



# COMMUNITY WORKSHOP

Thursday, October 19, 2023 | 6-8 PM

## **Yachats Civic Campus Resiliency Planning Project**

ODOE Renewable Energy Grant

An aerial photograph of a large solar farm, showing rows of blue photovoltaic panels stretching across a landscape. The perspective is from a high angle, looking down at the panels, which are arranged in a grid pattern. The sky is not visible, as the panels fill the frame.

# ODOE Energy Grant

## Community Energy Renewable Project Grant

The City of Yachats received a \$100,000 Renewables & Resiliency grant for planning a “Resilient Civic Campus” project.

This grant will help with:

- **Technical Studies:** building energy & site analysis
- **Building & Site Planning** to provide renewable power and hazard preparedness to reduce risks
- **Community Involvement** to identify priorities, needs and criteria for decision-making

# Agenda

- |             |  |                |
|-------------|--|----------------|
| <b>6:00</b> | <b>Introduction &amp; Project Overview</b> <ul style="list-style-type: none"><li>• Introductions, Goals &amp; Expectations</li><li>• Resilient Civic Campus: Overview &amp; Process</li><li>• Context: Hazard Conditions &amp; Opportunities</li></ul> | <b>25 min.</b> |
| <b>6:25</b> | <b>Community Q &amp; A</b>   | <b>10 min.</b> |
| <b>6:35</b> | <b>Assessment &amp; Approaches</b> <ul style="list-style-type: none"><li>• Existing Building Conditions &amp; Opportunities</li><li>• Alternative Approaches</li></ul>   | <b>25 min.</b> |
| <b>7:00</b> | <b>Community Work Session</b> <ul style="list-style-type: none"><li>• Instructions for Group Activity</li><li>• Worksession: Table Discussion</li><li>• Report Backs</li></ul>   | <b>45 min.</b> |
| <b>7:45</b> | <b>Key Takeaways &amp; Next Steps</b> <ul style="list-style-type: none"><li>• Overarching Themes</li><li>• Where to learn more &amp; how to give input</li></ul>   | <b>15 min</b>  |

# Introductions: Project Team

## **City of Yachats**

- Rick Sant, City Manager
- Kathryn Torrence, Grant Manager
- Jacqueline Danos, Planning Commissioner
- Marc Sakamoto, Planning Commissioner

## **Technical Planning & Engineering Team**

- Charles Kelley, Green Urban Design (GUD)  
*Project Manager/Architect/Urban Design*
- Heather Flint Chatto, Forage Design + Planning  
*Engagement & Urban & Environmental Planning*
- Mike Hatten, Solarc, *Mechanical Engineering*
- Jim Krumsick, Paradigm Engineering, *Electrical Engineering*



# Introductions

## **Who is here tonight?** *(show of hands)*

- Business Owners
- Residents - Renters/Owners
- Property Owners
- Parks & Trails
- Emergency Management
- Chamber
- Work in Yachats but don't live here



# Introductions

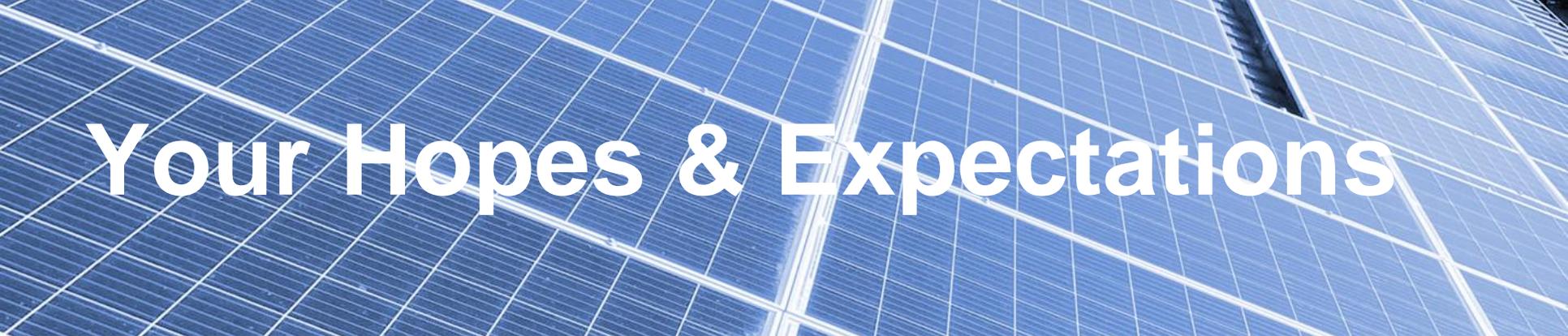
## **Who is not here that should be?**

- Any priority groups we should be engaging?
- How can we reach them?

An aerial photograph of a large solar farm, showing rows of blue photovoltaic panels stretching across a landscape. The perspective is from a high angle, looking down at the panels, which are arranged in a grid pattern. The sky is not visible, as the panels fill the frame.

# Our Goals & Hopes for Tonight's Meeting

- Introduce the project grant & opportunities
- Help answer questions & dispel any myths
- Share initial findings about facilities assessments
- Discuss approaches for energy independence & resiliency
- Explore goals and opportunities potentially leveraged in the process
- **Work together to create a shared vision for what a resilient civic campus should be.**

An aerial photograph of a large solar farm, showing rows of blue photovoltaic panels stretching across a landscape. The perspective is from a high angle, looking down at the panels, which are arranged in a grid pattern. The sky is not visible, as the panels fill the frame.

# Your Hopes & Expectations

**Expectation Management (5 Min Discussion)**

1. Hopes for this project/workshop?
2. Expectations for this workshop?

# Project Overview

## **Civic Campus Renewable Energy & Resiliency Planning**

# ODOE Renewable Energy & Resilience Planning Grant

- **6-mo., \$100k (no match) planning grant for renewable energy & resiliency projects.**
- Supports renewable energy and strengthening of facilities and services that are essential to the public welfare.
- Advances planning and implementation for hazards and emergencies.
- **Prepare a project for a Phase 2 \$1 million ODOE construction grant**

# How will we engage the community in the process?



# What is an Energy Resilience Project?

*Oregon Department of Energy definition:*

*....includes using one or more renewable energy systems to support the energy resilience of essential structures or facilities that serve the public.*



# Essential Facilities

## **Civic Campus Facilities**

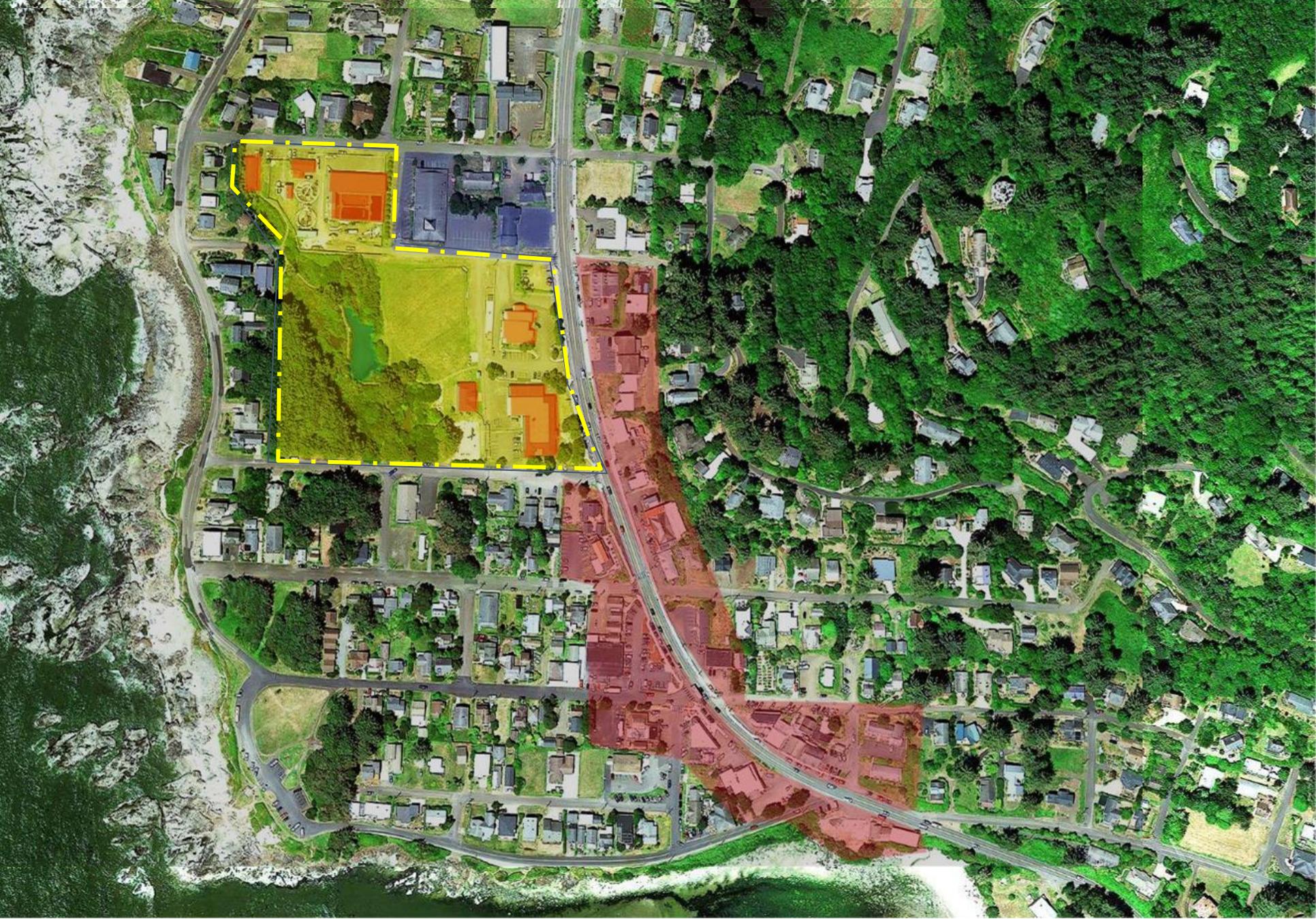
- City Hall
- Library
- Wastewater Treatment Plant
- The Commons
- Pavilion
- Non-Government Facilities (Churches)

