



COMPARISON OPTION B POND RENEWAL

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STREAM CHANNEL CONVERSION

N ADVOCATING FOR OPTION B POND RENEWAL, WE REJECT STREAM CHANNEL CONVERSION, which calls for the creation of a stream channel ONLY through what are now Ponds 3 and 4. Six major factors have been considered. Details and arguments are provided in the ensuing sections:

1. **FLOOD AND EROSION CONTROL:** A drainage system is required to accommodate the watershed from a large area within and around WFCA. Any design must meet city guidelines, prevent property flooding, mitigate existing erosion problems, and avoid creating future erosion issues. The ponds cannot be “filled in” without violating these requirements.
2. **FISCAL COSTS OF INSTALLATION:** As previously stated, the installation costs associated with Option B Pond Renewal is less expensive than listed for Scenario #2.
3. **ANCILLARY COSTS OF INSTALLATION:** There are significant ancillary expenses that have NOT been included in the report, making the projected costs of stream channel Scenario#2 much more expensive in comparison to even Scenario #1.
4. **LONG-TERM MAINTENANCE:** There is little evidence to support the premise that potential long-term maintenance savings will warrant converting the two ponds. Only two of the seven ponds will be converted, requiring the regular dredging of the other five ponds. The possible savings from not needing to dredge what is now pond #3 will be negligible.
5. **TIMEFRAME:** The fact that ponds #3, 4 and 5 must be completed simultaneously will force a long delay to accumulate the necessary funds from *reasonable* dues increases. The fact that pond #3 needs immediate attention is a serious concern. WFCA/MC HOA may be facing impending legal action due to a serious erosion issue threatening personal property. A legal decision against WFCA has serious ramifications for assessments across all the WFCA neighborhoods. Action to rectify this situation is needed sooner than later. It does not make sense to spend funds to temporarily rectify this singular situation if it can be done during major renovations. However, the erosion issue requires immediate mitigation and can not be put off for several years.
6. **AESTHETICS:** The stream channel conversion does not guarantee that undesirable aesthetics will be avoided.

Each of the Six factors are discussed in greater detail next:

FLOOD AND EROSION CONTROL

The *Conceptual Design* limits the conversion only ponds #3 and #4 to a stream channel. Every other body of water remains a pond. Therefore, the “stream channel” concept is a misnomer in that most of the ponds will remain as their current design. It is in effect, a hybrid alternative. The recommendation requires a design of a significant channel in what is now pond #3. It will have a change in elevation to cause water to flow readily from the “high end” of what is now the weir between pond #2 and #3 to a lower point entering pond #4. The weir between P3 and P4 would be removed/significantly altered.

Conceptual Design clearly states the stream channel will not improve nor impair the ability to mitigate flooding. Based upon the criteria of preventing flooding, we contend that conceptually the conversion to a stream channel is unnecessary. The pond system, as it was established, is basically sound. Repeatedly it has proven its ability to handle extreme rain events, most recently in the “100-year flood” of Feb. 2019, when it still performed exactly as designed despite being heavily sedimented after decades of neglect.

The stream-channel plan would do nothing to reduce the already low chance of flooding; rather, it would introduce uncertainties in that regard. The report advised studies to be undertaken prior to creating the stream channel to ensure that the stream running from Olde Mill into what is currently Pond #3 would not backup and flood the private residents. During the flood of 2019 there was considerable flooding that prompted the homeowners to install riprap as a precaution to prevent further damage. Additionally, without careful planning to the downstream redesign of pond #4, the potential of flooding East Winslow Drive exists. It, too, has experienced some flooding in recent rainfalls. Careful consideration needs to be directed towards making sure any new design will not create additional problems.

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.

FISCAL COSTS OF INSTALLATION

With the stream-channel scenario, Ponds 3, 4, and 5 need to be reconfigured all at the same time. The estimated price tag of \$221,000 is only for the work included in the basic estimate. It is already an upfront cost well beyond what WFCA could afford without levying an **unacceptable** assessment on WFCA residents for work to be accomplished anytime soon. There is recognizable resistance to increasing WFCA dues a significant amount. This *Practical Proposal* is grounded in the concept to keep increases to a minimum over a more time to allow the overall renovations to be completed over multiple years.

Addressing the pond issues have been delayed for far too long. Long-term residents can provide stories as to this fact. These problems are NOT going to disappear. The cost to repair them will only increase over time with inflation and continued degradation. The damage that can ensue in the meantime could be significant.

