Yachats Civic Campus Resiliency Planning Project

ODOE Renewable Energy Grant

Meeting Goals

Key Priorities for this Meeting

- **Introduce Preliminary Draft of the Resiliency Plan**
- **Present Top Project Options & Rationale for Recommendations**
- **Affirm Criteria for Selecting**
- **Confirm Priority Project Selections for ODOE Construction grant**
- **Discuss Subsequent Projects & Implementation Next Steps**

Agenda

6:00 *Welcome*
5 min.

6:05 **Overview of the Draft Plan**
20 min

- What we've heard from the Community
- How incorporated into the Resilient Civic Campus Plan

6:25 *Survey & Discussion*
15 min.

6:40 **Project Recommendations**
20 min.

- Priority project
- Sequencing of other priority projects

7:00 *Discussion & Voting on Project Priorities*
20 min.

7:20 **Discussion of Priorities & Implementation** *25 min.*

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
- **Planning & Selection of a renewable energy project** for a Phase 2 - $1 million ODOE construction grant

Where we are in the Process

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.

- Study local conditions and context
- Review of demographics
- Review of FEMA Maps
- Advisory Group Formation
- Planning community engagement events
- Coordination with local agencies & Central Lincoln PUD

- Assess Critical Facilities: City Hall, Commons, Pavilion, WWTP, Library
- Facilities Tours
- Building Energy Data
- Planned Upgrades
- Backup Generation
- Fuel Storage
- Energy Efficiency Measures
- Explore Potential Individual & Combined Projects

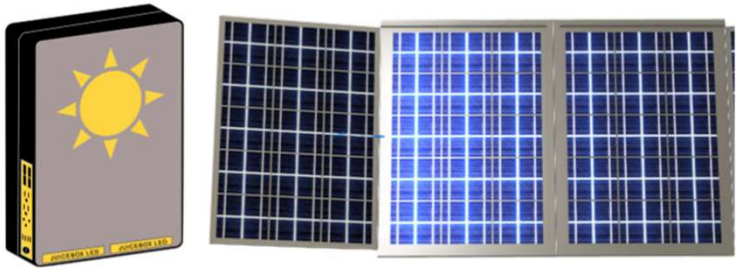
- Review of Local Plans & Policies
- Establishing a Shared Vision
- Identifying shared goals & priorities, and needs with the community
- Assessment of Civic Campus internal opportunities
- Assessment of External opportunities
- Development of Priority Criteria with Community

- Development of Project Alternatives
- Review with the community for selection of top project(s)
- Cost estimate for top project
- Final Civic Campus Resiliency Plan
- $1 Million Construction Grant Application for Top Project

FOCUS AREA: Civic Campus

We need to provide power How will we do it?

- Renewable Power (solar, wind, hydro.)
- Batteries
- Interconnection of buildings
- Existing backup generation infrastructure



Civic Campus + City

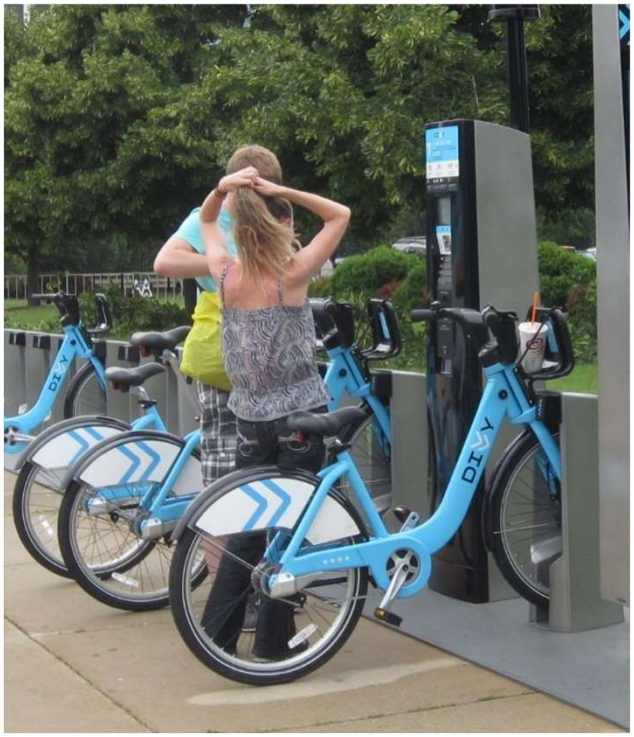
Renewable energy opportunities to provide the community enhanced power, communication and access to resources following a disruption

Power

- Solar
- Ground Source
- Battery Storage

Communication

- Cell
- Wi-Fi
- Satellite
- Data



Access

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

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**

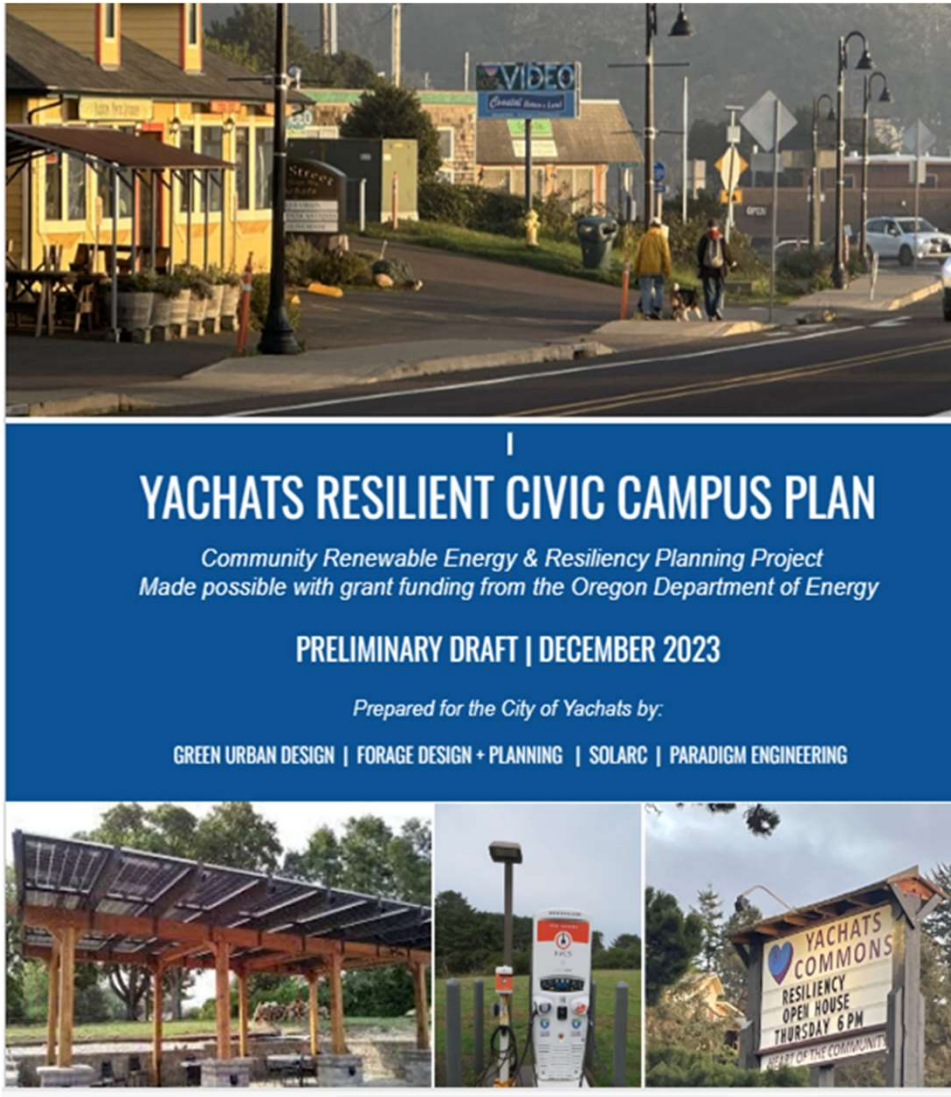
We may not be able to respond to all aspirations but we can identify the goals and priorities, and identify what is achievable in this project and subsequent efforts in the Resilient Civic Campus Plan.

The Draft Plan

Yachats Resilient Civic Campus Plan

- Project Overview
- Policy Evaluation
- Hazard Assessment
- Summary of Building Energy Analysis
- Decision making Criteria
- Alternatives Concepts
- Resiliency Plan
- Civic Campus Recommendations
- Citywide Recommendations
- Policy & Implementation Recommendations

Appendices



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****.*

But resilience is more than that….

Resilience doesn't just mean emergency planning.

Resilience comes from the sustainability, economic vitality, and health of our community.

Potential Leveraged Site Improvement Opportunities

Covered Sports Activities

Covered Community Activities

Regular Seasonal Events

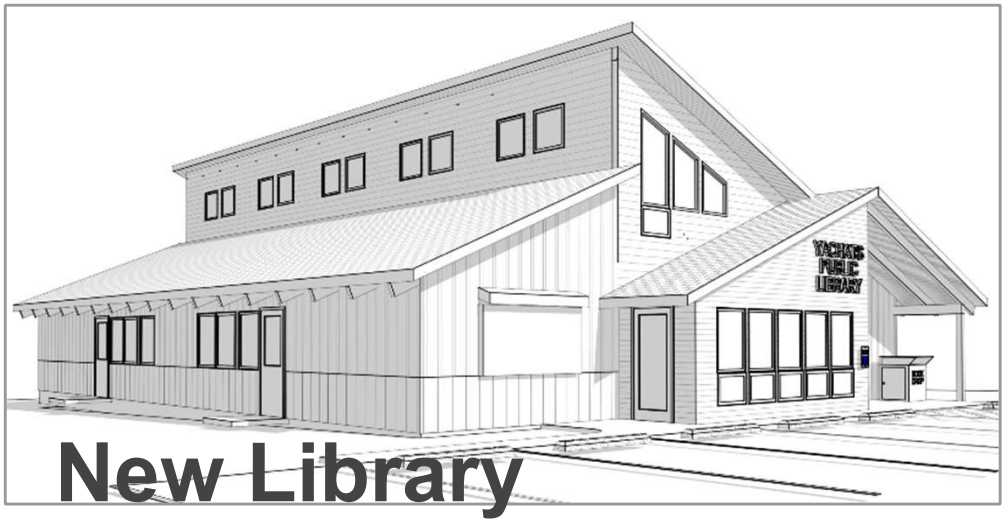
Stormwater Management

Rainwater Collection

Kiosk/Bathroom/Visitor Information


Wastewater Treatment


Pavilion

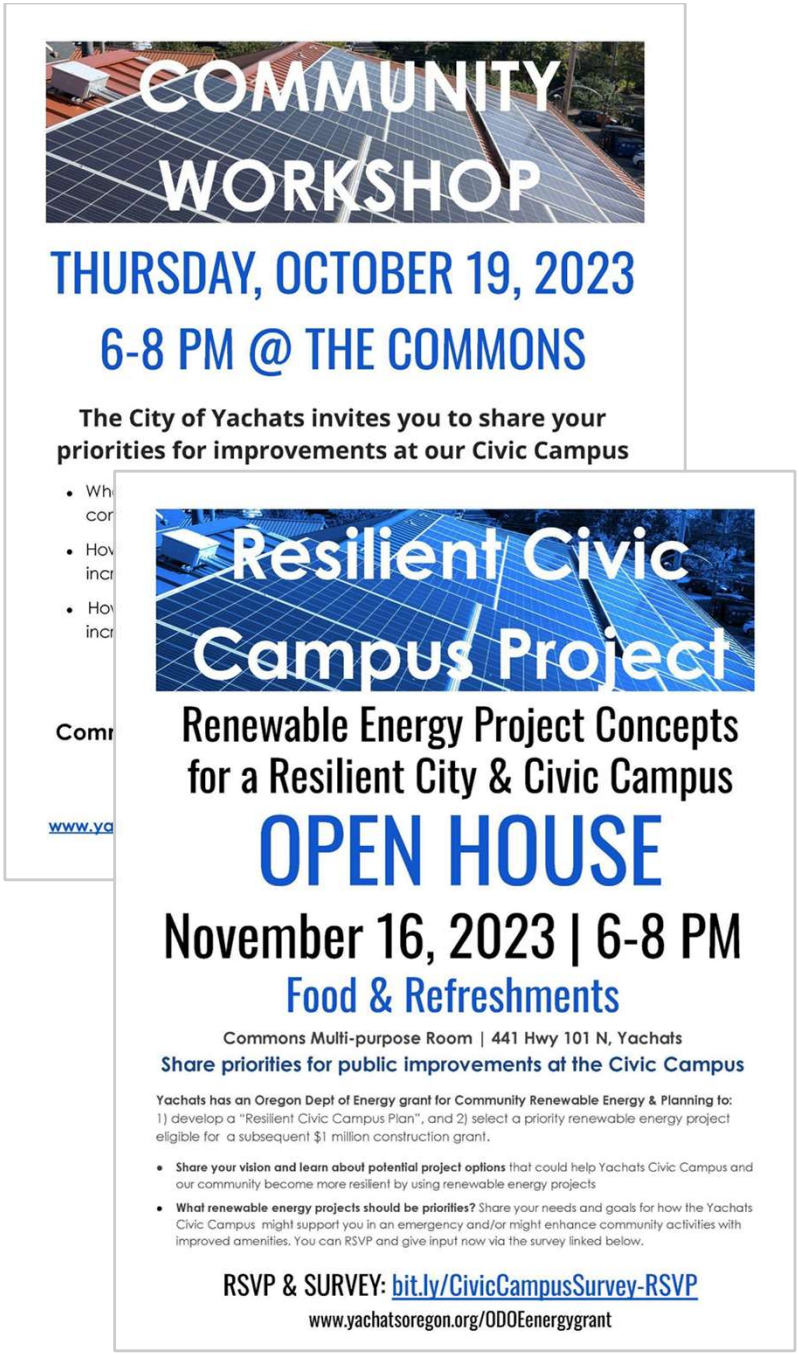


New Library


City Hall


Presbyterian Church


Commons Building



Listening to the community

- Community Workshop
- Open House
- 3 Advisory Group Meetings
- 8 Project Management
- 50 Survey Responses

Policy & Design Context, Vision, Goals & Background

Understanding and shaping the approach first considered the site context and conditions, 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 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)

CREATING A COMMUNITY VISION

Priorities, Goals, Guiding Principles, & Decision-making Criteria

GOALS

Central Distribution Hub: Campus as center for access to food, power, water, supplies, shelter, and communication.

Renewable Energy: Include wind power, solar hot water and photovoltaic panels.

Refuge: Facilities that can house many residents and visitors in a hazard event with power, heat, and cooking.

Food: Consider how mobile batteries at Campus might be used to help power refrigeration of local food stores.

Hygiene: Public bathrooms, handwashing station, water-bottle filling.

Water: Include water capture and storage.

Fuel: Consider alternative fuels like biodiesel.

Education & Sustainability: Leverage the project to demonstrate leadership, emergency response, and sustainable approaches.

Align with other Citywide Emergency Planning Strategies: Consider how we might tie in with meeting points, caches, fire station, water filtration, and plan for.

Placemaking: Leverage the opportunity to improve the civic campus and provide social and economic benefits now.

GUIDING PRINCIPLES

- City Mission Statement
- Preserve Community Character & Identity
- Protect Natural Spaces
- Efficient Use of Resources

PRIORITIES

1. **Plan for additional Fuel Storage Locations:** WWTP can provide significant backup power with its large generator but needs
2. **Update the Emergency Operations Plan.** The City & EPC has a draft on the Yachats website.
3. **Communication:** Help visitors and residents know what to do and where to go in an emergency.
4. **Medical and trauma facilities in the Commons:** need organizational planning for who and how to provide these services.

