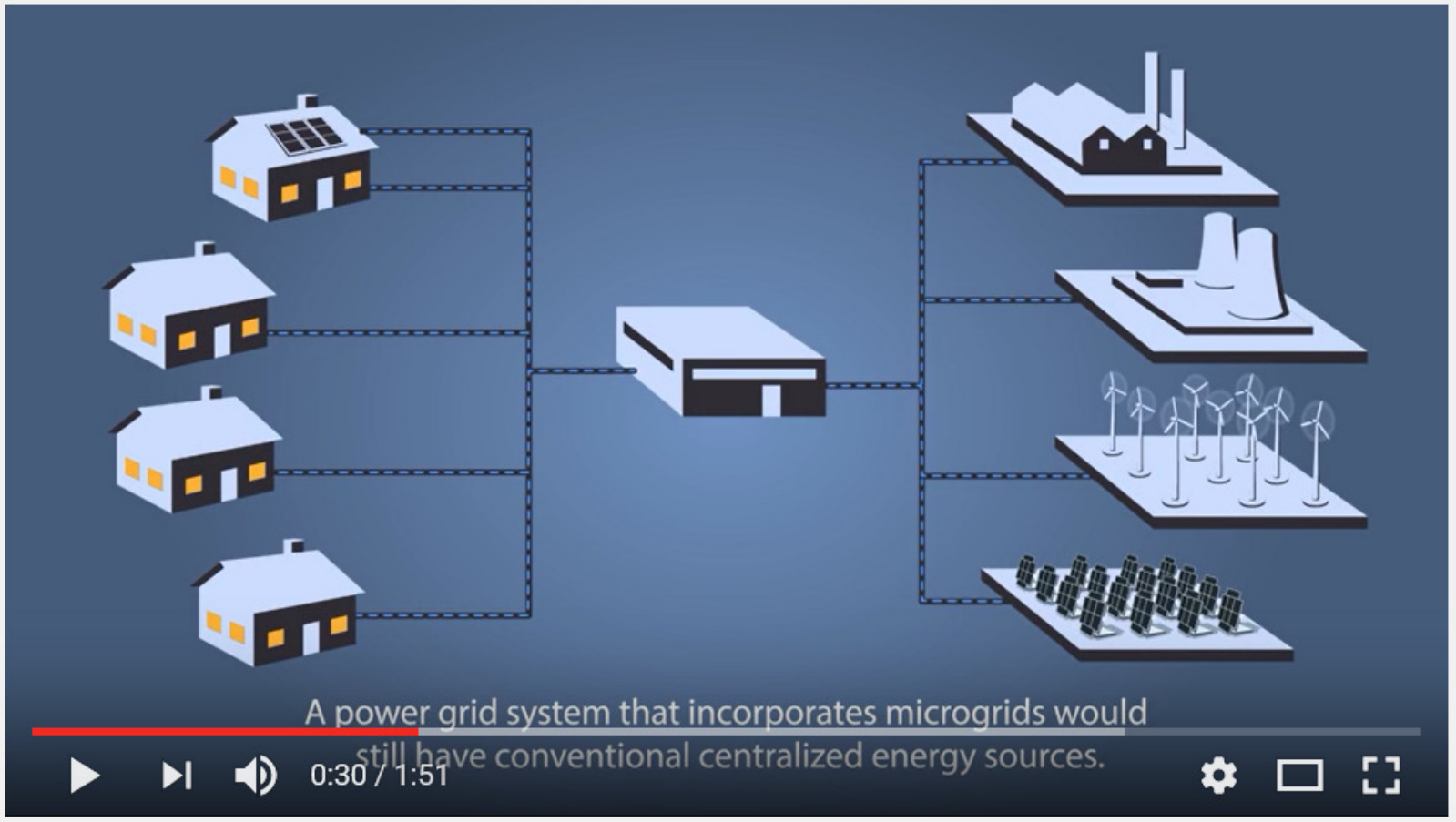
Solar Resiliency Microgrid

A partnership for Healthy People, a Healthy Environment and Strong Communities

Seattle Parks & Recreation

healthy people
healthy environment
strong communities

Microgrid explained



Solar Microgrid for Resilience

Seattle
Parks & Recreation

Who, What, Why, Where & When

Not necessarily in that order.

