

# Nampa WWTP Phase II/III Preliminary Design: Design Review Committee #14



December 17, 2020



1

## Agenda

1. Wastewater Program and Recycled Water Permit Update
2. Project Group D Update
3. Project Group E Update
4. Project Group F Update
5. DRC Next Steps



2



# Wastewater Program and Recycled Water Permit Update



3

## Reuse Permit Updates

- Final Reuse Permit was issued by IDEQ in January 2020
- Riverside Irrigation District has challenged City's ability to discharge to Phyllis Canal with the Idaho Department of Water Resources
- On-going legal actions related to challenge
- City expects decision from IDWR in early 2021



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4

4

## Nampa Wastewater Program Updates

- Resource recover opportunities: biogas and biosolids
- Idaho Power primary power purchase
- USBR Water Smart Grant



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5

5

## Wastewater Program Financial Updates

Project	Baseline Budget	Current Contracted	Projected Contracts	Potential Savings	Spent
Project Group G	\$5,018,323	\$0	\$5,018,323	\$0	\$0
Project Group F	\$144,665,374	\$12,503,452	\$151,600,000	(\$19,438,078)	\$886,586
Project Group E	\$3,439,561	\$2,680,074	\$0	\$759,487	\$1,634,866
Project Group D	\$12,396,041	\$8,383,854	\$0	\$4,012,187	\$2,856,010
Pre-Design	\$5,119,154	\$4,803,503	\$0	\$315,651	\$4,371,467
Idaho Power Assest Purchase	\$0	\$821,253	\$0	(\$821,253)	\$0
Contingency	\$19,285,511	\$0	\$19,285,511	\$0	\$0
<b>Total</b>	<b>\$189,923,962</b>	<b>\$29,192,136</b>	<b>\$175,903,833</b>	<b>(\$15,172,007)</b>	<b>\$9,748,928</b>



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6

6

# Wastewater Program Financial Updates



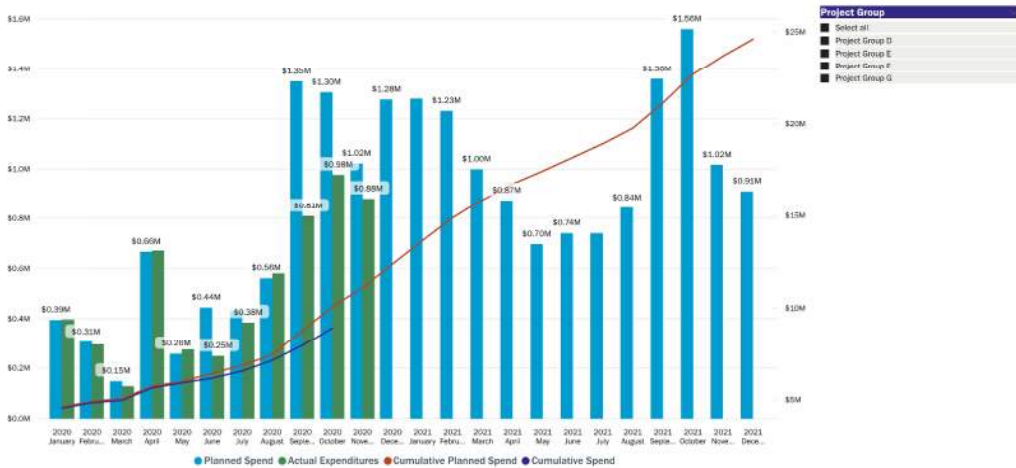
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7

7

# Wastewater Program Financial Updates

Nampa Wastewater Program Monthly Cash Flow



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8

8

# Wastewater Program Financial Updates

Project Group	Milestone	Anticipated Date
E	Construction completion	March 2021
F	EWP GMP proposal	July 2021
F	City Council approval of EWP GMP contract amendment	October 2021
D	Construction completion	December 2021
F	MWP GMP Proposal	January 2022
F	City Council approval of MWP GMP contract amendment	May 2022