ANCILLARY COSTS OF INSTALLATION

The Knust estimate does NOT include **substantial** ancillary costs. Mr. Knust conceded that the costs could amount “in the tens of thousands”. Ted and Lynn have contacted specialists to obtain estimates that could include, but not be limited to:

- ◇ The Conceptual Design Report, as well as the Davey's Report, both discuss the need for **required preliminary studies** to include sediment assessment, bathymetric studies, topographic studies. Engineering plans will be required before permits can be requested. Lynn did investigate some of these issues to indicate such preliminary work could run \$33,000—\$40,000.
- ◇ Federal and state **permitting** can be complicated and it is advisable hire a specialist to handle the application process. Lynn has discovered that permitting costs could run \$5,000—\$6,000. This did not include the cost to hire a project manager.
- ◇ **Legal services** for property adjustments (An official property line survey conducted by Deckard Land Survey in 2017 "...found that a significant portion of Pond 3 lies outside of the WFCA common area..." This issue will need to be officially resolved, especially if a stream channel is reformed in the existing area. An estimate of \$1800-\$2,000 may be low.
- ◇ Relocating present **utility lines** buried around east sides of Ponds 3 and 4 will be necessary. The estimates for such were not available, at the time of this writing.
- ◇ One unusual requirement is that a multi-year natural **wildlife study** must be conducted to determine how redesigning the waterway impacts wildlife. Lynn was able to get an estimate of \$7,000.
- ◇ Given the complexity of the project and miscommunications that occurred in the past, it is advisable to hire a part-time experienced **project manager** for such a complex undertaking. Such costs are undetermined.
- ◇ Even though some **landscaping costs** are included in the report estimates, Mr Knust admitted that additional landscaping would be needed to include the creation of a rain garden in what is now portions of pond #4. A few years ago, WFCA explored the idea of creating a rain garden just in the smaller northern section of Pond 3 and found that the cheaper plan would cost over \$35,000 (the other bid, from EcoLogic was well over \$88,000). Considering that the area in question is much larger and inflation has increased costs, estimates could run close to \$100,000. Additionally, the new landscaping will need more attention in the first few years to ensure that invasive unsightly vegetation does not take over. This, in turn, will require additional maintenance funds.
- ◇ **The ancillary costs to convert Ponds 3 and 4 to a stream channel could be approximately \$154,000, Added to the estimate of \$221,000 to create the actual stream bed and install minimal landscaping, the total to redesign Ponds #3 and #4 could instead be closer to \$375,000.** (This does not include the identified costs associated with alterations to pond #5 that are to be done simultaneously with P3 and P4.)
- ◇ **Assuming these details to be somewhat accurate this brings the total to complete the entire Scenario #2 to approximately \$575,000.** The following chart provides the details.

**COMPARISON OF
OPTION B POND RENEWAL EXPENSES**

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STREAM CHANNEL EXPENSES WITH ESTIMATED ANCILLARY EXPENSES

OPTION B POND RENEWAL:			SCENARIO #2: STREAM CHANNEL		
POND	ACTION	ESTIMATED COST	POND	ACTION	ESTIMATED COST
Pond #3	Dredge & deepen, install new liner, reinforce eroded banks, landscape banks, install sediment forebay in north end	\$121,000*	Pond #3, 4, & 5 as one project	Acquire, surveys, engineer report and necessary permits.	Ancillary costs estimate to be \$154,000
Pond #4	Dredge & deepen, install new liner, reinforce eroded banks, landscape banks	\$85,000		Convert 3 & 4 to streams by cutting thru weir between ponds 3 & 4. Redesign to create deep channel, reinforce banks for erosion control, landscape channel sides,	\$221,00
Pond #5	Dredge & deepen, install new liner, reinforce eroded banks, landscape banks	\$61,000		Dredge and install sediment forebay in pond #5	\$67,000*
Pond #6	Dredge & deepen, install new liner, reinforce eroded banks, landscape banks	68,000	Pond #6	Dredge & deepen, install new liner, reinforce eroded banks, landscape banks	\$68,000
Pond #7	Dredge & deepen, install new liner, reinforce eroded banks, landscape banks, install water recirculating equipment	\$65,000	Pond #7	Dredge & deepen, install new liner, reinforce eroded banks, landscape banks, install water recirculating equipment	\$65,000
Total \$400,000			Total \$575,000		

LONG-TERM MAINTENANCE:

It is important to focus on the issue of long-term maintenance costs. Obviously, the stream-channel scenario entails much greater upfront expenditures, but the argument has been made that it would bring worthwhile long-term savings by reducing the need for pond dredging. On examination, this argument can be challenged.