## **Off-Campus Facilities**

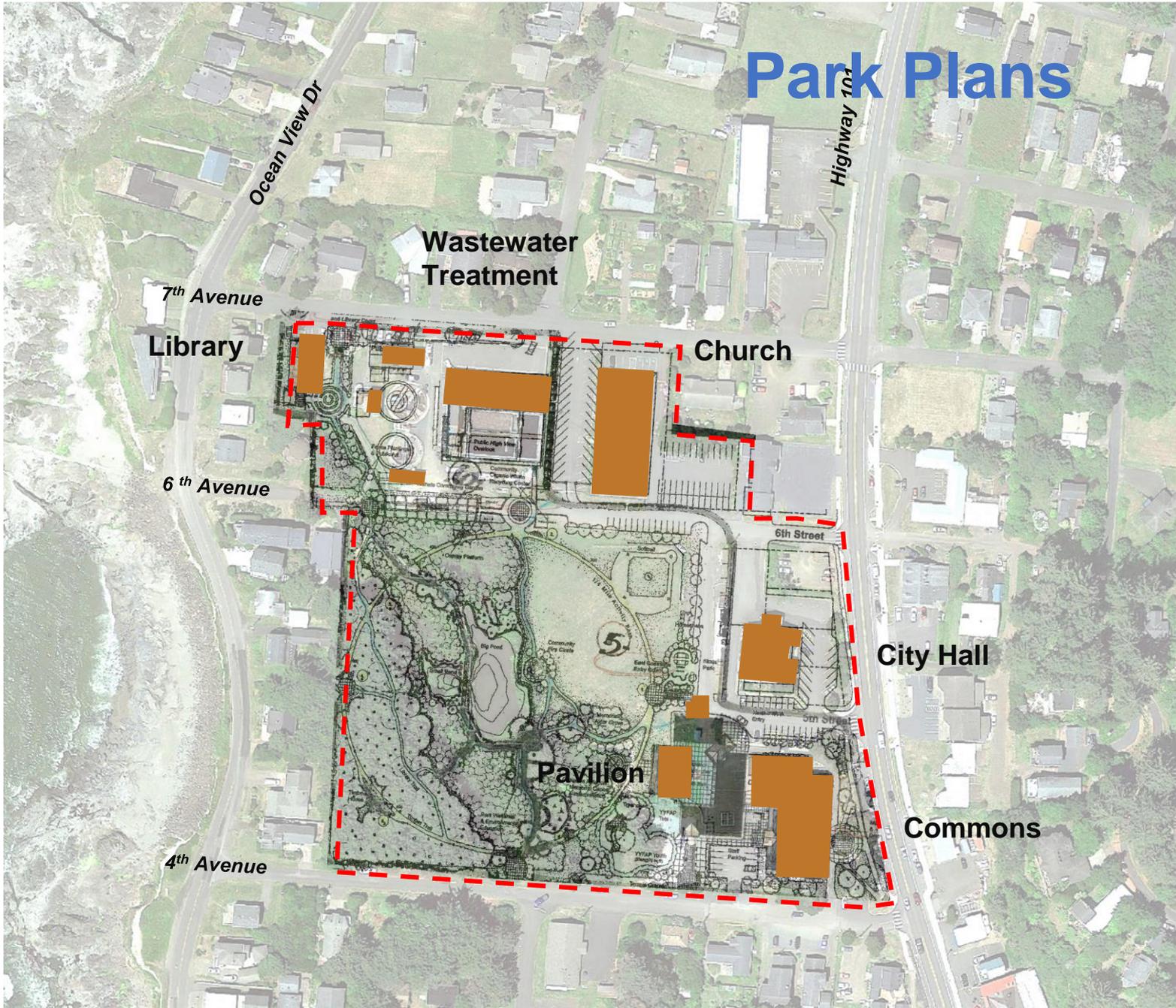
- Fire Station
- Emergency Caches

# FOCUS AREA: Civic Campus





# Park Plans



Ocean View Dr

Highway 101

Wastewater Treatment

7th Avenue

Library

Church

6th Avenue

6th Street

City Hall

Pavilion

Commons

4th Avenue

# We need to provide power

## How will we do it?

- **Renewable Power**  
(solar, wind, hydro.)



- **Batteries**



- **Interconnection of buildings**

- **Existing backup generation infrastructure**

# OVERVIEW | Project Process & Key Steps

*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.*



# How will we make decisions?

We'll consider:

- **Results from Technical Building Assessments**
- **Technology options**
- **Scale options**
- **Hazards & emergency preparedness impact**
- **Investments that leverage other priority goals**

**What else should we consider?**

We may not be able to respond to all aspirations but we can identify the goals and priorities, and identify what is achievable in this project and subsequent efforts

# Hazard Analysis

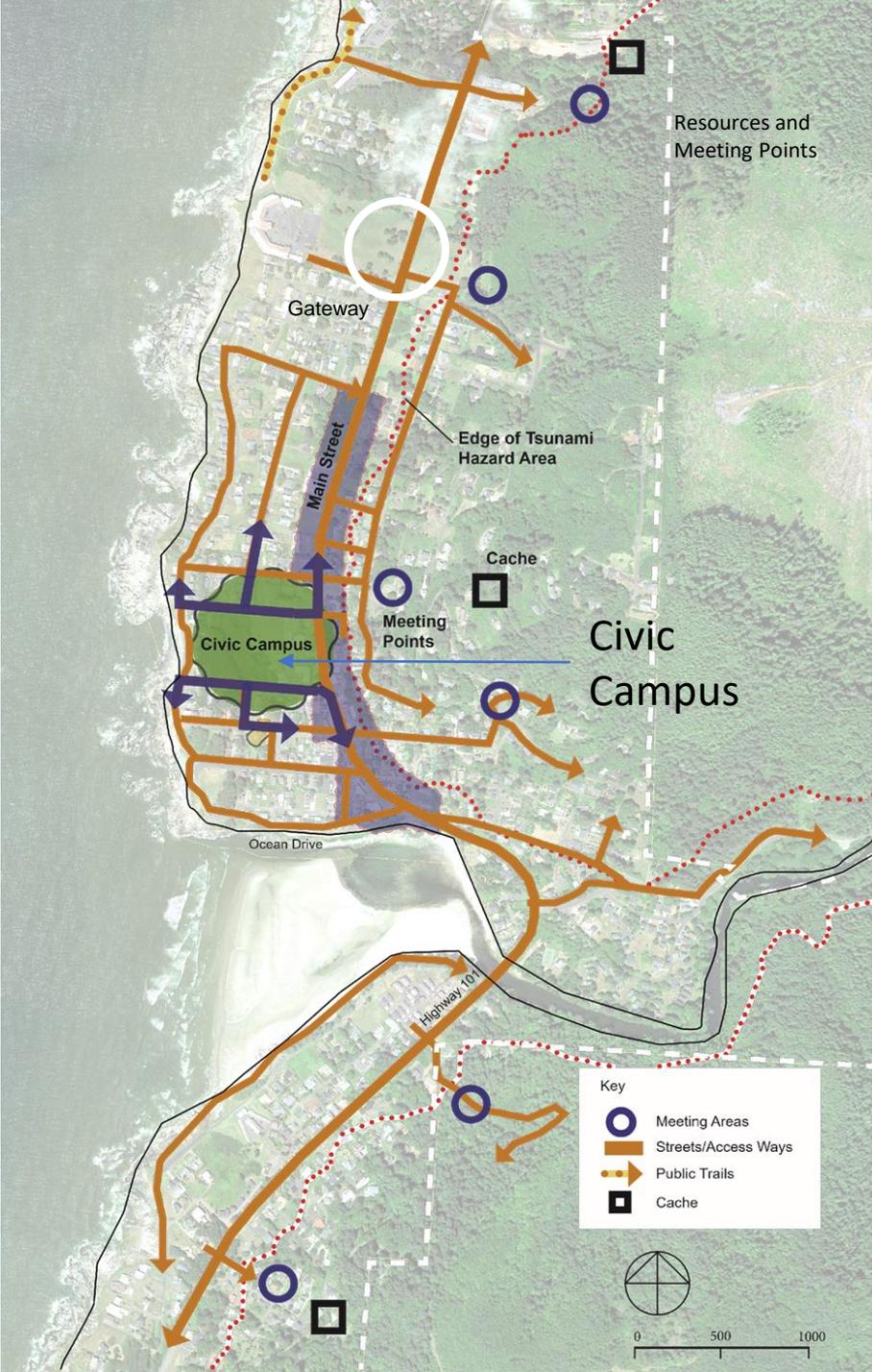
# Role of the Civic Campus

During and after a hazard event. What is the role of the Civic Campus and what service is most important?

Access to services and caches?

Communication with other community members?

Power and charge systems ?



