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**Lower Rouge River  
Trails Connect Community**

# CANTON TOWNSHIP

## Trails Connect Community



*by Bob Belair, PE, Assistant Township Engineer, Canton Township*

***Editor's Note: Lower Rouge River Recreational Trail System was recognized as 2009 Project of the Year – Environment Less than \$5 Million.***

In these difficult budget times, we are all looking for innovative ways to sustain our vital services while also meeting our customers' expectations. Let's face it, we are all trying to do more with less. About five years ago, Canton's Public Works Division started to "internalize" many services that were typically outsourced to consultants and contractors. Some of the

services performed are engineering plan reviews, utility designs, construction inspection, street sweeping/stormwater BMPs and various construction services. The construction services side recently succeeded in building an asset for the community through asset utilization, inter-departmental cooperation, innovative scheduling, and effective community relations.

Prior to internalizing many of these services, Canton's Public Works Division first performed a self-audit to understand the exact costs associated with these services. As a service provider, we needed to function like a business to offer these additional services cost effectively. Through an internal audit process, our indirect and direct costs were analyzed and



*An old rail crossing was converted to use in the trail system.*

a labor multiplier for our administrative operations was developed. To further validate our calculations, an external financial accounting firm (Plante & Moran) verified the multiplier rate. This was done to meet strict guidelines required by many federal grants that we plan to apply for in the future.

### **TRAIL SYSTEM MASTER PLAN**

In 2005, Canton Township applied for a grant under the Rouge River National Wet Weather Demonstration Program. The grant application was for the construction of a trail-head, 2.5 miles of multi-use trails, a bridge over the Lower Rouge River, and various other features. The trail system was to be constructed on property owned by Wayne County, and



## Lower Rouge River Trail System Phasing Schedule

Phase I	ITC Corridor west to Sheldon Road	Spring 2008
Phase II	ITC Corridor east to I-275	Late Fall 2008
Phase III	ITC Corridor north to Flodin Park	Summer 2009
Phase IV	Sheldon west to Canton Center	TBD
Future Phase	I-275 east to Hannan	TBD
Future Phase	Griffin Park to CHV along ITC Corridor	TBD



designated as the Lower Rouge Parkway. This property consisted primarily of floodplain that adjoined the Lower Rouge River and was, for the most part, inaccessible to the general public. This project would be phase one of an overall trail system master plan developed by Canton Township's Leisure Services Department.

A recent community survey revealed the need for passive recreational trails. Concurrently, we were planning a route for construction of a new sanitary relief sewer parallel to an existing 42" sanitary trunk sewer in this park. The existing sanitary trunk sewer was constructed in 1964 and had no means of access for maintenance purposes. Through cooperative efforts between the Township's Public Works Division, Public Safety Department and the Leisure Services Department, a plan was developed to meet both needs. The multi-use trail system was designed to accommodate a multitude of passive recreational uses, while also ensuring users' safety and providing vital access to the existing sanitary sewer system.

### Lower Rouge River Recreation Trail in Canton



#### Map Legend

Trail (Phase I Construction)	Trail Head	Lower Rouge Parkway (Wayne County Property)	Wetland Conservation Easement
Trail (Future)	Rest Room (Seasonal)	I-275 Right of Way	International Transmission Company (ITC) Easement
Lower Rouge River	Picnic Area	Western Townships Utility Authority Property	N
Pedestrian Bridge	Future Pedestrian Bridge	0 250 500 1000 Feet	



*Canton Township DPW crews constructed 2.5 miles of multi-use trails with numerous landscaping features.*

In mid-2006, the Township was notified of its successful grant application and the detailed design of the project began. There were a number of hurdles to be overcome in the design and planning process. First was reaching agreement with the property owner, Wayne County, to construct the proposed improvements. A public benefit was easily demonstrated through numerous surveys and interest expressed by residents at several public meetings.

Upon acquiring the agreement, construction permits were sought from appropriate agencies. Permits had to be obtained for river crossings (which required river channel hydraulic studies), wetland impacts, and work in the 100-year flood plain.

