Official
MEETING MINUTES

GWINNETT COUNTY WATER AND SEWERAGE AUTHORITY
Tuesday, May 31, 2022 - 4:00 P.M.

Department of Water Resources, Training Room
684 Winder Highway, Lawrenceville, Ga. 30045

Present: B. Martin, C. Thompson, B. Kerlin, JC Lan, W. Allick, Jr.
(C. Thompson joined meeting after vote taken on Item III)

I. Call to Order

II. Approval of Agenda

{Action: Approved: Motion: Martin; Second: Lan; Vote: 4-0 }
(Kerlin-Yes; Lan-Yes; Martin-Yes; Thompson-Absent; Allick-Yes)

III. Approval of Minutes – May 9, 2022

{Action: Approved: Motion: Lan; Second: Martin; Vote: 4-0}
(Kerlin-Yes; Lan-Yes; Martin-Yes; Thompson-Absent; Allick-Yes)

IV. Approval/authorization of a Resolution authorizing Gwinnett County to apply for, and if approved, accept a loan from the Georgia Environmental Finance Authority (GEFA) State Revolving Loan Funds and authorizing the Chairwoman to execute all necessary documents to apply for and accept the GEFA loan. Subject to approval as to form by the Law Department.

{Action: Approved: Motion: Lan; Second: Martin; Vote: 4-1}
(Kerlin-Yes; Lan-Yes; Martin-Yes; Thompson-Yes; Allick-No)

V. Comments

VI. Adjourn

{Action: Unanimous approval}

The May 31, 2022 Gwinnett County Water and Sewerage Authority called meeting will begin at 4:00pm

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1

Welcome

to the May 31, 2022 Gwinnett County Water and Sewerage Authority called meeting

Please mute your phone unless speaking

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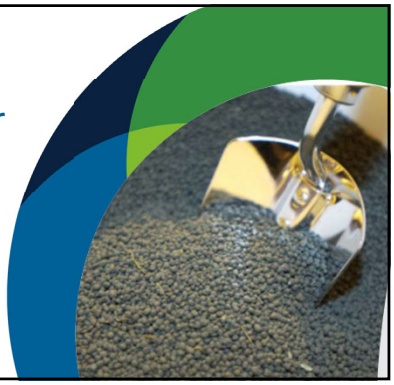
2

Biosolids Dryer Business Case

Sunday, May 22, 2022



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3

Agenda

- Problem Statement
- Biosolids Alternatives
- Dryer Business Case
- Project Funding

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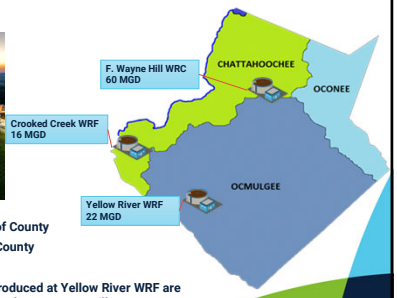
4

F. Wayne Hill Water Resources Center



Provides Wastewater Treatment for over 50% of County
Provides Biosolids Treatment for over 80% of County

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Biosolids produced at Yellow River WRF are treated at F. Wayne Hill WRC

5

Problem Statement

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6

Problem Statement

Every week the F. Wayne Hill Water Resources Center produces over 1,250 wet tons of biosolids that must be disposed of in an environmentally sound and cost-effective manner.

Disposal in a municipal landfill was the solution of choice for many years. The cost of landfill disposal has greatly increased and landfill space for wet solids, like biosolids, is being significantly reduced.

We need to determine the most reliable, environmentally sound and cost-effective way to dispose of biosolids both now and in the future.

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7

Strategic Priority

SUSTAINABILITY & STEWARDSHIP

One of the goals for this project is to meet the Commissioners' Strategic Priorities by:

- Maintaining financial stability
- Reducing service delivery cost
- Providing a sustainable solution

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8

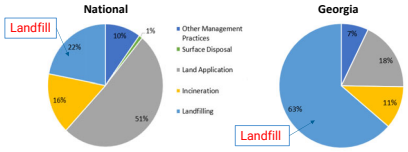
Biosolids Problem

- Increased Landfill Demand
- Reduced Landfill Capacity
- Increasing Costs

9

Increased Landfill Demand

- Incinerator Closures in Cobb County and Cities of Atlanta & Savannah due to new air regulations
- Higher volume of biosolids going to Landfills



Georgia utilities have preferentially landfilled biosolids due to the historically low cost and availability of landfill space

