

WHAT IS THE CURRENT POND DESIGN?

There are seven (7) ponds. They are numbered as follows:

The area of each pond is as follows:

Winslow Farm Community Association Pond Improvement Simplified Overview

Current Status

The WFCAs Ponds are numbered 1-7

- P1 is located closest to S Highland Ave.
- P7 is located closest to E. Winslow Rd.
- The arrows donate the major entry point for waterflow
- The double rectangles are bridges
- Single squares are weirs that serve as spillways
- Not shown: An inlet at the north end of P3 has already been filled in to allow for better waterflow.



Pond #1 is 0.11 acre

Pond #2 is 0.10 acre

Pond #3 is 0.32 acre

Pond #4 is 0.27 acre

Pond #5 is 0.12 acre. A pump located under the large tree is designed to pump fresh well water during periods of drought. However, it is questionable as to whether it is functioning.

Pond #6 is 0.32 acre

Pond #7 is 0.41 acre is required by the city as a retention pond. Originally a re-circulating pump was located in P7 to pump water up to P1 to cause a stream of water to flow through the system. Due to shallow water and the loss of electrical power the pump is not functioning.

- ◆ The topography of the area has the water flowing from the highest level at pond #1 to the southwest at pond #7.
- ◆ There are weirs between P1-P2, P2-P3 and P3-P4 and a shallow weir between P6-P7. Weirs serve multiple purposes:
 - ◆ They act as a dam to back up the water which pools the water to form the pond.
 - ◆ They channel the water to the lower level in a manner that avoids erosion.
 - ◆ The surrounding retaining walls also serve to prevent erosion as the water is directed through the smaller channel.



- ◆ There are bridges between P4-P5 and P5-P6. The structure of the bridges includes a concrete structure under the water that also serves as a dam to pool the water to form the pond. During rain, the excess water flows over this structure.



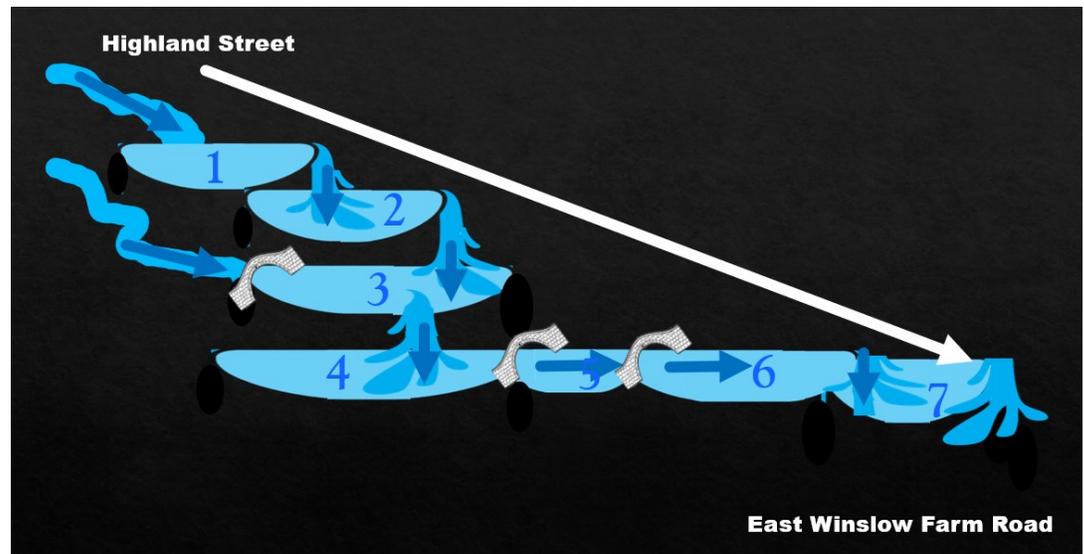
- ◆ A contractor explained that if we do the stream channel option, the concrete structure under the bridge at P4-P5, would always cause some water to pool in what is now pond #4. To prevent the muddy mess much like what has already been experienced in the north end of pond #3, special attention would be required. He went on to explain that the option to remove this concrete structure would require first removing the bridge, reforming the concrete structure, and then replacing the bridge. This would be a very expensive project.

- ◆ However, it remains questionable as to how a stream channel can be created through the area of #4, #5 and #6 that would not have water backflowing or standing in shallow pools. Even Mr. Knust commented, "*However, it remains questionable as to how a stream channel can be created through the area of #4, #5 and #6 that would not have water backflowing or standing in shallow pools.*" He admitted that **even in a design that leaves P5, P6 and P7 in their current design, water would probably back up into what is now pond #4.** His recommendation was to install a rain garden in what is now Pond 4. This option will be assessed in a later section.



It is important to understand the topography of the area.

- ◆ There is a definite change in elevation between pond #1 flowing through #2 and #3.
- ◆ However, ponds #4, #5 and #6 all lie on the same plane.



A simplified diagram of how the water flows with the change in elevation

- ⇒ Since there is a change in elevation at the north end, a channel can be designed to create an adequate water flow. But considering the amount of money that has recently been spent to restore ponds #1 and #2 it has NOT been recommended that more money be spent to change either of them to a stream channel.
- ⇒ With the concrete structure under the 4-5 bridge and the absence of a change in elevation, water will pool and create a wetland in #4, #5 and #6. The cost to design an adequate change in elevation is prohibitive. It has NOT been recommended to change P#5, P6 and P7 by both the Conceptual Design and the Davey's report. Accordingly, they will remain as their current configuration of ponds regardless of the final decision for the pond improvement project.
- ⇒ The change in elevation from pond #6 to #7 is very slight, making a stream channel from pond #4 to #7 ineffective.
- ⇒ Therefore, *Mr. Knust's plan did NOT recommend that ponds #5 and #6 be converted to a stream channel. Pond #7 is required as a retention pond* and a change in its configuration is not included in any of the recommendations.

Some shortcomings have come to light in the original design of the ponds—failure to anticipate especially heavy silting of Pond 3, provide access for dredging of that pond, the less-than-optimal method used for attaching the liners to the banks and along with the ability to abate erosion. But these are all shortcomings that can be gradually corrected and mitigated during the dredging and renewal process.

A sediment forebay is recommended for the Option B Pond Renewal proposal. The forebay is to be installed in the north end of P3 next to the bridge to capture a significant amount of sediment coming from the Olde Mill neighborhood before it enters the pond system.