# Civic Campus + City

Renewable energy opportunities to provide the community enhanced power, communication and access to resources following a disruption



## Power

- Solar
- Ground Source
- Battery Storage



## Communication

- Cell
- Wi-Fi
- Satellite
- Data



## Access

- Bike and Walking Access
- ADA
- Shared Transport
- EV Charging

# Role of Civic Campus + City

How might renewable power give the community enhanced communication and access to resources following a disruption?

	<b>City Wide</b>	<b>Commons</b>
<b>Power</b>	<ul style="list-style-type: none"><li>• Water Supply (pump+treatment)</li><li>• Caches</li><li>• WWTP (pump + treatment)</li></ul>	<ul style="list-style-type: none"><li>• Refrigeration</li><li>• Cell Phone</li><li>• Child Care</li></ul>
<b>Communication</b>	<ul style="list-style-type: none"><li>• Cell/Radio</li></ul>	<ul style="list-style-type: none"><li>• Wifi/Internet</li></ul>
<b>Access</b>	<ul style="list-style-type: none"><li>• Emergency Caches</li><li>• Fire Station</li><li>• Pump+Lift Stations for water system.</li></ul>	<ul style="list-style-type: none"><li>• Refuge for Community Services</li></ul>
<b>Leveraged Amenities</b>	<ul style="list-style-type: none"><li>• Links the network of resources</li></ul>	<ul style="list-style-type: none"><li>• Improves the Center of Commercial and Civic Life.</li></ul>

# Understanding City of Yachats

**Increasing severity and more frequent hazard events that periodically disrupt access, communication, and power.**

- Drought and Fire Induced Power Outages
- Windstorm Induced Power Outages
- Landslide Induced Power Outages

**Table YA-2 Hazard A**

Hazard	Hazard Rank	Hazard Tiers
Drought	#1	Top Tier
Windstorm	#1	
Landslide	#3	
Winter Storm (Snow/Ice)	#4	
Earthquake (Cascadia)	#5	
Tsunami (Local)	#6	Middle Tier
Flood (Riverine)	#7	
Wildfire	#8	
Flood (Coastal)	#9	Bottom Tier
Coastal Erosion	#10	
Earthquake (Crustal)	#11	
Tornado	#12	
Tsunami (Distant)	#13	
Volcanic Events	#14	

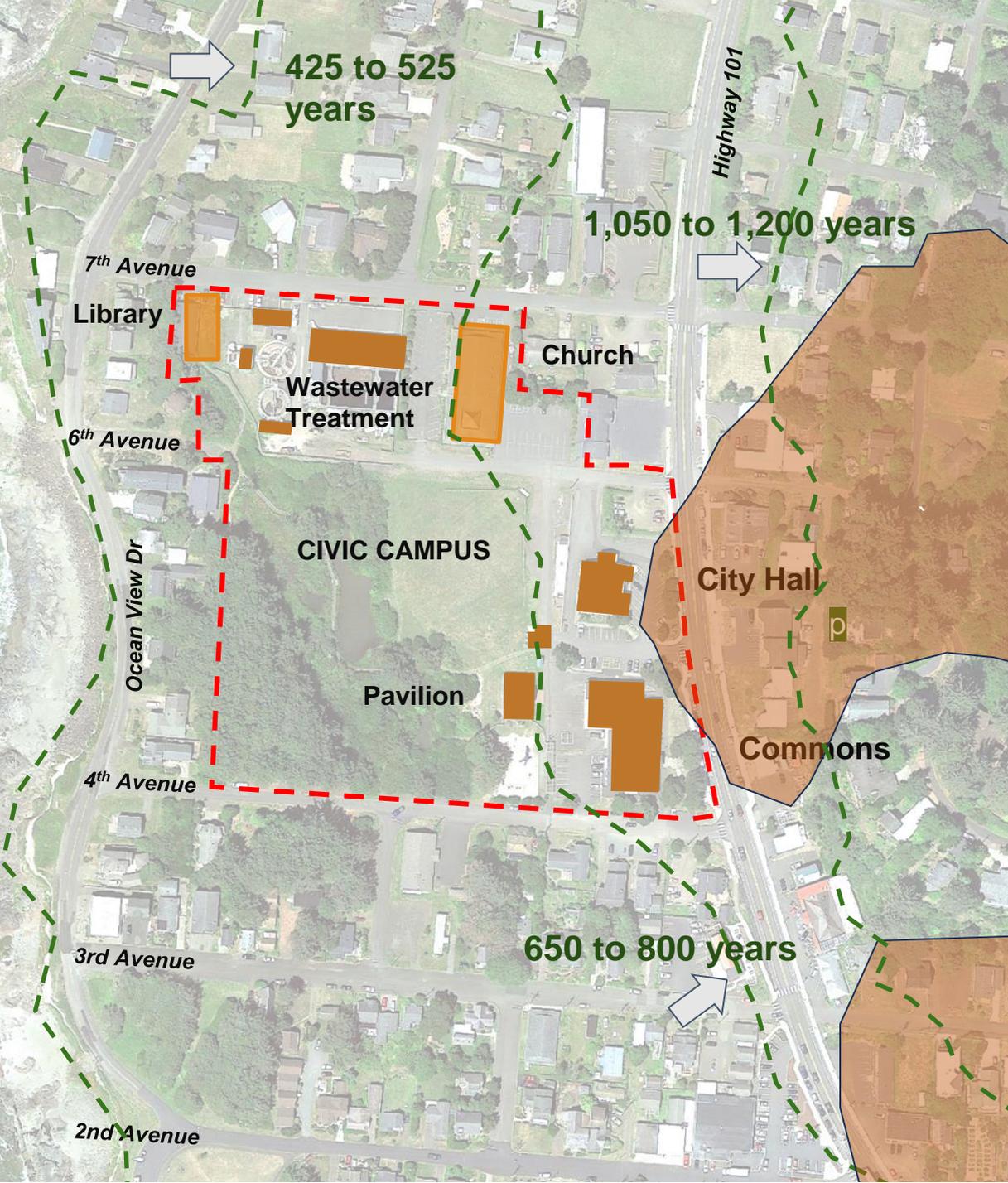
Source: City of Yachats NHMP

# How Yachats is Responding

Yachats implements its policies and plans by improving the City's capacity to be resilient to hazard events by seeking funding, and making plans for:

- 1. Critical Services & Facilities**
- 2. Emergency Caches**
- 3. Safe Refuge/Meeting Areas (Civic Campus)**
- 4. Communicating hazards**  
(especially with visitors who are uninformed)

# Hazard Map



## 1050 to 1200 year Tsunami

- City Hall
- Commons
- Church

## 650 to 800 year Tsunami

- Library
- Wastewater Treatment
- Pavilion
- Park

1200 years Anticipated Frequency

- - - Tsunami Elevation

High susceptibility to shallow landslides

# City: Tsunami Evacuation

DISTANT TSUNAMI EVACUATION ZONE

Source: FEMA





# City: Landslides

[SLIDO: Statewide Landslide Information Layer for Oregon](#)



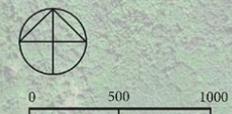
October 12, 2023

- Detailed Susceptibility Reference Maps
- Susceptibility to Shallow Landslides (less than 15 feet below ground surface; available only for areas mapped in detail)
  - Low susceptibility to shallow landslides
  - Moderate susceptibility to shallow landslides
  - High susceptibility to shallow landslides

