

Department of Energy Grant

Energy in Rural or Remote Areas

State of Wisconsin
Wisconsin Office of Sustainability and Clean Energy
Bayfield County + Towns
Red Cliff Band of Lake Superior Chippewa
WEDC Office of Rural Prosperity
Cheq Bay Renewables
muGrid Analytics
Slipstream

AGENDA

Welcome – Mark Abeles-Allison

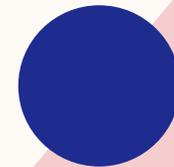
Opening Remarks – Maria Redmond, OSCE

Project Management, Architecture – Amy Simpkins, muGrid

Town Projects Overview and Budget – Bill Bailey, CBR

Next Steps – Amy

Q & A





Resilience and Prosperity in Rural Northern Wisconsin

Project Partners

4



State of Wisconsin
Office of Sustainability and Clean Energy (OSCE)
Prime Applicant



Bayfield
County



Red Cliff Band



muGrid Analytics
(Program Leadership and Community
Support)



Wisconsin Economic Development
Corporation (WEDC)
Office of Rural Prosperity (ORP)



Towns and Villages



muGrid Analytics
(Project Technical Support)



Cheq Bay Renewables



Slipstream, Inc

PROJECT PHASES

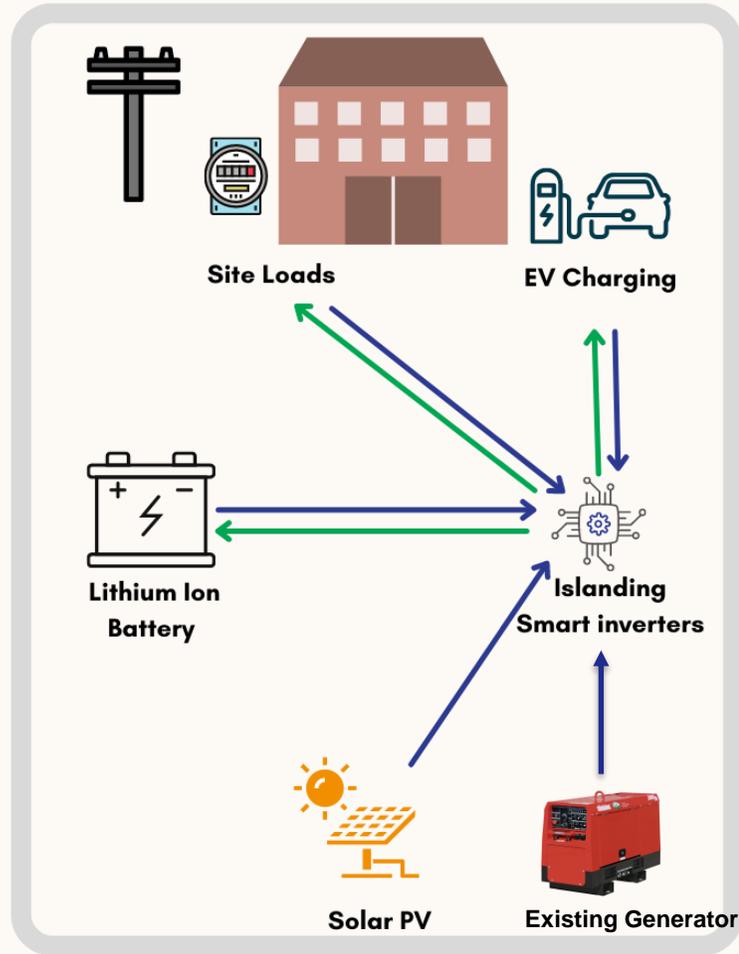


- ☆ Initial Application
- ◇ Go/No-Go Decisions

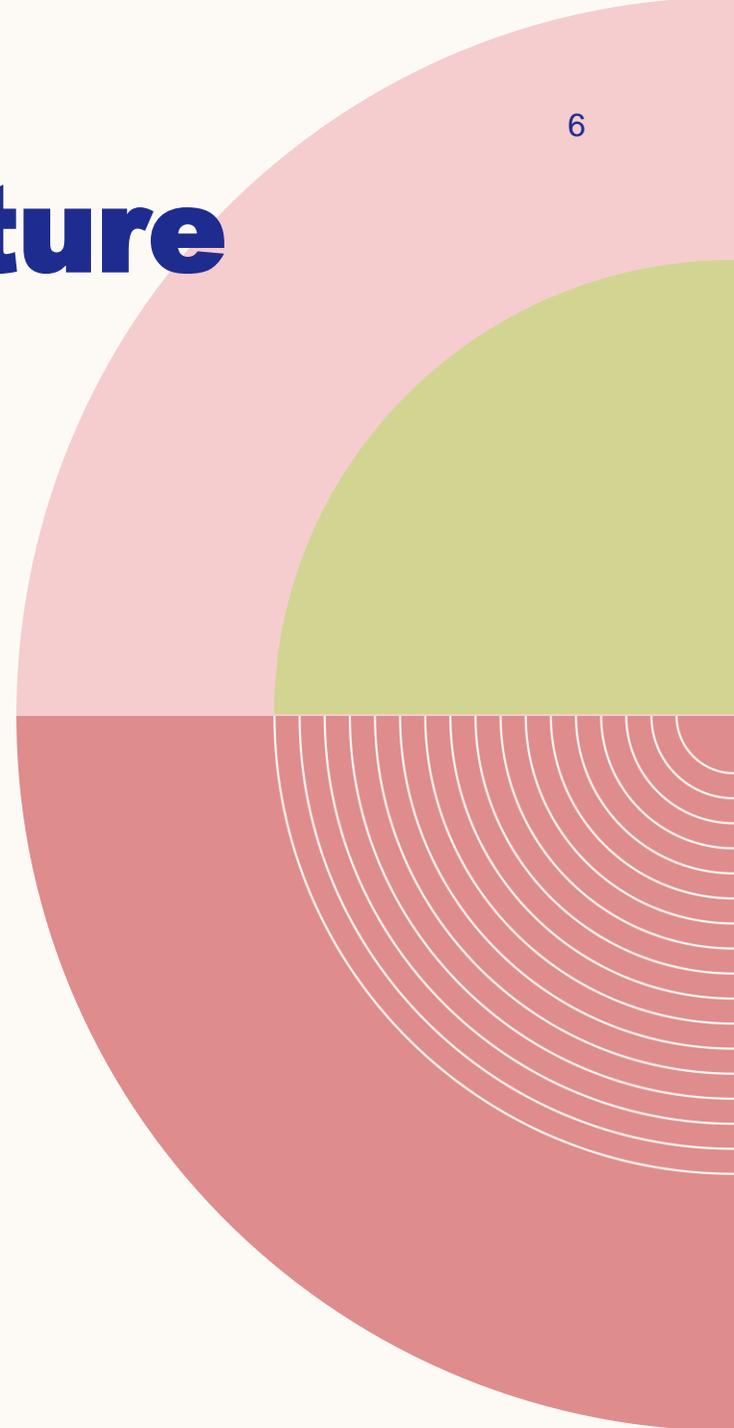
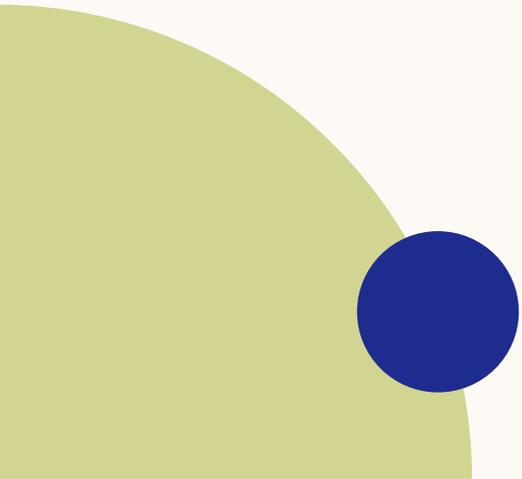


	Pre-DOE funding	Technical Assistance Available for Phases 1 -4			
Engineering, Procurement, Construction	<ul style="list-style-type: none"> Conceptual Design Technical Readiness Initial Integrated Project Schedule (IPS) Initial Total Project Cost Estimate 	<ul style="list-style-type: none"> Engineering & Design Documents IPS 	<ul style="list-style-type: none"> Mature Engineering & Design Technical Risk Management (if applicable) Execution ready schedule & cost estimate, PM Tools 	<ul style="list-style-type: none"> Interim Go/NoGo reviews 	<ul style="list-style-type: none"> Ongoing performance Reporting Tech Risk Updates, Tracking Final TPC accounting
Business Development & Management	<ul style="list-style-type: none"> Business Strategy Team Description Workforce Plan Finance Plan Market potential analysis 	<ul style="list-style-type: none"> Project Management Plan (PMP) Risk Management Plan (RMP) Intellectual Property Management Plan (IPMP) Financial Modelling and Plan Site Selection 	<ul style="list-style-type: none"> Finalized Project Structure, Management, Financing Ongoing Risk Management Final legal, workforce, procurement agreements 	<ul style="list-style-type: none"> Ongoing Execution Reporting Ongoing Risk Management 	<ul style="list-style-type: none"> Updated financial analyses Revised growth plans Updated Risk Management Financial reporting