Regular maintenance costs to periodically clean sediment from the ponds run into the tens of thousands, depending upon the type of removal and the size of the pond. The chief argument in favor of the stream-channel idea is supported by the belief that by eliminating the need to remove sediment in the ponds that long term savings can be achieved. It has been assumed that the cost to maintain the stream channel banks, even with more frequent maintenance, would be less than the pond cleaning.

This may have been true if six of the ponds (Pond #7 is required by the city as a retention pond) were converted to a stream channel. Given that only ponds #3 and #4 are converted, the savings are minimal, at best.

- Since almost \$100,000 have been spent to renovate Ponds #1 and #2 it has long been acknowledged that it is not advisable to convert them.

- Additionally, the Knust report identified that ponds #4, #5, #6 and essentially #7 exist on the same topographical plane, making it more difficult, if not impossible, to cost-effectively create the necessary change in grade to force adequate water flow in a continuous stream channel. Therefore, they should not be converted.

Moreover, the stream-channel scenario would entail far greater landscape maintenance than would be the case in just maintaining the bank vegetation of the existing ponds. Sediment will collect requiring maintenance even in the stream channel. The other five would still need to be dredged. Hardly a big saving.

Of note, Ted Boardman has researched alternative methods to keep the ponds clear that are less expensive than the current chemicals and could delay the need for future dredging. The committee during 2019 experimented using enzymes rather than chemicals to clear ponds #1 and #2. A review should be undertaken to determine if the enzymes were introduced in 2020 and are currently being utilized, while examining the results for effectiveness. Additionally, Sandy Martin during the city workshop, was made aware of a species of fish that the city recommends for keeping algae at bay. These and other alternatives need to be explored.

Both Scenarios require the installation of a sediment forebay that will require regular clean out. There is no saving or extra cost to either scenario due to this fact. Option B would have a forebay in pond #3. Scenario #2 (stream channel) would have a forebay in pond #5. Mr. Knust estimates that it would cost \$10,000 to vacuum each forebay. The long-term cost of periodically clearing each forebay would be the same in both scenarios. Hence, no saving in the stream-channel plan.

TIMEFRAME

The longer it takes to make any repairs to the ponds, the more the repairs will cost due to inflation and further degradation. Hindsight highlights the fact that had the ponds been regularly maintained, the current crisis would not exist today. A comparison to a leaky roof is fitting. The longer the leak is ignored, the more damage it creates, and the more expensive it gets. WFCAs are at the point that it needs to “fix the roof”. The problems can no longer be ignored. It should be noted that legal action may be taken if some of the erosion issues are not addressed. The erosion issue, alone, cannot be ignored.

While some residents believe that the best way to accomplish all this pressing work is to charge a single (or a few) large assessment(s), the counter argument is to request more reasonable smaller increases and phase in the work over multiple years. It is understandable that WFCAs residents who do not live close to the ponds would not vote for sizable increases, even if it is over a fewer number of years. It will take 51% of those attending the WFCAs Annual General Meeting to approve any significant change in the dues assessments. It becomes a simple matter of math to gauge the impact of the assessments on the timeframe to complete the project. See the chart below:

**Given a WFCAs contribution of \$40,000 towards the \$400,000 total,
What would be the assessment for a specific timeframe for 410*
(of the 417) households to fund the remaining \$360,000?**

Number of years to completion	Increase in Dues		Number of years to completion	Increase in Dues
1 year	\$878.05		6 years	\$146.34
2 years	\$439.02		7 years	\$125.44
3 years	\$292.68		8 years	\$109.76
4 years	\$219.51		9 years	\$97.56
5 years	\$175.61		10 years	\$87.80

*This assumes a few homes are delinquent in paying for a variety of reasons. It provides a little cushion for budgeting purposes

This Practical Proposal balances these two factors with a multi-year approach with a phased in plan that allows for a gradual accumulation of funds. Please reference the chart on page 25 and the section on how to finance the project for details as to funding recommendations that start the project sooner while keeping the increase at or under \$100.

