

City of Grand View, Idaho Wastewater Treatment

Discussion of Alternatives
Meeting on 5/13/20
6:00 PM
Grand View Senior Center

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Google Earth

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Welcome!

AGENDA

- Housekeeping
 - Social Distancing
 - Gathering Less than 20
 - Second Presentation if required
- Please sign in!
- Note the survey forms: Each person Pick your TOP TWO (2) alternatives
- Agenda
 - Introduction: “What’s the use?”
 - Key Findings
 - Collection System Alternatives
 - Wastewater Treatment Alternatives
 - Apparent Best Alternative
 - Funding and financials
- Impact on rates
- Next Steps

Participation

- The residents and businesses of Grand View are key participants in determining the outcome of this wastewater facility planning study through their review and input in public hearings and other public involvement. Their support will be critical when it comes to obtaining the funding for necessary improvements.

Community Comments Regarding Treatment Alternatives from Town Public hearing 5/13/20 City of Grand View

QUESTIONS	Yes	No	Comments
Did you understand the Treatment Alternatives?			
Were your questions adequately answered?			
Is there a Treatment Alternative you think is best?			
Why did you select this Alternative? (respond in "Comments" please)			
Is there something else you would like to be considered? (Use "comments")			
Did the presenter talk about the "No Action" Alternatives			



What is the Purpose of the Facility Planning Study (FPS)?

- Provides the community and leaders with a reference for details about the sewer system.
- Is a foundation information for Grant Applications.
- Review of operational opportunities and highlights.
- Provide a roadmap towards sustainability.

Key Findings



Collection & Delivery:

- Simple fixes to collection system can increase capacity and prevent issues. Roosevelt reaches capacity in 10 years.
- The lift station can overflow, controls may malfunction, the circuits are uncovered and sewage can back-up into the electrical panel.
- The attachments of the pressure sewer over the Snake River are unattached.
- All of the businesses and residents within the City and east of the cement slides are on septic systems.

Upside:

- ✓ The lift station has spare pumps and is adequately sized.
- ✓ The generator set works as designed.
- ✓ Large sections of the collection system (sewer) are in good shape (1999).
- ✓ Most of the City is adequately served.
- ✓ There are no heavy industrial or organic loads.

Key Findings (Cont.'d)



Treatment

- The lagoons are leaking.
 - Consequences: “This is a violation of several rules, but which can be rolled up into a violation of land application of wastewater without a permit, but which is a potential violation of the ground water quality rule and which may impact the surface water that flows by the lagoons. So, while we are not inclined to issue penalties at this time, it is within our authority to do so under Idaho Statute 39-108, and we may if the community isn't making progress towards correcting the issue.” –IDEQ
 - There is no permit to discharge to the Snake River. Direct discharge to the Snake River will not be achieved without advanced treatment.

Key Findings (Cont.'d)



Treatment

- The exterior dikes do not meet current Idaho Department of Environmental Quality standards.
 - Sewage flows vary.
 - The backwash from the arsenic treatment plant contributes about 17,000 gallons per week to WW load;
 - Weir structures are leaky and prone to failure.
- We have proposed alternatives that consider these findings

Key Findings (Cont.'d)



Treatment

- 20% of Cell #1 capacity is sludge.
- The chlorine contact basin is not used and not properly decommissioned. (See Misc Repairs)

Upside:

- ✓ One aerator meets most aeration requirements.
- ✓ There is adequate power on site to serve the preferred alternative.
- ✓ The substrate material (soil) is nearly perfect for RI basin.
- ✓ There is no perched groundwater on site.
- ✓ Flow meter provides useful information regarding flows.
- ✓ The city owns sufficient property to construct additional storage if needed.
- ✓ Re-lining of Cell #2 is not required.



- The transfer structures are leaky and it makes it difficult to control wastewater flow.
- In the fall of 2019, the planks failed and Cell #2 was flooded with wastewater

Chlorination



The abandoned chlorination mixing chamber showing decaying planks and some standing water (foreground: Snake River shoreline)

Key Findings (Cont.'d)



Other

- Trained operators can help reduce operational costs and reliability.
- The City has 168 sewage connections, 27 residents on septic and 192 EDUs. The City does not charge rates based upon EDUs.
- The City's W&S expenses exceed revenue (2017)per year

Upside:

- ✓ Sewer rates based upon Equivalent Dwelling Units (EDUs) would increase wastewater revenues by approximately \$10,000/year.
- ✓ The City currently employs one licensed operator and one trainee.
- ✓ The WWTF is free of weeds and excess vegetation. Vegetation can thrive in the wastewater.
- ✓ The city is working to reduce costs.

