

## **Lake Hiawatha, the Dumping Ground**

The Minneapolis Park Board Master Plan for the Hiawatha Golf Course property wants to use the property as a dumping ground for more storm water. Tyler Pederson, Park Board Project Manager for the Hiawatha Golf Course Master Plan, asked me where water would go if it didn't go to the golf course? The history of the water problems in this area of South Minneapolis gives some enlightenment to the subject. Here is the history that I have tried to piece together.

### **Flooding Through the Years**

In the late 1970's the City of Minneapolis was already struggling with flooding problems in South Minneapolis. They put together a project to install a deep stormwater tunnel under E. 39th Street to the Mississippi River. They abandoned this project because they didn't want to pay the price. Instead, they took the cheap way out and continued to send storm water to Lake Hiawatha.

### **The 1987 and 1992 Floods**

In the 1987 flood in the metro area, a man was killed when his basement collapsed on him due to flooding. He lived just north of Sibley Park. The city had to pump water from the basement to recover his body. The flooded water had been half way up the first floor windows. Was this a call to action to build the 39th Street pipe, especially since the drowned man had been a huge advocate of a solution? No, the solution was to buy out and demolish homes at Sibley Park and Bloomington Ave., and continue sending water to Lake Hiawatha.

In 1992, some of the same areas that suffered flooding in 1987 experienced flooding again. Minor adjustments were made to the Bloomington Ave. and Sibley Park ponds.

### **The 1997 Flood**

In 1997 flooding again caused the City of Minneapolis to study solutions to mitigate the flooding. The solutions, again, were to continue sending water to Lake Hiawatha. The following list is from the City of Minneapolis Flood Report 1997.

- Project Area 12: E. 37th St. and Columbus Ave. - "In the 1980's, it was expected that the 39th St. E. tunnel would be constructed, and that the ongoing problems would be solved. Other options that should now be considered include increasing the capacity of the storm drain system between 37th St E. and Columbus Ave. S. and Lake Hiawatha, and construction of a stormwater control pond."
- Project Area 12: 3800 block of Columbus Ave. - "The stormwater drains towards I-35W. Improvements to the storm drains leading to Lake Hiawatha could also include capacity for the 3800 block of Columbus Ave. S. Another solution studied is allowing high water to overflow to adjacent Phelps Field, and excess water pumped to the Lake Hiawatha drainage system. Runoff from smaller storms would continue to drain to 35-W."
- Project Area 21: Bloomington Ave. Flood Control Pond & E. 43rd St/17th Ave. S. - Recommendations were made to improve the storm drains around the Bloomington Ave. pond, increase the capacity of the storm drains to Lake Hiawatha which were deemed to be inadequate, and provide improvements to the storm drain system going to Lake Hiawatha that would include capacity for the Combined Sewer Overflow area #779 which presently drains stormwater runoff to the sanitary sewers because of the inability of the storm drain system to convey the water to Lake Hiawatha. Also recommended was the creation of the flood control ponds on Hiawatha Golf Course.
- Project Area 22: Sibley Field flood control pond - Houses and garages were flooded due to the flood control pond overflowing and sanitary sewers backing up into buildings due to overflowing of the sanitary sewers with excess storm water since catch basins were still connected to the sanitary sewer. Proposed solutions were to construct a new storm drain to Longfellow Ave. and install a new inlet structure at the north end of Sibley pond from E. 38th St. and Longfellow Ave. Also, a proposal was studied to accelerate construction of Combined Sewer Overflow projects to separate storm water from the sanitary sewers which was causing sanitary sewer backups. This would send more water to Lake Hiawatha?
- Project Area 26: E 43rd St to Minnehaha Creek, & Portland to Chicago Ave. S. - When Minnehaha creek is high, stormwater must be pumped into the creek; water will accumulate whenever the rate of runoff exceeds the pumping capacity of the pumps, plus storm drain capacity is sub-standard. Proposed solutions were adding a flood control pond at E. 43rd St. & Park Ave. S., increasing pumping capacity to the creek, and adding an additional storm drain from 49th St. E. and Oakland Ave. S. to the creek. Where would all of this discharge end up? Lake Hiawatha!

- Project Area 27: E 44th St. & 29th Ave. S. and E 39th St. & 30th Ave. S. - There were flooded homes and sewer back-ups. The proposed solution was to replace the old-style catch basin grates to improve flow to Lake Hiawatha plus build a new 10-year design storm drain from E. 39th St. to Lake Hiawatha.
- Project Area 29 & 30: W 50th to 51st and York to Zenith Ave S and W 51st St. & Abbott Ave. S - Problems were flooding of buildings and streets. The proposed solution was to use a force main, a holding tank, and a pump station; redirect the flow to the outlet at Minnehaha Creek and Washburn Ave. S. Again, this will send more water more quickly down to Lake Hiawatha?

