



# **WWTP Expansion Phasing Alternatives**

**April 6, 2023**

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# Agenda



- Purpose
- Workshop #2 Recap
  - Single-Phase Expansion Alternative
  - Multi-Phase Expansion Alternative
- Risks & Customer Rate Impacts
- Recommendation
- Questions

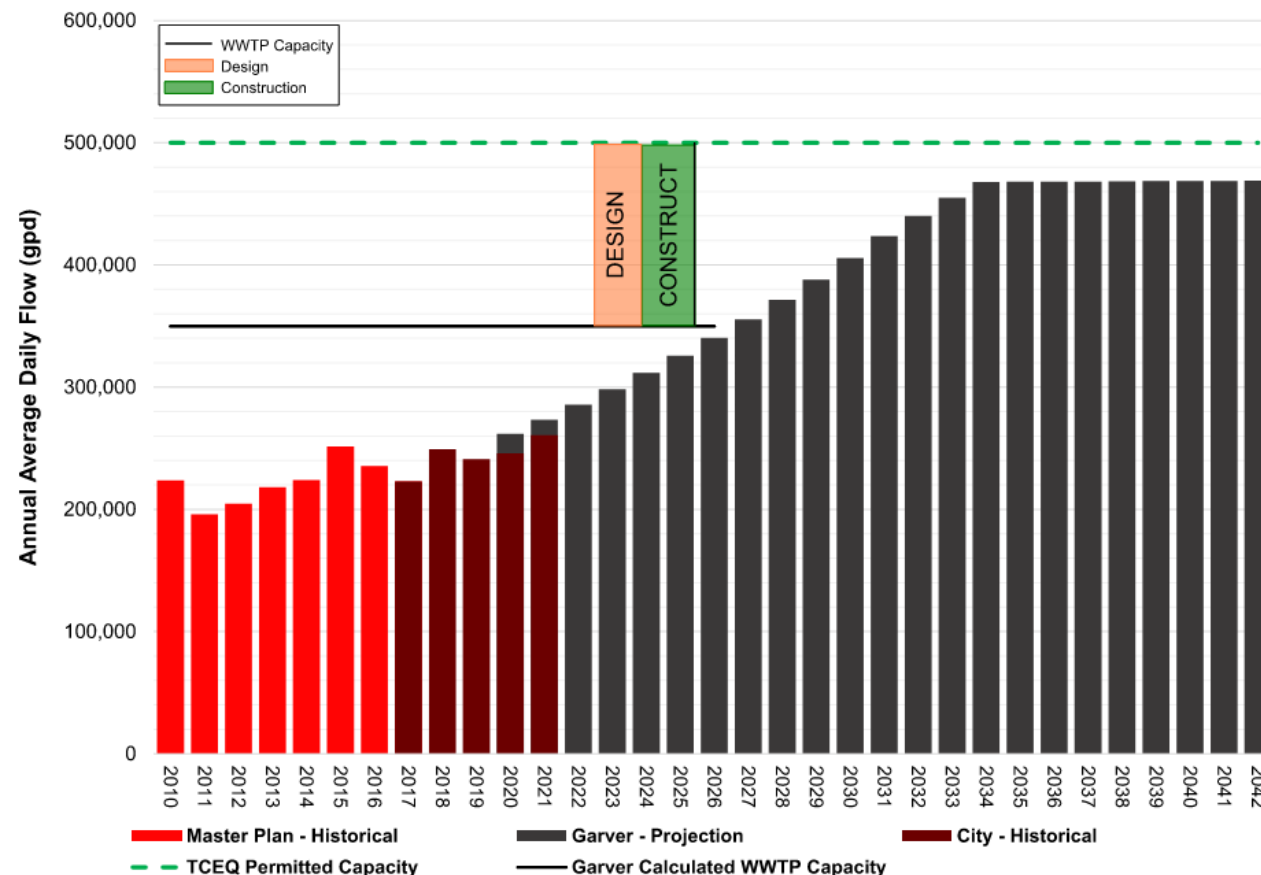


# Single-Phase Alternative

**This alternative includes all the proposed improvements:**

- Oxidation Ditch to Aeration Basin Retrofit
  - Diffuser installation
  - Blower installation
- Headworks Grit System
  - Classifier/Conveyor
  - Roll-off Bin
- Intermediate Lift Station Improvements
- Bottom of the Hill Lift Station Improvements
- Aerated Sludge Holding Tank
  - WAS Pump Station
  - Tank Blowers
- Effluent Pump Station and Conveyance Improvements
  - Effluent Pump Station Improvements
  - Pipeline conveyance improvements to the golf course
  - Golf Course Reuse Study (if necessary)