CITY OF YACHATS MISSION

"Our village is a place where natural resources are valued and protected, where diversity is celebrated, and where a vibrant economy and sense of community pride create and recreate a living spirit. Yachats cares not just for its citizens' basic needs but also supports them in their efforts to excel mentally, physically, artistically, and spiritually. It is a community with an enduring sense of itself."

The people of Yachats have a strong sense of community inspired by and honoring the natural beauty of this place they call home. A community envisioning process in 2000 identified seven core values of our coastal village:

- *A sense of place*
- *natural environment*
- *small-town atmosphere*
- *welcoming spirit*
- *independence*
- *cooperation*
- *uniqueness*

Site Assessment

- The Civic Campus is well located to avoid most likely hazards
- Yachats has been preparing their facilities well and has many building blocks in place
- The two primary edges have different potential to provide resilience

Open House Take-Aways

Open House Stations

- City Scale, Vision & Goals
- Hazard & Emergency Response
- Campus Facility Energy Assessment & Recommendations
- Candidate Projects Station

Meeting Handouts:

- Project Summary, Key Tasks & Timeline
- Technical Analysis
- Printed Survey forms

1 | CITY SCALE VISION & GOALS

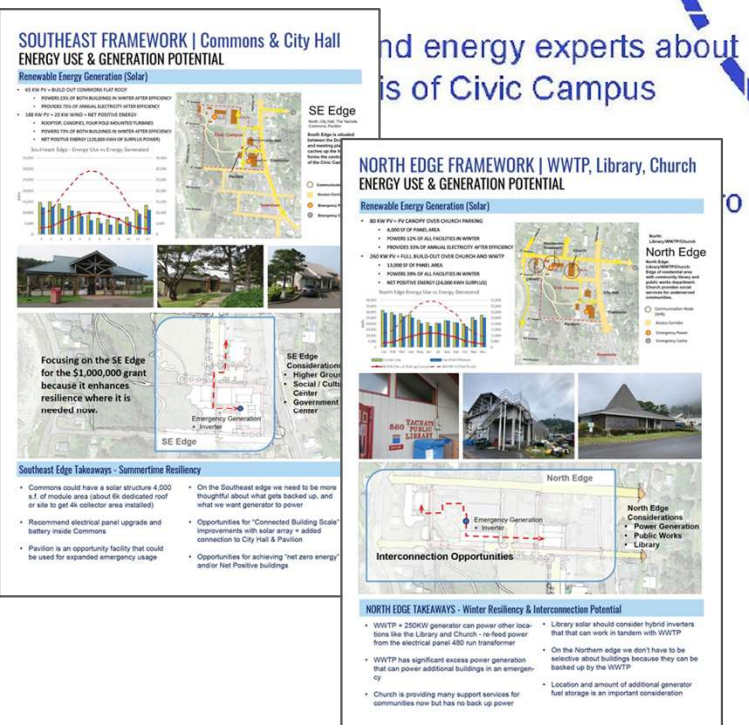
- Share your goals and vision for a resilie Civic Campus & City
- Hear what we've heard from others
- Discuss role of other city emergency response services and locations (e.g. F Station, caches, etc)
- Review decision-making criteria for a pr project

2 | HAZARDS & EMERGENCY RESPONSE

- View Hazard maps & emergency response plans
- Share ideas and special needs for you and your family in an emergency
- Sign up for the Emergency Planning Committee

3 | FACILITY ASSESSMENTS & CAMPUS FRAMEWORK

nd energy experts about
is of Civic Campus



4 | DESIGN CONCEPTS & OPPORTUNITIES

Talk to designers and give input on:

- Options for locating renewable energy projects at the Civic Campus
- Tradeoffs and design benefits
- Amenities and improvements
- Placemaking opportunities

5 | COMMUNITY PRIORITY SURVEYS

- Pick up, fill out & submit paper surveys

CITYWIDE CONTEXT | How Might we Advance

Goals & Priorities with this "Resilient Civic Campus Plan"?

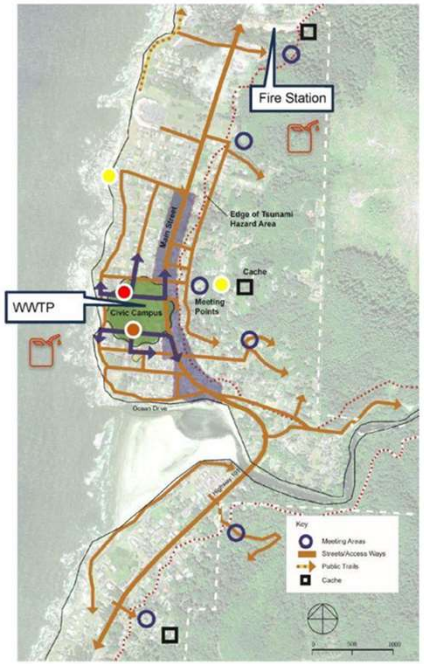
Role of the Civic Campus

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 ?



Fuel Storage

Water Pump + Battery Storage

Meet Up Area

Mobile Storage Charging

EV Charging

Civic Campus + City

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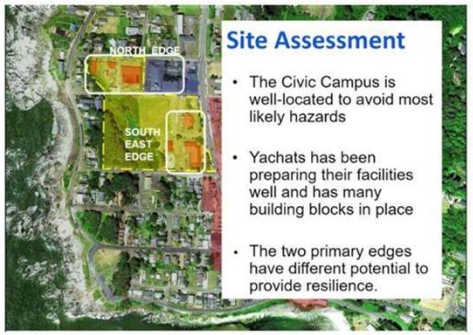
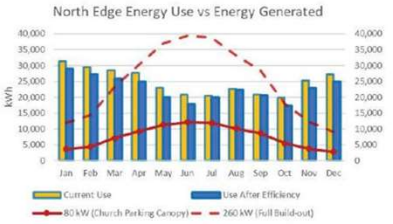


NORTH EDGE FRAMEWORK | WWTP, Library, Church

ENERGY USE & GENERATION POTENTIAL

Renewable Energy Generation (Solar)

- 80 KW PV = PV CANOPY OVER CHURCH PARKING
  - 4,000 SF OF PANEL AREA
  - POWERS 12% OF ALL FACILITIES IN WINTER
  - PROVIDES 33% OF ANNUAL ELECTRICITY AFTER EFFICIENCY
- 260 KW PV = FULL BUILD-OUT OVER CHURCH AND WWTP
  - 13,000 SF OF PANEL AREA
  - POWERS 39% OF ALL FACILITIES IN WINTER
  - NET POSITIVE ENERGY (24,000 KWH SURPLUS)

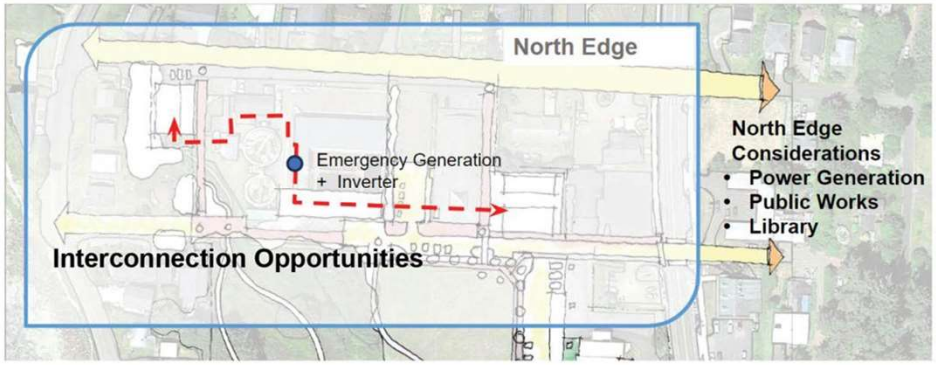


North:
Library/WWTP/Church

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 TAKEAWAYS - Winter Resiliency & Interconnection Potential

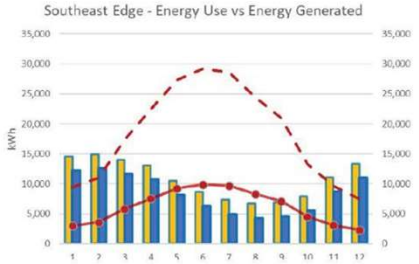
- WWTP + 250KW generator can power other locations like the Library and Church - re-feed power from the electrical panel 480 run transformer
- WWTP has significant excess power generation that can power additional buildings in an emergency
- Church is providing many support services for communities now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

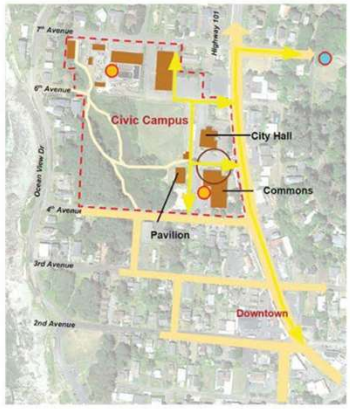
SOUTHEAST FRAMEWORK | Commons & City Hall

ENERGY USE & GENERATION POTENTIAL

Renewable Energy Generation (Solar)

- 65 KW PV = BUILD OUT COMMONS FLAT ROOF
  - POWERS 23% OF BOTH BUILDINGS IN WINTER AFTER EFFICIENCY
  - PROVIDES 75% OF ANNUAL ELECTRICITY AFTER EFFICIENCY
- 188 KW PV + 20 KW WIND = NET POSITIVE ENERGY
  - ROOFTOP, CANOPIES, FOUR POLE-MOUNTED TURBINES
  - POWERS 73% OF BOTH BUILDINGS IN WINTER AFTER EFFICIENCY
  - NET POSITIVE ENERGY (120,600 KWH OF SURPLUS POWER)



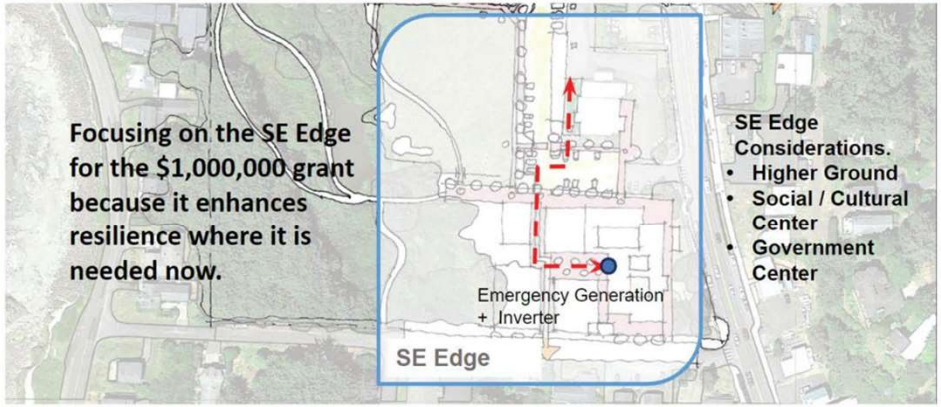


SE Edge

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.

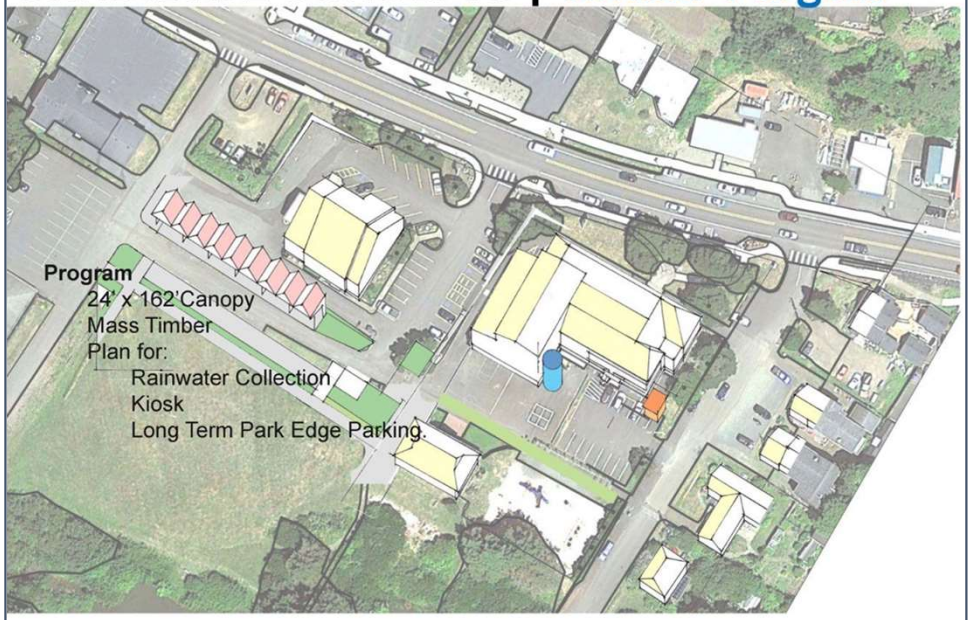
- Communication Node (Wifi)
- Access Corridor
- Emergency Power
- Emergency Cache



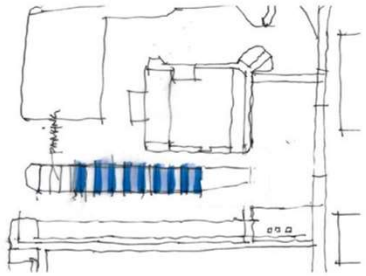
Southeast Edge Takeaways - Summertime Resiliency

- 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)
- Recommend electrical panel upgrade and battery inside Commons
- Pavilion is an opportunity facility that could be used for expanded emergency usage
- On the Southeast edge we need to be more thoughtful about what gets backed up, and what we want generator to power
- Opportunities for "Connected Building Scale" improvements with solar array + added connection to City Hall & Pavilion
- Opportunities for achieving "net zero energy" and/or Net Positive buildings

CANDIDATE CONCEPTS | Timber Pergola



5. Mass Timber Pergola Structure to Add PV Panels.

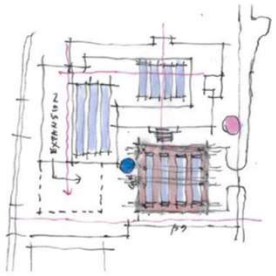


Pro
Low carbon construction.
Covers Skateboard Park Can be used as covered parking if skate park moves.

