



YACHATS RESILIENT CIVIC CAMPUS PLAN

*Community Renewable Energy & Resiliency Planning Project
Made possible with grant funding from the Oregon Department of Energy*

FEBRUARY 14, 2024

Prepared for the City of Yachats by:

GREEN URBAN DESIGN | FORAGE DESIGN + PLANNING | SOLARC ENERGY GROUP | PARADIGM ENGINEERING



Table of Contents

- I. EXECUTIVE SUMMARY 3**
- II. ACKNOWLEDGEMENTS..... 9**
- III. INTRODUCTION..... 10**
 - Project Overview
 - Project Purpose
 - Planning Process
 - How to Use this Plan Document
- IV. UNDERSTANDING PEOPLE & PLACE.....12**
 - Civic Campus Context and Conditions
 - Yachats Hazards and Emergency Response Needs
 - Policy and Planning Context
 - Community Involvement: Outreach, Public Engagement, and Findings
 - Community Vision for a Resilient Civic Campus
- V. RESILIENCY ASSESSMENT: SITE FRAMEWORK AND ENERGY USE33**
 - Site Framework and Energy Assessment
 - Connecting the North and Southeast Edges
 - Site Improvements
 - Selecting the Priority Southeast Edge
 - Future Civic Campus Microgrid
- VI. PLAN CRITERIA, GOALS & GUIDELINES.....46**
 - Citywide Scale Energy and Resiliency
 - Civic Campus Scale Energy and Resiliency
 - Building Scale Energy and Resiliency
- VII. IMPLEMENTATION.....54**
 - Administration and Support
 - Inclusivity
 - Partnerships
 - Project Implementation
 - Implementation Criteria
- VIII . DESIGN CONCEPTS & PROJECTS58**
 - Candidate Energy Concepts
 - Candidate Project Options
- IX. NEXT STEPS.....65**
- X. APPENDICES.....68**

<ul style="list-style-type: none"> A. Audit of Civic Campus Facilities B. Assessment of County Electric Improvements C. Community and Project Parameters D. Criteria: Renewable & Resilient Facilities and Strategies 	<ul style="list-style-type: none"> E. Renewable Energy Concepts F. Assessment of Leading Candidate Concept G. Community Engagement H. Community Survey Results I. Relational Accountability Process
---	--

I. Executive Summary

A Civic Campus planning process was conducted by the City of Yachats to consider how renewable power could help prepare for hazard events and leverage improvements supporting community resilience. As part of an Oregon Department of Energy (ODOE) Community Renewable Energy Planning (CREP) grant, an extensive community engagement and facility assessment effort was undertaken to identify the community needs, priorities, and recommendations for emergency response, renewable energy, and resiliency. This plan presents resiliency recommendations at three scales: Citywide, Civic Campus, and Building. This framework includes priority projects to enhance resiliency, and a community vision, goals, objectives, guidelines, and criteria derived from the public process. Finally, the plan includes recommendations to leverage and enhance City organizational capacity and community partnerships that can translate to project implementation success.

A core focus of the project has been defining a renewable energy and storage project for the Civic Campus that improves power, communication, and access during and after a hazard event. These improvements can advance refuge and recovery in an emergency and support greater social and economic resilience for the entire city.

During a six-month planning process, design and engineering consultants performed extensive building energy and site assessments of Yachats' Civic Campus and "Essential Facilities", made recommendations about potential projects, as well as identified opportunities and improvements for renewable energy and energy resiliency. Throughout the process, the planning team worked closely with the City and community through a series of public engagement events, advisory groups, a vision and needs survey and other public engagement.

How Community Voices Shaped the Resiliency Plan

An Advisory Group oversaw the formation of the plan and included representatives from the business community, emergency preparedness committee, and other partners who use the Civic Campus. A community survey, public workshop and two open houses were conducted to provide information and solicit advice. This process is described in detail in the Community Involvement Section of this report (see Chapter IV, and Appendix G).

This outreach concluded that successful resilience projects should promote inclusivity with diverse partners supporting underserved or under-represented communities and other organizations on the Oregon Coast that include BIPOC equity outcomes in their mission and provide direct assistance, grant funding, and long term partnership opportunities with the City of Yachats.

As part of the project's equity strategy, a Relational Accountability Process (RAP) served as a valuable tool to assess and improve the effectiveness of the implemented engagement plan (See Appendix I Relational Accountability Process).

The planning process helped define a clear role and vision for the Civic Campus following a hazard event. In addition to power, the engagement process identified resilience improvements related to the use of the water system, communication, and access to materials and services. It was through this process that community input was received on how best to organize the Civic Campus to design renewable energy and resilience improvements that leveraged social and economic objectives the community desired within the Civic Campus. A valuable outcome was the opportunity to raise awareness about most likely hazards, and advance civic scale preparation. The process helped foster a resiliency mindset and created tools that could inform further master planning and design of the Civic Campus, possible policy actions, and additional funding and planning efforts to increase resiliency and socio-economic benefits for the whole community. (See Chapters VI - X. plan elements, implementation, and priority projects).

Building on Existing Emergency Response Planning

The Yachats community is active in many aspects of emergency response. This includes a City recognized Emergency Preparedness Committee, installation of emergency supply caches, monitoring and participation in the Lincoln County Hazard Mitigation Plan. In addition the City maintains education resources on the City's website as well as the Emergency Response Plan. The most recent Drinking Water Protection Plan also addresses a wide range of hazards and events that communities have hosted such as emergency planning festivals to raise awareness. While the City and volunteers are highly engaged in this important planning work, the Civic Campus planning project identified new opportunities to improve resiliency. Notably, improvements in building and infrastructure resiliency on the Civic Campus, additional signage and wayfinding, enhanced visitor communication at hotels and vacation rentals, and ongoing training were all identified as important efforts to enhance and strengthen the preparedness of the City. These improvements serve local residents who have good knowledge of trails, meeting points, and services provided by the City. They also increase awareness for non-local workers, visitors and tourists about where to go and how to respond during other types of events.

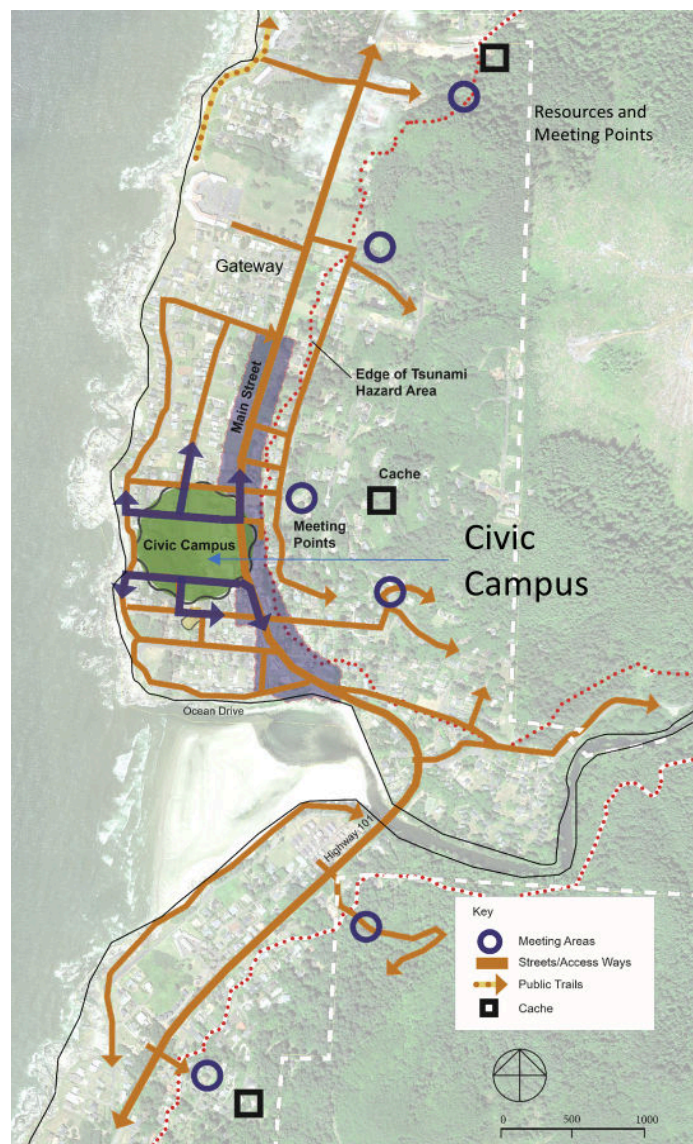


Figure 1. Access Routes, Meeting Points, & Emergency Supply Caches

This plan expands recommendations for strengthening the City’s critical facilities to provide refuge and resiliency. It also documents community goals and thinking about essential needs for power, access, and communication on the campus and for resiliency citywide. Further, the process helps raise awareness and increase planning for many types of frequent natural hazard events such as smaller Cascadia events, drought-aggravated wildfires, severe winter storms, and landslides that could significantly disrupt energy systems.

Role of Edges in the Civic Campus

Through the planning process, a resiliency framework was developed that identifies renewable energy projects in the North and Southeast edges of the campus to support resilience. Assessing how community goals, design opportunities, site features, and building functions providing everyday uses are supported by the Civic Campus edges demonstrates where deficiencies in resilience may be overcome. This creates a new decision-making tool for evaluating building and infrastructure improvements on the Civic Campus. Ultimately, this process and tool invites bigger picture resilience thinking both at the building, Civic Campus and even Citywide scale that can be leveraged in future comprehensive planning.

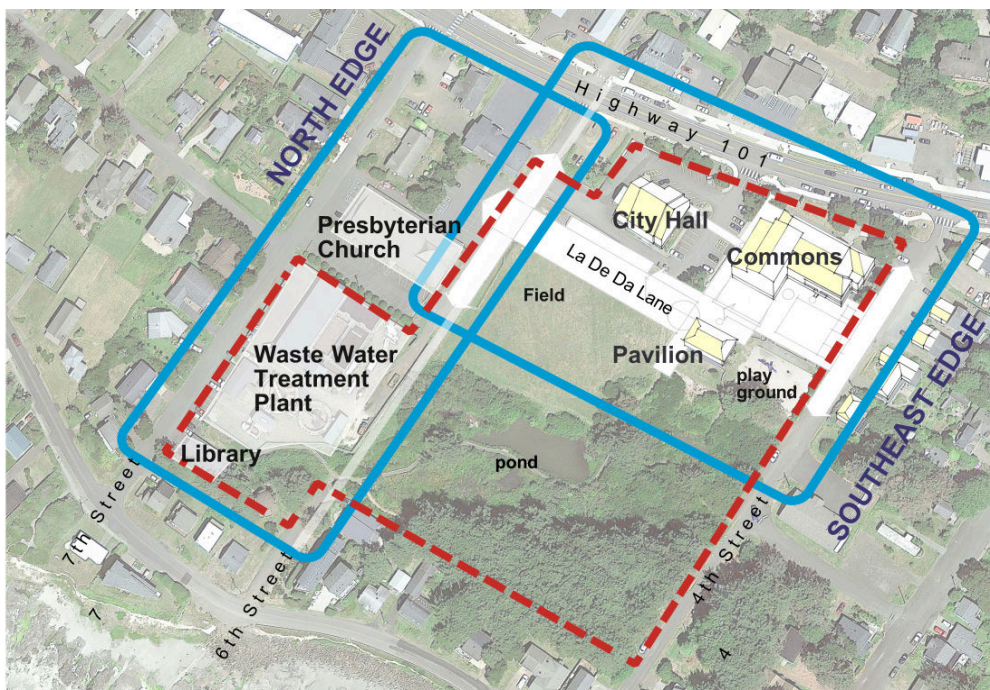


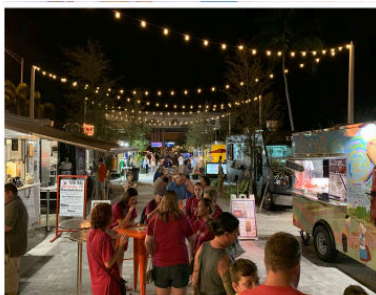
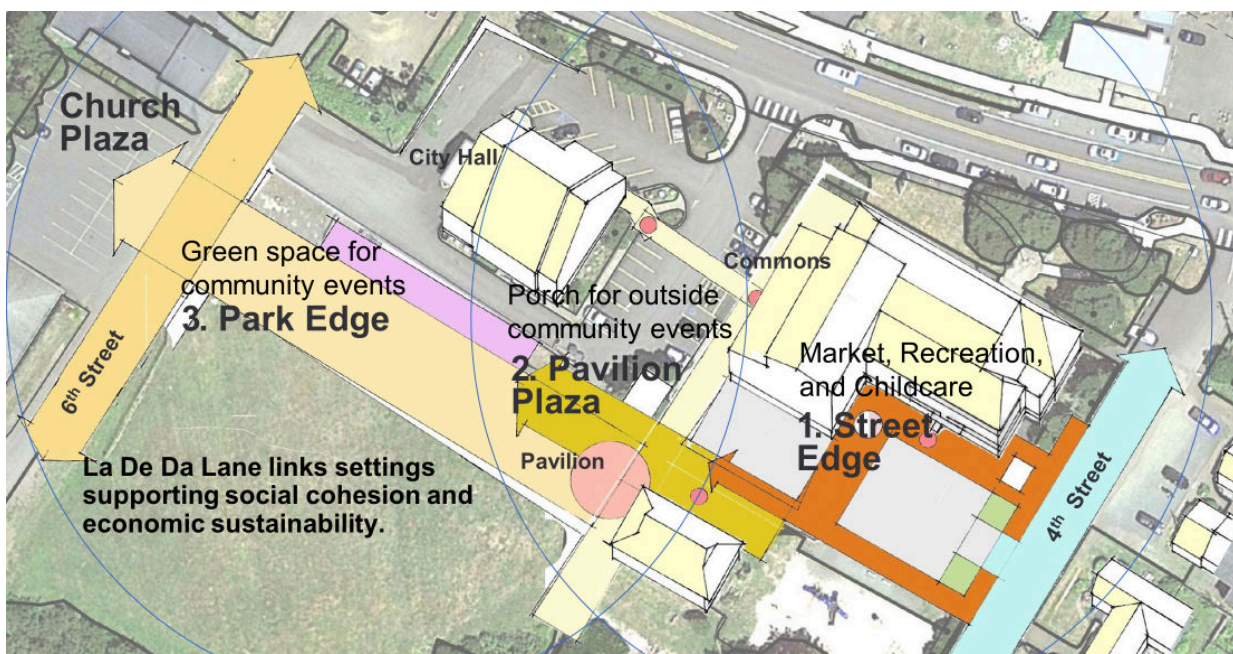
Figure 2. The project assessed the Civic Campus buildings and site. Its North and Southeast Edges have diesel generators to sustain critical functions during a power outage. The Southeast edge was determined to be where early renewable power and battery storage investments could secure improved resilience as envisioned by the community.

Civic Campus Assessment

A more extensive current understanding of frequent natural hazard events that could significantly disrupt energy systems include smaller Cascadia events, drought-aggravated wildfires, severe winter storms, climactic heat events, and landslides. Facilities in the North edge of the Civic campus include Public Works, WasteWater Treatment Plant, Public Library and the Presbyterian Church which contains a school, food bank, houseless services, and short stay housing pods. The North Edge has the opportunity to connect these uses to the WasteWater Treatment facility emergency generator and power all facilities during a hazard event. This system can be augmented with renewable energy and battery storage to reduce demand for carbon based emergency generator fuel sources. Facilities in the

Southeast edge are reasonably located to survive these more frequent hazard events largely intact. This edge already functions as the central gathering spot in Yachats. It is known, accessible, and can provide both shelter and refuge, as well as serve as a communications command center. The primary deficiencies relate to limited back-up power systems. This plan outlines a path for implementing physical and organizational improvements that address these energy system deficiencies, enhance sustainable development in Yachats, and contribute to the continuing and vital nature of the Civic Campus on the North and Southeast edges of the campus..

Through engagement with the community and assessment of the Civic Campus buildings, the City Hall, Commons, and Pavilion were identified as critical locations where a command center and refuge are high priorities and where backup power can be supplied with renewable energy. It is also a place where investments can support economic vitality downtown and enhance cultural events that are critical to the community cohesion which support community resilience.



1. Street Edge



2. Pavilion Plaza



3. Park Edge

Figure 3. A framework that connects the north and southeast edges of the Civic Campus creating a focus for civic life while providing a refuge following a hazard event along La De Da Lane.

Role of the Priority Renewable Energy & Resiliency Project

With guidance from the Yachats Resilience Civic Campus Plan Advisory Committee, the plan identifies a priority project that establishes the electrical infrastructure needed to connect the Pavilion, City Hall, and Commons and to share renewable energy generation and back-up power up to 87% of the power need for these buildings on a yearly basis. This project addresses gaps in back up power on the Southeast edge of campus and aligns with essential service buildings that are most able to provide for refuge and recovery services in an emergency event. The priority project includes batteries and diesel generators to support power demand during the winter, when access to solar energy is limited. Citywide investments that anticipate power outages, communications, access to caches, water, medical care, and hygiene facilities were identified for subsequent resiliency planning beyond the scope of the initial project. Emergency caches were discussed frequently during the process, and a concern is ensuring these are located outside of landslide areas to maintain safe access. Further discussions have included connection to durable power and improving environmental conditioning to preserve the useful life of contents.

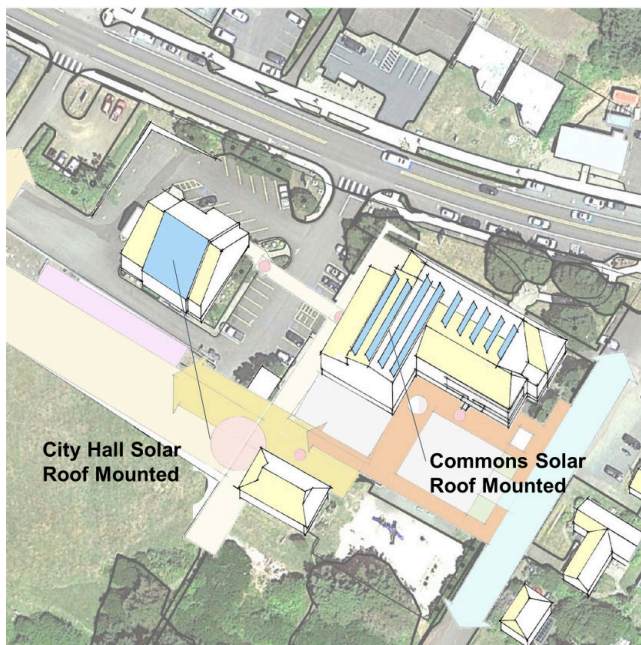


Figure 4 Priority Project 87% of Power Need

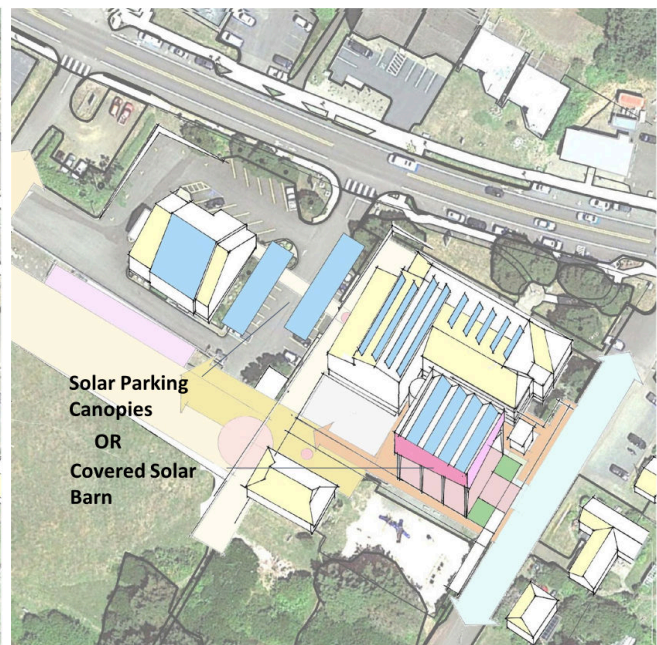


Figure 5 Subsequent Project 100% of Power Need

An initial recommended priority project has been defined and documented in some detail both within the plan and with further technical support in the appendices. This project interconnects the electrical systems of all three facilities in the Southeast edge, upgrades existing electrical panels and generator in the Commons, implements energy efficiency measures in the buildings, and installs a solar photovoltaic system with battery storage to serve the entire edge with renewable energy. This initial project is recommended as a viable project to submit for subsequent grant funding. It is anticipated to provide up to 87% of the annual electricity needs of the Southeast Campus edge and to work in conjunction with the existing generator to provide adequate back-up power during an extended power outage. Solar panels would be installed on rooftop areas of both the City Hall and Commons buildings. With an interconnected Pavillion, all three facilities can function to share power and support the community during an extended power outage. The location of batteries was an important discussion given storage space in the Commons is at a premium.

The implementation of this plan advances a network of improvements that enriches the community and provides resilience and refuge in hazard events.

Resiliency is not a single point in time, but an ongoing process to establish foundational infrastructure, and build capacity through people, plans, projects, and partnerships. The Civic Campus is one vital element of the City’s emergency preparedness and resilience. As there are many demands for Capital funds for projects in the City, using this plan assures that the full value of the Civic Campus is returned to the community as a resource and refuge during a hazard event. The value of the projects that comply with this plan can be compared with other priorities in the City during successive budget planning activities. This plan identifies and recommends an initial priority project, and a number of possible subsequent projects to realize the resilience plan’s purpose. It also provides a roadmap and process framework to navigate changes in budgets, grant funding opportunities, and community goals.

The needs and ideas originating from the community are incorporated into the assessment, planning, and implementation elements of this plan. It is intended as a tool to help consider good ideas, plan improvements, and build partnerships to advance investments for resilience in Yachats citywide. Appendices are referenced providing back up information supporting the plan elements.



Figure 6. Existing City Hall, Kiosk, EV Charging Station located at the intersection of 5th Street and La De Da Lane.

“Resilience doesn’t just mean emergency planning. Resilience comes from the sustainability, economic vitality, and health of our Community “
– Heard During Open House 1



II. ACKNOWLEDGEMENTS

CITY OF YACHATS WORK GROUP

Rick Sant, Interim City Manager
Kathryn Torrence, Grant Manager
Neal Morphis, City Clerk
Jacqueline Danos, Planning Commission Member
Marc Sakamoto, Planning Commission Member

DESIGN & PLANNING CONSULTANTS

Charles Kelley, Architecture & Project Management, Green Urban Design
Heather Flint Chatto, Urban Planning & Engagement, Forage Design + Planning
Patrick Hilton, Design & Planning Support, Forage Design + Planning
Mike Hatten, Energy & Mechanical Engineer, Solarc Energy Group
Jim Krumsick, Electrical Engineer, Paradigm Engineering

STAKEHOLDER ADVISORY GROUP

Adam Altson: Parks and Commons Commission
Craig Berdie: Yachats Mayor/City Council
Dave Buckwald: City of Yachats Public Works
Krystal Geisinger: Yachats Community Service Coordinator
Don Groth: Yachats Budget Committee
Patricia Hettinger: Yachats Youth Program Director
Finn Johnson: Oregon Coast Visitor Association
Bobbi Price: Visitor Center/Chamber
David Rivinus: Yachats Library Commission
James Sanders, Emergency Preparedness Committee
MaryBeth Selby, Emergency Preparedness Committee

III. INTRODUCTION

Project Overview

In May 2023, The Oregon Department of Energy (ODOE) awarded the City of Yachats a \$100,000 Community Renewable Energy Project (CREP) planning grant. This grant funded a process to identify needs and priorities that support a more resilient Civic Campus. The following plan describes what was learned during the site and facility assessments, and the planning and community engagement process. The plan also identifies both Citywide and Civic Campus priorities and provides a guide for subsequent City policy action, grant funding, and physical improvement.