The proposal

- Partner with Seattle City Light to install an innovative solar microgrid
- Locate it at a City emergency shelter (community center)
- Store the energy collected from solar panels in a large battery
- Use the stored energy to operate an emergency shelter/community center

What is a solar microgrid?

- Small-scale power grid
- Collects energy from the sun
- "Island-able"-- operates independently or in conjunction with the area's main electrical grid

How does it work?

- Energy is produced using photovoltaic (PV) solar panels.
- Energy is stored in a large, commercial battery on site.
- Energy from the battery is used to operate the community center in the event of an emergency.

Budget Intermission

Partners & budget

- Seattle Parks & Recreation
  - Site for microgrid
  - $21,000 (staff time)
- Seattle City Light
  - $1.8 million
- Washington State Department of Commerce
  - $1.5 million

Seattle Parks & Recreation

Seattle City Light

Department of Commerce
Innovation is in our nature.

Who, What, Why, Where & When

Cont'd.

What is the schedule?

- August 2016: Seattle wins a $1.5 million grant from the Department of Commerce (DOC)
- June 2017: DOC and SCL sign final contract to install microgrid
- July 2017: site selection consultant hired to evaluate sites
- August 2017: Seattle Parks & Recreation and SCL sign a siting memorandum of agreement
- Fall 2017: public process starts during site selectioin
- 2018: construction

Who will install it?

- SCL will hire a construction contractor and oversee construction.
- Budget allocated by SPR will cover SPR staff time to participate in site selection, design oversight and construction oversight.
- Design oversight = SPR to review designs at 30%, 60% and 90% design.

Who will operate it?

- Seattle City Light will own and operate the microgrid as part of its system, including:
  - Installation
  - Maintenance
  - Training for on-site staff
  - Emergency testing
  - Education

How will SPR & SCL partner on site?

- SPR and SCL will:
  - Host joint emergency drills
  - Educate the community about the benefits of clean energy
- Seattle City Light will:
  - Provide informational sessions to on site on how the microgrid works
  - Oversee all aspects of technical operation
- SPR will:
  - Receive net metering benefits.

Why should the City do this?

- Seattle officially became a member of the 100 Resilient Cities in 2016
- Urban Resilience:
  - The capacity of individuals, communities, institutions, businesses and systems within a city to survive, adapt, and grow no matter what kinds of chronic stresses and acute shocks they experience.

Why should *Seattle Parks & Recreation* do this?

- **Healthy People**
  - Reduces reliance on diesel generators during an emergency.
- **Healthy Environment**
  - Solar is a clean, renewable energy.
- **Strong Communities**
  - Supports our most vulnerable communities.
- **Environmental Action Agenda**
  - SPR seeks to become an environmental leader

What are the benefits to Seattle Parks & Recreation?

- **Solar power electricity credits**
  - SPR receives 100kWh net metering offset
- **Public education opportunity**
  - Educate on the nexus between climate change and resiliency
- **Clean energy is our future**
  - Shows residents our commitment to being an integral part of our community's success.

