The Pasco Resource Recovery Center

Project Overview

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October 2024

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Process Water Reuse Facility

Introduction to the Process Water Reuse Facility

- **The City constructed the existing PWRF in 1995** to attract and support the region's food-processing industry
  - The facility accepts industrial effluent from six food processors and screens / treats it for application on farmland
- **Stressed capacity from both the expansion of existing Processors and the addition of Darigold, City commenced planning for expansion in 2019**
- **Plans to upgrade the PWRF were divided into four phases**
  - Phase 3 treats the industrial effluent and is by far the largest component
- **Competitive City-run RFP process in 2022**
  - Burnham won the rights to design, build, finance, operate, and maintain Phase 3

Why PRRC?

- **Upgrades required to meet Dept of Ecology regulations**
- **Sells by-product (RNG) to offset rate increases**
- **Federal investment tax credit lowers user rates**
- **Enables user expansion**

Four Phases of Expansion

Phase 1 (City Owned)	✓ Utility Upgrades: includes extending a potable water line to the PWRF site and increasing the electrical capacity at the site for further improvements. ✓ **Phase 1 Status: Completed**
Phase 2 (City Owned)	✓ Storage: construct three new winter storage ponds to accommodate an additional 329MM gallons of capacity; one pond (106MM) is being built to accommodate Darigold's COW water. ✓ **Phase 2 Status: 85% complete, tracking for December 2024 Operations**
Phase 3 (PRRC)	✓ **PRRC: construct two ADs, RNG plant, and a nitrogen removal system** ✓ **Phase 3 Status: over 87% complete; tracking for December 2024 Operations**
Phase 4 (City Owned)	✓ Field Irrigation: upgrade and extend irrigation system from PWRF to the current 1,856 acres of the land application system and an additional 730 acres of future irrigation land. ✓ **Phase 4 Status: Design Stage**

The Expansion is a four-phase initiative—decades in the making—that will expand the PWRF's capacity, generate jobs, and enable the City to attract new processors

*Numbers rounded for presentation purposes

Benefits of the Project

- **Removes nitrogen** from industrial effluent; **addresses concerns of Dept of Ecology**
- **Allows current processors to grow** and Darigold to build new facility, furthering the City's overall long-term economic development
  - Supports over **$800 million of local investment** and creation of hundreds of jobs
- RNG production includes revenue & tax credit shared with the City to **reduce net industrial effluent treatment costs**
  - Enough **clean energy (RNG)** to heat over 4,500 homes
- **Recycles over 1 billion gallons** of agricultural industrial effluent per year; **supporting local farmers** and crop production
- **Reduce industrial effluent odor** prior to land application, alleviating previous community concerns
- Increased opportunity to **attract new food processors and lower rates for existing processors**
  - Processors interested in meeting customer (e.g., Walmart) sustainability goals
- Enables a closed, industrial agriculture **symbiotic loop**

The Project serves as a lynchpin for economic growth for food processors, the City, and central Washington's agricultural economy

"The expansion of the PWRF really is the next step to keeping economic development going in Pasco…. At this point we're turning folks away though because there is no more capacity at the PWRF."

-Randy Hayden, Port of Pasco

*"This whole project is a real big deal…**Pasco has done this before and it was really successful,** and it's time for us to update that facility and expand it with modern technology and modern approaches."*

-Former Mayor Pro-Tem Maloney

*"Our Pasco Processing Center and our Foster Wells Business Park are currently **100% sold out and they wouldn't be without the PWRF."***

