

5C. Future HOVMSD Facilities

Step 2 - HOVMSD Facilities Planning – Initial discussion

The District took its first step in a building block approach to long range planning in 2021 with the completion of Task order #1 focusing on plant loadings and capacity analysis. Donohue provided their findings via a technical memorandum on 4/12/21 and included recommendations for future District actions. The following discussion memorializes key points from the Step 1 planning effort and provides discussion points on what the scope of Step 2 might include.

Key findings – Step 1 Master Planning

Solids Train / Handling – approaching or running at design capacities of solids handling processes including ATAD and Post ATAD.

Disinfection – System is undersized and short on detention time. *This was addressed in the CMDF upgrade design set to bid in spring of 2022.*

Organic loads – BOD and TKN loadings exceed their listed WRRF capacities and with a significant portion of loads not attributable to the service area population.

Next Steps

Effluent filtration project – resolves TSS/Phosphorus compliance for TMDL mass limits – *in process*

Stress Test – Cold weather stress test to evaluate true capacities of the Actiflo/Biostyr processes – *in process Feb/March 2022*

Chart path forward on leachate loadings to include pretreatment and future leachate loadings. – *landfill discussion in process*

Study the cost/benefit of changing Biostyr media or some other expansion and increase in organic capacity – *Step 2 Master Planning?*

District Year end 2021 findings

Following year end 2021 we have finalized yearly totals on several growth indicators that we have been following that have shown a consistent upward trajectory. These growth factors are not new and collectively show that the observed trends are continuing to rise at an unsustainable rate.

New sewer connections = 239 in 2021 @ 2.6 ppl/conn = 621 ppl

Ammonia loadings = up 8.1% in 2021

BOD loadings = up 13.4% in 2021

Potential scope elements / Discussion points for Facilities Planning - Step 2

A. Connections / Organic load growth / Sewer extensions

- Validate District growth observations. If possible, ID origin of increase – industrial, commercial, residential?

- Member Community growth & expectations – are they seeing what we see? Do they anticipate continuing growth at the current pace? What do member communities foresee in 5/10/20 years? Are they courting any major water/sewer users? Aware of major expansion plans of existing sewer users?

B. Population & Regional growth projections

- Basis for design and sizing of the existing HOVMSD facility was population
- ECWRPC – collaborate to see where regional growth is occurring and how it may affect the District’s planning. Where do they see the area in 5/10/20 years? Is growth occurring as predicted? Or is it accelerated?

C. HOVMSD Plant and site – examine the site and options

- Can the HOVMSD existing site be used for the District’s next planning cycle (20 years)
- Biostyr media – what is the cost vs. benefit of making the change in media? Will it extend the life cycle of the current site and if so for how long?
- Is further expansion on the current site even viable and if so what might it look like?
- Are there steps to take that will prolong the use of the existing site? Are we at a “full build out” of the site now?

D. Expansion off site - conceptual

- District owned property – across the river and up the hill – force main pump station to deliver sewage? Soil conditions suitable to hold WWTF? Site size large enough long term? What is the preliminary estimated cost of a replacement plant?
- Downstream WWTF location – is there any downstream sites large enough that would continue to allow gravity delivery to the WWTF? Where are they and are they acquirable? What is a preliminary estimated cost of this option?
- Dual WWTF – Serve Communities based on location side of the Fox River. Regain capacity at existing HOVMSD would increase service time of existing site. Eliminates the need for syphons/river crossings. Preliminary estimated costs of this option?

Master Planning- Step 2

Determine planning level connections, organic loads, or other growth indicators to track as time goes on and District moves forward

Identify and memorialize where the District is in relation to its current capacity, current plant and compact site, and determine future expansion potential

Determine and document potential action points (load, population, time) for Master planning - Step 3