Over six months, beginning in August 2023, the design and planning consultants performed extensive facility assessments of relevant City of Yachats facilities. During this same time period, a series of public engagement outreach efforts were organized including advisory groups, public surveys, and three large public meetings - a workshop, an in-person open house and an online open house. Assessment findings combined with information collected during public outreach has translated to recommendations about potential future projects that are presented within this plan, along with documentation of the underpinning findings and outreach feedback.

This plan summarizes:

- Priorities to promote resilience at three scales – citywide, Civic Campus, and individual buildings.
- Frameworks to make decisions about renewable power generation and energy storage projects that align planned improvements with identified Civic Campus recommendations.
- Project opportunities to invest in building durable power generation system projects such as photovoltaic systems, battery storage, and supporting electrical system infrastructure upgrades, that enhance the current systems that rely solely on utility power and limited diesel generator back-up.

Project Purpose

This ODOE Community Renewable Energy Planning (CREP) planning project defines potential renewable energy and storage projects for the Civic Campus. These projects will support community resilience in power, communication, and access during and after an emergency or hazard event. Included is a framework to identify and evaluate future projects. A key deliverable is a recommendation for a priority, near-term project that qualifies for construction grant funding by ODOE. Specifically, this CREP planning grant for a “Resilient Civic Campus” project provided support for:

1. **Technical studies** for building and site energy analysis.
2. **Planning to provide renewable power and hazard preparedness** to reduce risks.
3. **Community involvement** to identify priorities, needs and criteria for decision-making.
4. **Planning and selection of a renewable energy project** for a Phase 2 - \$1 million ODOE construction grant.

Planning Process

The planning process leveraged a resiliency framework that identified renewable energy projects in the North and Southeast edges of the campus that would fill gaps where resiliency and refuge were needed. The process also considered community goals and design opportunities to connect important site features and functions for everyday use and increased emergency response, and developed new decision-making tools and criteria for evaluating building and infrastructure improvements. The table below provides an overview of the activities to develop this plan and ultimately, a first priority project.

The following is an overview of project process and planning steps to determine core priorities, opportunities, and key criteria for decision-making, selection of priority projects, and a final plan.



Figure 7. The planning process was structured and executed to identify community-oriented criteria that should be considered for emergency preparedness that promotes resiliency. Appendix D Criteria for Renewable & Resilient Energy Facilities outlines the evolution of detailed criteria for selection of priority energy improvements.

“Yachats is in a very isolated location that is vulnerable to disasters like we are seeing more and more all over the world. This project can make us safer and more secure.”

– Rick Sant, Yachats Interim City Manager

How to Use this Plan Document

Using this plan can supplement and complement local social and economic outcomes that promote resilience in the City of Yachats. This plan represents aspirations, ideas, and actions collected during the community engagement processes and deliberations with the Advisory Group. It is organized into a plan document that can be used to guide decision-making on future Civic Campus projects that support resiliency. As projects are imagined to be placed on the Civic Campus, this plan can be a reference point to leverage renewable energy infrastructure, respond to community aspirations, and balance competing goals for limited financial resources. Using this plan as a contributory decision-making tool, the Civic Campus can achieve its full potential overtime as each project is considered, located, funded, designed, constructed, and operated. Please see: Section VI and Appendix D Final: Criteria for Renewable and Resilient Energy.

Generalized steps to use this plan as a decision-making tool would involve the following.

1. Consider how a potential project supports Citywide, Civic Campus, or Building Scale Energy and Resiliency Criteria.
2. Respond to applicable objectives, goals, and guidelines in section VI to determine if there is a link between scales that might leverage social and economic outcomes that support resilience on the Civic Campus.
3. Consider how the sustainability concepts and strategies (shown in Figure 26) may support additional resiliency
4. Consider how the project reinforces the concept for public spaces linked along La De Da Lane which connects North and Southeast edges.

IV. UNDERSTANDING PEOPLE & PLACE

Civic Campus Context & Conditions

Yachats is a small coastal town near the Southern boundary of Lincoln County. Similar to many of Oregon's coastal communities, Yachats is bisected by Highway 101 with the Pacific Ocean to the West and its Coastal Range geography starting immediately to the East. Yachats is also bisected North and South by its river and small tidal basin of the same name. The Siuslaw National Forest of over 630,000 acres surrounds the community to the North, East and South.

Yachats is a beloved and picturesque city. The area is host to many natural resources, public trails and cultural sites. The Yachats name (pronounced YAH-hots) is derived from a mix of local indigenous words that most likely mean “where the trail leaves the beach.”¹ Its small village with dramatic coastal scenery is a popular destination spot for tourists seeking adventures, and its downtown hosts many unique restaurants, shops, galleries, ocean viewpoints, and greenspaces all connected through a comprehensive trail system. It is a community that recognizes its history and the value of this place on the coast to serve the many people who rely on it for family, social events, childcare, employment, recreation, and as a refuge from hazard events.

¹ Yachats Chamber of Commerce website.

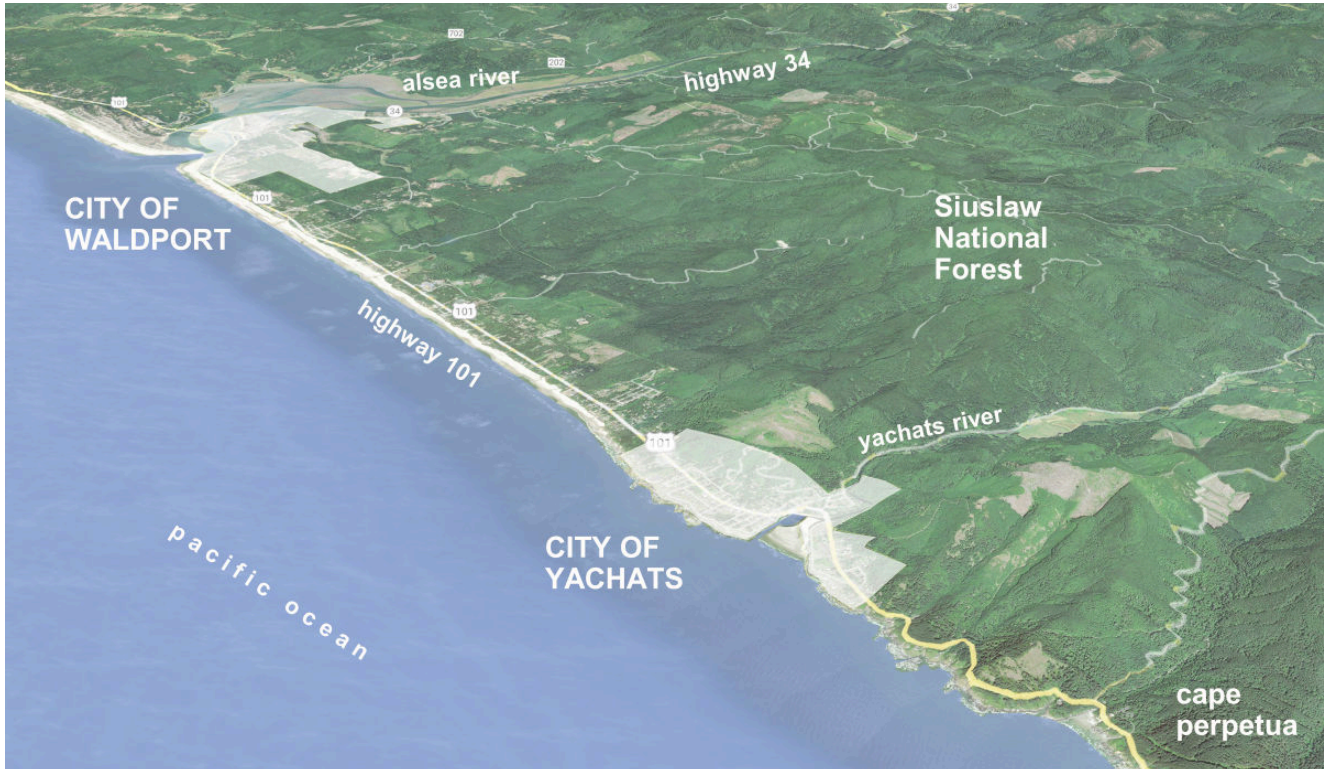


Figure 8. City of Yachats is located between the Pacific Option and the Siuslaw National Forest. Yachats provides services to the inland community up the Yachats River and serves as a gateway to Cape Perpetua. Cape Perpetua is a large forested headland projecting into the Pacific Ocean on the central Oregon Coast managed by the US Forest Service.

Yachats is also the location of the brutal displacement of the indigenous people from the coast to internment facilities that were located within the City boundary. The City and the Tribes of the Coos, Lower Umpqua, and Siuslaw Indians and the Confederated Tribes of the Siletz Bands continually work to recognize these historical injustices while maintaining collaborative relationships to build trust and respect. Being mindful of this history, the planning process considered opportunities to foster both energy resilience and cultural resilience. A goal that was identified in the engagement around new facilities was to encourage creative ways to build on current reconciliation efforts. Resilience oriented design features foster greater awareness and social cohesion with broader educational signage about emergency preparedness and respectful interpretive information describing the historic people and culture in this place will make spaces that are welcoming to all.

The central focus of this renewable energy and resiliency planning project is the 15-acre Civic Campus located in the figure below. This Civic Campus is bordered on the East by Highway 101, on the north by 7th Street and on the South by 4th Street. The campus is at the center of the business district with shopping, restaurants, lodging and recreation all within walking distance. This area includes the City Hall, public Library, WasteWater Treatment Plant and public works facilities, Community Presbyterian Church, Park Pavilion, community park with wetland and boardwalk of trails, and a Community Center (Yachats Commons). The latter is a shared social, childcare, meeting space and performance venue.

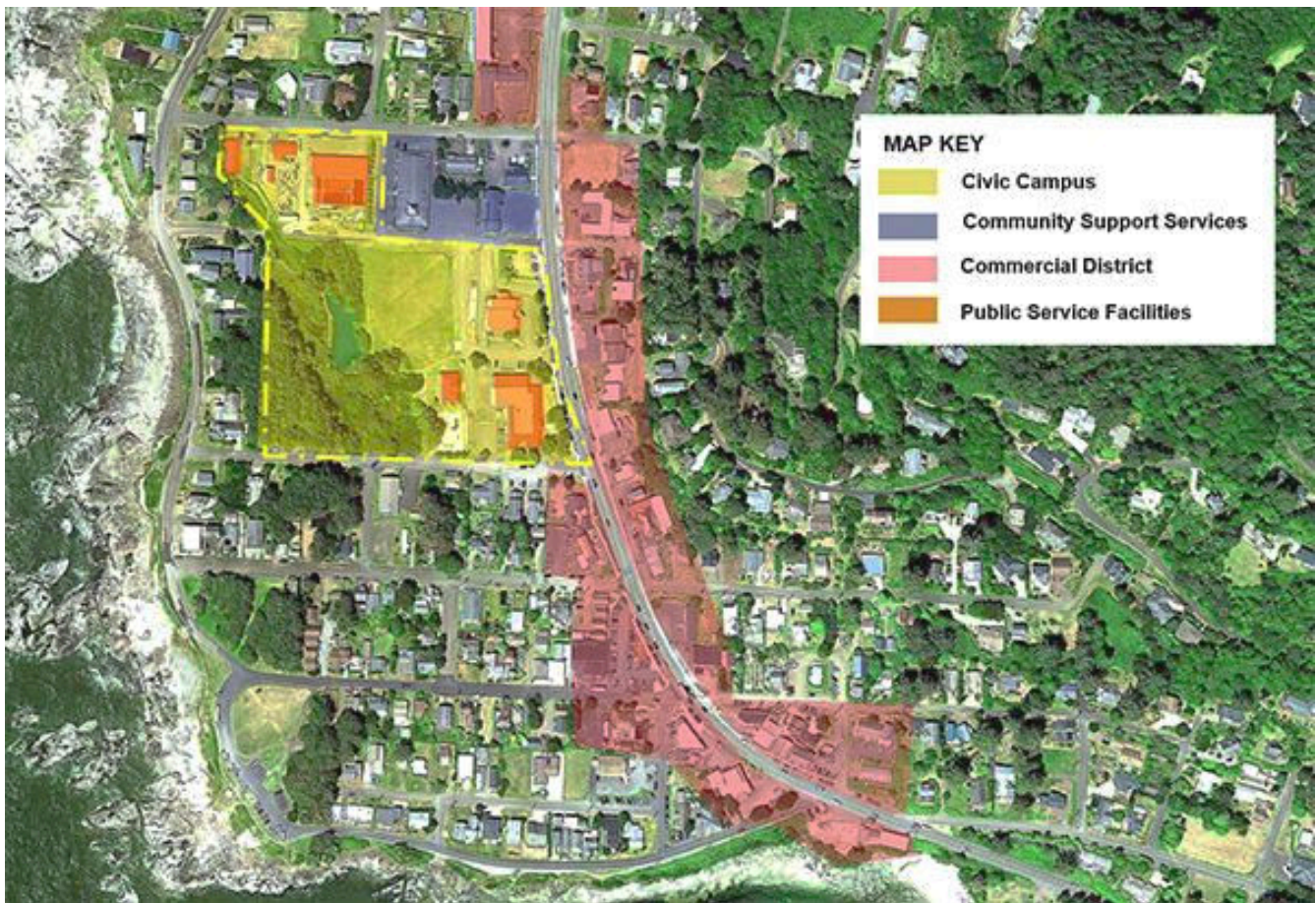


Figure 9. Site is located adjacent the central business district and serves as the center of social life in the City of Yachats

The civic buildings - City Hall, Commons, WasteWater Treatment Plant and the Library - all have designated roles that are critical to respond to emergencies and hazard events. The adjacent Presbyterian Church is a private facility that also supports key community resilience activities such as providing sleep and hygiene facilities for the homeless population, providing educational support for home-schooled children, and a community food pantry. With so many critical facilities in the heart of downtown, the Civic Campus is well-positioned to function both as refuge during hazard events and as the organizational hub for emergency response and recovery support.

Yachats Hazards and Emergency Response Activities

Citywide Context: Resiliency & Emergency Response

Yachats serves as a local center of essential services within Lincoln County's disaster response during hazards. Like other coastal towns, Yachats experiences frequent winter storm events causing intermittent power interruptions and road closures that limit communication. As a small town, it is less likely to receive assistance earlier than larger cities, especially during a major event that could extend power outages.

The Central Lincoln PUD (CL) transmission line continues past Yachats to Florence. The CL Newport office service area extends to Heceta Head – approximately 15 miles further south of Yachats. From

there the CL Florence office picks up repair service. Cape Perpetua is a natural area located along US 101 between Florence and Yachats which is often closed to vehicle traffic due to fallen trees and earth slides. Yachats is highly vulnerable to power outages, delays from maintenance repair crews originating from Newport during severed connections north of the City, as well as disruptions to access southward through Cape Perpetua. These periodic power outages are considered part of normal life at the Coast yet put a strain on community resources and the most vulnerable members of the community.

The Civic Campus was selected as the primary focus of this resiliency planning project because so many of the area's "Critical Service Facilities" are centrally located within the campus. Additional essential emergency response support is provided through the Yachats District Fire Station, tsunami evacuation routes and community meeting points, and disaster response caches with storage of supplies, food, and equipment. The Emergency Preparedness Committee has identified that two existing disaster response caches need replacement due to age, and new caches, as well as more frequent and accessible locations, have been deemed necessary to protect the community more fully in case of a catastrophic event. Further, a need for community gathering points on both the north and south side of the bridge has been identified and water, food and power needs to be reliable at these gathering points, as they will become the assembly place during a tsunami event.

Yachats has an extensive trail network that is well known to local residents for access to refuge and higher elevation meeting points if roads are not passable. These trails may not be as familiar to tourists that flock to Yachats for its coastal amenities, natural resources, small village charm, and abundant cultural events. While there is extensive tsunami wayfinding signage for motorists and non-motorists, there is less information about other potentially more frequent hazards as well as information about where and how to receive safety information, shelter and assistance. Given the average age of residents in Yachats, many cannot use the trails system and will be in need of assistance. A key preparedness strategy will be to expand awareness and information through travel and tourism bureaus, hotels and short term rentals, wayfinding signage, training and upgraded facilities to increase resiliency preparedness and make residents and visitors more secure in an unplanned event.

Campus Context: Central location for Community Access, Activities & Services

The Civic Campus is located in the heart of Yachats' central business district. There are many local multi-generational activities that occur on the Civic Campus and this is where residents know they can come during an emergency for power, information and services during a hazard event.

On its Southeast edge, the Civic Campus is a hub of community life with regular festivals and events held at the Commons which houses a child care center for [Yachats Youth and Family Activities Program YYFAP](#), a well used multipurpose room, and meeting spaces for City commissions. This is where children need accommodation during a hazard event who have been dropped off at (YYFAP). If their parents do not work or live in Yachats they may become stranded and remain under the care and supervision of YYFAP during a hazard event.

The Southeast edge features a beloved public park with large green space, walking paths and wetland trails, playground, Pavilion and Commons building. The City Hall (also known as the "501 Building")

provides public services, city offices, and is the location for a central command center in times of emergencies. Along 4th Street the City hosts a regular farmers market and the Commons and Pavilion become a hub of activity at different times throughout the year with many festivals and events.

The North edge has a public library, and WasteWater Treatment Plant. Nearby church facilities also provide emergency response and houses a small emergency housing pod of pallet homes for houseless individuals. The WasteWater Treatment Plant has the opportunity to fill a separate resiliency need in the Community that connects buildings on the North edge of the campus to emergency generator power. Having a service voltage of 480 volts and a large backup generator makes the plant the logical location for charging of electric vehicles for the City as well as charging of portable battery packs that can be employed at a variety of locations in the Community. In this scenario, the WasteWater Treatment Plant can extend service from its emergency generator to the library and Presbyterian Church. In this new configuration, the North edge can play a significant role in providing power to essential water distribution services, social services in the Church, and provide a refuge in the Library during a hazard event. It was not identified as the priority project because the City is not currently in the position to invest in electric vehicles and larger scale inverter and battery systems are still in the development stage.



Figure 10. The Campus has a diverse mix of uses and activities that form an important social hub for the community.

Building on Existing Emergency Response Planning

The Yachats community is active in many aspects of emergency response. This includes a City recognized Emergency Preparedness Committee, installation of emergency response caches, monitoring and participation in the Lincoln County Hazard Mitigation Plan, and many resources on the City's website, including an Emergency Response Plan. The most recent Drinking Water Protection Plan also addresses a wide range of hazards, and communities have hosted emergency planning festivals to raise awareness. While the City and volunteers are highly engaged in this important planning work, the campus planning project identified opportunities for even greater impact. Notably, improvements in building and infrastructure resiliency, additional signage and wayfinding, enhanced visitor communication at hotels and vacation rentals, as well as ongoing training were all identified as important efforts to enhance and strengthen the preparedness of the City overall. Local residents have good knowledge of trails and meeting points and services provided by the City but visitors and tourists may be less prepared to know where to go and how to respond to other types of events.

Most frequent hazards involving power outages in and around Yachats are anticipated to include:

- Drought and Fire Induced Power Outages
- Windstorm Induced Power Outages
- Landslide Induced Power Outages
- Overtaxation of the power grid during extreme heat events

These disruptions have been determined to involve increasingly longer outages to power.

The engagement process established a planning goal to prepare for a three month power outage during the season when there is the lowest solar energy collected. If a large hazard event occurs at this time the City will have capacity to provide power, heating, cooling and water from the Civic Campus with very limited use of the diesel fuel emergency generator. In the event of a serious extended power outage such as a major earthquake, it is likely that Yachats would regain electrical service only after the larger cities in the utility service area are operational. If the major hazard event were to occur in the summer, such as forest fire, the Civic Commons should be able to generate all power (cooling included) needed for buildings that are connected.

The Emergency Preparedness Committee has been grappling with the existential Cascadia Seismic event to locate powered emergency supply caches above Highway 101. They are anticipating how to recover from a 1,500 year seismic event that would produce a 9+ magnitude earthquake followed 15 minutes later by a large tsunami which would wash up approximately 30' above Highway 101 at 6th Street.

As part of coordinated regional emergency and hazard response planning, the City of Yachats adopted an Addendum to the Lincoln County Multi-Jurisdictional Natural Hazard Mitigation Plan (NHMP). This represents a five year plan to address hazard events through December 2025. This plan was developed by the City of Yachats NHMP Steering Committee (2020) and this plan includes Figure 11 highlighting most likely hazards

This plan elevates Top Tier Hazards ranked in the following order shown in the matrix shown below.

