



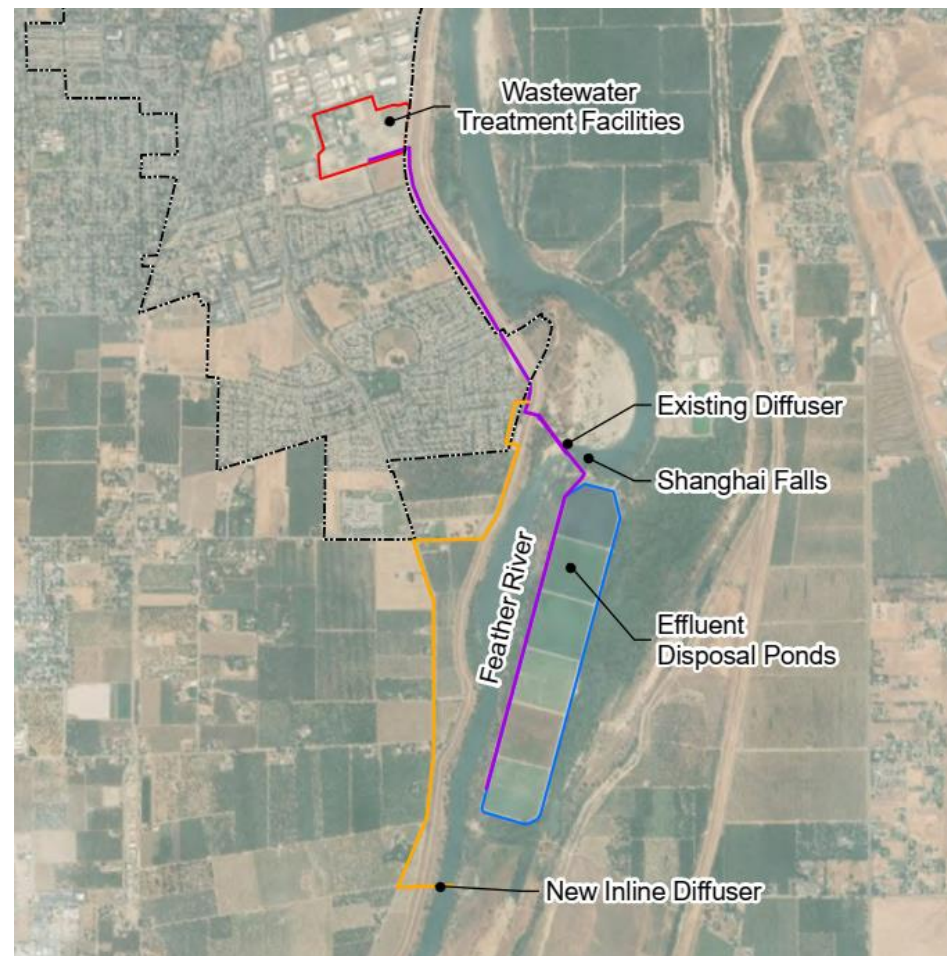
Wastewater Treatment Facility Outfall Diffuser – Final Design Authorization May 18, 2021



**Presentation By:
Diana Langley, Public Works Director**



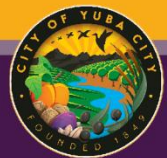
WWTF Outfall Diffuser





WWTF Outfall Diffuser - Background

- Since 2011, City has been studying potential replacement options for the wastewater outfall diffuser pipe
- July 17, 2018 – Council awarded a contract to CH2M Hill Engineers (now Jacobs) for:
 - Predesign (complete)
 - Right-of-way acquisition (in progress)
 - Environmental permitting (in progress)
 - Final design
 - Bidding services
 - Services during construction



WWTF Outfall Diffuser - 30% Design

- Jacobs completed predesign report/30% design
- Predesign cost estimate approximately \$25 million, with possibility of up to \$35 million
- In order to identify the best use of this substantial estimated capital expenditure, Council authorized Jacobs to evaluate alternative advanced treatment strategies that could result in direct discharge to the Feather River



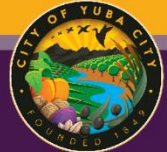
Advanced Treatment Study

- Study compared relative costs, advantages and disadvantages for 3 alternatives:
 - Baseline: Continued operation of the WWTF as currently configured with a new outfall diffuser pipe
 - Alternative 1: Continued high-purity oxygen treatment with an add-on treatment process for nitrogen removal to allow a new side-bank effluent discharge closer to the WWTF
 - Alternative 2: Abandon high-purity oxygen treatment, and construct a new biological nitrogen removal process to allow a new side-bank effluent discharge closer to the WWTF



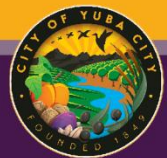
Advanced Treatment Study

- Analysis included the following:
 - Master Plan upgrades to 2040
 - Sunsweet organic loading and fluctuations
 - Treated effluent ammonia limits
- Baseline alternative is recommended
 - Substantially less expensive from both a capital and operations/maintenance perspective
 - Limited effectiveness at addressing future regulatory requirements, but cost of advanced treatment without a mandate is prohibitive



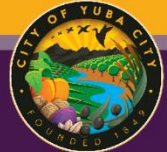
Fiscal Impact

- Advanced treatment study was funded by transferring previously authorized final design budget
- In order to restore final design budget and to accommodate additional scope for permitting, surge control, effluent pipe station modifications, and cost escalation due to delays, \$901,857 needs to be added to contract
- Approximately \$1.56 million available in Capital Improvement Program Account No. 981156 at this time



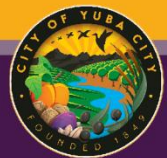
Fiscal Impact

| | |
|---------------------------------|---------------------------|
| Original Contract: | \$2,783,430 |
| Amendment #1: | \$162,877 |
| Amendment #2: | \$0 (internal transfer) |
| Amendment #3: | \$0 (internal transfer) |
| <u>Amendment #4:</u> | <u>\$901,857</u> |
| <i>Revised Contract:</i> | <i>\$3,848,165</i> |



Alternatives

- Direct staff to proceed with an advance treatment alternative despite the higher costs
- Direct staff to further evaluate potential advanced treatment alternatives
- Postpone the final design of a new, relocated outfall despite the operational risks of using the effluent ponds



Recommendation

Adopt a Resolution to award Amendment No. 4 to the Professional Services Agreement with CH2M Hill Engineers, Inc. to initiate Final Design activities for the Wastewater Treatment Facility Effluent Discharge Outfall Diffuser Project, including new scope of work tasks identified from the Predesign activities and authorize the City Manager to execute the amendment following approval as to form by the City Attorney, with the finding that it is in the best interest of the City.