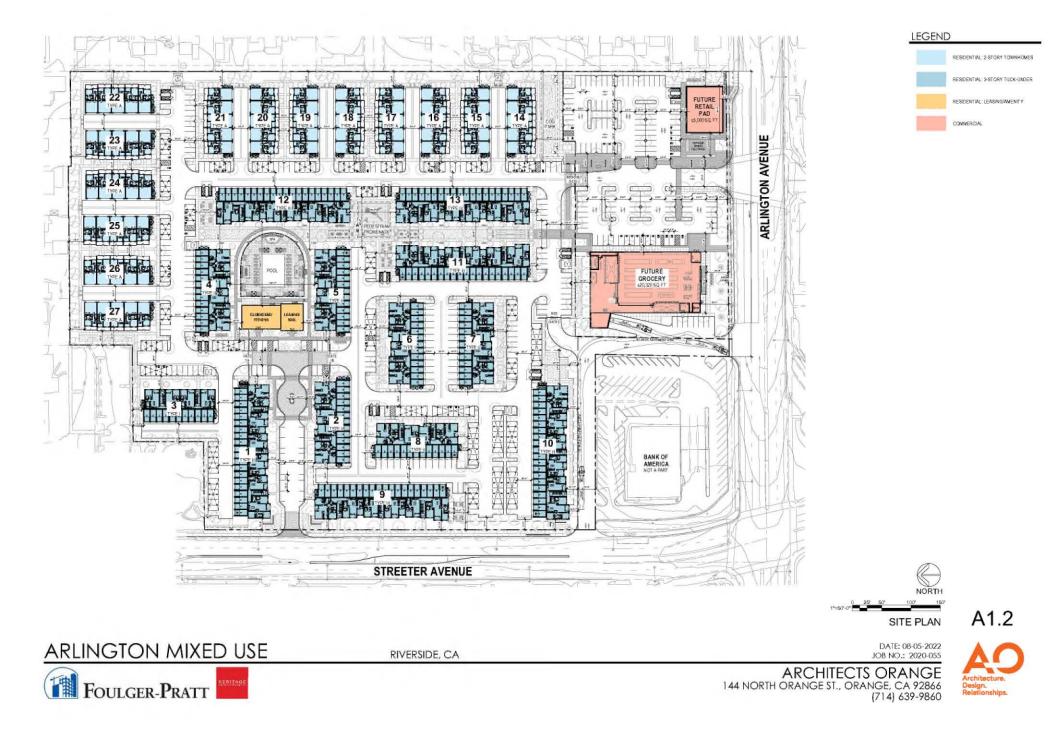
136 Calle de los Molinos, San Clemente CA 92672 949 272 0203 www.foulgerpratt.com