Permitting, Security & Safety	<ul style="list-style-type: none"> Safety and Occupational Health Plan (SOHP) Regulatory Overview Cybersecurity Assessment for potential threat or vulnerabilities 	<ul style="list-style-type: none"> Safety and Occupational Health Plan (SOHP) Environmental & Regulatory Plans (for permitting preparation) 	<ul style="list-style-type: none"> Execution ready SOHP Security and cybersecurity plans Permits & Approvals in place for Construction 	<ul style="list-style-type: none"> Ongoing Permit and Environmental Reporting Permits & Approvals in place for Operations 	<ul style="list-style-type: none"> Ongoing permit, environmental, cybersecurity, and safety and occupational health reporting
Technical, Data & Analysis	<ul style="list-style-type: none"> Preliminary Technology Plan 	<ul style="list-style-type: none"> Specifications for commercially available technology 	<ul style="list-style-type: none"> Techno-Economic Analyses (TEA) Lifecycle Emissions Analysis (LCA) Verification and Validation (V&V) and Project Completion Testing Plans 	<ul style="list-style-type: none"> Periodic analyses updates V&V data collection Project completion testing and performance ramp V&V 	<ul style="list-style-type: none"> Validated performance model Finalize lifecycle and techno economic analyses Operational data reporting Dissemination of analyses and Lessons Learned
Community Engagement & Impacts	<ul style="list-style-type: none"> Initial Outreach Stakeholder Identification Communities Impact Analysis Initial Community Benefits Plan (CBP) 	<ul style="list-style-type: none"> Community Development Analysis Workforce and Community Agreements (if applicable) Outreach and Stakeholder Engagement 	<ul style="list-style-type: none"> Finalized DEI, EEJ, J40 Plans Community Impact targets identified, tracking plans Update CBP 	<ul style="list-style-type: none"> Ongoing reporting on community engagement activities 	<ul style="list-style-type: none"> Revised community engagement plans for operations Ongoing impacts analysis Socio-economic reporting