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Source: GEFA Biosolids Assessment & Prepared Study, December 2021

10

Reduced Landfill Capacity

- Regulatory Changes
- Capacity Limitations

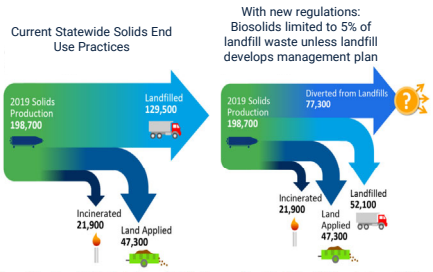


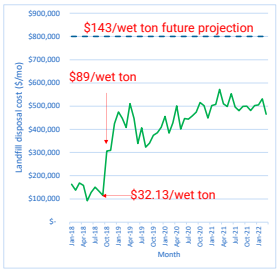
Figure 12-1 Current Solids Production and End Use Compared to a Potential Landfill Diversion Scenario (Values in Dry Tons Per Year)

Source: GEFA Biosolids Assessment & Prepared Study, December 2021

11

Increasing Costs

- FWH unit costs for disposal almost tripled:
  - 2018 $32.13/wet ton
  - 2019 $89.00/wet ton (new contract)
  - 2022 $95.57/wet ton
  - Predict $143/wet ton in future (based on feedback from Waste Management)
- Current unit costs from other utilities
  - City of Atlanta - $123/wet ton
  - South Cobb - $129/wet ton (Denali)
  - Forsyth - $110/wet ton (Waste Eliminators)
- FWH currently spends over $500,000/month for biosolids disposal



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12

Biosolids Alternatives

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13

Multi-Year Strategic Planning Process

End Use Study (2018)

Biosolids Alternative Analysis (2019)

Biosolids Engineering and Implementation Concept (2020)

Dryer and Disposal Analysis (2021)

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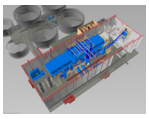
14

Biosolid Disposal Alternatives Considered

Incineration

Composting



Dryer

Continue Landfilling

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15

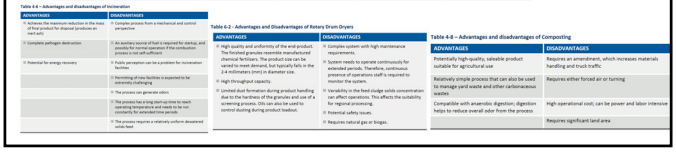
Non-Economic Screening

+ more advantageous
- Less advantageous

Criteria	Landfills	Incineration	Dryer	Composting
Disposal Cost	-	+	+	+
Reliability (Long-term Viability)	-	+	+	-
Ease of O & M	+	-	-	-
Safety / Odor	+	-	-	-
Reusable End Product	-	+	+	+
Permitting	+	-	+	+

Eliminated **composting** option due to space constraints and odor issues

Eliminated **incineration** due to difficulty permitting and negative public perception



16

Composting

- Requires 60-Acre Site
  - 15 to 20-acre for solids processing
  - 40-acre for buffer
  - Must locate facility off-site
- Requires an Amendment (such as woodchips)
  - Procure up to 3 times the biosolids volume
  - Trucking amendment to compositing site
- Odor Control
  - Difficult to capture all emissions because of size and volume of material handled
- Increased truck traffic and material handling

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17

Conceptual level cost estimate: Biosolids dryer

Cost Breakdown	
Construction	$72,122,818
Contingency	$12,622,943
Engineering/Inspection	$12,994,201
Administrative/Legal	$2,260,039
Total Project Cost	**$100,000,000**

This is a very conservative cost estimate assuming costs will significantly increase over project duration, actual estimated cost was $88M in 2022.

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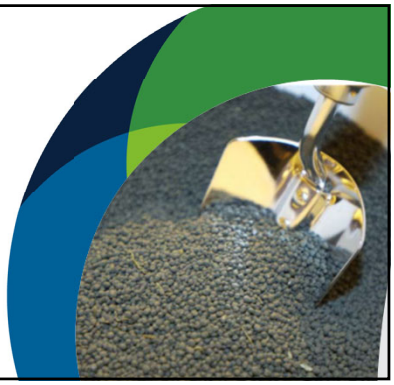
18

