

Project Summary

Hillcrest RainBarrels:

A Pilot Project to DisConnect DownSpouts from Direct Access to Axtell Creek in the Hillcrest Neighborhood, September 2005.

Prepared by:

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Summary:

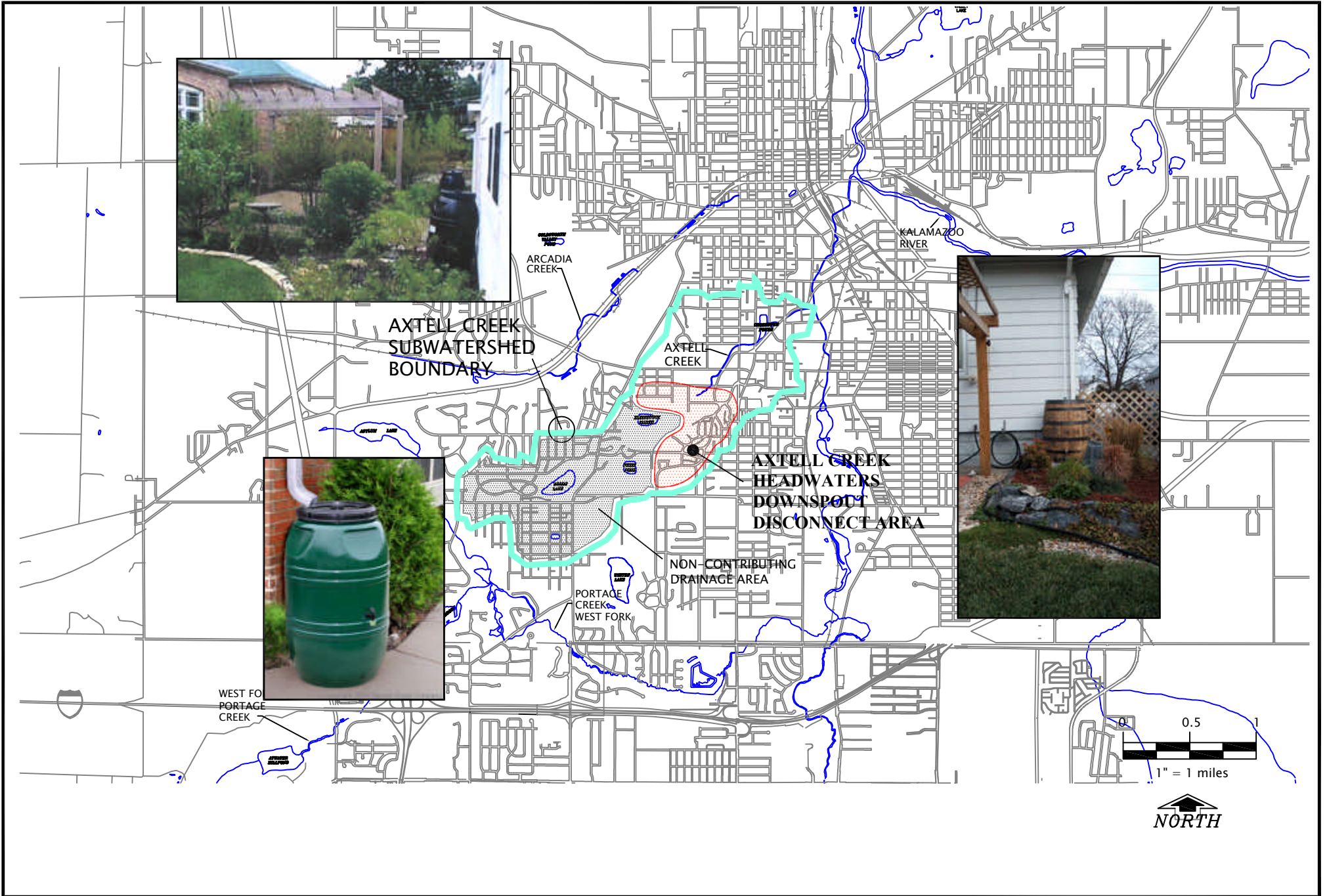
A Pilot Project to disconnect downspouts from direct access into Axtell Creek in the Hillcrest Neighborhood was conducted in August, September, and October of 2005. Sixteen (55 gallon) RainBarrels were prepared and delivered to willing volunteer participants in this neighborhood. A total of twenty-three area residents were contacted and eleven accepted those sixteen barrels. The barrels will capture run-off from an estimated 7550 square feet of roof area. At the end of October 2005, seven barrels had been installed. The remainder did not want to make downspout modifications prior to the winter season and postponed hook-up of their barrel until 2006.

Total cost of this grant project was \$2240.87.

Materials cost \$600.87, which included seven donated barrels.

Administration, coordination, background research, and on-site barrel creation was budgeted at \$1500.00 for time and \$140.00 for mileage.