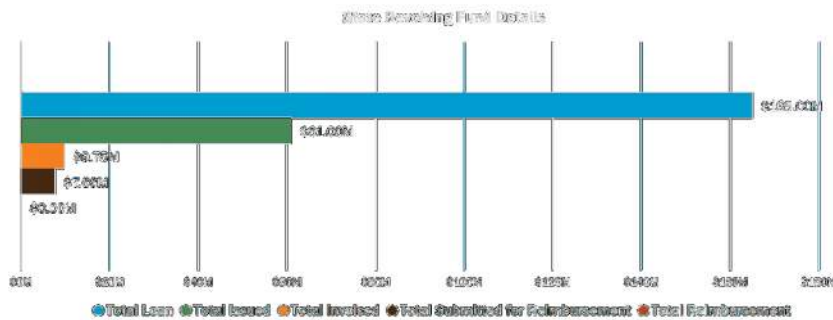
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9

9

# Wastewater Program Financial Updates

- State Revolving Fund Loan
  - \$165M total authorized loan
  - IDEQ has authorized two loan installments totaling \$61M
  - First reimbursement request was submitted in November for nearly \$7.7M



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10

10



# Project Group D Update

Brown AND Caldwell

11

## Project Group D Updates

- PGD- Primary Digester No. 5 and Flare Relocation
  - 90% of construction submittals have been submitted by contractor
  - COVID-19 has had impacts on schedule



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12

12



## Project Group D Financial Status

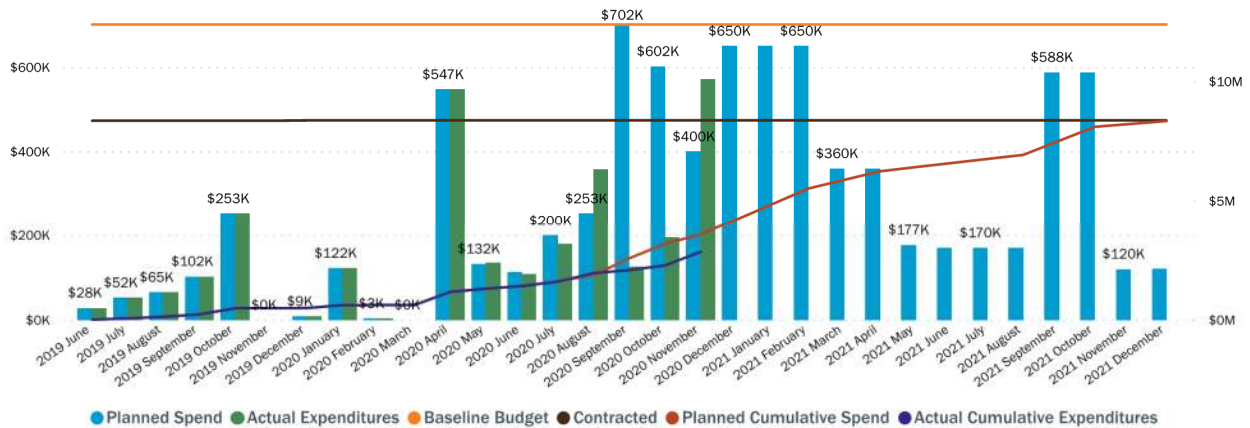
Phase	Baseline Budget	Contracted	Remaining	Spent	Potential Change Orders
CM	\$684,882	\$684,787	\$95	\$115,454	\$0
<b>CONSTRUCTION</b>	<b>\$8,077,156</b>	<b>\$6,435,277</b>	<b>\$1,641,879</b>	<b>\$1,748,339</b>	<b>\$0</b>
DESIGN	\$984,518	\$608,310	\$376,208	\$608,310	\$0
DESIGN MGMT	\$55,647	\$12,395	\$43,252	\$27,431	\$0
SDCs	\$599,272	\$415,370	\$183,902	\$239,614	\$0
SIS	\$393,978	\$227,715	\$166,263	\$116,862	\$0
UNALLOCATED	\$1,600,588	\$0	\$1,600,588	\$0	\$0
<b>Total</b>	<b>\$12,396,041</b>	<b>\$8,383,854</b>	<b>\$4,012,187</b>	<b>\$2,856,010</b>	<b>\$0</b>