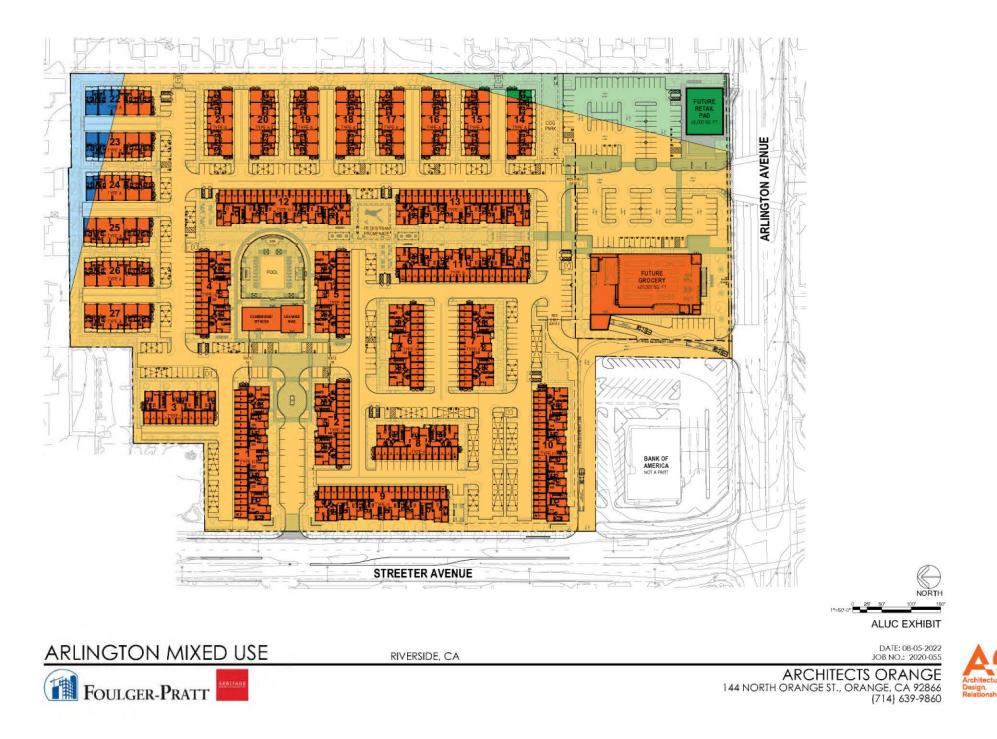


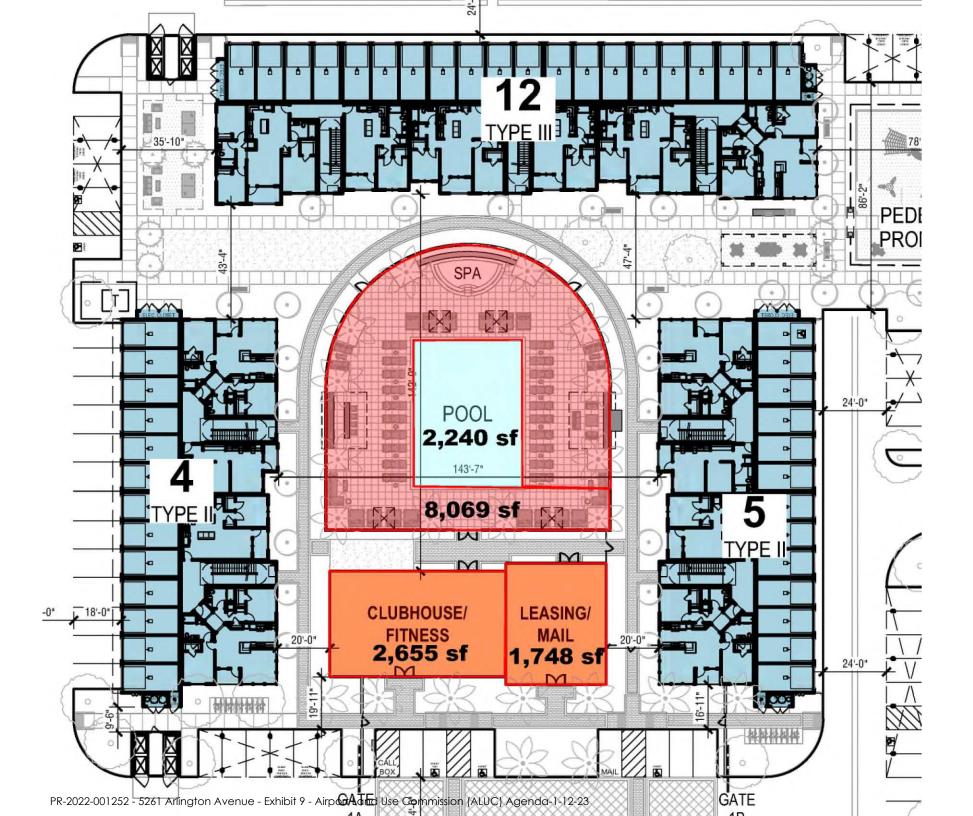


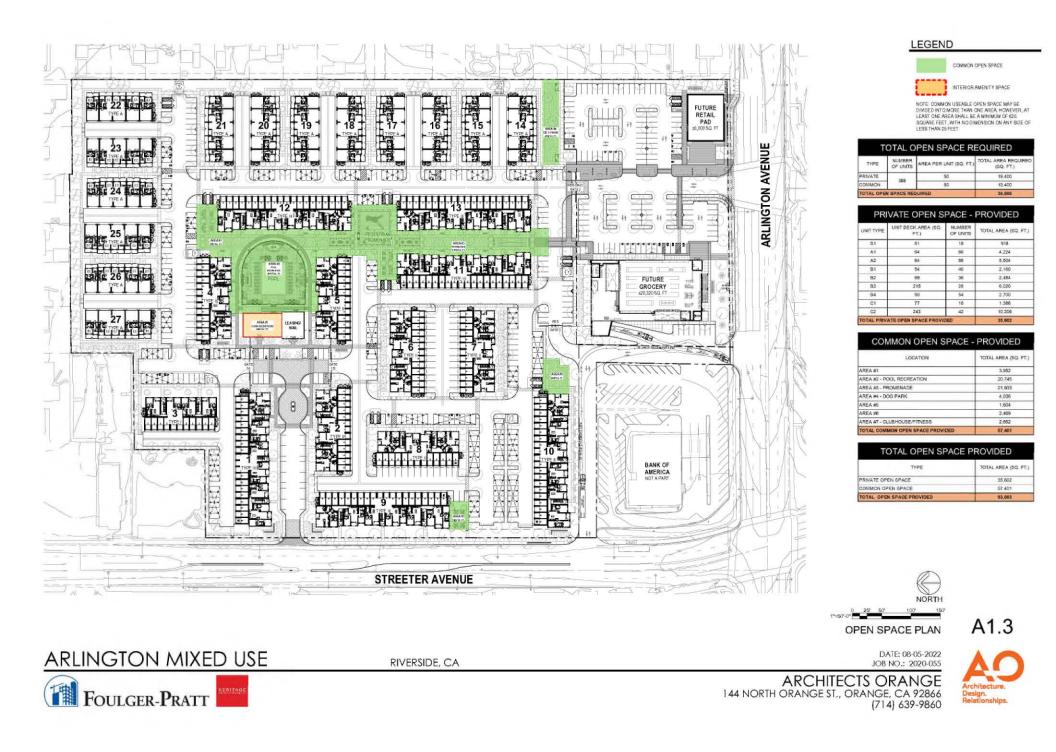


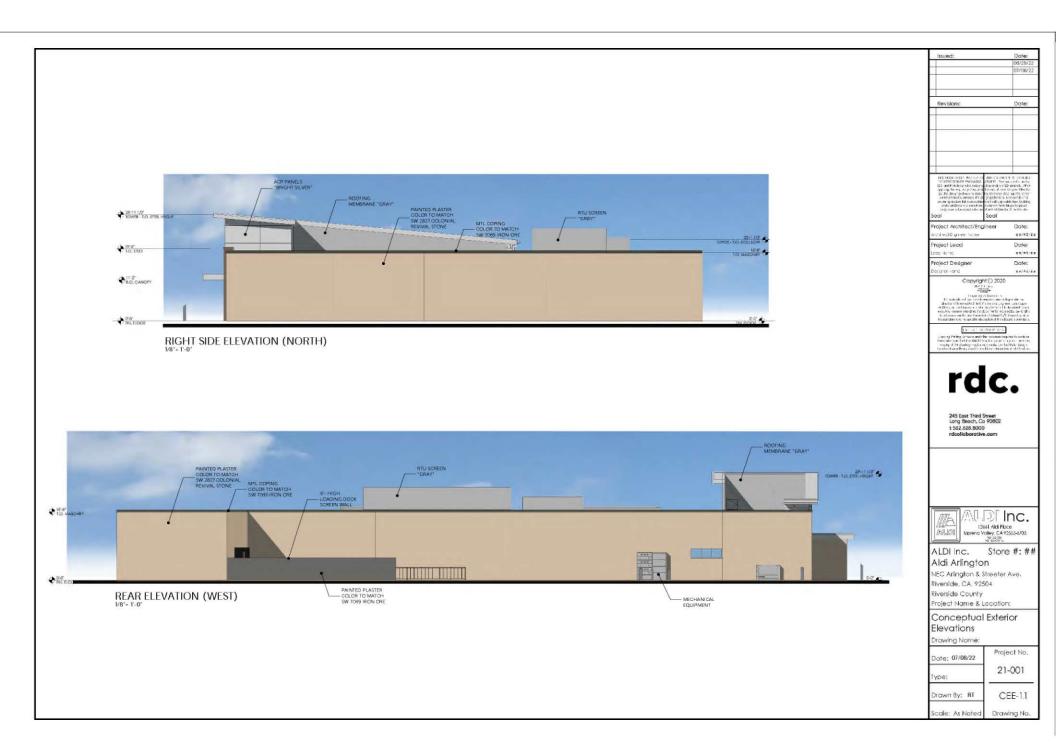










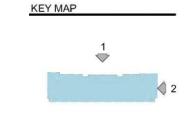






FRONT ELEVATION 1





1/=10-0\*

A3.1

DATE: 08-05-2022 JOB NO.: 2020-055

Achitecture. Design. Relationships.