Options

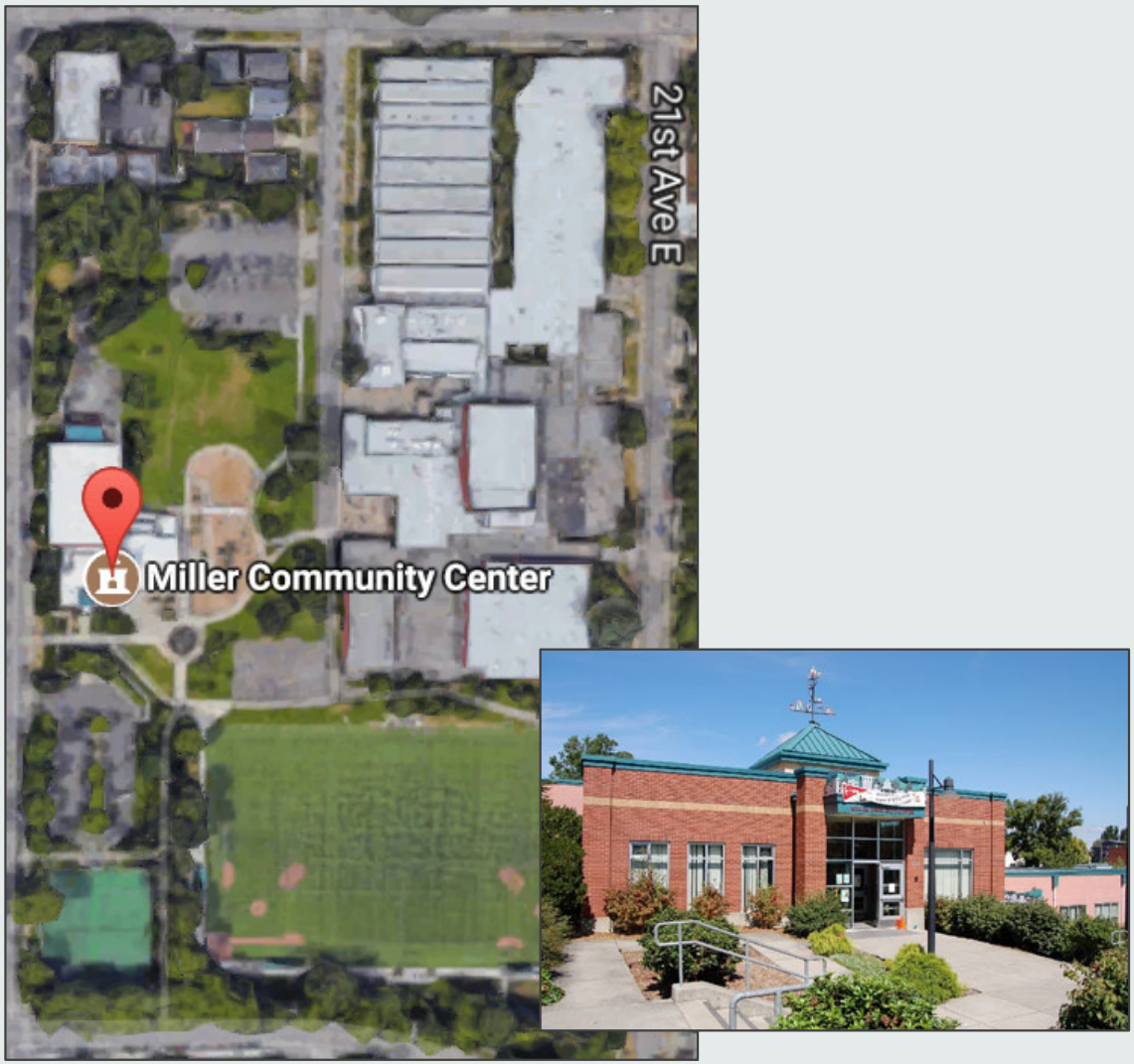
Advantages & Disadvantages

Possible Locations

Facility	Diesel generator	% below the poverty level
Miller Community Center	No	7%
Van Asselt Community Center	No	21%
Yesler Community Center	No	16%
Delridge Community Center	Yes	22%
Rainier Community Center	Yes	22%
Southwest Community Center	Yes	17%
Rainier Beach Community Center	Yes	22%