Table YA-2 Hazard Analysis Matrix – City of Yachats

Hazard	Maximum		Total Threat Score	Hazard Rank	Hazard Tiers
	History	Vulnerability			
Drought	20	50	100	70	Top Tier
Windstorm	20	50	100	70	
Landslide	20	40	100	70	
Winter Storm (Snow/Ice)	18	40	100	70	
Earthquake (Cascadia)	10	50	100	49	
Tsunami (Local)	2	50	100	49	Middle Tier
Flood (Riverine)	20	35	50	70	
Wildfire	10	35	70	56	
Flood (Coastal)	20	25	50	70	
Coastal Erosion	20	15	50	49	Bottom Tier
Earthquake (Crustal)	10	20	40	42	
Tornado	8	10	30	56	
Tsunami (Distant)	10	15	30	35	
Volcanic Events	2	5	40	7	

Source: City of Yachats NHMP Steering Committee (2020)

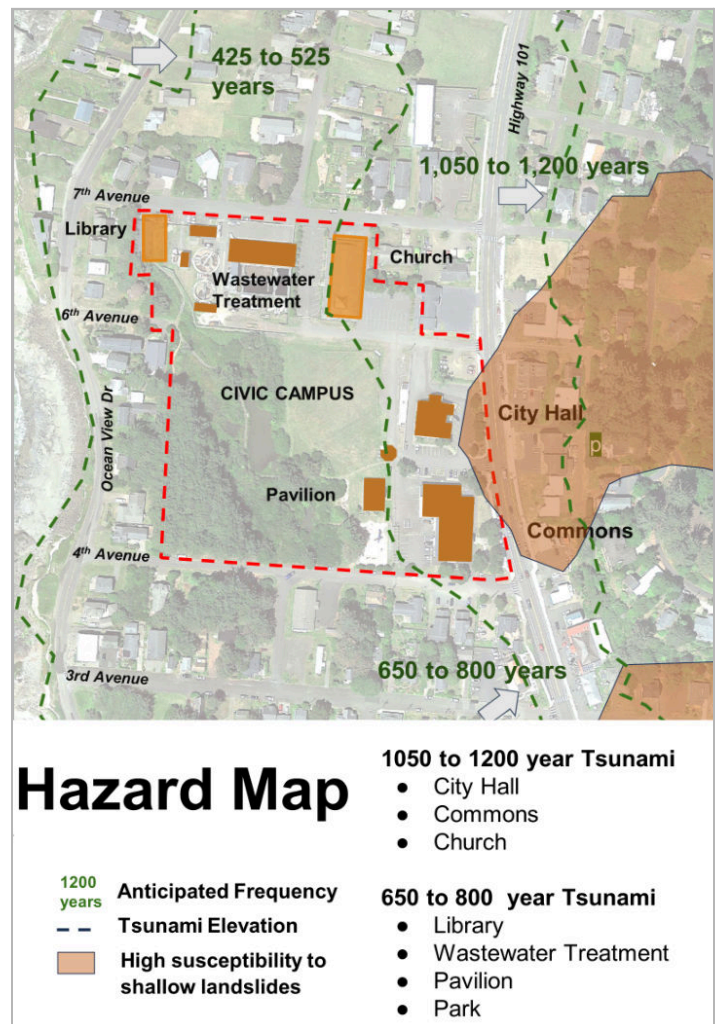
Figure 11: Hazard Matrix. City of Yachats Addendum to the Lincoln County Multi-Jurisdictional Natural Hazard Mitigation Plan, adopted on January 25, 2021. [Volume-II Yachats Addendum-PDF Lincoln County.](#)

Facilities in the Civic Campus are well-positioned to provide a refuge:

1. **from anticipated seismic event frequency** within 425 to 525 years up to a Cascadia magnitude 8.9 earthquake.
2. **from anticipated landslides.**
3. **from fire.**
4. **with emergency power as** provided currently in both the Commons and the Wastewater Treatment Plant. Reliability of these facilities can be improved with photovoltaic panels, battery storage, and increase in fuel storage.
5. **with cooling stations** during anticipated heat waves.

See Appendix C. Hazard section, for additional information.

Figure 12: Further analysis during the community engagement process determined that the east side of the Civic Campus is outside of the zones where hazards most frequently occur.



Policy and Planning Context

Understanding and shaping the approach first considered the site context and conditions as well as the role of the Civic Campus for resilience in relation to the City of Yachats as a whole. It also considered: existing City policies, vision and goals, related mapping of hazards and emergency plans, cultural history and recent or planned City projects.

Policy and planning documents consulted in the process of developing the Resilient Civic Campus Plan and projects included the following:

- [2019 City of Yachats Comprehensive Plan](#)
- [Yachats Addendum to Lincoln County Hazard Mitigation Plan](#)
- [Yachats Area Strategic Plan \(1996\)](#)
- [Yachats Park Master Plan](#)
- Parks & Commons Survey responses
- 2023 Parks Plan Request for Proposals (RFP)
- [Yachats Emergency Operations Plan](#)
- [Capital Improvement Plans \(CIP\)](#)
- View the Future (VTF) Vision & [Cultural History](#)
- Hazard mapping & risk index
- [Yachats Evacuation Routes](#)
- [History of the Yachats Community Park & Wetlands \(2015\) Commons Policy Manual \(2019\) Oregon Resilience Plan \(2013\)](#)

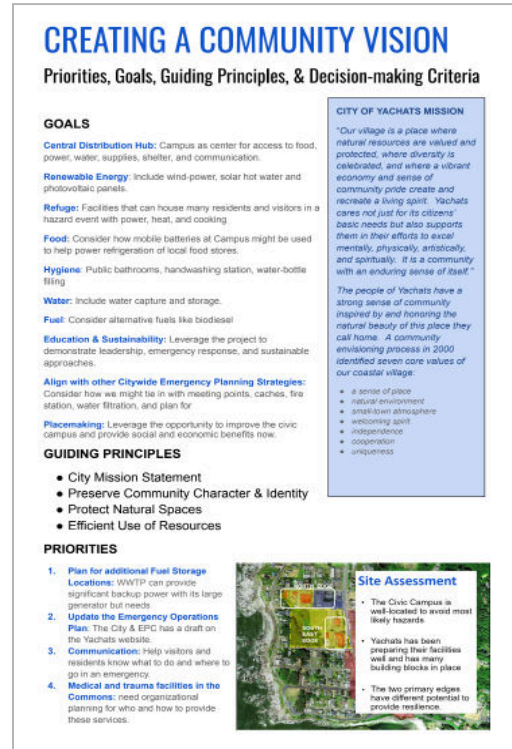


Figure 13: Vision, Goals & Priorities Poster from the 11/16/23 Open House

Policies, Projects, and Plans. The plan drew from the Yachats Vision Statement in the Yachats Strategic Plan, referred to key hazards in the Lincoln County Hazard Mitigation Plan, referenced maps from Yachats evacuation routes, and considered current planning and Capital Improvement Projects in and around the Civic Campus. These projects included the Skate Park, La De Da Lane Paving project, Parking Management Plan, as well as potential expansion of the Commons, Library remodel, and Chamber of Commerce transportation improvements. Appendix C: Community and Project Parameters, lists key policies from the Yachats Comprehensive Plan that relate to the goals and issues in the planning of this project.

The Community Renewable Energy Planning Grant project strongly reinforces and implements the goals, actions, and policies of the Comprehensive Plan, most notably:

- *Goal D. Conservation of Energy*
- *Goal E. Protection from Natural Hazards and Disasters*
- *Goal I. Provide Adequate Public Services*

Such policies reinforce the priorities found in survey results and community meetings for recommended integration of interpretive signage that would highlight renewable energy and sustainability, communication materials for the public, installation of renewable energy on existing and

new facilities (e.g. new solar canopies), as well as creating new guidelines for development such as those proposed in Chapter VIII. Design Concepts & Projects. Under Goal D. Conservation of Energy, Policies D1-2 specifically state:

- 1. The City shall encourage future developments to use energy efficient design, siting and construction.*
- 2. The City shall encourage non-polluting alternative energy sources such as solar, wind and wave power.*

Under *Goal I. Provide Adequate Public Services*, the Yachats Comprehensive Plan specifically references providing efficient essential public facilities and services to accommodate storm drainage, public safety, and emergency services - which align with recommendations for stormwater improvements, and creating spaces for emergency refuge and recovery. Policies 1-3 under Goal I specifically align with creating a coordinated emergency response plan and preparedness approach.

- 1. The City shall plan, develop, implement and monitor a comprehensive emergency preparedness and disaster response plan in cooperation with appropriate emergency agencies.*
- 2. The City shall place a high priority on the rapid and effective identification of properties by public safety personnel and emergency response agencies.*
- 3. The City shall investigate the feasibility and desirability of increasing the number of public restrooms.*

Goal I, Policy 3 also aligns with needed facilities that can aid in addressing emergency shelter and hygiene capacity needs. Review of the Parks and Commons Survey responses and the results of the survey for this project further reinforce a strong desire for adding restrooms at the Civic Campus.

Conceptual designs for renewable energy projects include improvements such as restrooms, information kiosks, cisterns for rainwater capture and reuse, and swales that can reduce flooding and oversaturation of park green spaces. These improvements can be considered as new water, sewer and power improvements are made on the campus that can support day to day use for residents and visitors and increase efficient emergency response in a hazard event. For conceptual examples of how these improvements could support existing policy and community goals, see Sustainability Strategies (Figure 26) on page 35, and concept for “Locating Improvements along La De Da Lane” (Figure 34). These design ideas relate to future planning work considered in the Parks Plan Request for Proposals (RFP) scope of work which also includes goals to address stormwater, placement of furnishings, and signage and lighting. The latter was frequently cited as a goal and was a high priority of respondents in the Resiliency Vision & Needs Survey (see Appendix H).

Background research also considered visioning, land acknowledgements and cultural history by the nonprofit View the Future (VTF). VTF’s website documents the indigenous communities of the area and goals for preservation of the area’s natural resources. Being mindful of this history, the planning process considered opportunities to foster both energy resilience and cultural resilience. A goal identified in the engagement around new facilities was that spaces should be welcoming to all and to seek creative ways to build on current reconciliation efforts. Ideas that were generated included working with local indigenous artisans to integrate cultural art and crafted structures if a new solar canopy structure were designed, and that demonstration of sustainable design features could also help foster greater social cohesion by including respectful signage that with interpretive information about the people and cultures in this place in the past, the present and future.

Community Involvement

The process to engage the Yachats community included extensive outreach efforts which are detailed in Appendix G. Most significant among these were three large public meetings (one workshop and two open houses). Outreach also included creation of a project webpage hosted on the city site, press releases, local news articles, fliers and posters distributed at local businesses and bulletin boards as well as social media, and a community visioning and priorities survey.

Stakeholder Engagement

Two project-specific stakeholder groups were assembled in addition to the design and planning team. Roles and responsibilities of each are listed below.

- **Project Management Work Group.** Collaborated on project planning, advising on project approach, stakeholder engagement, outreach, and related planning processes. Participants included the City Manager, Grant Manager, City Clerk, and two Planning Commissioners.
- **Stakeholder Advisory Group:** Provided feedback on public engagement, stakeholder priorities, related projects and opportunities in their sphere of influence.
- **Planning & Engineering Consulting Team:** Provided technical facility assessments, site and technology analysis, hazard evaluation, design opportunities and constraints and public engagement to develop local goals, priorities, and decision-making criteria.

Goals

During engagement with stakeholders and the community at large, a number of goals were identified related to community resilience that connected the Civic Campus to further citywide goals. Appendix D & G, detail these goals in great detail. Common goals that were most commonly cited during this planning process included:

1. Be inclusive of all communities who would use the services provided in the Civic Campus following a power outage or other hazard event.
2. Provide an emergency response center in the Civic Campus with durable power for communication and access to services.
3. Build capacity for the areas south of the Yachats River in case they are cut off from the services provided in the Civic Campus.
4. Support public works efforts to provide and improve existing diesel and gasoline-powered emergency generation capability to maintain sewer and water system pump and lift stations.
5. Balance the electrical energy needs within the North and Southeast edges of the Civic Campus with the availability of renewable power to minimize diesel and gasoline use during an extended power outage.

Project Timeline & Engagement Process

The diagram below illustrates the planning process and timeline for engaging the community through a series of stakeholder advisory committee meetings, public workshop and two open houses. This process helped to inform the Resiliency Plan and select a priority renewable energy and resiliency project. The project team took the input from these meetings, analyzed top scenarios by criteria (see Appendix D), and assessed survey results (See appendix H) from 53 responses that informed the vision and priorities for projects and improvements that might be leveraged.

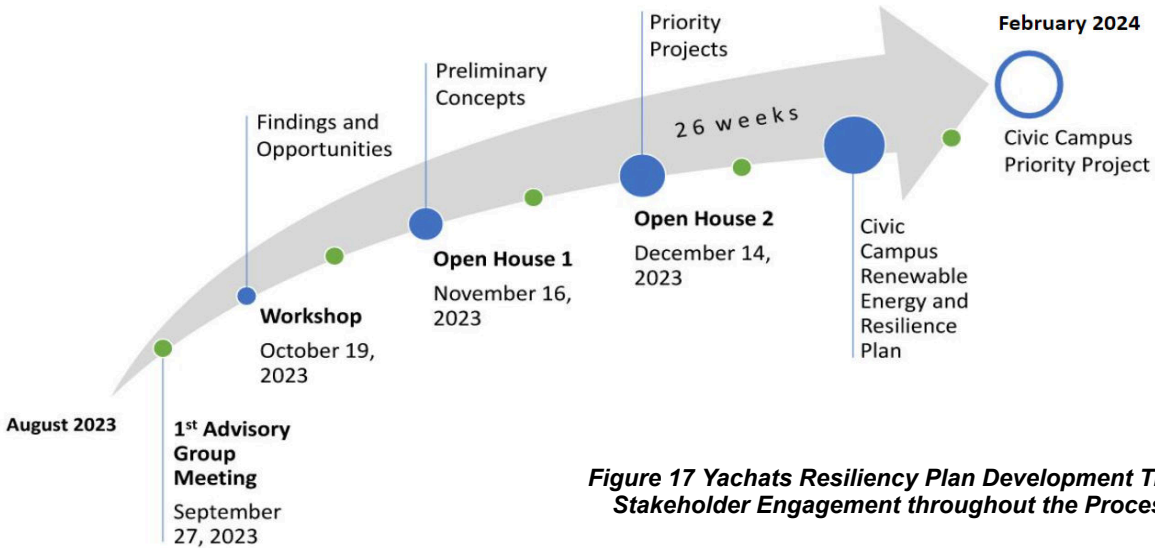


Figure 17 Yachats Resiliency Plan Development Timeline Stakeholder Engagement throughout the Process

Equity & Transparency

To ensure equity was a focus, the public involvement process included a Relational Accountability Process (RAP) tool that provides a method for assessment, transparency and accountability in project values, goals and actions that advance equity, diversity, and inclusion. A RAP assessment was conducted at the beginning, middle and end of the planning process to refine methods and outreach. This process expanded stakeholder engagement with community liaisons to harder-to-reach populations, and expanded outreach methods, engagement venues, and media formats to increase accessibility of elders, youth, tribes families, employees and employers, rural residents and visitors. (See Appendix I. Relational Accountability Process.)

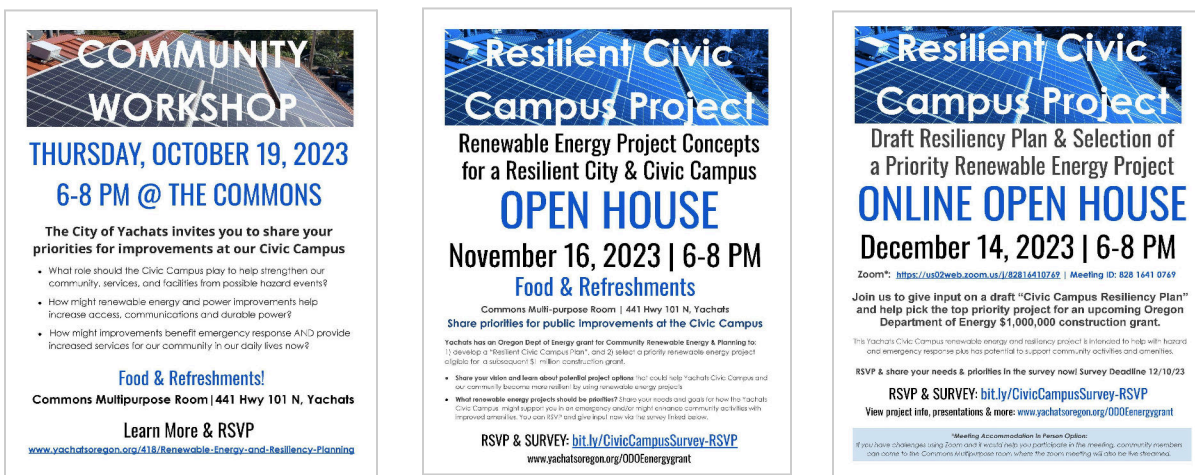


Figure 14, 15.16 Outreach Posters & Fliers for Workshop & Open Houses

Community Engagement Events

Over the course of the six-month grant planning process, residents from the Yachats community gathered during three large, well-promoted, public events. Appendix G provides a detailed summary of each event. The following section describes major community engagement events, followed by a section of key takeaways from each meeting, and a summary of the results from the community Vision & Priorities Survey and key findings from the community engagement process.

Workshop 1 | Vision & Needs, Findings & Opportunities | A first Community Workshop was held on October 19, 2023, where participants learned about the grant project and scope, heard about initial findings of the building energy assessments of the six campus buildings, and participated in group activities to share their vision and goals for energy and power improvements to the Civic Campus. The discussion was primarily focused on supporting basic survival needs, increasing amenities, and functionality of the campus. There was strong support for the campus to be a model of sustainability and leadership. Participants also shared their needs and priorities in an emergency and were invited to share more in an online survey.

Open House 1 | Preliminary Project Concepts | On November 16, 2023, the City hosted an Open House that provided initial recommendations for potential energy projects, solicited input on draft criteria for decision making, and engaged participants in reviewing possible design scenarios for adding rooftop solar, wind turbines, and solar canopies that could increase backup power. Strong interest emerged in a solar canopy structure near 4th Street that could increase community social and economic benefits for recreation, festivals and markets, and create resiliency with back-up power, and expanded refuge during warmer months. Support was also strong for adding solar to the City Hall and Commons and additional concept solutions emerged for a solar parking canopy near the City Hall and organizing more improvements along a spine of La De Da Lane.

Open House 2 | Priority Projects | On December 14, 2023, the City hosted a Final Online Open House to select a priority project. At the meeting, consultants shared cost estimates, benefits and tradeoffs of each concept project, and made recommendations for a first project that could be paid for with an Oregon Department of Energy grant of 1 million dollars. While participants were very interested in adding a new “Barn” solar



Figures 18-21, Signage promoting the Open House, Illustrating Candidate Concepts for Renewable Energy, round table discussions at Workshop 1, attendees at the In-Person Open House

canopy structure to the campus adjacent to the Commons along 4th Street, the cost for the structure supporting the solar panels would exceed \$1,000,000 as a first project. Participants agreed with the consultant teams' recommendation that, based on cost and benefits, locating rooftop solar on the City Hall and Commons buildings made the best sense for a first project and the solar canopy project. Adding a second project either on the Barn or over parking areas would achieve 100% of the energy for the Commons, City Hall and Pavillion.

Attendees were given time to discuss and ask questions about project alternatives, and a formal voting poll was taken to confirm that the rooftop solar project on the Commons building was the top priority. See the summary in Appendix G which reflects the poll results and priorities of the Open House participants.

Advisory Committee Meetings | Before and after each public engagement event, the project planning team met with an Advisory Committee of City leaders and stakeholders for advice and guidance. The final meeting of the Advisory Committee reviewed the recommended priority renewable energy project and draft Resiliency Plan, vision and priorities from the survey, and confirmed acceptability to present the project and draft plan to the City Council on January 17, 2023.

During the engagement process, the participants identified critical needs for food, water, hygiene, refuge, communication, and accessibility which helped inform bigger picture thinking for citywide strategies that create an overview context for alignment with the buildings, services and planning in the campus. See Figure 50 on page 66 which provides a snapshot of Resiliency Approaches that address basic needs, possible locations, and their value to enhanced resiliency.

As the engagement process concluded, the consultants shared cost estimates, benefits and tradeoffs of each concept project, and made recommendations for a first project that could be achieved within the ODOE grant budget of 1 million dollars. Key criteria for decision-making considered where the Civic Campus has gaps in resiliency that could be addressed, best opportunities for refuge, and least cost for establishing foundational resiliency infrastructure. From this process, participant's input helped to form and select a first project as a priority project during Open House 2.

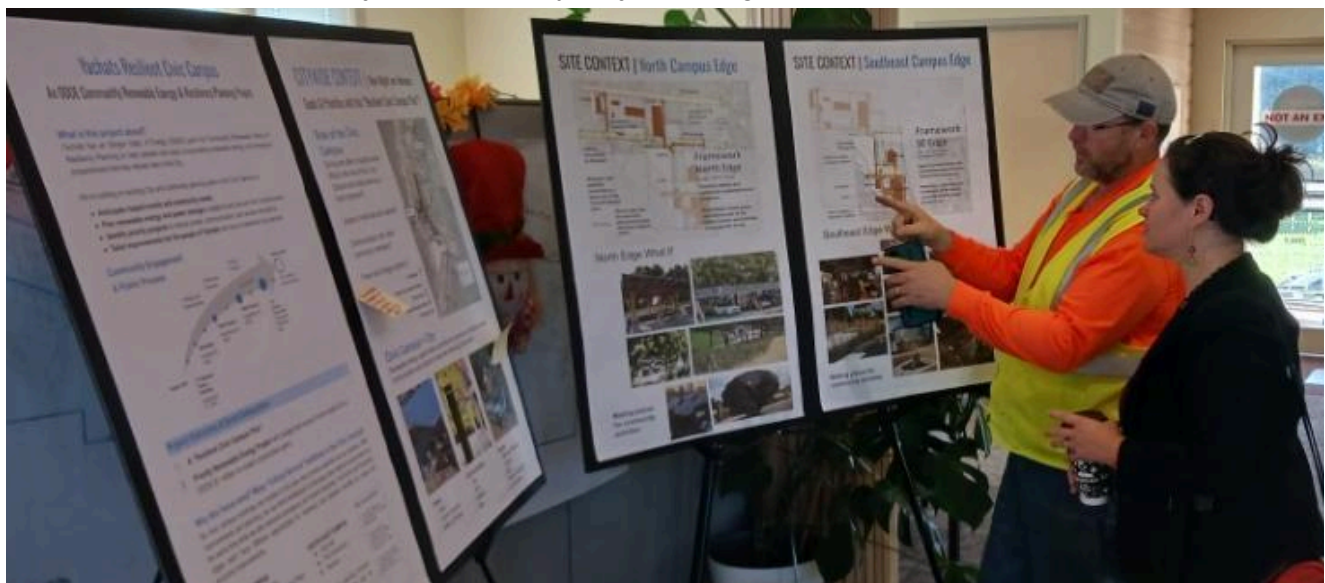


Figure 22 Project Displays from the Open House in the City Hall lobby and Commons expanded public engagement.

Community Vision & Needs Survey

Throughout the engagement process, an online survey was used to gather additional input on the community's vision and goals, emergency response needs and priorities, and opportunities for improvements that might be leveraged within the Civic Campus and surrounding areas as part of the planning for the project. The results of this survey were used to compare what was heard from participants during the workshops, open houses, and advisory group meetings with the values and attitudes of those voices in the larger community.

The online survey was widely promoted with the community through the City of Yachats project webpage, with notices distributed via City News Alerts, City of Yachats Newsletter, survey links advertised in three press releases, meeting posters and fliers, in presentations during three public workshops and Advisory Group meetings, and posted regularly to the Yachats residents Facebook page. To expand the reach of participants, [paper surveys](#) were also distributed at key venues to create input for community members that were less comfortable with online systems or do not have access. The survey questions paralleled the general questions asked in the first workshop for consistency.

The survey received 53 total responses including 42 web-based responses and 11 surveys received from paper copies. Analysis of the survey was provided by Forage Design + Planning first with a review of qualitative responses to identify key themes, then tagging responses to develop a quantitative assessment. [A final survey report](#) is posted on the city of Yachats project webpage and in Appendix H. This report includes detailed charts summarizing demographics, emergency needs, vision and priorities, opportunities to leverage internal campus improvements, and external improvements for the project. Verbatim responses are also included for a deeper look at individual responses.