Basis for Proposed Alternatives

- What are the current and future community wants and needs?
- What are the available resources?
- What are the current and future conditions?
- How far in front of or behind the curve are we?
- Will the proposed Alternative satisfy regulatory requirements?

Basis for Proposed Alternatives (Cont'd.)

From the investigation completed we determined these to be general objectives:

- Reduce load on collection system where limited.
- Protect groundwater as much as possible.
- Obtain revenue to offset costs.

Collection Recommendations

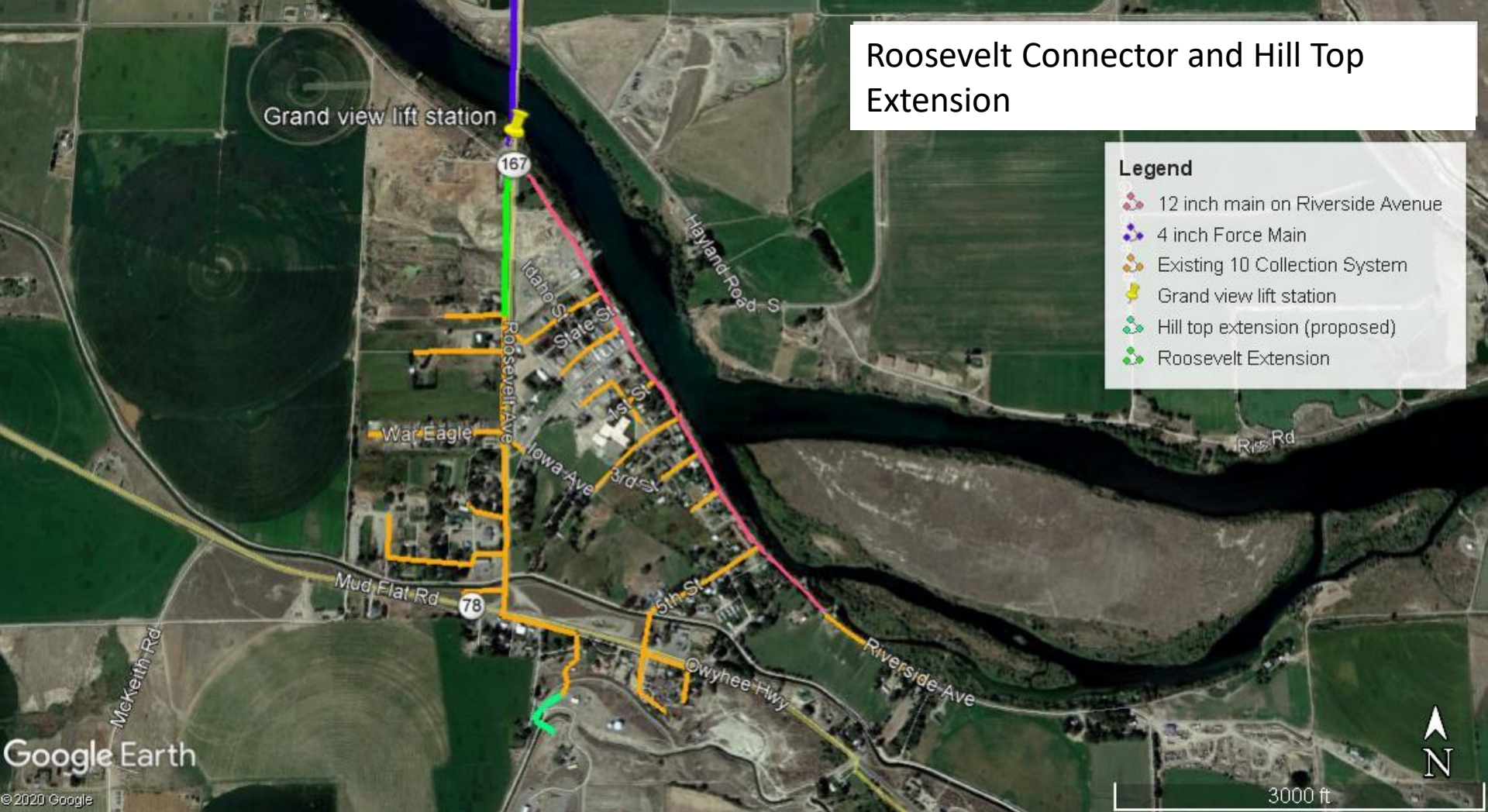


- Remove and replace **bellied lines** on Riverside Avenue.
(Addresses plugging and surcharging of lines)
- Repair MH-25 to **reduce inflow (I/I)** from the spring on Fourth Avenue
- **Isolate and repair I / I** between MH-48 and MH-10
- **Repair pipe gaps** on Branch lines in the East zone and along SH-78
- Adjust sewer rates on a per EDU basis.

Collection Recommendations, Cont.'d

- **Replace 4-inch collection system** with 6 inch and tie into existing 6 inch line near the senior housing off of Roosevelt and Main St.
- **Decommission** Chlorination System.
- Construct new sewer lines (following).

Roosevelt Connector and Hill Top Extension



- Both Hill Top Extension and Roosevelt Connectors are shown in this view (green lines)



Highway 78 Extension



Legend

- 12 inch main on Riverside Avenue
- Feature 2
- Grand view lift station
- HWY 78 Collection Alternative

- Replaces 14 residential and 3 business septic systems with central sewer (no maintenance for homeowners);
- Helps protect ground water;
- Connects 4,700 feet 10 inch sewer along HWY 78 to existing 10 inch line on 5th Street;

- Two canal crossings;
- Scalable (can be added to or subtracted from after canal crossing);
- Roosevelt Connection may be required for future capacity
- Est. Cost: \$261,000
- \$8,000-\$10,000 annual revenue may be obtained.

Treatment Alternatives

- **Slow Rate Irrigation** -wastewater is stored over the winter and used to irrigate crops which can be harvested.
- **Wetland/Rapid Infiltration** – Wastewater stabilized in Cell #1 is fed into a wetland treatment system and this clarified effluent is discharged into a Rapid Infiltration (RI) basin.
- **Total Containment** – ALL wastewater is held on site and allowed to evaporate?

Gold Isle Extension



- Connects existing septic systems along Hwy 78 to central sewer, protection groundwater supplies;
- Adds 4,000 ft of sewer collection lines;
- Provides sewage collection on the east side of the ditch;

- Adds \$10,000 per year of revenue¹;
- Provides additional service for future development.
- Est. cost: \$260,000;

Present Worth (P/W) Analysis

- What is present worth?
- What is the purpose?
- How is it calculated?

ALTERNATIVE A – SLOW RATE IRRIGATION OF CROPS



Example of wastewater re-used for recreational irrigation



SLOW RATE LAND IRRIGATION

- Winter Storage lagoon required
- New pump and disinfection system required
- Groundwater testing required
- Minimum of 21 acres required
- Higher construction and maintenance costs