When taking into account all project costs, per barrel expense (for sixteen installed barrels) was \$140.05. Actual materials expense was on a per barrel basis \$37.55. The administering contractor, Geum Services Inc., donated over 24.5 hours and 187 miles to the project. This in-kind donation equaled \$1225.00 of administration expense and \$90.70 in mileage.



PORTAGE/ARCADIA 319 TRANSITION GRANT
Portage Creek Watershed Neighborhood Downspout Survey
Hillcrest Neighborhood (NEW Subshed 3)
Nov. 2005

SERVICES PROVIDED BY GEUM SERVICES, INC.

				Impervious area (ft ²)
Estimated by Geum				7550

	(Acre-ft)	Ac-ft from subshed	% volume removal
Annual volume eliminated from stormsewer w/disconnect	0.49	139.30	0.35

Background:

As part of the Portage and Arcadia Creeks EPA 319 - Transition Grant Project, reduction of downspout rainwater flowing onto the hard surface collection system in the neighborhood and then into Axtell Creek, was identified as an educational deliverable. Geum Services Inc. was contracted to contact likely residents in this neighborhood and assess interest and willingness to participate in such a demonstration project. The second step in the process was to assemble necessary materials. The third step was to assist willing participants to prepare their barrel(s), (when requested), and provide follow-up to document placement and evaluate participation in this pilot project, with a goal of providing additional information to assist in the next rainbarrel/downspout disconnect program.

Presented here is an out-line of the conduct of this pilot RainBarrel Project (RBP) with suggestions of things to adjust or do differently.

Thanks are given to Bill Reed, Executive Director, Forum for Greater Kalamazoo; Janelle Hohm, Mi-DEQ, for project suggestions, recruitment of neighborhood residents and assistance in material storage (a driveway to keep barrels); and Charles Scott, Gull Lake View Golf Courses for donation of barrels.

Participant Selection:

The Hillcrest Neighborhood (especially West Maple and Cherry Streets), within the Axtell Creek sub-watershed, was targeted as a likely or receptive area for this pilot project, due to a number of factors. Grant coordinator Janelle Hohm, Water Division-Michigan Department of Environmental Quality (MDEQ), lives in the neighborhood and had perceived an environmental ethic in a number of her neighbors. Supporting that observation - Erin and Nate Fuller, (Nate is a staff member with the Southwest Michigan Land Conservancy), and Carol Steiner, (previous staff member at the Maple Street School for the Arts), reside in the neighborhood. All three contributed names to the initial network that were contacted and continued to talk about and recruit other friends for participation in this pilot project. Also, previous background work by Keiser & Associates on downspout locations and volume estimates had been conducted in this area. Various projects conducted on Axtell Creek were beginning to show improvements and by clustering a variety of BMP's, the Axtell Creek neighborhood provides a convenient educational location for storm-water/run-off education.

A listing was developed and most on the list were first contacted by phone to introduce the RBP and assess initial interest. An invitation

letter sent to eighteen local residents, explaining the pilot project again, with some additional detail, followed initial phone and personal contact activities. Continued phone calls resulted in twenty area homeowners being invited to an orientation session, held on the grounds of the Kazoo School, (a private school located within the neighborhood). Eight of those initial households (40%) attended the orientation session, with two calling in regrets of a conflict, but wanting to participate and receive a rainbarrel. Following the educational orientation, two households concluded that they were already infiltrating their roof stormwater and did not feel a RB would benefit their property. This does highlight the importance of an informational meeting to explain what a RB is, how they work, their look and color, and answer any other questions regarding how their homestead would participate in a downspout disconnect project.

Word-of-mouth and peer-to-peer recruitment was a very important aspect of this sort of storm-water educational project. General population recruitment would likely be more difficult, with a longer promotion timeline likely needed to educate perspective hosts for barrels. "Getting something for free" from a newspaper article or radio advertisement, with little understanding of the background or context of a community-focused program, could be expensive, both

with regards to materials needed and time invested in organizing and educating new participants. Fully informed, self-identifying, willing, and even “eager” homeowners, are key to long-term participation in a stormwater infiltration project.

The Hillcrest neighborhood does have an environmental and social ethic that, might be unique in the Kalamazoo area. Contacts with leaders in other neighborhoods, down to the block level, will be an important part of discovering the next neighborhood to invite into this sort of educational program. I expect each neighborhood in the greater Kalamazoo area to present a unique and time intensive recruiting challenge.

A concise newspaper article appeared in the Kalamazoo Gazette, following the second participant building session (refer to Appendix B). That was a planned occurrence, because:

- the pilot materials available were limited (as was grant funding),
- the location of this pilot project was pre-selected, and
- a “call for free RainBarrels – city wide!” was beyond the scope of this pilot project.

Given a willing funding source to support administrative time, planning and materials, such an open invitation to the Kalamazoo area population would be an interesting method to generate a wide and large-scale listing of participants. But, planning and logistics would be time consuming.