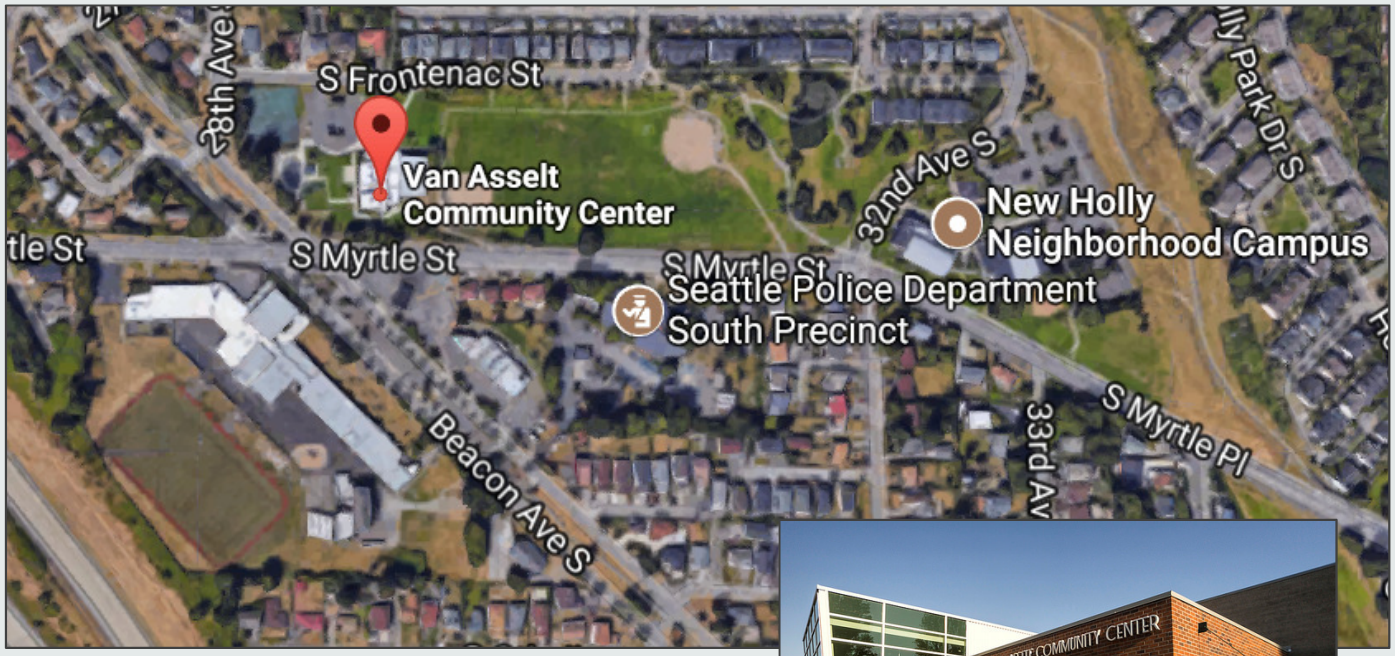
Miller Community Center

- Strengths:
  - No diesel generator
  - Large site for locating battery
  - 7% below the poverty line
  - Co-located with Meany Middle School
- Weaknesses:
  - Level 3 Emergency Shelter