Survey findings were shared with participants at Open House 2 ([View Presentation](#)), and with the Advisory Committee at their final meeting #4. See summary charts in the AG 4 slide presentation. The majority of respondents were elderly which aligns with area demographics, and is important since this population is more vulnerable to heat and cold events. 92% were over 50, ~90% white, 97% have college degrees, 85% live in Yachats, and 10% work in Yachats but live outside the city

Survey results align very closely with the project goals heard in the community engagement workshops and open houses regarding emergency priorities. What was unique was seeing the items that rose to the very top of the priority list for leveraged improvements such as bathrooms and cisterns, and medical and personal device charging in emergencies.

Survey results align very closely with the project goals and emergency priorities heard in the community engagement workshops and open houses.

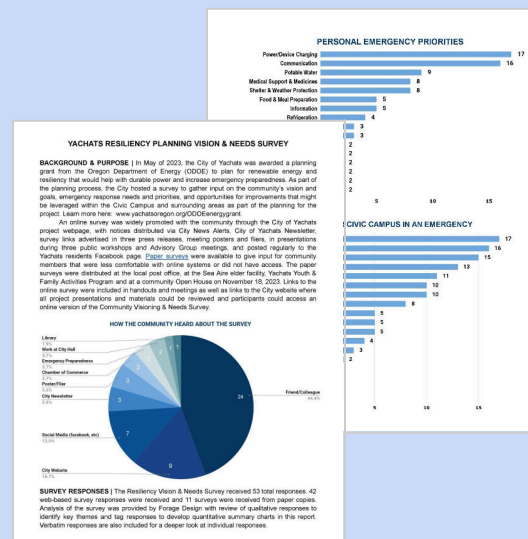


Figure 23. Survey results in Appendix H highlight alignment with public meetings findings for community needs, priorities and vision in an emergency event.

At the top of community priorities, public bathrooms scored highest which aligns with the Open Space and Parks Survey results, closely followed by building upgrades. Covered spaces and gathering places were also a high priority as well as improvements for the Library and Commons, followed by signage and outdoor lighting, and solar energy. The desire for covered spaces and gathering spaces closely aligns with interest and opportunities for using the space under new solar canopies for community activities.

Findings from the Community Engagement Process

The planning process identified needs, values, and priorities for emergency preparedness and resilience which are incorporated into this plan. These insights were captured and organized at the scale where the investment and the desired outcome could be achieved most efficiently at the Citywide, Civic Campus, and Building Scale.

By considering investments and outcomes at all three scales, the engagement process was able to capture initial larger scale planning ideas and goals that can inform future resiliency plans and policy efforts for the Civic Campus. Further, the detailed criteria, goals, metrics and guidelines described in Chapter VI help achieve City policy goals for renewable energy and conservation, and create a set of guidelines for consideration that align with existing policy actions in the Comprehensive Plan.

Feedback during and after the Open House was very positive and there were frequent statements that the meaning and purpose of the project had shifted from initial uncertainty and skepticism to excitement and optimism. Further, City staff noted that residents had begun thinking more about the Civic Campus role in the community in an emergency event, and how communities might benefit from these improvements everyday for social, economic, and hazard resilience.

Some key takeaways and lessons from the engagement are summarized below.

Citywide Scale

1. **Refuge & Resiliency are Critically Linked.** Refuge support services include access to power during outages, access to shelter and comfort during hot and cold weather events, and access to information and communication. These were considered necessary elements that supported resilience services to the community that can be derived from the social and economic activities on the Civic Campus. Understanding that the Civic Campus holds both refuge and resilience services established the planning and design goals for this plan. The ability to increase refuge services was a key driver that ultimately influenced decision-making and prioritization of the City Hall and Commons buildings to be improved. These buildings also supply refuge services to the community during a hazard event. Interconnecting these buildings with the Pavillion, adding batteries, and solar strengthens resilience during power outages and provides a refuge during longer outages increasing the availability of renewable power and reducing reliance on emergency power generation with diesel fuel. Aligning resilience with where refuge services can be located or expanded makes the Civic Campus better prepared to sustain their essential service roles.

2. **Investments in Resiliency Leverage Multiple Socio-Economic Benefits and Should be Valued in Decision-making.** Infrastructure improvements that expand capacity for day-to-day economic or social benefit and enhance recovery during a hazard event were valued highly. This weighting deepens an investment's return to the City. This was an important consideration when evaluating costs and priorities (see Figure 42). The solar panels added to the Barn, to be located near 4th Street, to cover a gathering space for emergency shelter and for recreational, social, and economic activities. Because of these activities, the Barn has the potential to attract partners, who could receive an economic or social uplift returns on their investment in return for their contribution to the project. Include partners who have an interest to expand activities such as the 4th Avenue farmers market and other existing festivals. (See Appendix D, Figure D.6 and the Criteria and Metrics in Chapter VI as a tool to help deepen the City's evaluation of benefits for ongoing decision-making).
3. **Geographic Equity is important to Resiliency and Refuge Considerations.** There was a strong desire for additional resiliency planning that could support residents citywide, especially for rural residents not near the downtown and those in the South of Bridge areas. This includes residents that work in Yachats but do not live there, tribal community members, as well as youth and families with children.
4. **Planning for Access & Communication Needs are Critical to Emergency Preparedness:** Wayfinding, trail lighting and signage as well as communication to residents and visitors could be improved to better communicate where to go and what to do in a hazard event or emergency. This was frequently cited as a need and priority in engagement and the survey. Signage to the Civic Campus and meeting points elsewhere in the City could be considered as part of the Parks master planning future work, as well as an opportunity for the Parks and Trails committee in partnership with the Chamber of Commerce. Ensuring good access to buildings for those with mobility issues is critical, and having available vehicles that can transport wheelchairs in an emergency is an important consideration for access as well.
5. **Visitor Awareness & Communication about Hazards and Response is Needed.** While the City has excellent signage for some hazards and is highly active in emergency response, there was concern that wayfinding and emergency preparedness needs to be tailored also to visitors who come to Yachats. Hotel rooms include evacuation routes but no information about meeting points, nor specific types of hazards that may warrant different types of response. Engagement of the Chamber of Commerce, hotels and short term stay hosts as partners can be an opportunity to ensure that visitors are informed about trail networks, meeting points, spaces for refuge and how to stay safe. Stakeholder meetings with tourism representatives indicates potential interest in collaboration on a plan to support visitor emergency preparedness and communication through kiosks, signage, wayfinding, as well as branded and easily recognizable emergency response communication materials. Multiple grants sources were identified to help with funding.
6. **Diversifying Back-Up Communication Modes** such as satellite phones, CB radios, and digital reader boards were identified as a goal for ensuring strong and coordinated communication in an emergency event if phone lines and cell service is down. Training on how to use these was discussed as a need.

7. **Plan for Adequate Back-up Power Generation and Off-Site Fuel Storage:** The WasteWater Treatment Plant emergency generator is an excellent resiliency measure already in place, however, assuring there is sufficient fuel storage was a high priority concern and goal in the planning and engagement events. This was discussed as a possible opportunity for engaging the Fire Station to expand fuel storage.
8. **Anticipate Mobile Battery Storage and Distribution to Expand Resiliency and Support Additional Off-site Emergency Needs.** This was specifically identified in the survey and engagement process for refrigeration of local food supplies (e.g. grocery/restaurants) and powering drinking water lift stations.
9. **Resiliency Planning for Locating, and Funding Facilities was determined to be an important factor when weighing tradeoffs to the community.** Important buildings and improvement projects such as re-siting the new library, locating emergency caches outside of landslide areas, or planning for additional refuge areas can support emergency preparedness and qualify for grant funding to build such facilities when they are part of a coordinated resiliency strategy. (See Chapter VI Goals, Objectives, Guidelines & Criteria)

Campus Scale:

1. **The Civic Campus is well positioned to avoid most frequent hazards:** Assessment of the buildings and improvements across the campus identified that the City has been making wise investments in their buildings for resiliency planning, and the City Hall and Commons are well positioned to avoid most frequent hazards. These are shown in Figure 12 and further described in the Hazard section of Appendix C. This was an important discovery for community members in the process that helped re-frame and affirm that investments in the campus are valuable for serving most likely hazards of fire, flood and severe weather events. While planning for these more frequent hazard events supports the response planning for less frequent major Cascadia earthquake and tsunami events, it was important to those with expertise in Emergency Preparedness that recovery planning for frequent hazards did not reduce planning for longer horizon major events. There was interest and excitement that this process raised attention in the community and expanded the City's response to a diversity of events. (See [presentation slides from Workshop 1](#) on Hazards)
2. **The Resiliency Planning Process helped identify Essential Emergency Survival Needs and Gaps.** Critical needs identified in meetings and survey responses included: shelter, hygiene, cooking and refrigeration, medical supplies, device charging, safe drinking water, food storage, wayfinding and signage, safe meeting places and communication about hazard response updates. It was acknowledged that the Commons and City Hall currently provide for many, but not all, of these needs. With back-up power and energy storage as proposed in the priority project, the City can provide more durable power supplies for essential survival and refuge needs during a hazard event which fills much of the resilience gap in the Southeast edge of Campus. (Also see non-power needs for resilience in finding # 5. below)
3. **Support for the Civic Campus to be an Eco-Demonstration Hub for Renewable Energy and Sustainability.** Throughout the engagement process there was a strong desire to leverage investments in renewable energy (both solar and wind) to showcase leadership and

innovation in sustainability. There was a desire to include interpretive information that could orient local residents and visitors to the innovation elements, to integrate cultural history and emergency wayfinding in campus signage, to become a model of sustainability and resilience planning for other coastal cities, and increase awareness of emergency response actions before, during and after an event.

4. **Emergency Power and Device Charging Needs on the Civic Campus.** The survey results highlighted important vision and goals for powering electronics, medical devices, and vehicle charging, a desire for diversifying communication methods (e.g. satellite phones, CB radios, and digital reader boards), and lighting of trailheads for emergency access to ensure residents and visitors are well informed of nearby emergency meeting points and where to go in a hazard event.
5. **Identification of Non-power Resilience Needs for Emergencies on the Civic Campus:** The planning process identified other site improvements of high priority that can also support resilience. These included reducing stormwater and flooding with infiltration swales (see Sustainability System Concepts in Figure 26), cisterns for drinking water, native plantings to buffer from high winds, adding hygiene capacity with a new public restroom, medical supplies and back up food storage, and regular training events that could leverage community events to build awareness.
6. **Resiliency Planning can help Guide Urban Design for the Civic Campus** by aligning improvements along La De Da Lane as a central spine for locating a variety of site landscape elements, bathrooms, wayfinding, and stormwater enhancements. There was great interest in the design illustrations provided by the planning team exploring how possible candidate projects would support placemaking, enhanced urban design, and resilience on the Civic Campus (see illustrations in Figure 26 on page 25, and Figures 32-36). As new buildings and structures are added they can demonstrate visible improvements reflecting resiliency and refuge opportunities through planned solar facility or resiting of the Library.

Building Scale:

1. **Interconnection of Buildings was Valued for Expanding Access to Power Management and Storage.** Participants in the process supported interconnection of buildings on the northern edges and southeast edges to help with power sharing and load management during hazard events. It was identified that planning for conduit to be placed during other Campus Improvement projects can provide cost and construction efficiencies that support foundational infrastructure needed in later phases and proposed projects.
2. **Energy efficiency measures can decrease costs, make renewable energy systems operate more effectively, and also increase the value of solar installations.** Attendees acknowledged that efficiency measures are a high priority to meet a higher energy generation level on the site, most importantly during the winter months. Further, if existing planned efficiency improvements are prioritized this can reduce energy loads by 20%, add cost savings, and increase effectiveness of investment phasing by the City.

3. **Achieving Net Zero Energy² Performance was possible through successive renewable energy investments.** The energy analysis (described in Chapter 5 and in Appendix A) determined it is possible to provide 100% of the power demand annually for the Commons, City Hall and Pavilion through the successive energy and resilience projects proposed. While over-generation to achieve “net positive energy³” was not a priority given less return for selling back power to the utility. There is a desire to balance the City’s power needs through alternative energy to support and exceed existing City energy policy goals in a cost efficient way. Leadership and innovation goals reflected in an eco-demonstration hub drew excitement and interest from participants during the engagement process as a model for other communities on the coast.

4. **The Resiliency Plan supports a Comprehensive Planning Approach at various scales of impact.** The discussion of resiliency created an opportunity to think about leveraging existing facilities (e.g. the Presbyterian Church for enhancements to power through solar and interconnections, as well as the siting of new facilities improvements (e.g. the library or a new solar canopy) by considering how new investments can help address resiliency gaps, create synergies for expanded economic benefit, reduce competing demands on high value buildings like the Commons, and integrate renewable energy components in early conceptual planning where it will be most efficient for time and cost.

Envisioning a Resilient Civic Campus

The public engagement process and the Vision & Needs Survey results identified opportunities and shared interests for improvements to the Civic Campus that could serve everyone in the community prior to, during, and after a hazard event and in day-to-day community life. The process elevated the Civic Campus’ role in the community, and clarified how communities can participate and benefit from energy investments that support resilience.

The Community Vision for a Resilient Civic Campus below is informed by feedback from community meetings, review of city policy and planning goals, and reflects input received in response to the Citywide Vision and Needs Survey developed for this project. The survey asked community members to share their vision for the Civic Campus generally and in an emergency, and what their needs and priorities were personally and as a community. The resulting “Role of the Civic Campus” includes both a Vision for the Civic Campus Day-to-Day, and a Vision for the Civic Campus During a Hazard or Emergency Event. These two visions are reinforced in the Yachats Civic Campus Resilience Plan.

² Zero Energy Building: A building that generates as much energy as it uses over the course of a year.

³ Net Positive Building A building that generates more energy than it uses annually.

Vision for a Resilient Civic Campus

Role of the Civic Campus

The Civic Campus functions as a center for services, events, recreation, and informal interactions. It is a place where the community gathers for local activities, seasonal farmer's markets and festivals and is a hub for information sharing, local meetings, and special events. Civic buildings provide everyday services of planning, waste treatment, governance, community education and childcare. An information kiosk hosts information about the park, local culture and resources of the area. Charging stations provide power for electric vehicles, bikes, and electronics. Trails have wayfinding and interpretive information about the park, wetland, special landscape and sustainability features, and connections to important places of the city including emergency meeting points, downtown, the beach and other destinations. Gathering spaces provide community connection and recreation areas support diverse uses and community needs.

Day to Day Civic Campus Vision

- *Over time the Civic Campus will increase resiliency of its buildings with renewable energy such as solar and wind, and demonstration of innovation and sustainability that can be a model for others and a draw for visitors and economic vitality.*
- *As enhancements to building power and energy storage are made, the city will gain cost savings, more durable power and places for shelter in times of need.*
- *New facilities will be designed to add sustainability, relate to local context, history and culture and will increase spaces for events, recreation, and refuge.*
- *Additional services such as rainwater cisterns, public restrooms, and mobile batteries will provide important access to drinking water, hygiene and power.*
- *Demonstration of sustainability and renewable energy, coupled with increased training, wayfinding and interpretive information will broaden communication and support community awareness and safety.*

Vision for the Civic Campus in an Emergency

- *In an emergency or hazard event, the Civic Campus serves as a command response center for communication (e.g. reader boards, satellite phones, maps, signs, organizing volunteers).*
- *With adjacency to downtown, and civic facilities, it is a central community gathering point for evacuation and sheltering, and is well-equipped with food distribution, water storage and filtration, light emergency medical needs and supplies.*
- *It serves as a place to connect with family, and gain access to charging of devices, medical equipment, cooking and refrigeration, hygiene, and clean water.*
- *It also serves as a distribution center for mobile batteries that can power other essential services for water filtration, refrigeration of local food stores, and other essential services.*
- *Generators and batteries provide back-up power, and interconnection of building energy systems allow for sharing of power needs to support safe refuge and maintain essential city and community services.*

V. RESILIENCY ASSESSMENT: SITE FRAMEWORK & ENERGY USE

Site Framework & Energy Assessment

The Civic Campus Site Framework is a tool to understand the elements of sustainability, resilience, social activities, its edges, and its relationship to the commercial core of the City. It helps to guide the location of projects that support economic and social objectives that support resilience in the City and more specifically in the Civic Campus. See *Appendix C Final: 2.2 Community and Project Parameters*.

Building on the Existing Hazard Response Systems

The Civic Campus has many existing and planned elements that can respond to hazard events and mitigate the impact of power disruptions. The Civic Campus Site Framework and Assessment considers sustainability, resilience, social activities, the functional organization of facilities, and its relationship to the commercial core of the City. This defines the location of projects with the greatest potential to support economic and social objectives that strengthens resilience in the City and more specifically in the Civic Campus.

The Library, WasteWater Treatment Plant and Presbyterian Church are located on the north side of the campus between 6th and 7th Streets. A 255 kW stationary diesel generator is installed at the WasteWater Treatment Plant and provides emergency power to the plant. It is significantly oversized given the documented peak demand for the plant of about 80 kW. Also stored at the plant are mobile generators that are used to provide emergency power to water pumps and wastewater lift stations during a power outage. With the hazard response equipment housed at the plant, this area has the greatest current flexibility to respond and support power generation during a hazard event.

The City Hall, Commons, and Pavilion are located on the south and east of the campus between La De Da Lane and Highway 101. A 30 kW stationary diesel generator is installed to provide emergency power to selected loads/needs in the Commons building.

Strengthening Sustainability

Improvements to the campus should respond to the location and configuration of site features to enhance the sustainability of energy and water resources, and stormwater flows through the site. Sustainable energy and water sources are fully consistent with a resilient Civic Campus. Thoughtful organization of landscape and building improvements can not only create these resources but can also make better outdoor spaces that serve an economic or social function and can be used as a refuge or emergency response staging area.

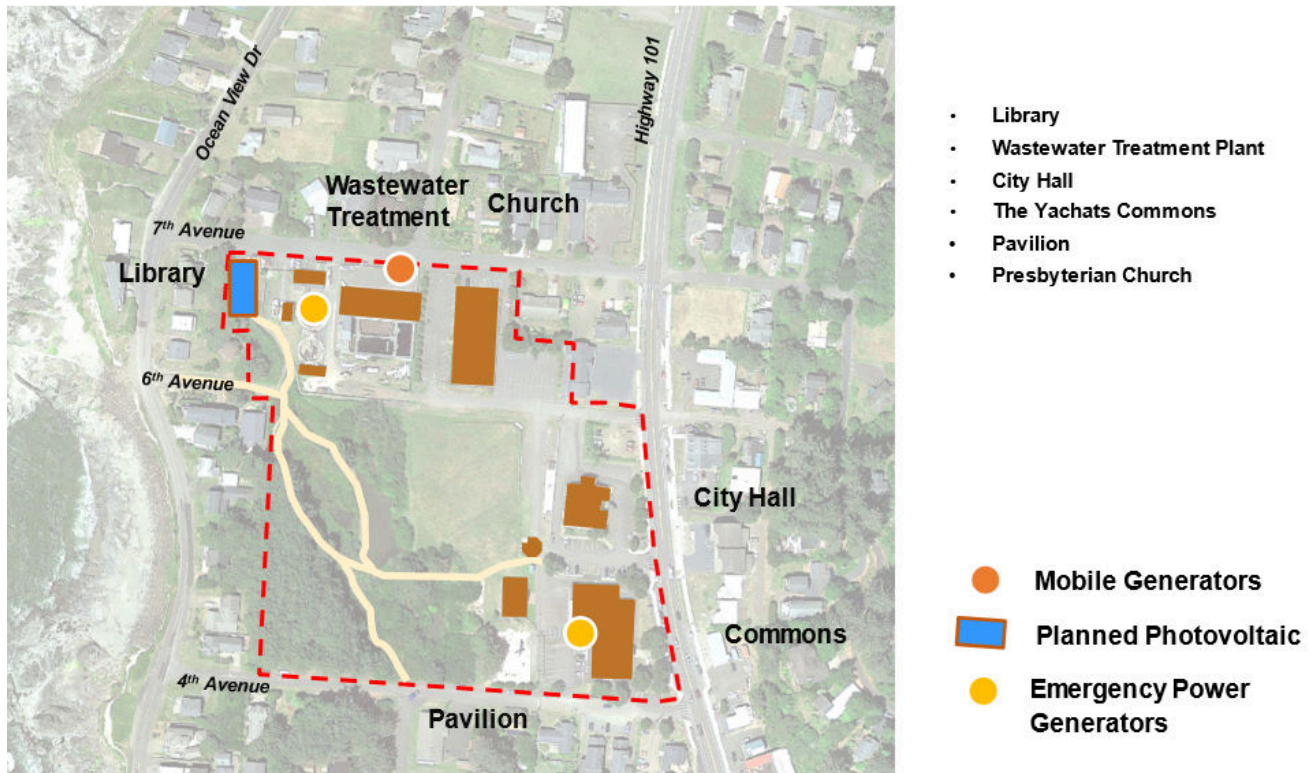


Figure 25. The Civic Campus contains critical social and governmental functions in the City. It uses diesel fueled emergency power generators to operate water infrastructure and serves as a command center in a hazard event.

Solar Photovoltaic Systems. Many areas of the site have excellent unshaded solar resources. Solar photovoltaic (PV) panels can be strategically placed in these areas, including building roofs, over parking lots and the paved area to the west of the Commons where covered outdoor activity areas might benefit, and in the south yard of the WasteWater Treatment Plant. When appropriately coupled with site and building electrical system improvements, electricity generated from solar installations will provide a sustainable, durable, and increasingly cost-competitive source of energy for the Civic Campus. The potential energy generation capacity of available solar photovoltaic locations within the Civic Campus is theoretically sufficient to balance all of the electricity used by the campus over the course of a year. The available solar resource in Yachats means that Civic Campus solar systems would not generate enough electricity in the winter to meet the campus demands but would generate extra electricity in the summer that would be exported onto the regional grid. This is referred to as “net zero energy” performance and does require net metering coordination with the local utility. Central Lincoln Public Utility District currently supports net metering arrangements for solar systems up to 200 kW in capacity on each individual meter. This is significant enough to undertake several solar projects within the framework outlined in this plan.

Solar Thermal Systems. Several building rooftops can accommodate south-facing solar thermal panel installations. Both the Commons and the Presbyterian Church have kitchen domestic hot water loads that could be augmented by production of solar hot water. Due to the relative complexity and limited resource contribution within the Civic Campus, solar thermal systems have not been included in near-term project planning but could be considered as future Civic Campus projects are identified within its sustainable development framework.

Small Scale Wind Turbines. The campus also has demonstrated wind resources that while not reaching utility-scale is sufficient to generate renewable electricity throughout the year. Small scale wind turbines are available in capacities from 1 kW to 50 kW, and in both horizontal axis (propellers) and vertical axis configurations. Vertical axis turbines tend to exhibit both reduced ambient noise and reduced wildlife casualties. Indeed, Yachats has a local connection to a company that is currently involved in research and development of vertical axis turbine technology. Due to both cost and wind resource limitations, today’s small scale turbines are not cost competitive with solar photovoltaics as a primary source of sustainable energy. However, wind turbines are a dynamic and visible symbol of sustainability, and actually generate more electricity in winter months than a similarly sized solar system. On an annual basis, wind turbines are anticipated to generate about 60% of the electricity that would be generated by a similar sized solar system, and at current costs would be over four times more expensive per kWh generated. Integration of small scale wind turbines within the Civic Campus should be considered within its sustainable development framework, though initially as demonstration technology.

