



SAN ELIJO

JOINT POWERS AUTHORITY

San Elijo Cogeneration Facility

Project Background

The San Elijo Joint Powers Authority (SEJPA) treats sanitary waste from several cities in Northern San Diego County: Encinitas, Solana Beach, and Del Mar. The wastewater treatment process includes the treatment of sludge byproduct through anaerobic digestion. This process generates a significant quantity of methane gas which is currently being flared out.

Design Team



Claudia Soto-Alfaro
Project Manager,
Transportation and
Drainage Engineer



Laura Serrano
Geotechnical and
Structural Engineer



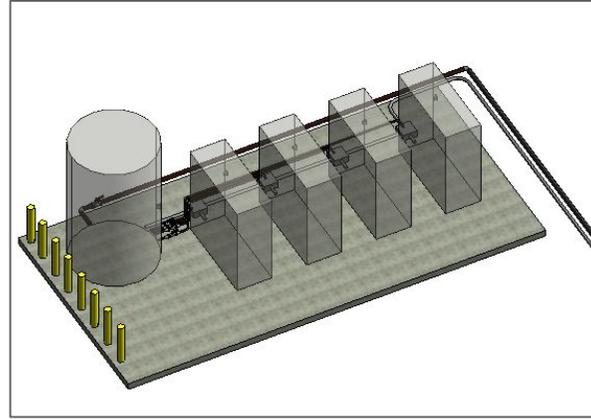
Eva Curiel Muzquiz
Environmental Process,
Treatment and Power
Generation Engineer



Aaron Aitchison
Site Work and
Construction Engineer



Jacob Andrews
Construction and Power
Generation Engineer



Conceptual Design of Microturbines on Site

Project Solution

After careful consideration, looking for a solution of converting methane gas into electrical power our team selected and recommended the use of microturbines as the best alternative for this project.

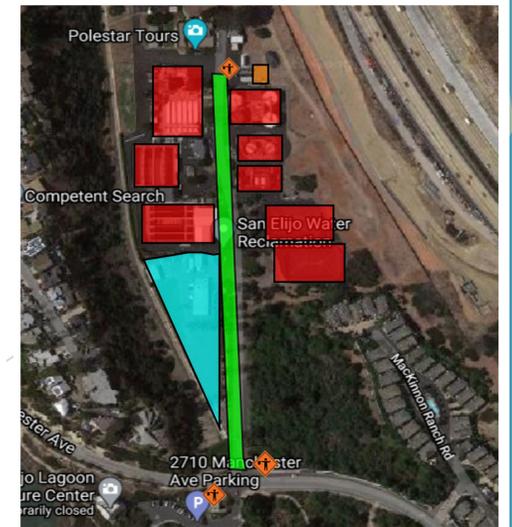
Our team selected microturbines for this project based on the current methane gas production of 600 Btu which it converts to an annual average gas production of 474 kilowatts (kW) at peak of a digester. The generators were designed to be located close to the gas and where the power will be distributed.

Project Goal

To design a gas condition system and power generating system for the gas that is currently being flared off to the atmosphere. With the purpose of creating electrical power as a renewable fuel source instead of generating carbon dioxide into the atmosphere and sell to the utility in case of creating more power than needed.

Site Legend

- Proposed Access/Egress
- Existing Facilities/Areas of Activity
- Project Site
- Area of Ongoing Construction Activity
- Flagger (When Needed)



Site Logistics Plan



S.SAAC Construction