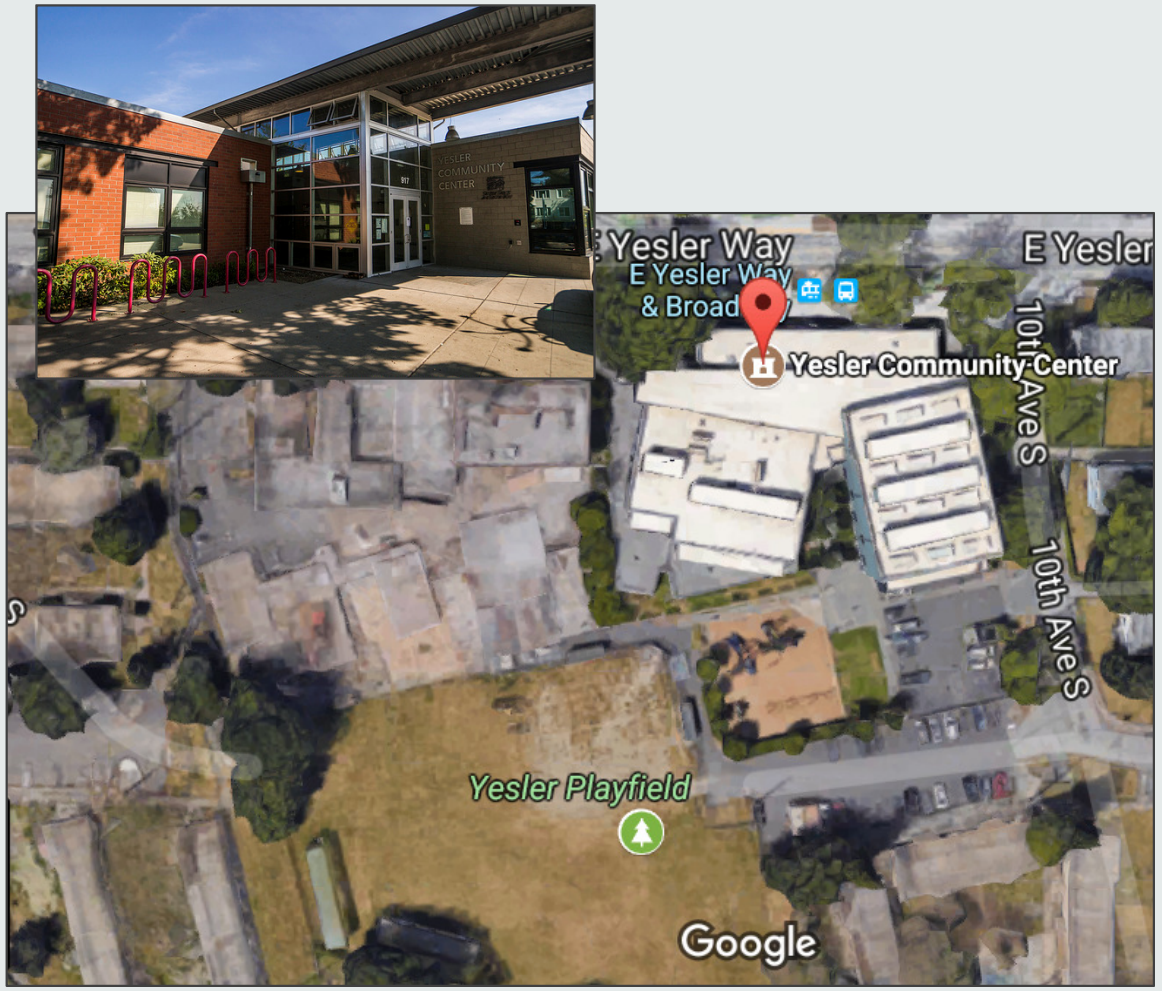
Van Asselt Community Center

- Strengths:
  - No diesel generator
  - 21% below the poverty level
  - Co-located with important community assets:
    - Van Asselt Elementary
    - SPD South Precinct
    - New Holly Neighborhood Campus
- Weaknesses:
  - Level 3 Emergency Shelter
  - Battery siting would be challenging



Yesler Community Center

- Strengths:
  - No diesel generator
  - 16% below the poverty line
  - Co-located with an important community asset:
    - Yesler Neighborhood Campus
- Weaknesses:
  - Level 3 Emergency Shelter
  - Battery siting would be challenging