### **Rich Acres Golf Course Becomes a Runway**

In 2008, Rich Acres golf course on Cedar Avenue was closed in Richfield and a new airport runway was constructed. This sent more water into Lake Nokomis and Lake Hiawatha. Why were they allowed to just dump their water into Lake Nokomis rather than mitigate it? Probably because that was the cheapest solution? To illustrate the water issue, in 2019 a culvert between the runway and Lake Nokomis was being reconstructed, so it was closed down. The airport complained that water was backing up on their runways during this closure, and they wanted a bypass to be built to alleviate their problem.

### **Stormwater Diversion to Lake Hiawatha**

In the early 2000's, the St. Paul sewage treatment plant told the City of Minneapolis that they could not continue to handle storm sewer water from the City, so the City made building owners separate their storm sewer water from their sanitary sewer systems, dumping the water into the alleys. They also started projects to separate storm water in streets from sanitary sewage in the Combined Sewer system. All of this, of course, caused higher volumes of water in the storm sewers. Again, some solutions were needed to deal with this increase in volume. At some point, the City of Minneapolis and the MPRB made the deal to dump 60+ million gallons of storm sewer water onto Hiawatha Golf Course at E. 44th St. and 19th Ave. S. The dumping commenced in 2012. Again, another bandaid. And, now it is called a golf course problem. This was not the golf course's problem. This was the City looking for a cheap solution to the problem rather than engineering an effective, long-term solution.

### **The MPRB and MCWD Continue the Bandaid Solutions**

The MPRB and MCWD (Minnehaha Creek Watershed District) have continued their bandaied solutions for Minnehaha Creek and Lake Hiawatha, or they have spent money targeted for solutions to the water problems on other things. The following projects have been done or are planned.

Lake Nokomis Holding Ponds - These ponds were installed on the southwest side of Lake Nokomis. The result has been increased water in all areas of the park outside of the planned area. This excess water has killed trees and saturated the ground. The MCWD has admitted that they have problems trying to maintain these ponds because the area has become too wet. Problems include the growth of invasive species of plants and being unable to dredge the ponds to keep them healthy.

Bde Maka Ska Holding Ponds - We have not investigated how well or poorly these ponds are doing.

FEMA Award for Hiawatha Golf Course Repairs due to the 2014 Flood - The MPRB was awarded \$1.2 million to repair damage to the Hiawatha Golf Course due to the 2014 flood. Hiawatha Golf Course was reopened without using any of this money, so the MPRB took a 10% discount on the award and the resulting money was used for other purposes.

FEMA Award for Meadowbrook Golf Course Repairs due to the 2014 Flood - The MPRB was awarded \$2.1 million to repair damage to the Meadowbrook Golf Course due to the 2014 flood. We have found record of \$560,000 being spent to repair Meadowbrook Golf Course from the 2014 flood. We have found no record regarding the fate of the remaining money.

FEMA Award for Minnehaha Creek Shoreline Repairs due to the 2014 Flood - The MPRB was awarded money to repair damage to the shoreline of Minnehaha Creek due to the 2014 flood. These repairs were being done in 2019. It is unclear how long these repairs will stand up, or what effect the Minnehaha Creek Trails project will have on these repairs.

Edina Arden Park Dam Project - This project took out a dam in Minnehaha Creek in Edina. The creek was remeandered (including rebuilding of the shoreline) and holding ponds were installed. The project was completed in 2019. During the first year of operation (2019) the MCWD stated that "the newly connected floodplain provided storage when the creek was outside of its banks." This again shows that the capacity of

Minnehaha Creek continues to be exceeded, even when a \$5 million project is done to reconstruct it. And, all of this water ends up in Lake Hiawatha.

Lake Nokomis Shoreline Restoration Project - This project is attempting to naturalize the shoreline along Lake Nokomis. Some pertinent questions asked by the public before the project started were: Question 1 - Why is this project being done before the water problems on the southwest shore and the high lake levels are figured out and addressed? No cogent answer was given. Question 2 - The MPRB only had part of the money needed to complete the project, so why was this project being started, and what would happen if they could not obtain the rest of the money? The answer was, "We will find the money." This project was started in 2019.

Minnehaha Creek Trails Project - This project is currently proposed with no price tag given. It would remainder major sections of Minnehaha Creek in South Minneapolis and add more holding ponds along the way. This project was recently approved by the Community Advisory Committee without knowing how much money it would cost. Part of this project plans to slow down the water in South Minneapolis so that it can infiltrate; the only problem is that this area of South Minneapolis is already saturated with too much water!

Bergan's Development- This project is supposed to install a holding tank to temporarily store run-off from the site in a high rainfall situation. When the development team was repeatedly asked where this water would go, they finally answered that the water would end up in Minnehaha Creek, and thus, Lake Hiawatha. This is another example of the current thinking of store the water temporarily until they can dump it into Minnehaha Creek or Lake Hiawatha.

Hiawatha Golf Course Master Plan - This project is currently proposed. The current price tag is \$42 million. This project would convert half of the Hiawatha Golf Course property to a giant holding pond, promising more stormwater capacity. A 9 hole golf course with several water holes would also be built. Homeowners in adjacent low-lying areas are concerned that this increase in nearby water will flood their homes. The golfing community believes that the proposed 9-hole golf course will not be used because of the large amounts of water on the golf course. And, the MPRB admits that the 9-hole golf course will most assuredly be a money loser and they are looking for money to subsidize it.