RIVERSIDE, CA

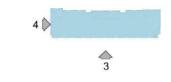
ARCHITECTS ORANGE 144 NORTH ORANGE ST., ORANGE, CA 92866 (714) 639-9860



REAR ELEVATION 3



KEY MAP



1°=10°-0° 20 30° ELEVATIONS - TYPE III

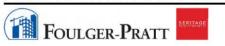
> DATE: 08-05-2022 JOB NO.: 2020-055

ARCHITECTS ORANGE 144 NORTH ORANGE ST., ORANGE, CA 92866 (714) 639-9860 A3.2



ARLINGTON MIXED USE

RIVERSIDE, CA



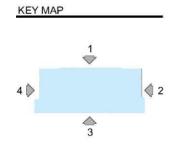
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45'-0" MAXIMUM HEIGHT



LEFT ELEVATION 2













45'-0" MAXIMUM HEIGHT

AVG PARAPET T.O. ROOF (+21-27)

LEVEL 2 (\*10-17)

LEVELT

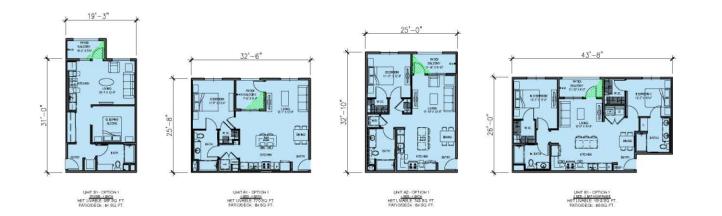
REAR ELEVATION 2

DATE: 08-05-2022 JOB NO.: 2020-055



#### LEGEND











A6.1



RIVERSIDE, CA

DATE: 08-05-2022 JOB NO.: 2020-055 ARCHITECTS ORANGE 144 NORTH ORANGE ST., ORANGE, CA 92866 (714) 639-9860

PR-2022-001252 - 5261 Arlington Avenue - Exhibit 9 - Airport Land Use Commission (ALUC) Agenda-1-12-23











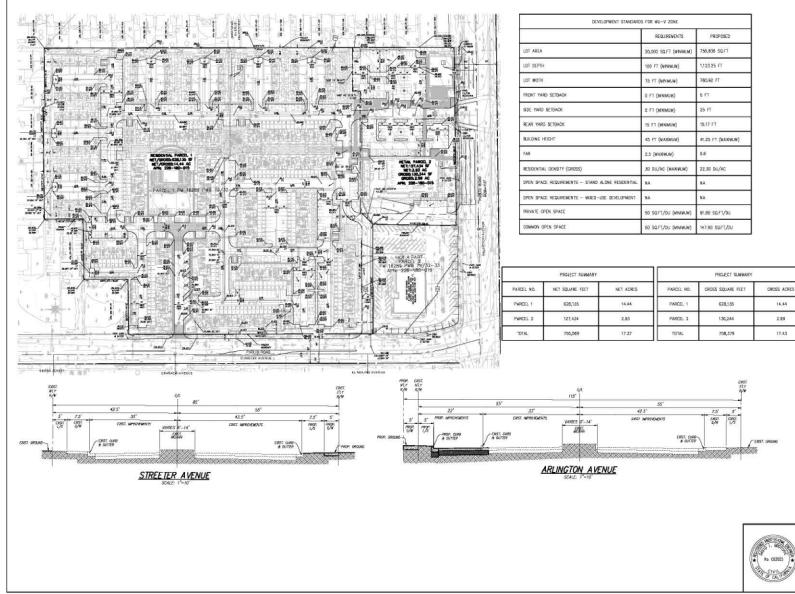
ARCHITECTS ORANGE 144 NORTH ORANGE ST., ORANGE, CA 92866 (714) 639-9860

DATE: 08-05-2022 JOB NO.: 2020-055

















#### UTILITY PURVEYORS: ELECTROL: APU ELECTRO WATER: APU WATER SEMER: UTY DF RYERSDE TELEPHONE: AT&T CABLE: SPECTRUM

FOULDER-FRATT 136 CALLE DE LOS MOLINOS, SAN CLENENTE, CA 92872 CONTACT: JAME CHAPMAN E-MAIL: JOCHAPMANECUCERPRATT.COM PHONE 949-595-9572

SERIFACE 11601 WILSHRE BOULEVARD, SUITE 400 LOS ANGELES, CA 80025 901-7632 CONTACT: JOHN REISCHL JREISCHLØGERIFAGE.COM

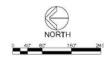
#### EXISTING EASEMENTS

THESE CASEMENT'S BASED ON PHELININARY COMMITMENT FOR THE INSURANCE NO. SDDD-BRISBRAZ ISSUED BY FIRST MARRICAN THE INTER FERENCE THE COMMITMENT HAVE SEEN REVEALED AND ARE NOT CONSIGNED SURVEY RELATED AND THUS HAVE NOT BEEN SHOWN HEREON.