-Steve McFadden, Port of Pasco

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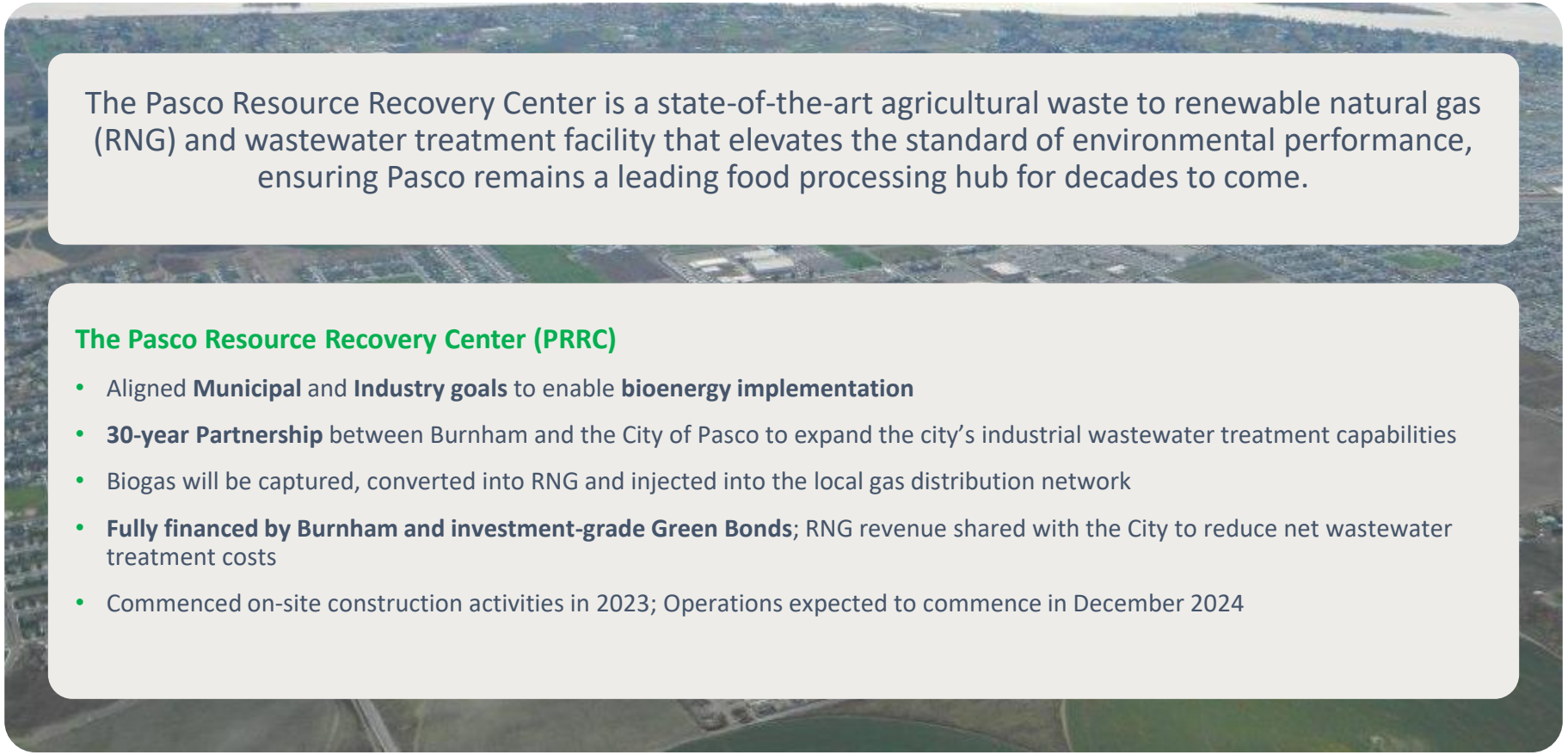
Pasco Resource Recovery Center

PRRC Project Overview



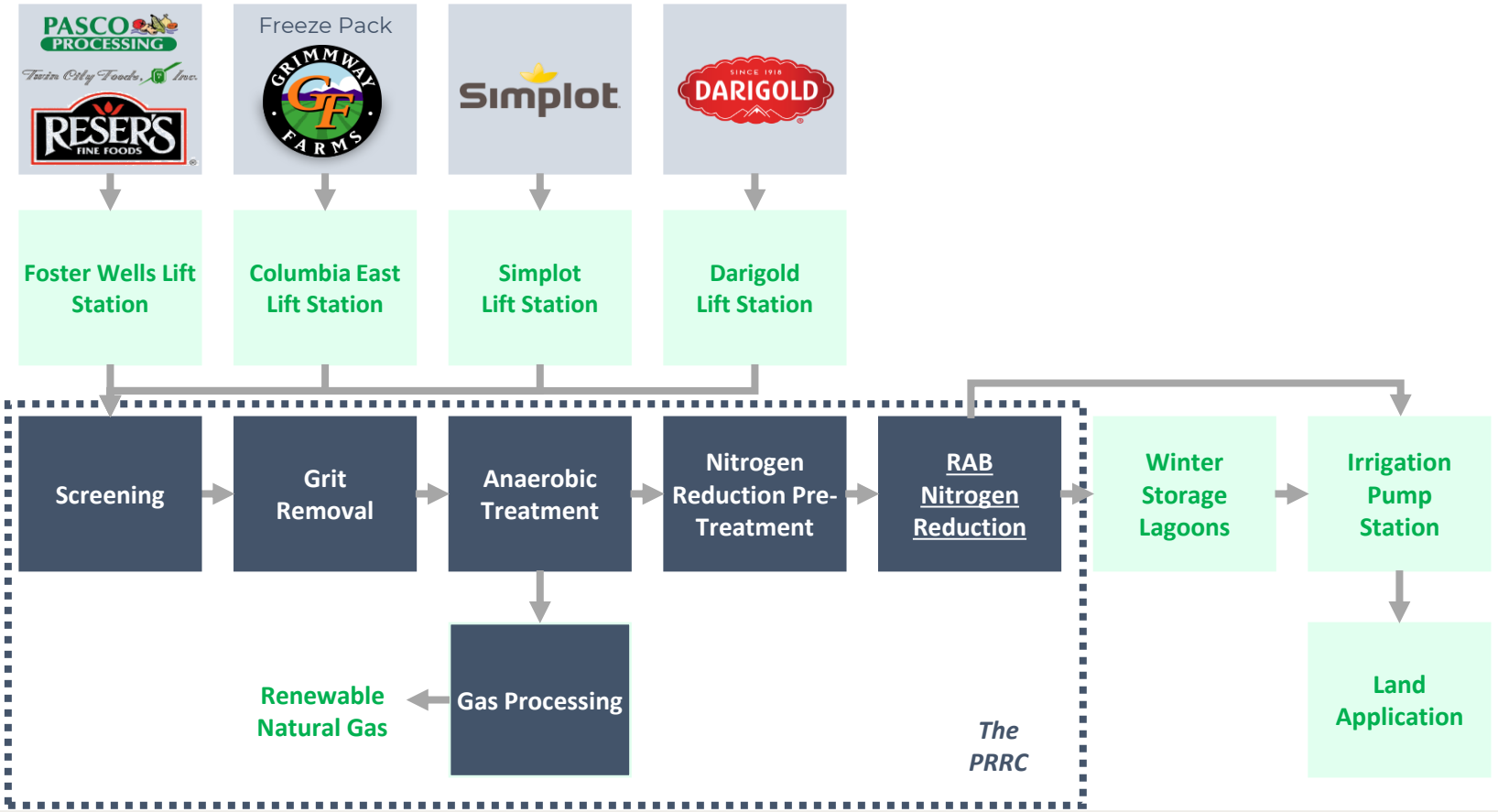
The Pasco Resource Recovery Center is a state-of-the-art agricultural waste to renewable natural gas (RNG) and wastewater treatment facility that elevates the standard of environmental performance, ensuring Pasco remains a leading food processing hub for decades to come.