Town Microgrid Architecture



Most Projects





Sol-Ark Inverter with 38.4kWh HomeGrid Battery



Solar-Ark Inverter with 61kWh EndurEnergy Battery

BENEFITS

Economic Opportunities

- Utility bill savings
- EV charging revenue – locals and tourists
- Meeting energy needs locally (state, county, Tribe, town) – keeping energy spending locally and lower cost energy
- Future opportunities
 - Market interaction (FERC2222)
 - Demand response

Community

- Resilient backup power – extreme weather events in Great Lakes coastal area / high outage frequency, long recovery times
- EV charging availability
- Clean energy emission reduction / pollution reduction
- Building workforce / capacity
- Solidifying critical service delivery (fire, EMS, public safety)

Individuals

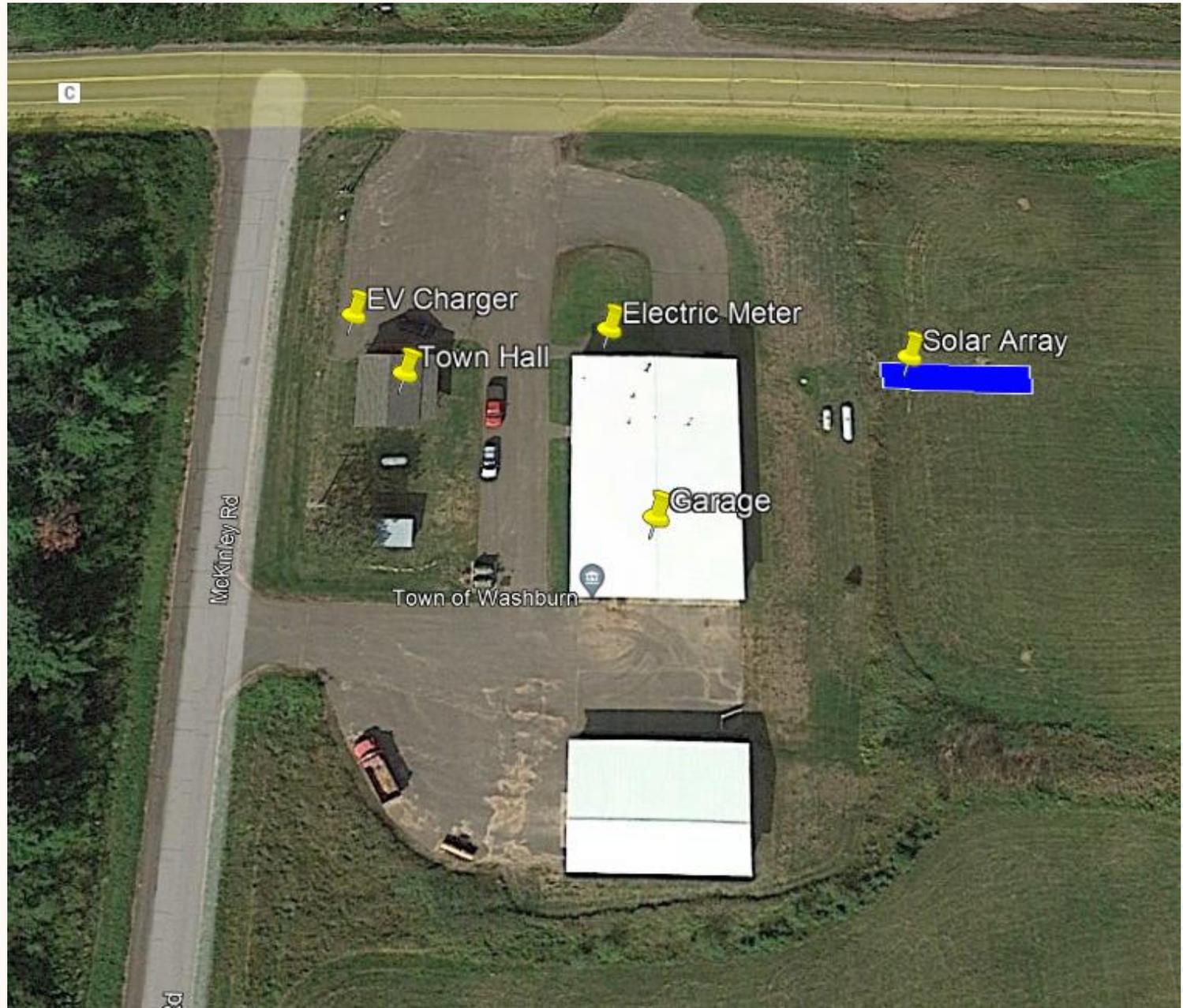
- Clean energy – health benefits because of emissions reduction
- Opportunities for training and jobs
- Community pride