8Con
Higher Cost

CANDIDATE CONCEPTS | Timber Barn

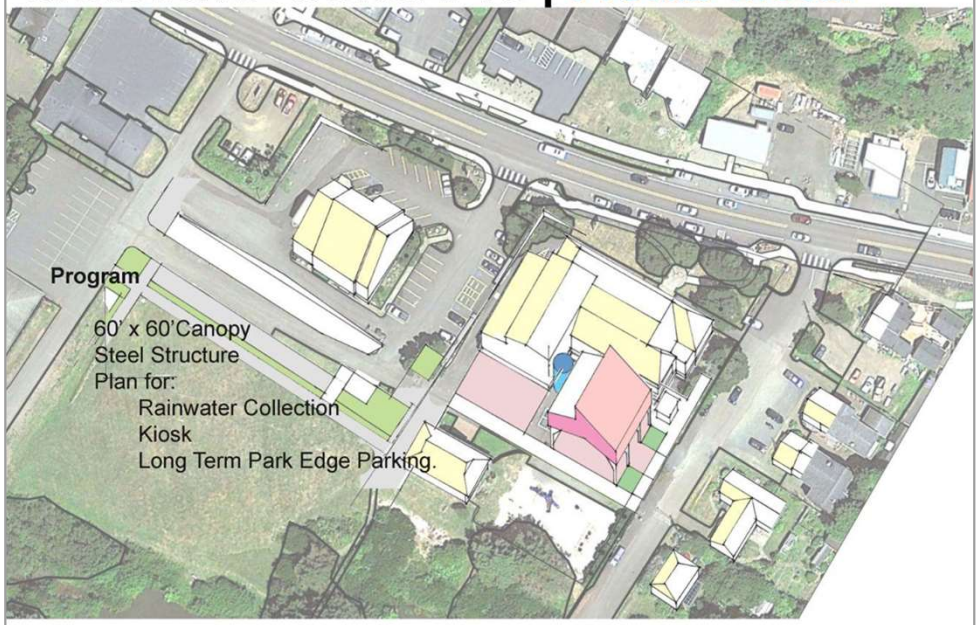
4. Barn Mass Timber Structure to Add PV Panels



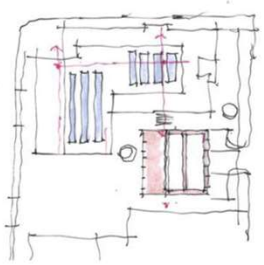
Pro
Low carbon construction.
Expands covered space near entry to Commons
Higher ceiling with clearstory daylighting
Sidewalls protect wind driven rain Large covered space for multiple uses. Lower maintenance costs

Con
Higher Cost

CANDIDATE CONCEPTS | Prefab Metal



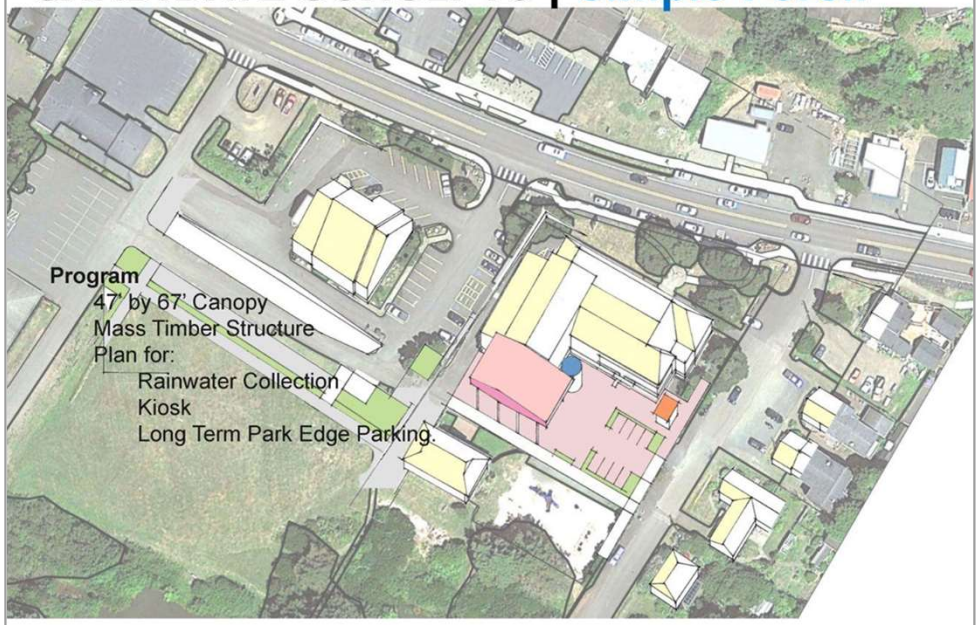
3. Barn Prefabricated Metal Structure to Add PV Panels.



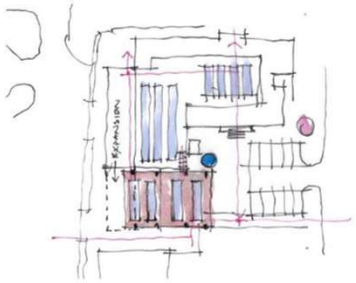
Pro
Lower installation cost
Expands covered space near entry to Commons.
Higher ceiling with clearstory daylighting
Sidewalls protect against wind driven rain.
Large, covered space for multiple uses.

Con
Higher maintenance cost due to nearness to sea.

CANDIDATE CONCEPTS | Simple Porch



1. Simple Porch to Add PV Panels.



Pro
Lower cost
Distinctive Space
Expands covered space next to Pavilion

Con
Small cover
Distant from commons interior circulation
Existing sloping grade unchanged
Low Ceiling

Open House Takeaways

Group Discussion

- **Campus as Demonstration Hub:** Support for the Civic Campus as a sustainability and resiliency demonstration hub.
- **Library:** Interest in whether the Library project might be included in the grant
- **South of Bridge:** How can we support South of Bridge residents more?
- **Generators & Fuel Storage:** The Waste Water Treatment Plant generators can be a significant source of emergency power in an emergency. Fuel storage supplies will be important.Suggested this be located at the Fire Station.
- **Ongoing Training:** Ensuring the community is well trained on how to respond in an emergency is important idea. Support leveraging past Emergency Preparedness Festivals Yachats as an annual planning and education event.
- **Support for 4th Street Canopy adjacent to Commons:** Strong interest in the co-benefits of a solar canopy behind the Commons close to 4th Street for additional amenities, festivals, farmer's market usage, and community recreation.

Open House Takeaways

City-Scale, Vision & Goals Station

Comments:

- **Support for vision and goals**
- **Support for Campus as Eco-demonstration & Resiliency Hub**
- **Kiosks:** Support for multi-functional structure that can serve:
  - Bathrooms & water-bottle filling station
  - Visitor bureau & space for rotating nonprofits
  - Interpretive Info, area amenities & cultural signage
  - Support farmers markets, visitors, YYFAP, residents, biz district
- **Like idea of integrating indigenous artisans and forms into a solar canopy structure**
- **Include Interpretive Signage:** natural resources, trails, emergency prep, and cultural history (both +/-) to help with healing & awareness
- Concern over diesel fuel as backup power
- Support S. of Bridge Area Residents.

Open House Takeaways

Civic Campus Takeaways

1. **Project Phasing:** Solar canopy structures over parking stalls that are likely to remain is a good idea and allow phasing for expansion of solar collection. North Edge has more locations with parking oriented in the east west direction to optimize solar gain using solar canopy.
2. **Farmer's Market** can be disruptive to circulation - La De Da lane could be a better location for the 4th Avenue Street market.
3. **Protection of Historic Artifacts:** There are artifacts from the indigenous people below grade. Projects with significant excavation could disturb. Archaeological documentation may be required.
4. **Implementation:** Concern whether what is imagined in the plan will ever come to fruition.

Open House Takeaways

South East Edge Takeaways

Support for "Barn" Solar Canopy: General approval of the idea of the "barn" concept locating a canopy over the parking spaces along 4th Ave.

1. **La De Da Lane is a critical connection across the site that can better organize the uses along it.**
    - Linking North Edge (Church & Library) to Commons and 4th Street.
    - It can better support the activities along its length such as covered space for activities,Basketball court between Pavilion & Commons with adjusted grading, well-defined pedestrian connection to 6th Street.
    - A location for bathroom/toilet facilities and location for kiosks
2. **Candidate concepts - include stand alone solar canopies over the parking stalls between the Commons and City Hall**

Open House Takeaways

North Edge Takeaways

1. **6th Avenue should be improved between Highway 101 and Ocean View Drive** as a pedestrian connection .
2. **WWTP Canopy:** Large canopy alongside the head house of the WWTP was viewed as a way of hiding the facility.

Park Area

1. **Stormwater Management:** Field is perceived to be underused because it is typically very wet. Interest in managing stormwater to protect the green space from oversaturation of water.
2. **Passive Activities:** Interest in developing the green space for passive activities.
3. **Amphitheater** in the green space has been talked about but folks acknowledged that the “barn” located along La De Da Lane might be a better place to consolidate built improvements.

Survey: Vision, Priorities & Goals

Section 1 of 4

Yachats Civic Campus Survey & Event RSVP

Through a recent planning grant from the Oregon Department of Energy (ODOE), the City is working to add renewable energy and increase emergency preparedness. This ODOE energy grant gives us the chance to develop a plan for the Civic Campus and to pursue a community-selected priority project for up to $1 million in construction. Learn more here: www.yachatsoregon.org/ODOEenergygrant

PROJECT GOALS: To establish improvements that include renewable power and energy storage that support social and economic growth as well as recovery from hazard events.

To ensure the community has a meaningful voice about needs and goals, priorities, and projects, we're hosting three large community-wide events.

- **Public Workshop** | ***Goals, Needs & Approach*** | Thurs., October 19, 2023, 6-8 pm (View Workshop Slides)
- **Open House 1** | ***Priorities Projects Forum*** | Thurs., November 16, 2023, 6-8 pm
- **Open House 2** | ***Selection of Top Project & Draft Civic Campus Plan*** | Thurs., Dec. 14, 2023, 6-8 pm

INPUT SURVEY & EVENT RSVP
Your RSVP and answers to a few short survey questions below are valuable to help us plan the project and prepare for events. Even if you can't attend, your can still give valuable input via this survey. The Resiliency

50

Responses


Electronics charging
eco-demonstration
Command center for emergency response
Shelter - warming space, refuge
Battery Charging & Distribution
Trail & Road Clearing Equipment
Food Storage & Distribution
Library-Refuge/Rebuild
Caches with Solar
Easy Access
Communications/info hub
Safe Space for Pets
Vehicle Charging
Water Supply & Storage
Medical Supplies & Services
Central gathering point
Emergency Procedures & Training
Improved power

1. Do you have any special needs in an emergency or hazard event?

Communication | Medical Assistance | Community Support

Survey Takeaways

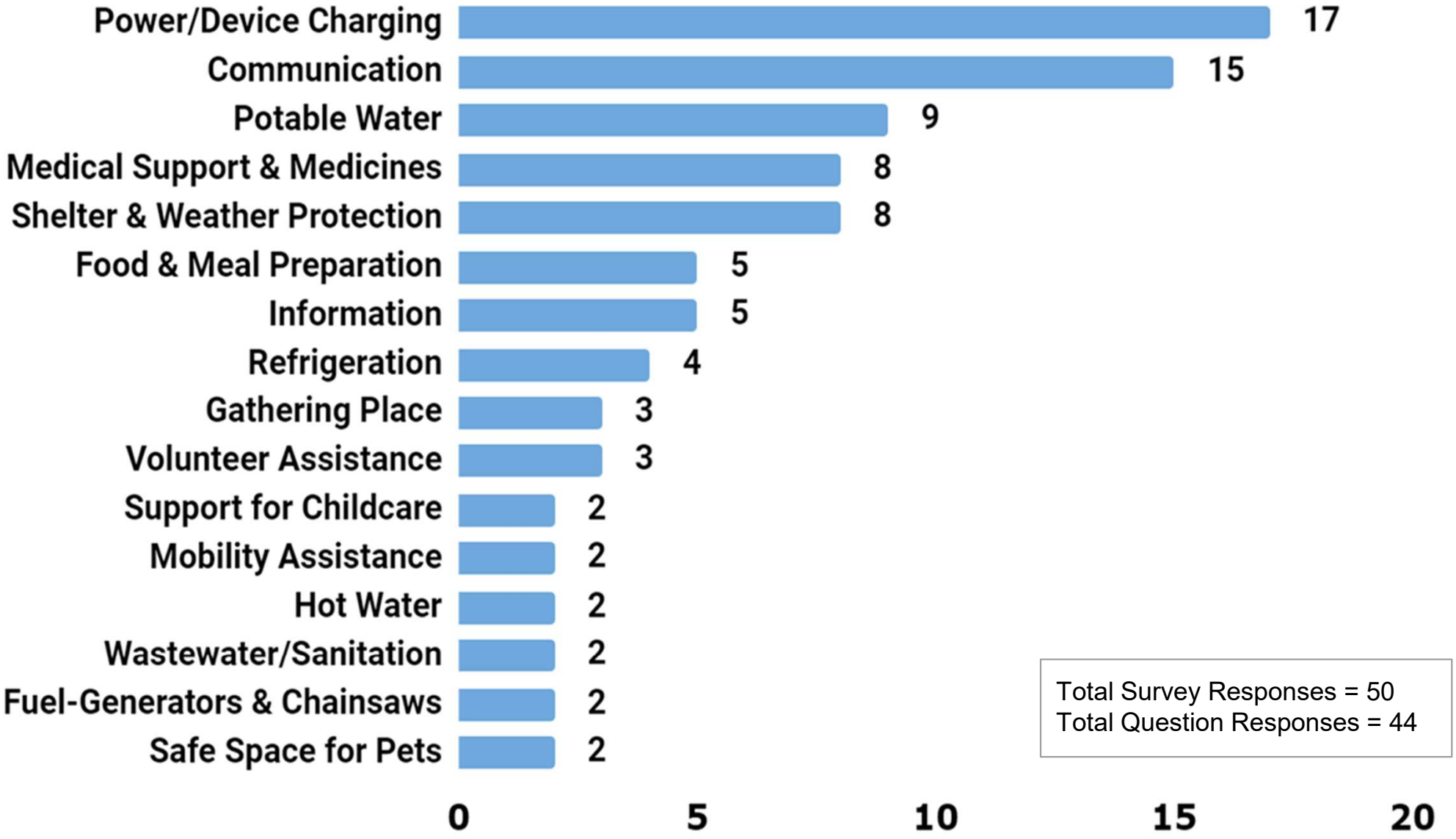
Special Needs in an Emergency

- **Small Children** (YYFAP kids connecting with parents or guardians)
- **Mobility Assistance**
- **Access Challenges**
- **Medical Device Charging** (e.g. CPAP Machines)
- **Refrigeration of Medicines** (e.g. insulin)
- **Communication**
- **Food**
- **Shelter**

2. How might YOU use or rely on Civic Campus facilities during a hazard or emergency event?

YOUR PRIORITIES IN AN EMERGENCY EVENT

How might YOU use or rely on Civic Campus facilities during a hazard or emergency event?

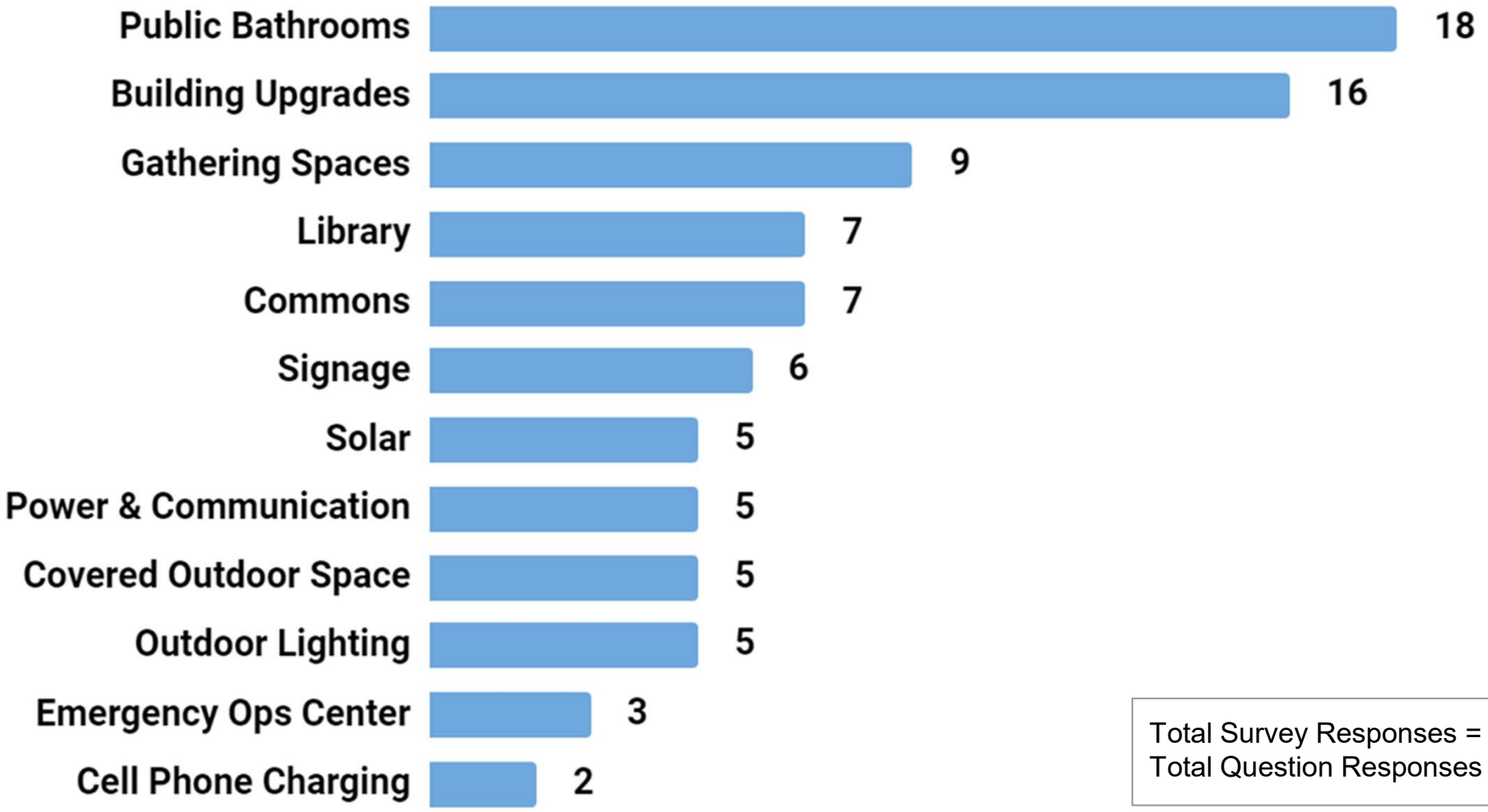


Total Survey Responses = 50
Total Question Responses = 44

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

INTERNAL CAMPUS OPPORTUNITIES

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



Total Survey Responses = 50
Total Question Responses = 39

***Other Single Responses**: Enclose Pavilion, EV Charging, Transport, Batteries, Covered Bike Parking, Food Prep/Medical, Emergency Education & Survival Classes*

4. What local objectives or other planning initiatives surrounding or near the Civic Campus might be leveraged through this project?