The Pasco Resource Recovery Center (PRRC)

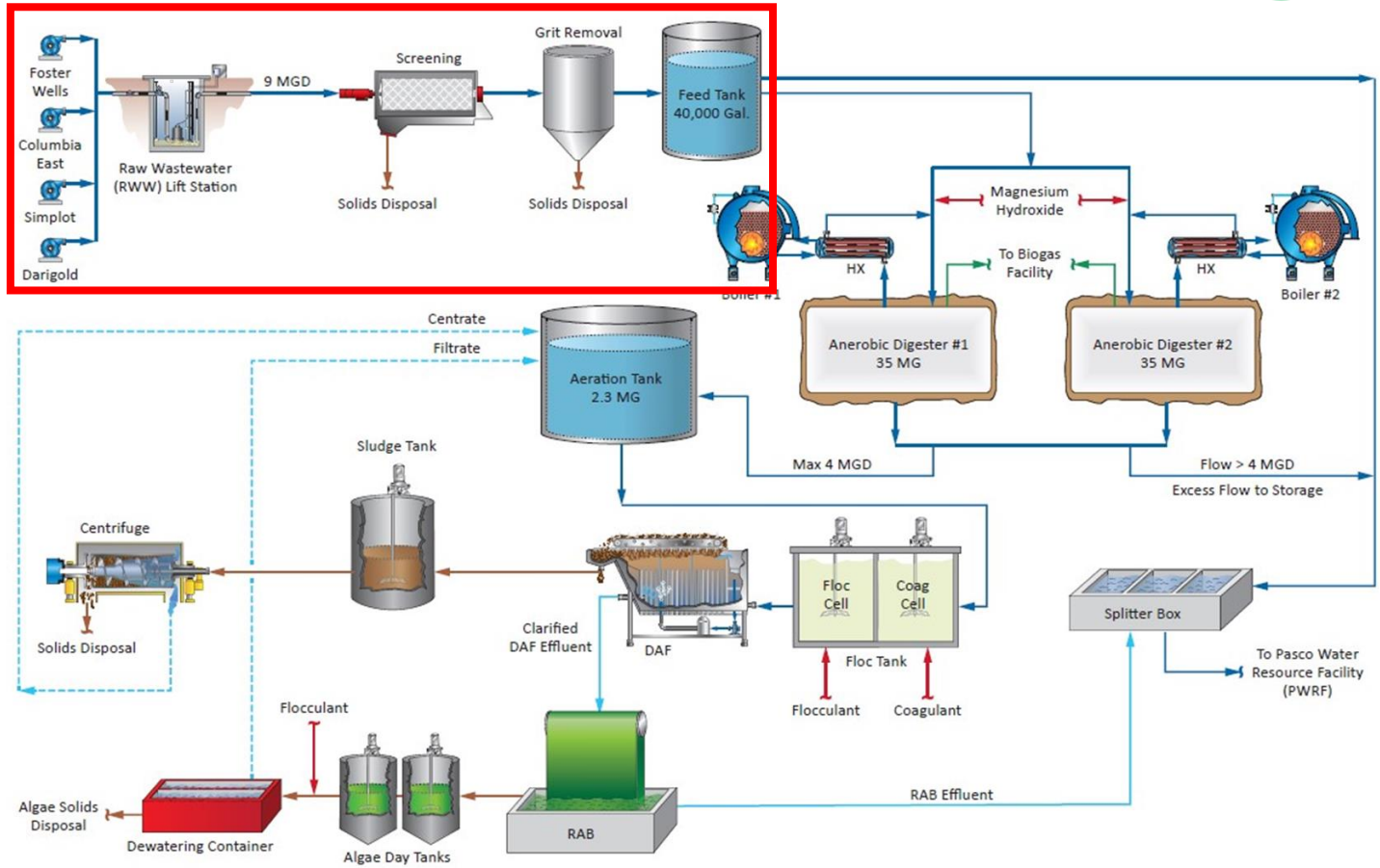
- Aligned **Municipal** and **Industry goals** to enable **bioenergy implementation**
- **30-year Partnership** between Burnham and the City of Pasco to expand the city's industrial wastewater treatment capabilities
- Biogas will be captured, converted into RNG and injected into the local gas distribution network
- **Fully financed by Burnham and investment-grade Green Bonds**; RNG revenue shared with the City to reduce net wastewater treatment costs
- Commenced on-site construction activities in 2023; Operations expected to commence in December 2024

