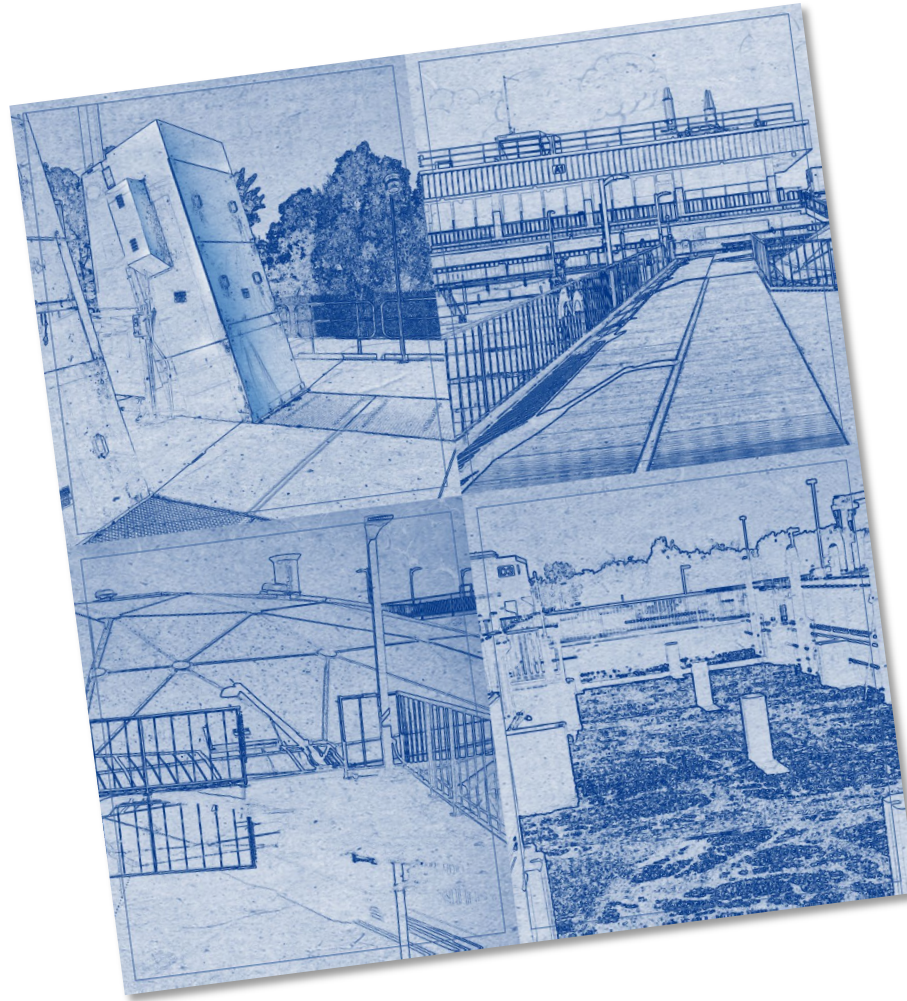




Wastewater Treatment Plant Master Plan

Board Presentation No.4

September 1, 2021



Agenda

- Introductions
- Master Plan Focus Areas Update
 - **Biosolids**
 - **Energy**
- Schedule

Master Plan Focus Area Update

We will Focus on the Results from Two Areas Today



Condition Assessment

Prioritize near, intermediate, and long-term needs.



Wastewater Process Optimization

Meet regulatory requirements in a financially sustainable manner.

Provide Near-term solutions that allow flexibility for long-term objectives.



Energy Management

Drive towards energy self-sufficiency.

Position District to best implement and manage conservation practices and increase efficiency.



Recycled Water & Potable Reuse

Improve level of service throughout facility.

Position District to navigate changes in recycled water and evolving regulations/permitting.



Biosolids Management

Provide flexibility to navigate emerging biosolids markets.

Position district to best implement and manage practices.