Stormwater Management can use swales to treat water from impervious areas and divert it away from pervious areas that can be damaged such as the large green space turf area.

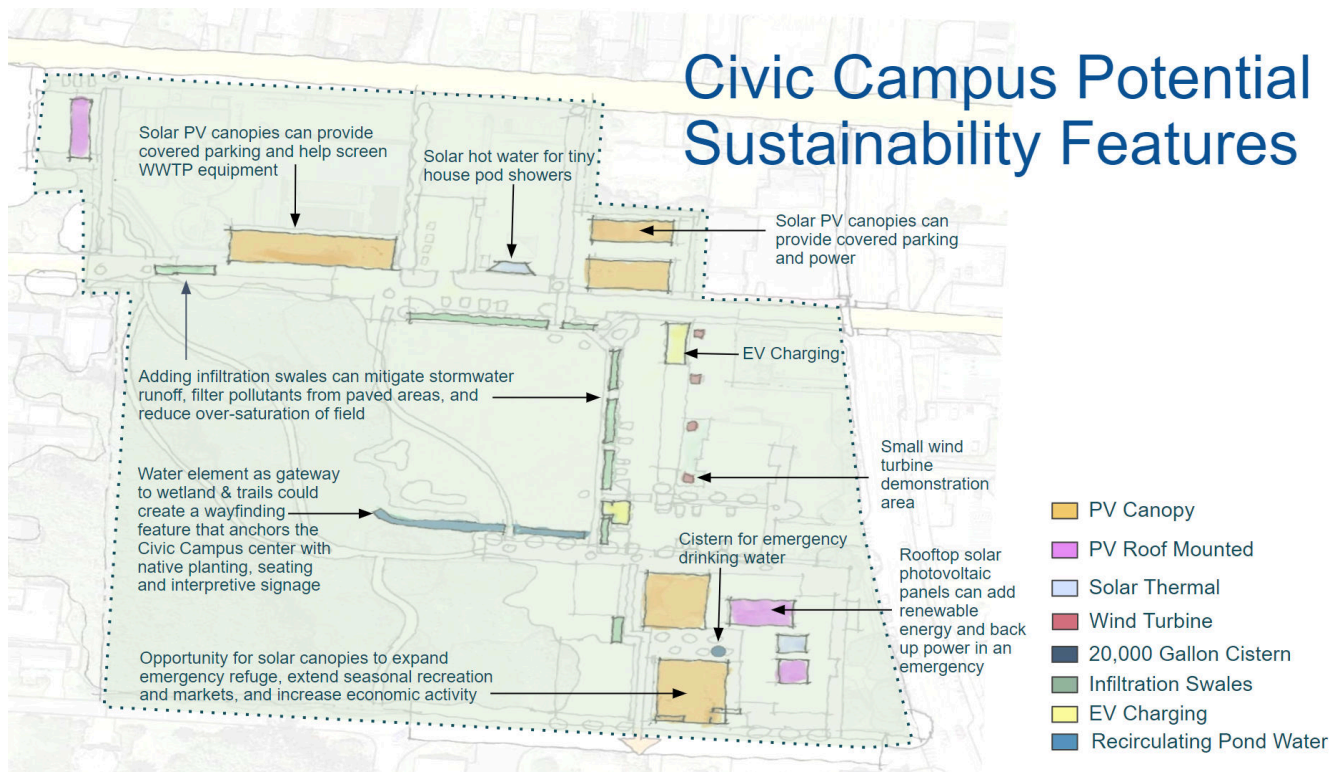


Figure 26. Sustainability System Concepts for Integrating Renewable Energy & Water Management Improvements that support energy and water management can be combined with other projects and can reduce operational cost and transform the visitor experience on the site.

Rainwater Reuse. Rainwater runoff can be collected from roofs, stored, filtered, disinfected, and reused as a potable water source both for “normal” operation and for emergencies. Yachats typically receives over 60 inches of annual rainfall although it does experience a dry season from the end of June until mid-September. If rainwater were collected from 6,000 sq.ft. of the roof area, and stored in a 20,000 gallon cistern, this could function as a sustainable source of water that would meet the current month by month needs of the Commons building including through the dry season. In addition,

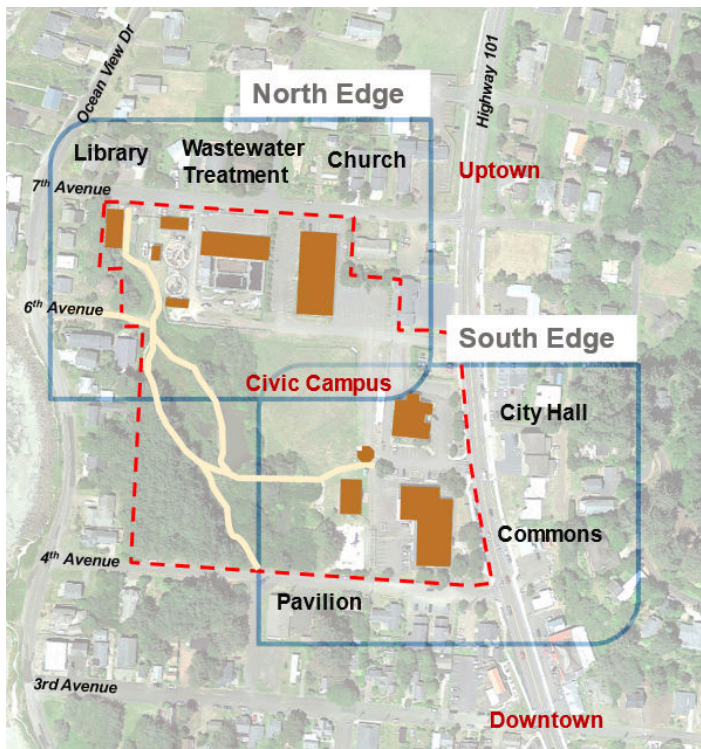
the cistern could be an attractive, visible landscape element that serves as a potable water source during a sustained hazard event.

The Pond is a potential source of non potable water for fire protection on the Civic Campus during an emergency. The Pond is an amenity on the Civic Campus that collects surface runoff and subsurface streams. The wetland plants and trees are ecologically in balance with the water flow along its length. Any changes to the pond must be considered with an engineer specializing in wetland resource conservation and stormwater management. Potential improvements to the pond will be considered in a pending Stormwater Master Plan.

Landscape Enhancements for Wind Protection. While wind does represent a potential sustainable energy resource, excessive wind also creates undesirable comfort conditions in the current and potential future outdoor activity areas. Planting of trees and shrubs in key areas to protect these outdoor areas from wind would improve use of the outdoor spaces around the Civic Campus. Additionally, as new buildings and structures are designed, predominant north-south wind directions should be considered so that the structures themselves offer a degree of protection from winds.

Strengthening Resilience

Both functionally and geographically, the Civic Campus facility organization suggests “edges” – a North edge that includes the library, WasteWater Treatment Plant, and the Presbyterian church and a Southeast edge that includes the City Hall, Commons and Pavilion. The location and organization of the Civic Campus logically serves as a center of the emergency planning and hazard event recovery for the City. The Civic Campus is the center of government, and a foundation for vibrant social life within the community.



Assessment of Edges

Uptown: North Edge

Edge of residential area with community library and public works department.

Downtown: South Edge

Edge of Commercial Area with City Administration, Childcare, Community Events Spaces.

Figure 27. Assessment of Civic Campus Edges & Site Context. The edges of the Civic Campus can complement and supplement the residential and commercial areas they border.

Events and activities in the Commons are complementary to the adjacent commercial district which is the economic engine of the City. The “urban planning” opportunity is to plan projects for the campus that activate and invigorate adjacent neighborhoods as well as enhance current and future uses in these neighborhoods and the Civic Campus itself. Resilience, in this sense, couples the idea of enhancing social cohesion and economic sustainability while creating a command center and refuge for community members following a hazard event.

North Edge. The North Edge is an area with residential, cultural, and business activities but has the experience of a more residential character, albeit with an industrial process facility in its center. The facilities that make up the North Edge are all-electric facilities that are reasonably efficient when compared to similar types of facilities in similar climates. There are energy use reduction opportunities but primarily in the privately owned church. The table below summarizes the energy use characteristics of the North Edge. For more detailed facility assessment information including energy use, please see Appendix A: Audit Facilities in Civic Campus.

Facility	Area, SF	Current Annual Energy Use			% Better than Median	% Savings Potential	Future Annual Energy Use		
		Electricity, kWh	Other, MMBtu	EUI, kBtu/SF-yr			Electricity, kWh	Other, MMBtu	EUI, kBtu/SF-yr
Library	3,600	17,941	0	14.17	69%	7%	16,637	0	15.77
WWTP/Public Works	8,500	223,800	0	89.86	n/a	0%	223,800	0	89.84
Church	12,000	55,420	0	15.76	37%	31%	38,401	0	10.92
Total, North Edge	24,100	297,161	0	42.07		6%	278,837	0	39.48

EUI=Energy Use Intensity; MMBtu=Millions of British Thermal Units; SF=Square Feet; kWh-kilowatt hours

Figure 28. Summary of the energy use characteristics of the North Edge.

Key existing resilience-related features of the North Edge can be characterized as follows.

1. It has the most emergency power generation potential which includes a 255 kW diesel emergency generator that is significantly oversized for the WasteWater Treatment Plant needs and could conceivably provide power to all of the buildings in the Civic Campus.
2. It houses numerous mobile generators used by Public Works during a power outage to keep sewer and water system pump stations operational.
3. It has easy access up 6th and 7th Streets to tsunami refuge areas.
4. It is mostly flanked by residential uses along its edge.

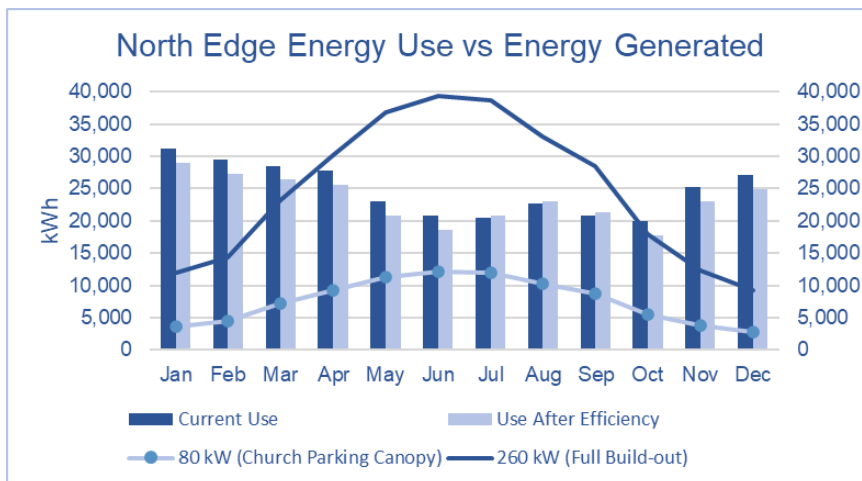


Figure 29. The monthly energy profile of aggregate building energy use for the North Edge is generally consistent throughout the year due to the high energy intensity of the WWTP, which is the dominant load and is consistent on a monthly basis. A full build-out scenario for a potential solar system would be represented by a 260 kW system that could generate all the power that is needed throughout the year.

Southeast Edge. The Southeast Edge is an area with government, commercial, and shared community functions. It is supplemental to tourism due to the many community events that are held in this area that are attractive to visitors. The facilities that make up the Southeast Edge are essentially all-electric facilities. A small amount of propane is used for cooking in the Commons. The facilities are reasonably efficient when compared to similar types of facilities in similar climates, but there are significant energy use reduction opportunities in both the Commons and City Hall. The table below summarizes the energy use characteristics of the Southeast Edge. For more detailed facility assessment information including energy use, please see Appendix A. Audit Facilities in Civic Campus.

Facility	Area, SF	Current Annual Energy Use			% Better than Median	% Savings Potential	Future Annual Energy Use		
		Electricity, kWh	Other, MMBtu	EUI, kBtu/SF-yr			Electricity, kWh	Other, MMBtu	EUI, kBtu/SF-yr
Commons	14,166	82,920	3.68	20.24	48%	22%	64,458	3.68	15.79
City Hall	4,500	46,100	0	34.96	15%	19%	37,205	0	28.21
Pavillion	2,600	324	0	0.43	n/a	n/a	324	0	0.43
Total, Southeast Edge	21,266	129,344	3.68	20.75			101,987	3.68	16.54

Figure 30. Summary of the energy use characteristics of the Southeast Edge.

Key existing resilience-related features of the Southeast Edge can be characterized as follows.

1. It has the limited emergency power generation potential which includes a 30kW emergency generator that provides emergency power to the Commons building but is unable to meet the needs of the Southeast Edge in an extended power outage.
2. Access to the tsunami refuge area is north along La De Da Lane and Highway 101 to 6th and 7th streets which lead to assembly areas up the hill.
3. It is flanked by commercial uses on 4th Street and Highway 101.
4. Seasonal outdoor markets are located on 4th Street within this edge.
5. This edge of the site has high demand for toilets and visitor information during community and business activities on the site.

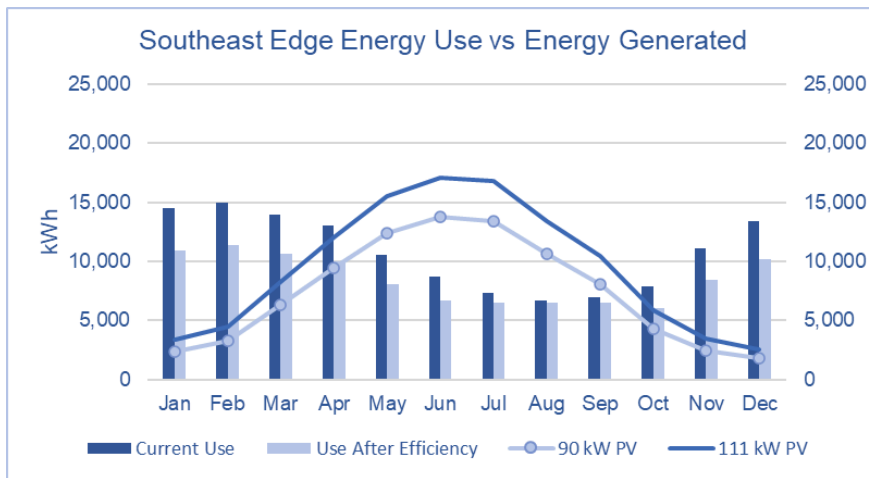


Figure 31. The monthly energy profile of aggregate building energy use for the City Hall, Commons, and Pavilion has a peak energy use in the winter. A 90 kW solar system (considered as a priority project) could generate about 85% of the power that is needed throughout the year. A 112 kW solar system could generate all of the power required throughout the year.

Resilience Projects

Resilience, as considered within this plan, emphasizes both hazard event response and socio-economic enhancements. Potential projects at the Civic Campus that make better connections

and improve outdoor settings contribute to improved resilience in both aspects. The context and potential of those “better connections” defines the site framework structure that is essential to this plan. Project opportunities that work within this framework are discussed below for both the North and Southeast edges.

North Edge Project Opportunities

The North edge has the potential to improve connections to tsunami assembly areas, improve 6th Street as a desirable pedestrian connection, and improve access to the existing library. The public spaces around the North edge are not optimally supportive of the activities that spill outside from the Library and the Church. Poorly identified parking locations on 6th Street, a discontinuous 6th Street, and the use of parking areas for assembly contribute to limiting the activities that can safely occur in the area. Improvements that separate vehicle movements and pedestrian movements would contribute to a safer and potentially more active environment. While the emphasis on potential projects that rely on this plan is primarily about electrical energy and related resources, the site framework defined herein suggests that opportunities such as those listed below be integrated with renewable energy projects.

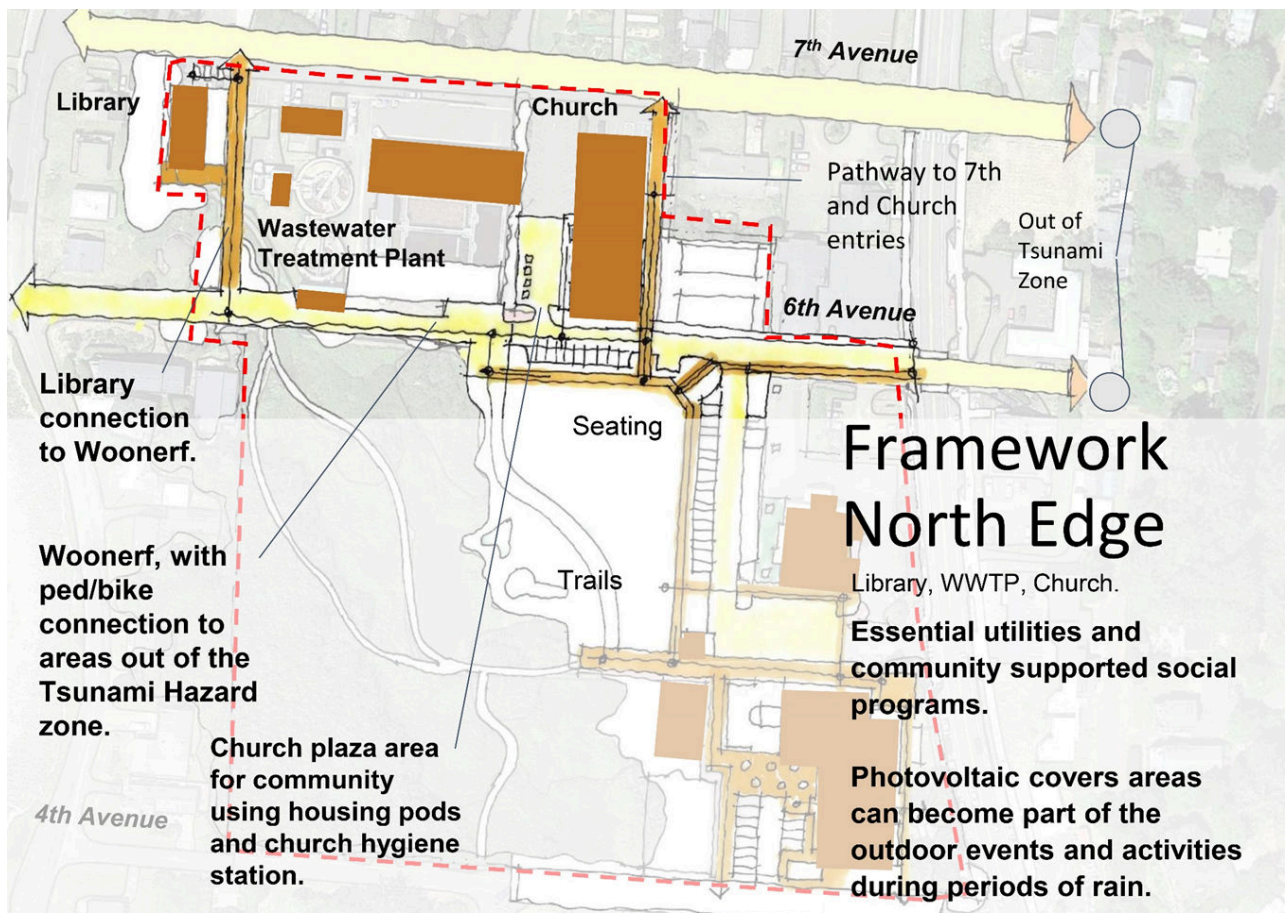


Figure 32. North Edge Framework. As renewable projects are installed, they can improve access and the settings that help to connect the Library and the Church to the Civic Campus and use the open spaces more effectively.

Improvements that would tend to activate 6th Street include:

1. Creating a multi-modal connection between La De Da Lane and Ocean View Road:

- a. Provides a bike and foot path across wetland areas.
 - b. Provides circulation for pedestrian and bike movements and does not preclude vehicle access such as does a [Woonerf](#) outside of wetland areas.
2. Improving access to yard waste recycling that is complementary to the housing pods in the Church Parking Lot.
 3. Separating vehicle movements and pedestrian movements would contribute to a safer environment such as organizing parking and pedestrian access along 6th Street.

Southeast Edge Project Opportunities

The Southeast edge has the potential to improve the public spaces around the buildings to provide better spaces and amenities for outdoor events and activities. The public spaces within the Southeast edge connect the City Hall, Commons, and Pavilion. The focus of these spaces is La De Da Lane as it traverses the front of the Pavilion on the west side of the Commons. It is level and in good condition. La De Da Lane also has an EV charging station at the foot of 5th Street, a skate park, and children’s play areas. Again while the emphasis on potential projects that rely on this plan is primarily about electrical energy and related resources, the site framework defined herein suggests that opportunities such as those listed below be integrated into resilience projects.

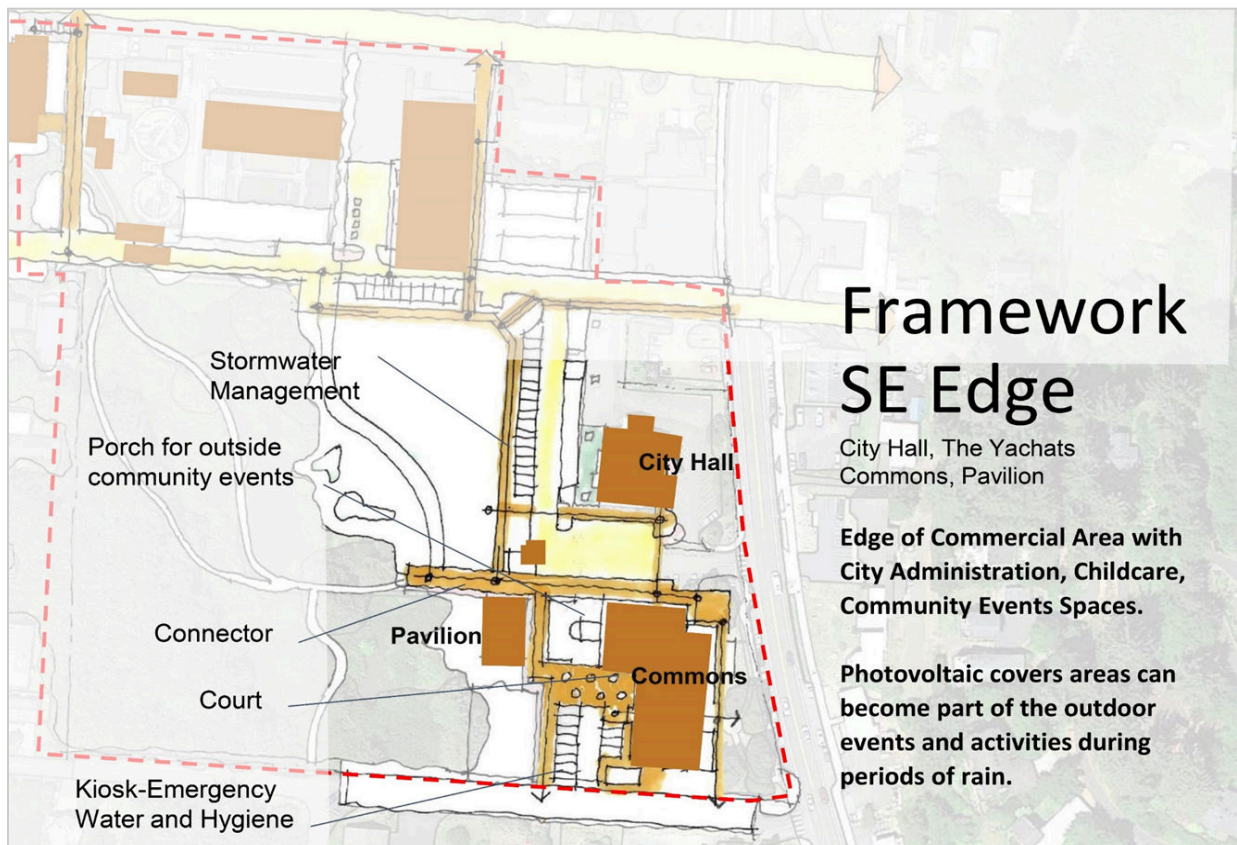


Figure 33. SE Edge Framework. As renewable projects are installed, they can improve access and the settings that help to connect the Library and Church to the Civic Campus, and use open spaces more effectively.