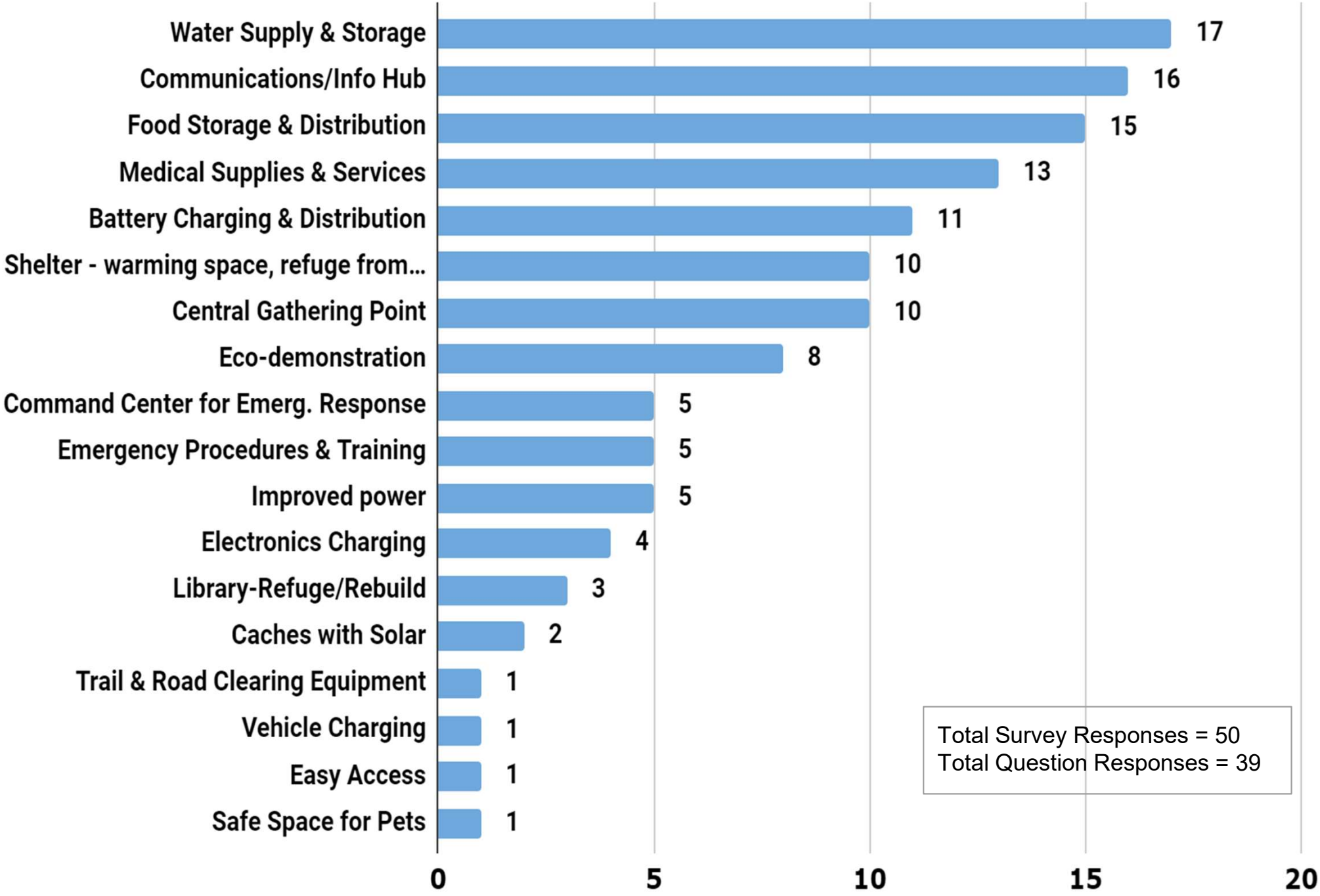
Survey Takeaways

External Improvements

- Signage (7)
- Library Expansion (6)
- Trails (6)
- Safety (4)
- Lighting (4)
- Trolley/Shared Transit (3)
- WWTP (2)
- Business Coordination Plan (2)
- Fire Dept 2()
- Church Hazard Planning (2)
- Farmers Market (1)
- Dog Park (1)
- Expand Outdoor Events (1)
- Art Shows (1)
- Enhance Ocean Dr. (1)
- City Hall New Antennae (1)
- Comm. Park Redesign (1)
- Cont. Emergency Ed. (1)
- Solar on adjacent res (1)

5. 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?

VISION FOR CIVIC CAMPUS IN AN EMERGENCY



COMMUNITY FEEDBACK

Vision: Campus Essential Needs

Water: Include water capture and storage.

Food: Consider how mobile batteries at Campus might be used to help power refrigeration of local food stores.

Refuge: Facilities that can house many residents and visitors in a hazard event with power, heat, and cooking

Fuel: Consider fuel storage locations as backup for WWTP generator, and possible alternative fuels like biodiesel

Hygiene: Public bathrooms, handwashing station, water-bottle filling

Stormwater Management & Water Storage: field is wet, can we manage and capture more water for improved recreation usage and water re-use

COMMUNITY FEEDBACK

City-Scale: Linking Opportunities

Hazard response services & Improvements that provide everyday uses & connect citywide

- **Lighting:** Consider solar lighting on trails and/or trailheads, design for night sky protections.
- **Wayfinding + Signage:** Integrate wayfinding and communication to help others know and use the campus in a hazard event
- **Access**: Pontoons for access to South of Bridge, E-Bikes, helicopter landing site needed
- **Communications:** CB Radios needed, City Hall is Command Central for hazard response, satellite phone
- **Water:** Power for storage & filtration
- **Caches:** power for controlling humidity and storage of solar panels and mobile batteries

Poll #2 & Discussion

Project Recommendations

Framework Plan

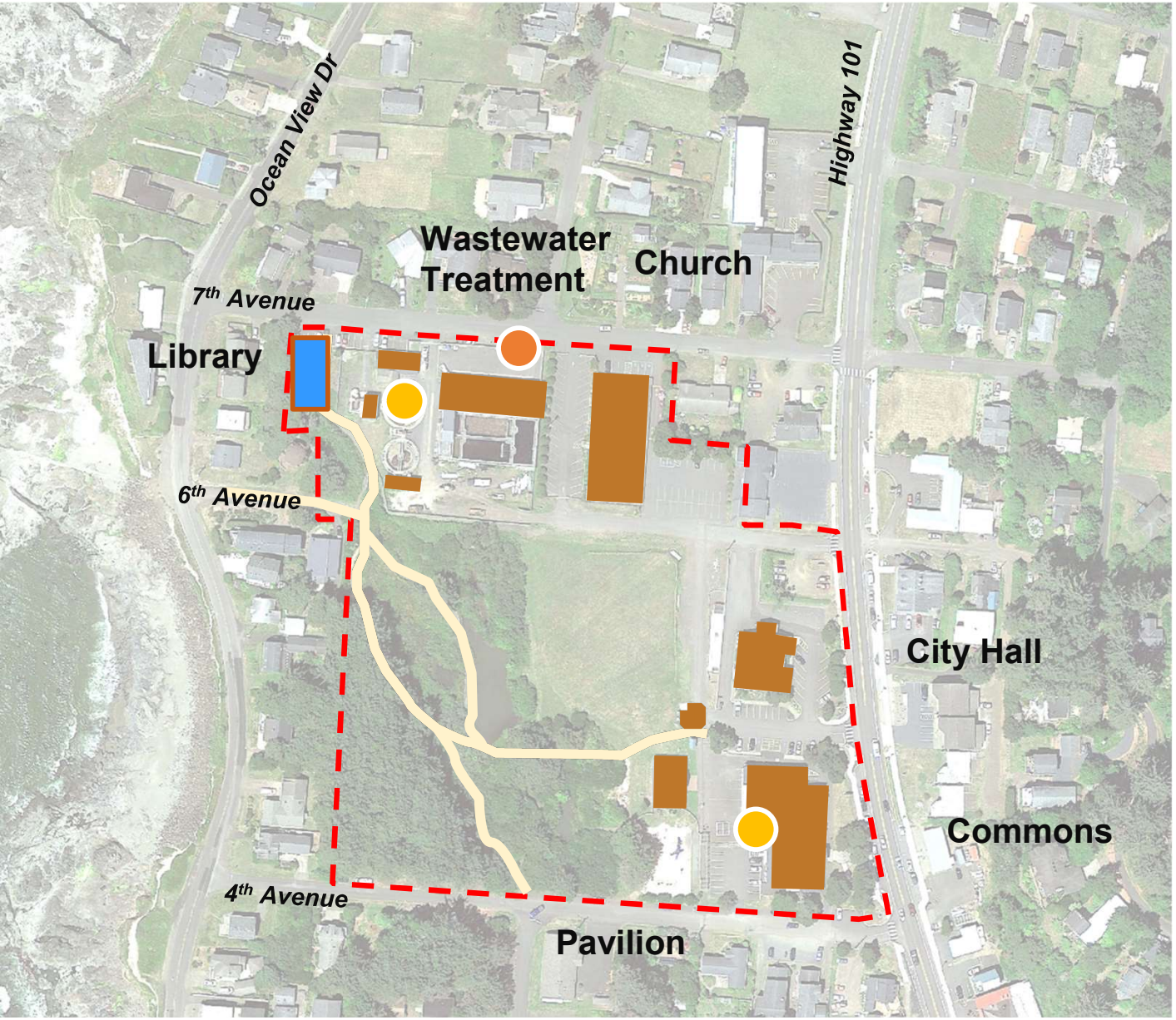
Priority Projects

Vision

The Civic Campus will supplement and complement the Emergency Management Plan implementation by strengthening areas of the City such as the Civic Campus in order to build greater economic and community capacity to provide resilience and a refuge during hazard event.

Framework

Existing Conditions



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

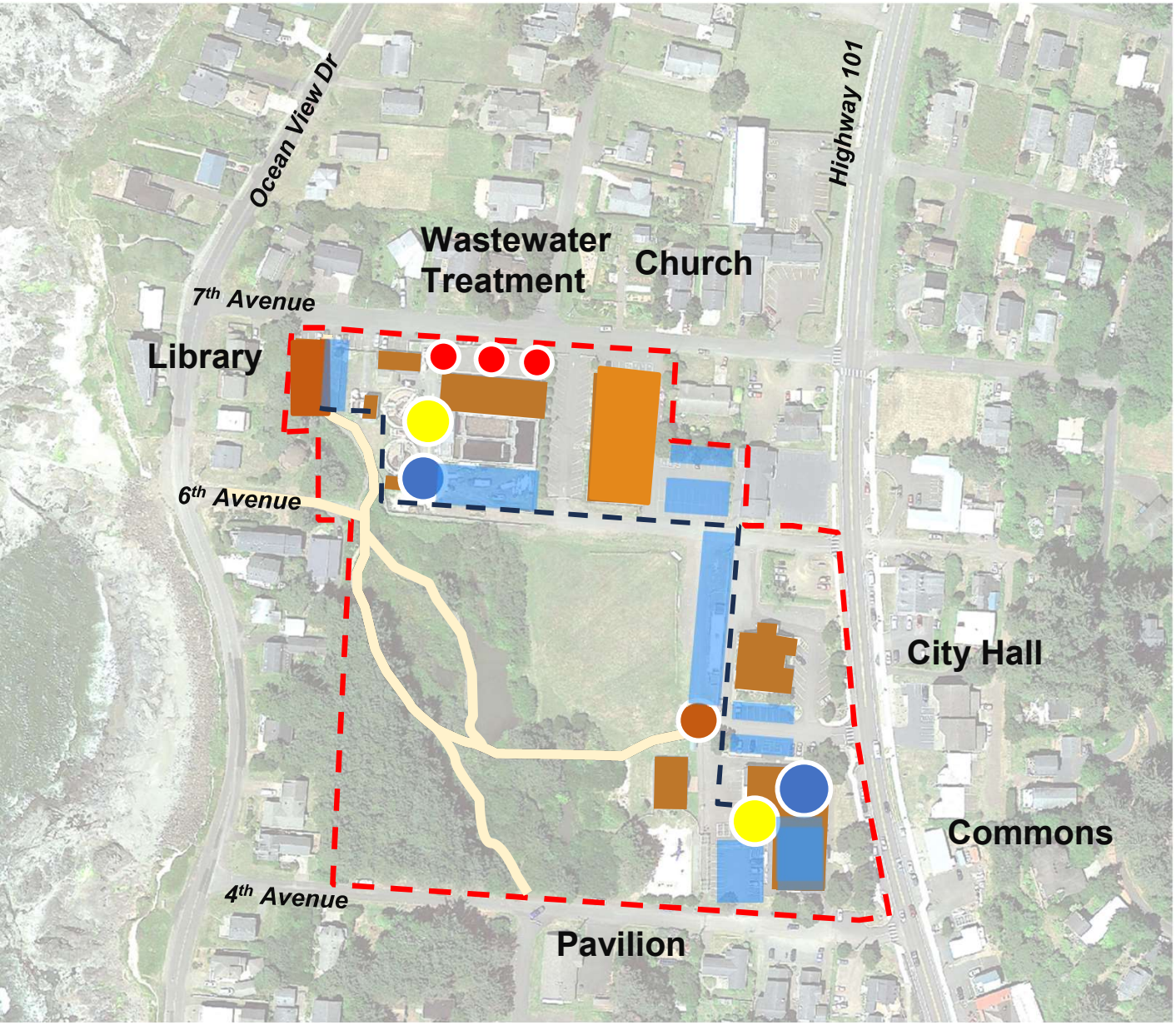
Mobile Generators

Planned Photovoltaic

Emergency Power Generators

Potential Projects

Future Opportunities



Aggregated power sources in a small microgrid (i.e.. not dependent on grid if power goes out) that can provide power to areas nearby.