#### PROPOSED EASEMENT'S/DEDICATIONS

PROPOSED 5 FOOT WIDE RIGHT OF WAY DEDICATION TO THE CITY OF RVEREDE FOR RIGHT OF WAY AND WIDENING OF ARLINGTON AVENUE. THIS RESULTS IN A TOTAL OF OLS ACRES OF DEDICATION.

- 2 PROPOSED 30 FOOT WIDE ACCESS AND UTILITY EASEMENT OVER PAROEL 2 FOR THE BENEFIT OF PAROEL 1.
- PROPOSED 10 FOOT WIDE DRAINAGE EASEMENT OVER PARCEL 1 FOR THE BENEFIT OF THE OFFSITE DRAINAGE.
- AN EASEMENT FOR THE TRANSMISSION OF ELECTRIC ENERGY AND COMMUNICATION PURPOSES AND INCIDENTAL PURPOSES RECORDED MARCH 15, 1963 AS INSTRUMENT NO. 26398 OF OFFICIAL RECORDS.
- 12 THE TERMS, PROVISIONS AND EASEMENT(S) CONTAINED IN THE DOCUMENT ENTITLED "COVENANT AND AGREEMENT (PARCEL MAP NO. 16289)" RECORDED JUNE 13, 1980 AS INSTRUMENT NO. 109283 OF OFFICIAL RECORDES.
- ABUITER'S RICHTS OF INGRESS AND ECRESS TO OH FROM ARLINGTON AVENUE AND STREETER AVENUE, EXCEPT THE PUBUC RICHT TO TRANGU-HAVE BEEN DEDGATED OR RELINQUIS-ED ON THE MAP OF PARCEL MAP NO. 16289 ON FLE IN BOCK 79, PAGE 32 AND 33, OF PARCEL MAPS.







# FORGESOLAR GLARE ANALYSIS

#### Project: Arlington Mixed-Use Riverside

Multiple building low-rise residential plus retail and grocery buildings.

#### Site configuration: 2022-11-30

Analysis conducted by Glen Folland (gfolland@vca-green.com) at 19:22 on 30 Nov, 2022.

# U.S. FAA 2013 Policy Adherence

The following table summarizes the policy adherence of the glare analysis based on the 2013 U.S. Federal Aviation Administration Interim Policy 78 FR 63276. This policy requires the following criteria be met for solar energy systems on airport property:

- · No "yellow" glare (potential for after-image) for any flight path from threshold to 2 miles
- No glare of any kind for Air Traffic Control Tower(s) ("ATCT") at cab height.
- · Default analysis and observer characteristics (see list below)

ForgeSolar does not represent or speak officially for the FAA and cannot approve or deny projects. Results are informational only.

COMPONENT	STATUS	DESCRIPTION
Analysis parameters	PASS	Analysis time interval and eye characteristics used are acceptable
2-mile flight path(s)	PASS	Flight path receptor(s) do not receive yellow glare
ATCT(s)	PASS	Receptor(s) marked as ATCT do not receive glare

Default glare analysis parameters and observer eye characteristics (for reference only):

- · Analysis time interval: 1 minute
- Ocular transmission coefficient: 0.5
- · Pupil diameter: 0.002 meters
- · Eye focal length: 0.017 meters
- · Sun subtended angle: 9.3 milliradians

FAA Policy 78 FR 63276 can be read at https://www.federalregister.gov/d/2013-24729

# SITE CONFIGURATION

#### **Analysis Parameters**

DNI: peaks at 1,000.0 W/m<sup>2</sup> Time interval: 1 min Ocular transmission coefficient: 0.5 Pupil diameter: 0.002 m Eye focal length: 0.017 m Sun subtended angle: 9.3 mrad Site Config ID: 80344.14205 Methodology: V2



