Indian Lake Borough

Water Works

HISTORY / WHY THE NEED FOR A WATER TREATMENT PLANT

Indian Lake Borough (ILB) obtains our drinking water from multiple underground wells. Currently the Borough is permitted by PA DEP to operate 2 wells. These being Well #99 at the base of the Dam and Well #2 along West Shore Trail. There is also an inactive – but connected to the current system Well – 18B – Near Wenatchee Island.

The only current treatment (mandated by PA DEP) to our water system is disinfection by chlorination by sodium hypochlorite and sequestration (adding a DEP/EPA approved chemical to the water to keep iron and manganese in solution).

Due to nearby mining over more than a century, well water has become 'rich' in iron (Fe) and manganese (Mn). Iron and manganese are considered nuisance (secondary) contaminants by the EPA and are not regulated.

States are free to more tightly regulate than the feds. In the case of PA, secondary and major contaminants are lumped together and handled as major, and the federal 'guidelines' for secondary contaminants have become regulatory limits, though not required to be routinely measured.

Over the past 20 years or so, iron and manganese levels have risen and, based on a complaint, DEP came and took measurements. In December 2015 they alerted us to the elevated levels; In mid-2016 they required immediate action. We explored several resolutions, with running Quemahoning Dam (Que) water (Serving Somerset, Johnstown, and adjacent communities) from Friedens via Flight 93 National Park, in-home filtration, and active treatment all among them.

On August 10, 2016, ILB submitted an Engineering Study and cost estimate for Fe/Mn treatment. This plan had been discussed directly between the Engineers and DEP but was not actionable or acceptable to the Borough. It seemed short-sighted and had too many unknowns and/or show-stoppers. Most notably it did not address Well 18B, our desired backup, it required backwash that was viewed as potentially debilitating to a sewer plant, and there was no agreement or provision in place for conveyance or treatment to a sewer plant.

In discussions with DEP, sequestering to Well 2 was suggested as a stop-gap, but the other issues were not addressed . Complete treatment cost estimates continued to climb, and no options were found actionable. The County-wide plan for Que water had stalled and remains so.

Sequestering Well 2 was recommended in a Permit request submitted in March 2017. Sequestration of Well 2 was ultimately approved in July 2018 and following implementation and test, began October 2018.

Following much discussion amongst ILB Council, it was decided to engage another Engineering firm to pursue our quest for a system which could be implemented cost effectively, would include treatment of both our Primary well (99) and our backup well (18B), and which did not depend upon sending potentially hazardous backwash to a presently unwilling public sewage treatment plant.

Beginning in early 2018, and until present, Gibson-Thomas (G-T) has been working with DEP on the necessary testing and engineering for a new treatment plant to fit the bill. Specifically, the DEP requested testing by Casselberry and Associates concluded in September 2019 and G-T submitted the Permit request to DEP on or about March 30th, 2020, and PENNVEST meetings were held in April. These are ongoing. Final DEP approval was obtained in July 2020.

Following their approval, DEP felt compelled to fine us for not acting in a more immediate fashion. The total fine was around $25,000. While we could have embarked on a firm plan sooner, none of the earlier plans made sense to us (or anyone other than DEP), except in-home units which DEP blatantly refused to consider. On advice by Legal Counsel, we paid the fine, saving potential appeals and litigation costs.

Engineering was completed in the fall. We went out for bid in January. Bids were received February 10th, 2021. The lowest bid(s) exceeded our estimates (and the PENNVEST loan approved) by 60%.

PROJECT COST / FUNDING

Construction estimate established by G-T: $1.573,255.00
Construction bid (low bidders) $2,279,464.

Construction Funding: PENNVEST Loan of $1,573,245.00 based on G-T Estimate:
Closing in April 2015

Construction Shortfall / Overage: $706,401.00

ILB Council has elected to fund the overage from cash reserves, rebuilding the reserves by a further rate increase in 2022, and obtaining a 'rainy day' line of credit if necessary.

The water rate for CY 2021 is $360; $450-500 is anticipated for CY2022 and onward.

PROJECT DESCRIPTION / NEW WATER TREATMENT PLANT AND WATER DISTRIBUTION SYSTEM UPGRADES [a]

Recent well drawdown tests have shown that Well 18B has a safe yield of 100 GPM and Well #99 has a safe yield of 200 GPM. The new Water Treatment Plant (WTP) is designed to treat 200 GPM. Due to the geography of the Borough, the new treatment plant will utilize existing Wells #99 and 18B, interlaced. Well #2 will be removed from service.

Construction of an approximate 2,000 square foot insulated split-faced concrete block building with metal roof housing a pre-engineered - 3 tank water treatment system, 2 – 7,400 back wash tanks - along with an underground 10,000-gallon sludge holding tank, a chlorine injection room, sampling lab room and utility room. The new WTP will be adjacent to the existing Cherry Lane Storage Tank where the WTP will be located with interconnecting underground piping. The WTP be equipped with a back-up electrical power provided by a diesel Generator [b] .

A new, 209,000 gallon prefabricated and coated, bolt together steel water storage tank [c] to be located adjacent to the existing Cherry Lane storage tank and the new WTP. The Cherry Lane Tanks are located at the highest point in the Borough thus providing water pressure to the distribution system including the Peninsula Tanks and Buckstown water storage tanks without additional pumps.

Replace / upsize the current water line from well 18B, install a new, higher pressure well pump, a “shed” type structure at the Well 18B to house Pump Electrical gear and Communication equipment.

New water distribution valves and water control equipment at the intersection of Palmer and Peninsula Drives (Upper end near the Northwinds Peninsula Golf Course Club House). This will feed the Buckstown side of the lake when well #2 is taken offline.

Replace aging valves and controls at the Peninsula water storage tank.

All active Well Pumps, Water Storage Tanks, and the WTP will have control systems connected to provide automated operation, with alarms automatically communicated with ILB Water Plant Operations Personnel.

BENEFTS GOING FORWARD

When the WTP and Water Distribution System upgrades are completed and commissioned, the Borough will have the ability to take any one of the four water storage tanks offline for required maintenance which is currently challenging to do without service interruption. Also, by having two well pumps available to service the entire Borough, pump system failure (which occurred on both well #99 and #2 in 2020) will no longer have the potential of causing a water emergency in the Borough. Complaints of consistent “brown” water (the result of current

iron / manganese /chlorine reaction) will be minimized by the removal of iron / manganese by the WTP, the need for sequestration will be eliminated, and the amount of chlorine needed for disinfection greatly reduced.

Footnotes

(a) The WTP only gets us in compliance with DEP mandates. Various Water Distribution system upgrades are required outside the boundary of the WTP and New Storage tank to distribute treated water throughout the entire existing Borough water distribution piping network.

(b) Generator was not in Engineers Estimate – Borough Council Included the generator as the Borough will internally be embarking on a project to put our wells on portable, emergency generator power which the Borough has already obtained (FREE) by the Mayor Mike Miscoe and Police Chief Jerry Bellak through a Federal Government Surplus program. This will give the Borough the ability to continue to provide water during power outages (which have been occurring more frequently).

(c) New Additional tank option was elected by Borough Council to provide additional water storage for peak demand, and so that the existing Cherry Lane tank can be taken offline for routine service with no interruption in water service. Of Note: Last year existing pumps at Wells #99 and #2 had failed leaving only hours of storage capacity before emergency repairs were made. Having the 2nd tank at Cherry Lane give us additional time buffer time WHEN a future failure occurs to make repairs. (ILB does maintain a reasonable inventory of spare parts).

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