### **TOWNSHIP PUBLIC WORKS DIVISION TACKLES TRAIL CONSTRUCTION**

With all preliminary requirements met, we were ready to start construction. The most



unique aspect of this project was that almost the entire multi-use trail system was constructed by Canton Township's Public Works Division. Previously, the Division had performed construction of smaller scale projects, such as detention pond dredging, but nothing to

*Road-grade geotextile fabric was installed to allow heavy-equipment access to sanitary sewer system.*



the magnitude and complexity of this project. Township personnel constructed every aspect of the trail system except the rehabilitation of the old bridge over the Rouge River.

We were able to adjust work crews to utilize the many talents of our DPW personnel for this project. Although none of us had constructed trails before, we knew we had the ability. In fact, DPW personnel embraced the opportunity to work on the trails; they enjoyed the diverse activities and cross-training opportunities. One of our laborers summed it up perfectly by saying, "This beats working down in the sewer." DPW crews took ownership of the trail's construction and used their ingenuity to fabricate equipment to save rental costs.

Using in-house staff substantially reduced the overall project cost. This allowed us to use available funds in the approved budget for additional amenities on the trail network. Since this was a reimbursable grant project, dedication of in-house staffing and equipment counted as in-kind services. Costs associated with staff, equipment, and materials were all reimbursable through the grant. We used our approved multiplier rate for labor and standard MDOT equipment rates to bill our services and then reimbursed the funds to our accounts.

A key project feature, unknown to most trail users, is the access to our sanitary sewer system. The trail system design was adjusted

to provide access to every sanitary manhole in the heavily forested park area. These manholes were previously only accessible by foot, if you could find them. The new trails were designed to carry the 40,000-lbs. load of a sewer cleaning truck. To accomplish this, a road-grade geotextile fabric was placed on the subgrade, followed by 12 inches of compacted 21AA aggregate. Additionally, trail curves were designed with radii to accommodate turning movements of heavy equipment.

### **INVOLVING COMMUNITY TO CREATE A UNIQUE ASSET**

One of the most important components to this project's success was all the public relations activity that occurred during the design phase. The trail system site is located adjacent to several existing neighborhoods and residents were active in the preliminary design process. In a 2005 community-wide survey conducted, more than three-quarters (77%) of Canton residents listed "trails" as a high priority recreation need. Several public meetings were held to gather ideas about the trail system and plans were modified several times to address concerns. Additionally, a volunteer trail committee was formed to provide input and care for the trail system. This trail committee remains active today.



*Canton Township DPW crewmembers built the trails and participated in the "ribbon cutting" ceremony.*



*Community gathers for grand opening of the Lower Rouge River Recreational Trail System.*

A grand opening ceremony for the Lower Rouge River Recreational Trail System was held on June 7, 2008 and over 500 people attended. Activities surrounding the event brought the community to a previously inaccessible area. Residents realized the true value of the natural area and the importance of sustaining the watershed in Canton. Most people did not know this area even existed within the township. Crewmembers who built the trail system were all part of the ceremony and cut the ribbon to open the trails.

### **SEVEN BRIDGES MORE...**

Now that this trail system is open, there is considerable use by the general public. The trail network connects into other trail phases and to the MDOT I-275 bike pathway. Future phases plan to extend the trail system and provide additional access to our residents. Seven pedestrian bridges will be required along the entire network to cross the Lower Rouge River.

Grants to construct these bridges have been applied for and received. Five of the bridges are slated for installation in the Fall of 2009, with the remaining two to be installed in early 2010. Since the utilization of in-house personnel was so successful, the same construction plan will be used for these future phases. While we do not have the specialized equipment for bridge installation, township personnel will complete the trail construction to connect the bridges.

The lower costs, reduced construction schedule, and over-all savings to our residents made this a one-of-a-kind project. The total project cost was just under \$500,000 and we were reimbursed for nearly half of that cost through the grant. For this amount, we were able to construct a 12' wide pedestrian bridge, install way finding signs, clear trees, build nearly 2.5 miles of multi-use trail, a parking lot, access road, a restroom area, and install numerous landscaping features.

This project was a great success for many reasons. The cooperative planning, design, and construction from multiple township departments was unprecedented. Early involvement of residents to address their concerns near the beginning of the design process eased subsequent construction stages. We feel that the construction efforts by our Township's Public Works Division staff set this project apart from any other.