Note: Recently a resident (*NOT the WFCA Board*) suggested that WFCA increase dues by \$180.00 to finance the Stream Channel Option. *This Practical Proposal* includes a recommendation that WFCA transfer \$40,000 from reserves to start the process. Even with that contribution it would take just over SEVEN years to accrue the total of \$535,000 (\$575,00-\$40,000) needed for the entire project. Over the seven years that it would take to collect the necessary funds, each homeowner would have contributed a total of \$1,304.88. That recommendation failed to identify how many years the recommended increase of \$180 would need to be in assessed. (\$535,000 divided by 410 households divided by 7 years is an assessment increase of \$186.42 per year.)

Be sure to review the option presented in *The Practical Proposal* on page 25.

AESTHETICS

Mr. Knust acknowledged that water could backup on what is now pond #4 and recommended the installation of a rain garden to mitigate the unsightly buildup of mud and invasive weeds. WFCA has already seen the problem of such in the north end of pond #3. Why would WFCA want such an unsightly mess moved to pond #4? There is a structure under the bridge between pond #4 and #5 that cannot be removed. Sediment could accumulate in the standing water and provide the perfect condition for invasive unsightly vegetation. (Current rains have already left such a buildup and weeds have sprouted in this area.) Such environments are breeding areas for mosquitoes. Without attention and effective landscaping, the area could become as unsightly as has occurred in the north end of pond #3. (Pond #6 at the north inlet is also experiencing significant buildup that given a dry period may well develop the same problem. The area frequently becomes covered with a “scum” that produces a serious offensive odor.)

The newly landscaped areas created in the stream-channel design would need to be conscientiously maintained, especially by regular weeding. Who would do this maintenance? As we know, disagreements between WFCA and the Moss Creek HOA over maintenance of pond-bank vegetation has been unresolved for several years, resulting in great unsightliness of the ponds especially during the growing season. The stream-channel scenario would compound this conflict several times over.

The issue of aesthetics may be of least interest to those who do not live in close proximity to the ponds. But most complaints about the ponds, typically focus on this issue, even from those who do not live next to the ponds. It is an issue that does eventually translate into fiscal issues. The cost to eradicate algae and vegetation increase as the ponds degrade. Property values are impacted, even if the residence is not directly located on a pond. Stories are available of how the unsightly condition of the north end of pond #3 did curtail the ability of a unit next to that area to be sold.

For those who do not live close by, it is critical to note that not only can the ponds be an eye-sore, but the odor coming from the algae can be quite offensive and can produce noxious allergens. The muddy shallow weed patches become breeding grounds for mosquitoes. It is truly more than just an issue of being “unattractive”.

Although Pond 3 is primarily visible to the residents who live on its banks, Pond 4 is iconic of the whole neighborhood. Eliminating it as a pond would especially have an adverse effect on the image of the total community. The Davey's report even suggested ideas to make the ponds more inviting to all residents, such as adding a couple of benches. A recent Bent Tree resident even suggested that a bench would be a nice addition beside pond #4 to allow older residents to rest on their walks. The ponds are available to all WFCA residents and suggestions as to how to make them more welcoming would be appreciated.

Some WFCA residents indicate they do not avail themselves to the ponds, but it is amazing how many area neighbors walk with their children and/or dogs to enjoy the water and wildlife. The people who enjoy the area are not limited to those who live adjacent to the ponds. There is a considerable traffic of walkers and bikers that come from the outlying neighborhoods. In addition to the essential function of providing drainage for the watershed, the ponds are a notable asset to the overall neighborhood. Many people recognize Winslow Farms as the community “with the ponds”.

It is essential to note without attention, the ponds will continue to degrade.

- Sediment buildup will continue to create more shallow ponds which, in turn:
 - Decreases the ability of the waterway to accommodate flooding.
 - Creates the optimum environment for the growth of algae, invasive plants. and weeds.
 - Increases on-going maintenance costs for algae abatement, weed control and general repairs to related structures.
 - Becomes breeding areas for mosquitoes and noxious allergens.
 - Produces fish kill and inhibits the fish population which are needed to maintain good water quality.
 - Prevents recirculating the water throughout the waterway, which in turn, leads to more sediment build-up.
 - Erosion will expand to continue to threaten property.
- Liners become exposed to sunlight along the shoreline they are graduating giving away. There are obvious tears and ripped liners. Loosing liner integrity will permit water leakage, further decreasing the water level and exacerbating the problems. This also creates access for burrowing wildlife such as turtles and muskrats that further weaken the shoreline and the liners.
- Contributes to the appearance of disrepair and neglect to the overall community.
- Negatively impacts property values.