

Kensington Pond, Zone 8 - April 2010

As with any project it is important to know how we got where we are to better plan appropriate strategies for solving current problems. To wit, here is a brief summary of our pond's history.

The articles of incorporation for Kensington Downs Community Association, Inc. were filed with the Indiana Secretary of State on Feb 2, 1988. Attachment A to these articles lists the purposes of this Association. Paragraph 8 therein states that one purpose is: "To maintain any common impoundment basin and recreational areas which may be utilized by draining surface waters from the various platted parcels and otherwise occupied areas in Allen County, Indiana, and otherwise to require proportionate contributions by way of assessment or otherwise from persons or entities served by such areas or basin." This paragraph indicates that Colonial Development Corporation anticipated that a detention pond might be desirable at some point in the future even though engineering plans for such a basin had not yet been filed with the Allen County Surveyors Office. This confirms the legal opinion of Scott Tanner based on the covenants on file with the Allen County Recorder's office which he gave the association directors in his October 2005 letter.

Our pond was dug in 1992 as sections 7 and 8 were beginning to be built. It was built without certain safety features which had been urged by the Allen County Surveyor's office. Specifically, that access to the pond be limited by a permanent barrier OR by a safety ledge 1 to 1.5 feet under water and extending 10-15 feet outward from the shore line as well as by creating a gentle slope on the landward bank. This is from the ACSO review comments dated July 26, 1991, a copy of which was forwarded to board member Arlene Klapes by Larry Weber, Hydrologist / Manager currently with ACSO.

In his cover letter Mr. Weber offered the information that the existing storm drain for section 7 was under sized to handle the additional run-off that would be generated once houses, streets, etc. were installed. He is of the opinion that the developer made a cost analysis study between digging the basin and installing a new off site drain and opted for the basin.

At some point prior to the spring of 1995 rip-rap was installed at the short ends of the pond. These rocks were clearly visible when homeowner, Jackie Chen who is making this report, moved in at that time. Since that time the crevices of the rocks have captured sediment and grass and other vegetation now grows between them. But for those who care to walk around the pond they can still be seen up close.

In addition to the previously mentioned safety issues another problem with the building of the pond was uncovered as a result of a survey of the pond as built, which the 2008 board of directors authorized and which was completed that summer. The pond outflow pipe which was supposed to end in the common area with about 15 feet of dry ground between the shore and homeowner lots at the east end of the pond is actually on homeowner property. The two lots, numbers 213 and 214, have an easement for the pipe along their common lot line. They also have the common rear corner of their property about 9 feet into the pond. This does not create any problems from a drainage point of view as the pond still holds water and the pipe still carries the overflow from the basin. However, from the association point of view it creates a conundrum. It means we are mandated to maintain the bank of the pond but have no legal access to the bank in those locations. The property is private property not association property.

Board member Arlene Klapes spoke with Roger Warner of the City of Fort Wayne's 311 help hot line to see if the extension of the pipe length to design specifications along with addition of appropriate fill to restore the pond bank to common area would be considered a repair. In essence he said, "No - since the error creates no drainage problems from an engineering standpoint." Since it is no headache for the city they don't seem to care about our problem.

Our pond banks were planted with turf grass, a common practice even today, and are mowed during growing season. This creates a couple of management problems. First, mown turf does very little to slow surface runoff water and thus little to prevent sheet erosion. It is also very short rooted and does little to hold soil against subsurface drainage which enters the pond and pulls soil with it. These erosion problems are compounded by the presence of muskrats which like to burrow in steep slopes. Rock and deep rooted plants would help protect their narrow tunnels against the action of

waves generated by wind and currents generated by storm drain inflow. In their absence the bank is rapidly undermined.

I propose taking several steps to solve our inter-related pond bank problems. First, I recommend a redesign of our pond basin to include the safety ledge that was urged back in 1991. The ledge itself should be stabilized where it slopes into the deeper portion of the basin and rock should be placed on the shelf at the toe of the bank to stabilize the shoreline. The shelf should be planted with vegetation which grows in shallow water, is not invasive to our natural water ways, and does not aggressively spread into deep areas of water. This vegetation can catch sediment which might run off the bank, help filter pollutants that wash off the street, and compete with algae for the nutrient load that washes into the water. The pond bank should be planted with species which are low growing to maintain homeowners' view of the water, are deep rooted to hold the soil, require no feeding other than what runs off homeowner lawns to reduce maintenance costs both on the bank and in the water, which tolerate occasional coverage by water to accommodate seasonal differences in water height, are able to regenerate themselves as they die off, and can easily be edged or pruned to control their spread up the pond bank and to provide the clean edge which many find visually pleasing.