#### PV Array(s)

Name: Building 12 Axis tracking: Fixed (no rotation) Tilt: 10.0° Orientation: 90.0° Rated power: -Panel material: Smooth glass without AR coating Reflectivity: Vary with sun Slope error: correlate with material



Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
1	33.948242	-117.416610	779.30	26.20	805.50
2	33.948720	-117.416615	779.06	26.20	805.26
3	33.948723	-117.416422	779.07	26.20	805.27
4	33.948246	-117.416422	778.84	26.20	805.04

Name: Building 1 2 4 5 Axis tracking: Fixed (no rotation) Tilt: 10.0° Orientation: 90.0° Rated power: -Panel material: Smooth glass without AR coating Reflectivity: Vary with sun Slope error: correlate with material



Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
1	33.948184	-117.417157	781.57	41.30	822.87
2	33.948189	-117.417801	778.90	41.30	820.20
3	33.948438	-117.417798	776.71	41.30	818.01
4	33.948444	-117.417157	780.82	41.30	822.12

Name: East Buildings Axis tracking: Fixed (no rotation) Tilt: 10.0° Orientation: 90.0° Rated power: -Panel material: Smooth glass without AR coating Reflectivity: Vary with sun Slope error: correlate with material



Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
1	33.947995	-117.416337	779.80	26.20	806.00
2	33.947999	-117.415900	781.78	26.20	807.98
3	33.947539	-117.415900	784.35	26.20	810.55
4	33.947543	-117.416335	780.67	26.20	806.87

Name: Grocery Axis tracking: Fixed (no rotation) Tilt: 10.0° Orientation: 90.0° Rated power: -Panel material: Smooth glass without AR coating Reflectivity: Vary with sun Slope error: correlate with material



Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
1	33.946647	-117.417292	780.43	24.00	804.43
2	33.946644	-117.417046	780.79	24.00	804.79
3	33.946442	-117.417051	781.24	24.00	805.24
4	33.946437	-117.417290	782.35	24.00	806.35



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Name: North Buildings Axis tracking: Fixed (no rotation) Tilt: 10.0° Orientation: 90.0° Rated power: -Panel material: Smooth glass without AR coating Reflectivity: Vary with sun Slope error: correlate with material



Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
1	33.949260	-117.417335	779.89	26.20	806.09
2	33.949258	-117.416922	780.18	26.20	806.38
3	33.948888	-117.416908	778.89	26.20	805.09
4	33.948888	-117.417327	777.85	26.20	804.05

Name: North Carports Axis tracking: Fixed (no rotation) Tilt: 10.0° Orientation: 90.0° Rated power: -Panel material: Smooth glass without AR coating Reflectivity: Vary with sun Slope error: correlate with material



Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
1	33.948759	-117.417348	778.78	10.00	788.78
2	33.948831	-117.417353	778.21	10.00	788.21
3	33.948826	-117.416774	777.65	10.00	787.65
4	33.948753	-117.416771	778.96	10.00	788.96

Name: Retail Axis tracking: Fixed (no rotation) Tilt: 10.0° Orientation: 90.0° Rated power: -Panel material: Smooth glass without AR coating Reflectivity: Vary with sun Slope error: correlate with material



Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
1	33.946277	-117.416145	789.09	24.00	813.09
2	33.946361	-117.416145	788.11	24.00	812.11
3	33.946361	-117.415964	792.33	24.00	816.33
4	33.946277	-117.415963	791.71	24.00	815.71



PR-2022-001252 - 5261 Arlington Avenue - Exhibit 9 - Airport Land Use Commission (ALUC) Agenda-1-12-23

### Flight Path Receptor(s)

Name: FP 1
Description:
Threshold height: 50 ft
Direction: 283.2°
Glide slope: 3.0°
Pilot view restricted? Yes
Vertical view: 30.0°
Azimuthal view: 50.0°



Point	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
Threshold	33.950530	-117.434619	815.55	50.00	865.55
Two-mile	33.943928	-117.400646	846.63	572.35	1418.98

Name: FP 2 Description: Threshold height: 50 ft Direction: 103.2° Glide slope: 3.0° Pilot view restricted? Yes Vertical view: 30.0° Azimuthal view: 50.0°