**Total Estimated Cost: \$16.5M**





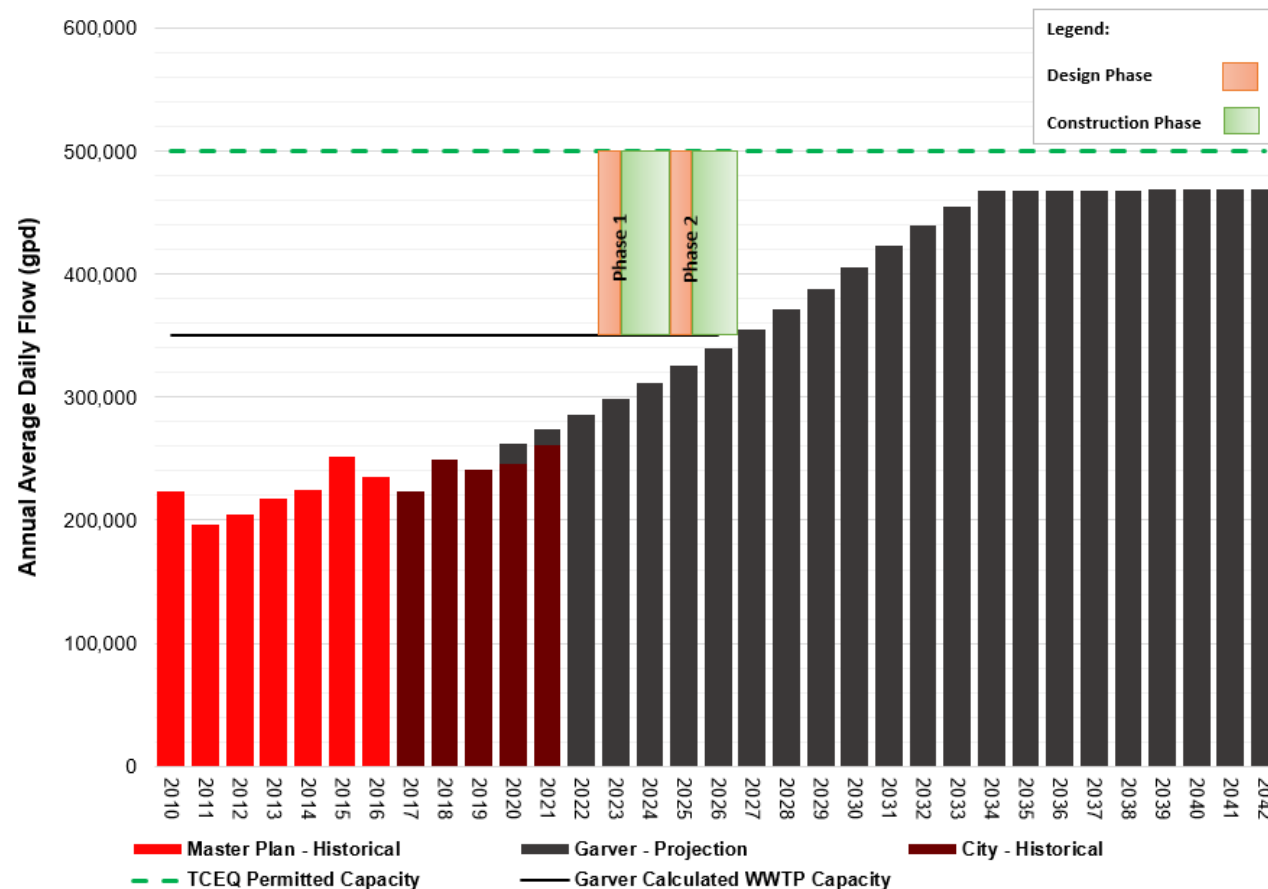
# Multi-Phase Alternative

## Phase 1 (Immediate Needs): \$6.0M

- Effluent Pump Station and Conveyance Improvements
  - Effluent Pump Station Improvements
  - Pipeline conveyance improvements to the golf course
  - Golf Course Reuse Study (if necessary)
- Bottom of the Hill Lift Station Improvements

## Phase 2 (Future Improvements): \$11.2M

- Oxidation Ditch to Aeration Basin Retrofit
  - Diffuser installation
  - Blower installation
- Aerated Sludge Holding Tank
  - WAS Pump station
  - Tank Blowers
- Headworks Grit Removal
  - Classifier/Conveyor
  - Roll-off Bin
- Intermediate Lift Station Improvements