Summary of Towns/Village Microgrids

Site	Single meter	Two meters	Three meters	Total
Town of Washburn	1			1
Town of Clover		1		1
Town of Grandview			1	1
Grandview Sanitary District	1			1
Town of Kelly		1		1
Town of Drummond (3)	3			3
Drummond Sanitary District	1			1
Village of Mason (2)	1		1	2
Port Wing				
WWTP	1			1
Town Hall	1			1
Garage	1			1
Well #1	1			1
Fire Hall	1			1
Total	12	2	2	16

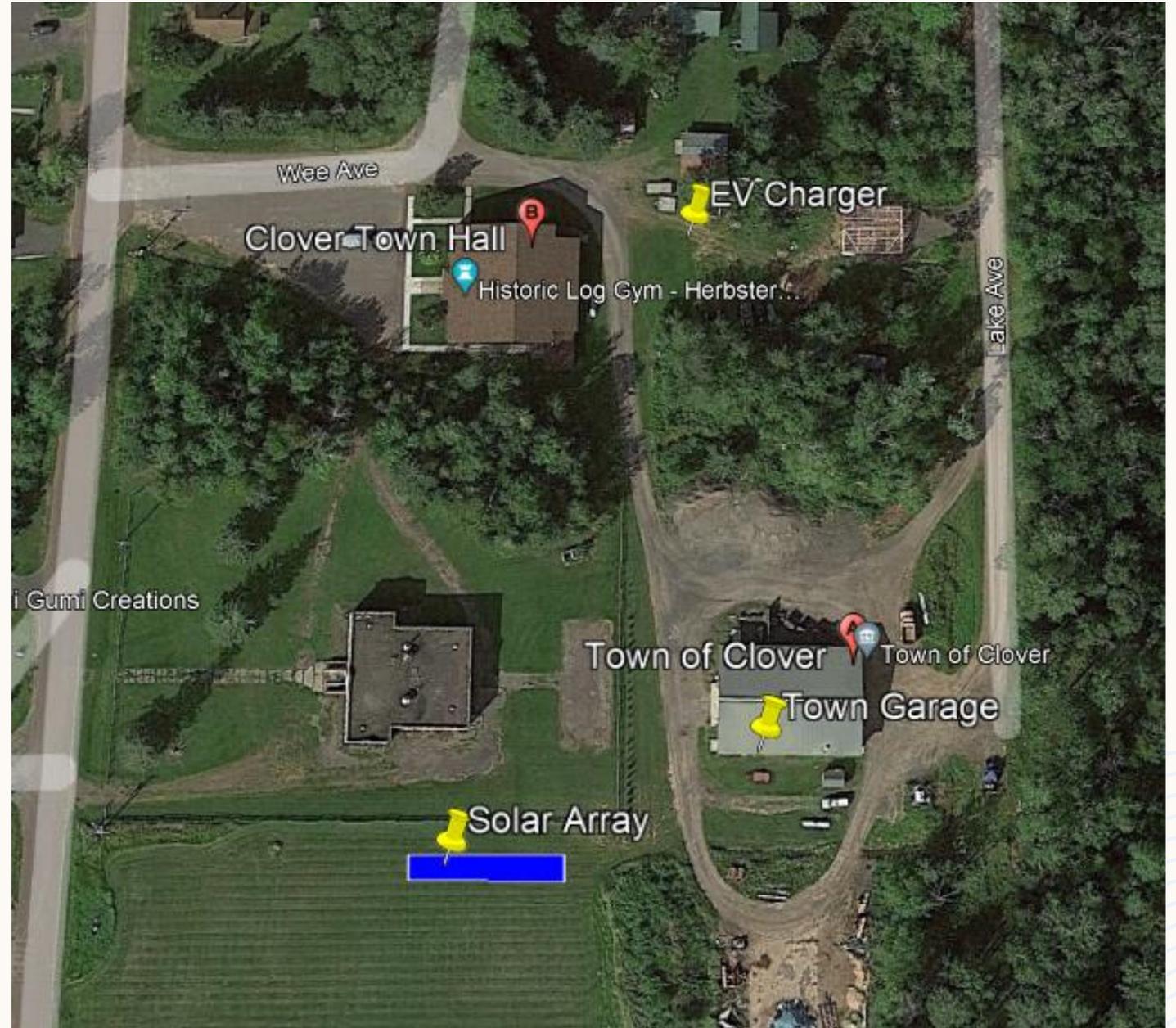
Town of Washburn

- Existing Meters – 1
- Utility - Bayfield Electric
- Solar PV 12kW
- BESS 15kW/60kWh
- EV Charging – Level 2 dual
- Total Project Cost \$119,488
- Cost Share \$24,552
- Focus on Energy \$0
- Elective Pay **(\$24,552)**
- Net Cost Share \$0



Town of Clover

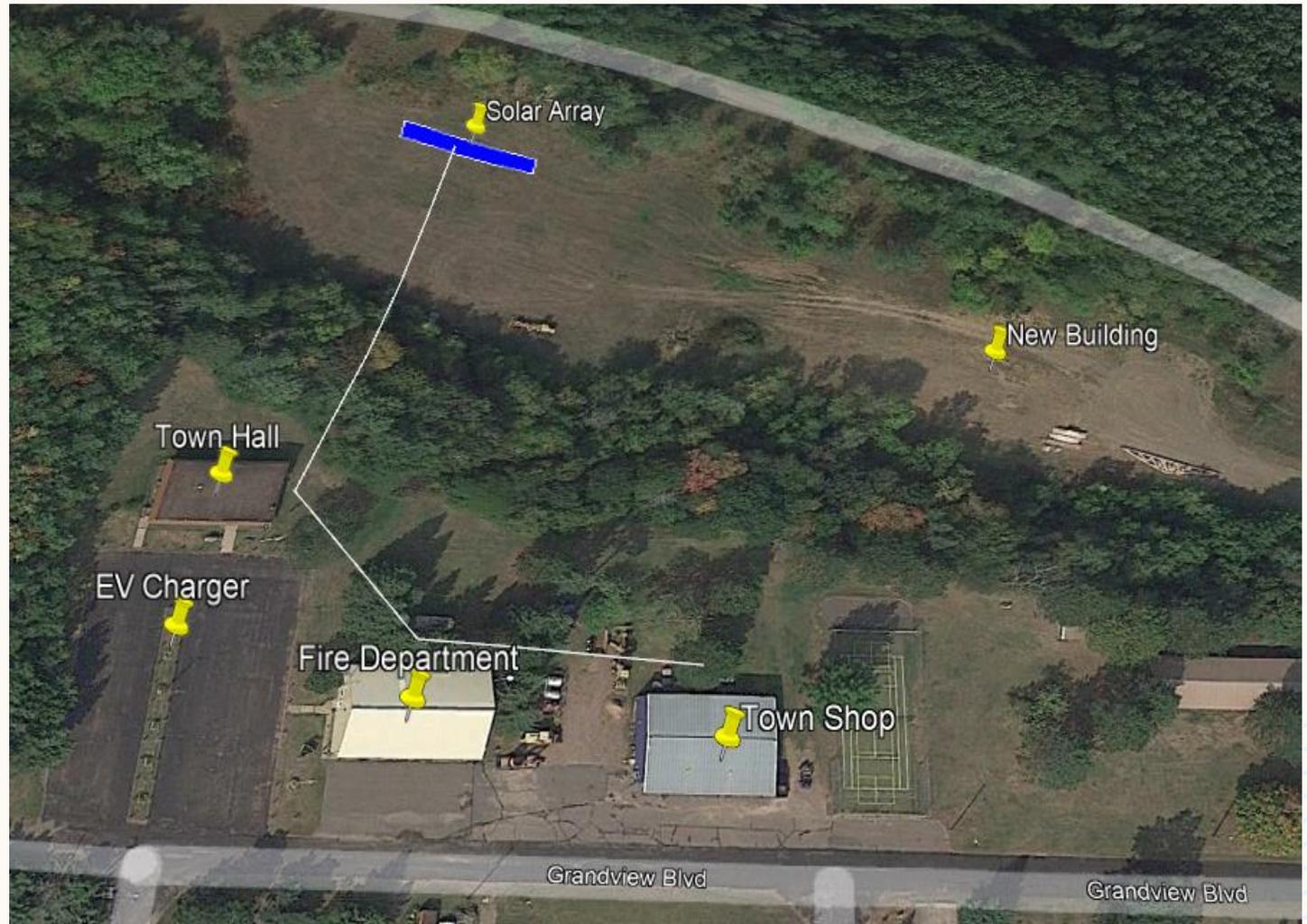
- Existing Meters – 2
- Existing Service 200amp x 3
- Utility - Xcel
- Solar PV 16kW
- BESS 15kW/60kWh
- EV Charging – Level 2 dual
- Total Project Cost \$156,998
- Cost Share \$32,260
- Focus on Energy (\$2,500)
- Elective Pay (\$29,760)
- Net Cost Share \$0