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13

13

## Project Group D Financial Status



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14

14



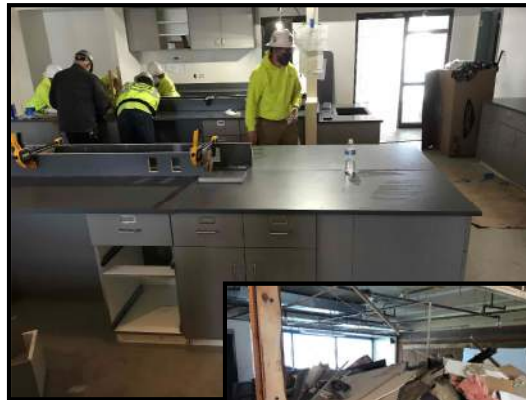
# Project Group E Update

Brown AND Caldwell

15

## Project Group E Updates

- PGE- Administration and Laboratory Building Renovation
  - 98% of construction submittals have been submitted by contractor



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16

16



## Project Group E Financial Status

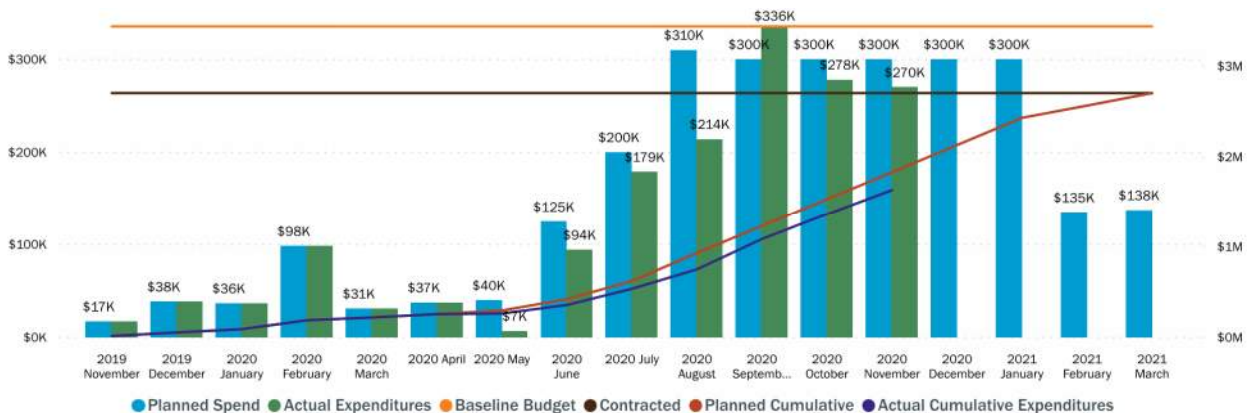
Phase	Baseline Budget	Contracted	Remaining	Spent	Potential Change Orders
<b>CONSTRUCTION</b>	\$2,221,658	\$1,963,577	\$258,081	\$1,188,114	\$0
<b>DESIGN</b>	\$270,796	\$207,233	\$63,563	\$206,849	\$0
CM	\$163,441	\$163,441	\$0	\$83,180	\$0
<b>SDCs</b>	\$164,832	\$69,069	\$85,067	\$57,008	\$10,696
DESIGN MGMT	\$15,306	\$41,754	(\$37,327)	\$52,633	\$0
Office Furnishings/Trailer	\$0	\$135,000	(\$135,000)	\$47,082	\$0
Facility Dept Commissioning	\$0	\$100,000	(\$100,000)	\$0	\$0
Unallocated	\$603,527	\$0	\$603,527	\$0	\$0
<b>Total</b>	<b>\$3,439,561</b>	<b>\$2,680,074</b>	<b>\$737,911</b>	<b>\$1,634,866</b>	<b>\$10,696</b>

