

## APPENDIX 2-A: STAKEHOLDER AREAS OF CONCERN- 2010 COLLECTED COMMENTS

The following list summarizes areas of concern that were expressed during the citizen, community and technical meetings conducted, as well as from comments posted to the Deer Creek Friends Website. A more detailed accounting of these inputs follows on page 2.

### **1. Stormwater Best Management Practices (BMP) issues**

- a. Prioritize establishment of BMPs in headwaters so that upstream sub-watersheds are a manageable size and additional downstream benefits accrue.
- b. For large tracts of land in City of Ladue, BMP maintenance is critical in absence of drainage rules.
- c. Guidelines needed for rain garden maintenance.
- d. Enforcement of rain garden maintenance needs to be addressed.

### **2. Need for Watershed studies**

- a. Volume based hydrology study of the entire watershed needed to help facilitate decision-making.
- b. Need to review BMP's for detention design.
- c. Need for planning study to determine impact of BMP implementation, downspout disconnections, etc.
- d. Webster Groves needs model to address infill issues & rain garden placement on many small lots.

### **3. Industrial Contamination**

- a. A low spot in industrial area on the east side of Big Bend starting at River des Peres and continuing
- b. upstream on Deer Creek has possible industrial contamination.

### **4. Flooding**

- a. Flooding concerns in Cities of Maplewood, Rock Hill, Brentwood, Webster Groves, Ladue.
- b. Should fill in the floodplain be allowed?

### **5. Infrastructure Damage**

- a. Bridge over Deer Creek at McKnight Road is an area of concern.

### **6. Yard Waste, Trash and Construction Debris**

- a. Trash is coming downstream and dead trees are blocking flow of stormwater in City of Huntleigh.
- b. Flooding north and south of Manchester Road causes lumber to float downstream.
- c. A 6 acre property in City of Brentwood is 70% in the floodway and 30% in the floodplain. An architecture firm is currently using the site to store yard waste, lumber, and construction debris.
- d. Debris, contaminates carried with stormwater, and grass clippings find their way into lake at Brentwood Forest Condominiums in City of Brentwood.

### **7. Stream Bank Erosion and Sedimentation**

- a. Stream bank erosion mentioned as problem for City of Huntleigh and City of Des Peres.
- b. Bank stabilization needed off Des Peres Road in City of Rock Hill.
- c. Badly damaged retaining wall in creek near Glen Creek Lane in City of Ladue.

- d. Stream & lake bank erosion a problem for Brentwood Forest Condominiums in City of Brentwood.
- e. Damaged and misplaced flagstone riprap that lines drainage channel in City of Ladue due to increased volume and force of run-off originating near Litzsinger Rd.

**8. Downspout Disconnections**

- a. Increased stress on overland flow needs to be addressed as citizens disconnect downspouts that are inappropriately connected to the sewer system.

**9. Fertilizer and Salt**

- a. Fertilizers applied to grassy areas, and salt used in the winter on sidewalks run off into lake at Brentwood Forest Condominiums in City of Brentwood.

**10. Sink Hole Issues**

- a. Underground caves and sink holes are predominant in the Deer Creek watershed. Stormwater is currently flowing into most sink holes. With build-outs occurring these issues will worsen.
- b. Shady Creek is a losing stream on one side of Manchester Road.
- c. Sinkholes exist adjacent to Oak Valley Drive and to Conway east of Spoede in the City of Frontenac
- d. Need to address sinkholes in Tilles Park and in Deerfield Road area.

**11. Tree Loss**

- a. Trees bring value and absorb significant amounts of rainfall. There is a need for tree protection and preservation – incentives and/or ordinances?
- b. Assess the environmental impact each type of tree, shrub, grasses etc has, and then promote planting the best plants.

**12. Riparian Corridor Development**

- a. Coordinate with Great Rivers Greenway to identify areas that are best candidates for greenways.
- b. Buy-out existing homes and create green space along creek corridors in Brentwood and Maplewood.
- c. Need to prevent people from building too close to the creek in Rock Hill, Webster, and elsewhere.
- d. Need to prevent rebuilding at flooded lots across from Litzsinger Road Ecology Center in City of Ladue.

**13. Invasive Species**

- a. There should be a shift towards a more pervasive and thriving native habitat in the "green edges"
- b. Need to eradicate non-natives, like Japanese Bush Honeysuckle.