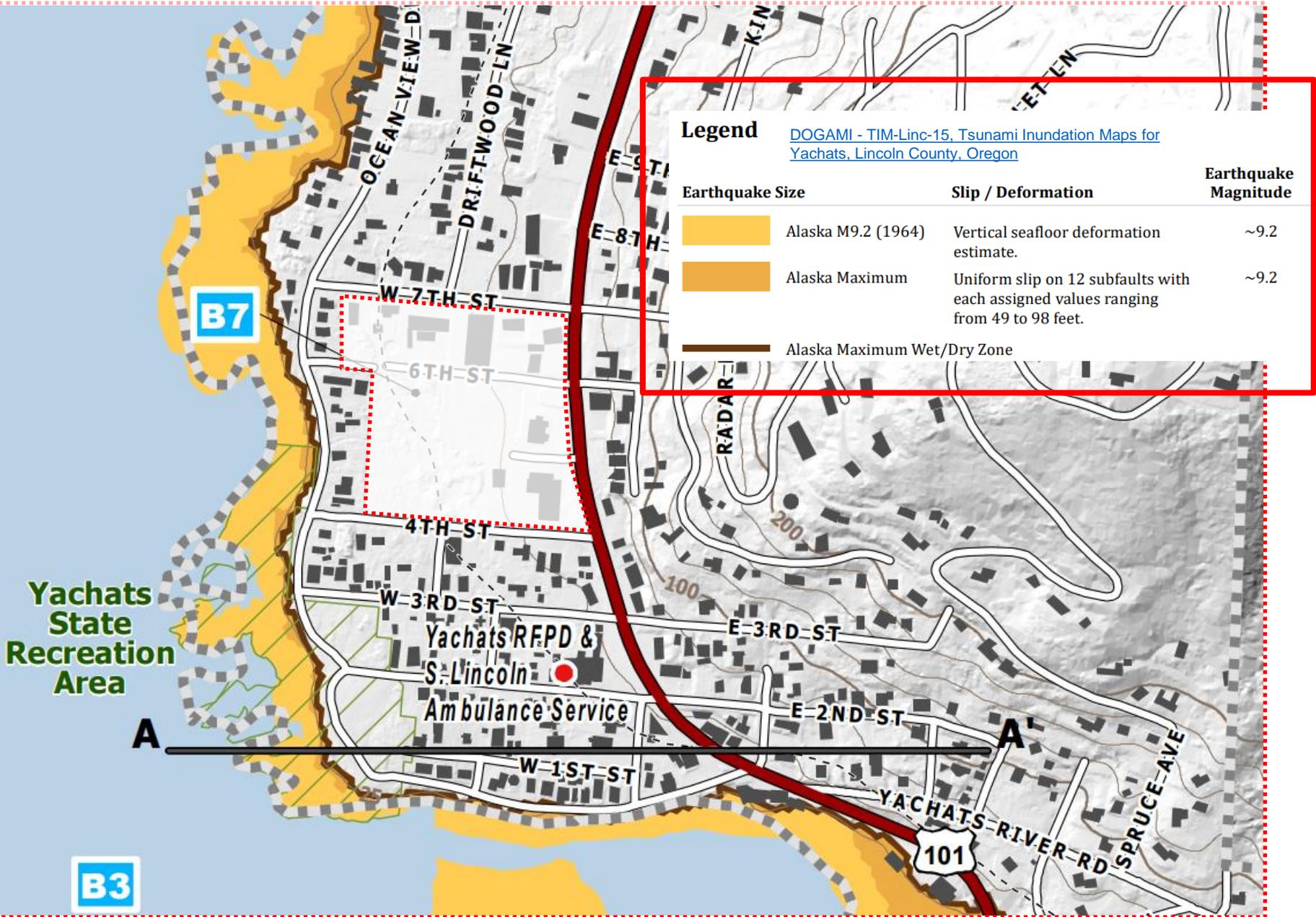


**Key**

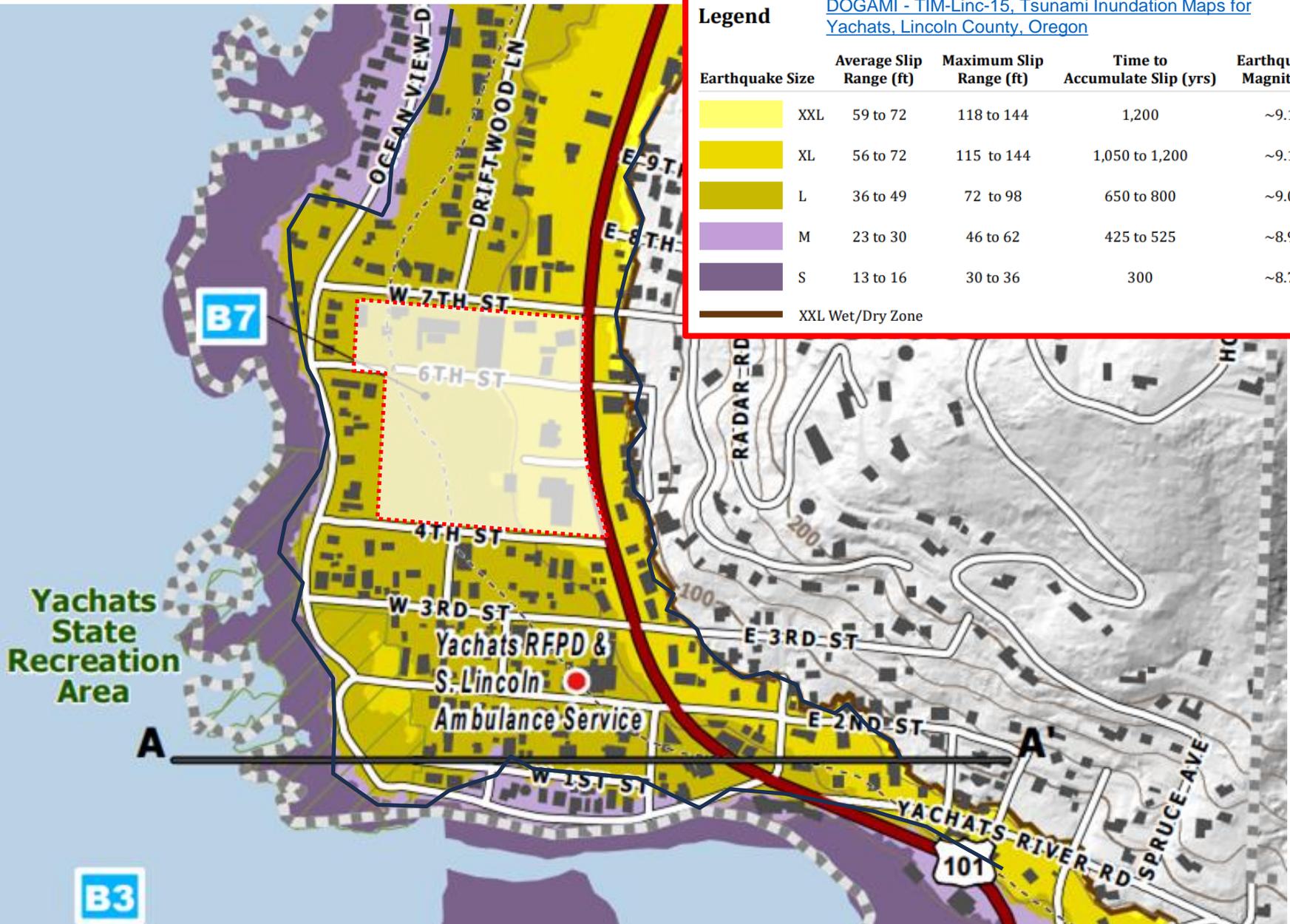
- Meeting Areas
- Streets/Access Ways
- Public Trails
- Cache



# Civic Campus Remote Earthquakes



# Civic Campus Cascadia Earthquakes



# Hazard Zone Takeaway

Facilities in the Civic Campus 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 slides.**
3. **from fire.**
4. **with Emergency power as** provided currently in both the Commons and the Wastewater Treatment Plant and can be improved with photovoltaic panels, battery storage, with increase in fuel storage.

# Questions?

10 min Q& A

- What are the priority needs for power during a hazard event?
- What is the duration of power outage we are planning for?  
6 hours to 6 months of durability?
- What keeps the most service available for the money?

# Question & Answer Discussion

# **Assessment of Civic Campus Facilities**

# Framework of Options

## Thinking at Different Scales:

1. **Building by Building:** solar + battery (each is connected to grid but not each other, grid tied)
1. **Connected Buildings:** Buildings pool resources, as they are connected with a central battery
1. **Campus Scale:** Aggregated power sources in a small microgrid (i.e.. not dependent on grid if power goes out).
2. **City Scale Jumping:** Connect areas to fuel and power generation during outages.

# 1. **Building by Building:** solar + battery (each is connected to grid but not each other, grid tied)

DOG JAW LODGE, Marcola OR

Battery Storage

8 KW PV

Solar Thermal Water Heating

Propane Generator



## 2. Connected Buildings: All buildings pool resources, all connected with a central battery



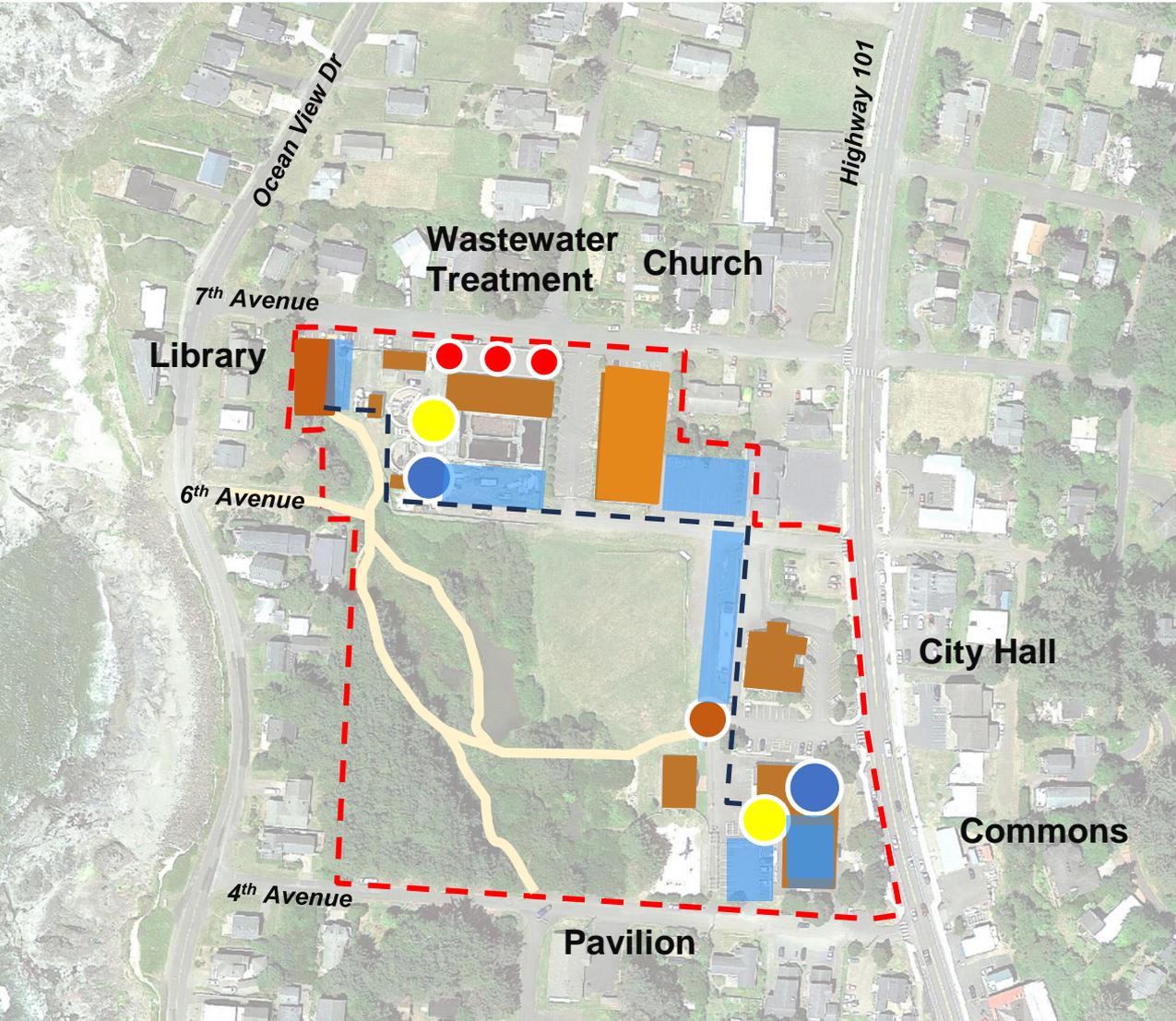
Oregon Military Department's Nesmith Readiness Center

