



MUNICIPAL WWTP

IFM Design/Builds/Operates New Extended Aeration Package Plant for National Travel Center

When approached by a current and longtime customer, IFM was tasked with designing two parallel path solutions for wastewater treatment.

Path One—Design extended aeration plant that could handle high organic loads and incorporate flow and loadings from an existing local restaurant.

Path Two—Design and develop a relationship with local Publicly Owned Treatment Works (POTW) to review, design and create a budget estimate a collection system that would convey sewage to the nearest facility.

IFM spearheaded the design of both paths and worked with the entire firm's design team. 401 / 404 permitting with US Army Corps of Engineers was required since existing are wetlands or waterways of the State were going to be impacted by the store and the future wastewater treatment plant.

The design included a plant organically rated for 30,000 GPD of typical sewage. Hydraulically, the plant is designed, rated and approved for 20,000 GPD, which is what the previous restaurant permitted flows were. After reviewing the travel center facilities including fuel islands, restaurant

type and seating, laundry and showers and the historical water usage of the existing restaurant, IFM was able to

design and receive OEPA approval for a plant with organic loading of 30,000 GPD while remaining hydraulically under 20,000 GPD. This was very critical as no increase in loadings on the receiving stream was required and avoided Anti-Degradation steps that otherwise would have been required and delayed the project.

The design included nitrate recycle and the option for denitrification in an anoxic zone of the first aeration basin.

The second option would require tap fees, lateral installation and tank installation for

both the new travel center and the existing restaurant. As the PTI approval expiration date approached in June 2015, IFM was awarded the construction of the project (plan one). It would commence once the final determination that municipal sewer was not feasible.

Starting in September 2015, IFM was authorized to procure and schedule fabrication, installation and startup. Keeping in line with store site construction, IFM teamed



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with Mack Industries to install startup and commence the plant.

In January 2016 the wastewater treatment plant started, began operations and discharging. IFM started up the treatment plant, the plant was receiving waste from the restaurant and at the end of the month the plant began to receive waste from the travel center as well. The travel center is now open and the treatment plant is in full operation and following OEPA requirements for discharging.

Test Parameter	February	March	April
Final-CBOD5	9.5	4.7	3.6
Final- TSS	11.6	9.6	14.8
Final-Ammonia	1.98	<0.50	<0.50
Raw-CBOWD5	683.2	493.2	673.1
Raw-TSS	169.9	130.9	364.0

Over the past few months, IFM has been able to decrease CBOD5 as well as TSS as the Raw feed as remained fairly consistent into this plant.

