

Executive Summary

Rose Villa has created a Resiliency Action Plan (RAP) to address risks caused by natural disasters and climate change. The plan aims to improve the safety and sustainability of Rose Villa's operations and guide the development of its Capital Improvement Plan, Facilities Maintenance Plan, Resilience Design Guidelines, and Emergency Response Plan. The RAP, developed in collaboration with several resiliency consultants, includes a ~20 year timeframe broken into five stages. By implementing the RAP, Rose Villa will mitigate risks, reduce stress on staff and residents, and achieve long-term savings on operational and maintenance costs.

Rose Villa defines resilience as ensuring safety, stability, and sustainability during and after acute events such as wildfires, heat waves, or winter storms. While it acknowledges that it cannot prevent all the risks associated with climate change, natural disasters, and other unpredictable events, it can plan and prepare to resist and recover from them. Rose Villa prioritizes mitigating the effects of a multi-day power outage, addressing the impact of wildfire smoke, and planning for a large earthquake.

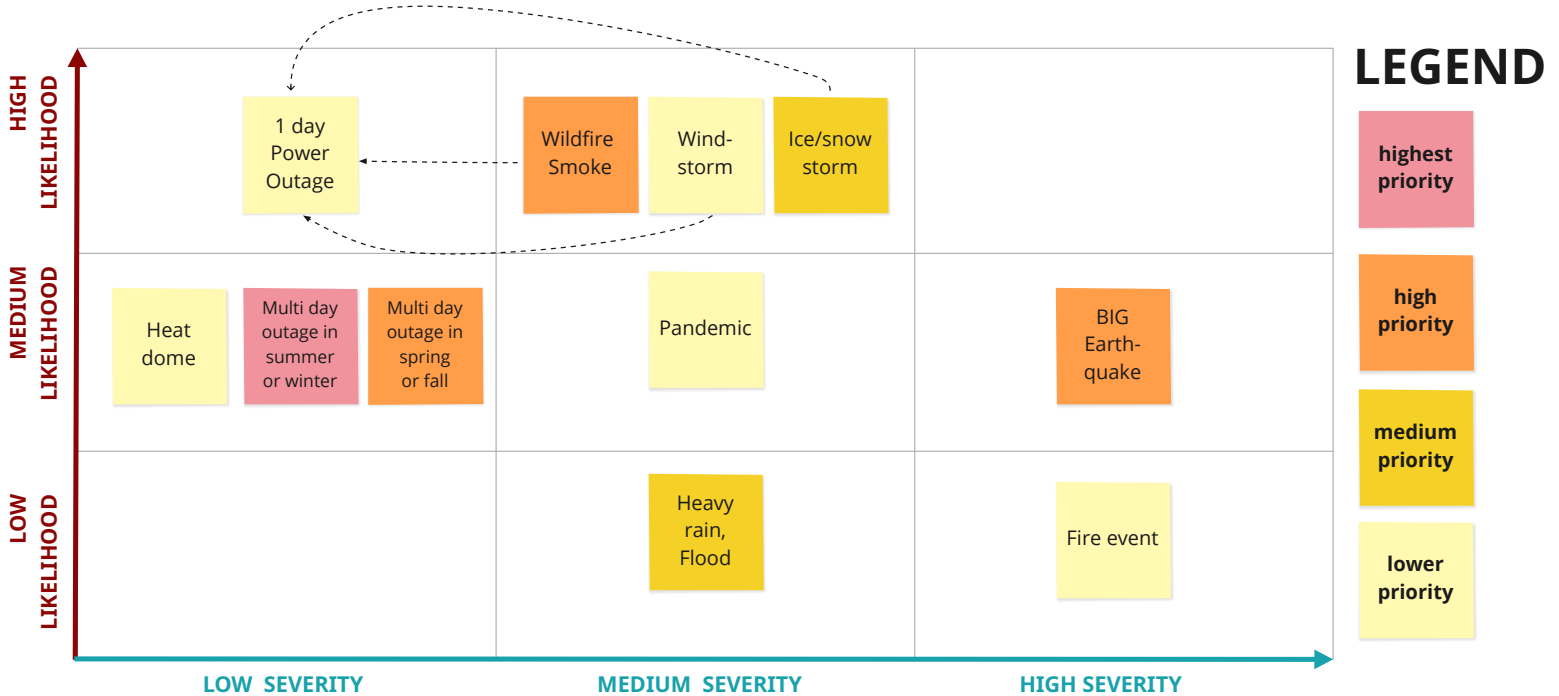
Rose Villa's resiliency strategies aim to synchronize, scale, and stage retrofits to minimize costs and disruption while promoting community buy-in, safe evacuation, and short and long-term sheltering. In addition, these strategies