255 kW PV,  
128 kWh Blue Planet Energy ESS,  
Ageto Controls (Mayfield Renewables)  
Can be off the grid for a couple of weeks

Hacker Architects

# 3. Campus Scale: Interconnect

Aggregated power sources in a small microgrid (i.e., not dependent on grid if power goes out).



- - - Interconnection
- Photovoltaic
- Emergency Generation
- Primary Storage
- Mobile Storage Charging
- EV Charging

# 4. City Scale Jumping

Connect areas to fuel and power generation during outages.

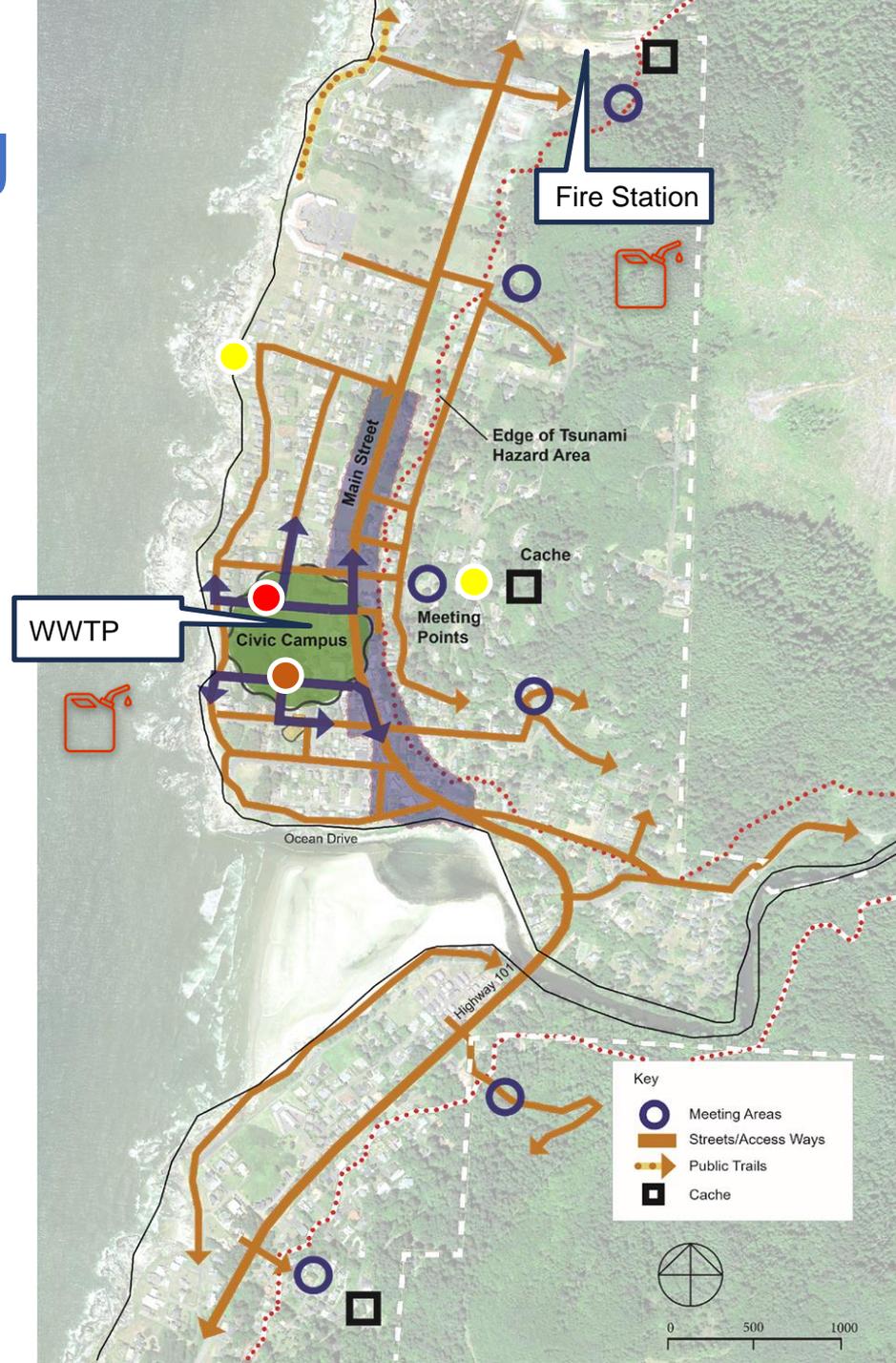
## Opportunity:

- Resilient Island System
- Create mobile storage system.
- Use mobile storage system.

## Challenge:

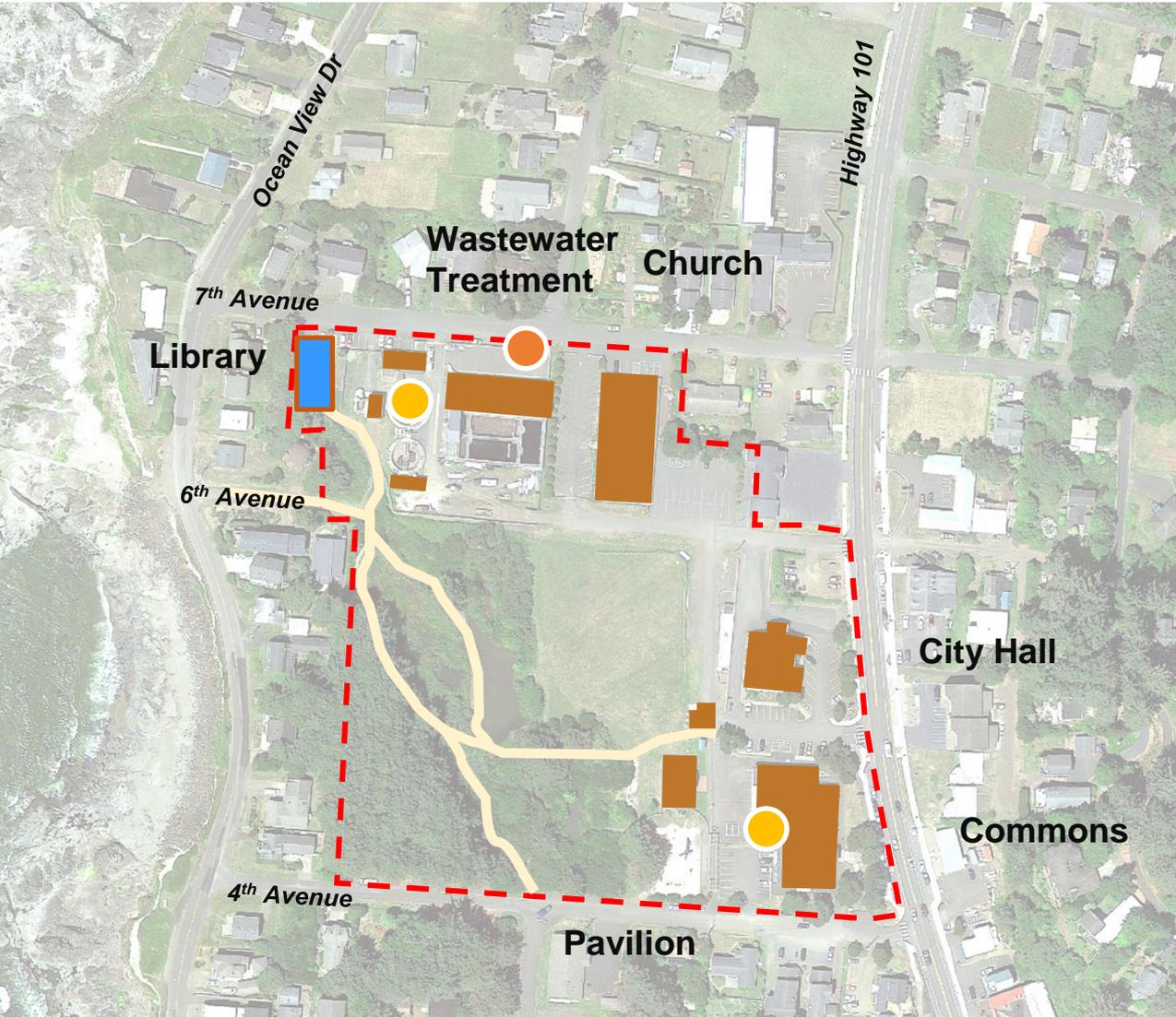
- Limited to 200kw Per Connection
- Limited Mobile Storage
- Policies not in place for transactive energy.
- Limited Fuel Storage

- Fuel Storage 
- Water Pump + Battery Storage 
- Meet Up Area 
- Mobile Storage Charging 
- EV Charging 



# Assessment of Facilities

## Existing Conditions



- Library
- Wastewater Treatment Plant
- City Hall
- The Yachats Commons
- Pavilion
- Presbyterian Church

-  Mobile Generators
-  Planned Photovoltaic
-  Emergency Power Generators

# Assessment of Facilities

- Conceptually, we are building on the investments you have already made.
- Buildings are already fairly efficient but still have a 10% opportunity to increase efficiency
- Yachats is already using portable power with portable generators.
- Several buildings already have backup generation
- Limited roof area with optimal roof orientation for solar on each of the civic building roofs so it may make sense to consolidate renewables as a stand alone canopy.
- There are two primary edges with different potential to provide resilience.