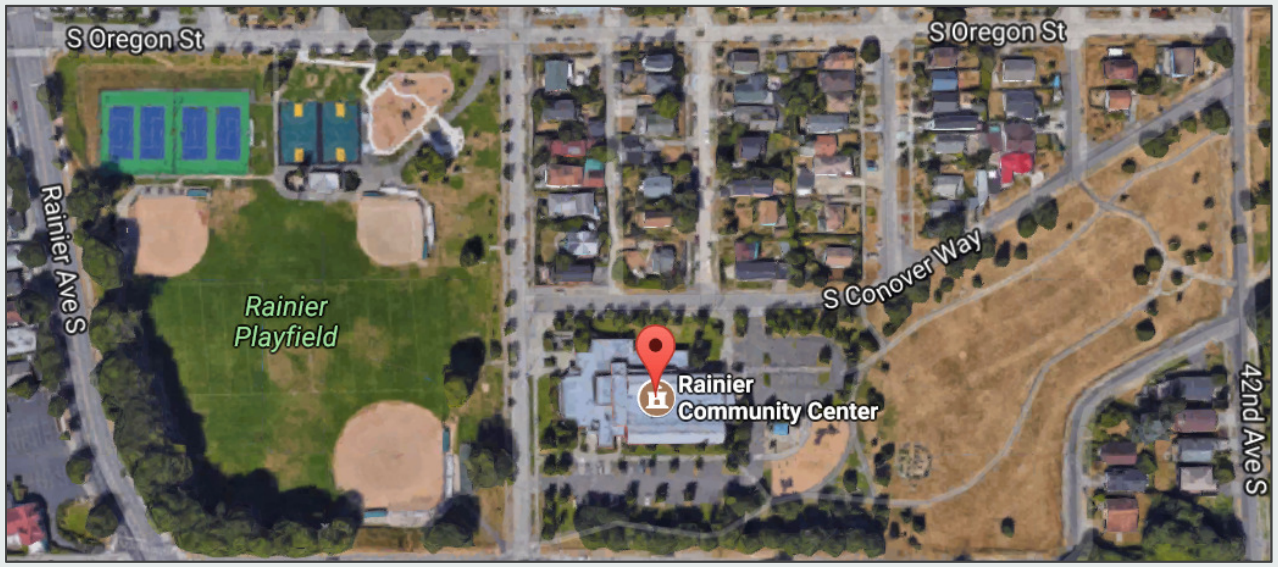


Delridge Community Center

- Strengths:
  - 16% below the poverty line
  - Level 2 Emergency Shelter
  - Space flexibility for battery siting
- Weaknesses:
  - Already has a diesel generator
  - Not co-located with any other publicly owned community asset.

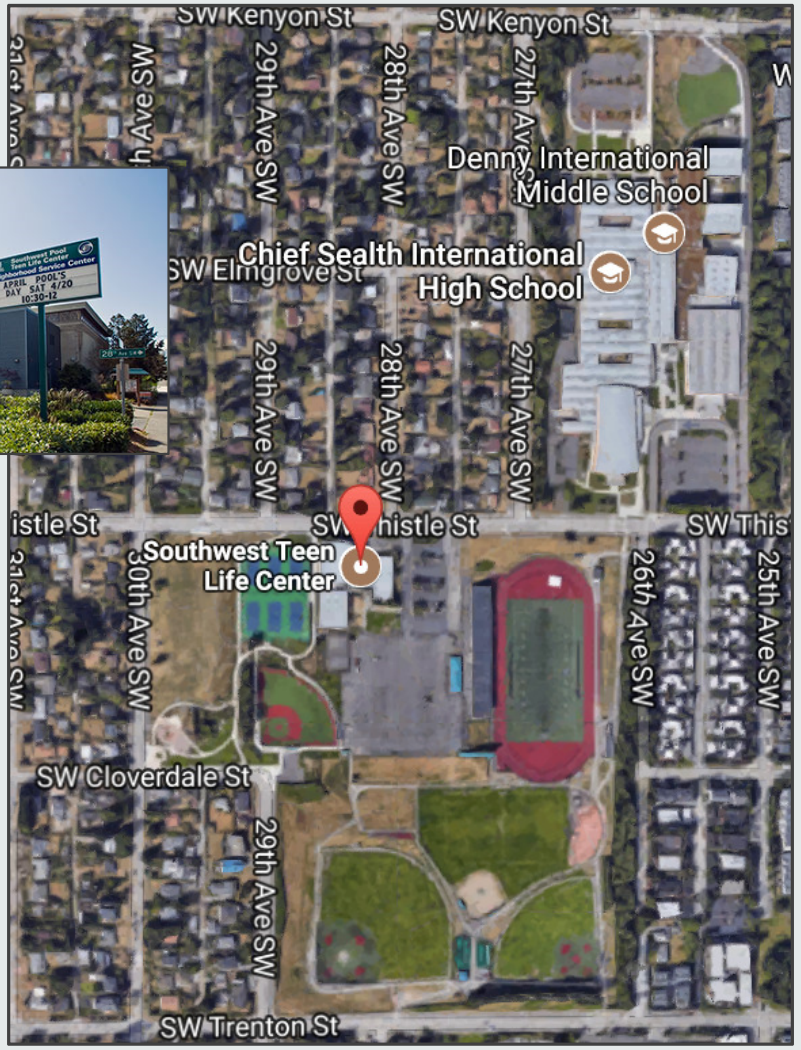
Rainier Community Center

- Strengths:
  - 22% below the poverty line
  - Level 2 Emergency Shelter
  - Space flexibility for battery siting
- Weaknesses:
  - Already has a diesel generator
  - Not co-located with any other publicly owned community asset.



