

Solar Feasibility

at Mill Creek Wastewater
Reclamation Facility



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for
Public Works and
Transportation Committee

Purpose



- Summarize Findings of Solar Feasibility Study
 - Location
 - Size
 - Ownership Options
 - Net Metering
 - Financial Incentives
 - Overall Results/Conclusion

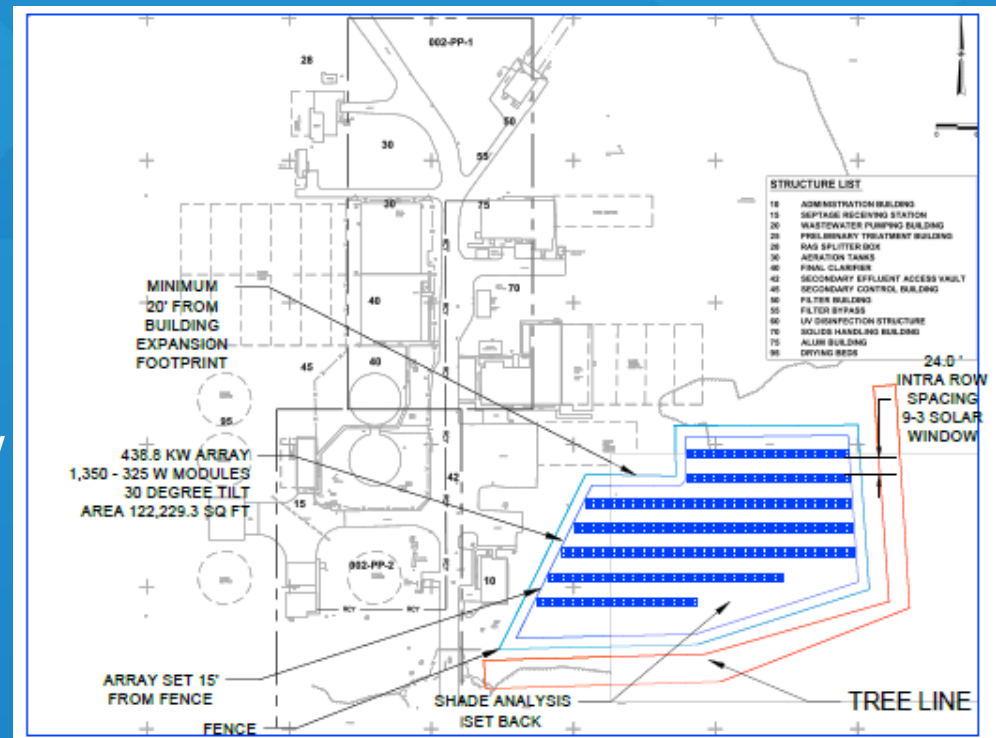
Location

- Mill Creek Water Reclamation Facility (WRF)
- Located within Village of Old Mill Creek



Size of Solar Array

- 250 kW system
 - Provides 17% of Annual Electricity
- 438 kW system
 - Provides 30% of Annual Electricity
 - 9am–3pm window



Ownership Options



- County Ownership

	250 kW system	438 kW system
Total Capital Costs	\$ 723,800	\$1,198,700
Total O&M Costs	\$ 133,188	\$209,084
Payback	≥ 25 years	> 25 years

- Third Party Ownership

- Third Party leases land at treatment facility
- Power Purchase Agreement requires County to buy the solar energy generated

Net Metering



- Selling excess energy back to the grid
 - Direct Energy
 - Countywide Fixed Based Rate Program
 - Does NOT allow for net metering at retail rate
 - ComEd
 - Net Meter or Dual Metering Programs Exist
 - Does NOT allow for net metering at retail rate

Overall Results/Conclusion



- Not Economically Feasible
 - Payback period ≥ 25 years
 - Solar energy unit price $>$ current energy price
- Restricted site availability

Overall Results/Conclusion



- Third Party Ownership with Power Purchase Agreement is NOT fiscally attractive
 - Current unit price from the grid: \$0.074/kWh
 - Anticipated PPA unit price: \$0.08 – \$0.21/kWh
- Economics do NOT support using a solar array
 - Long Payback Period
 - Negative or Minimal Rate of Return



Thank you