Along with this I think we should consult our lawyer to see if we have any legal redress to correct the construction error involving the length of the drain pipe which has created our legal access problem. If, for whatever reason, we decide not return the pipe to design specifications I see two other possible options. We could secure an easement to run concurrent with the utility easement along the back of those properties so that we can maintain the bank. Or, we could cede all other common area around the pond which abuts lots in our subdivision to the respective lots which would require an amendment to the covenants and restrictions to the effect that those homeowners would be responsible for the maintenance of those portions of the bank and that the association as an entity would be responsible only for the west bank which would remain common area.

We can begin exploring the possibility of securing grant money to assist in paying for all this rather than making a special assessment. Our options in this area may be greatly expanded if we could become a 501(c) 3 organization, another issue requiring legal consultation.

We should begin educating home owners about steps they can take to help our pond problems. For example, those who live around the pond should not fertilize or mow past their property line. I realize that in the short term this may look a bit messy but the greater grass length will help slow run off and lower the amount of nutrients entering the water thus slowing algae growth. We should encourage the use of specific types of fertilizer i.e. timed release - which slows the amount of nitrogen washing into the water at any time, and low or no phosphorous - which is the driving nutrient for algae growth. Those who live away from the pond can control current inflow to the pond during storms by keeping water from running off their property and into the street. This can be accomplished by the installation of rain gardens to catch gutter water and using porous concrete when pouring new driveways. Even lots in the villas benefit from our pond because water runoff from Maysville Road is directed to a small retention fore bay in the common area between the villas and Greymoor Drive and from there it flows thru a culvert into the pond.

As an association we need to take a big picture approach to our plans and recognize that our common areas are affected by what happens on individual lots and that what happens in our subdivision as a whole, for good and ill, affects what happens in areas down stream of us. We need to seek ways that we can lessen the negative impact our amenities have on others. For example, we can recognize how our streets and sidewalks in the road right of way prevent infiltration and increase runoff. We can petition the city to replace these with permeable asphalt and concrete at such future time as repairs are planned. This will increase the health of street side tree plantings for us, by allowing a greater area from which they can collect water, and at the same time will decrease the water flowing from our streets into Bullerman ditch and reduce the scour force of said water along the banks of those down stream.

None of the plans I recommend can be accomplished easily. Nevertheless, the sooner we start a dialogue about them with the association as a whole, the more likely we are to receive valuable input from someone regarding those plans and the more quickly we will arrive at a workable solution.

Jackie Chen
KDCA common area planning committee chair

Recommended Reading

- Constructed Wetlands in the Sustainable Landscape Craig S. Campbell and Michael H. Ogden 1999 John Wiley & Sons, Inc
Covers both functions of constructed wetlands – sewage treatment and stormwater treatment. Also details how plants contribute greatly to function of both thru bank stabilization, water filtration, and the neutralization of toxins.
- Earth Ponds Source: The Pond Owner's Manual and resource Guide 2nd ed. Tim Matson 1997 The Countryman Press
Details site selection and construction process for excavated and embankment ponds, major maintenance issues and regimes, and benefits and drawbacks to each.
- The Hydrogeology of Allen County, Indiana: A Geologic and Groundwater Atlas Special Report 57 Anthony H. Flemming 1994
Indiana University, Indiana Geological Survey, Dept. of Planning Services Allen County, Indiana
A collection and evaluation of information from a multitude of sources covering soil types, aquifers, glacial effects on topography and watersheds. Book and 10 large maps
- The Weather Resilient Garden: A Defensive Approach to Planning and Landscape Choices Charles W.G. Smith 2004 Storey Publishing
How to protect home and property from drought, wind, and flood, thru what you plant and where you plant it.
- Gaia's garden; A Guide to Home-Scale Permaculture Toby Hemenway 2001 Chelsea Green Publishing
How to maximize the function of your property by managing and storing water, make appropriate plant choices, and place garden beds efficiently and effectively - all with an eye toward beauty and pleasure for the homeowner.
- On the Wild Side: Experiments in the new Naturalism Keith Wiley 2004
Timber Press