Dryer Business Case



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19

ROI of Dryer Alternative

Item	Conservative Scenario	Best case Scenario	Notes
NPV Landfill Costs	$171M	$271M	4% discount rate vs 0.07% discount rate
Capital Cost	$100M	$90M	Engineer's estimate + addl. contingency vs Eng. Estimate
Cost of Capital (Interest + Underwriting fee)	$41M	$1.4M	20-Yr GO Bond @ 4% vs 15-Yr GEFA @ 0.07%
O&M Costs – First Year (2026)			4% discount vs 0.07% discount rate
Natural gas	$790k	$412k	50% NG + 50% Biogas vs 25%NG + 75% Biogas
Power	$99k	$103k	4wk downtime vs 2-wk downtime
Labor	$650k	$650k	5.75 FTEs @ $54/hr
Maintenance	$484k	$403k	3% of Equipment Cost vs 2.5% of Equipment
Product Disposal	$2.2M	$281k	100% dried solids landfill vs 0% landfilled 4wk of wet solids vs 2 wk of wet solids to landfill during shutdowns for maintenance
Dryer NPV	$166M	$128M	
NPV of cost savings	$5M	$143M	
Simple Payback (Years)	**15**	**10**	**Inc. $15M ARPA Grant**
Cash Flow Positive Year	9	1	Inc. $15M ARPA Grant, 20-Yr vs 15-Yr loan compared to continuing to landfill

20

ROI Analysis Assumptions

Item	DDS-80 dryer (Alt 4a)					
	Conservative Scenario			Best Case Scenario		
	Current (2022) Costs	First Year Operation (2026) Costs	Annual Escalation	Current (2022) Costs	First Year Operation (2026) Costs	Annual Escalation
Landfill disposal cost	$95.57/wet ton	$111.80/wet ton	4%	$95.57/wet ton	$111.80/wet ton	4%
% dried solids to landfill	100% of dried produced		n/a	0% of dried product		n/a
cake to landfill during shutdown	4 weeks/year		n/a	2 weeks/year		n/a
Natural gas (% of total demand)	50%		n/a	25%		n/a
Natural gas cost	$10.00/mmBTU	$10.82/mmBTU	2%	$10.00/mmBTU	$10.82/mmBTU	2%
Labor cost	$50/hr	$54/hr	2%	$50/hr	$54/hr	2%
Power cost	$0.040/kWh	$0.043/kWh	2%	$0.040/kWh	$0.043/kWh	2%
Maintenance cost	3% of equipment cost		2%	2.5% of equipment cost		2%
Revenue from dried product	$0/wet ton		n/a	$0/wet ton		n/a
Project capital cost	$100M (total project) - $15M (grant) = $85M		n/a	$90M (total project) - $15M (grant) = $75M		n/a
Loan interest rate	4%		n/a	0.07%		n/a
NPV of cost savings	$5M		n/a	$143M		n/a
Simple payback (with ARPA grant)	**15 years**		n/a	**10 years**		n/a
# of Years to Positive Cashflow	9 years		n/a	1st year		n/a

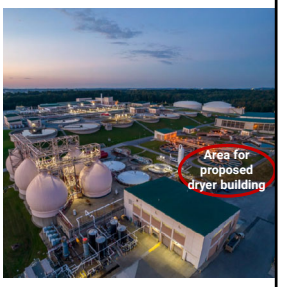
21

Key Recommendations

Dryer is preferred technology

- 10-to-15-year payback period
- Reliable, long-term disposal option
- Provides potential for beneficial reuse
  - Produces highest quality (Class A) product
- Diverts 116,000 yd^3 waste from landfills
  - Equivalent to trash from 110,000 residents

Build dryer at F. Wayne Hill sized for both Yellow River and FWH solids



22

Project Scope

- Dryer system
- Two dried solids storage silos
- Dryer building with odor control

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23

Project Funding

Financial Viability

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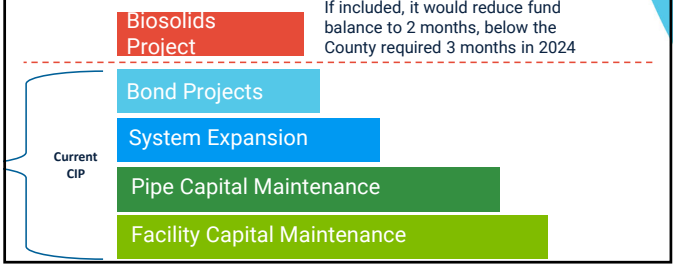
24

Biosolids project was not included in 2023-2028 CIP



25

Funding Sources

ARPA grant awarded to DWR: $15M

- Year end 2024: all funds must be obligated
- Year end 2026: all funds must be expended

GEFA CWSRF loan: up to $85M

- Exceptionally low interest rate of 0.07% - Requires application in June 2022 and approval at GEFA Board meeting in August.

