

## **Shawneeland Sanitary District Advisory Committee (SSDAC) - Minutes of January 10, 2022**

The meeting was called to order at 7:10pm.

Those in attendance were Barry Van Meter, Jeff Stevens, George Bishop, Rhonda Sargent, Kevin Alderman, Director of Public Works - Joe Wilder, and 4 residents. Ken Baker SSDAC member and Supervisor Shawn Graber were absent.

### **New Business:**

#### **Cherokee Lake Engineering Evaluation – Final Report:**

- Mark from Viola Engineering updated the information from their study from Cherokee Lake as well as the three (3) remediation methods and associated costs. As stated previously, they conducted a study downstream from where the sinkholes have developed. It has been determined that during this evaluation, that the leaks are located are in the same area that was repaired approximately 15 years ago.
- Most recently, the highest flow out was determined to be 177 gallons per minute (g.p.m.).
- The options are to do nothing, perform a grouting operation or inject a polyurethane resin into the sinkholes after performing dye tracing to determine the exact locations where the resin needs to be injected.
- If nothing is done, there will be no cost.
- It is estimated that the grouting option would cost approximately \$7,500. However, during the event which occurred over a decade ago, extensive grouting was performed to remediate the issue. Now, the lake is leaking again, and, in the same locations that were repaired previously. If the county were to opt for this

method to repair the current leakage, then the same thing will occur in the future.

- If the injection of the polyurethane resin option is selected, the cost is estimated at approximately \$60,000 to \$380,000 depending on the amount of work and materials required for the remediation. The material will not deteriorate from being in contact with water. The only thing that can deteriorate this material is UV light. It will not contaminate drinking water and make it unsafe.
- With the latter process, the dye test would consist of injecting approximately 150 gallons of dye and timing how long it takes before the dye comes out the areas leaking. This allows for a more precise placement of the resin.
- Joe Wilder explained that there is a history of the lake being affected by sinkholes - they were present in the late 90's and most recently in 2008. The dam itself was constructed in 1960.
- The issue lies with the type of geology surrounding the lake and dam. It consists of mostly Limestone and Shale.
- In 2008, a dye analysis was performed and it was determined that the water came from the Council House and Springhouse/box.
- If the Resin option was chosen and the funds for the repair was approved by the board of supervisors, the funds would be available by the middle of March and work could begin within approximately two (2) weeks from that time.

### **Cherokee Lake Remediation Information/Demonstration:**

- Stuart Baber of American Concrete Services attended the meeting and did a presentation of the polyurethane resin. This demonstration was a manual demonstration utilizing the material and mixing it with water to show how the resin forms.
- It is a fast acting material; however, outdoor temperatures and water temperatures can make a difference in its

reaction time. If necessary, the material can be heated.

- It is anticipated that the following would be required to perform the remediation a generator, an electric pump, 2 hammer drills and an equipment operator. Consequently, this would mean that it would not be necessary to request permission from adjacent property owners to access the area(s) to be repaired.
- No road closures would be required to perform the remediation.
- The repair would require approximately 250 to 500 gallons of the resin. Once it's topped off, rods would then be driven down approximately ten (10) to 15 feet into these areas to permit spreading of additional material.
- Mr. Baber estimated the remediation cost to be approximately \$50,000 to \$100,000.
- Filters would be placed/used in the middle of the lake to ensure no product seepage into the lake.
- Turn-around time from initiation to completion (i.e., area preparation, injection and cleanup) would be approximately three (3) to five (5) days.
- This product has been used to remediate a nine (9) foot by 20 foot dam in Washington State.
- The resin material/process has been used to repair leaks of up to 1,000 g.p.m.

### **Questions/comments from the citizens:**

- Two citizens spoke in favor making the necessary repairs to the lake.

### **Subcommittee Report:**

- During the November 17, 2021 SSDAC meeting a subcommittee was formed to discuss the remediation options as well as possible funding options (i.e., grants, etc.) The subcommittee met on January 5, 2022

and based on their discussion, made a recommendation to the SSDAC at the special meeting held on January 10, 2022 that the resin injection option be approved. See attached subcommittee report/minutes.

**Presentation:**

- George Bishop prepared and presented a PowerPoint presentation based on the information discussed during the subcommittee meeting held on January 5, 2022.

**Action:**

- After discussing the subcommittee's recommendation to select the polyurethane resin remediation method and its proposed cost, the SSDAC had some discussion related to the costs associated with what the American Concrete Services representative stated during his presentation versus the amount stated in the engineering report. Two committee members were hesitant to request permission to take the amount of \$380,000 from Shawneeland's reserve fund.
- The chairperson indicated that requesting the larger amount is more feasible considering that amount of time that it takes to go through the process (i.e., recommendation by the SSDAC to public works, then review and action by the public works committee, then to the finance committee for their recommendation and then to the board of supervisors for final approval) to request funds. In other words, if the funds requested were not adequate to cover the costs, then it would be necessary to through the procedure once again to request additional funds to complete the necessary work which may delay completion of the project. Consequently, the chairperson informed the rest of the SSDAC that whatever funds were not spent performing this repair would be returned to Shawneeland's reserve fund. After this discussion, a motion was made by George and seconded by Barry. A vote was taken and the recommendation to select

this repair option and request the amount of \$380,000 be taken from Shawneeland's reserve fund and placed in the appropriate line item to pay for the remediation was unanimously approved.

Rhonda adjourned the meeting at 8:30pm.