# Modular Feasibility Report

# *5224 Chestnut Rd Olivehurst, CA*

**Objective:** A rapid-turnaround, structured assessment to determine if the site and project are suitable for modular construction. This Modular Feasibility combines RaaP’s internal design prototypes and cost benchmarks with a site-specific checklist and zoning overlays to determine modular alignment—before any design is started.

## Summary

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| **Attribute** | **Findings & Recommendations** |
| **Recommendations** | * Total 24 units (6 x 1BR and 12 x 2BR and 6x 3BR units)   + 146’ X 66’   + 3 Story   + Type VA Construction |

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| ***Good fit for modular construction.*** High Modular Feasibility **score of 4.4/5** based on the six criteria below, with no additional restrictions introduced by modular construction. | | | |
| **Criteria: Score each using a scale of 0-5** | **Weight** | **Score** | **Score Justification** |
| **Zoning**: 5 = allows target units without any waivers. 0 = not allowed to build fully compliant for state bonus density & other factors. | 20% | 4 | Score of 4/5 as concessions are required to reduce open space and parking requirements. Modular construction does not introduce any additional waivers or restrictions for this site. |
| **Massing**: 5 = No additional constraints caused by modular structure; 0 = Modular does not work for the site. | 15% | 5 | Score of 5/5 since we can achieve the goal of 124 units and unit mix as the traditional original design. |
| **Cost**: 5 = Modular is 10%+ cheaper than site-built; 0 = Modular is 5%+ more expensive than site-built. | 20% | 4 | $62.7M ($404/sf; $506K/unit. Prevailing Wage: 1.2% savings over site-built  Score of 4/5 since modular is cheaper than site-built. Cost for sustainability enhancements have not been considered at this stage. |
| **Sustainability:** 5 = Project readily supports Net Zero Energy (NZE) and PHIUS with minimal site-built upgrades. 0 = Project not viable for high-performance design or renewable energy integration. | 20% | 5 | Score of 5/5 due to strong alignment with PHIUS and Net Zero Energy goals through modular design. Will require enhancements to foundation, walls, roof, windows, HVAC & lighting in addition to the investment in batteries & solar power. Although these enhancements are likely to be the same for modular or site built, modular construction can reduce the waste generated & increase installation quality. |
| **Logistics**: 5 =No transportation or setting constraints. 0 = Not possible to reach or set the site. | 15% | 5 | Score of 5/5 due to easy access from the highway and available open space for the staging site. |
| **Time**: 5 = Modular saves over 6 months of construction time. 0 = Modular is the same time as site built. | 10% | 4 | 9 months design + construction using modular approach vs 13 months for site built.  Score of 4/5 due to savings of 4 months. |
| **Final Score**: Go on Modular if none of the criteria = 0 & weighted average >2.5. |  | **4.4** |  |

## Inputs

A blueprint of a building

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* Total Gross site area: +/-4.12 ac
* Target Unit Count: 24 units.
  + 1 BR = 6 units
  + 2 BR =12 units
  + 3 BR = 6 units
* Gross Density: +/-30.0 du/ac
* Parking summary
  + Preferred Parking = 24 Spaces (1.0 Ratio)

## Zoning

## This is a preliminary zoning & code review. A more complete analysis will be completed during the SmartStart & Entitlement phases.

**Zoning district**: Residential Medium Density (RM)

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| **Zoning Criteria** | **What’s Allowed** | **Required Waivers & Concessions** |
| **Allowed Use** | * Multi-unit Development Permitted |  |
| **Density** | * With AB 1287, Affordability unit mix input provided by Mutual Housing qualifies project for additional 100% density increase (34 DU / Acre Max) * Base density: 17 DU / Acre Max |  |
| **Setback** | * 15’ Front or Street Side from edge of sidewalk for Attached sidewalk * 15’ Front or Street Side from edge of ultimate Right-of-Way and 10’ from edge of drainage ditch if present * 5’ Interior Side setback * 10’ Rear for Primary Structure * 5’ Rear for Accessory Structure |  |
| **Height** | * 35’ max Building Height for Primary Structure * 15’ max Building Height for Accessory Structure |  |
| **Stepback / Transitional Height** | * RM zone: None * RH Zone   + 30’ max height within 40 feet of an RS District   + 40’ max height within 50 feet of an RS District   *Note: Entitlement package provided shows RH zone, but County GIS data shows RM zone for site* |  |
| **Open Space** | * Assume Open space provided within Entitlement set meets requirements. * 200 SF per unit per zoning Private or Common Open Space * Common Open Space: 25’ min dimension * Private Open Space: 8’ min dimension | * Concession for Open Space Reduction. |
| **FAR** | * No FAR Requirement |  |
| **Parking** | * Assume Parking ratio of 1 stall per unit shown in Entitlement satisfies requirements. * State Density Bonus Law Parking Requirements   + 1 Bed: 1 Stall   + 2-3 Beds: 1.5 Stalls | * Concessions can be used to lower parking requirement |

## Massing

## Please refer to the attached set of drawings.

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| * Building size: 146’ X 66’. * 3 Story * Type VA Construction * 24 Units * 6 One-bed. * 12 Two-bed. * 6 Three-bedroom units |

* Portion of ground level to be site-built for amenity spaces.

## Estimated Cost

**Total $10.8M ($404/sf; $506K/unit). Prevailing Wage.**

* 1.2% savings over site built 782$K.
* Soft cost savings due to lower design costs.

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## Sustainability

The project presents a strong foundation for achieving Net Zero Energy (NZE) and PHIUS certification through modular construction. Modular design can support energy efficiency goals by integrating passive design principles, efficient HVAC systems, and photovoltaic-ready roof structures. While some PHIUS-specific components—like under-slab insulation and enhanced air barriers—require site-built execution, the majority of the envelope and systems are compatible with factory-built methods. RaaP/HED’s commitment to sustainable, people-centric design and experience in delivering PHIUS-certified multifamily housing provides confidence that the project can pursue NZE targets with minimal cost and design impact.

## Logistics

* Transportation: Within 1/2 mile of highway 70 and exit 18A to Olivehurst Ave and Chestnut Rd with no bridge or access issues observed for factory delivery.
* Setting: Overhead powerline on Chestnut Rd could cause some crane logistics concerns.
* Staging: Large open site, with no visible restrictions for staging.

## Estimated Design + Build Time (excluding permitting)

* 9 months design + construction for modular
* 13 months design + construction for site built (4 months saving)