Town of Grandview

- 2 Microgrids
- Total Project Cost \$314,628
- Cost Share \$64,650
- Focus on Energy (\$3,400)
- Elective Pay (\$61,250)
- Net Cost Share \$0

- Microgrid #1:
- Existing Service 200amp x 3
- Utility - Xcel
- Solar PV 23kW
- BESS 15 x 2kW/60kWh
- EV Charging – Level 2 dual



Town of Grandview

- WWTP Microgrid #2
- Existing Service - **unknown**
- Utility – Bayfield Electric
- Solar PV 19kW
- BESS 15kW/60kWh
- EV Charging – None



Town of Kelly

- Existing Meters – 2
- Existing Service 200amp x 2
- Utility – Bayfield Electric
- Solar PV 15kW
- BESS 15kW/60kWh
- EV Charging – Level 2 dual
- Total Project Cost \$134,250
- Cost Share \$27,586
- Focus on Energy (\$0)
- Elective Pay (\$27,586)
- Net Cost Share \$0



Town of Drummond

- 3 Microgrids
- Existing Meters – 3
- Existing Service 200amp x 3
- Utility - Xcel
- Solar PV 22kW
- BESS 15kW/60kWh x 3
- EV Charging – Level 2 dual
- Total Project Cost \$262,160
- Cost Share \$53,869
- Focus on Energy (\$3,276)
- Elective Pay (\$50,593)
- Net Cost Share \$0



