LAKE IROQUOIS ASSOCIATION (LIA) WATER COMMITTEE ANNUAL SUMMARY 2022-23

The Lake Iroquois Water Committee was established to assist LIA in determining what may be causing the water quality issues and addressing the best course of action to remediate these issues. The water committee members include Darrell Aders, Don Cleary, Perry Draper, Steve Garbaciak, Mike Johnson, and Dennis Watson.

The committee met in the spring of 2022 and discussed the Illinois EPA Water Supply Evaluation which contained some non-compliance advisories, but no actual violations. The committee decided to focus on addressing any deficiencies since it could incur liability asking ERH to change the treatment process. A tour of the water plant was conducted. There was a belief that the discolored water might be from sediment or residue build-up in the watermains since the water coming out of the treatment plant seems to be of good quality. Agreed that issues predominantly started when Illinois EPA raised the amount of chlorine required for water treatment. Suggestions were made to test for the presences of other compounds and contaminants in the water and to also do independent testing. Committee to evaluate ERH flushing plan and determine if there are sufficient functioning hydrants to properly flush the water mains. Committee decided to provide a survey to homeowners to gather better data about what, where, and how often issues are occurring. LIA began posting the daily and monthly water sample tests on the website for

Over the summer months, the committee met at the LIA water plant to review the treatment process in place and reviewed water quality and reports for LIA treated water prior to entering the distribution system. They plotted data from Facebook and other correspondence on a map indicating where most of the water complaints have occurred. Developed and conducted a water survey that was sent to members and also plotted on a map. Reviewed LIA map with location of the fire hydrants, flush, hydrant, and valves and spoke with ERH about the lack of operations flush hydrants. Discussed the option of utilizing poly-phosphate to coat the inside of the water lines in an effort to bind any sediment to eventually over time prevent it from entering the water in the future. Checked iron levels coming from the water plant which were not out of compliance. The committee sked ERH to suspend treatment of water with hydrogen peroxide and return to the Potassium Permanganate treatment for iron removal due to an increase in complaints and multiple incidents of water discoloration when chlorine bleach products are introduced to the water at residences. Discussed ERH testing a temporary air system and tank for the removal of iron from the water to see if this will have a positive effect on the issues before making a large investment into permanent equipment to be installed at the water plant. Identified that the use of potassium permanganate is the only process in use at LIA that is not utilized at other ERH plants which are not experiencing this issue. Continued to collect samples from homes for testing. Testing disclosed a higher (but not unsafe) level of manganese in homes that is not present coming out of the water plant. ERH spoke to many professional organizations, educators, and water industry companies asking for expert opinions but no one could provide answers.

In the fall, the committee addressed the increased hardness in the water over the summer and talked to ERH about options to better soften the water and make sure the process was adequate. The regulating valve for the main well was letting more water into the plant than the softeners could handle and the softeners are now being backflushed on a regular basis regardless of what the water hardness level are

to ensure they stay in compliance. ERH worked with Hawkins Inc., to run expanded test on samples that were collected from 9 different residences at LIA. Results indicated that there were higher than normal presence of manganese and iron in the homes but not coming out of the water plant. Hawkins opined that this and the increase in hardness of the water in the water mains as an indication that there are old water deposits I the water mains that are being stripped off and reintroduced into the water supply. This could contribute to discolored water, and hot water could pull the contaminants out of solution and react with the chlorine bleach.

The committee proposed the purchase of water testing kits so LIA can get independent test results from a non-biased entity. The committee suggested LIA buy kits from Tap Score which are tested by SimpleLab. Based on expert opinions and following recommendations from IEPA, the committee feels a more thorough and perhaps scouring flush needs to be conducted to try to remove the sediment in the water mains. In order to do so, new two-inch hydrants need to be installed at the end of Wyandotte, Chippewa, South Mohican, North Mohican, Pima, Dakota, County Road 300N, Yuma, Crow, Miami, Sioux, and Ponca Point. Larger hydrants should be installed on Arapaho and perhaps Mohawk and Wyandotte. The water valves on the main lines will also have to be located and make sure they are functional so lines can be shut off to specific area if a problem occurs. Additional conversations concluded that the chlorine injector at the water plant should be upgraded with a booster pump to make sure it is getting mixed thoroughly in the water supply. The committee produced charts, analytics, and aps from the community water quality survey results.

During the spring of 2023, LIA worked with the contractor Jim Balk to locate missing and broken flush hydrants to determine the which ones would still work and establish a priority for those that need replaced first. Jim Balk ordered a four-inch replacement hydrant along with six (6) two-inch one=way hydrants for installation. He was ordering the schedule 80 pipe needed to complete the installation, but it had been on backorder. Prior to the spring hydrant flush, LIA pulled water samples from the water plant, Comanche at Cayuga, Arapaho, and Kiowa and sent them to SimpleLab for independent testing. None of the test results exceeded the US EPA or Illinois EPA maximum contaminant levels. There were Trihalomethanes (THM) present in parts per billion in the water samples taken from the homes but not from the water plant. These test result also confirmed the presence of manganese in the water samples. While the concentration was safe, the lab advised that a very small amount of manganese may give a yellow tint to the water which could look brown at higher concentrations. This seems to confirm there is residue and deposits in the water mains that are being stripped off and re-introduced to the water supply. The recent water testing has indicated that the water hardness is much better than last summer and the softeners are working better.

Currently, LIA has identified Wyandotte, Chippewa, Dakota, South Mohican, Pima, and County Road 300 North as the priority for the installation of the first six hydrants based upon the number of people these water mains serve. Jim Balk has had the Julie located done this week so the digging and replacement of hydrants and shut-off valves can begin. LIA has identified using the water reserves funds to initially fund this work. LIA will also be working with ERH to install a control mechanism so that wells #2 and #3 can be run at the same time and supply enough water for the community should the primary well #1 go out.