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17

17

## Project Group E Financial Status



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18

18



# Project Group F Update



19

## Project Group F Update

- 13 Workshops led to a Recommended Project Concept
- Recommended Project Concept closely matches Indicative Design
- Moving towards 30% design and updated cost information in late winter 2021

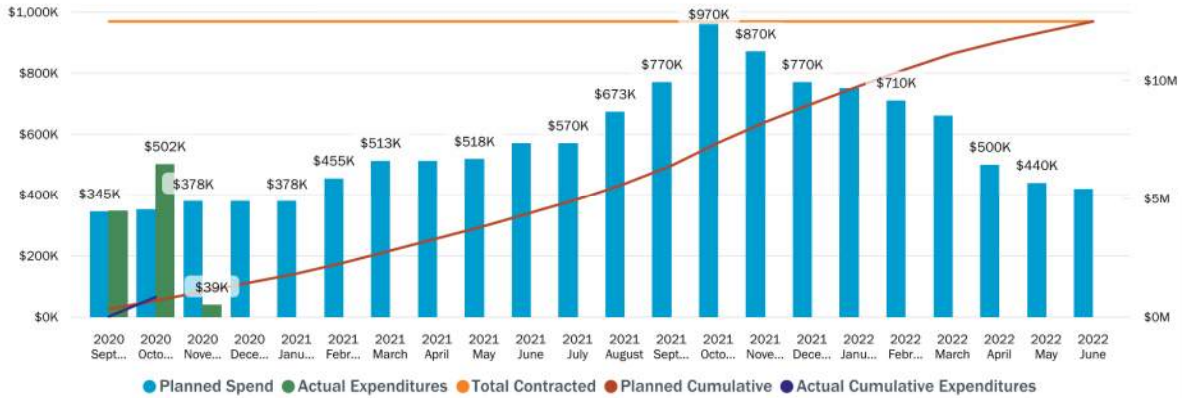


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20

20

## Project Group F Update



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21

21

## Project Group F Update

- Current baseline budgets were group by process area
- Digested sludge storage tanks originally estimated with digester (PGD)
- Due to sequencing, tanks were moved to PGF

**Recommendation: Move budget (\$3.5M) for Digested Sludge Storage Tank from PGD to PGF**



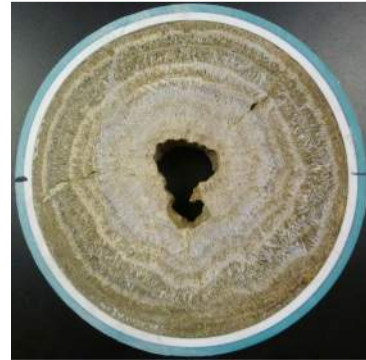
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22

22

## Overview of Sidestream Treatment BCE

- Struvite control is critical for operation of biological phosphorus removal systems
- Potential struvite mitigation/recovery approaches
  1. Chemically control (no recovery)
  2. Precipitate and incorporate into biosolids
  3. Precipitate and recover for sale
- Different recovery and product sale approaches – varies by technology provider



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23

23

## Review of Alternatives

- Alternative 1: Centrate Precipitation with Harvesting
- Alternative 2: Direct Chemical Addition of Ferric Chloride to Digestion
- Alternative 3: Centrate and WAS Precipitation with Harvesting
- Alternative 4: Digested Sludge Precipitation with Harvesting
- Alternative 5: Digested Sludge Precipitation without Harvesting
- *Alternative 6: Centrate and WAS Precipitation with Low-Value Harvesting*



