



Town of Mukwonago Waukesha County

W320 S8315 Beulah Road • Mukwonago, WI 53149
Phone: (262) 363-4555 • Fax: (262) 363-8377

September 12, 2008

Country Bliss Subdivision Possible Solutions to High Water Problem

Town Board and members of the public,

The Town Board has a responsibility to provide fire and ambulance rescue services in the town, and as such must address the road closure due to high water, which could recur at any time.

In addition, the Town may create a storm water utility district to address storm water issues in an area. The properties within the district would be charged for storm water utility projects benefiting the district. A storm water utility district normally includes all properties where rain falling on a property goes to one or more common locations.

Attached are five possible solutions to the high water problem in Country Bliss and Jericho Ridge subdivisions. There have been many suggestions for solutions, which have been greatly appreciated. The Town Engineer, Sean Sullivan, has reviewed many of these suggestions with me, and the five solutions listed below include most if not all of the different suggestions. In addition, the Town Board could decide not to do anything at this time. If this is the decision, there should be plans developed to provide fire and ambulance rescue services in this area in the event of future high water conditions.

Sean and I have also reviewed these solutions with Leif Hauge from Waukesha County, Bryan Hartsook from the Wisconsin DNR, and Mike Hahn from SEWRPC. All were in preliminary agreement with the plan recommended by Ruekert & Mielke. (Final approval of any plan would be dependent on the detail design, which the Town Board hasn't authorized at this point.) All were concerned with other solutions which may just transfer the problem to a different subdivision or area.

Sean Sullivan presented only one solution to the high water problem at our August meeting primarily because we have found many problems with the other solutions. It was, and still is, Ruekert & Mielke's opinion that the solution involving conveying the water to Jericho Creek is the best option for the Town. There is no guarantee that homes will not have to have sump pumps. What is certain, however, is that the installation of a conveyance system will remove water from the area, and will increase the rate at which the water will recede over that which would happen naturally. The sizing of the system is based on a rate required as estimated by the hydrogeologists and storm water experts at Ruekert & Mielke.

I have summarized all of the solutions not presented at the August meeting to facilitate discussion of these solutions. I have included some of the key points regarding those solutions. I have also included Ruekert & Mielke's recommended solution in the summary below. Sean

Country Bliss Subdivision Possible Solutions to High Water Problem

has provided the technical portions of these solutions. Sean will present maps of these solutions at our Town Board meeting on September 17, 2008 to help visualize them. Additionally, John Jansen of Aquifer Science & Technology (a division of Ruekert & Mielke that specializes in ground water) will explain the ground water issues in the area. Mike Campbell, who specializes in storm water management at Ruekert & Mielke, will explain the storm water issues in the area. Christy Cramer of Ruekert & Mielke will explain the financial issues.

In addition to the summaries of the possible solutions, I have created a timeline (with Ruekert & Mielke's and Town Attorney John Macy's assistance) for each of the solutions to help better understand what will happen when, and what approvals, hearings, meetings and easements would be required. I have assumed a September 17 start date for all solutions. This date may not be best, but helps to give a timeline for the remaining tasks. If a different date is used for the start, then just shifting the other dates gives a good idea of the completion date.

This timeline is based on a local storm water utility district for the funding, which was the consensus of the Town Board at the previous meeting (a formal vote was not taken). If the final vote for a funding source is a special assessment or a Town wide utility district, the timelines could be different.

It should be understood that some homeowners in the area with high water may still have significant damage to their homes and/or may need to fill in their basements. The Town does not have the responsibility or the right to repair any private property at the expense of Town taxpayers. Individual homeowners are responsible for, and have the right to, repair and construct structures on their property as long as they meet state building codes and town ordinances.

This area is not defined as flood plain, and as such, the town and county do not have any special ordinances to regulate construction. I have asked if this area would be considered flood plain based on recent events, and have been told no.

Whether the Town Board authorizes any of the following solutions, each affected homeowner should be evaluating and performing repairs or modifications necessary to their property to ensure a safe environment for their family.

Please consider these solutions carefully since the Town Board does have a responsibility to the residents of the Town for both public safety, and when warranted, storm water utility district creation and storm water management facilities.

Respectfully,

Dave Dubey
Town Chairman

Country Bliss Subdivision Possible Solutions to High Water Problem

1. Raise Road Elevation only

- Total Estimated cost = \$500,000
 - Oak Tree Drive = \$110,000
 - Memory Lane = \$155,000
 - Re-ditch along Oak Tree and Memory = \$75,000
 - Reconstruct driveways to new elevated roadway = \$50,000
 - Legal/Administration/Engineering/other (30%) = \$110,000
- Some basements may have to be abandoned
- During high rain years, ditches will be filled with water all summer and possibly into the winter
- Some properties may still experience high water conditions. Roadway could still be covered with water during larger events
- Does not solve high water problem
- Raising roadway may shift high water problem to neighbors that currently do not experience high water conditions.
- Preliminary discussion with DNR and Waukesha County questions the viability of this option.