Point	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
Threshold	33.953909	-117.452006	757.46	50.00	807.46
Two-mile	33.960511	-117.485981	747.85	613.04	1360.89

lame: FP 3 Description: Threshold heig Direction: 178. Alide slope: 3.0 Pilot view restr Vertical view: 3	9° 0° f <b>icted?</b> Yes 80.0°				
Azimuthal view: 50.0° Point Latitude (°) Longitude (°)			Google Ground elevation (ft)	an Bernardino, Maxar Technologies, U.S. Geo Height above ground (ft)	logical Survey, USDA/FPAC/GEO
Threshold	33.955169	-117.448657	771.07	50.00	821.07
Two-mile	33.984077	-117.449327	1117.22	257.29	1374.50

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Name: FP 4 Description: Threshold height: 50 ft Direction: 358.3° Glide slope: 3.0° Pilot view restricted? Yes Vertical view: 30.0° Azimuthal view: 50.0°



Point	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
Threshold	33.947339	-117.448419	746.86	50.00	796.86
Two-mile	33.918439	-117.447383	796.44	553.84	1350.28

## **Discrete Observation Receptors**

Name	ID	Latitude (°)	Longitude (°)	Elevation (ft)	Height (ft)
1-ATCT	1	33.949820	-117.439978	805.12	60.00

Map image of 1-ATCT



# **Summary of Glare**

PV Array Name	Tilt	Orient	"Green" Glare	"Yellow" Glare	Energy
	(°)	(°)	min	min	kWh
Building 12	10.0	90.0	0	0	-
Building 1 2 4 5	10.0	90.0	0	0	-
East Buildings	10.0	90.0	0	0	-
Grocery	10.0	90.0	12,459	0	-
North Buildings	10.0	90.0	0	0	-
North Carports	10.0	90.0	0	0	-
Retail	10.0	90.0	10,706	0	-

Total annual glare received by each receptor

	Receptor	Annual Green Glare (min)	Annual Yellow Glare (min)
run 27	FP 1	23165	0
run 34	FP 2	0	0
run 16	FP 3	0	0
run 9	FP 4	0	0
	1-ATCT	0	0

# **Results for: Building 12**

Receptor	Green Glare (min)	Yellow Glare (min)
FP 1	0	0
FP 2	0	0
FP 3	0	0
FP 4	0	0
1-ATCT	0	0

#### Flight Path: FP 1

0 minutes of yellow glare 0 minutes of green glare

### Flight Path: FP 2

0 minutes of yellow glare 0 minutes of green glare

#### Flight Path: FP 4

0 minutes of yellow glare 0 minutes of green glare

#### Point Receptor: 1-ATCT

0 minutes of yellow glare 0 minutes of green glare

## Results for: Building 1 2 4 5

Receptor	Green Glare (min)	Yellow Glare (min)
FP 1	0	0
FP 2	0	0
FP 3	0	0
FP 4	0	0
1-ATCT	0	0

#### Flight Path: FP 1

0 minutes of yellow glare 0 minutes of green glare

#### Flight Path: FP 2

0 minutes of yellow glare 0 minutes of green glare

#### Flight Path: FP 3

0 minutes of yellow glare 0 minutes of green glare

#### Flight Path: FP 4

0 minutes of yellow glare 0 minutes of green glare

#### Point Receptor: 1-ATCT

# **Results for: East Buildings**

Receptor	Green Glare (min)	Yellow Glare (min)
FP 1	0	0
FP 2	0	0
FP 3	0	0
FP 4	0	0
1-ATCT	0	0

#### Flight Path: FP 1

0 minutes of yellow glare 0 minutes of green glare

#### Flight Path: FP 2

0 minutes of yellow glare 0 minutes of green glare

#### Flight Path: FP 3

0 minutes of yellow glare 0 minutes of green glare

#### Flight Path: FP 4

0 minutes of yellow glare 0 minutes of green glare

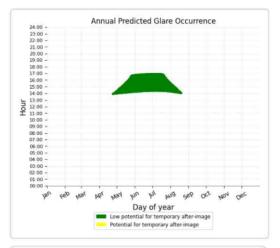
### Point Receptor: 1-ATCT

0 minutes of yellow glare 0 minutes of green glare

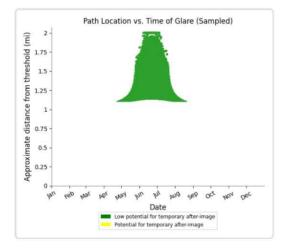
## **Results for: Grocery**

Receptor	Green Glare (min)	Yellow Glare (min)
FP 1	12459	0
FP 2	0	0
FP 3	0	0
FP 4	0	0
1-ATCT	0	0