## **What is the Real Solution?**

The Minneapolis Park and Recreation Board (MPRB) and the Minnehaha Creek Watershed District (MCWD) projects have generally proposed 2 solutions to the water problems in Minnehaha Creek and Lake Hiawatha.

- Remeander Minnehaha Creek to slow down the water so that it will absorb.
- Create holding ponds and tanks to temporarily hold some water back until the level of the creek goes down.

One problem with remeandering Minnehaha Creek in South Minneapolis is that the area is currently saturated with water, so there is little or no capacity for absorption. And, the problem with creating temporary holding ponds and tanks is that this becomes an orchestrated dance with respect to who can release water into the creek at any one time.

And, these 2 solutions do nothing to mitigate the amount of water going through the system. Over the last few years South Minneapolis has been suffering at the bottom of the watershed because no water flow is being mitigated, only delayed. In other words, South Minneapolis eventually gets it all. This is currently destroying Minnehaha Creek, Lake Hiawatha, Lake Nokomis, and the surrounding neighborhoods. And, with impending climate change, the experts predict the volume of water will only get worse. The MPRB has said that Hiawatha Golf Course is unsustainable. We say No, that is not the problem. What is unsustainable is Minnehaha Creek, Lake Hiawatha and South Minneapolis trying to handle these volumes of water!

The Park Board's proposal of dumping more water into Hiawatha Park and Lake Hiawatha is just a continuation of the bandaids that have not been effective in the past. It's time to move to real, long-term solutions that will actually solve the problem. Minnehaha Creek and Lake Hiawatha can no longer be expected to handle the increasing volumes of water that are and will occur in the future. There is not enough land in the Creek or the Hiawatha Park property to deal with the current or expected volumes of water, especially with impending climate change. Minnehaha Creek and Lake Hiawatha, and South Minneapolis neighborhoods, are being destroyed by the lack of will from public officials to effectively solve these problems.

**Solve the Math Problem!**

Any proposed solution has to solve the math problem of capacity. In other words, what is the maximum amount of water Minnehaha Creek and Lake Hiawatha can handle while keeping the creek, lake and neighborhoods healthy? Any changes within the watershed need to be based off of this information. Right now Minnehaha Creek and Lake Hiawatha are expected to handle much more water than they were ever designed to handle. They should not be required to handle any more water than a healthy maximum. As an engineer, I would base my decisions on the following premises:

Step 1: Determine the maximum amount of water that can be handled by Minnehaha Creek and Lake Hiawatha (the exit mechanism) without negative effects to these bodies of water and their surrounding communities. Also, determine the maximum amount of water that can be handled by other bodies of water that feed water into the exit mechanism without negative effects to those bodies of water and their neighboring communities, for example, Lake Nokomis.

Step 2: Determine how much water is currently being contributed by each source (lake, outfall, community), and also how much will be contributed in the future based on impending climate change.

Step 3: With these 2 sets of information, you can now make equitable determinations regarding how much each source can contribute to the creek and lake, and how much each source must mitigate (retain) in their area.

Step 4: Each community then needs to look at solutions that mitigate the excess water that they can no longer send into the exit mechanism (Minnehaha Creek and Lake Hiawatha). The ultimate goal of this is to have all communities work together to establish requirements that communities will abide by to make sure that the maximum amount of water that can be handled by the exit mechanism is not exceeded. This ensures that all communities in the watershed contribute to the solution, that all communities in the watershed are protected in an equitable manner, and that no one community suffers at the expense of another.

### **How can the City of Minneapolis contribute?**

Every knowledgeable person that I have talked to says that the solution for the eastern part of South Minneapolis is to pipe the water to the Mississippi River as was planned in the 1970's. South Minneapolis can contribute by building that 39th St. pipe which would mitigate a huge amount of water that is coming into Lake Hiawatha and the surrounding neighborhoods.

I talked to State Representative Jean Wagenius about all of this and she said that the pipe that was considered in the 1970's is exactly the type of project that the State Legislature would help fund today.

And, you can look at the project going on in South Minneapolis in the 35W neighborhood. They are piping much of the water north in a storm sewer beneath 35W to Franklin Avenue, and then through the Franklin Avenue storm sewer to the Mississippi River, thus taking the water out of the neighborhoods.

The City of Minneapolis, the MPRB and the MCWD need to move away from their current thinking of "Hold, then Dump", and move towards a solution of "Limit and Mitigate". If they don't do this, one expert that we talked to stated that the City of Minneapolis will need to start buying out and demolishing many more homes in South Minneapolis as they did at Sibley Park and on Bloomington Avenue.

**So, which will it be?**

It appears to be time for a real solution like the 39th Street tunnel, so that we can start to can relieve the burden being placed on the Lake Hiawatha neighborhood and Hiawatha Golf Course!