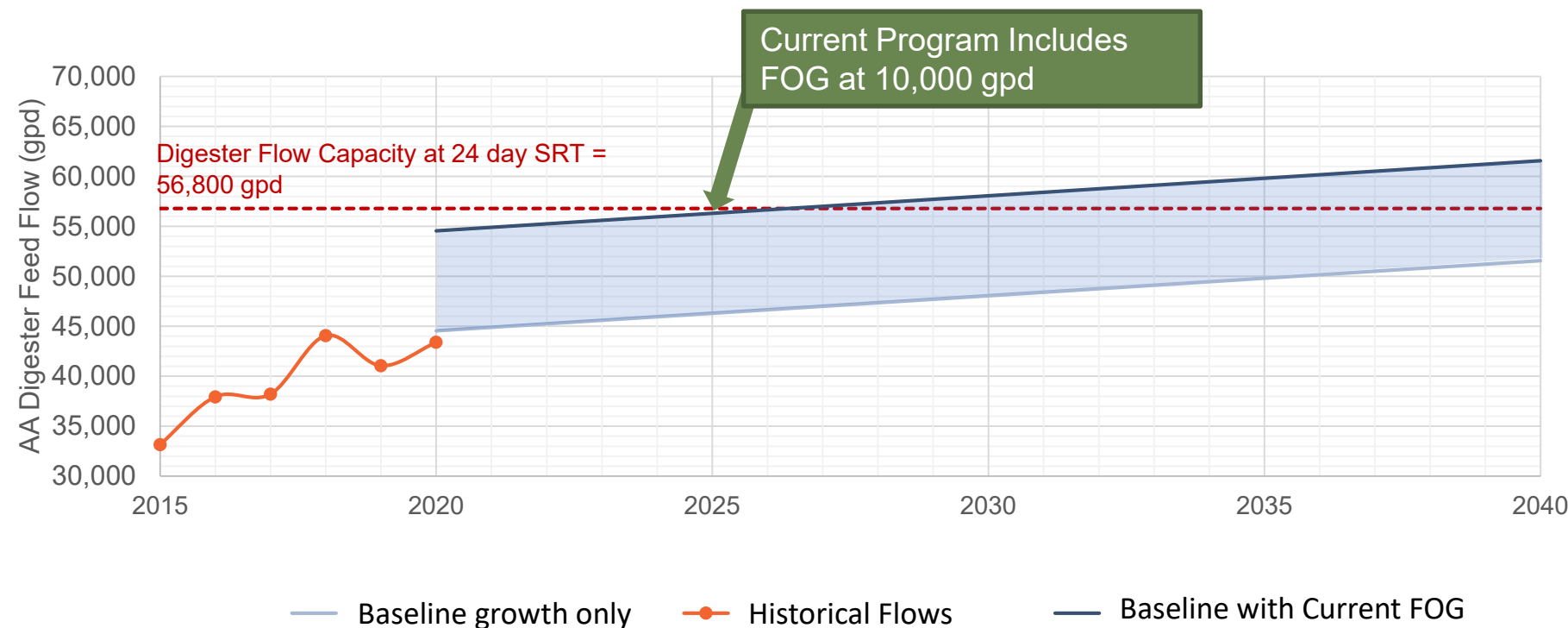


CIP & Plan Development

Utilize trigger-based solutions and tools that best leverages existing infrastructures and minimizes impacts to rate payers.

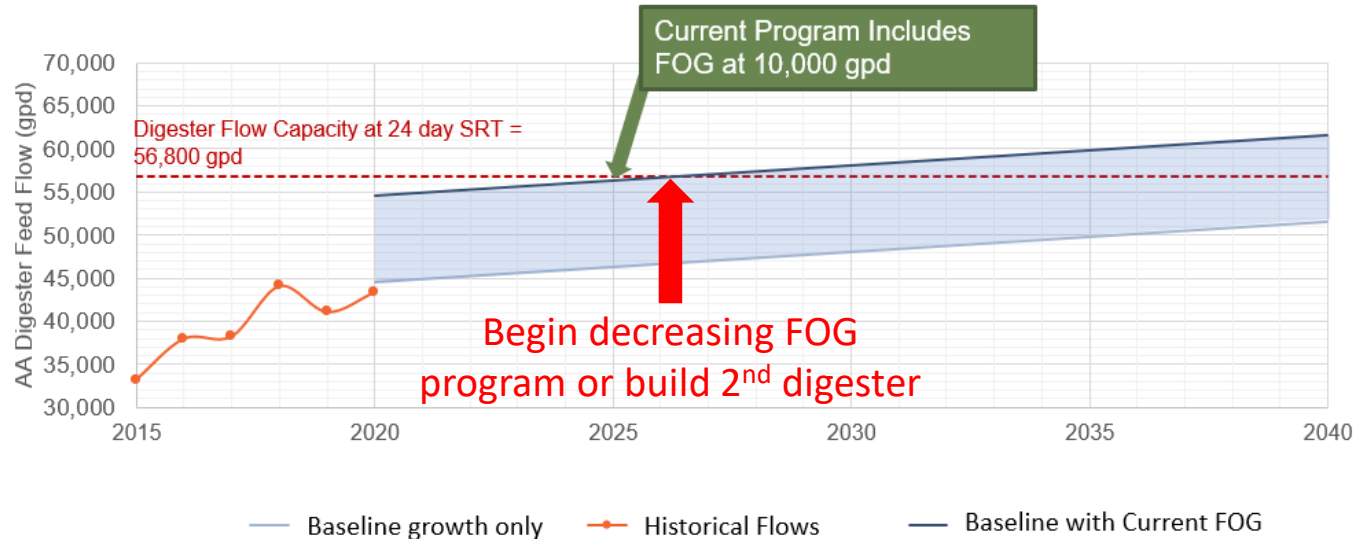
Digester Capacity Projection

Based on 0.7% Growth Rate



Benefits of NapaSan's FOG Program

- Beneficial reuse of Fats, Oils and Grease
- Use available Digester capacity
- Additional gas production
- Cogeneration of electricity to offset power usage and increase resiliency