Improvements that would tend to activate La De Da Lane include:

1. Improving the east-west connector along the north edge of the Commons Building to better

connect the Commons and Pavilion to the park space trail leading to the wetland area and Ocean View Lane.

2. Making a multi-modal connection along La De Da Lane between 5th and 6th Streets separating vehicles from pedestrian movements would make a safer environment by organizing parking and pedestrian access along La De Da Lane. It could be more pedestrian and bike oriented but not preclude vehicle access such as does a [Woonerf](#).
3. Repairing pavement on 5th Street and La De Da lane.
4. Improving La De Da Lane to better connect the North Edge to the Southeast Edge.
5. Incorporating community input collected in recent park survey responses.

Connecting the North and Southeast Edges

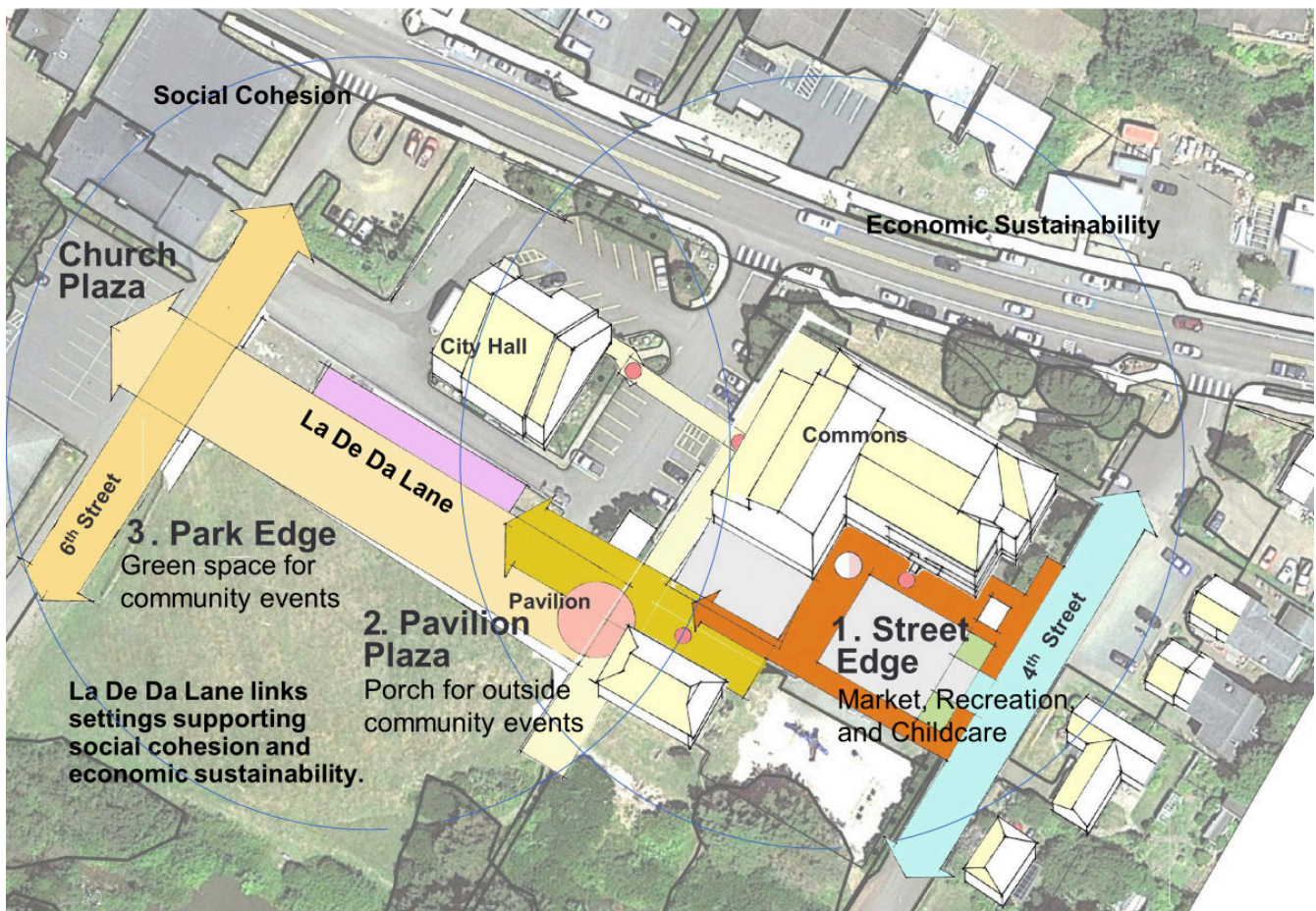


Figure 34. Opportunities for Site Design Improvements that Connect Important Civic Campus Edges. La De Da Lane has the potential to connect the North and Southeast edges and improve its service to the community with sequential improvements.

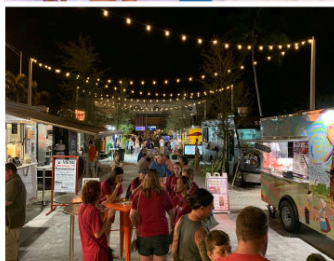
As previously discussed, geography and function logically organize the Civic Campus into two edges. These edges have different roles within the Civic Campus but will ideally be better connected as future resilience projects are implemented. La De Da Lane is key to connecting the two edges. La De Da Lane provides the opportunity to organize campus uses along its length. There are three primary areas that are crucial to helping the Civic Campus to be better connected and serve social activities and economic development in the City as a whole.

1. **Street Edge** | The role of the Street Edge is as a multiple use event and parking space that can be used for either parking, market activities, Commons building activities, or other events associated with local businesses. It is currently an outdoor space that scores highly in supporting both economic and social components of resilience desired for the Civic Campus.
2. **Pavilion Plaza** | The role of the Pavilion Plaza is to provide a meeting space at the center of the Southeast edge.
3. **Park Edge** | The role of the Park Edge is to better organize the park and green space within the Civic campus and to create an attractive setting for activities within the park and on the edge.

Site Improvements

Currently, a number of needed site improvements have been identified. These include asphalt repairs, stormwater management improvement, site grading improvements, and enhanced wind protection to improve comfort and useability of outdoor spaces. These site improvements should be integrated into specific energy resilience projects that logically fit within the area of construction or can be added to the scope of work in a cost effective way. For example, many of these improvements can be undertaken when (and if) solar photovoltaic canopies are installed, as the installation of separate canopy structures will precipitate associated site work for foundations and other surface and underground modifications.

A number of priority non-energy site amenities have been identified within the outreach efforts undertaken to inform this plan. While not specifically energy related, these potential Civic Campus projects clearly resonate within the Yachats community and have a place within one or more of the primary areas identified above.



1. Street Edge

2. Pavilion Edge

3. Park Edge

Figure 35. La De Da Lane has the potential to connect spaces that have a different value and purpose in creating a civic space that improves resilience in the Civic Campus for the City.

1. **Street Edge | Visitor Information Kiosks and Cisterns.** It is here where community ideas for a Kiosk serving visitor information from the chamber or nonprofit might be strategically located. Also, it is a strategic location for a cistern to collect rainwater. Due to the size of this area, there is ample space to site one or more standalone structures.
2. **Pavilion Plaza | Restrooms, Monuments, Signage, Electric Charging.** The Pavilion Plaza is a preferred location to implement community ideas for bathrooms, historical and cultural monuments, and wayfinding signage. There is already an electric vehicle charging station here which suggests the potential for expanding the charging infrastructure to include the capability for multiple device and equipment charging in the future.
3. **Park Edge | Circulation, Parking, Stormwater.** The current roadway along the park edge could be further developed to clarify circulation zones for people and vehicles with parking and stormwater management. By making these improvements, the usability of park green space will be improved because the sheet flow of stormwater would no longer over saturate the soil.

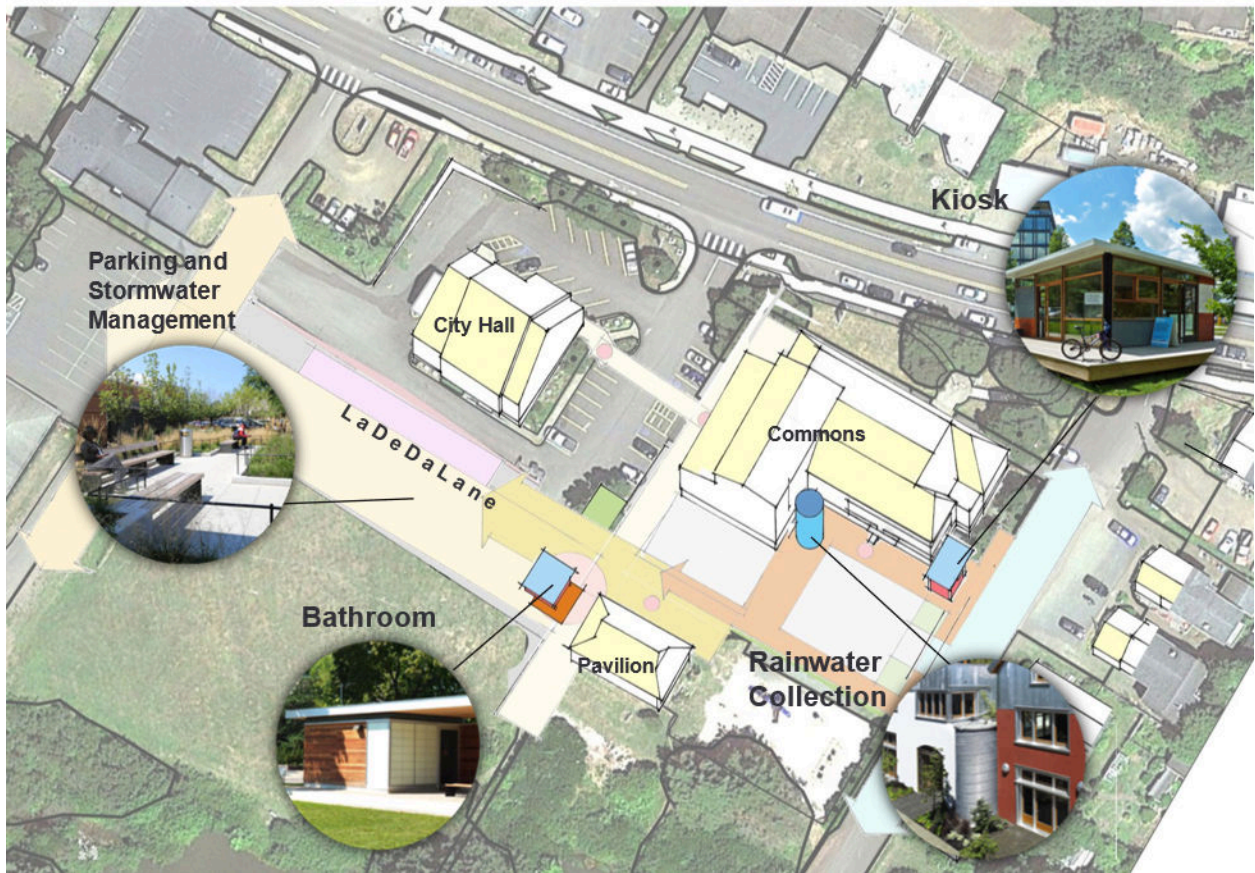


Figure 36: Connecting Improvements Along a Central Spine. La De Da Lane has 3 primary areas that can be improved overtime with subsequent investments that support the Civic Campus Resiliency Plan.

Selecting the Priority Southeast Edge

Of the two edges, the Southeast edge has the greatest near-term potential to increase resilience on the Civic Campus by adding renewable electricity generation and enhancing socio-economic character within the community. The Southeast edge contains the two critical civic buildings – both city-owned and controlled - that are the logical loci for refuge, shelter, and command required during and after a hazard event. Only one of the buildings – the Commons is equipped with back-up power capability. It is currently backed up by a 30 kW generator. In an extended outage keeping this generator fueled would be a problem, particularly if the power outage was accompanied by road closures and fuel shortages. The Southeast edge is also home to the greatest mix of activities that supports economic and social outcomes that contribute to resilience, and as discussed above offers numerous locations for other resilience-related site and facility improvements to be implemented. Supplemental solar panels and batteries, along with strategic upgrades to the overall electrical system infrastructure would greatly enhance supply of durable power, reduce its cost, and minimize reliance on the diesel emergency generator.

While the North edge also possesses reliance needs and potential, the only critical; City-owned facility - the WasteWater Treatment Plant – is already equipped with a stationary back-up power system that can power the plant during most common power outage events. At the time of publishing of this plan, the future of the library in its North edge location is uncertain, and the ownership structure of the church may be in flux. The North edge will offer resilience project opportunities in the future, particularly the potential associated with electrical interconnection between facilities within the edge. But for the reasons stated above, it is not the priority edge for near-term projects that will enhance Civic Campus resilience.

As illustrated below, the Southeast edge is the focus for the definition and evaluation of potential priority projects that can satisfy the definition of successful grant-funding resilience and renewable energy projects that would be suitable for the next cycle of construction grant funding by ODOE.

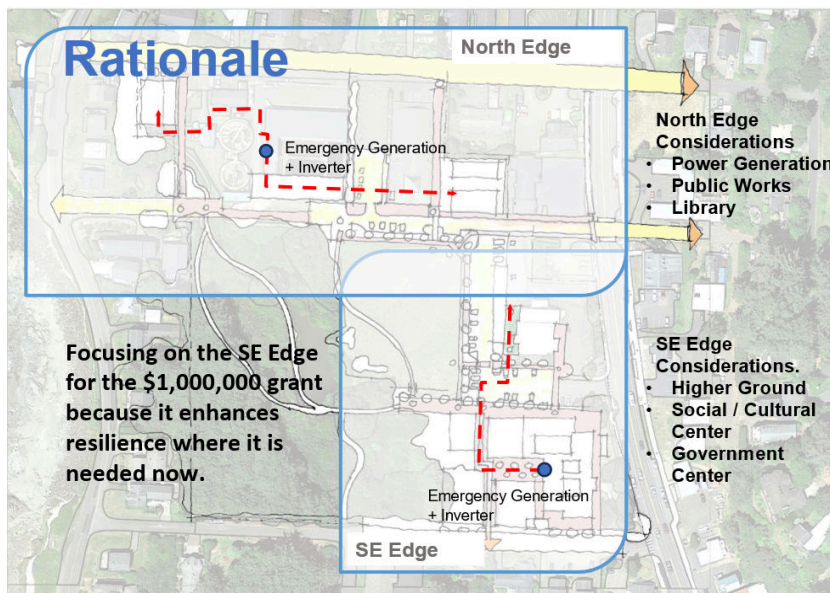


Figure 37. Interconnection of Buildings. When the buildings on the Southeast Edge are connected with electrical infrastructure, it will improve the resilience to the services that lack such resilience.

An initial resilience project for the Southeast edge would start by interconnecting the electrical systems of the Commons, City Hall, and the Pavilion. This will create a core electrical “foundation” that supports installation and integration of near-term solar system elements and additional solar system and potential wind turbine installation in the medium term future. In addition to added solar, a Southeast edge project should include necessary repair and rehabilitation to the existing back-up power system and investment in building energy efficiency opportunities that will reduce the need for electricity in the Southeast edge facilities.

The North edge currently has sufficient critical facility emergency power. Like the Southeast edge, there is also the potential to connect electrically to the nearby buildings to expand resilience on this edge of the Civic Campus. The addition of solar panels and battery storage is envisioned to further augment North edge resilience and ultimately create the logical location for charging of future City-owned electric fleet vehicles.

The envisioned resilience enhancement within both edges of the Civic Campus has both implications and concept connections to Citywide resiliency issues and ideas such as those listed below.

- Augment portable generators/batteries for remote power serving pump stations, caches, and potentially individual citizens and other critical facilities.
- Expand fuel storage capacity at Fire Station and Wastewater Plant
- Establish an emergency power Cache south of the bridge with generator and food and fuel cache that provides power resources to that area and becomes a point of refuge in a Cascadia earthquake event or similar.

Site Renewable Resources

1. Solar resources in Yachats are comparable to other locations in Western Oregon - both on the coast and in the inland valleys. The Civic Campus site itself has numerous unshaded locations that will accommodate optimal solar installations, as well as a few modestly sub-optimal locations that will still generate meaningful electrical energy.
2. The site is also fairly windy, as would be expected on the Oregon Coast. However, the frequency of wind conditions that can generate meaningful energy via wind turbines is not ideal. Wind turbine installations of identical capacity to solar will generate about 60% of the energy generated by the solar panels.
3. Based on current technology, solar is a preferred and more cost effective renewable energy resource than wind at this site. However installation of an inverter system with the capability of interfacing with either wind or solar resources is recommended. This would allow the City to compare performance of different systems as new technologies are developed.

Future Civic Campus Microgrid

Developing a micro grid at the Civic Campus Scale is not currently feasible until such time as Central Lincoln Public Utility District is able to administer Microgrids within their operations. At that time, there will be a number of potential benefits at multiple scales.

City Wide Scale: At some point in the future, it may be possible to interconnect all buildings and power sources on the Civic Campus with nearby buildings such that critical services such as the C&W Market refrigeration equipment are able to prolong food storage during an outage using backup power resources that are located at other buildings.

Campus Scale: Currently there are backup generator facilities at the Commons building and the WasteWater Treatment plant. Through a microgrid, these emergency power resources could be extended across the campus (connecting North and Southeast edges) to nearby buildings adjacent to the Civic Campus during an extended power outage .

Building by Building: The interconnection of buildings in the North and Southeast edges accomplishes needed resilience goals without a microgrid, building on the current emergency backup configuration. However, implementation of a microgrid in the near-term, if possible, would represent another technological way to accomplish this interconnection.

VI. PLAN CRITERIA, GOALS & GUIDELINES

The Civic Campus contains municipal services and facilities that strengthen social and economic outcomes in the City. These activities are crucial to the regeneration of community resilience. Working with the community and stakeholders, a vision for how the Civic Campus can play a key role anticipating preparing for, training for, and recovering from hazard events. This plan identifies how the physical planning investments and policy planning changes can support future project investments to reinforce this vision overtime on the Civic Campus.

This plan supports the community vision for resilience and the role of the Civic Campus in a Hazard/Emergency. It makes links between what can be accomplished in the Civic Campus with other areas of the City in order to support community wide resilience. These include hazard response services and improvements that are also used to support the local economy and the everyday social activities in the City. The Community Vision for Civic Campus in a Hazard/Emergency was developed based on community feedback from public meetings and survey responses. (See Section IV of this plan document.)

Community Vision for Civic Campus in a Hazard/Emergency

The excerpt from the Vision Statement below (see full Vision on page 31) synthesizes goals from the public involvement process and defines a role for the Civic Campus for emergency response.

In an emergency or hazard event, the Civic Campus will serve as a:

- *Central community gathering point for evacuation and sheltering, a place to connect with family, and gain access to essential survival needs such as cooking and refrigeration, hygiene facilities, and clean water.*
- *Command response center for communication and services including access to equipment and food distribution, water storage and filtration, light emergency medical needs and supplies;*

- *Distribution center for mobile batteries that can power other essential services off-site such as water filtration pumps, refrigeration to preserve food stores;*
- *Hub for access to durable power and electricity. Renewable energy is intended to power every-day needs with batteries and generators as emergency back-up power. Interconnection of building energy systems allow for sharing of power needs to support safe refuge and maintain essential city and community services.*

Plan Elements

The plan supports this vision and complements the City's emergency management plan implementation by strengthening areas of the City such as the Civic Campus so it builds greater energy resiliency, and economic and community capacity to respond to hazard events. This includes establishing a network of resources such as caches, fuel storage and refuge areas that can be accessed in the immediate area. An important aspect of implementing this vision is improving communication prior to, during, and after an emergency event.

The plan links Citywide, Civic Campus, and Building Scaled Plan Elements to achieve the vision through strategic goals, objectives, guidelines, and criteria as recommended requirements for planning or physical improvement::

- **Goals** describe the outcome desired within each scale to promote resilience.
- **Objectives** describe the actions that can be measured to achieve the goals.
- **Guidelines** are objective and qualitative standards which should be incorporated into the design of a project.
- **Criteria** highlights measurable outcomes that are key performance indicators in meeting the objectives.

The plan requirements are derived from community feedback as documented and interpreted by the planning team. They are intended to provide a method for identifying and evaluating potential resiliency investments which reinforces resilience in the City.

Plan Element: Citywide Scale Energy and Resiliency

The City plays an important role in providing services to the community inside the City and in surrounding unincorporated areas. As such, potential Citywide investments are considered to serve residents in unincorporated areas as well. It also is an important tourist destination which benefits the local economy and in turn helps support a sustainable community. Within this Resiliency Plan there are links between what can be accomplished in the Civic Campus to other areas of the City which includes hazard response services and improvements that support the economy and the everyday activities in the City.

Goals

1. Establish strategies that link projects in the Civic Campus and support synergies in projects in other areas of the City.
2. Create a model of sustainability and resilience on the Oregon Coast such as an "Eco Demonstration Hub".

3. Connect critical water infrastructure power needs to emergency generation with fuel to support extended power outages.
4. Allocate resiliency related services and resources in an equitable manner on either side of the Yachats River.
5. Designate a central emergency response office in the Civic Campus to coordinate response to long-term hazards.
6. Improve signage to support education around environmental design and wayfinding for emergencies,
7. Expand awareness of Yachats history that fosters sensitivity and understanding of indigenous communities past and present.