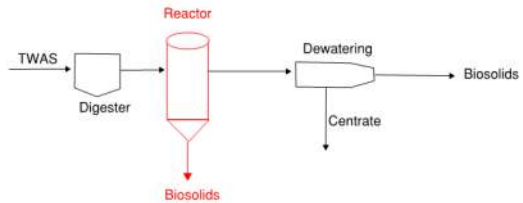
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24

24

## Alternative 5: Digested Sludge Precipitation without Harvesting

Considerations	
Value of Product	None
Protects Thickening Equipment	No
Protects Digesters	No
Protects Dewatering Equipment	Yes



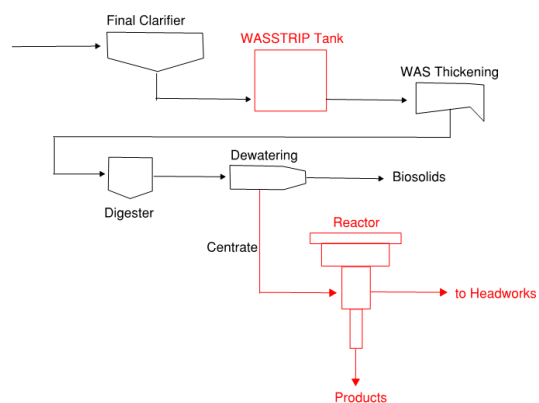
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25

25

## Alternative 6: Centrate and WAS Precipitation with Low-Value Harvesting

Considerations	
Value of Product	Low
Protects Thickening Equipment	Yes
Protects Digesters	Yes
Protects Dewatering Equipment	Yes



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26

26

## BCE Results (Indicative Design)

Alternative Name	Capital	O&M	R&R	Risk	Benefit	NPV
Alt 1: Centrate Precipitation w/ Harvesting (Ostara)	\$15.0M	\$9.0M	\$1.5M	\$0.3M	\$2.7M	\$24.7M
Alt 2: Direct Chemical Addition	\$1.1M	\$14.2M	\$0.1M	\$2.8M	\$0M	\$20.3M
Alt 3: Centrate and WAS Precipitation w/ Harvesting (Ostara)	\$17.0M	\$16.4M	\$1.5M	\$0.5M	\$5.1M	\$32.4M
Alt 4: Digested Sludge Precipitation w/ Harvesting (AirPrex)	\$13.6M	\$8.3M	\$1.1M	\$0.5M	\$0.4M	\$24.7M
Alt 5: Digested Sludge Precipitation w/ Sequestration (AirPrex)	\$9.5M	\$8.2M	\$0.8M	\$0.1M	\$0M	\$20.2M

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27

27

## BCE Results (Design-Builder)

Alternative Name	Capital	O&M	R&R	Risk	Benefit	NPV
Alt 1: Centrate Precipitation w/ Harvesting (Ostara)	No longer considered					
Alt 2: Direct Chemical Addition	No longer considered					
Alt 3: Centrate and WAS Precipitation w/ Harvesting (Ostara)	No longer considered					
Alt 4: Digested Sludge Precipitation w/ Harvesting (AirPrex)	No longer considered					
Alt 5: Digested Sludge Precipitation w/ Sequestration (AirPrex)	\$4.2M	\$6.1M	\$1.6M	\$0.1M	\$0M	\$12.1M
Alt 6: Centrate and WAS Precipitation w/ Low-Value Harvesting (Ostara)	\$7.9M	\$5.0M	\$2.9M	\$0.2M	\$0.3M	\$15.6M

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28

28



## Recommendation

- Recommend selecting Alternative 5
- Consistent with results of BCE process
- Additional costs for product recovery are not offset by product revenues

**DRC REQUEST:** *Affirm recommendation to proceed with Alternative 5 as the selected Sidestream treatment approach for the Phase II Upgrades*

29



## Schedule & Future Agenda Topics

30

## Schedule & Meeting #15

Design Review Committee – Quarterly meetings  
Next meeting planned for March/ April 2021

Meeting #15 Agenda Topics:

1. Program Updates
2. Financial Updates
3. Project Group F Updates

31



32