Other Benefits of a Second Digester

- The energy produced by additional FOG imports will not completely offset the cost of a second digester. However, there are other benefits to a second digester:
- Existing digester is about halfway through its estimated service life
- Second digester would provide redundancy for Biosolids treatment and maintenance activities
- Expand the FOG and HSW program
- Produce more energy – Energy Resiliency
- Increasing FOG can off-set some costs of second digester due to energy production

~\$4.5M revenue gap to underwrite the new ESD capital cost



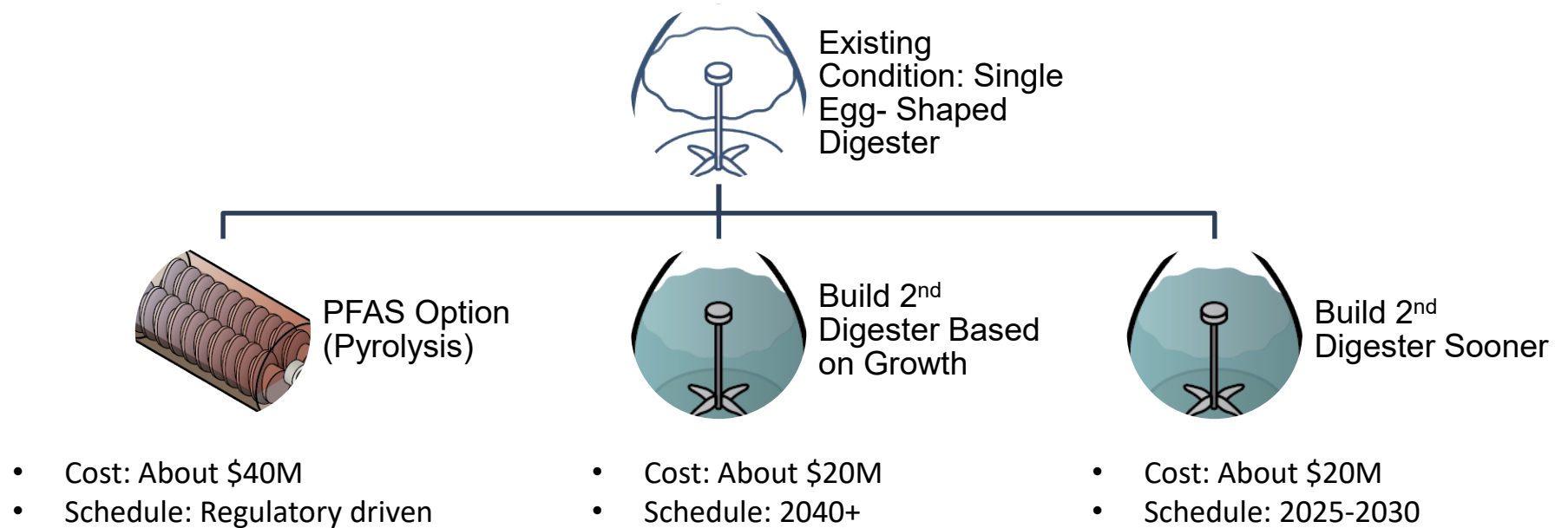
Potential Future Regulatory Requirements

Per- and polyfluoroalkyl substances (PFAS)

- PFAS originates from:
 - Fire products
 - Food packaging
 - Coating for cookware
 - Fabrics
 - Medical products
 - Chemical containers
- Ongoing studies will determine whether PFAS will be dealt with at the source or at WWTPs
- NapaSan's current treatment process won't remove PFAS
- Treatment at the WWTP will require a different process (incineration)
- Anticipate a regulatory determination within the next 2- 4 years



Overview of Alternatives



Questions for Discussion

Should we continue to evaluate a second digester before it's needed for growth?

Should we reach out to other agencies about a Regional HSW Program?

- Recommendation: Wait 2-4 years for a determination regarding PFAS regulations then confirm our timeframe for a second digester.

Schedule

Master Plan Project Schedule and Future Check Ins with the Board

Napa San Master Plan Project Schedule																		
	2020						2021											
Task	Jul	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
Task 1 - Project Management																		
Task 2 - Intro, Basis of Planning and Overview of Facilities																		
Task 3 - Condition assessment																		
Task 4 - Renewable Energy																		
Task 5 - Nutrient Management																		
Task 6 - Biosolids Management																		
Task 7 - Operational Vulnerability Assessment																		
Task 8 - Recycled Water																		
Task 9 - Capacity Analysis																		
Task 10 - Business Case Evaluation of Alternatives																		
Task 11 - Recommended 10Yr CIP																		
Task 12 - Report Preparation																		
Board Presentations																		

List of Board Meetings

- September 2020 (Kickoff meeting)
- February 2021 (Update)
- September 2021 (Update)
- October 2021 (Update)
- December 2021 (Master Plan Approval)

Next Master Plan Follow-up Board Meeting

For the Next Board Meeting in October

- Recycled Water Discussion
- Summary of other Master Plan Tracks
- Biosolids/Energy Follow-up

Questions?

