

Town of Discovery Bay Community Services District 2018 Wastewater Master Plan Update Kickoff Meeting

Discovery Bay Community Services District, 1800 Willow Lake Road, Discovery Bay, CA 94505
August 23, 2018

Item:	Description:	Notes/Action:
1	Introduction of Attendees	Present at the meeting were: <ul style="list-style-type: none"> • Discovery Bay: Virgil Koehne, Gregory Harris • Veolia: Berney Sadler • Stantec: Steve Beck, Vijay Sundaram, Leila Sermek, Jeff Houser (conference call) <p>Primary contact for the City is Gregory Harris. All correspondence should be forwarded to primary contact. Stantec can talk to the City and operators directly as well (assuming that Gregory is kept in loop on all correspondences)</p>
2	Stantec Team	All team members have been introduced by Steve. <ol style="list-style-type: none"> 1. Project Manager – Steve Beck 2. Project Technical Lead – Jeff Hauser 3. Pump Stations – Beth Cohen 4. Electrical – Long Hoang 5. UV Disinfection – Vijay Sundaram 6. SCADA – Matt Boring 7. Solids Handling – Leila Sermek 8. Permitting – Eric Zeigler

9. Pipeline – Jigar Shah

3	Goals/Objectives	Master Plan Goal:
	<ol style="list-style-type: none"> 1. Identify Needs and Costs for Next 10 Years 2. Address Issues Identified in RFP 	<ul style="list-style-type: none"> • Gregory indicated that all stakeholders should be involved in development of this Master Plan. • The master plan may take shape of a road map with different options depending on different input parameters.
	<ol style="list-style-type: none"> a. Update Flows and Loads 	<p>Update Flows and Loads:</p> <ul style="list-style-type: none"> • Virgil mentioned that 80 housing units will be added to 5-acre property within City limits which should be included in the analysis. Gregory mentioned vacant properties within the city. He concluded that the City will provide Stantec with land use and EDU number for the flows and loads analysis. • Steve raised concern with decrease in influent flows and loads. <ul style="list-style-type: none"> ○ Namely flows decreased from 1.7 Mgal/day to about 1.3 Mgal/day. Key question is should the master plan flows be set based on more recent flow data or based on historic flow data. The City indicated that some of the sewer lines have been fixed which may have caused reduction in I&I and flow decrease. ○ Virgil indicated that aerators are running at full capacity and there are still violations in effluent Nitrite/Nitrate limits which may be indication that loads are going up. ○ Flows and loads analysis should look at everything, historical data as well as recent flow reduction. • Gregory mentioned two bills that will likely affect flows and loads to the plant: <ul style="list-style-type: none"> ○ AB 1668 and SB 606 which will require water usage reduction to 55 gal/cap/day

- o Jeff indicated that this affects the Master Planning and may result in tow significantly different master plans – **Need to reach consensus what flows we are designing for before we get too far into the analysis.**
 - No significant demographic changes to Discovery Bay population
 - Influent and Effluent monitoring:
 - o Sampling location was discussed and all parties agreed that the current location is satisfactory (well mixed turbulent flow).
 - o Grab effluent samples are taken at 7:30 am 1st and 3rd Wednesday each month.
 - o Jeff would like continuous auto sampling for effluent.
 - o Steve suggested to **have Matt Boring look at influent sampler and see if it was set up correctly.**
 - o Jeff had question regarding influent monitoring frequency. **The City will send all the data in electronic format.**
- b. Confirm Method of Denitrification Confirm Denitrification Method:
- Effluent ammonia limit will govern selection of the denitrification method.
 - Steve presented discussion with Stantec permitting expert Eric Ziegler. Eric believes based on recent developments and conversations with Regional Board that ammonia effluent limit will not be relaxed. New permit will likely have ammonia limit of 0.7 mg/L.
 - Denitrification method and secondary process design is driven by effluent ammonia limit. Designing for 0.7 mg/L ammonia as N will affect project cost. Steve is concerned that designing for more stringent ammonia limit may prompt

questions whether that is reasonable and if it is too conservative. selection

- **Need to reach consensus what ammonia effluent limits to use in the Master Plan Update.**
- Jeff is concerned with Simultaneous Nite/Denite:
 - SND would not work for low ammonia limit of 0.7 mg/L.
 - Jeff suggested that if this method is recommended it would include cycling of aeration as opposed to keeping the low DO concentration in the AB.
 - Another concern with cycling aeration is that it produces bulking sludge.
 - For this reasons above Jeff suggested that id SND is recommended it should be tested beforehand.
 - Berney indicated that during high temperatures he has to run all the aerators in both ditches. Based on this information Jeff suggested that testing SND may be hard because aeration capacity is not sufficient.

c. UV
Performance
at Higher
Flows

UV performance:

- UV is running great during low flows.
- One chamber performs better than the other (new chamber is better)
- City fixed UV bulbs
- Trojan claims equipment maintenance is problem or hydraulic problems.
- Drop in performance is observed during high flows
- **Vijay will have junior engineer check water depths in UV channels.**

- d. Evaluate Infiltration Discharge
 - Vijay asked question about sampling location – sampling is just after last lamp.
 - Gregory described design criteria – one chamber is always off. The system is designed with one redundant train. This is to allow one train to be taken off line for cleaning.
 - **UVT and turbidity data is available from the City to check the design.**
 - e. Consolidation of Master Plan
 - f. SCADA Networking Improvements
 - g. Others?
SCADA:
 - The City is using ignition. Has slow network issue.
3. Evaluate Flow Equalization Ahead of Filters
- Currently City is looking into data transfer and doing data mapping. Steve has suggested to bring in Jeremy
- Flow Equalization:
- Evaluate influent flow equalization and equalization ahead of filters.
 - Berney has problem with flow returns to the plant. He would like flows to be returned to headworks instead of oxidation ditch.
 - If lagoon is eliminated than equalization basin will be needed. Emergency storage can be used instead of lagoon.
4. DAF System for Lagoon Return Flows
- Algae problem and Lagoon:
- Originally filter backwash was sent to the lagoon and back to the oxidation ditch. After 30 days of this operation the plant buids algae in the lagoon. Current practice is that lagoons are not used for

continuous flow. Only intermittent flows are sent to lagoon:

- Once per week clarifier louvers are cleaned, influent flow is diverted to lagoon when clarifier is out of service.
- If there is plant upset, flow is diverted to lagoons
- Belt filter press centrate goes to lagoon
- Aerobic digester supernatant overflows to lagoon
- Lagoon doesn't receive any solids (solids are set to the aerobic digester).
- Filter backwash is sent to decant pump station and from there it is pumped to oxidation ditch. As a result, decant pump station is continuously operating.
- Evaluate DAFT as option to remove algae from the lagoon return flow.

5. Stormwater Collection Basin
6. Plant Drain Pump Station
7. Drain Systems for All Basins
8. Return Pump Station for Plant 1
Emergency Storage Basin
9. Drain System for Plant 1 Clarifier Lift Stations
10. Clarifier Launder Covers
11. Closed Grating to Reduce Algae Growth

Stormwater retention basin:

- Currently all stormwater goes into decant pump station and is pumped into oxidation ditches.

12. Upgrading Power Outlets
13. Replacement of Belt Filter Press No. 1
14. Extension of Reclaimed Water Pipe to Marina Road
15. Water Filling Station for Reclaimed Water
16. Eliminate Sludge Lagoons
17. Biosolids Disposal Options

Biosolids:

- Plant was land applying biosolids in history but had to stop due to groundwater concerns. Regional Board required monitoring wells.
- Biosolids were just placed on land. No agronomic rate calculations were done nor plants planted to reduce nutrient loading to the soil
- Gregory mentioned SB 1383 which will require that biosolids be eliminated from landfills by 2023 and no longer will be used as alternative daily cover.
- Plant currently produces 10 to 20 40cyd containers at 95% dry solids which are taken to the landfill.
- City would like to evaluate the option to use approximately 25 acres of their property for land application. It is understood that this will require farming to meet nitrogen uptake.
- Belt filter press is running 4-5 days per week. No sludge is set to lagoons. Some sludge is dredged out.
- Dewatered sludge is sent to active solar dryers. Dryer size is sufficient for current loading.

Other:

- The City would like to exercise plant No.1 which is out of operation for last two years.

4 Schedule

1. See attached Schedule

- Plant has to be online by December 2023
- Final design has to be done by 2020
- Master plan has to be done by September 2019.

5 Information/Data Request

Data Requested:

1. Daily Influent Flow (total and routing to each plant)
2. Daily, or as available, Influent BOD, TSS, TKN (and any other parameters that might be monitored in the influent)
3. Daily, or as available, Effluent BOD, TSS, ammonia-n, nitrate-n, (if available)
4. Daily, or as available, Temperatures in the oxidation ditches or effluent
5. All regularly logged secondary process mean cell residence time and sludge wasting data (VSS and TSS as available)
6. All regularly logged SVI (or DSVI) data, if available
7. All available data on in-plant recycle flows

- **In addition to data indicated Jeff would like all inputs flows and loads to the lagoon.**

and characteristics
(sludge dewatering
filtrate and filter
backwash water)

8. Sludge export
quantifies (data for
wet and dry solids)
and costs associated
with sludge
export/disposal
9. Population of service
area
10. Date ranges when
Plant 1 and Plant 2 or
major unit processes
were off-line
11. Dates when new
treatment units were
placed in service
12. Dates for any
changes in influent
sampling locations or
methods
13. All UV reports, testing
and data information

Other Items