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

Potential Projects

KEY	CIVIC CAMPUS FACILITY	POWER MODE	APPROACH	PURPOSE
NORTH CAMPUS				
1	**Library**	PV Panels	Roof Mounted	Refuge/ Community Programs
2	**WWTP**	PV Panels	Solar Canopy	Waste Water Treatment
3	**Church**	PV Panels	Solar Canopy	Community Programs
4	**Church**	PV Panels	Solar Canopy	Community Programs
A	**Church**	Solar Thermal	Roof Mounted	Access to Hot Water for Hygiene & Cooking
	WWTP/Library/Church	Emerg. Generator	Interconnect	Normal and Emergency Power
	WWTP	Battery		Back up Power
SOUTH CAMPUS				
5	**Commons Covered Court**	PV Panels	Solar Canopy	Refuge/Community Programs
6	**Commons Roof**	PV Panels	Roof Mounted	Power Source
7	**Parking Lot**	PV Panels	Solar Canopy	Community Programs
8	**City Hall Roof**	PV Panels	Roof Mounted	Power Source
B	**Commons Roof**	Solar Thermal	Roof Mounted	Access to Hot Water for Hygiene & Cooking
W1	**City Hall Parking**	Wind Turbine	Pole	Power Source
W2	**City Hall Parking**	Wind Turbine	Pole	Power Source
W3	**City Hall Parking**	Wind Turbine	Pole	Power Source
W4	**City Hall Parking**	Wind Turbine	Pole	Power Source
	Commons	Battery		Back up Power
	Commons/Pavilion/City Hall	Emerg. Generator	Interconnect	Normal and Emergency Power
	Pavilion			Increase power access

Potential Projects

KEY	CIVIC CAMPUS FACILITY	POWER MODE	APPROACH	PURPOSE
NORTH CAMPUS				
1	Library	PV Panels	Roof Mounted	Refuge/ Community Programs
2	WWTP	PV Panels	Solar Canopy	Waste Water Treatment
3	Church	PV Panels	Solar Canopy	Community Programs
4	Church	PV Panels	Solar Canopy	Community Programs
A	Church	Solar Thermal	Roof Mounted	Access to Hot Water for Hygiene & Cooking
	WWTP/Library/Church	Emerg. Generator	Interconnect	Normal and Emergency Power
	WWTP	Battery		Back up Power
SOUTH CAMPUS				
5	Commons Covered Court	PV Panels	Solar Canopy	Refuge/Community Programs
6	Commons Roof	PV Panels	Roof Mounted	Power Source
7	Parking Lot	PV Panels	Solar Canopy	Community Programs
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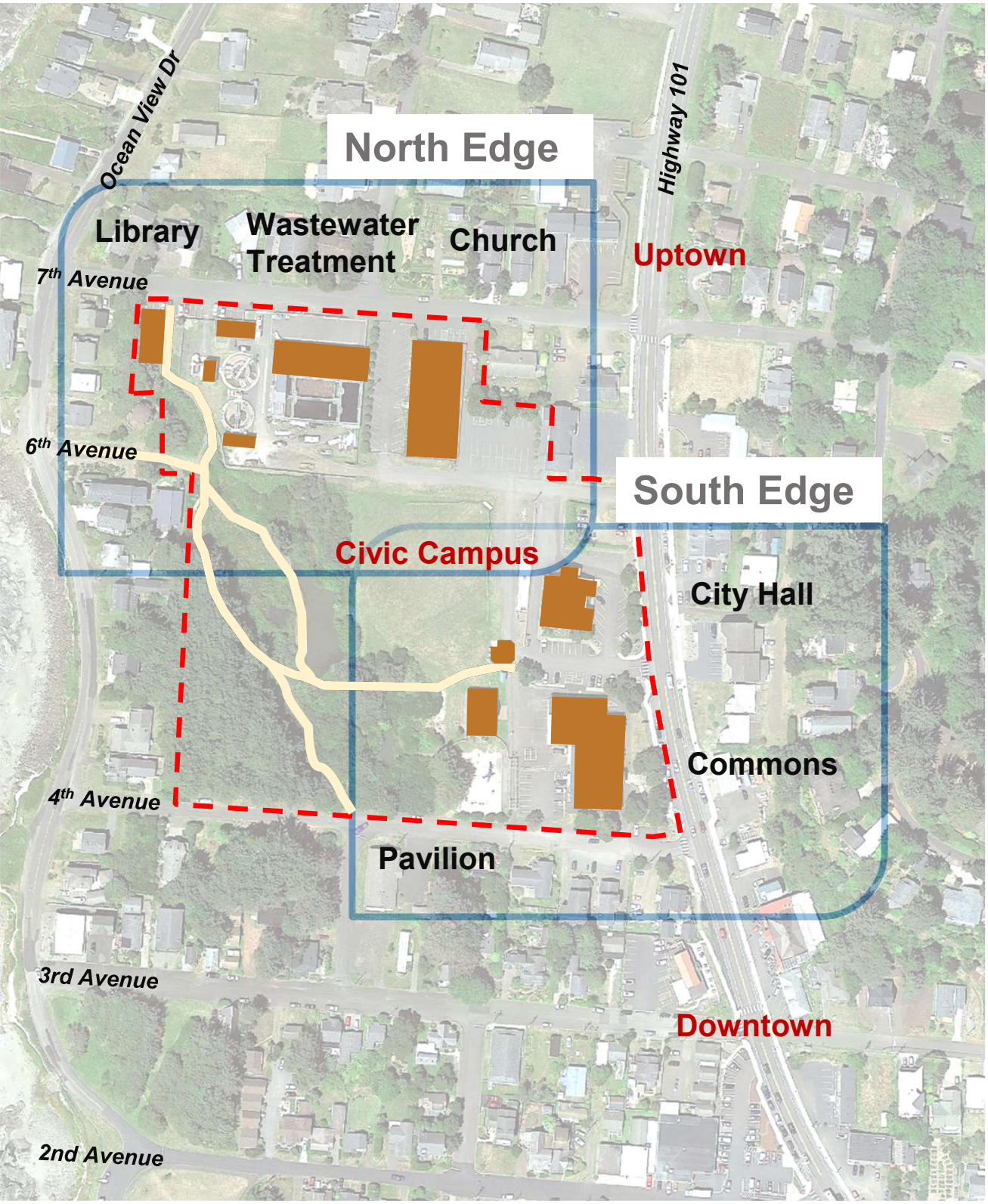
B	Commons Roof	Solar Thermal	Roof Mounted	Access to Hot Water for Hygiene & Cooking
W1	City Hall Parking	Wind Turbine	Pole	Power Source
W2	City Hall Parking	Wind Turbine	Pole	Power Source
W3	City Hall Parking	Wind Turbine	Pole	Power Source
W4	City Hall Parking	Wind Turbine	Pole	Power Source
	Commons	Battery		Back up Power
	Commons/Pavilion/City Hall	Emerg. Generator	Interconnect	Normal and Emergency Power
	Pavilion			Increase power access



Framework Edges

Uptown: North Edge

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

Downtown: South Edge

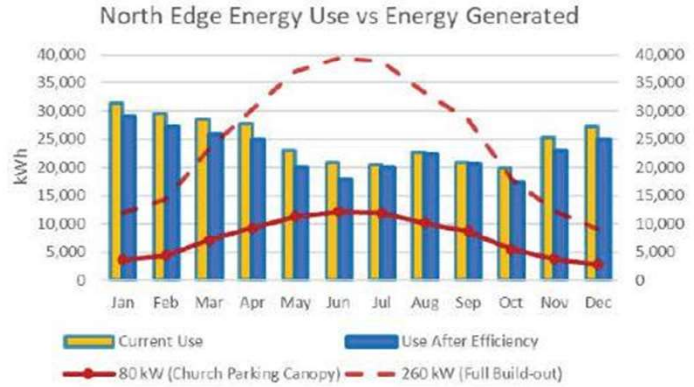
Edge of Commercial Area with City Administration, Childcare, Community Events Spaces.

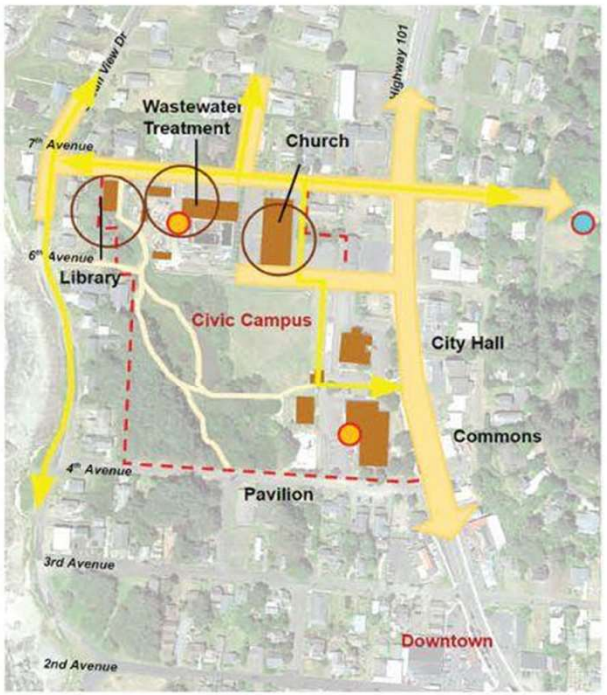
NORTH EDGE FRAMEWORK | WWTP, Library, Church

ENERGY USE & GENERATION POTENTIAL

Renewable Energy Generation (Solar)

- 80 KW PV = PV CANOPY OVER CHURCH PARKING
  - 4,000 SF OF PANEL AREA
  - POWERS 12% OF ALL FACILITIES IN WINTER
  - PROVIDES 33% OF ANNUAL ELECTRICITY AFTER EFFICIENCY
- 260 KW PV = FULL BUILD-OUT OVER CHURCH AND WWTP
  - 13,000 SF OF PANEL AREA
  - POWERS 39% OF ALL FACILITIES IN WINTER
  - NET POSITIVE ENERGY (24,000 KWH SURPLUS)



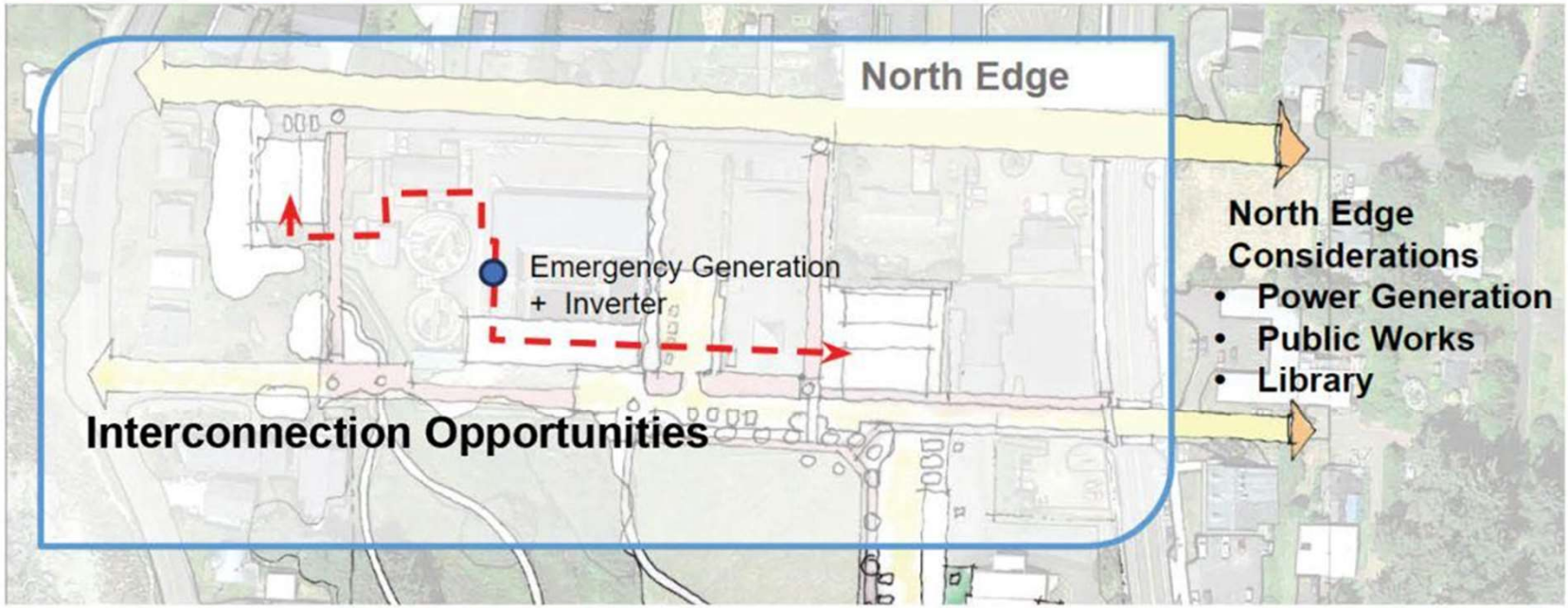


North:
Library/WWTP/Church

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 TAKEAWAYS - Winter Resiliency & Interconnection Potential

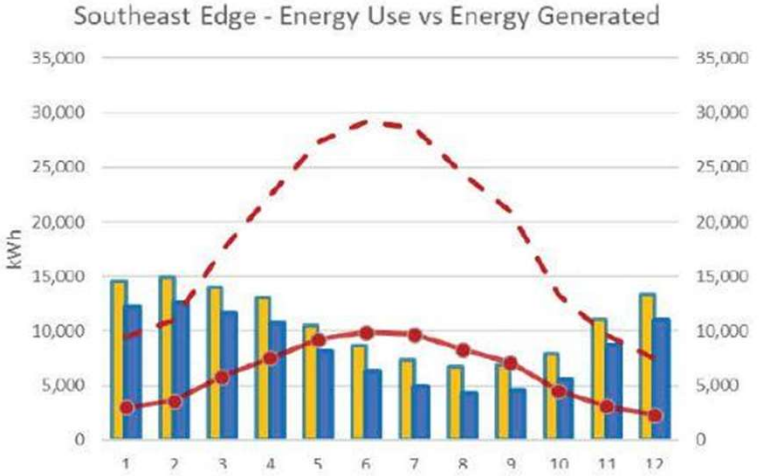
- WWTP + 250KW generator can power other locations like the Library and Church - re-feed power from the electrical panel 480 run transformer
- WWTP has significant excess power generation that can power additional buildings in an emergency
- Church is providing many support services for communities now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

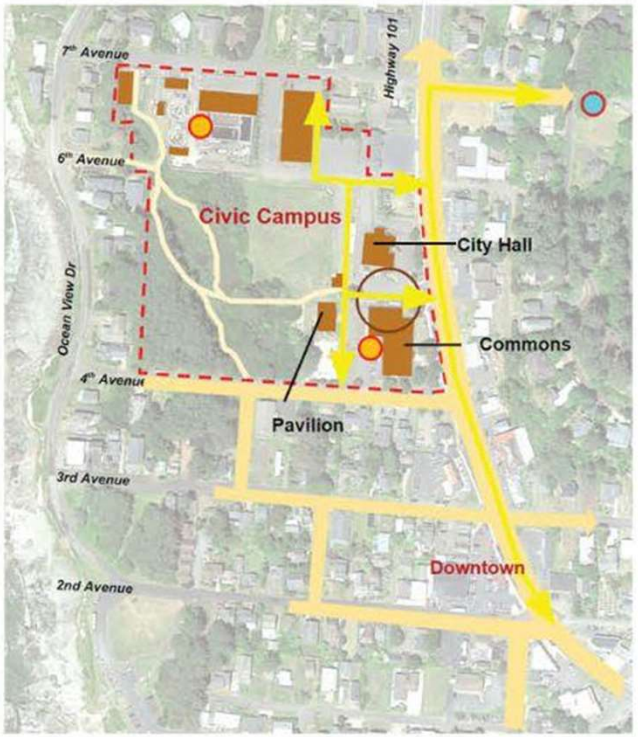
SOUTHEAST FRAMEWORK | Commons & City Hall