benefit the residents by improving comfort, air and water quality while minimizing energy and water use.

The RAP proposes ROSE Petals, a distributed approach to resilience and sustainability at Rose Villa, consisting of various retrofits and new campus infrastructure such as ROSE Homes, ROSE Ports, ROSE Lots, ROSE Havens, and the ROSE Pavilion. ROSE Homes are existing homes that have received retrofits for resilience. ROSE Ports are existing carports upgraded for energy resilience. ROSE Lots are existing parking lots where tents can be set up for services. ROSE Havens are existing community spaces providing essential services and shelter. Finally, the ROSE Pavilion is a new covered platform for outdoor gatherings with off-grid generation and storage of energy and water, composting toilets, and a safe shelter for residents.

The RAP Goal Chart is a living document that summarizes the goals and stages of the RAP. Stage 1 produced this RAP Report as the first deliverable. The current Stage 2 focuses on community engagement, structural and energy retrofits of buildings, updating recommendations for more efficient appliances, GIS mapping for emergency response, and air quality work. Stage 3 involves the development of guiding documents that align with the RAP. Finally, Stages 4 and 5 oversee significant reductions in overall energy and water use as well as disaster recovery preparedness. The RAP team considers these goals ambitious but achievable with sufficient investment in time and resources.

Priorities



Stages

Stage Diagram

RAP PHASES	Stage I	Stage II	Stage III	Stage IV	Stage V
Duration	1 year	2 year	1 year	~5-10 years	~10 years
Year Complete	2022	2024	2025	2030-2035	2035-2045
Goal	Set Goals + Propose Strategies	Refine Analysis of Costs & Strategies	Meet Goals of Life-Safety & Guiding Docs	Meet goals of Shorter-term Sheltering	Meet goals of Longer-term Sheltering Goals