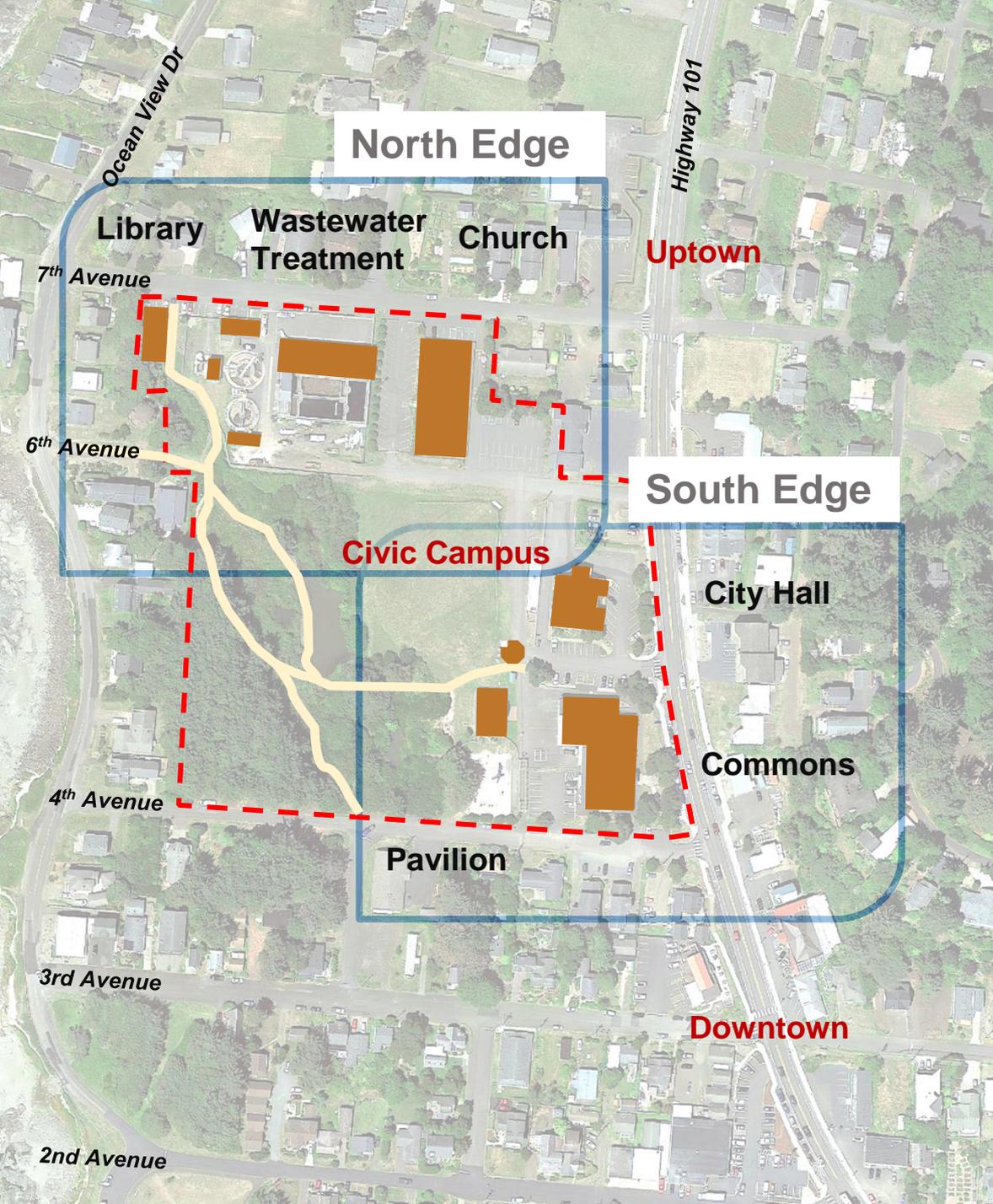
# Assessment of Edges

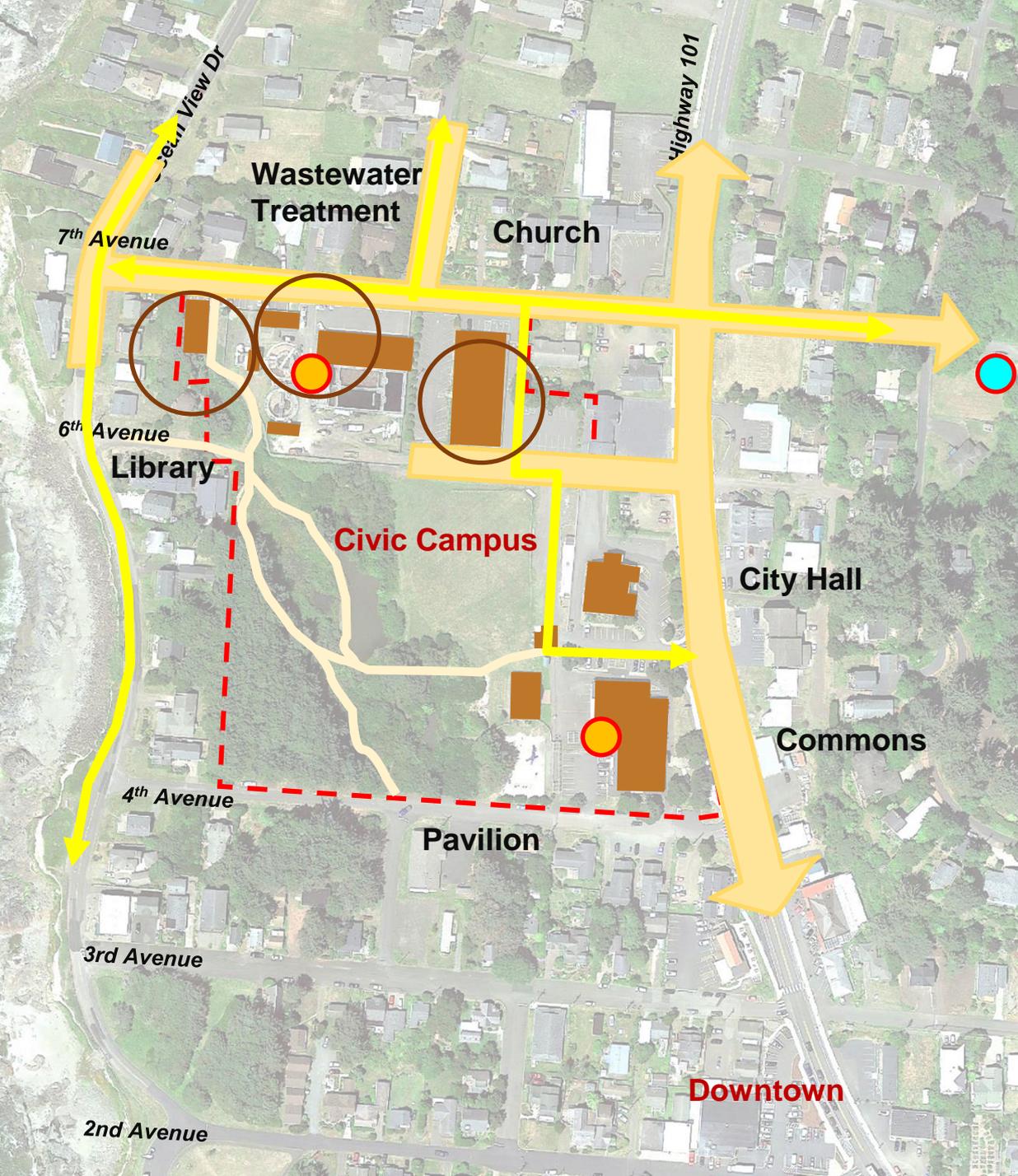
## Uptown: North Edge

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.