Project priority increased due to awarded ARPA funds and exceptional low interest funding available

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26

Project Cash Flow

Spend Schedule	2023	2024	2025	2026
ARPA Funds	$7,500,000	$7,500,000		
GEFA Funds*	$30,500,000	$40,000,000	$9,500,000	$5,000,000
Total	**$38,000,000**	**$47,500,000**	**$9,500,000**	**$5,000,000**

* GEFA agreed (May 12th meeting) to increase annual borrowing maximum from $25M to match project cashflow. GEFA approved an annual maximum borrowing of $50M for Clayton County's Dryer project in 2021.

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27

Why Utilize GEFA Loans?

ARPA
Reporting requirements are similar to GEFA reporting requirements reducing project overhead for GEFA loan management

GEFA Rates
Current 15-year rates are exceptional at 0.07%

Bond Rates
For 2023, interest rates are estimated to be 3%+ and continue to increase

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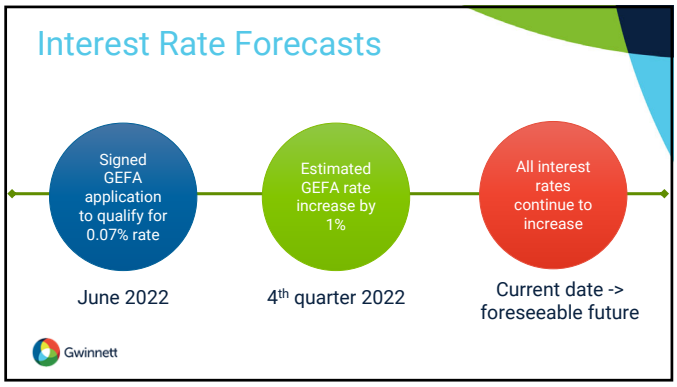
28


Interest Rate Forecasts
Signed GEFA application to qualify for 0.07% rate
Estimated GEFA rate increase by 1%
All interest rates continue to increase
June 2022
4th quarter 2022
Current date -> foreseeable future
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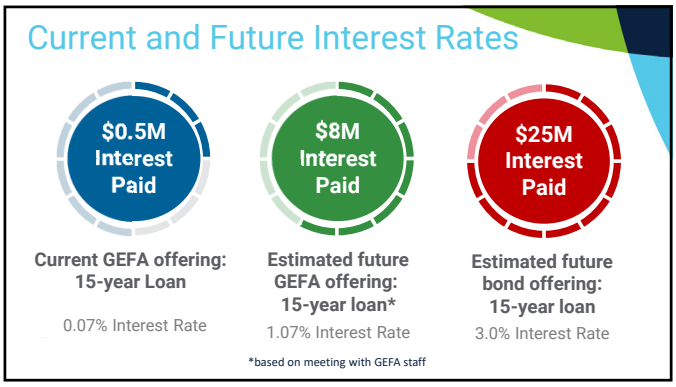
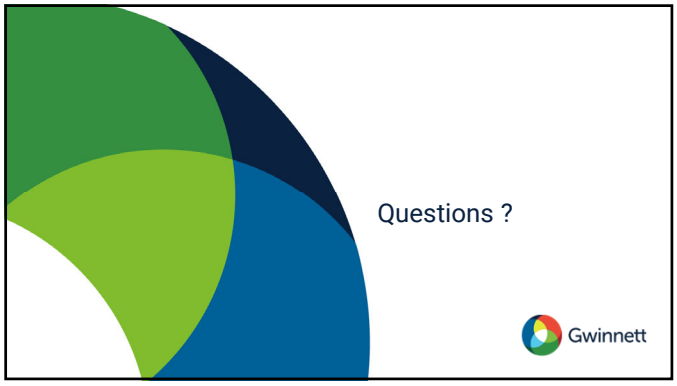
29


Current and Future Interest Rates
$0.5M Interest Paid
$8M Interest Paid
$25M Interest Paid
Current GEFA offering: 15-year Loan
0.07% Interest Rate
Estimated future GEFA offering: 15-year loan*
1.07% Interest Rate
Estimated future bond offering: 15-year loan
3.0% Interest Rate
*based on meeting with GEFA staff

30


Questions ?
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31