COSTS

Construction: \$1,388,000
Present Worth: \$4,269,00

SLOW RATE IRRIGATION

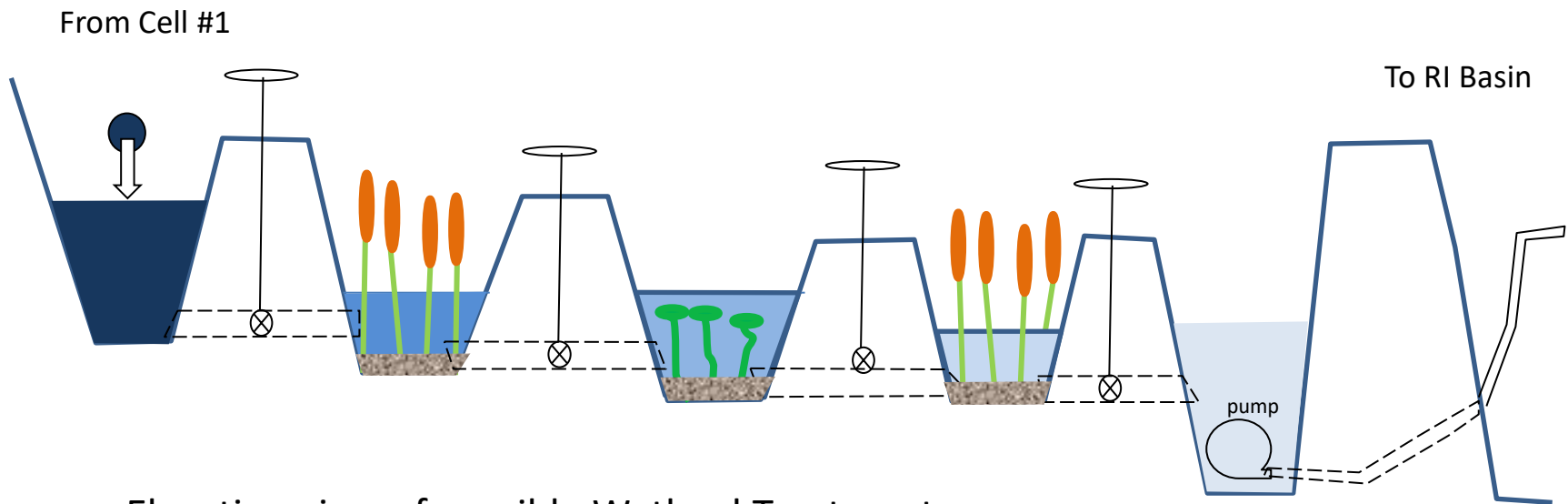
ALTERNATIVE

NTS



Example of wastewater used to irrigate livestock feed crops





Elevation view of possible Wetland Treatment system



TOTAL CONTAINMENT

- New Cell #4 must be constructed.
- All incoming wastewater and stormwater are contained on site.
- Disposal completed by evaporation only.
- Must be sized to hold all possible, yearly flows.
- Very low operations and maintenance costs