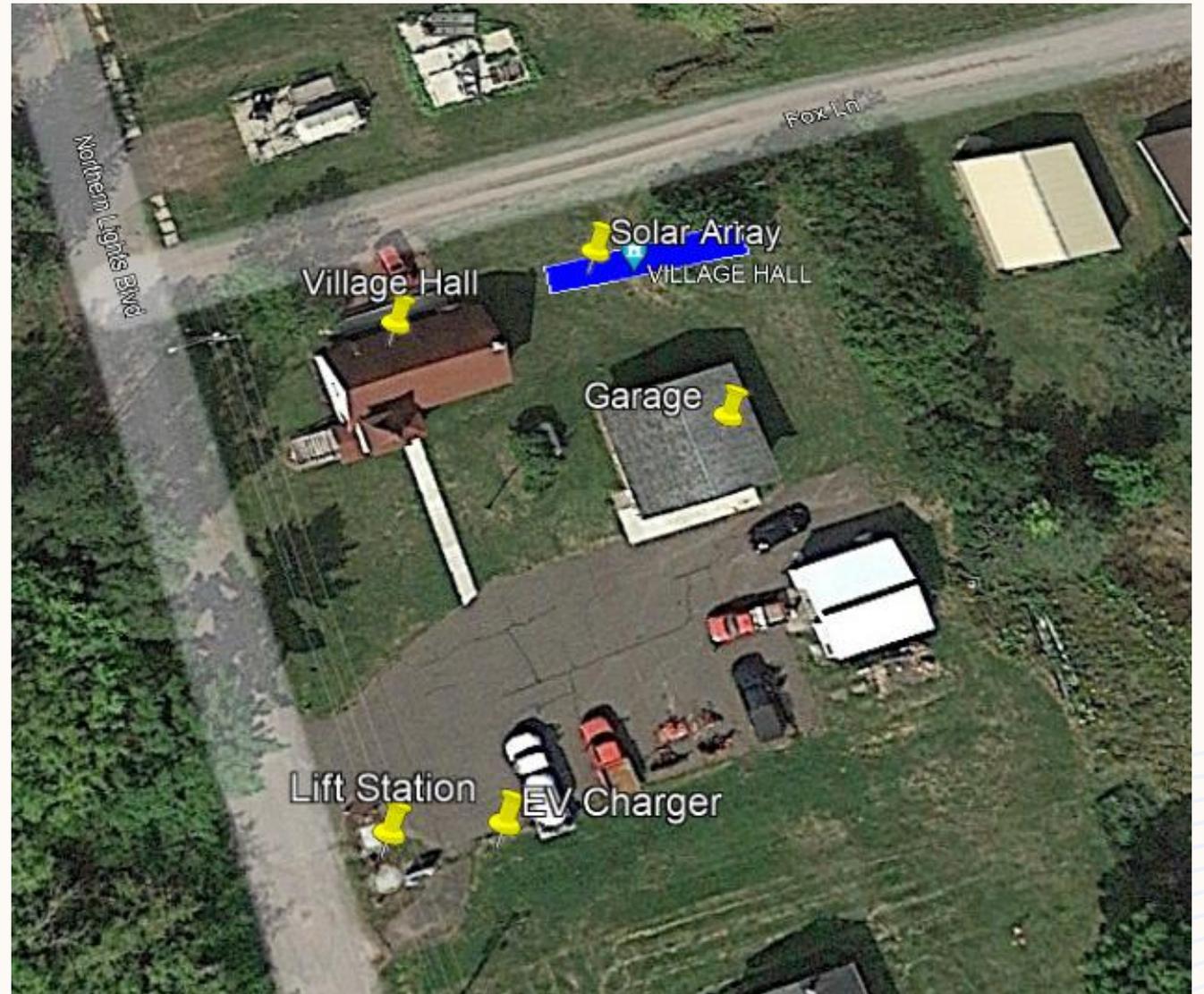
Drummond Sanitary District

- Existing Meters – 1
- Existing Service 200amp
- Utility - Xcel
- Solar PV 6kW
- BESS 30kW/60kWh
- EV Charging – None
- Total Project Cost \$92,015
- Cost Share \$18,907
- Focus on Energy (\$1,150)
- Elective Pay (\$17,757)
- Net Cost Share \$0



Village of Mason

- 2 Microgrids
 - Total Project Cost \$455,780
 - Cost Share \$93,654
 - Focus on Energy (\$4,750)
 - Elective Pay (\$71,904)
 - EV Tax Credit (7,500)
 - Net Cost Share \$9,500
-
- Microgrid #1:
 - Existing Service 3 meters -mix
 - Utility - Xcel
 - Solar PV 22kW
 - BESS 30kW/60kWh
 - EV Charging – Level-2 dual and fleet
 - EV Pickup Truck



Village of Mason

- Microgrid #2:
- Existing Service 1 meter
- 3-phase 480v
- Utility - Xcel
- Solar PV 12kW
- BESS 60kW/60kWh
- EV Charging – None



Town of Port Wing

- 5 Microgrids
