

Comments of Quentin Carpenter on Stantek response to DNR letter of 7 April 2017

Question 5 – Operation Phase

This is another example of the tunnel vision of Kohler's consultant. Questions are answered in the narrowest sense ignoring the larger picture. Of course, the removal of a few trees in the few mentioned forested wetlands will have little effect on the site's many wetlands; however, the removal of many trees on the whole site will do so because some of the cleared area will be converted to an exotic grassland growing on imported soils very different from that there now.

Question 5 – Invasive Species Management

This section paints a highly optimistic picture of the results of invasive species management. While using backpack sprayers is certainly preferred to broadcasting spray from an ATV, there is still much collateral damage to native perennials that are coexisting with the invasives. If forest cutting or thinning occurs simultaneously, invasive species often explode due to seedbank response to increased light. I have seen many similar restoration efforts that looked worse ten years after invasive species management. Best Management Practice in this situation would likely be to thin gradually over a period of years, managing to maintain the existing natives while gradually adding more light-tolerant natives and gradually removing the exotics.

Question 7 – Buffer Strips

Attachment C indicates a roadway 32 feet wide. That is about the width of the State of Wisconsin Highway in front of my house. That highway carries an average of 1200 vehicles per day at high speed; surely this size roadway is excessive for the needs and visitor numbers detailed in the report. The ability of the buffer strips to both infiltrate and cleanse the road runoff is also exaggerated in that those two functions vary oppositely in the time variable: a high rate of infiltration leads to a decreased treatment effect. The response neglects to mention that the system is likely to behave very differently during a high-intensity rainfall event compared to a gentle rain.

At my location, I have observed that in during a strong downpour, a heavy rain runs off the roadway but immediately flattens the grasses in the buffer strip and in the low-gradient road ditch. The murky water then flows to a low spot where the fine silts coat the grasses there as the water infiltrates slowly. In the proposed golf course situation, heavy rains are likely to do the same except that instead of a low spot that I mow when dry, the low spot that will receive the dirty water is the wetland that is assumed to be protected by the strip. Even in a gentle rain, when the buffer strip may function as proposed, the water that quickly infiltrates is forgotten in the report. That water will most likely end up at the top of the sloped water table and be conveyed to the surface or subsurface of the adjacent wetland that is supposed to be protected. Any nutrients or toxins dissolved in the water will end up in the wetland.

I do not see much discussion of winter conditions. While the course may be closed, the club house and restaurant etc. could be used in winter, and frozen buffer strips neither infiltrate nor treat melt water or runoff from winter rains over frozen ground. One thing the climate models for our area agree on is to expect more winter rains and temporary surface thaws. The buffer strips will be essentially worthless in these situations. In short, like "silt fences," buffer strips work well in some situations and, in others, are mostly decorative. In the setting at the Kohler site, I believe they will be marginally effective.

In Question 7 the response states that buffer strips will be treated with "species-specific herbicides" to control invasive species. This is another exaggeration that is not worthy of the consultant who must know that herbicides work on groups and classes of plants generally seeking to disrupt metabolic pathways not shared by the protected species (e.g. monocot vs. dicot, C3 vs. C4). A more honest statement would be to say that the applicator will try to find an herbicide that is effective against the target species but spares the natives mentioned in the buffer

section AND hope that it will not run off or seep down to the wetland and do direct damage there. That is a much more formidable task as there are not many choices, especially among those labeled for use around water and wetlands.

Question 10 – Grading

The key to the grading maps tells the story of the magnitude of the disturbance planned at this site much better than words. Between roads, cart paths, parking lots, service buildings, clubhouse, practice field, tees, fairways, pond etc., this natural gem will be transformed into a Disneyland version of its former self, discordant with its lake-side environment and history. With such a massive makeover, to think that the now-surrounded wetlands could survive in any but a highly-degraded form is pure fantasy.

Question 15 – Fill

The response to this question would lead one to think that this project might be completed without importing fill. Elsewhere, however, the plan the use native sand under the fairways is mentioned suggesting that topsoil will be under the tees. Also, there is frequent mention of gravel; surely that will be imported. What else are we missing?

Question 16 – Secondary impacts to groundwater and groundwater-fed wetlands.

While the level and flow paths of shallow groundwater may or may not change, it is certain that the quality will. The current regime is rainwater-fed locally but after the alterations and the introduction of tons of fertilizer, pesticides and herbicides to the surface along with roads and structures, something must change. Again, high infiltration is a double-edged sword – highly pervious surfaces do not hold solutes well, and highly pervious soils tend to be well-drained/well-oxygenated leading to poor denitrification. All the N, P and K applied must go somewhere eventually. That is a secondary impact.

PAA

It is hard to read this section with a straight face – four conditions that just happen to fit the desired property and none other. If Kohler wishes to build another “world class golf course,” I am sure that for the right price they could find an already-disturbed farm of 200+ acres in Sheboygan or southern Manitowoc Counties. Although not pristine, this area still has great conservation and natural area value. That was recognized decades ago by all including the Kohler family. Another world-class golf course is feasible to create in many settings but creating a replacement for the features in this natural area is impossible. This cannot be a “win-win” situation as stated early in the review process; if Kohler wins, the natural area loses.

Quentin Carpenter
Senior lecturer
Nelson Institute for Environmental Studies
University of Wisconsin-Madison