Emergency Procedures

PORTLAND STATE UNIVERSITY

BUILDING NAME: _____ ROOM #: _____

DEPARTMENT SAFETY CONTACT: _____ EVACUATION LOCATION: _____

PSU ALERT Opt in for text message notifications at banweb.pdx.edu

MEDICAL EMERGENCIES <p>CALL 911 IMMEDIATELY</p> <ul style="list-style-type: none"> • Provide the location, nature of injury or illness, current condition of the victim, and any other requested information • Provide assistance if medically qualified • Stay with the victim if possible • Do not move the victim unless they are in immediate danger <p>AFTER EMERGENCY Students: Center for Student Health and Counseling Faculty/Staff: Office of Human Resources for workers compensation support</p>	ACTIVE THREAT <p><i>If you encounter an active threat or violent intruder...</i></p> <ul style="list-style-type: none"> • RUN: if you are able, get away from the area • HIDE: if you can't RUN, shelter in place, close and secure all windows and doors. Silence ALL electronics. • FIGHT: if you are unable to RUN or HIDE, attempt to counter the intruder using any means available as a last resort. 	FIRE <p><i>If you see smoke or flames...</i></p> <ul style="list-style-type: none"> • Pull the fire alarm • Evacuate the building immediately using the closest emergency exit. • Call 911 to report the fire • Assemble in a designated area • Wait for the "all clear" from PSU Alert or first responders before re-entering • DO NOT assume an alarm is false • DO NOT use the elevators
EVACUATE <p><i>If an unsafe situation occurs INSIDE your building...</i></p> <p>Examples: Fire, indoor hazardous materials spill, power outage</p> <ul style="list-style-type: none"> • Proceed safely to the nearest exit, do not use elevators • Exit the building and stay clear of the area • Wait for the "all clear" from PSU Alert or first responders before re-entering • If you are unable to evacuate without assistance, share your location and needs with someone who is able to share this with emergency responders 	NEED HELP? Call or Text 911 PSU Emergency 503-725-4404 PSU Non-Emergency 503-725-4407	SHELTER IN PLACE <p><i>If an unsafe situation occurs OUTSIDE of your building...</i></p> <p>Examples: Earthquake, outdoor hazardous materials spill</p> <ul style="list-style-type: none"> • Move to an interior space, away from windows • Wait for the "all clear" from PSU Alert or first responders before exiting
SUSPICIOUS ACTIVITY <p>SUSPICIOUS PERSON(S)</p> <ul style="list-style-type: none"> • Do not confront the person(s) • Do not let the person(s) into a locked building or office • Do not block the persons access to an exit • Secure your office or immediate area if you are unable to safely evacuate <p>SUSPICIOUS ITEM(S)</p> <ul style="list-style-type: none"> • Do not handle or open the item(s) • Leave the area and close doors behind you <p><small>Report suspicious activity with Campus Public Safety Office: 503-725-4407</small></p>	EARTHQUAKE <p><i>If you feel shaking...</i></p> <ul style="list-style-type: none"> • Drop, Cover, Hold—drop down to the ground, find cover (table, desk, etc.) and hold on! • Stay indoors until shaking stops • Stay away from glass and windows • Be aware: fire alarms and sprinkler systems frequently go off in buildings, even if there is no fire. • Expect and prepare for aftershocks 	WINTER WEATHER <ul style="list-style-type: none"> • Sign up for PSU Alert via Banweb to receive notice of University closures and delays. • Use only pathways which have been cleared of snow and ice • Avoid walking under trees heavy with snow and ice • Dress warmly, carry extra layers <p>TRANSPORTATION INFORMATION</p> <ul style="list-style-type: none"> • TriMet Alerts: trimet.org/alerts • PDOT Alerts: twitter.com/PDOTinfo • DDOT TripCheck: tripcheck.com/

For more emergency preparedness info:
pdx.edu/emergency-management



Figure 38. Example of Combined Emergency Signage that can be a model for Yachats to communicate about diverse hazard events and provide awareness, help with emergency preparedness and give direction on where to go and what to do under different conditions.

Objectives

- Create a central emergency response office in the Civic Campus that can coordinate distributed response to long-term hazards.
- Incorporate and expand use of alternative energy resources and technologies in appropriate locations throughout the City (e.g. solar, biodiesel, wind power, etc.)

- Develop the Civic Campus as an anchor for emergency actions by public works supporting community and business activities across the City.
- Expand and improve hazard response infrastructure and wayfinding at current distributed locations with particular emphasis in supporting the area “south of the bridge”.
- Maintain the potential to build a future microgrid that may pool generation resources within the Civic Campus and distribute power to nearby users during a hazard event.

Guidelines

1. Identify and aggregate community-wide skills and capabilities to help plan, respond, and recover to different hazard events.
2. Strengthen existing resources and infrastructure supporting caches, meeting points, and water related resources with facilities that provide emergency power, as well as access to medical supplies and services.
3. Strengthen communication network over easily accessible and redundant systems (e.g. CB radios satellite phones, cellular phone network).
4. Strengthen working relationship with Central Lincoln PUD with a focus on improving electrical grid and power reliability.
5. Identify critical infrastructure with the City and support back-up power supplies to these locations.
6. Reinforce education and information in a signage system that supports wayfinding to cultural and social amenities and places where resources and refuge can be received during a hazard event.
7. Promote community activity at locations where economic and social goals can be achieved to promote sustainability and hazard preparedness.
8. Maintain relevant communication and outreach with businesses and residents.
9. Allow use of multiple fuels to provide emergency power and energy at critical locations in the City.
10. Establish a network of accessible locations with facilities that can administer healthcare with power to allow use of medical devices and drugs that require refrigeration.
11. Coordinate location of First Aid supplies at locations distributed across the City with trained individuals who have skills to administer health care during an emergency. Note, the first responders and fire station are better suited for this. Other locations provide complementary backup capability.
12. Promote a network of safe spaces where community members can gather with power and communication sources and reconnect people who are separated during a hazard event.
13. Reduce reliance on carbon based fuels in emergency power generation.

Criteria

1. Supply diesel fuel storage that supports 3 month outage for the Cities Critical Facilities.
Measure: 5,000 gallon diesel storage system with annual maintenance to ensure fuel quality is available to meet emergency power needs on both sides of the Yachats River.
2. Improve caches with durable facilities that are easy to access on north and south sides of the Yachats River in preparation for Cascadia Seismic event according to the Emergency Preparedness Plan.
Measure: Continuously monitor and maintain facilities and contents of caches according to the Emergency Preparedness Plan.

3. Establish locations on the beach to cross the Yachats River if the Highway 101 bridge is out of service.

Measure: Make emergency beach access points on either side of the Yachats River and store bridge materials to cross the river.

4. Communications command center located in Civic Commons with improved wayfinding signage around the City.

Measure: Locate radio antenna and command center in the City Hall building and ensure capability to communicate and access distributed locations within the City.

5. Electrify city vehicle fleet and emergency generation systems to reduce demand for Diesel fuel for emergency generation.

Measure: City to make initial electrical vehicle (EV) purchase and install EV charging station at the Wastewater Treatment Plant.

Plan Element: Civic Campus Scale Energy & Resiliency

The following list of goals, objectives, guidelines, and criteria apply to resilience investments within the Civic Campus. They are derived from community feedback as documented and interpreted by the planning team, and are intended to provide a method for identifying and evaluating potential resiliency investments. The Civic Campus is the heart of Yachats’s social and economic system and significantly supports resilience for the community in Yachats and in the surrounding unincorporated areas. It has buildings and site improvements that makes a central place where the community convenes events and conducts government activities.



Figure 39. As renewable power and water management systems are added to the Civic Campus combine them with needed site improvements that improve circulation, promote desired activities, and make appropriate settings that enhance social and economic vitality.

Goals

1. Connect Civic Campus buildings such that backup up power resources at one building can be shared to support neighboring buildings in an extended outage.
2. Make cost-effective investments in an integrated approach (e.g. invest in efficiency prior to renewable energy).

3. Installed systems should be compatible with a future network of power sources, potentially configured in a small microgrid which will allow power resources at the Civic Campus to be shared with nearby users.
4. The designed buildings and site improvements should provide the City with the greatest flexibility to respond to a power outage.
5. Anticipate future infrastructure investments including wayfinding, bathrooms, rainwater harvesting that support community needs during a hazard event.

Objectives

1. Provide durable and reliable power generation to match minimum assignable loads during the 5 months when PV power generation is at its lowest.
2. Define and establish minimum assignable loads.
3. Use buildings and site improvements to make settings for day to day activities that can also provide a refuge following a hazard event.
4. Re-establish regular community functions on the Civic Campus to provide education and training about wayfinding, services, materials, and methods related to hazard events.
5. Establish areas of refuge and shelter within specific facilities.
6. Reduce energy and maintenance costs associated with facility operation.
7. Create a command center for emergency response and communications.
8. Provide a central community source for potable water if the water system is disrupted.
9. Enhance public hygiene capacity for visitors and residents with public bathrooms, handwashing station, water-bottle filling
10. Improve stormwater management to control surface runoff and use roof water capture and reuse for emergency uses to minimize runoff impacts and serve potable and non potable water uses.

Guidelines

1. Use and apply renewable energy systems.
2. Optimally locate and orient solar panels.
3. Establish multiple uses for any newly constructed solar canopies or support structures.
4. Promote diversity of energy systems sited on the Civic Campus (batteries, generators, EV chargers, etc.)
5. Evaluate projects within the Civic Campus development framework.
6. Upgrade facilities with seismic improvements as and where appropriate.
7. Reinforce activities that connect community members to programs that build capacity to work together during a hazard event.
8. Maintain community engagement to advance resiliency development.
9. Engage and involve businesses that promote a sustainable economic base for the City with the capacity to recover following a hazard event.
10. Strengthen the electrical infrastructure to connect multiple buildings to emergency power generation.
11. Plan renewable energy projects to ultimately achieve Net Zero Energy / Net Positive Energy performance and/or connect to a future microgrid.
12. Include appropriate amounts of refrigeration, lighting, cooking, heating, and cooling in the definition of minimum assigned loads that supports community needs during a hazard event.

13. Oversize conduit where it can be used to connect electrical infrastructure in the north and southeast edges of the campus.

Criteria

1. Meet wintertime electrical loads during an extended power outage.
Measure: For the Southeast edge, design a solar electric system that incorporates the backup generator, minimizes generator run-time, and meets a well-vetted set of minimum required loads during a power outage.
2. Provide power to critical loads independent of the availability of Utility power.
Measure: Implement net metering arrangement and obtain utility approval of installed solar electric systems.
3. Provide flexibility to power more loads when the projected time of the power outage is short or when temperature and daylight conditions are favorable.
Measure: Provide load management system to match use with power generation during the 5 months when PV power generation is at its lowest.
4. Implement a project that fits into the Civic Campus development framework.
Measure: Apply for and win ODOE construction grant for a resilience and renewable energy project on the Civic Campus.
5. Advance community awareness and hazard event training.
Measure: Organize and re-establish hazard event gathering and “festival” at the Commons.

Plan Element: Building Scale Energy & Resiliency

The following list of goals, objectives, guidelines, and criteria apply to resilience investments associated with individual buildings. They are derived from community feedback as documented and interpreted by the planning team, and are intended to provide a method for identifying and evaluating potential resiliency investments.



Figure 40. Make improvements to the Commons for community use of multipurpose spaces with energy efficiency and energy management improvements to support these spaces as a refuge during hazard events.

Goals

1. Reduce building operating costs.
2. Improve occupant productivity and comfort.
3. Improve safety of occupants, maintenance personnel, and visitors.
4. Sustain critical building functions for a 3 month power outage.
5. Improve how building uses and activities support social and/or economic outcomes in the City and sustain services during a hazard or emergency event.

Objectives

1. Reduce energy and maintenance costs associated with building operation.
2. Implement all cost-effective and appropriate energy efficiency improvements.
3. Install maximum amount of rooftop solar.
4. Relocate and/or replace deficient electrical system components.
5. Ensure all buildings have access to back-up electrical power.
6. Provide comprehensive and responsive system controls within all buildings.

Guidelines

1. Locate solar system components to allow for easy and safe cleaning and maintenance.
2. Meet all code and utility requirements.
3. Create an electrical system that allows smooth transition from normal operation settings to power outage.
4. Implement Energy Conservation Measures (ECMs) as a priority to reduce power demand met by renewable energy systems.
5. Connect to nearby buildings to share a common emergency power generation and storage system.
6. Select materials and systems that minimize long term operational and maintenance costs.
7. Minimize use of materials that contribute to ecological degradation and emit carbon during their production.

Criteria

1. Improve building energy efficiency on campus. **Measure: Ultimately achieve electric bill reduction targets of 6% on the north edge by 20 % and on the southeast edge. Coordinate and track utility bills to verify savings.**
2. Establish and meet critical building loads at all times without complicated occupant or operator intervention. **Measure: Install electrical infrastructure with load management system to allow seamless transition from normal building operations to emergency operations.**
3. Maintenance Cost; Use materials and building systems that are adapted to City of Yachats Public Works Department capacity and the site's location on the Oregon Coast. **Measure: Improve durability of the systems using building materials that are adapted to moisture and salt air.**

VII. IMPLEMENTATION

Applying what has been learned through the engagement process, the plan document should be a touchstone and guide to improve the Civic Campus, as well as the areas around the Civic Campus. These improvements are intended to strengthen resilience by advancing community cohesion and economic development, and positioning the community to prepare for, survive, and recover from serious and disruptive hazard events. Through continuous engagement with the community, advice from partners, and direction of council this plan can be adapted to implement improvements that are logical and cost effective.

Administration and Support

It is recommended that the plan be adopted along with organizational measures to support the use of the plan. Plan administration and support is acknowledged as a critical element to ensure that any good idea that may be achieved in a funded project receives the necessary community stewardship to insure maximum success. This is envisioned to involve an entity inside the City or in collaboration with the City to administer the plan, i.e., an advisory group. Such an entity could recruit project and community partners and form trusting agreements as improvements are made on the campus. See *Appendix C | Draft 2.2 Community Vision and Project Parameters*

Inclusivity

It is also acknowledged that successful resilience projects should promote inclusivity across disparate communities within and around Yachats. To promote inclusivity with marginalized communities in Yachats, future projects need to identify partners early in the project who are engaged with providing support with BIPOC communities. This includes working with partners supporting LGTBQ, homelessness, food insecurity, tourism and other organizations on the Oregon Coast who include BIPOC equity outcomes in their mission and provide direct assistance, grant funding, and can sustain long term partnership agreements. Values that are reflected in future projects should be aligned with and communicated to potential partners who can leverage the investments in renewable energy and resilience. A fundamental value is seeking to collaborate with such partners to share costs and promote benefits that serve the most vulnerable in the most sustainable way that prepares everyone for anticipated hazard events. See *Appendix H | Relational Accountability Plan*

Acknowledging that the goal of resilience has a social cohesion and economic development component is important. Opportunities to respond within the local community and economy should promote inclusivity with underserved and marginalized people. Partnering with organizations that have similar goals and desired outcomes is valuable. In addition, having a working relationship and commitment that instills trust between partners makes it easier to form lasting agreements that can translate to implementation of more significant and comprehensive resilience projects.

Partnerships

This resilience plan for the Civic Campus recognizes that the programs and services that exist and must be operational during a hazard event. Most of these programs and services should be represented by members of an Advisory Group who can also maintain connections to the leaders in the community. It is expected that many of the emergent and potential partnerships may result from these relationships and connections. Partners should be recruited who have a shared interest in potential projects, and can contribute to the financial and community underpinnings of a given project. These partners could be private or public partners. Private partner investment includes private impact grants, local business coinvestment, grant from a benefactor, non profits, or other interested private parties who would be interested in sharing the cost and burdens in a public project. Public partner investments include grants and low interest loans from government organizations. As priority projects are identified within the framework of this resilience plan, the City and its aforementioned partners can refine the definition of such projects and secure grant funding for those projects through financing agreements and other administrative mechanisms. Some initial ideas for potential partners are presented below.

Program Partners

The Presbyterian Church ministerial programs and Yachats Youth and Family Activities Program (YYFAP) as well as other community and business organizations use the Civic Commons; they often conduct programs that serve disinvested and underserved in BIPOC and white communities.

Capital Improvement Partners

Collaborating organizations that have resources to support construction and maintenance of projects that fit into the framework of this plan could be supported through an Oregon Department of Energy (ODOE) Community Renewable Energy and Resilient Planning Grant. Collaborators who have self-identified as advocates and allies for over the course of this planning effort include:

- Oregon Department of Energy
- Oregon Coast Visitors Association
- Library Commission
- Chamber of Commerce
- Presbyterian Church

Project Implementation

Use the assessment framework and the plan criteria to define and prioritize projects. The goal is to create a project that meets resilience goals as well and attracts partners to support funding and operations of the project.

Decision Making

For a given potential project to get started, a clear decision-making process needs to be defined and understood. In Yachats, final decision making power is founded by City Council's resolution. Part of the decision making process is likely to occur well before Council resolutions are considered and includes determining what elements of a project are good ideas and whether it is worth supporting. Another part is establishing criteria for implementation that can help the community and city council weigh the value of projects that are competing for limited resources.

A decision making process is needed that includes the formation of a recommendation from an advisory group to City Council that is well supported by the vision and goals determined through the community engagement process and value to the City as a whole. Such an advisory group could have the agency to form agreements, form projects, and help guide the project through the entire implementation process from resolution adoption to post-construction operation.

Agreements

Agreements would typically start with memoranda of understanding between collaborative partners who have an interest in pursuing a grant, forming a project definition, securing funding, and/or operating facilities. These initial agreements would establish the lead entity for delivering the project and who would maintain the facilities.

Follow-up agreements would potentially include financing and other more comprehensive operating agreements between partners to achieve shared outcomes and establish each partner's role through project design, finance, construction, and operation of facilities.

Long Term Stewardship

Longer-term operating agreements are possible to assign responsibility to an entity to coordinate successful project development and long term operations. Such an entity would report to the City Council but might administer the day to day activities to support grant application preparation, design of facilities, construction, and long-term facility operations.

Plan Element: Implementation

The following list of goals, objectives, guidelines, and criteria apply to the implementation of potential resiliency projects both in the near-term and longer-term future. They are derived primarily from the experience of the planning team members, and are intended to prepare City leaders and decision-makers to successfully navigate the complexities that can be involved in infrastructure construction and especially existing facilities retrofits and remodels.

Goal:

1. Make efficient use of the City's Capital Improvement process to leverage budgets that may already be approved for building component improvements by including those improvements in supplemental grant funding applications.
2. Pursue grants that leverage private partner co-investment to fund resilience projects on the Civic Campus.

Objective:

1. Define a grant competitive renewable energy and resilience project
2. Apply for and win grant funding.
3. Identify partners who can co-invest and equitably share the costs and benefits.
4. Create or hire a project administrative entity.

Guideline:

1. Follow the resilience planning framework as defined in this plan.
2. Understand and follow grant submission requirements and guidelines.

3. Meets the project cost requirements of grant and private funding sources.
4. Achieves a proposed project funding ratio of \$1 of City investment to \$5 of non-City investment (from other sources such as grant funding or supplemental private partner investment).
5. Responds to both aspects of resiliency – hazard event response and social/economic sustainability).
6. Includes scope of work elements that respond to needs of marginalized communities and supports recruitment of partnerships within those communities.
7. Has the capacity to track and prepare grants with partners on an annual basis to support investment in the Civic Campus and City overall.

Criteria:

1. Minimizing cost to the City. **Measure: City investment should not exceed 20% of the grant cost.**
2. Have a project partner (s) who share common interest and who want to share the costs and benefits of investing in the City. **Measure: Develop memorandum of understanding to establish and guide roles during project definition.**
3. Sharing capital and operational cost equitably. **Measure: Approve finance agreements to initiate projects and secure funding between partners.**
4. Give an entity the capacity to pursue grant funding, define a project, find partners, and form agreements to build and operate a project.
Measure: City Council action to define the role and responsibilities of an entity to advance grant funded projects.
5. Have an approved project.
Measure: City Council action approves project to move forward.

VIII. CONCEPTS AND PROJECTS

Candidate Scenarios

The four candidate energy concept scenarios that were defined and evaluated in the development of this plan are listed below. As noted in Chapter IV, Selecting the Southeast Priority Edge, these scenarios focus on the Southeastern campus edge to enhance resilience where there is an existing gap and create greatest opportunity for improved community refuge. All provide renewable and resilience energy to the Southeast edge of the Civic Campus and are generally configured as variations of the system schematic shown below. See Appendix E: Summary of Relevant Concepts for Civic Campus for more detailed information on each of these scenarios.

Scenario 1 - Solar Rooftop only

Scenario 2 - Solar Roof Top with Wind (no Solar Canopies)

Scenario 3 - Full Solar and Wind (with Solar Canopies)

Scenario 4 - Optimized Solar only (Canopies and Roofs)

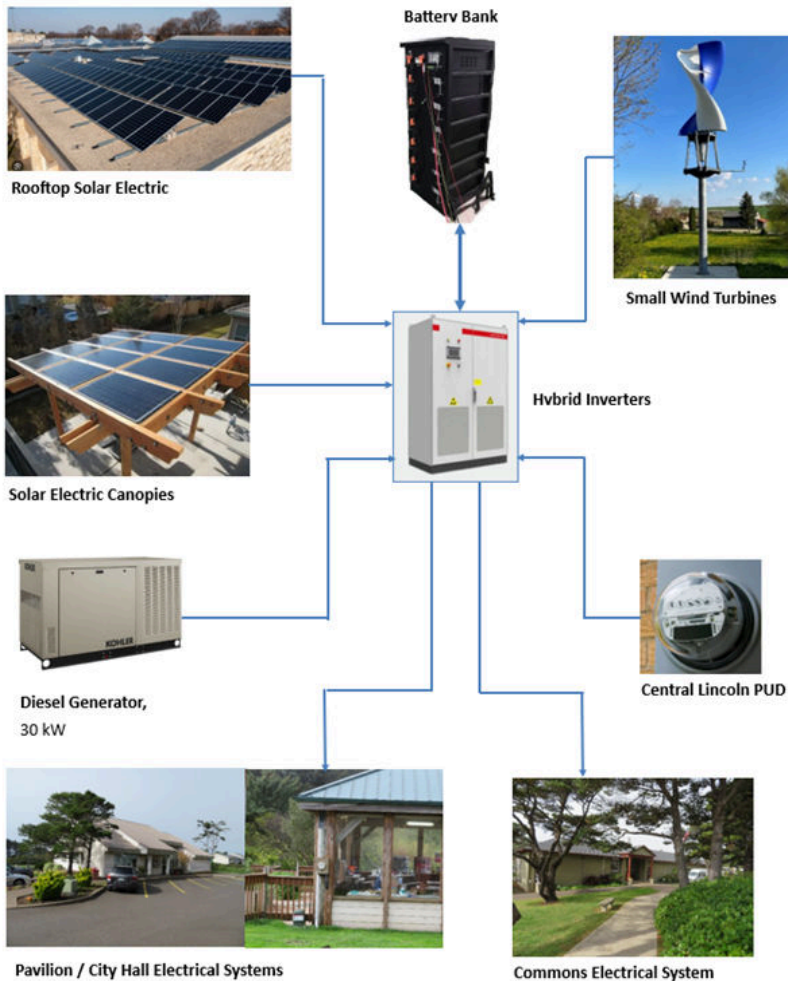


Figure 41. All scenarios build upon a basic electrical infrastructure foundation that includes upgraded electrical equipment rooms and site distribution that facilitates connection to energy generation equipment and electrical loads in the Southeast edge. Conceptually, these scenarios are all variations of this system.