- Natural Gardening for Small spaces Noel Kingsbury 2003 Timber Press
The above two books detail how to learn from natural landscapes what works together. Many helpful ideas to translate those images from the large, landscape scale to the small, garden scale.
- Edible Forest Gardens volumes one and two Dave Jake and Eric Toensmeier 2005 Chelsea Green Publishing
A massive work of interest to the serious home gardener, city planner, forester, farmer and probably many others as well. Volume 1 examines the interactions in our environment: plants and soil, plants and water, creeping things and soil, plant to plant etc. It discusses the implication of these interactions for the management of our environment in ways that foster health and productivity without harming the fertility of our land. Volume two details how to plan a home scale garden from the size of city lot to a 2-3 acre estate; how to develop a vision and prioritize goals; where to place paths; how to find obscure plants etc.
- Green infrastructure: linking Landscapes and Communities Mark A. Benedict and Edward T. McMahon 2006 Island Press and The Conservation Fund
Develops the concept of infrastructure to include nature not just Man Built stuff. Outlines the process of integrating the two so that both benefit. Great insight into the planning process on the regional level with applications to the local and neighborhood scales.
- Rain Gardens: Managing Water Sustainably in the Garden and Designed Landscape Nigel Dunnett and Andy Cloyd 2007 Timber Press Inc.
Deals with watershed issues and how to control water without damaging the landscape. Several examples featured at city and neighborhood scales. Most importantly contains an entire section on the newest applications at the home scale.

Watershed Management Online Resources

Rain Garden General Information

Wisconsin Department of Natural Resources <http://dnr.wi.gov/runoff/rg>

Very helpful overview and many links.

Lake Superior Streams www.lakesuperiorstreams.org/stormwater/toolkit/raingarden.html This site is also an overview. This address for this page shows some pictures of rain gardens including before and after pictures.

Portland Bureau of Environmental Services www.portlandonline.com/bes/index.cfm?c=34598 You must follow the various links on this page for information on different projects. Many are quite attractive. If you click the link, Tours, along the left of the screen you will be taken to a list of tour sites. Most of these are printable guides to actual locations in Portland, Oregon. However, the second from the top, called "About Green Streets" is a fast paced virtual tour with catchy music, stills, and text. It lasts about two minutes.

Rain Garden Manuals

Catching the Rain: A great Lakes Resource Guide for Natural Stormwater Management www.americanrivers.org/site/DocServer/CatchingtheRain.pdf?docID=163 80 pages. This document establishes a rationale for this new method of storm water management. It details other "soft" management strategies such as urban stream buffers, trees and green roofs in addition to rain gardens. If you browse the chapters in this guide you will see some beautiful pictures of some ways these concepts can be implemented.

Infiltration Systems: On Lot Infiltration http://metro council.org/environment/Watershed/bmp/CH3_STInfilOnLot.pdf this is text and line drawings only. It is a simple how to manual with no photos of actual gardens.

Rain gardens a How-to Manual for Homeowners <http://dnr.wi.gov/runoff/rgmanual.pdf> In addition to technical instructions this manual has sample planting plans for various soil types and sun exposures with a list of recommended species. A couple of photos are scattered thru the 32 pages

Rain Garden Photos

The Beauty of Sand Creek www.sandcreek.com/res/pages/landscaping.htm
This residential community in Chesterton, Indiana incorporates both rain gardens and a landscaped detention pond as part of its development. At this page click on Beauty of Sand Creek to get a drop down list of panoramic photos from this community.

Rain Garden Registry: Southeastern Oakland County Communities
www.socwa.org/rain_garden_registry.htm These locations are all in Michigan. Click on each small image and a window with an enlargement will open.

10,000 Rain Gardens www.rainkc.com Click on local rain gardens on the top bar at this page. These pictures are of gardens in the Kansas City area.

Wenk Associates Portfolio www.wenkla.com/portfolio This Denver company's portfolio contains a variety of examples – not all are rain gardens.
Spicer Group www.spicergroup.com/black/home.htm This is a Michigan Company. At this, their home page click on profile. In the drop down box that appears click on publications. The 2007 and 2008 newsletters contain examples of landscaping wet areas, mostly along streams and drains.

J F New www.jfnewnursery.com On the left side of the screen go to project gallery in the gold side bar and click on the type of project you want. You will be presented with thumbnail photos and a description of selected projects. Below the gold bar is a link to feature photo of the month. Each one can be enlarged for better viewing. January's is of a shallow stream restoration in a suburban neighborhood. April's photo is of a pond bank with a narrow buffer strip to stabilize soil.