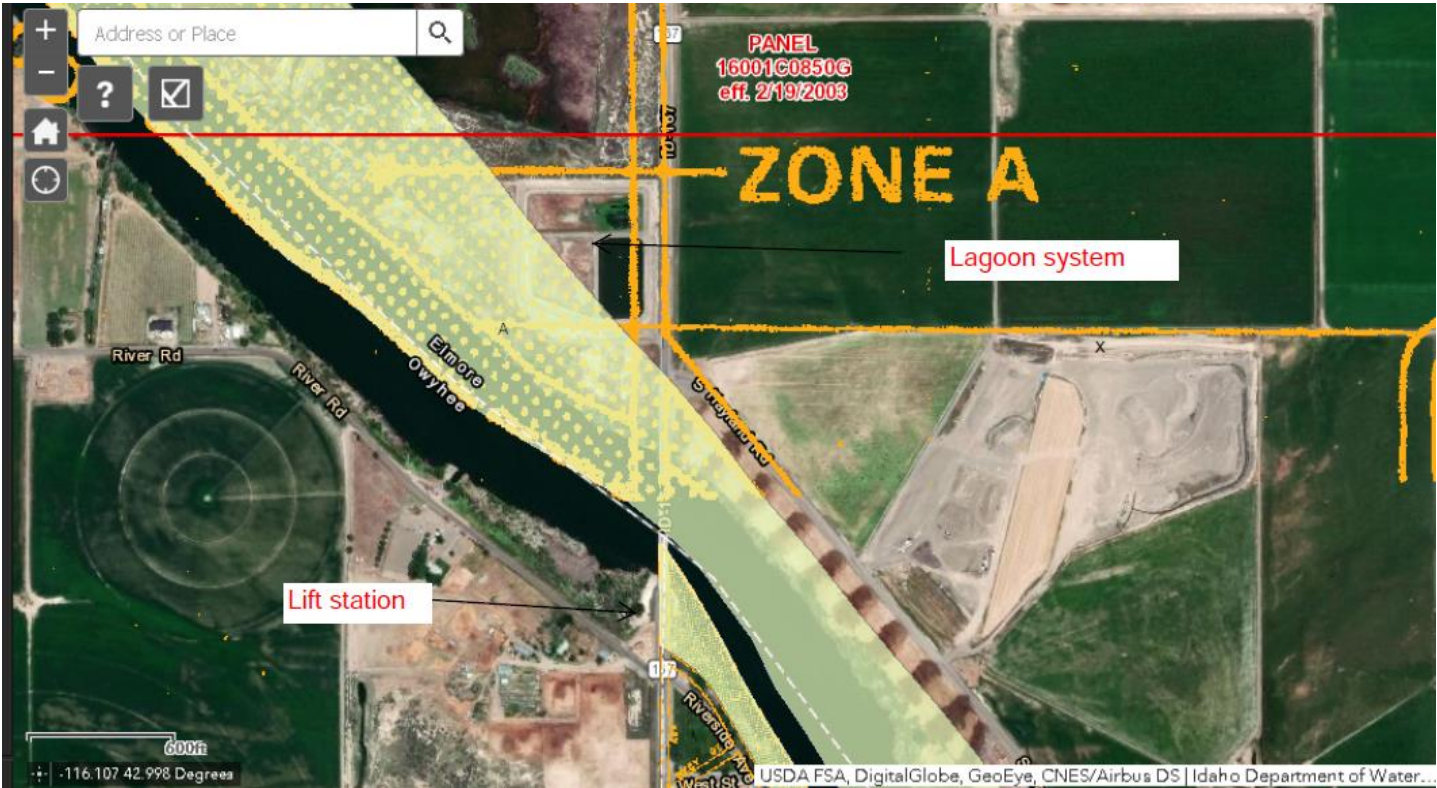
COSTS

Construction: \$1,503, 000
 Present Worth: \$2,402,000

**TOTAL CONTAINMENT
 ALTERNATIVE**

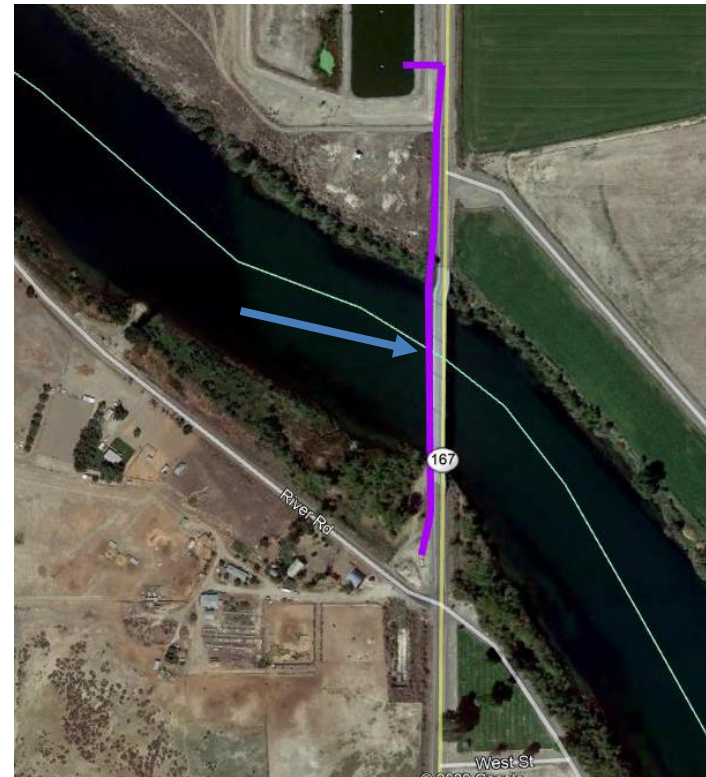
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NEW
CONSTRUCTION WOULD LIKELY REQUIRE FLOOD PLAIN ANALYSIS AND OR
MODIFICATIONS



Delivery (Lift Station and pressure Sewer)

- Re-attach forcemain to bridge.
- Improve Lift Station electrical controls.
- Resolve land ownership conflicts.



No Action

- Fines are very likely (TREATMENT ONLY);
- No additional up-front costs;
- Plugging lines could risk sewage back up, into homes or businesses (COLLECTION);
- Capacity for systems west of Roosevelt would be near full in 10 years at current growth rate (COLLECTION);
- Current and future septic discharge to groundwater likely to increase (COLLECTION).

Current Rate Schedule

Service size	Water (Base Rate)	Water Volumetric Rate/1,000 gal	Sewer (Base Rate)	Sewer, Volumetric Rate
¾"	\$25.21	\$1	\$24.78	\$0
1"	\$31.53	\$1	\$24.78	\$0
1 ½"	\$47.20	\$1	\$24.78	\$0
2"	\$62.82	\$1	\$24.78	\$0
3"	\$116.22	\$1	\$24.78	\$0

- Water rates increase with size, which implies use. Not sewer;
- No motivation to conserve, therefore expect more sewage;
- Grand View has kept rates below those of most Idaho communities;
- Grantors will require at least \$45/month for residential sewer for those City's who qualify for grants.