Current PRRC Construction

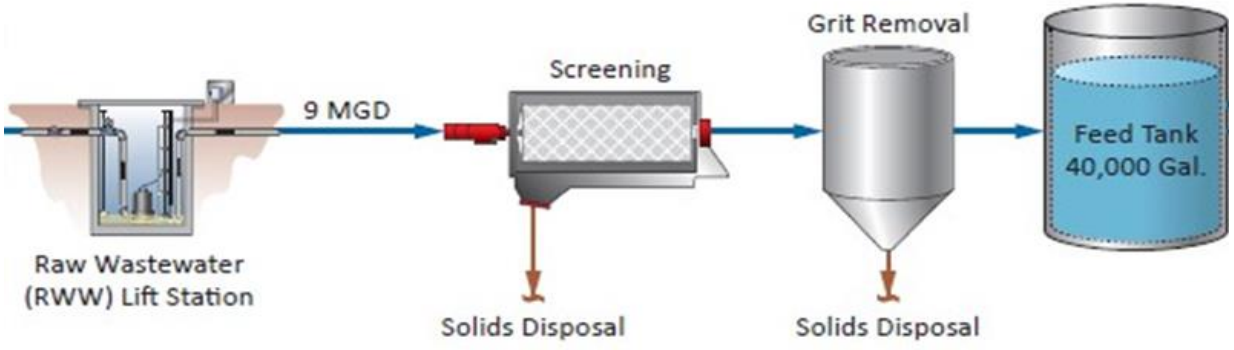
Simplified Process Flow



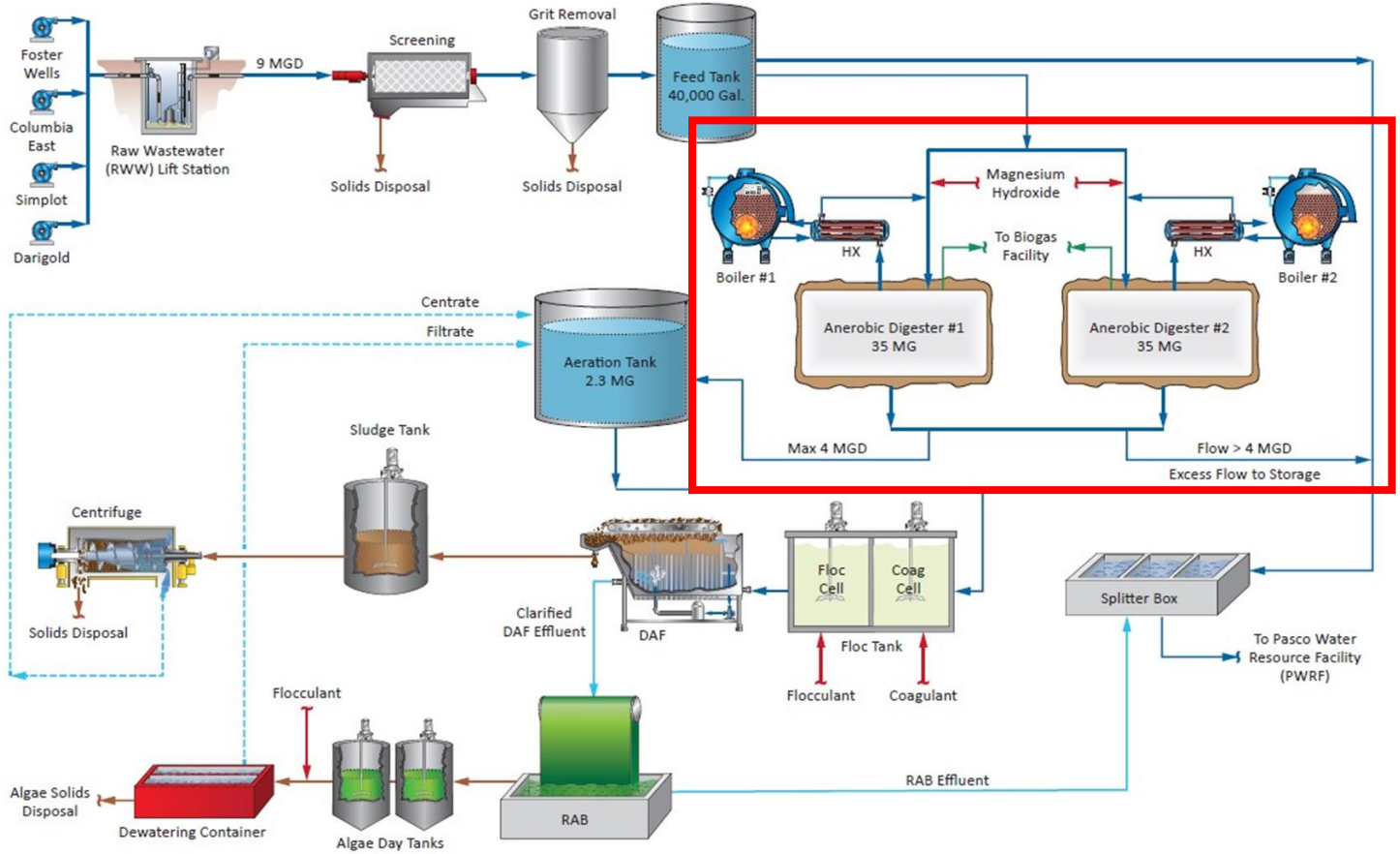
Expanded Process Flow – View 1



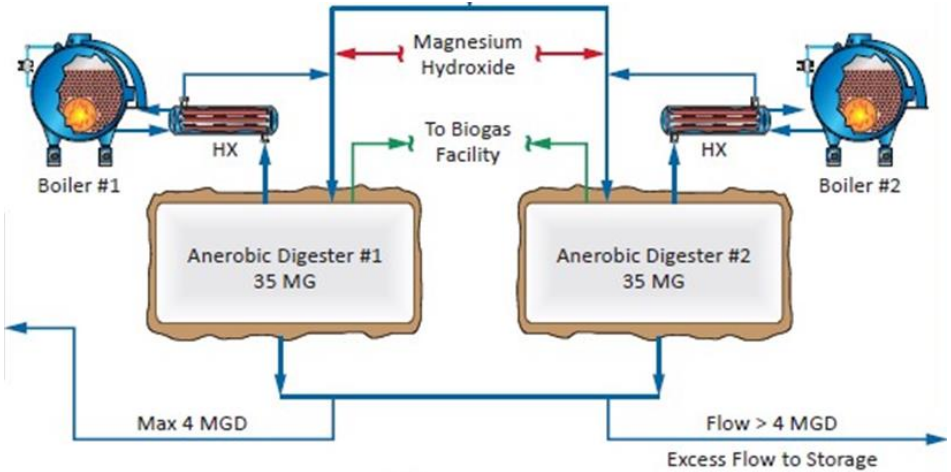
View 1

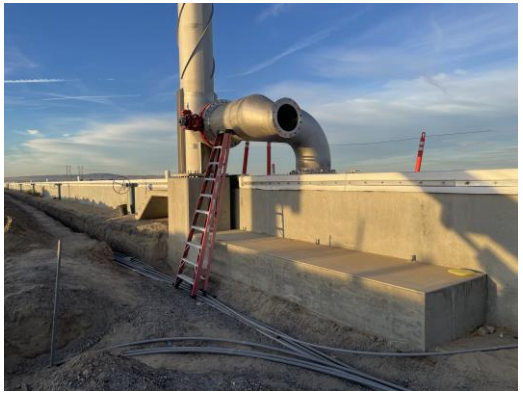

Grit Removal
Screening
9 MGD
Feed Tank
40,000 Gal.
Raw Wastewater
(RWW) Lift Station
Solids Disposal
Solids Disposal