ENERGY USE & GENERATION POTENTIAL

Renewable Energy Generation (Solar)

- 65 KW PV = BUILD OUT COMMONS FLAT ROOF
  - POWERS 23% OF BOTH BUILDINGS IN WINTER AFTER EFFICIENCY
  - PROVIDES 75% OF ANNUAL ELECTRICITY AFTER EFFICIENCY
- 188 KW PV + 20 KW WIND = NET POSITIVE ENERGY
  - ROOFTOP, CANOPIES, FOUR POLE-MOUNTED TURBINES
  - POWERS 73% OF BOTH BUILDINGS IN WINTER AFTER EFFICIENCY
  - NET POSITIVE ENERGY (120,600 KWH OF SURPLUS POWER)



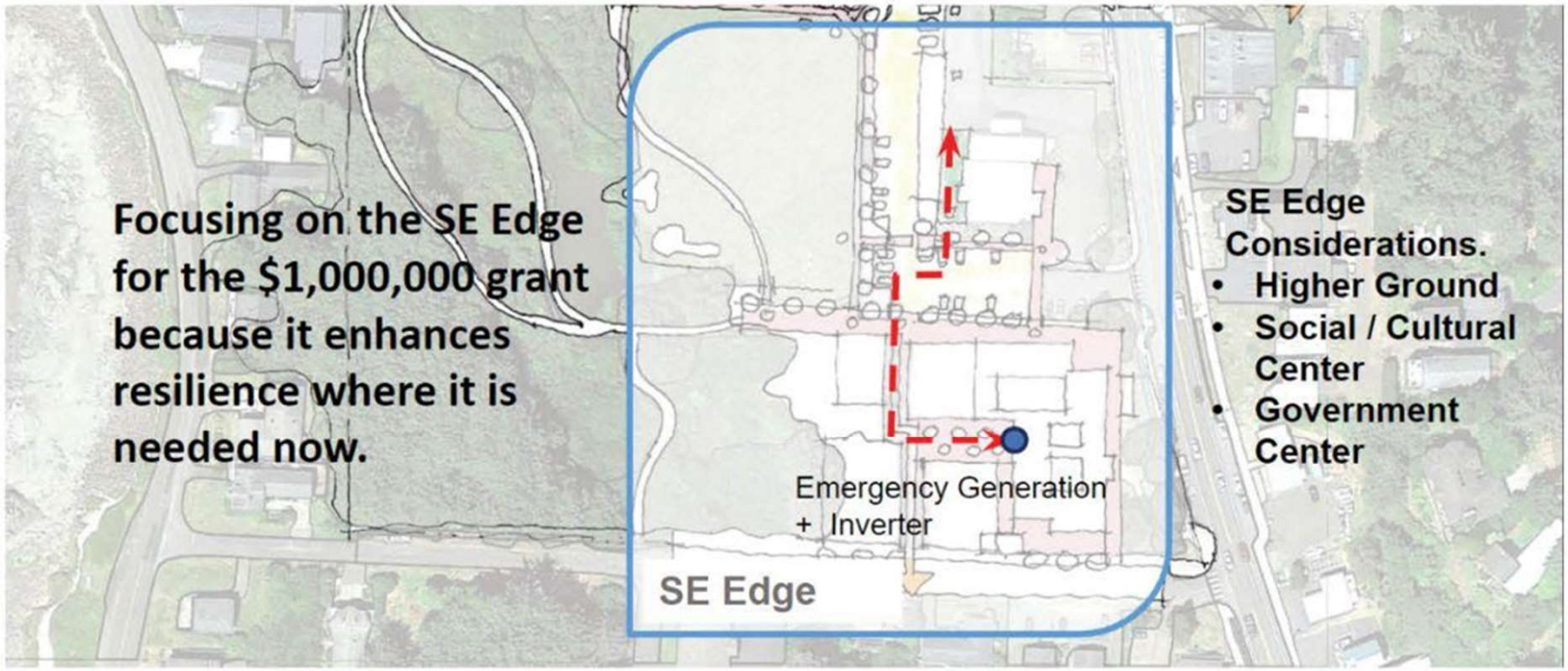


SE Edge

North: City Hall, The Yachats Commons, Pavilion

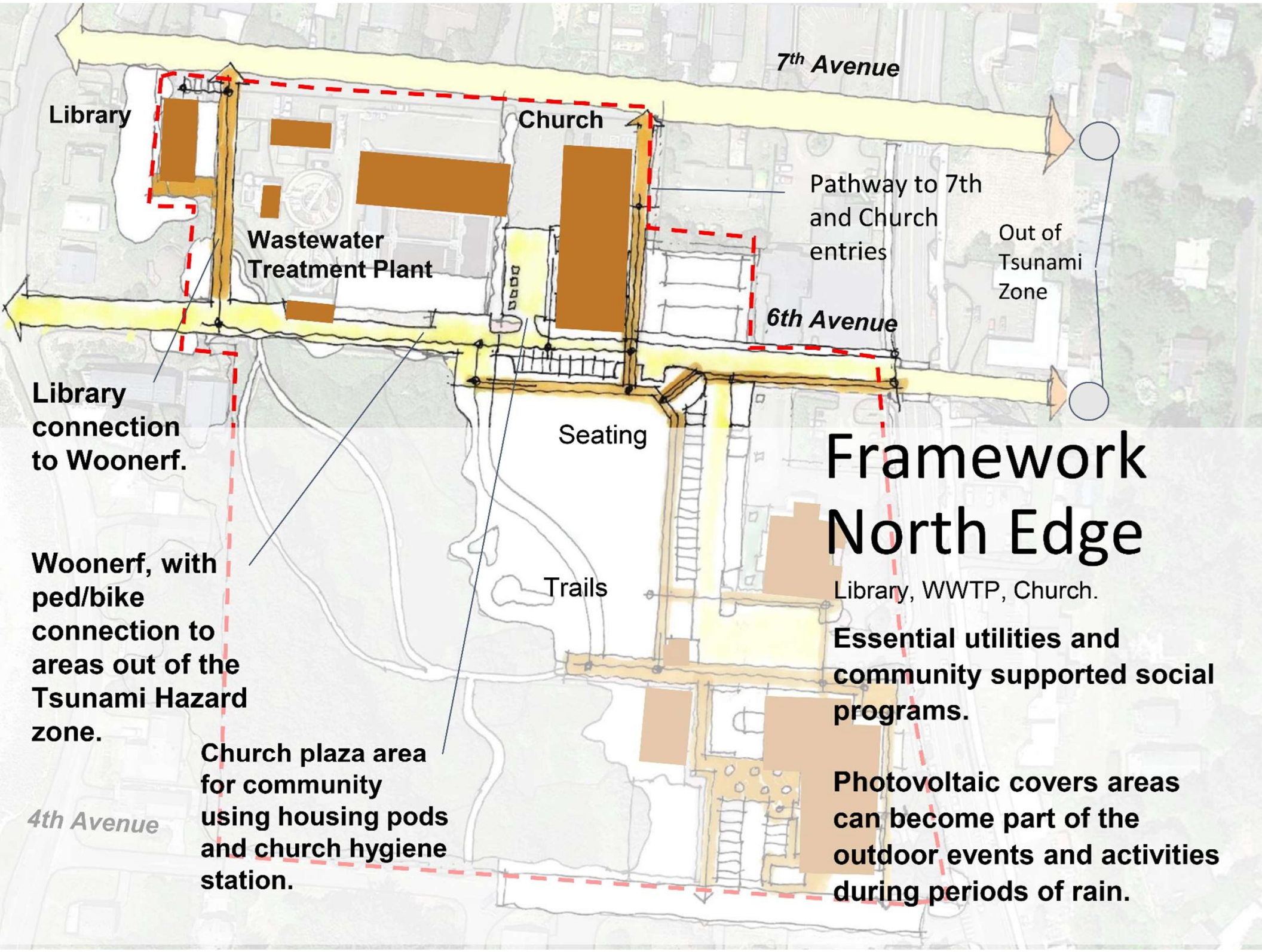
South Edge is situated between the Downtown and meeting places and caches up the hill. It forms the central heart of the Civic Campus.

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



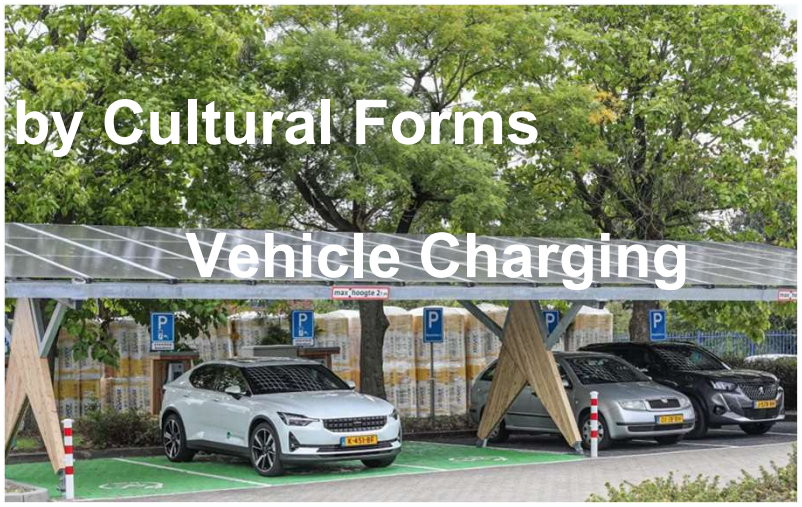
Southeast Edge Takeaways - Summertime Resiliency

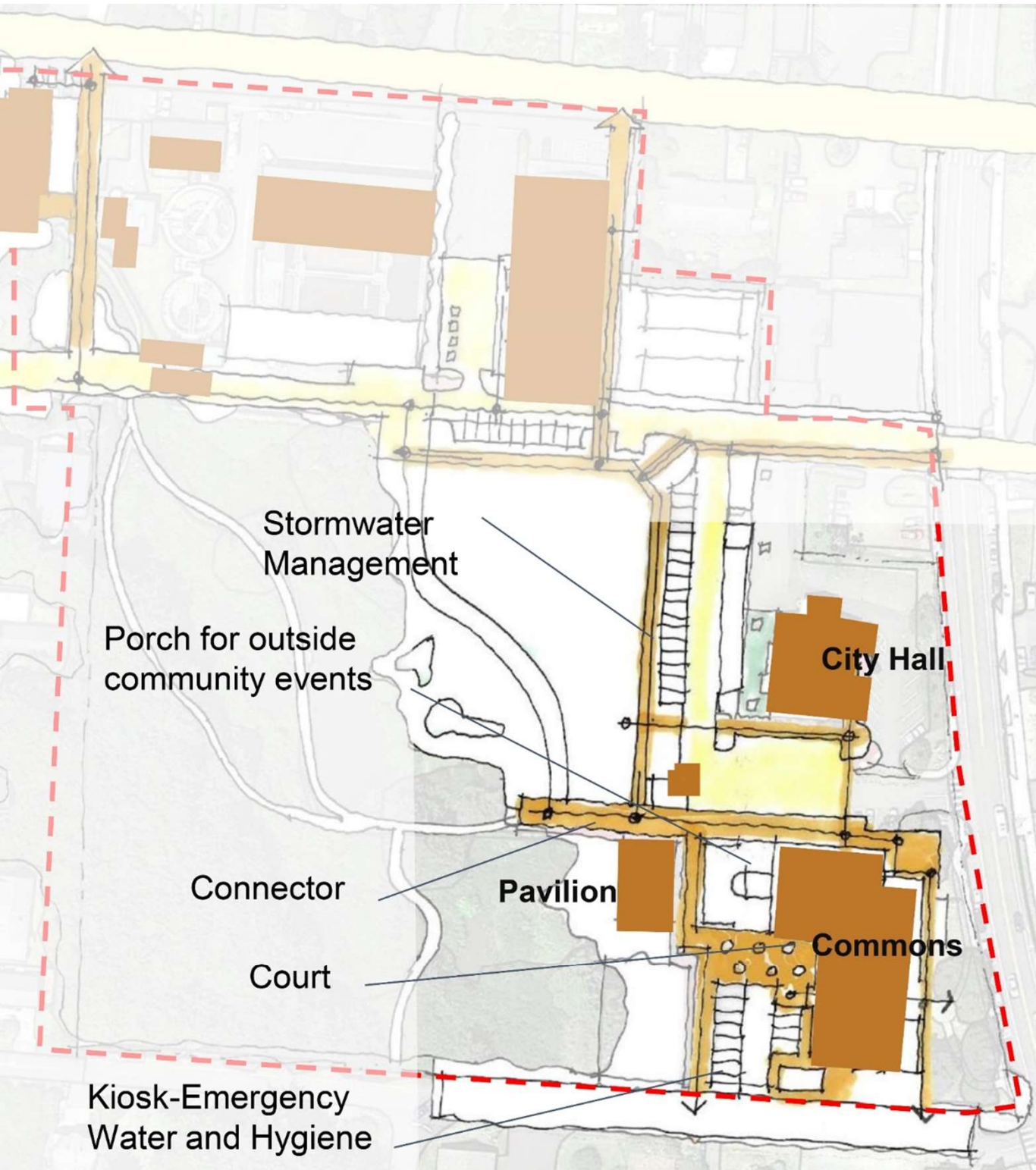
- Commons could have a solar structure 4,000 s.f. of module area (about 6k dedicated roof or site to get 4k collector area installed)
- Recommend electrical panel upgrade and battery inside Commons
- Pavilion is an opportunity facility that could be used for expanded emergency usage
- On the Southeast edge we need to be more thoughtful about what gets backed up, and what we want generator to power
- Opportunities for "Connected Building Scale" improvements with solar array + added connection to City Hall & Pavilion
- Opportunities for achieving "net zero energy" and/or Net Positive buildings


7th Avenue
Library
Church
Pathway to 7th and Church entries
Out of Tsunami Zone
Wastewater Treatment Plant
6th Avenue
Library connection to Woonerf.
Seating
Framework North Edge
Library, WWTP, Church.
Trails
Woonerf, with ped/bike connection to areas out of the Tsunami Hazard zone.
Essential utilities and community supported social programs.
Church plaza area for community using housing pods and church hygiene station.
Photovoltaic covers areas can become part of the outdoor events and activities during periods of rain.
4th Avenue