# Risks

## **Single-Phase Expansion**

- Projected WWTP build-out capacity may change (risk of overbuilding)
  - Future developments may go septic vs. city sewer
  - Water, Wastewater & Reuse Master Plan (2019) needs update as a result of WWTP study
- Projected growth may slow further (risk of underutilized infrastructure)
- Jump in debt service fees may cause financial burden to customers

## **Multi-Phase Expansion**

- TCEQ may adopt more stringent regulations in the future
- Future Construction and Material Cost uncertainty
- Future Financing Cost uncertainty
- Projected growth may increase (risk of overlapping phases)



# Potential Rate Impact

## Current Wastewater Rates & Structure

### Service Availability Charge

Meter Size	Monthly Charge \$ per bill
All Meters	\$40.86



### Wastewater Service Fees

Fee	\$ per bill
TCEQ Fee	\$0.05
Debt Service Fee	\$2.30
Capital Reserve Fund	\$4.12
Total	\$6.47



### Monthly Wastewater Bill (\$47.33)



# Potential Rate Impact (cont.)

## Previous Wastewater Rate Scenarios



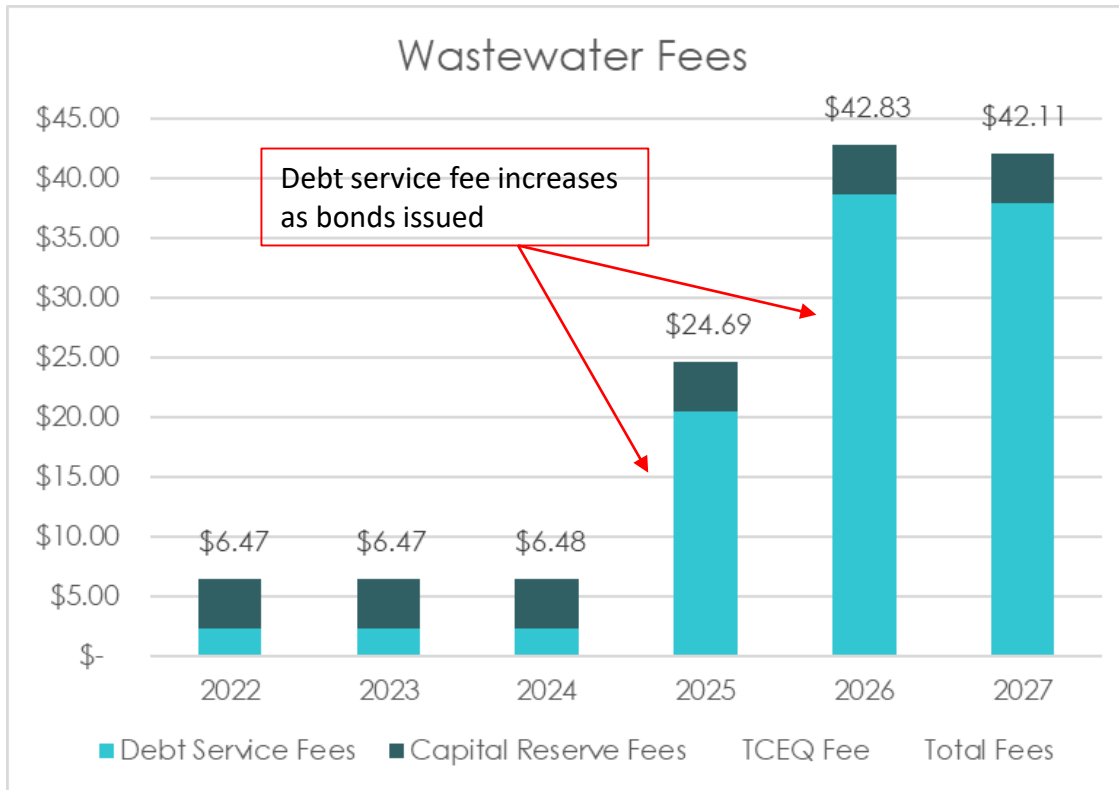
Wastewater Rates				
Scenarios	Existing	Scenario 1	Scenario 2	Scenario 3
Service Availability	\$ 40.86	\$ 62.99	\$ 28.94	\$ 28.94
Fees	\$ 6.47	\$ 6.47	\$ 6.47	\$ 0.05
Volumetric (Per Kgal)	\$ -	\$ -	\$ 6.00	\$ 7.09