**14. Animal Waste**

- a. Need to quantify contaminants from animal waste, including a pre-measurement, an intervening action, and then a post-measurement.
- b. Need to publicize impact of dog waste on streams.

**15. Education, Public Awareness, and Water Quality**

- a. Public education and outreach is necessary if we expect real change.
- b. Need public education to convince citizens to keep trash out of creek.

- c. Need incentives for doing things. Look at other places that give credits for implementing need procedures
- d. Contact Kirkwood Historical Society for information that exists on north Kirkwood stream headwaters.
- e. Springtime wildlife should be considered when planning upcoming events which would involve the creek ecosystem.
- f. Need for signage on Deer Creek where bridges cross it or in parks.
- g. Need to record human history of use of small creeks.
- h. Education is key so that everyone knows and understands their role.

## STORMWATER RETENTION AND DETENTION ISSUES

Priority areas of the watershed should include establishing Best Management Practices (BMP's) in headwaters where possible so that upstream sub-watersheds are a manageable size to be effectively addressed, and so that additional downstream benefits accrue.

City of Ladue is large in area compared to most municipalities in the watershed and contains large tracts of land. Maintenance of BMP's is critical as some subdivisions do not have rules for drainage.

Volume based hydrology study of the entire watershed is needed as currently there is not enough information available to make decisions. BMP's for detention design need to be reviewed.

Rain gardens or other means of underground storage will be needed if down spouts are disconnected from the sewer system as this will result in an increase of water now going over land. The quantity of rain for every square mile in the watershed is needed to make good decisions. Rain gardens work. Where do we start and how do we prioritize funding?

A planning study is needed to determine the impact of rain gardens, downspout disconnect, etc. on the watershed.

City of Webster Groves is saturated with small lots and requires detailing at a minute level if rain gardens are proposed. There currently are no green areas and no land available to create them. They are experiencing tear down of existing homes and the rebuilding large homes on same lot. How do you address these past problems and how do you handle stormwater detention? A model is needed for these fill-in issues.

Guidelines will be needed for maintenance of rain gardens and the issues of enforcing this maintenance will need to be addressed.

## INDUSTRIAL CONTAMINATION

There is a low spot in an industrial area on the east side of Big Bend that was a candidate for a Corps of Engineers project starting at River des Peres and continuing upstream on Deer Creek. This project was abandoned when the cost of clean-up became too costly for cities of Brentwood and Rock Hill. This area has possible industrial contamination due to Petrolite operations.

## FLOODING ISSUES

City of Maplewood has flooding issues with four homes receiving damage.

Homes have flooded along Black Creek next to Metrolink stop north of Manchester Road – MSD has declared the area to be in the floodplain and homes have been removed. Deer Creek south of Manchester Road floods in heavy rains affecting Deer Creek Park and Deer Creek Plaza parking lot.

City of Brentwood has flooding issues in park south of Manchester Road as well as in Maplewood and Rock Hill. Property buy-outs would be desirable.

In City of Ladue there are flooding issues where Deer Creek, Two Mile Creek and Sebago Creek come together.

Planning assistance from the Corps of Engineers is available to the states on a cost share basis (50-50). Floodplain management would be a candidate for this assistance. Should fill in the floodplain be allowed?

There is flooding off of Industrial Court and Manchester Road with levee owned by industrial court business' not functioning, water coming out of banks on an unnamed tributary to Deer Creek north of Steger 6<sup>th</sup> grade school – water goes into school property.

Flooding is an issue along Kirkham Ave. that parallels Shady Groves as well as the intersection of Brentwood and Marshall.

## INFRASTRUCTURE DAMAGE

Bridge over Deer Creek at McKnight Road is an area of concern.

## YARD WASTE AND CONSTRUCTION DEBRIS

A 6 acre property in City of Brentwood is 70% in the floodway and 30% in the floodplain. An architecture firm is currently using the site to store yard waste, lumber, and construction debris.

Flooding north and south of Manchester Road caused lumber to float downstream.

## STREAM BANK EROSION AND SEDIMENTATION AND CHLORIDE POLLUTION

City of Huntleigh has erosion and trash coming downstream. Dead trees blocking flow of stormwater. Need public education to convince citizens to keep trash out of creek.