North Edge What If

Making places for community activities





Framework
SE Edge

City Hall, The Yachats
Commons, Pavilion

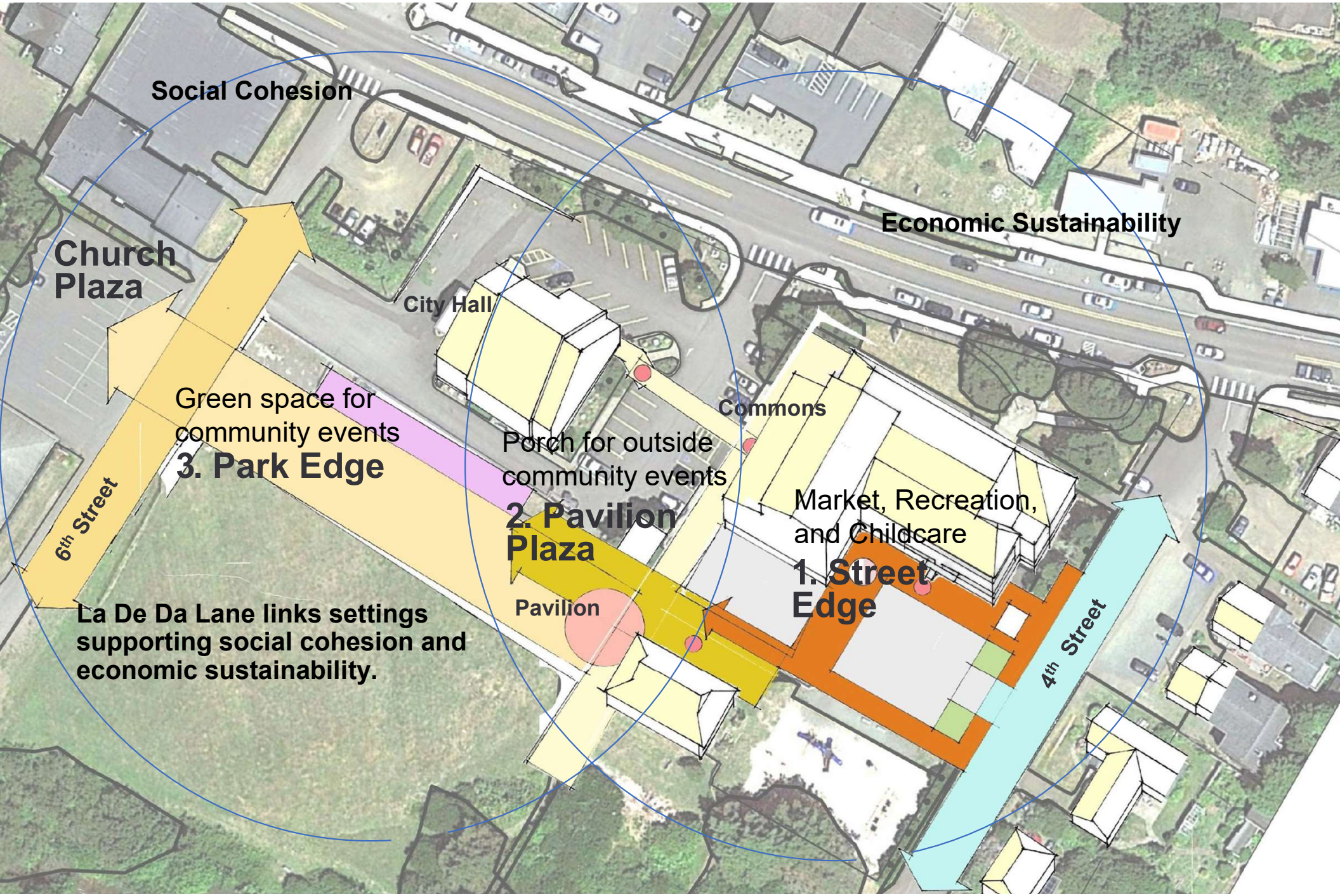
Edge of Commercial Area with City Administration, Childcare, Community Events Spaces.

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

Southeast Edge What If

Making places for community activities

Framework to Connect North & Southeast Edge



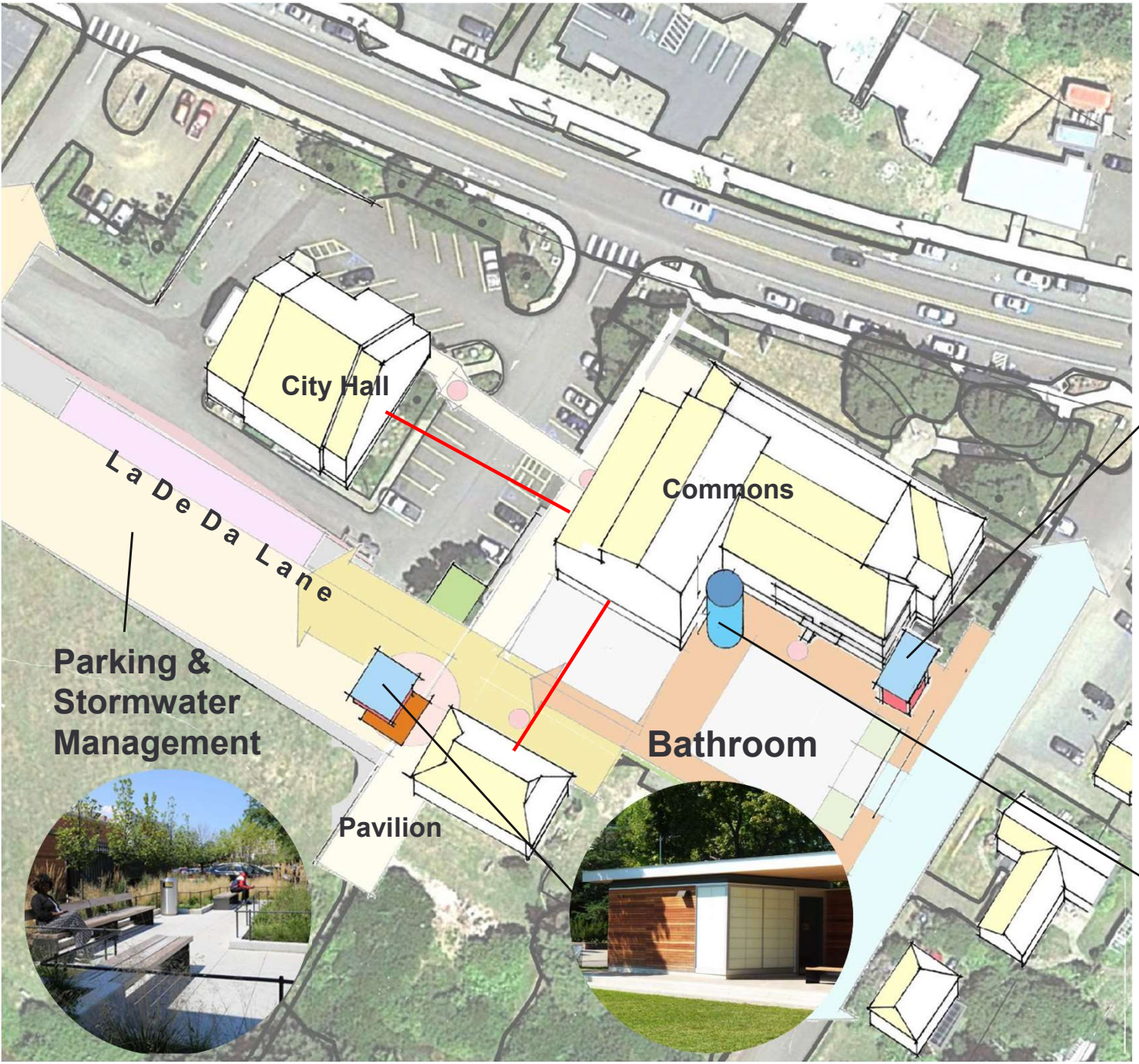
Framework to Connect North & Southeast Edge

1. Street Edge

2. Pavilion Edge

3. Park Edge

Potential Leveraged Site Improvement Opportunities on The Southeast Edge

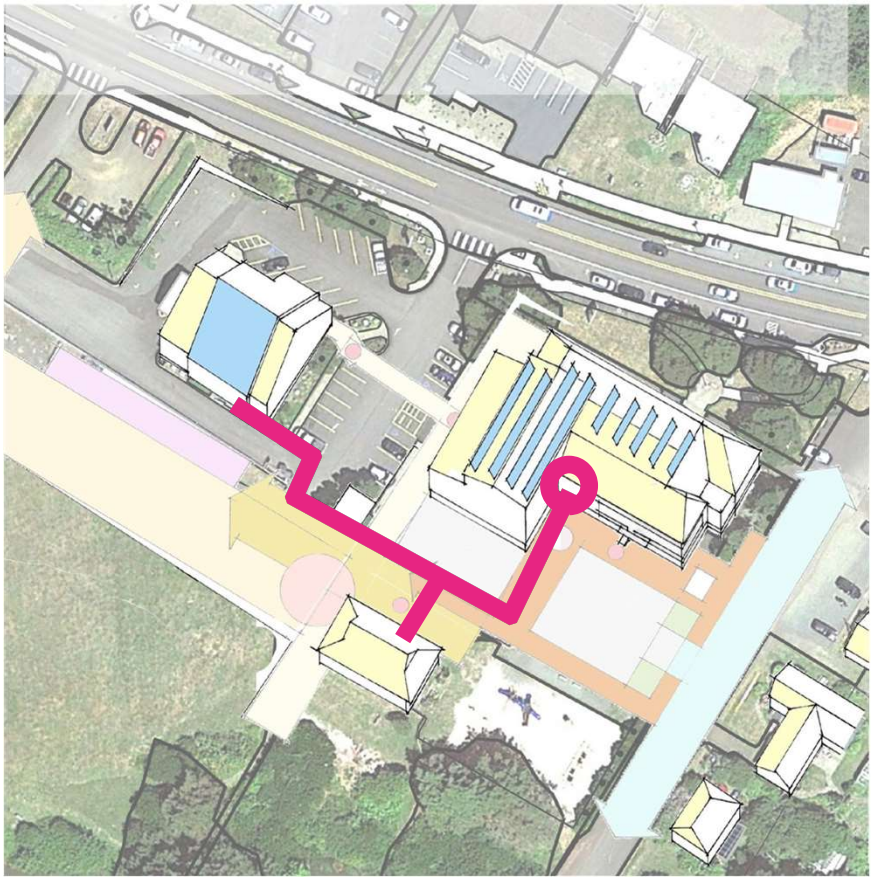


Tourism/Nonprofit Info Kiosk

Rain Water Collection

Develop an efficient electric infrastructure.

We are sizing the panels and batteries to limit (as much as possible) the use of back up emergency diesel generated power.



Battery Bank
100 kWh

Rooftop Solar Electric
Installed on Commons roof

Small Wind Turbine
Vertical axis to minimize noise and bird casualty

Solar Electric Canopy

Hybrid Inverter
100 kW

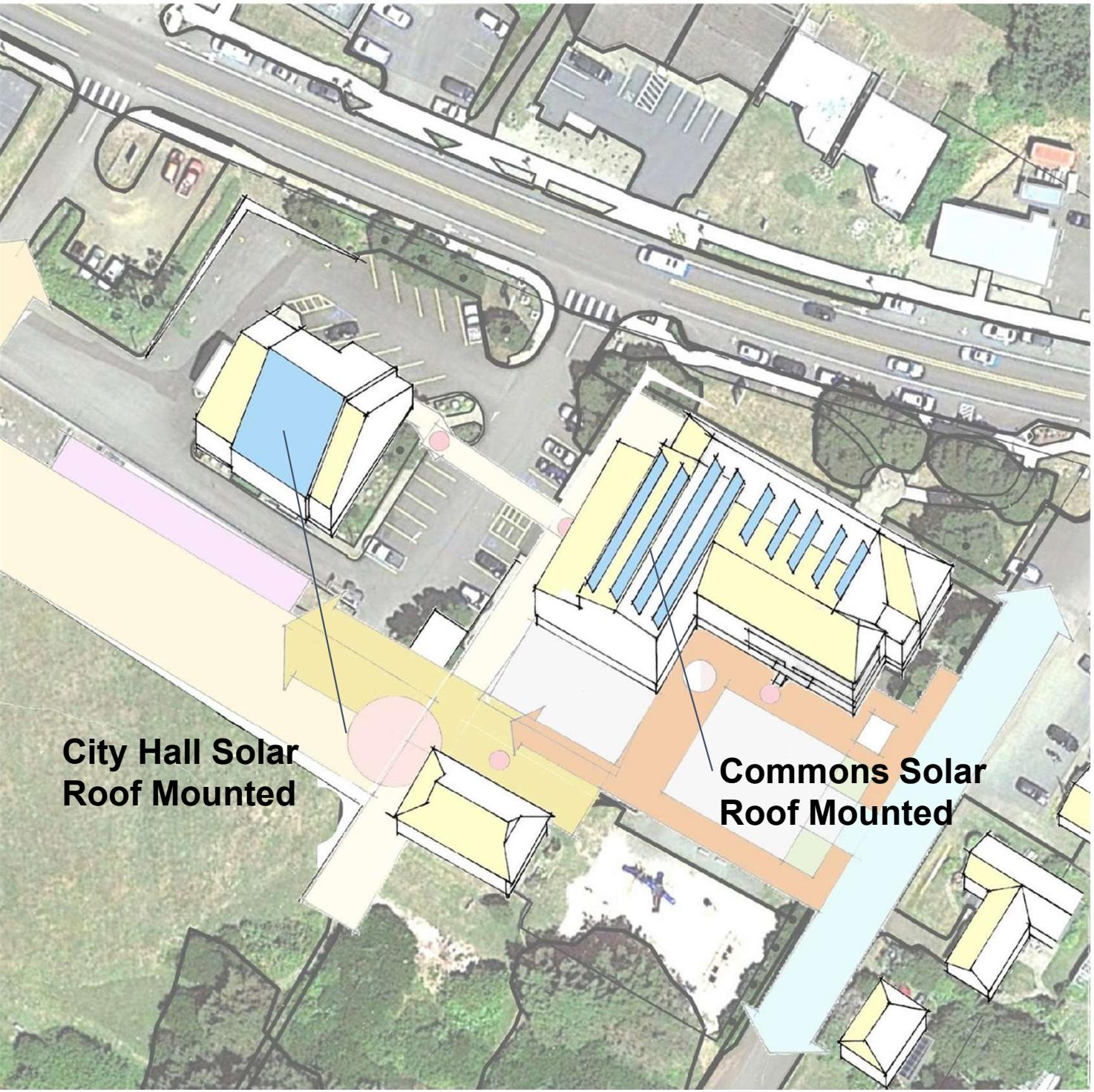
Diesel Generator
30 kW

Central Lincoln PUD

Pavilion / City Hall Electrical Systems

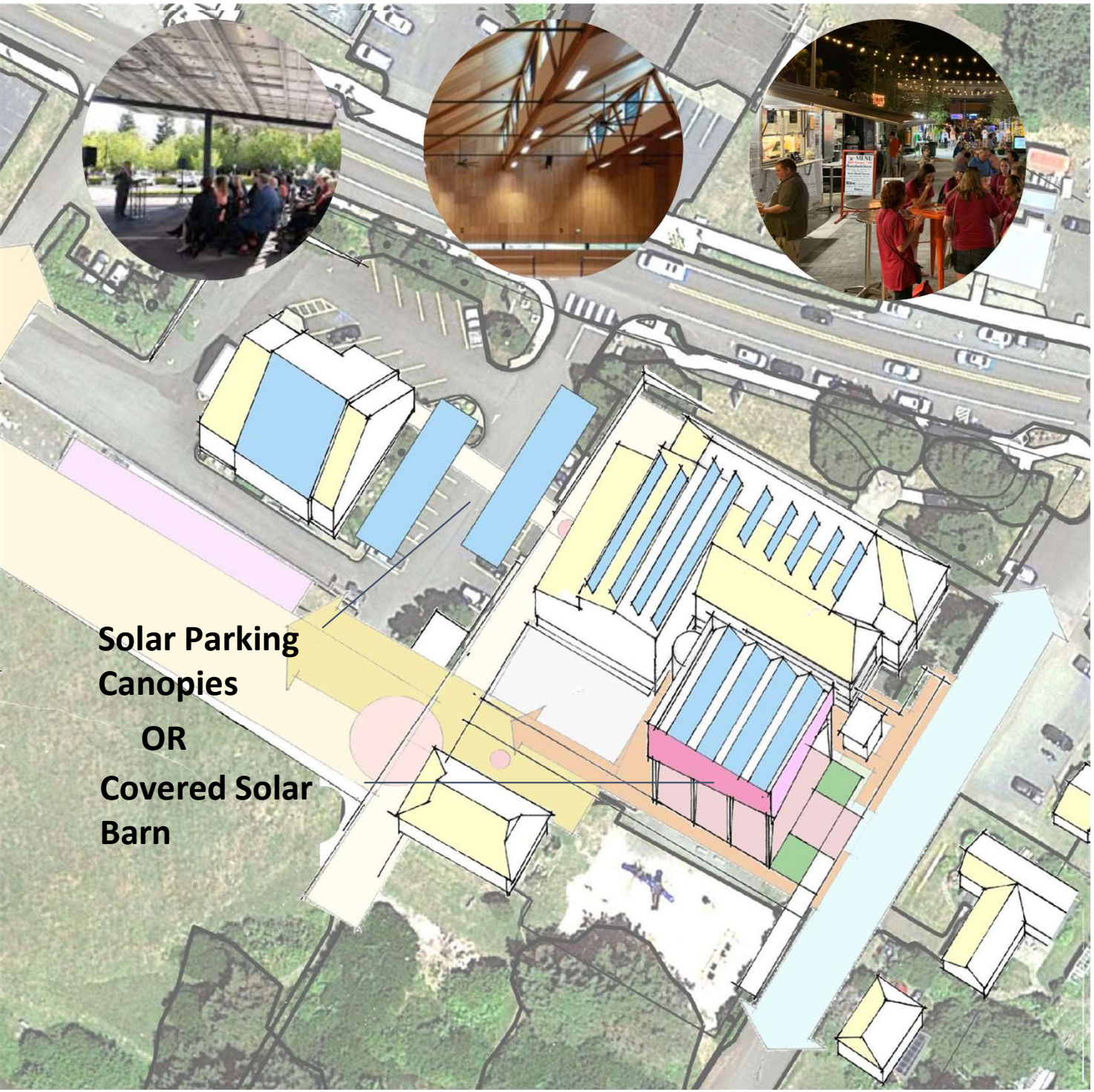
Commons Electrical System

Scenario 1b 78% Renewable Energy



1. Funded by subsequent **$1,000,000 ODOE Grant.**
2. Managing load during an event.
3. Reduce power purchase from **CLPUD by 78%.**
4. Power in extended winter outage will require diesel generator support
5. Energy efficient improvements **reducing building energy use by 21%**

Scenario 4 100% Renewable Energy



1. **Resilience:** Increased power availability during low solar power generation periods.