Based on the comparatively poor performance associated with small scale wind turbines, only Scenarios 1 and 4 were carried forward for more detailed performance and budget analysis as *Candidate Project Options*. As candidate projects, these scenarios were further structured to allow sequential additions to a base project (Scenario 1) that could provide at least 87% of the total Southeast edge annual electricity needs (following implementation of building energy efficiency measures). Sequential project additions were added to

Scenario 1 and defined as Scenario 4 that would provide all of the annual electricity requirements and achieve Net Zero Energy performance in the Southeast edge. Both scenarios were further evaluated for their potential to become a priority project that has the highest success potential to be included in a subsequent \$1 million ODOE construction grant.

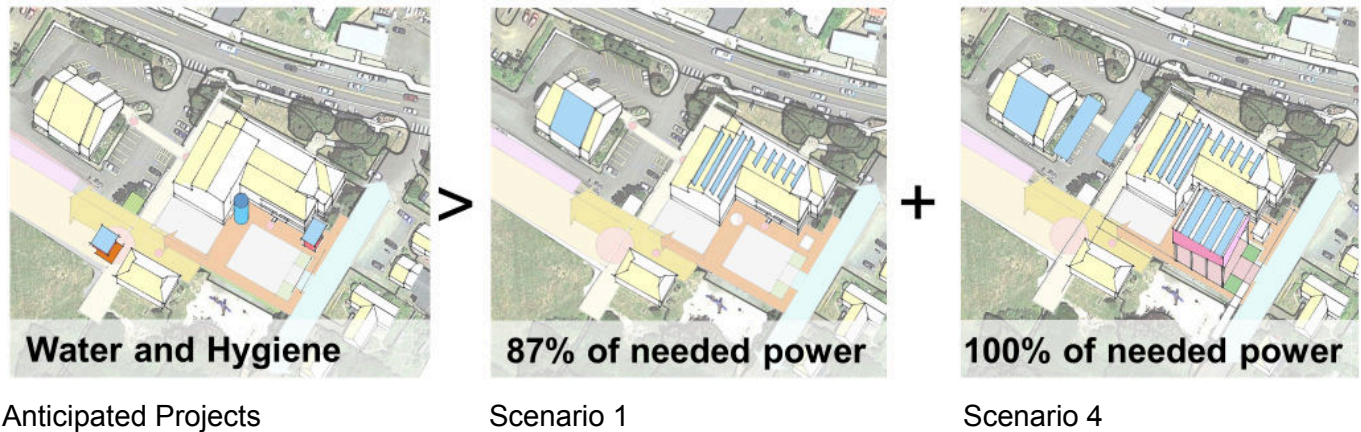


Figure 42. Candidate concept scenarios also anticipate community goals for bathrooms, kiosks, and rainwater collection as well as the basic infrastructure locations that connect the Pavilion, City Hall, and Commons as a refuge for services that have 100% of the power needed to operate facilities following a hazard event.

Candidate Scenario Concepts

The candidate scenario concepts are aligned with the site development framework and project goals (as defined in Sections V and VI of this plan) that are applicable to the Southeast edge. In the southeast corner, there are several scenarios and opportunity sites within which to add solar panels on the roof or on standalone canopies.

Scenario 1

Project candidate options were somewhat limited within project scenario 1. In addition to the base scope that covers supporting electrical equipment and electrical site distribution, the scope variations involve the location, configuration, and capacity of rooftop solar panels. Three additive scope of work definitions were ultimately defined as an outcome of the project performance evaluations.

Senario 1A: Commons Rooftop Solar: 49.56 kW racked installation that generates 54,070 kWh annually (53.2% of annual SE edge use after efficiency and 20% of winter months electricity use).

Senario 1B: Commons Rooftop Solar & City Hall Center Roof Area: 49.56 kW racked installation & 23.1 kW flush-mounted panel installation that generates 72,671 kWh annually (71.5% of annual SE edge use after efficiency and 26% of winter months electricity use).

Senario 1C: Commons Rooftop Solar & City Hall Entire (west-facing) Roof Area: 49.56 kW racked installation and 39.9 kW flush-mounted panel installation that generates 88,116 kWh annually (86.7% of annual SE edge use after efficiency and 31% of winter months electricity use).

Scenario 4

For concept Scenario 4, six project options were defined, all of which considered different locations, construction types, and materials. The option variations were significantly more complex than Scenario 1. This is due to the unique site conditions of each option, varying site structures and canopies, and the degree to which additional solar photovoltaic panels could also create site amenities that enhance community use of the site in different ways. Each had tradeoffs in the potential to reinforce site design objectives, support covered activities outside, and provide outdoor setting for community activities. See Appendix E Summary of Relevant Concepts for Civic Campus for more details.



Figure 43. Six candidate options were considered to boost collection capacity to generate as much power as would be required to sustain the Southedge activities for up to 3 months when power generation is at its lowest.

Evaluation of these candidate project options was more complex than the energy performance evaluation executed for Scenarios 1 and 4. Feedback from the community was solicited during the in-person open house, and the candidate options were scored within a four-star scoring system across multiple benefit categories, as shown below (next page). The mass timber barn site structure option scored the highest but as discussed further in this section, comes with a significant first cost that will preclude it from being submitted for grant funding in the next grant cycle. Energy performance associated with project Scenario 4 is summarized below (additive to Scenario 1C).

Benefit	Simple Porch	Big Porch	Metal Barn	Mass Timber Barn	Skate Park Pergola	Parking Canopy
Cultural	***	****	****	****	*	*
Economic	****	****	****	****	**	**
Social	***	****	****	****	**	**
Resilience	**	***	****	****	**	**
Refuge	***	***	****	****	**	**
Maintenance	low	low	high	med	med	med
Power	**	***	****	****	****	****
Cost	med	med	med	high	high	low

Figure 44. The Mass Timber Barn Scored highly as a candidate project with the greatest value proposition but exceeded the ODOE limit of grant funding of \$1,000,000. * = low to ** = high**

Priority Project Options

Scenario 4A: Mass Timber Barn: 22 kW raked installation on a 60-ft. by 60-ft structure that generates an added 25,036 kWh annually. When added to Scenario 1C, total renewable power generated is 113,153 kWh annually (111.3% of annual SE edge use after efficiency and 43% of winter months electricity use).



Figure 45. Mass Timber Barn can cover the existing parking lot and provide for covered outdoor activities supporting social and economic objectives.



Scenario 4B: Parking Canopy: 24 kW flush mounted installation on a single 86-ft by 16-ft canopy that generates 25,734 kWh annually. When added to Scenario 1C, total renewable power generated is 113,859 kWh annually (112% of annual SE edge use after efficiency and 41% of winter months electricity use).

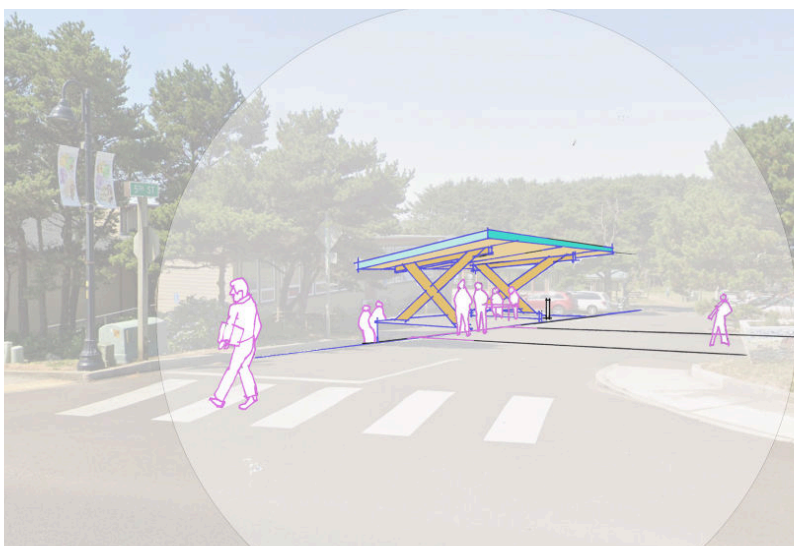


Figure 46. Mass Timber solar canopies can cover existing parking spaces and enhance awareness of the campus as a resiliency and emergency response center.



Criteria

Goals

1. First cost, meet the \$1 million funding threshold for the ODOE Community Renewable Energy Construction Grant.
2. Maximum Renewable Energy: Maximize renewable energy generation, annually and during the winter months.
3. Reduce fossil fuel usage: Minimize regular reliance on fossil fuels where possible (e.g. diesel fuel consumption within the supplemental back-up electrical generator) through the use of clean energy generation and battery storage.

Objective

1. Assess Civic Campus essential facilities for integration of renewable energy and resiliency planning opportunities and identify energy efficiency conservation measures.
2. Define a grant competitive renewable energy and resilience project
3. Apply for and win grant funding in the next Oregon Department of Energy construction funding cycle.

Guidelines

1. Follow the resilience planning framework as defined in this plan.
2. Understand and follow grant submission requirements and guidelines.

Criteria

1. Reduced energy use in buildings. **Measure: Southeast edge electricity use is reduced by at least 20% relative to recent billing history.**
2. Maximum renewable energy generated. **Measure: Solar system provides at least 87% of Southeast edge electricity after efficiency measures.**

Priority Project Options Budget and Phasing Analysis

Budget analysis was undertaken to evaluate the best priority project candidate to carry forward into a \$1 million ODOE construction grant application. Scenario 1b, as summarized below, exhibited a potential project budget that could be funded entirely in a subsequent Oregon Department of Energy construction grant application. While the benefits are predominantly about electrical power resiliency and energy cost savings, a number of infrastructure benefits are anticipated to accrue to the City based on the scope definition for Scenario 1b. A detailed scope of work including a drawing package has been developed based on Scenario 1b. and will be submitted as part of a Oregon Department of Energy construction grant application upon acceptance by the Yachats City Council.



Option	Leveraged Projects	A. Scenario 1b	B. Barn Option 4a	C. Parking Solar Canopy 4b
Program	Water Collection, Filtration, and Distribution with toilet and kiosk facilities.	Electric Infrastructure (\$390,000) with roof mounted solar panels on City Hall and Commons building	Electric Infrastructure (\$390,000) with a freestanding barn to hold up the solar panels.	Electric Infrastructure (\$390,000) with 1 or 2 freestanding canopies with solar panels installed.
Economic Social	Yes	Mainly Power	Yes	Mainly Power
Grant Funded	Future	\$850,000	\$1,000,000	\$1,000,000
City/Partner Budget	Future	\$148,000	\$903,000	\$345,000
Project Budget	TBD	\$998,000	\$1,903,000	\$1,345,000

Figure 47. The first phase would include the electrical infrastructure, be competitive during a grant application process and be affordable to the City.

Significant scope of work elements in Scenario 1 include:

- Basic electrical system infrastructure: New relocated main panel, new sub-panels and load circuiting, rehabilitated generator, conduit and conductor to interconnect buildings.
- Solar system: Premium photovoltaic panels (roof mounted), hybrid inverters, batteries, and controls.
- Efficiency measures: Lighting upgrades, heat pump upgrades, floor insulation, heat pump water heaters, HVAC controls re-commissioning.

The back-up power capacity and functionality will be much improved due to this project. In addition, electrical energy costs will be significantly reduced, visual and thermal comfort will be improved, and general safety for operations and maintenance will be improved. The basic electrical infrastructure work is defined to facilitate future expansion of the renewable energy system.

Phasing

In general, the Southeast edge project concept fully supports project phasing and ongoing site improvements to the Southeast edge (as illustrated below) while not precluding the City from undertaking additional work in the North edge.

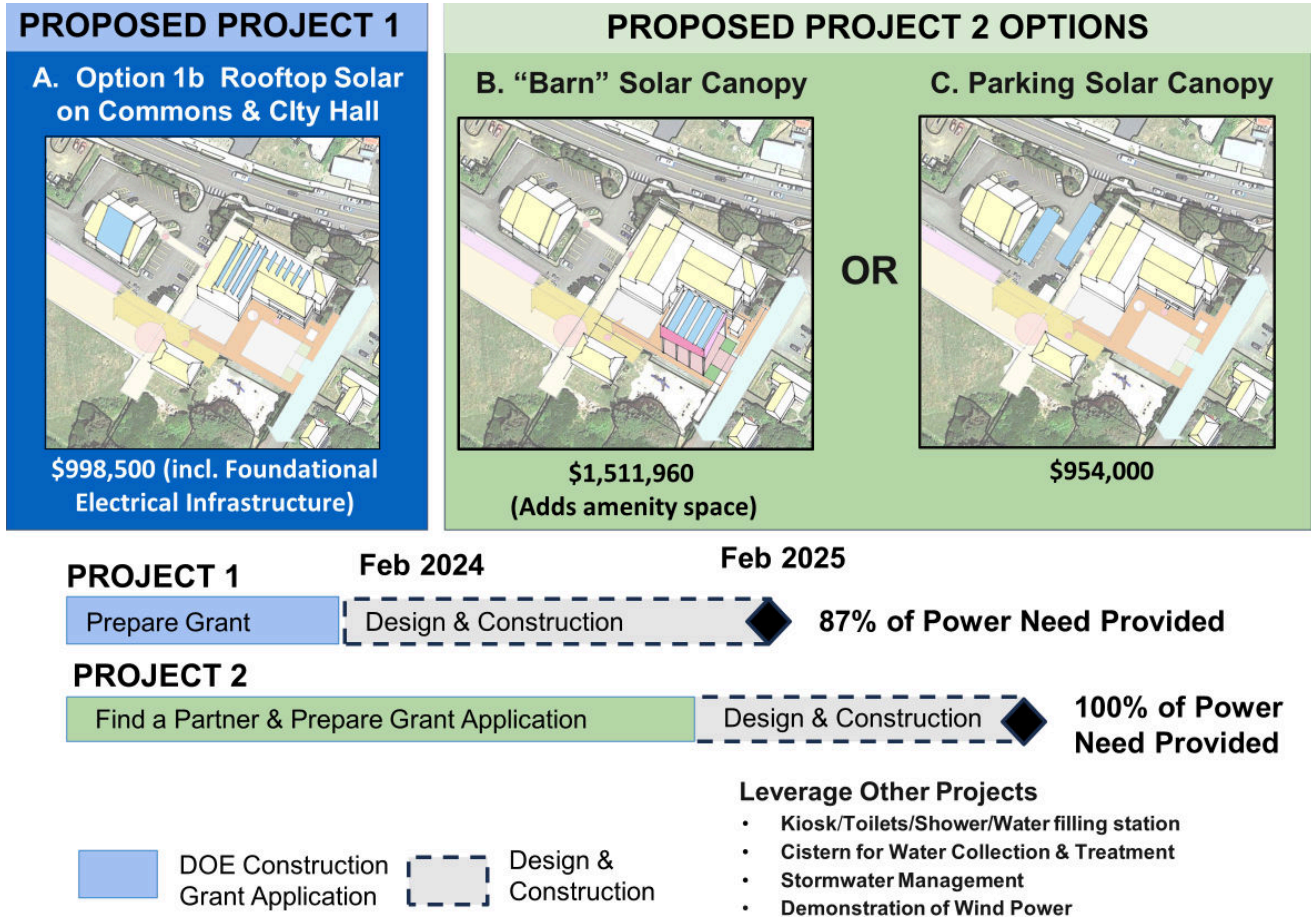


Figure 48. Proposed Project Phasing: The least expensive cost to the city which derives the needed electrical system is contained in the proposed grant application priority project. This initial project anticipates a second step to generate 100% of the power needed for the Southedge of the Civic Campus after a hazard event during the winter when the solar collection potential is at its lowest. See Appendix F Assessment of Leading Candidate Project.

IX. NEXT STEPS

The Yachats Civic Campus Resilience Plan should be adopted with the following Plan Strategies, Preferred Priority Project, and Implementation Priorities.

Plan Strategies

The resilience plan for the City through the CREPG has three primary scales to support community cohesion around critical facilities that the community needs to strengthen to anticipate and recover from more frequent hazard events. This includes the ideas uncovered during community engagement that can be expressed as strategies that are to be deployed across the City Scale, those at the Civic Campus Scale, and at the building scale within the Civic Campus. These strategies are supported by the efforts of public policy, capital improvement plans, and co-investment with partners in the business community as well as federal, state, and county governments.

City-Scale Resiliency			
Strategy	Action	Status	Lead
Maintain an up-to-date Emergency Preparedness Plan Amendment since adoption of NHMP	City Adoption of Emergency Preparedness Plan Amendments as recommended by the Emergency Preparedness Committee. Consider including cover sheet of bulleted key actions as recommended by the Interim City Manager	Pending	City Manager
Expand Fuel Storage for Diesel Backup generators.	Locate a 5,000 gallon tank at Yachats Fire District Station or in separate smaller tanks that can be located on both sides of Yachats River.	Pending	City Manager
Create geographic equity in resiliency with further planning for a South of Yachats River Refuge and Resilience Center	Consider applying for an ODOE Planning grant to site a facility meeting the needs and goals of South of Bridge residents	Pending	City Council
Civic Campus Scale Resiliency & Project Phasing			
Strategy	Action	Status	Lead
N Edge Resilience	Connect buildings on the North Edge to the 250 Kw Emergency Generator and add solar panels to reduce reliance on diesel fuel for emergency power.	Future g ODOE construction Grant for \$1,000,000.	City Manager
SE Edge Resilience & Refuge	Upgrade electrical infrastructure and add rooftop solar panels to reduce reliance on diesel fuel for emergency power and provide power for up to 3 months during the worst solar power generating days.	Submitting for ODOE CREPG construction Grant for \$1,000,000.	City Manager
Parks Master Plan	Use the Civic Campus Resilience plan Urban Design Concepts and recommendations to inform planned improvements for the landscape, wayfinding, stormwater management, circulation and locating of other amenities.	Pending Parks Master Plan RFP	Cty Manger

Buildings Scale Improvements			
Strategy	Action	Status	Lead
Energy efficiency measures to improve energy efficiency for the buildings on the North and Southeast Edges of the Civic Campus.	Update buildings. Seek grant funding for sensors and controls that allow shutdown of circuits during a prolonged outage.	Pending	City Manager

Figure 49. Recommended implementation strategies.

Many basic needs were identified during the course of this planning effort within and around the Civic Campus. The table below provides an overview of additional needs that warrant serious consideration and action as follow-up “projects” related to community and City resiliency.

CITYWIDE INTEGRATED SYSTEMS	Where & How Much	Resiliency Value
Basic Needs	Possible Location	Role
Refuge	Civic Campus Commons, City Hall, Church, Library etc	Shelter, warmth,
Energy Generation	Civic Campus Buildings	Power
Fuel Storage	Fire Station	Power, Diversity of Back up power
Fire Protection	Fire Station	Life Safety
Caches	Citywide, South of Bridge	Emergency Supplies
Water Filtration & Storage	South Edge Civic Campus, South of Bridge	Clean Water
Central Distribution Center	South Edge Civic Campus City Hall & Commons	Access to Food & Water
Mobile Generators	North Edge Civic Campus WWTP (& City Hall/Commons?)	Access to power
Information Center	Civic Campus, Kiosk near 4th	Tourism, Communication
Satellite phones, radios	City Hall, WWTP	Communication
Mobile Batteries Devices	North Edge Civic Campus WWTP (& City Hall/Commons?)	Access to Power
Refrigeration	Commons	Access to Food
Access - Bikes & Peds	Trails	Access
Vehicle Charging	Bike & EV Charging, City Fleet at WWTP	Batteries, tourism amenity, City fleet
Hygiene	Restroom Kiosk at Civic Campus South Edge	Hygiene
Training	City Hall/Commons Annual Event	Emergency Preparedness, Education
Signage	Trails, Meeting Points, Civic Campus Signage, Reader Board	Communication, Tourism, Education, Wayfinding
Medical Supplies	Caches, City Hall, Commons	Life Safety
Lighting	Trailheads, wayfinding to refuge & meeting points	Access, Communication, Wayfinding

Figure 50. Citywide systems integration supporting elements of resilience for the City that can be achieved by implementing the Civic Campus Resilience Campus Plan.

Preferred Priority Project

As discussed in previous sections, the preferred priority project is Scenario 1. Final project cost determination is anticipated to narrow the selected project to one of the following that is priced under the budget in the subsequent grant application in February of \$1,000,000.

Scenario 1A - Rooftop Solar on Commons Building (flat roof areas only)

Scenario 1B - Rooftop Solar on Commons & City Hall (center west-facing roof section only)

Scenario 1C - Rooftop Solar on Commons & City Hall (all west facing roof sections)

Subsequent Project Planning, Following February 2024

Two additional options were identified that respond to the community vision and goals from public meetings, surveys and advisors. These would require co-investment with City funds, those of another partner, or through a subsequent grant application.

- Solar Canopy Adjacent to Commons and 4th Street - Scenario 4A (as originally Option 4 Barn) as a covered public space for economic and social activities.
- Solar Canopy over Parking - Scenario 4B is revised to not build the Barn but instead place solar panels on structures over the parking stalls between the Commons and City Hall. It would be less expensive to put panels over the parking stalls as a second phase than to build a Barn with the program and finish features that have been discussed in community meetings.

The second subsequent project would involve initiating a planning process to develop a refuge and resilience center south of the Yachats River.

- Identify a site that is suitable to withstand anticipated hazard events.
- Confirm its program elements such as caches, renewable power, communication, and means of access across the Yachats River.

Implementation Priorities

1. Select a priority project to include for grant funding in partnership with ODOE.
2. Form a grant implementation team who can assist the City in the formation of partnerships to pursue grant applications that lead to programs or capital improvements supporting underrepresented and marginalized as well as those more specifically experiencing racial injustice.
3. Partner with organizations working on projects that include BIPOC communities such as Tribal entities seeking to promote restorative justice, social cohesion, and enduring economies which are foundational to resilience.

X. APPENDICES

- A. Audit Facilities in Civic Campus
- B. Assessment of County Electric Improvements
- C. Community and Project Parameters
- D. Criteria: Renewable & Resilient Facilities & Strategies
- E. Summary of Relevant Concepts for Civic Campus.
- F. Assessment of Leading Candidate Concept.
- G. Community Engagement
 - Public Engagement Process and Procedures
 - Workshop 1
 - Open House 1
 - Open House 2
- H. Community Survey Results
- I. Relational Accountability Plan