Expanded Process Flow – View 2

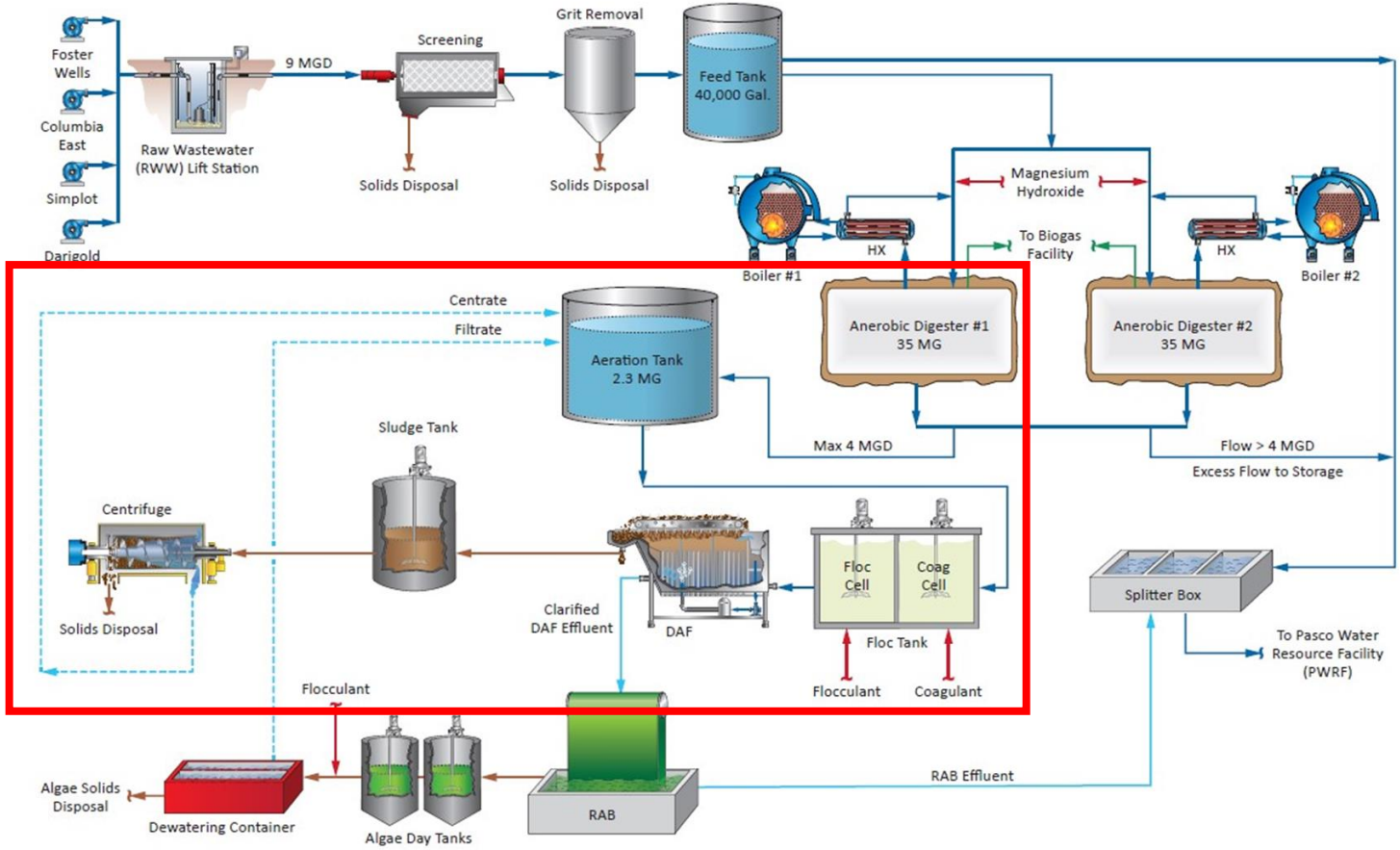


View 2

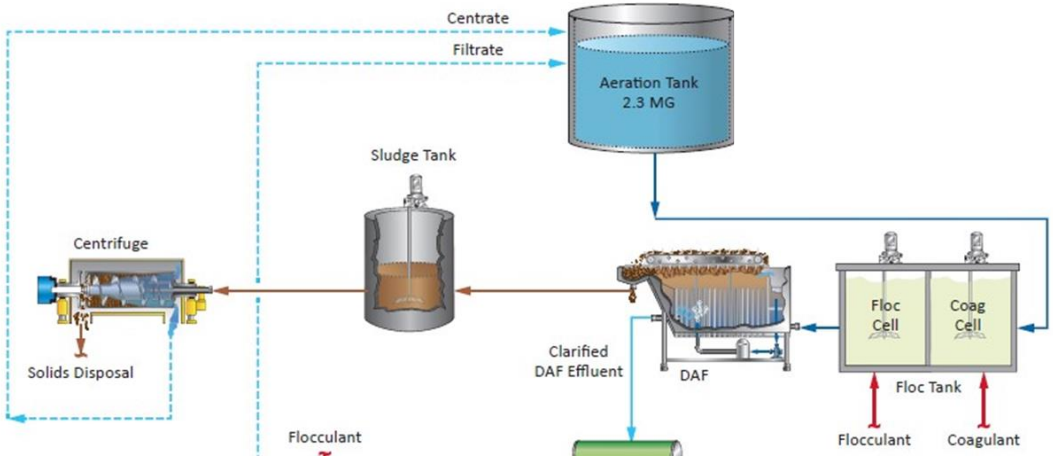

Magnesium Hydroxide
To Biogas Facility
HX
HX
Boiler #1
Boiler #2
Anerobic Digester #1
35 MG
Anerobic Digester #2
35 MG
Max 4 MGD
Flow > 4 MGD
Excess Flow to Storage