North:  
Library/WWTP/Church

# North Edge

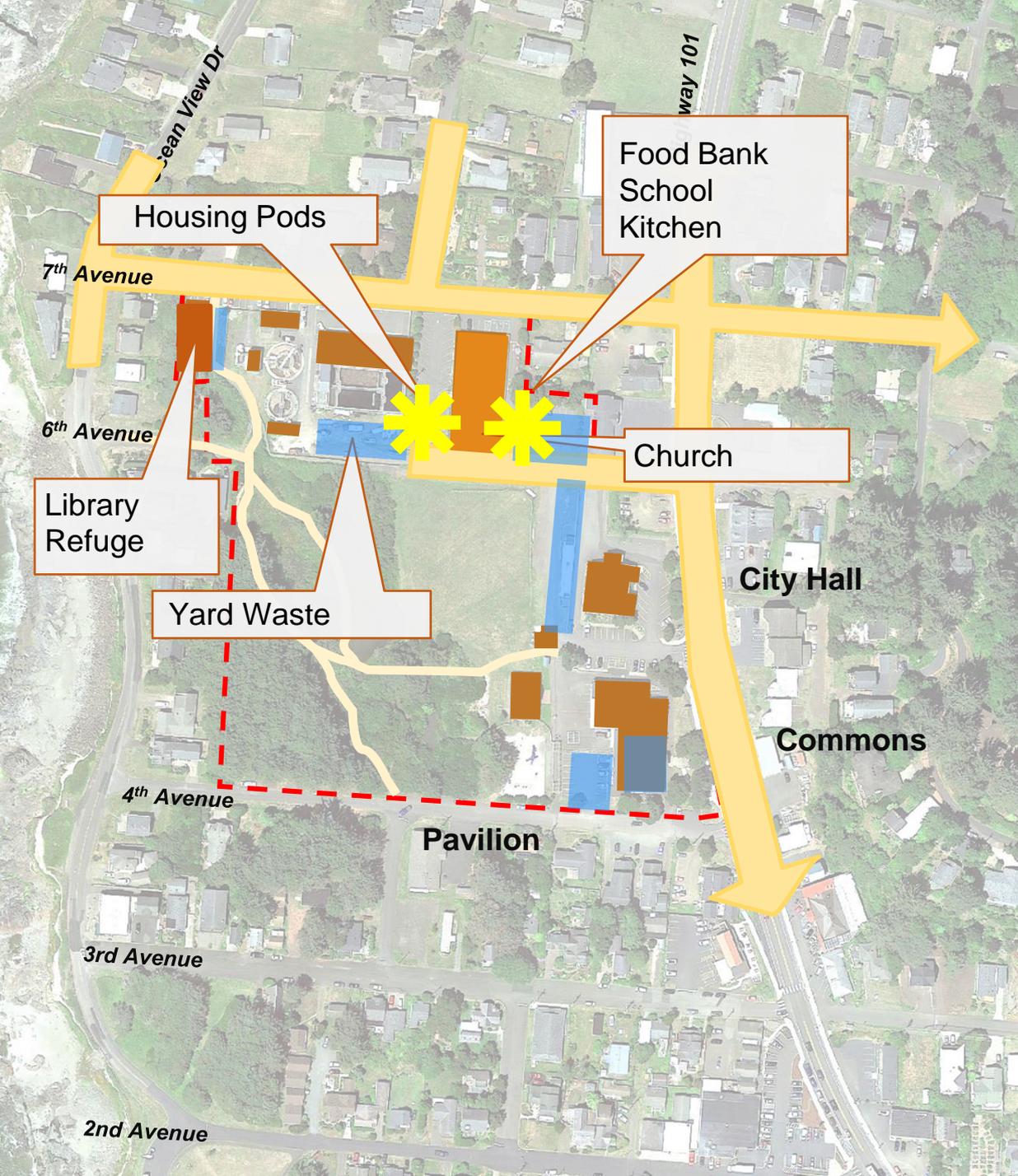
North Edge:  
Library/WWTP/Church:  
Edge of residential area with  
community library and public  
works department. Church  
provides social services for  
underserved communities.

○ Communication Node  
(Wifi)

■ Access Corridor

● Emergency Power

● Emergency Cache



# North Edge

Essential utilities and community supported social programs.

Photovoltaic covers areas can become part of the outdoor events and activities during periods of rain.

- Photovoltaic Covers
- Access Corridor
- ✳ Social Activities
- ✳ Commercial Activities

# Experience



# NORTH EDGE CIVIC CAMPUS | Wastewater Plant, Library & Church

## ENERGY USE & GENERATION POTENTIAL

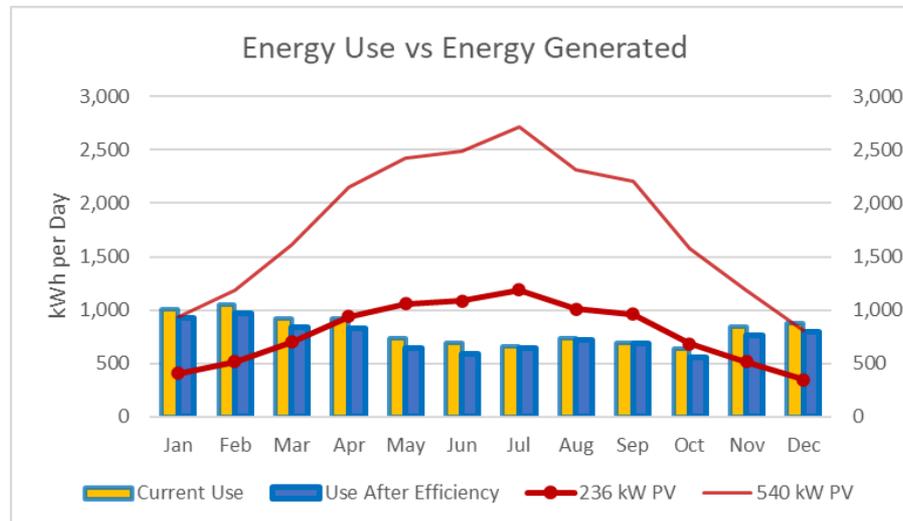
### RENEWABLE ENERGY (SOLAR)

- 236 KW PV = NET ZERO ENERGY (ANNUAL)
  - 11,800 SF OF PANEL AREA
  - POWERS 44% OF ALL FACILITIES IN WINTER, OR
    - 100% OF CHURCH/LIBRARY & 22% OF WWTP IN WINTER
- 540 KW PV = NET ZERO ENERGY (JAN)
  - 27,000 SF OF PANEL AREA (12,600 SF AVAILABLE)
  - POWERS ALL FACILITIES
  - 350,000 KWH PER YEAR SURPLUS



Potential Photovoltaic Panel Locations

Library	200 sf
Wastewater Treatment	7,600 sf
Church Parking	4,800 sf
Ball Field Edge	6,800 sf
Commons Parking	5,700 sf



# North Edge Takeaways

## Wintertime Resiliency - North Edge

- WWTP + 250KW generator can power other locations like the Church - re-feed power from the electrical panel 480 run transformer
- WWTP has significant excess power generation that can power additional buildings in an emergency
- Church is providing many support services for communities now but no back up power
- Library solar should consider inverters that allow going to hybrid inverters that can work in tandem with WWTP
- On the Northern site we don't have to be selective because they can be backed up by the WWTP



# South Edge

North: City Hall, The Yachats Commons, Pavilion

South Edge is situated between the Downtown and meeting places and caches up the hill. It forms the central heart of the Civic Campus.

-  Communication Node (Wifi)
-  Access Corridor
-  Emergency Power
-  Emergency Cache

# South Edge

North: City Hall, The Yachats Commons, Pavilion

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

**Photovoltaic covers areas can become part of the outdoor events and activities during periods of rain.**

-  Access Corridor
-  Photovoltaic Covers
-  Social Activities
-  Commercial Activities





# Experience



# SOUTH EDGE CIVIC CAMPUS – COMMONS & CITY HALL ENERGY USE & GENERATION POTENTIAL

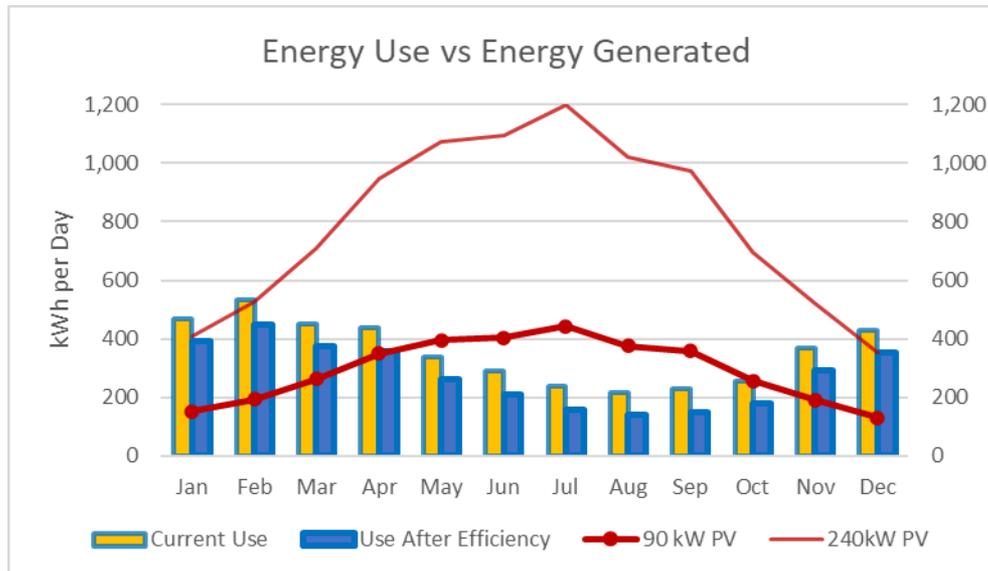
## RENEWABLE ENERGY (SOLAR)

- 90 KW PV = NET ZERO ENERGY (ANNUAL)
  - 4,500 SF OF PANEL AREA
  - POWERS 37% OF BOTH BUILDINGS IN WINTER, OR
    - 60% OF COMMONS & 0% OF CITY HALL IN WINTER
- 240 KW PV = NET ZERO ENERGY (DEC)
  - 12,000 SF OF PANEL AREA (14,500 SF AVAILABLE)
  - POWERS BOTH BUILDINGS
  - 176,000 KWH PER YEAR SURPLUS



Potential Photovoltaic Panel Locations

Library	200 sf
Wastewater Treatment	7,600 sf
Church Parking	4,800 sf
Ball Field Edge	8,800 sf
Commons Parking	5,700 sf



# South Edge Takeaways

- **Summertime Resiliency - South Edge**
- Commons could have a Solar structure 4,000 s.f. of module Area (about 6k dedicated roof or site to get 4k collector area installed)
- Electrical panel upgrade and battery inside Commons
- Pavilion is an opportunity facility that could be used for expanded emergency usage
- On the South Edge we need to be more thoughtful about what gets backed up, and what we want generator to power.
- **Commons + Other buildings (Connected Building Scale)**  
Commons array + added connection to City Hall & Pavilion

# Emerging Concepts

## **Scale 1. Civic Commons (Single Building Approach)**

- Potential to add external 80kw solar canopy to generate and store as much energy over the course of the year to meet demand - becoming a Net Zero Energy Building!
- In winter months, this will increase emergency functions.