0 minutes of yellow glare 12459 minutes of green glare







#### Flight Path: FP 2

0 minutes of yellow glare 0 minutes of green glare

#### Flight Path: FP 3

0 minutes of yellow glare 0 minutes of green glare

#### Flight Path: FP 4

0 minutes of yellow glare 0 minutes of green glare

#### Point Receptor: 1-ATCT

# **Results for: North Buildings**

Receptor	Green Glare (min)	Yellow Glare (min)
FP 1	0	0
FP 2	0	0
FP 3	0	0
FP 4	0	0
1-ATCT	0	0

#### Flight Path: FP 1

0 minutes of yellow glare 0 minutes of green glare

#### Flight Path: FP 2

0 minutes of yellow glare 0 minutes of green glare

#### Flight Path: FP 3

0 minutes of yellow glare 0 minutes of green glare

#### Flight Path: FP 4

0 minutes of yellow glare 0 minutes of green glare

#### Point Receptor: 1-ATCT

0 minutes of yellow glare 0 minutes of green glare

# **Results for: North Carports**

Receptor	Green Glare (min)	Yellow Glare (min)
FP 1	0	0
FP 2	0	0
FP 3	0	0
FP 4	0	0
1-ATCT	0	0

0 minutes of yellow glare 0 minutes of green glare

### Flight Path: FP 2

0 minutes of yellow glare 0 minutes of green glare

#### Flight Path: FP 3

0 minutes of yellow glare 0 minutes of green glare

#### Flight Path: FP 4

0 minutes of yellow glare 0 minutes of green glare

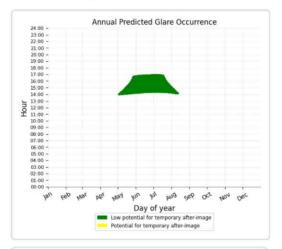
### Point Receptor: 1-ATCT

0 minutes of yellow glare 0 minutes of green glare

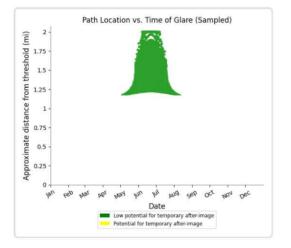
## **Results for: Retail**

Receptor	Green Glare (min)	Yellow Glare (min)
FP 1	10706	0
FP 2	0	0
FP 3	0	0
FP 4	0	0
1-ATCT	0	0

0 minutes of yellow glare 10706 minutes of green glare







#### Flight Path: FP 2

0 minutes of yellow glare 0 minutes of green glare

#### Flight Path: FP 3

0 minutes of yellow glare 0 minutes of green glare

#### Flight Path: FP 4

0 minutes of yellow glare 0 minutes of green glare

#### Point Receptor: 1-ATCT

# Assumptions

"Green" glare is glare with low potential to cause an after-image (flash blindness) when observed prior to a typical blink response time. "Yellow" glare is glare with potential to cause an after-image (flash blindness) when observed prior to a typical blink response time. Times associated with glare are denoted in Standard time. For Daylight Savings, add one hour.

Glare analyses do not account for physical obstructions between reflectors and receptors. This includes buildings, tree cover and geographic obstructions.

Several calculations utilize the PV array centroid, rather than the actual glare spot location, due to V1 algorithm limitations. This may affect results for large PV footprints. Additional analyses of array sub-sections can provide additional information on expected glare. The subtended source angle (glare spot size) is constrained by the PV array footprint size. Partitioning large arrays into smaller sections will reduce the maximum potential subtended angle, potentially impacting results if actual glare spots are larger than the sub-array size. Additional analyses of the combined area of adjacent sub-arrays can provide more information on potential glare hazards. (See previous point on related limitations.)

Glare locations displayed on receptor plots are approximate. Actual glare-spot locations may differ.

Glare vector plots are simplified representations of analysis data. Actual glare emanations and results may differ.

The glare hazard determination relies on several approximations including observer eye characteristics, angle of view, and typical blink response time. Actual results and glare occurrence may differ.

Hazard zone boundaries shown in the Glare Hazard plot are an approximation and visual aid based on aggregated research data. Actual ocular impact outcomes encompass a continuous, not discrete, spectrum.

Refer to the Help page at www.forgesolar.com/help/ for assumptions and limitations not listed here.

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