- All proposed scenarios cover current cost of service (operating expenses, existing debt service, equip replacement)
- Fees Include TCEQ Fee, Debt Service Fee and Capital Reserve Fund Fee. **Fees will increase as Debt Service and Capital Reserve requirement increases**
- In Scenario 3, some fees were rolled into the volumetric rate so higher wastewater generators pay larger share of debt service and capital reserve requirement
- Average customer generates 5-6 kgal of wastewater each month

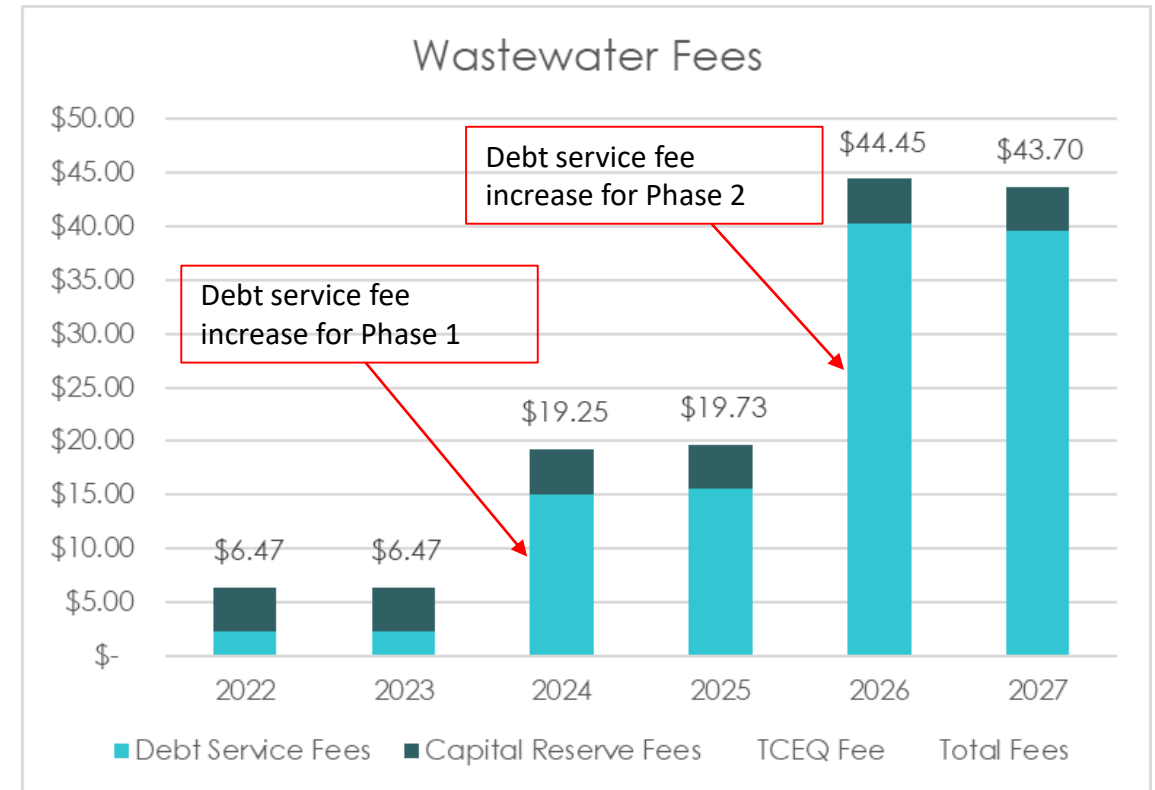
# Potential Rate Impact (cont.)



## Fee Increase for Single-Phase Expansion



## Fee Increase for Multi-Phase Expansion



Note: Debt Service fees are for WWTP Expansion only, does not include other wastewater projects in 5-yr CIP



# Potential Rate Impact (cont.)



## Est. Rate Increase for Single-Phase Expansion

Wastewater Rates				
Scenarios	Existing	Scenario 1	Scenario 2	Scenario 3
Service Availability	\$ 40.86	\$ 62.99	\$ 28.94	\$ 28.94
Fees	\$ 6.47	\$ 42.11	\$ 42.11	\$ 0.05
Volumetric (Per Kgal)	\$ -	\$ -	\$ 6.00	\$ 13.30