1. Reduce power purchase from **CLPUD by 100%.**

1. **Refuge:** Expand covered areas for refuge, events, and provide staging for hazard event response.

Electric Infrastructure + Options

Kiosks, Water Storage, Bathrooms

>

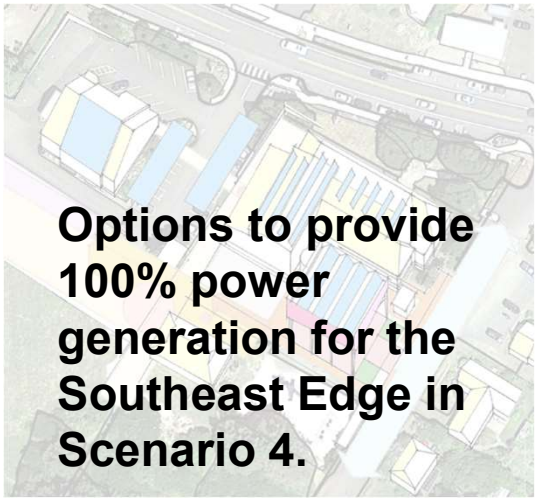
Scenario 1b

78% of needed power

Basic Projects and Electrical Infrastructure (Scenario 1).

+

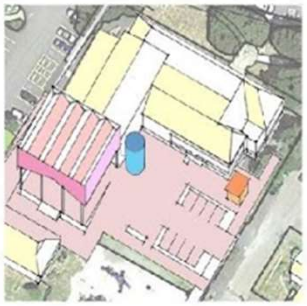
Scenario 4



Options to provide 100% power generation for the Southeast Edge in Scenario 4.

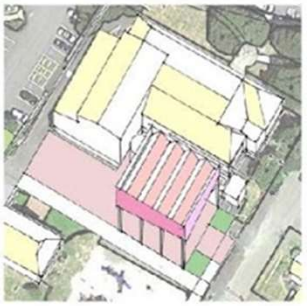
Simple Porch

Big Porch



Metal Barn

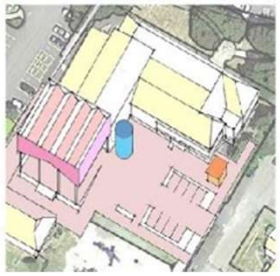
Mass Timber Barn



Skate Park Pergola

Parking Canopy

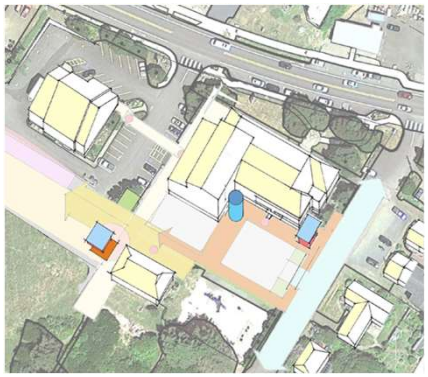
Candidate Options for Scenario 4



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

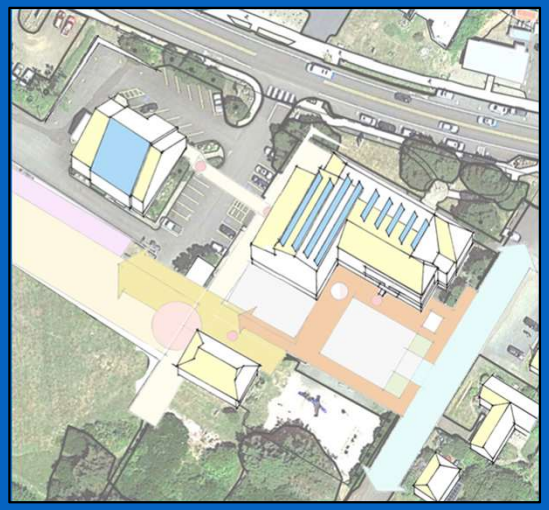
What is Priority Project




Option	Leveraged Projects	A. Roof Option (1b)	B. Barn Option	C. Parking Solar Canopy
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

PROPOSED PROJECT 1

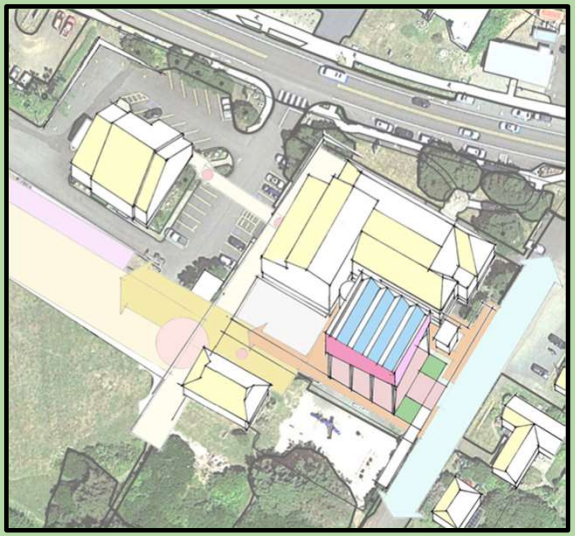
A. Option 1b Rooftop Solar on Commons & CIty Hall



$998,500 (incl. Foundational Electrical Infrastructure)

PROPOSED PROJECT 2 OPTIONS

B. "Barn" Solar Canopy



$1,511,960
(Adds amenity space)

OR

C. Parking Solar Canopy

$954,000

PROJECT 1

Feb 2024 — Prepare Grant | Design & Construction — Feb 2025

78% of Power Need Provided

PROJECT 2

Find a Partner & Prepare Grant Application | Design & Construction

100% of Power Need Provided

DOE Construction Grant Application

Design & Construction

Leverage Other Projects

- Kiosk/Toilets/Shower/Water filling station
- Cistern for Water Collection & Treatment
- Stormwater Management
- Demonstration of Wind Power

Proposed Sequencing of Improvements

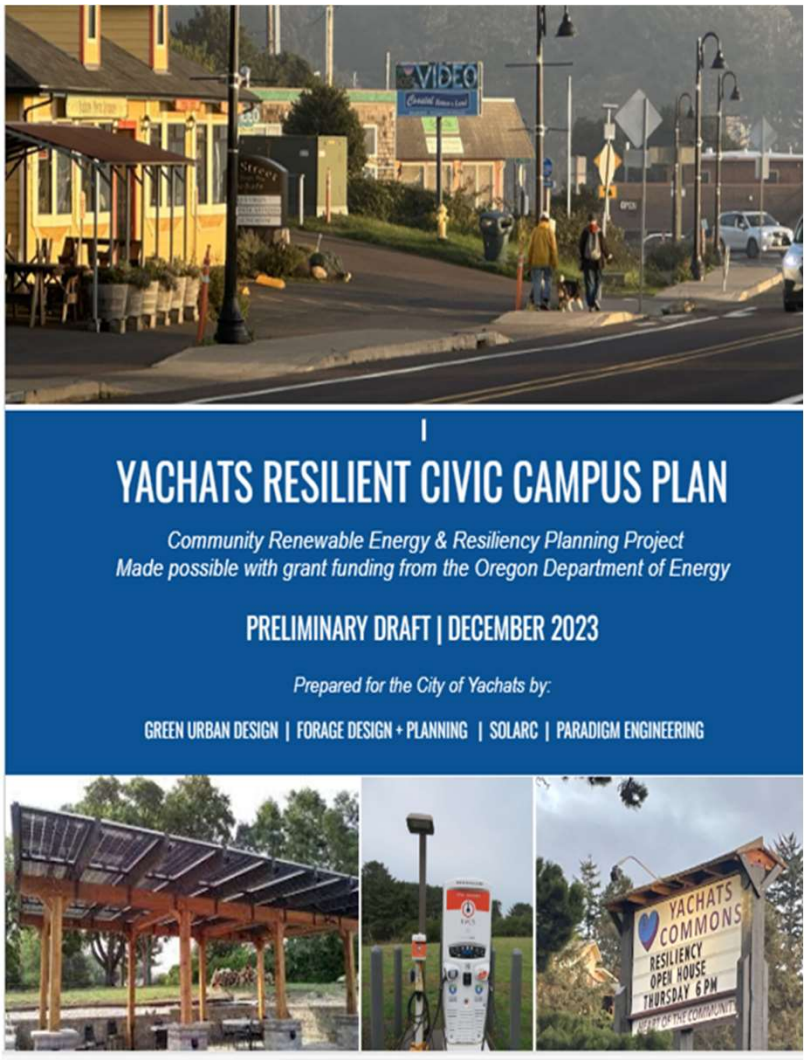
Poll & Discussion

Plan

How to use this document

Projects respond to the following components of the plan.

- **Vision**
- **Goals**
- **Objectives**
- **Guidelines**
- **Framework**
- **Priority Project**



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
Satelite 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

Implementation

Creating the greatest potential for success

1. ***Partnerships:*** *City and its partners may imagine projects and secure grant funding for those projects through financing agreements.*

1. ***Implementing Agreements:*** *Implement policy, resolution, or agreements to support sequential grant funding of projects for Implementation in the Civic Campus.*

1. ***Responsibility:*** *Assign responsibility to an entity to coordinate successful development and long-term operations.*

Next Steps

1. *Pursue a $1 million grant for construction of the basic infrastructure to generate 78% of the power used by the SE Edge to Submit by February 2023.*

1. *Find grants and partners to develop a subsequent grant application to make improvements that will generate 100% of the power used by the SE Edge and maximize the degree power can be generated during a power outage.*

1. *Find grants and partners that will invest in the Library and generate energy for the Civic Campus.*

Poll & Discussion

Greatest Potential for Success

Partnerships: Through the identification of priority projects in the resilience plan, the City and its partners may imagine projects and secure grant funding for those projects through financing agreements.

What partnerships are most viable in the near term or can be cultivated in the future to share costs of implementation?

Greatest Potential for Success

Financing Agreements: Financing agreements would establish the guidelines for collaborative action between partners that derive shared outcomes and identify each partner's role in designing, financing, constructing, and operating facilities. This agreement would establish the lead entity for delivering the project and who would maintain the facilities.

What policy, resolution, or agreements are needed to support sequential grant funding and project Implementation in the Civic Campus?

Greatest Potential for Success

Long Term Stewardship

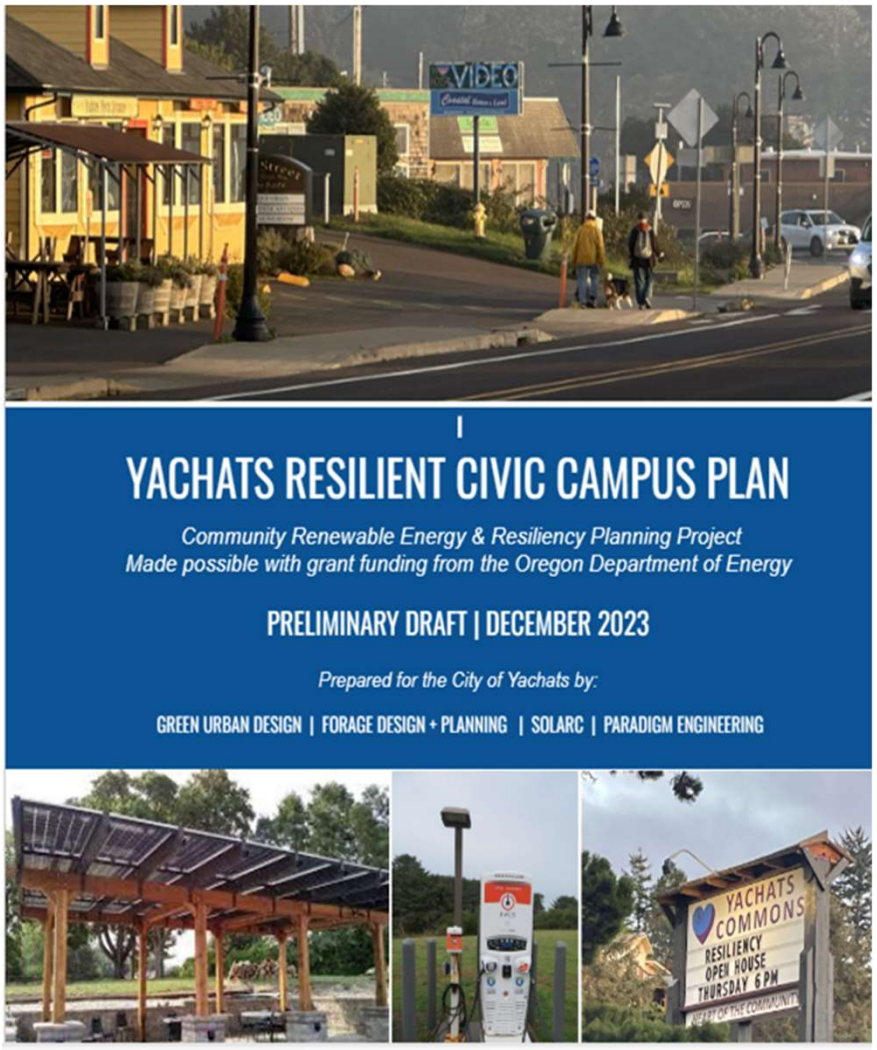
Through finance agreement, assign responsibility to an entity to coordinate successful development and long-term operations.

Who will be responsible for recurring training of the community on how to use the new facilities before and after a hazard event?

Who would be assigned the role of long-term operations, of the electrical infrastructure?

Support the Process

- **Review the <u>Preliminary</u> Draft Plan** when published
- **Share** the draft plan with others
- **Give input** on the Plan
- **Consider implementation** mechanisms, funding, stewardship, policy



Thank You