

# Alafia

**SHARC**  
ENERGY  
WET+GEOTHERMAL

**Electrified, Affordable, Scalable.**  
**Brooklyn, NY**

Wastewater Energy Transfer (WET) project



## SITE INFO

### SYSTEMS INSTALLED

**SHARC 660 (Buildings C1+C2)**  
**2x PIRANHA T15HC (Building C3)**

### PROJECT TYPE

**WET+GEOTHERMAL/MIXED-USE**  
**AFFORDABLE HOUSING**

### PROJECT SIZE

**576 RESIDENTIAL UNITS+MIXED**  
**COMMERCIAL, >1.1 MILLION FT<sup>2</sup>**

### COMMISSIONED

**2025**

### CERTIFICATIONS

**ENTERPRISE GREEN COMMUNITIES**  
**PASSIVE HOUSE**



### PIRANHA T15HC

Delivers all-electric, decarbonized Domestic Hot Water (DHW) production from wastewater.



### SHARC 660

Provides heat source/heat sink to offset and condition the buildings' geothermal loop.



Future phases will mirror this WET scalable design, with final campus interconnected with ambient loop.

## WET+Geothermal delivers improved CapEx & OpEx savings

Alafia is a \$373M project within a larger \$1.2 billion, 27-acre redevelopment transforming the former Brooklyn Developmental Center into a walkable, electrified neighborhood. The full buildout will create more than 2,400 affordable homes, a health clinic, and community retail—with Phase 1 providing 576 Passive House-certified units.

This flagship project under New York's Vital Brooklyn Initiative and the Empire Building Challenge **combines closed-loop geothermal with SHARC Energy's wastewater energy recovery systems to electrify heating, cooling, and Domestic Hot Water (DHW) production.**

The SHARC system installed in buildings C1 & C2 harvests thermal energy from the combined wastewater stream, in support of the geothermal loop, covering the thermal load of both towers.

The two PIRANHA T15HC, in conjunction with the geothermal loop, **provide 100% of the centralized domestic hot water (DHW) load for building C3.**

These self-contained wastewater heat pumps provide supplemental cooling during the summer months in a compact, high performance solution.

Together, these **fully electrified systems eliminate the need for fossil fuel boilers and cooling towers**, significantly cutting energy and freshwater use.



**PROJECT PAGE**

# Why use Wastewater Energy at Alafia?

The Alafia development team selected SHARC Wastewater Energy Transfer (WET) to **optimize geothermal loop performance** and deliver reliable, **no-carbon heating, cooling, and domestic hot water production** across the all-electric campus.

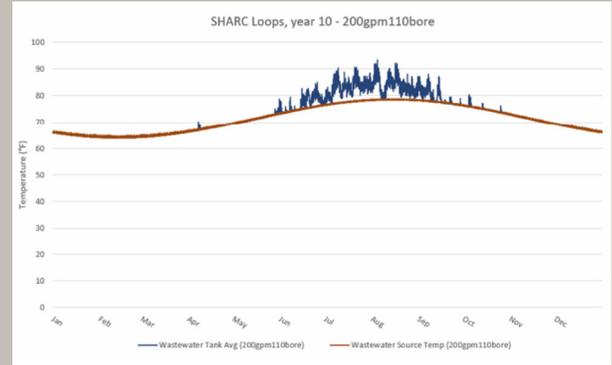
**WET harnesses renewable thermal energy from wastewater streams that would otherwise be lost**, delivering a dependable energy source year-round. Its modular design enables phased expansion—from 576 to 2,600+ residences—providing scalable capacity as demand increases.

Both systems draw from sanitary wastewater and connect to GSHX loops—PIRANHA generates potable hot water directly, while SHARC supports heat pumps for heating, cooling, and domestic hot water production.

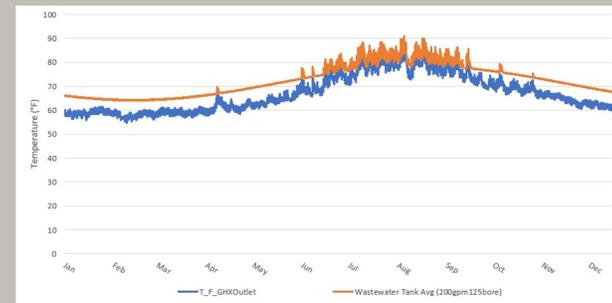
Together, WET and geothermal create an **all-electric platform that maximizes efficiency, enhances reliability, and scales seamlessly** as community needs evolve.

**SHARC**  
ENERGY

WET+GEOTHERMAL



Salas O'Brien conducted a report that showed WET significantly contributed to the stability & performance of the geothermal loop



For those interested in detailed technical analysis, Salas O'Brien's EPRI 2024 presentation is available for download

Geothermal + WET integration reduces borefield size, stabilizes loop temperatures, and maximizes system efficiency over its lifetime—cutting capital and operating costs

In Phase 1A, SHARC enabled a reduction in required geothermal boreholes from 128 to 90—representing nearly **\$2.1 million in potential first-cost savings**. The development team elected to retain the larger borefield to provide redundancy and resilience.

The hybrid WET-geothermal design replaces on-site combustion with a sustainable energy platform that serves the full thermal load of the buildings, achieving Passive House performance across hundreds of units while ensuring early compliance with NYC Local Law 154 and the NYS All-Electric Building Act.

The project was competitively selected for **NYSERDA's Empire Building Challenge** and secured **Con Edison Clean Heat funding**, demonstrating how wastewater energy and geothermal together create regulatory, technical, and financial pathways for all-electric affordable multifamily development.



2x PIRANHA T15HC



SHARC 660