Materials:

A backyard, recycled rainbarrel is rather easy to assemble. With a source of free barrels the cost of materials (only) is in the \$30.00 range. Materials can be purchased at any local "large box" home supply location or neighborhood hardware store (although prices are somewhat higher at the smaller hardware stores). Supplies for this project were purchased primarily from Lowe's. There were no apparent discounts for larger volume or bulk purchases (although such a discount was not pursued). Donations or other scale related cost savings could be investigated for a second program. A complete accounting of time and materials was submitted to the Forum director at the end of September 2005.

Food quality barrels, obtained free or purchased from a roadside barrel location, are a standard sky blue color (see photos 2 & 3). Almost all participants commented on this barrel color, usually in a negative way.

Such a bright color was not considered compatible with most home exteriors. To address this concern, one gallon each of dark green and dark brown exterior grade latex, acrylic paint was obtained for participants to use to mask the bright color. The paint was delivered to the top of the participant list and the next neighbor contacted when the first barrels had been painted to the satisfaction of the homeowner (See photo 4).

A durable, sandable marine epoxy was selected to seal the upper and lower pipe connections (see photo 2). As group-building sessions were expected, cost savings were anticipated from a larger bulk supply of the epoxy and setting agent. During conversations with participants, each household schedule is different and very full, thus a number of participants requested their materials be delivered to their home, for later assembly. Smaller tubes of epoxy, to be shared between two or three households, would be a more effective way to provide a quality sealant.

Planning:

Most participants seemed to have a rough idea of what a RainBarrel was and how they work. The cost of each barrel to the participant was more important than the look of the barrel. When offered a

commercial grade rainbarrel (assembled and in a more home compatible, dark green color) but, with the home-owner contributing a cost share of 50% of the total barrel cost, all current participants indicated that the cost (in this case free) was more important than the look of the barrel.

Conclusion: The Hillcrest neighborhood homeowners were interested in a free, recycled barrel project. Cost, even in the \$50 - \$70.00 range, for a commercial product was seen as too much.

Expansion of this type of program should be possible, but consistent, regular, and vigorous educational sessions, along with the support of neighborhood leaders will be important. Either regular phone or written communication with participants is important. Time should be dedicated to assist the less capable, likely older homeowner, to accept and install a RB.

Written support materials are an asset. A fact sheet along with an installation / placement sheet were provided. See Attachment 1. The fact sheet included wintertime storage tips, along with safety and pest security points. A "how to" of barrel assembly is also important. Step by step directions, with diagram or photos, would guide the homeowner that wants to participate in a RB program but wants to

assemble their barrel at a time and location more convenient to them. A barrel assembly sheet was not prepared, because it was expected that the neighbors would attend the barrel build sessions, not all did. Only two-thirds of the total list attended those sessions. The remainder requested the barrel and materials be delivered to their home and they would assemble later. The project manager talked to each homeowner and "walked" them through the assembly steps. A concise "step by step" assembly document should be part of any second phase "RainBarrel Project" in the Kalamazoo area. Hands on support for the less technically adept homeowner should be made available to assist in the preparation of the barrel and placement.

Follow-up:

All participants in this pilot project have been told to expect follow-up contacts and questionnaires in the spring and summer of 2006. All seem willing to continue to contribute to this pilot with feedback about placement, usage, and overall pilot project conduct, by contributing information as to how their barrels work in a home setting. Having a questionnaire ready for distribution in April 2006 is highly recommended.

Refer to Appendix A for a complete listing of all households considered for this pilot project. This original list includes nineteen homeowners. When initial contacts were being made, one indicated he had moved out of the neighborhood (keeping their phone number). They thought the project very interesting and hoped to participate should a second phase include their new neighborhood, the Westnedge Hill area.

As seen in Appendix A, seven neighbors did not respond to the initial invitation. As they have not been talked with, no reason has been identified as to why they did not want a free barrel. One aspect of the barrel project that did receive participant attention was the act of needing to modify (by cutting or re-directing an existing stormwater downspout) on the exterior of their house. Questions of how to do that, proper tools, support by project staff, and being able to “go back to how it was before” were brought up in the planning process.

Being a peer-to-peer, personal-invitation pilot project, in a neighborhood that had demonstrated an above average environmental outlook, this Demonstration Downspout Disconnect project featuring RainBarrels to reduce stormwater run-off into Axtell Creek should be successful. There was additional interest from neighbors unable to participate in 2005. Should the program be expanded in the future, those individuals should be re-contacted.

Appendix A.

**Participant
Contact Information,
Interest Status,
and Outcome**

Attachment 1.

Placement Tips

For Your

RainBarrel

Attachment 2:

Workshop

and

**RainBarrel
Photographs**

September

and

**October,
2005**



Photo 1. Inspecting demonstration Barrel at Information Meeting



Photo 2. Epoxy sealing lower outlet, after drilling hole.



Photo 3. Modified Barrel - Inlet, Overflow, and Outlet



Photo 4. Completed RainBarrel - Painted, Installed