 - Total Project Cost \$817,542
 - Cost Share \$167,990
 - Focus on Energy (\$19,248)
 - Elective Pay (\$131,742)
 - EV Tax Credit (7,500)
 - Net Cost Share \$9,500
-
- Microgrid #1: Firehall
 - Existing Service 1 meter, 200amp
 - Utility - Xcel
 - Solar PV 7.8kW
 - BESS 15kW/60kWh
 - EV Charging – None



Firehall

Town of Port Wing

- Microgrid #2 Town Hall
- Existing Service 1 meter, 200amp
- Utility - Xcel
- Solar PV 12.6kW
- BESS 15kW/60kWh
- EV Charging – None



Town Hall (Community Building)

Town of Port Wing

- Microgrid #3 Town Garage
- Existing Service 1 meter, 200amp
- Utility - Xcel
- Solar PV 6.1kW
- BESS 15kW/60kWh
- EV Charging – Level-2 Fleet
- EV Pickup Truck



Town Garage

Town of Port Wing

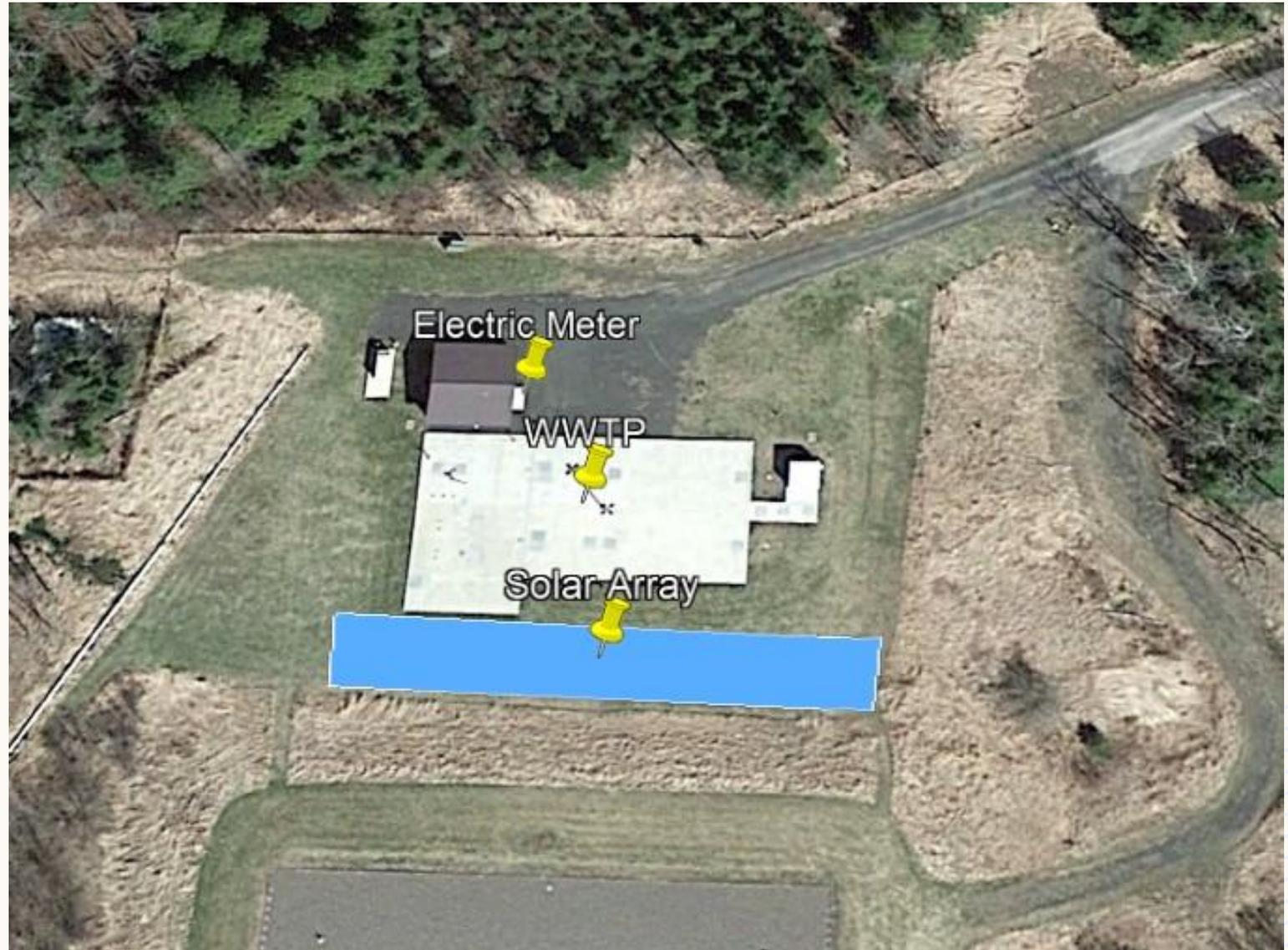
- Microgrid #4 - Well #1
- Existing Service 1 meter
- Utility - Xcel
- Solar PV 34.4kW
- BESS 30kW/60kWh
- EV Charging – None