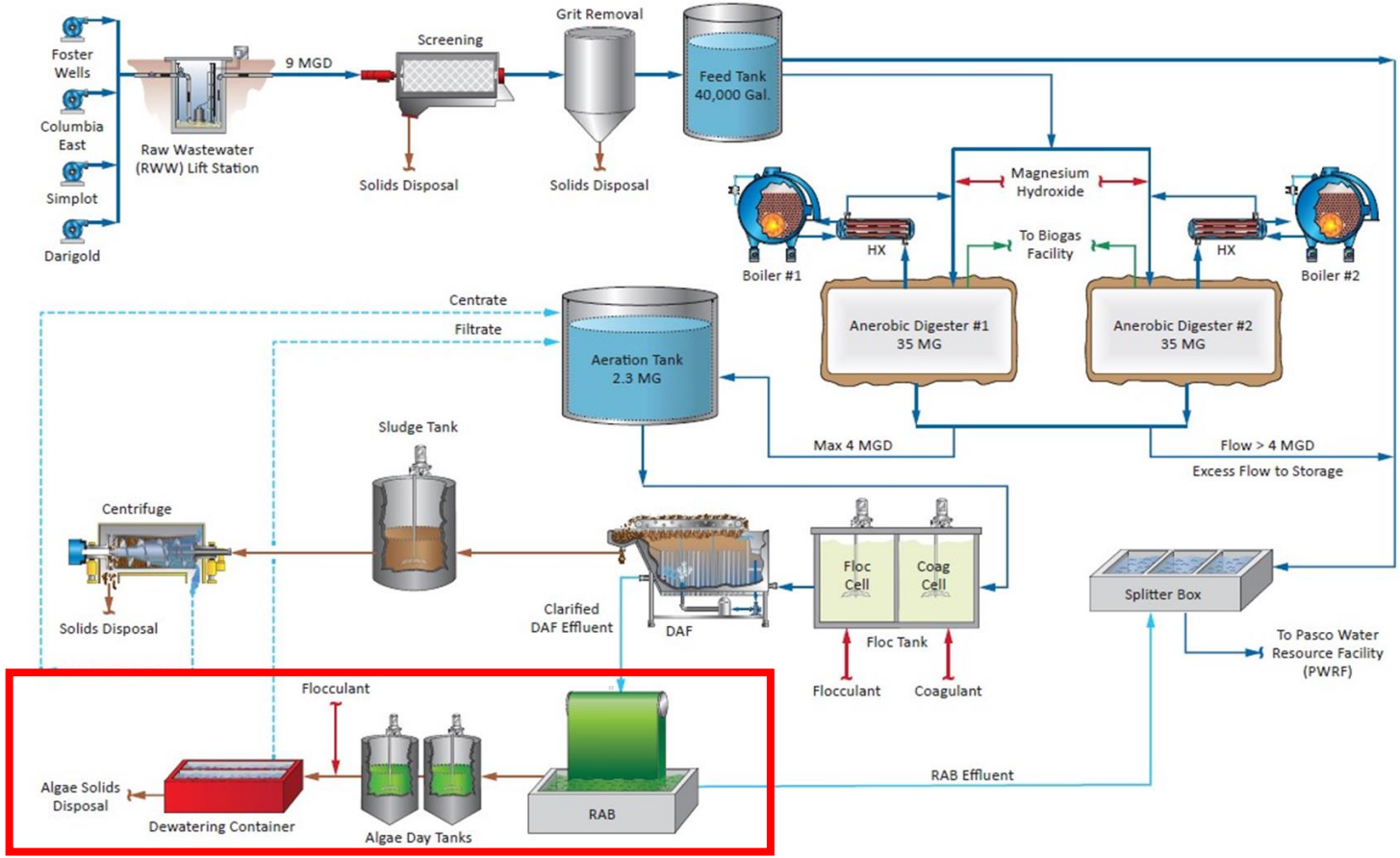
Expanded Process Flow – View 3



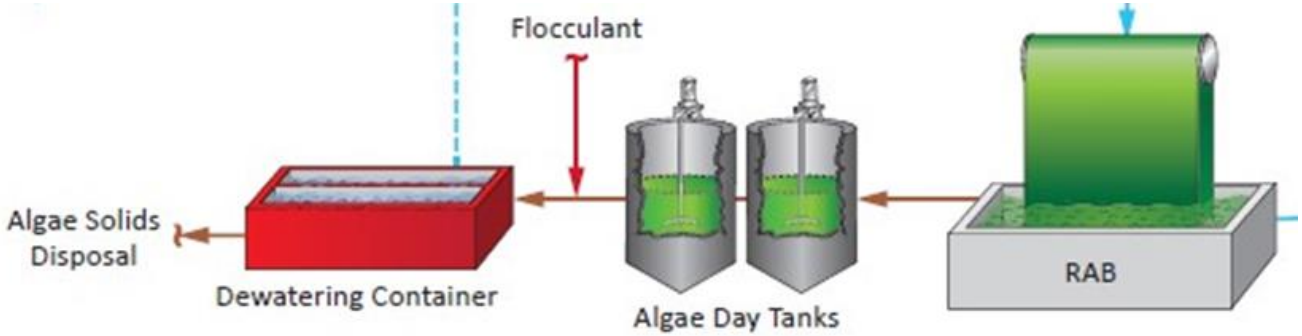
View 3


Centrate
Filtrate
Aeration Tank
2.3 MG
Sludge Tank
Centrifuge
Solids Disposal
Clarified
DAF Effluent
DAF
Floc
Cell
Coag
Cell
Floc Tank
Flocculant
Coagulant
Flocculant

Expanded Process Flow – View 4

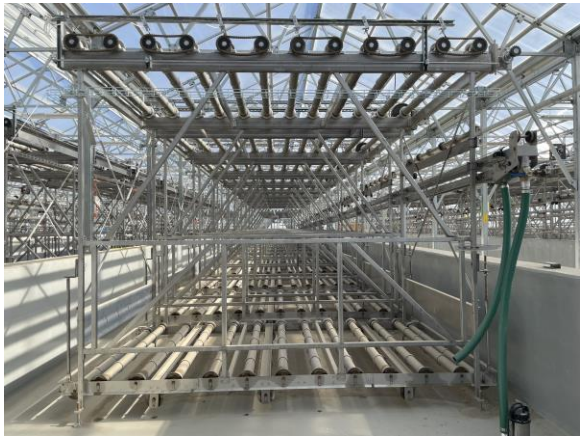


View 4



RAB
Nitrogen Reduction

Revolving
Algal
Biofilm



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Looking Ahead

Growth Potential

- Internal growth
  - Expansion by Current PWRF Users

- External growth
  - New PWRF Users

Acme Processing	Wayne Industries	Omni Farms	Initech Foods

- Organic waste recycling
  - HB 1799 - Washington State 2022 Organics Management Law creates opportunity for organic waste recycling.

Organic Waste Recycling

Background

- In 2022, Washington Legislature passed House Bill 1799 (HB 1799) requiring diversion of organic materials away from landfill disposal and towards food rescue programs and organics management facilities.
    - Washington's 2030 goal is to cut landfill-disposed organic material by 75% (2015 baseline)

Opportunity

- Today, significant volumes of trucked organic waste goes to nearby landfill
- PRRC is the largest organic waste recycling facility in the Tri-Cities by an order of magnitude
- PRRC has incremental digester and gas upgrading capacity including significant incremental capacity 9 months per year (non-harvest season)