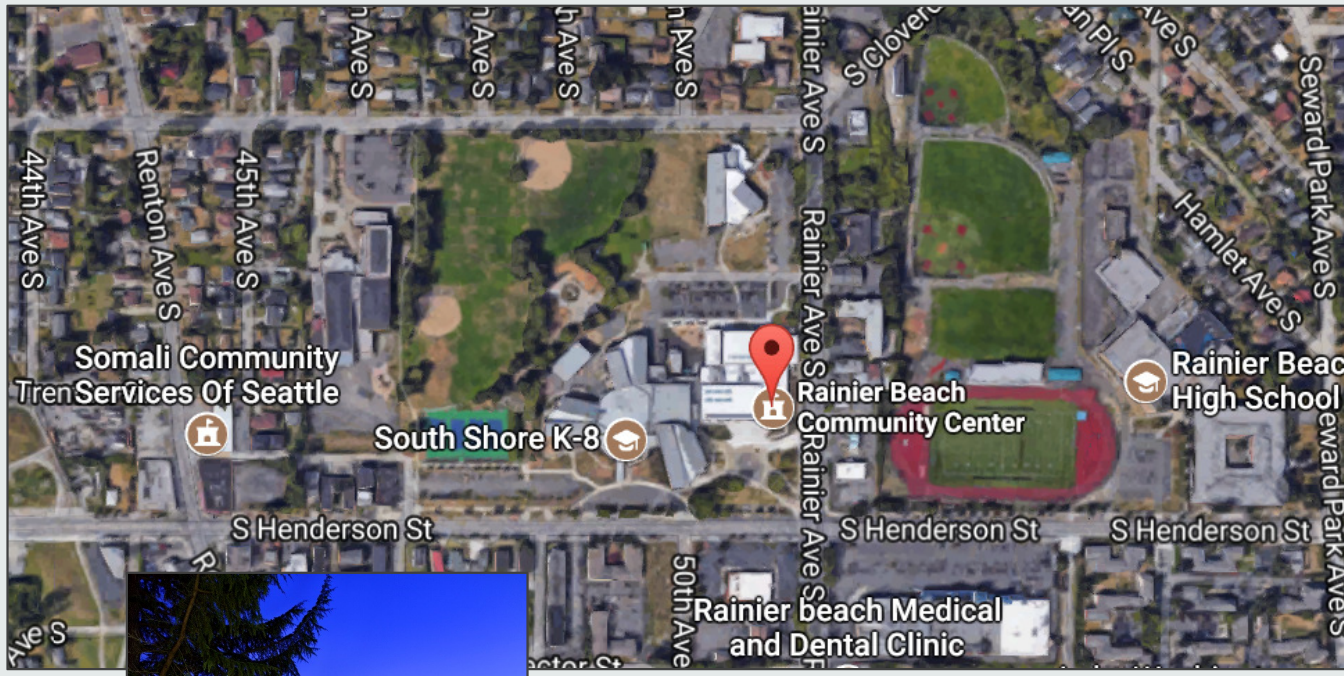
Southwest Teen Life Center & Pool

- Strengths:
  - 17% below the poverty line
  - Level 1 Emergency Shelter
  - Co-located with two schools for additional sheltering
- Weaknesses:
  - Already has a diesel generator
  - Not much space to site a battery nearby



Rainier Beach Community Center

- Strengths:
  - 22% below the poverty line
  - Level 1 Emergency Shelter
  - Co-located with several important community assets:
    - South Shore K-8
    - Rainier Beach HS
    - Somali Community Services
    - Rainier Beach Medical/Dental Clinic
- Weaknesses:
  - Already has a diesel generator
  - Extremely little space to add a battery.



Solar picnic shelter, Jefferson Park

Thank you

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