2. Pursue funding options for purchasing homes in the low lying areas and demolish

- Total Estimated cost = \$3,950,000
 - Value of approximately 10 properties = \$2,500,000
 - Demolish homes = \$30,000 per home. \$300,000
 - Abandon Oak Tree & Memory intersection, and re-grade = \$100,000
 - Build new road between Oak Tree Ct. and Paradise Lane = \$140,000
 - Legal/Administration/Engineering/other (30%) = \$910,000
- Funding may not be available, however timing for the acquisition of grant funding could be in excess of one or two years. FEMA funding requires an All-Hazard mitigation plan, which Waukesha County does not expect to finish before the June, 2009 deadline. In addition, Wisconsin Emergency Management (which distributes FEMA funding) funds primarily acquisition of properties in a flood plain, and there is significant competition for the funding this year.
- Condemnation could be required for unwilling participants
- Diminished tax base
- Water stays in watershed and more homes may be affected.
- Other properties within the basin may still experience high water conditions.
- Preliminary discussion with DNR and Waukesha County questions the viability of this option.

3. Purchase property for infiltration pond outside Country Bliss

- Total Estimated cost = \$975,000
 - 2 lots for pond = \$250,000
 - Pond construction = \$50,000
 - Gravity storm sewer = \$300,000

Country Bliss Subdivision Possible Solutions to High Water Problem

- Mill and overlay Oak Tree Drive and Memory Lane = \$75,000
 - Re-ditch along Oak Tree Drive and Memory Lane = \$75,000
 - Legal/Administration/Engineering/other (30%) = \$225,000
 - May not be able to infiltrate fast enough, causing over-flow to properties to the south or west.
 - Infiltration may lead to increased pumping in neighboring homes.
 - Possible issues with neighboring properties not wanting pond in adjacent lot
 - Some basements within Country Bliss may have to be abandoned
 - Preliminary discussion with DNR and Waukesha County questions the viability of this option.
 - Volume of water needed to be stored/infiltrated may exceed the volume of the pond created, creating a similar problem with excess water.
- 4. Construct Storm Sewer to Stone Brook Hollow**
- Total Approximate cost = \$325,000 + outlot easement/purchase cost
 - Gravity storm sewer = \$100,000
 - Town acquires all outlots within subdivision (for Stone Brook Hollow infiltration basins and detention ponds) = \$?
 - Mill and overlay Oak Tree Drive and Memory Lane = \$75,000
 - Re-ditch along Oak Tree Drive and Memory Lane = \$75,000
 - Legal/Administration/Engineering/other (30%) = \$75,000
 - Probable issues with Stone Brook Hollow property owners with additional water
 - Stone Brook Hollow ponds may not have sufficient capacity for amount of water in Country Bliss, resulting in possible overflow to farms to west
 - Some basements in Country Bliss may have to be abandoned
 - Maintenance costs to keep ponds vegetated - permit required with Waukesha County
- 5. Construct Force Main to Jericho Creek**
- Total Approximate cost = \$1,200,000 + easement cost
 - 9500' of 8" pressurized storm sewer = \$475,000
 - Trenching, restoration & erosion control = \$150,000
 - Construct Pump station w/pump = \$80,000
 - Easement = \$?
 - Mill and overlay Oak Tree Drive and Memory Lane = \$75,000
 - Re-ditch along Oak Tree Drive and Memory Lane = \$75,000
 - Construct holding pond = \$68,000
 - Legal/Administrative/Engineering/other (30%) = \$275,000
 - Possible Jericho Creek water quality & temperature concerns.
 - Temperature concern may be alleviated by underground pipe for entire distance, which would keep water at ground temperature.
 - Force main route has been rerouted to minimize impacts. Discharge is now after the pond.

Country Bliss Subdivision Possible Solutions to High Water Problem

- Creation of storage and lower pumping rate will minimize impact on Jericho Creek.
 - Rate of pumping can be adjusted to help minimize any impact to Jericho Creek.
- Some basements within Country Bliss may still need to be abandoned
- One easement required from property owner/eminant domain acquisition possibly required.

Country Bliss Subdivision Possible Solutions to High Water Problem Draft Timeline

September 17, 2008 - Town Board Meeting

- Present options on technical and financial solutions to Town Board
- Town Board recommends preferred alternative for both technical and financial solutions.

September 17, 2008 to October 15, 2008

- Ruekert/Mielke proceeds with design of preferred technical option.
- Ruekert/Mielke proceeds with financial analysis for recommended alternative.
- Town Attorney creates draft storm water utility ordinance

October 15, 2008 - Town Board Meeting

- Ruekert/Mielke provides Town Board with written status report on technical and financial solutions.
- Town Attorney provides written report on property acquisition status for all alternatives.
- Town Board reviews storm water utility district financial study and ordinance and sets public hearing for creation of district.

October 15, 2008 to November 19, 2008

- Public notification of Storm Water Utility District public hearing.
- Town proceeds with acquisition of properties through condemnation or purchase.
- Bidding procedure for Phase 1 (pond, ditch and road).

November 12, 2008 - Public Hearing Date

- Public Hearing for creation of Storm Water Utility District.

November 19, 2008 - Town Board Meeting

- Review bids for construction work that could be constructed in 2008 (if easements are acquired, work could begin in 2008).
- Town Board reviews information from public hearing and recommends modifications to storm water utility district ordinance and/or map/legal descriptions.
- Town Board authorized Town Attorney to begin condemnation procedure for properties not acquired by negotiation.

Country Bliss Subdivision Possible Solutions to High Water Problem Draft Timeline

December 17, 2008 - Town Board Meeting

- Town Board votes to create Storm Water Utility District.
- Town Board authorizes borrowing.
- Town Board authorizes levy against Storm Water Utility District beginning in 2009.

February 2009 - Town Board Meeting

- Town Board authorizes purchase of properties/easements required for construction. Note that the date for this item could change significantly depending on whether condemnation procedure is required and/or is complicated.

March 2009

- Construction begins on recommended alternative.

June 2009

- Construction completion.