Facility	EDUs Final
Grand View Gas and Convenience Store	1
Y-Bar Restaurant	1.2
Commercial Tire	2
Hillside Motel	5
La Paloma Restaurant	1.2
Grand View Store	1
DJ's Landing	1.2
Snake River Café	1.7
Catholic Church	0.4
Community Church	0.4
Grand View Grade School	4.8
Senior Center	1
Library	2
Factoring	2
Apartments*	8
Simplot Soilbuilders	3
Residences	156
TOTAL EDUs	191.9

Comments

- The EDUs are estimates based upon industry standards.
- Some flexibility exists for each. E.g., an apartment complex with 4 single bath apartments might be 4 x 0.7 or 2.8 EDUs
- Restaurant EDUs are based upon the number of tables.
- Single family residences are 1 EDU, by definition

Rate Impacts

Current Rates:

Service size	Water (Base Rate)	Water Volumetric Rate/1,000 gal	Sewer (Base Rate)	Sewer, Volumetric Rate
¾"	\$25.21	\$1	\$24.78	\$0
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1 ½"	\$47.20	\$1	\$24.78	\$0
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3"	\$116.22	\$1	\$24.78	\$0

Rate Impacts, Cont'd.

Current Rates, Marsing, Idaho

Service size	Sewer (Base Rate)	Sewer, Volumetric Rate per 1,000 after 2,000 gal
¾"	32.81	\$16.4
1"	\$48.47	24.23
1 ½"	\$92.52	\$45.76
2"	\$150.24	\$75.12
3"	326.26	\$163.90

Marsing has separate irrigation for lawns etc. in town.

Rate Impacts, Cont'd.

Current Rates Grand View, Options

	Base Rate for first 5,000 Gallons	Flow-based rate/1,000 gal after base rate	Revenue Impact/yr	Typical User bill/summer mo.*
Grand View's current	\$24.78	0	\$50,000	\$24.78
	\$25.78	0	\$52,000	\$25.78
Marsing (base rate)	\$24.78	\$2.50	\$65,600	\$32.57
	\$25.78	\$2.50	\$67,700	\$33.57
	\$25.78	\$3.50	\$73,900	\$36.69
	\$32.81	\$3.50	\$88,100	\$43.72
Bill per EDU	\$32.81	\$3.50	\$101,900	\$45.84

Rate Impacts



The other shoe drops

Total Rate Impacts:

1. \$50 (Required by USDA for Grant)/mo
2. \$45.87/mo
3. \$44.24/mo

NOT AN INCREASE, but the new projected rate

Funding (Wetland RI, HillTop, Roosevelt, Lift station)



- Three possible scenarios:
 1. CDBG grant \$200,000 + USDA Grant of \$140,400+USDA Loan\$561,000 or...
 2. CDBG Grant \$200,000 + USDA Loan \$702,000
 3. CDBG grant of \$300,000, USDA Loan \$650,000, no USDA grant

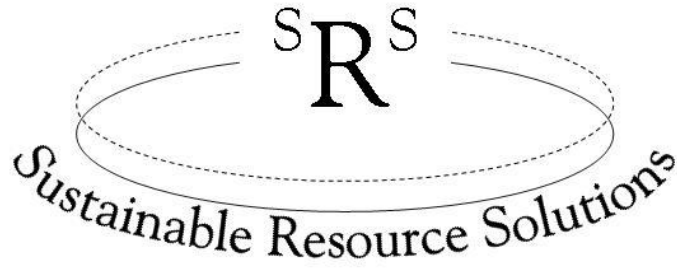
Notes, Caveats & Exceptions

- Cell #2 will have to be re-lined regardless of options;
- Slow Rate Irrigation will depend upon the availability of land;
- Wetland/RI will depend upon permitting from IDEQ, that may require a discharge permit;
- USDA grants will require a user rate of \$50/month.
- All funding agencies (CDBG, USDA) require that the city use a Certified Grant Administrator (current with state of Idaho);
- CDBG Grants are competitive. If we don't have sufficient local commitment, we will not compete well at current rates;

Next Steps

- City: choose a preferred alternative;
- SRS: Complete Environmental Analysis (80% complete);
- IDEQ: Review and make comments;
- SRS: Address IDEQ comments;
- Apply for funding;
- Request apply for sewer bond (as required);
- Election for sewer bond.
- Budget hearing (as required)

Thank
you!



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