## Est. Rate Increase for Multi-Phase Expansion (Phase 1)

Wastewater Rates				
Scenarios	Existing	Scenario 1	Scenario 2	Scenario 3
Service Availability	\$ 40.86	\$ 62.99	\$ 28.94	\$ 28.94
Fees	\$ 6.47	\$ 19.73	\$ 19.73	\$ 0.05
Volumetric (Per Kgal)	\$ -	\$ -	\$ 6.00	\$ 9.40

- Fee estimate from previous slide used for comparison and discussion purposes only
  - Single-Phase Expansion – gradual fee increase to \$42.11/month (2027)
  - Multi-Phase Expansion (Phase 1) – gradual fee increase to \$19.73/month (2025)
- Volumetric rate estimated to provide revenue sufficiency
- All estimates will be fine-tuned before any rate changes are proposed (future Council agenda item)



# Recommendation

- Staff recommends a multi-phase expansion for the following reasons:
  - Phase 1 meets immediate WWTP needs (mitigates critical/high risks)
    - Effluent Pump Station and Conveyance Improvements
      - Effluent Pump Station Improvements
      - Pipeline conveyance improvements to the golf course
      - Golf Course Reuse Study (if necessary)
    - Bottom of the Hill LS Improvements
  - Allows time to update Master Plan and reevaluate build-out capacity requirement
  - Allows time to better understand developer intent and utility plans
  - Keeps debt service (and associated fees) to minimum needed at this time