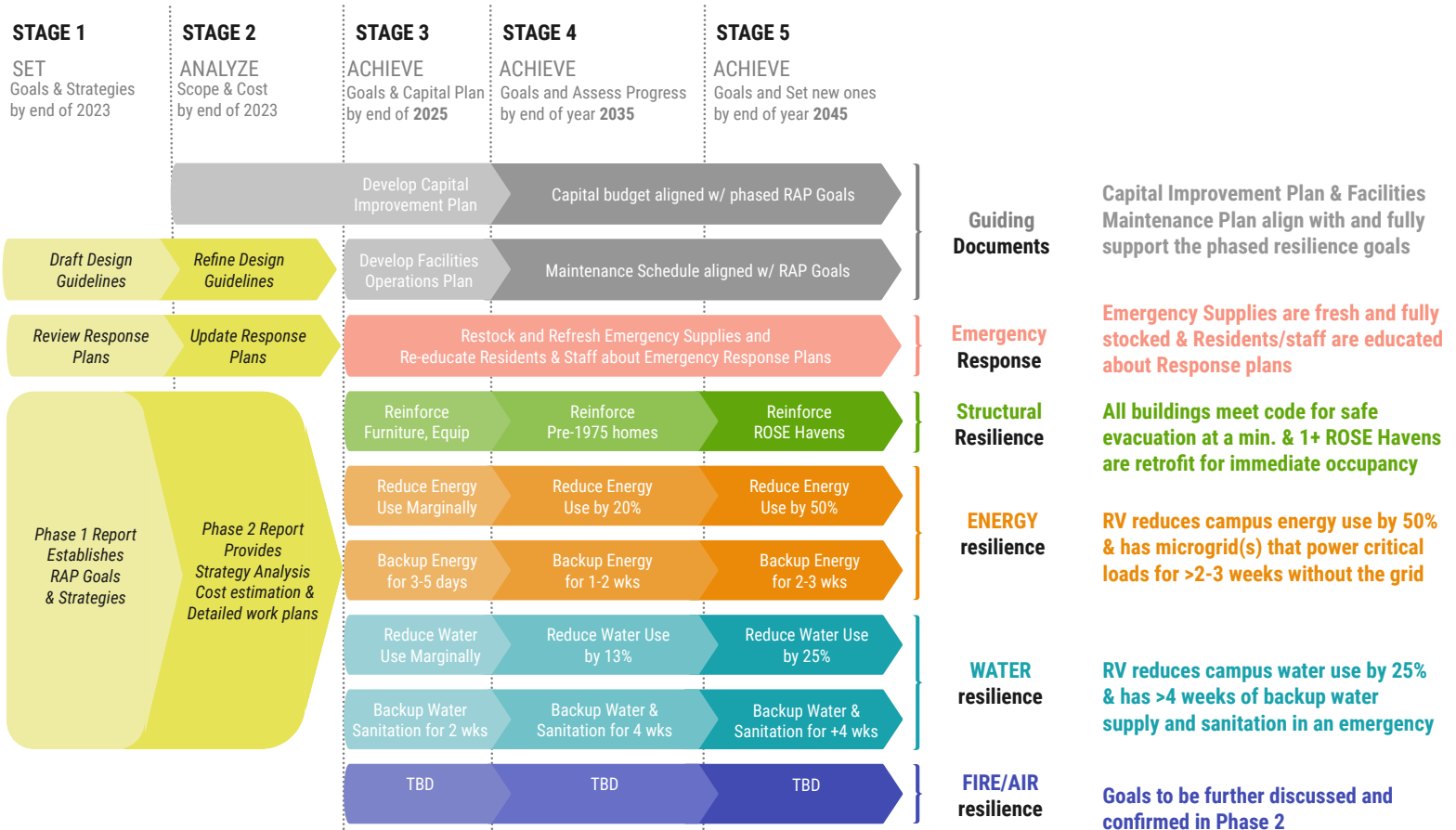
Map

RAP Map of Resilient Operations & Sustainable Energy Petals

- ROSE Homes
- ROSE Ports
- ROSE Havens
- ROSE Lots
- ROSE Pavilion



Goal Chart



ROSE Petals

ROSE (Resilient Operations + Sustainable Energy) Petals represent Rose Villa's various types of new &/or improved buildings that together meet the campus' resiliency goals!



ROSE Homes

Improve performance of campus buildings especially pre-1975 cottages in Phase 4-5

Retrofit cottages to be seismically safer

Retrofit cottages to save ~50% energy

Reduce water use by ~25% across campus

Improve indoor air filtration across campus

Ensure residents have own emergency supplies



ROSE Havens

Retrofit existing common space(s) to be an emergency shelter(s) by Phase 5

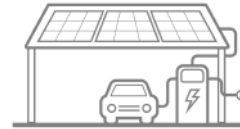
Seismically retrofit at least 1 Haven

Improve back up energy supply to Havens

Improve back up water supply to Havens

Improve indoor air quality in Havens

Improve access to emergency supplies



ROSE Ports

Retrofit carports to provide energy resilience on campus by Phase 4

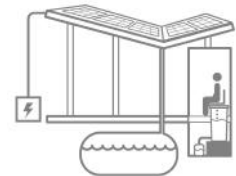
Reinforce structure for solar panels

Add electric charging and EV carshare

Could collect and store rainwater here

Electric cars will improve campus air quality

Act as charging stations during power outage



ROSE Pavilion

Build an outdoor covered structure for shelter and recreation by Phase 5

Can be a shelter after large earthquake

Zero Energy or Net Positive Energy

Zero Water by collecting/storing rainwater

could provide clean air if enclose structure

Educational amenity, campus resiliency hub

*Additionally, ROSE Lots are specific existing parking lots and open spaces on campus that will be used as staging grounds for emergency response tents and services by Phase 4.