Expansion

- Liquid (FOG)
- Pre-Consumer Organic Solid

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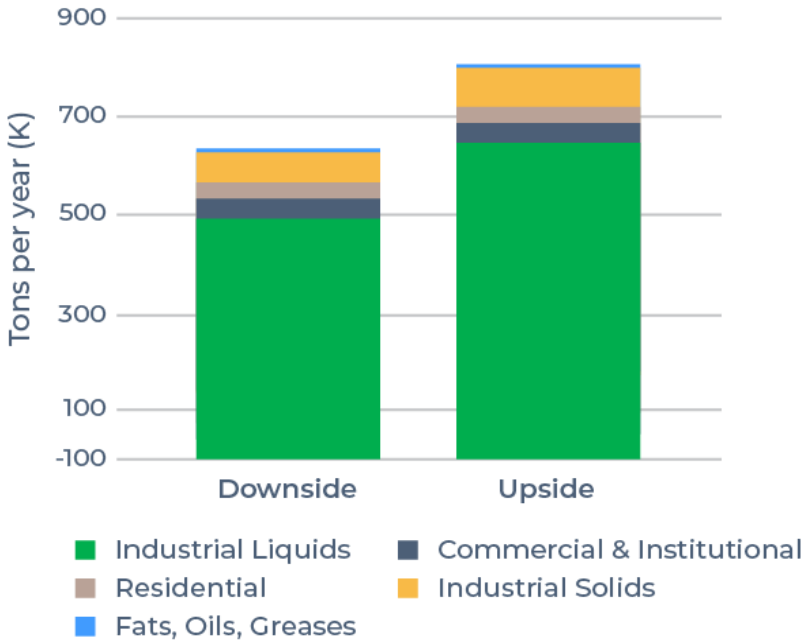
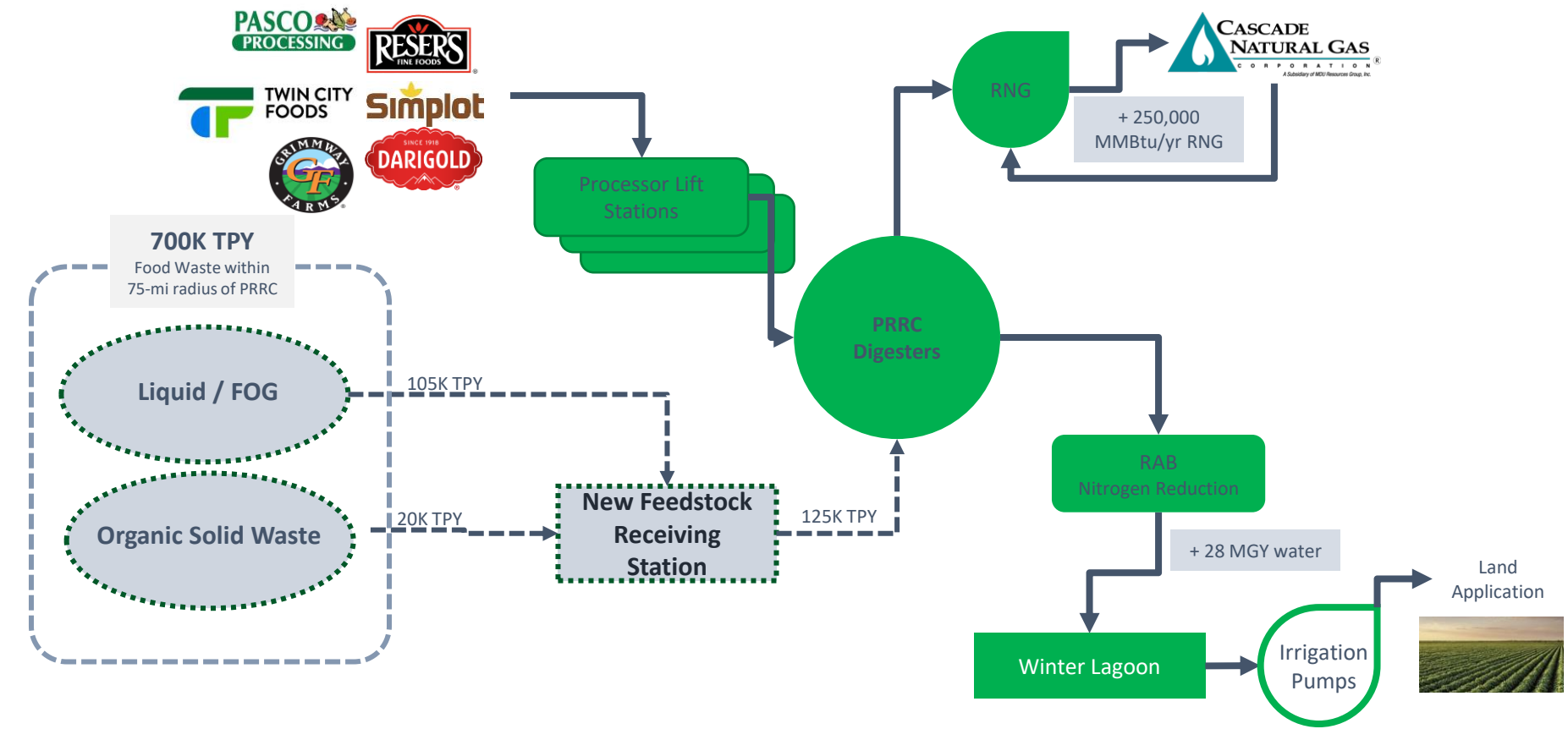
Total Food Waste (<75 Miles)



Feedstock

- **Identified** ~700k tpy of waste within a 75-mile radius from 250 waste producers with a shortlist of 25+ viable options

Overview Potential Expansion



*Preliminary estimate; no incremental nitrogen reduction assumed

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