Well #1

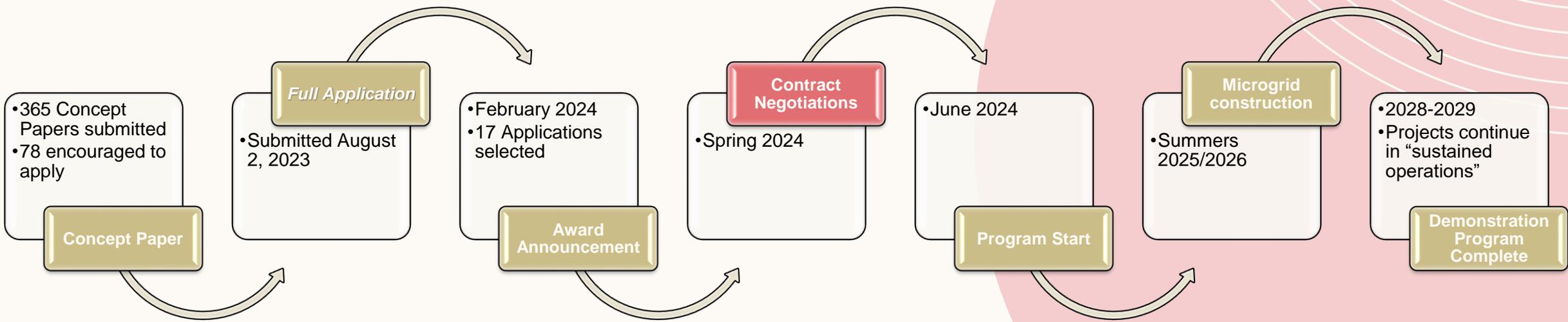
Town of Port Wing

- Microgrid #5 - WWTP
- Existing Service 1 meter
- 3-phase 480v
- Utility - Xcel
- Solar PV 47.3kW
- BESS 60kW/60kWh
- EV Charging – None



Waste Water Treatment Plant

Grant Process Flow



Next Steps

- Identify any “scope” changes
- Prepare for NEPA review
 - Trenching distance
- Inform Boards/community about projects
- We are planning a formal program kickoff in June with more detailed information about the plan
- There will be periodic meetings through Phase 1 and Phase 2 to keep you updated
- Reach out to Bill/Amy with Q’s

For More Award Information

Check out these press releases

- **DOE OCED:** <https://www.energy.gov/articles/biden-harris-administration-announces-366-million-lower-energy-costs-and-enhance-energy>

(We are featured on the front page)

- **DOE OCED list of awardees:** <https://www.energy.gov/oced/energy-improvements-rural-or-remote-areas-selections-award-negotiations>
- **State of Wisconsin / Governor Tony Evers:**
<https://content.govdelivery.com/accounts/WIGOV/bulletins/38d5588>
- **muGrid Analytics (via North American Clean Energy):** <https://www.nacleanenergy.com/energy-efficiency/mugrid-analytics-selected-by-u-s-department-of-energy-for-rural-clean-energy-demonstrations-in-partnership-with-the-state-of-wisconsin>
- **muGrid Analytics (on our website):** <https://www.mugrid.com/blog/r1kwj53etw84wn863a76dmp4lptxpa>

THANK YOU

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