Bank erosion is an issue in City of Des Peres. Need incentives for doing things. Look at other places that give credits for implementing need procedures

Bank stabilization with gabion walls is needed off of Des Peres Road in City of Rock Hill.

There is a badly damaged retaining wall in the creek that runs behind Glen Creek Lane just south of Clayton Rd in City of Ladue. The gabion stone wall caved in sometime during the heavy rains this fall and has fallen apart even more with the heavy rains experienced in December 2009.

Brentwood Forest Condominiums has concerns on water quality issues coming to their property. Brentwood Forest has 1425 condos in 228 buildings on 110 acres. There is a 3 acre lake (Lake Jefferson) on their property that receives stormwater runoff from three tributaries in the Deer Creek watershed. Debris and contaminants carried with stormwater are issues along with sedimentation that settles in their lake. Every 5 years they need to dredge the lake at a cost of \$150,000 to remove the sedimentation buildup. Stream and lake bank erosion in this area are also issues. Fertilizers are applied to grassy areas around their lake and when mowed the clippings can make their way into the lake. Salt used in the winter on their sidewalks is also an issue. The discharge from their lake goes into Black Creek. The Brentwood Forest homeowners association would like to participate in green technology, i.e. rain gardens and bio swales, and is interested in partnering with appropriate parties on these endeavors.

#### SINK HOLE ISSUES

Underground caves and sink holes are predominant in the Deer Creek watershed. Stormwater is currently flowing into most sink holes. With build-out occurring these issues will worsen. Shady Creek is a losing stream on one side of Manchester Road.

Sinkholes exist adjacent to Oak Valley Drive and to Conway east of Spoede in the City of Frontenac

Need to address sinkholes in Tilles Park and in Deerfield Road area.

#### NEED FOR TREE PRESERVATION STRATEGY

Trees bring value and absorb significant amounts of rainfall. There is a need for tree protection and preservation – incentives and ordinances?

Assess the environmental impact each type of tree, shrub, grasses etc has, and then promote planting the best plants.

#### NEED FOR RIPARIAN CORRIDOR PRESERVATION AND RESTORATION

We should coordinate with Great Rivers Greenway to identify areas that are best candidates for greenways.

Would be good to buy-out existing homes and create green space along creek corridors in Brentwood and Maplewood.

City officials are still willing to allow people to build too close to the creek. Rock Hill allowed condos to be build right on the creek on McKnight Road south of Tilles Park. They have allows homes to be built on a small creek next to the Webster sixth grade center, all in the last decade when people should know better.

Currently development is right up to the creek bank in many areas which is a cause for many of the issues being addressed.

Several properties were flooded after hurricane Ike, including 27 and 21 Overbrook, adjoining lots. One of the homes was torn down (27) and the other home is standing but for sale as a building site. Adjoining these lots to the West is 9714 and 9710 Litzsinger with no houses and for sale. One house has been torn down that

had occupied the site which is technically two lots, but much of one is in the flood plain. These properties are across the road from Litzsinger Ecology Center. They should not be built upon.

#### NEED FOR INVASIVE SPECIES REMOVAL

There should be a shift towards a more pervasive and thriving native habitat in the "green edges" of our community. We need to work hard to eradicate non-natives, like Japanese Bush Honeysuckle which can lead to increased erosion and sedimentation of the local creeks.

#### ANIMAL WASTE ISSUES

Does your team quantify contaminants? I think a pre-measurement, with an intervening action, and then a post-measurement is very compelling. The tips about dog waste made a lot of sense. I know I don't do anything about our dogs' waste in our back yard. If that contributes to the problem, I didn't know about it, and probably others don't either. If that's not publicized, that would be an opportunity.

#### EDUCATION, PUBLIC AWARENESS, AND WATER QUALITY

Public education and outreach is necessary if we expect a real change in how people look at water quality issues.

Contact Kirkwood Historical Society for information that exists on north Kirkwood stream headwaters.

Springtime wildlife should be considered when planning upcoming events which would involve the creek ecosystem. To have large numbers of people climbing through the creek beds in springtime greatly disturbs the fragile wildlife living in and around the area.

I am interested in signage on Deer Creek where bridges cross it or in parks.

I have concern over the continuing death of all the little creeks in the Gravois and Deer Creek watersheds and the accompanying loss of the human history of their use.

Education is key so that everyone knows and understands their role.