## **Scale 2. Civic Commons + City Hall + Pavilion (Connected Building Approach)**

- In addition to added solar at the Commons (Scale 1), plus added building energy efficiency improvements, the City of Yachats can also power City Hall and the Pavilion. Includes battery backup power and uses existing generator

## **Scale 3. Interconnect Civic Commons (Campus Scale)**

- Central Lincoln PUD to consider inter-connection on campus site with utility grid that allows off-grid and sending excess power to the grid.
- Connection of 250kw WWTP generator to campus and nearby neighborhood areas.
- Add 150 Kw Solar photovoltaic panel (9,000 Square Feet of solar)
- Add industrial battery (shipping container size)

## **Scale Jumping: Expanding Yachats Citywide Resiliency**

- Portable generators/batteries for remote power serving pump stations and caches
- Expand fuel storage capacity at Fire Station and Wastewater Plant
- Install emergency battery storage for Caches, pump stations, and other critical uses

# **Community Work Session**

# Opportunity

This process is to identify what other community oriented criteria should we be considering.

- **Emergency Preparedness:**  
Allow the Civic Campus to provide power to needed community services after high-risk hazards occur.
- **Needed Civic facility upgrades & Public Space Improvements**
- **Improve communication about emergency response & preparedness** (e.g. signage)
- **Leverage emergency preparedness benefits with services that are needed day to day** (Example: Plan for City to support EV charging of their vehicle fleet.
- **What are other goals?**

# Opportunity: Leverage Improvements

## Emergency Planning

- Backup power
- Caches
- Shelter in Emergencies
- Communication

## Yachats Commons

- Solar/Battery Storage
- Facility Improvements

## Library Remodel

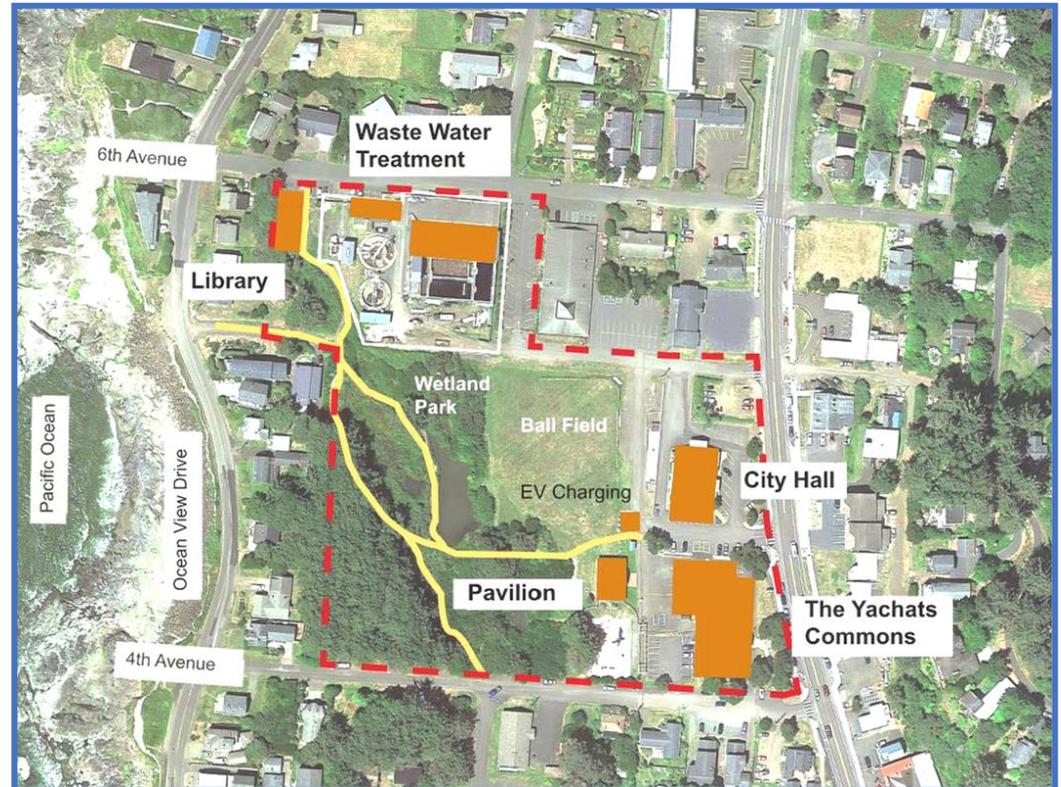
- Solar/Battery Storage

## Wayfinding & Signage

- Culture/History/Enviro. Education
- Visitor Info
- Emergency Prep Info
- Trails

## Amenities & Services

- EV Charging
- Park Facility Enhancements
- Lighting
- Restrooms



# Discussion Questions (20 min)

- 1. Vision:** What is your vision for the role of the Civic Campus as an everyday community resource AND a refuge/point of recovery during a hazard event? Specifically, how might YOU use or rely on the Civic Campus facilities.
- 2. Internal Campus Plans & Opportunities:** What planned or anticipated projects within the Civic Campus should be considered and/or included in this project?
- 3. Leveraged External Opportunities:** What local objectives or other planning initiatives surrounding or near the Civic Campus can be leveraged through this project?

# Instructions for your Table

1. Designate a timekeeper & note-taker
2. Designate a spokesperson or two that will report back to the larger group
3. Discuss the following questions at your table and write down key points for report backs

# Discussion Questions

## 1. Vision for a Resilient Civic Commons (10 min)

**What is your vision for the role of the Civic Campus as an everyday community resource AND a refuge/point of recovery during a hazard event? Specifically, how might YOU use or rely on Civic Campus facilities.**

- *Discuss what is working well now and what can improve the use of the Civic Campus everyday and prepare for hazard events.*
- *Write down a sentence or bulleted list of what this could look like.*
  
- *Share any priorities as examples of what you and/or your family might use/need during a hazard event.*

### Example:

- *Powering of special devices? Refrigeration of medicines, mobility assistance?*

# Discussion Questions

## 2. Leveraging Internal Civic Campus Plans

**What planned or anticipated projects within the Civic Campus should be considered and/or included in this project?**

Write down:

- *Any goals or priority projects (funded/unfunded)*
- *Upcoming funded improvements that can be leveraged*

Examples: *Park or trail plans, building upgrades, lighting and signage, gathering spaces, etc.*

# Discussion Questions

## 3. External Opportunities to Leverage

**What local objectives or other planning initiatives surrounding or near the Civic Campus that can be leveraged through this project?**

Please share/suggest:

- *Any priority projects (funded/unfunded)*
- *Infrastructure improvements that can be leveraged*
- *Studies or plans (past, current or upcoming)*

Examples: *Business district improvements, farmers market, cultural information, museum*

# Discussion Questions (20 min)

- 1. Vision:** What is your vision for the role of the Civic Campus as an everyday community resource AND a refuge/point of recovery during a hazard event? Specifically, how might YOU use or rely on the Civic Campus facilities.
- 2. Internal Campus Plans & Opportunities:** What planned or anticipated projects within the Civic Campus should be considered and/or included in this project?
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# Report Backs

# Key Takeaways

# Next Steps & Learn More

## Learn More - City Website

[www.yachatsoregon.org/418/Renewable-Energy-and-Resiliency-Planning](http://www.yachatsoregon.org/418/Renewable-Energy-and-Resiliency-Planning)

## More Ways to Give Input

Community Survey will be sent to all registrants as follow-up

## Attend Upcoming Community Meetings

- Open House 1: Thurs., November 16, 2023, 6-8 pm  
*Priority Projects Forum*
- Open House 2 (Online): Thurs., Dec. 14, 2023, 6-8 pm  
*Selection of Top Project & Draft Civic Campus Plan*

# Thank you!

## Contacts:

- **Charles Kelley, Green Urban Design**  
[charles.kelley@greenurbandesign.com](mailto:charles.kelley@greenurbandesign.com)
- **Heather Flint Chatto, Forage Design + Planning**  
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- **Mike Hatten, Solarc Energy Group, Mechanical**  
[mikeh@solarcenergygroup.com](mailto:mikeh@solarcenergygroup.com)
- **Jim Krumsick, Paradigm Engineering, Electrical**  
[jkrumsick@outlook.com](mailto:jkrumsick@outlook.com)