Aug 16, 2023, 9:02 PM

Jessica Fay
Re: Mill Street Dam Restoration
To: RWPA Board
Here is the info re: Mill St. Dam from DIFW.

1. Budget
    1. Available funding for the project is approximately $1,500,000.00. I have worked closely with our Engineers to develop a design that will maximize our results with the available funding.
2. NRPA Permit
    1. The existing dam has been found to not have a base of bedrock, but was built on gravel type soil. This has caused years of water undermining the structure and causing seeping issues.
    2. The design involved driving steel sheet pile approximately 12" upstream of the existing structure very deep into the gravel base to avoid future undermining of the dam.
    3. By the DEP statue, any addition to a dam greater than 4" upstream requires a full NRPA permit. We are currently working with DEP and Army Core of Engineers to acquire this permit.
3. In Water Work Window
    1. Due to the requirement of the NRPA permit, we are forced to work withing the allowed "in water work" timeline of June 1st to October 1st.
    2. The Engineer has advised us the timing of the project for in water work will be approximately 3 months. This is also the timing of when water levels most likely will be effected in Panther Pond.
    3. In meeting with the Panther Pond Association, and after explaining the above situation and timing, it was advised the months of June, July, and August would be the best timing for the property owners that enjoy the lake. (Water levels would be conducive for launching around Memorial Day, and removal around Labor Day)
4. Plan sheet C-04 shows the first 3 phases of the project
    1. Phase one- Install the new steal sheet piles in front of the existing dam structure (these will also be used to control water during the project)
    2. Phase two- Lower the left Ogee to the desired optimum lake level, repair all deteriorated existing concrete, and fill the area between the new steel sheet pile and existing structure with concrete.

i. Lowering the left Ogee to the desired optimum lake level, will allow automatic spill over of the flow and create far more stability in lake water levels. It will also greatly decrease the amount of calls to MDIFW Hatchery personnel to raise or lower the gate to control lake levels.

3. Phase Three- Lower the Right Ogee to 4" higher than the left Ogee, repair all deteriorated existing concrete, replace the existing gate with new, reconfigure the existing trash rack and replace with new, replace and reconfigure the existing intake to the fish trap building, and fill the area between the new steel sheet pile and existing structure with concrete.

i. The right Ogee being 4" higher than the left Ogee, is to allow an automatic overflow for heavy rain events. In the event the flow is still to great to handle the water, the gate is fully operational and can be opened for additional relief as it has in the past.

1. MDIFW Hatchery Staff opening and closing the gate is currently a normalcy, our desire with this design is it becomes a rarity.

4. Phase four- the existing walls along the right side of the dam that consist of a mixture of concrete wall, granite wall, large rock…etc will be removed.

i. Prior to removal a new steal sheet pile wall will be installed on the dam side of the wall to protect the stream from any erosion or debris.

ii. A new concrete wall and footing will be poured to the new steel sheet pile wall.

5. Phase Five- The right side embankment will be excavated behind the new wall and will receive an extensive seepage collection system to prevent future seepage from undermining the structure on the right side, and also prevent future sink holes from appearing.

5. Plan Sheet C-09 shows the overall site with all above completed improvements.
6. The final sheet is a graph showing water level recordings from 2016-2022. The red straight line is showing the target water level the new improvements will maintain without the fluctuation the lake currently undergoes.