# Questions?

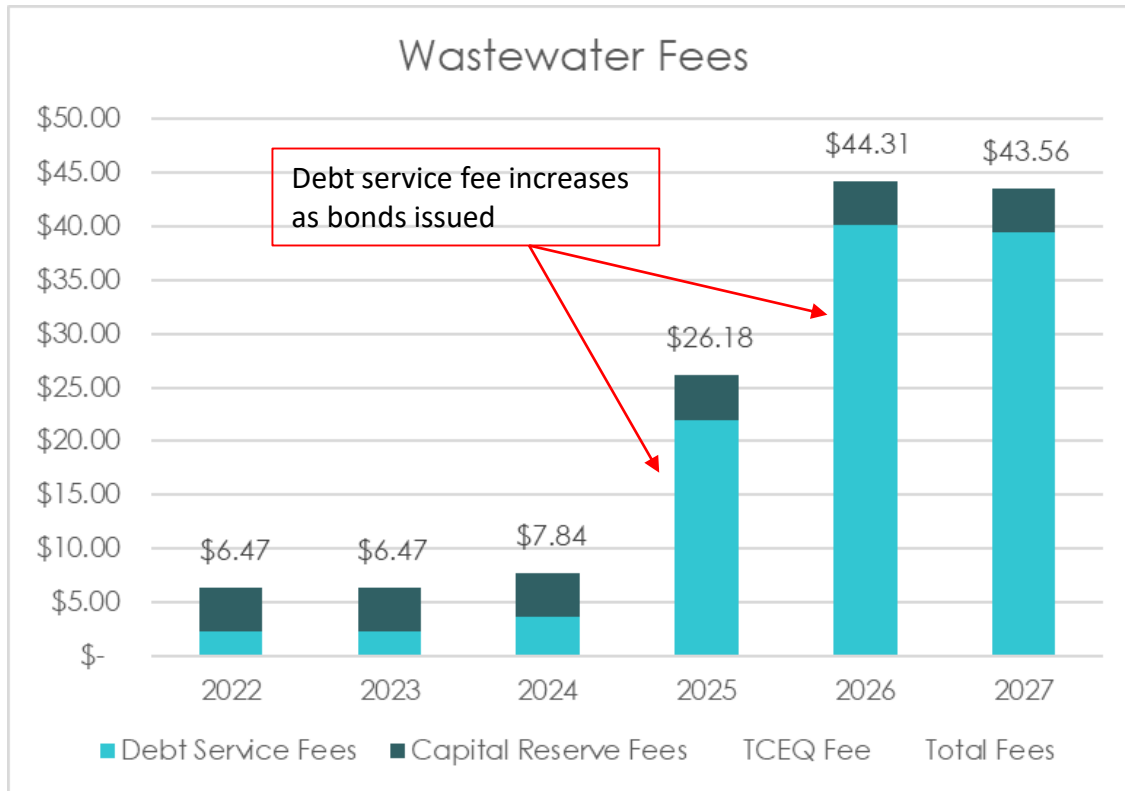


# Backup

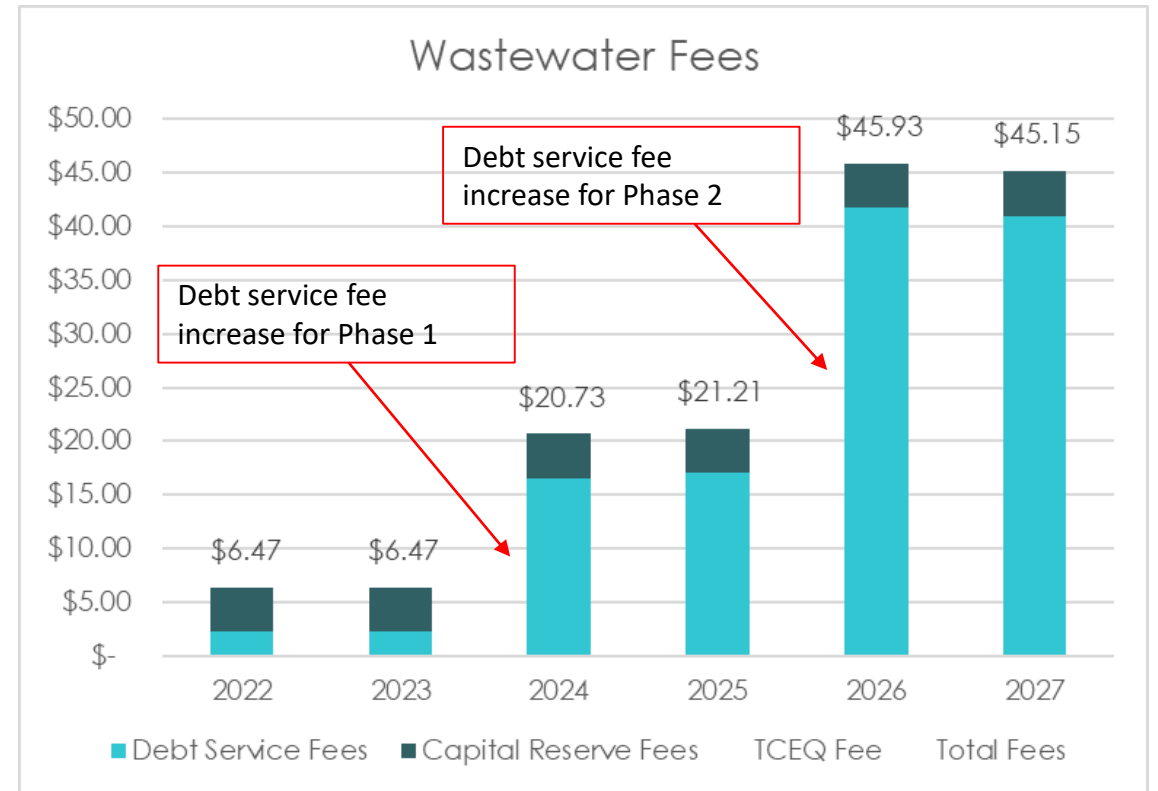
# Potential Rate Impact (cont.)



## Fee Increase for Single-Phase Expansion



## Fee Increase for Multi-Phase Expansion



Note: Includes other wastewater projects in approved 5-yr CIP (Decommission The Falls LS, SCADA for Lift Stations)

# Potential Rate Impact (cont.)



## Est. Rate Increase for Single-Phase Expansion

Wastewater Rates				
Scenarios	Existing	Scenario 1	Scenario 2	Scenario 3
Service Availability	\$ 40.86	\$ 62.99	\$ 28.94	\$ 28.94
Fees	\$ 6.47	\$ 42.11	\$ 42.11	\$ 0.05
Volumetric (Per Kgal)	\$ -	\$ -	\$ 6.00	\$ 13.30

## Est. Rate Increase for Multi-Phase Expansion (Phase 1)

Wastewater Rates				
Scenarios	Existing	Scenario 1	Scenario 2	Scenario 3
Service Availability	\$ 40.86	\$ 62.99	\$ 28.94	\$ 28.94
Fees	\$ 6.47	\$ 19.73	\$ 19.73	\$ 0.05
Volumetric (Per Kgal)	\$ -	\$ -	\$ 6.00	\$ 9.40

## Est. Rate Increase for Multi-Phase Expansion (Phase 2)

Wastewater Rates				
Scenarios	Existing	Scenario 1	Scenario 2	Scenario 3
Service Availability	\$ 40.86	\$ 62.99	\$ 28.94	\$ 28.94
Fees	\$ 6.47	\$ 43.70	\$ 43.70	\$ 0.05
Volumetric (Per Kgal)	\$ -	\$ -	\$ 6.00	\$ 13.60