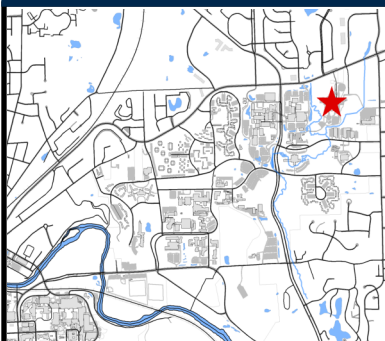




STORM WATER MANAGEMENT PROJECTS



Drainage Area:

21.7 acres

Watershed Protected:

Storm water in this area discharges to Millers Creek

Soil:

Low permeability clay soils

Construction Completed:

2015

Storm Water Control Measures:

- Detention basin
- Filtration basin
- Water quality devices
- Vegetated swales
- Wetland
- Vegetated filter strips
- Streambank stabilization within riparian areas of Millers Creek

U-M Maintenance:

- Removing sediment from water quality devices and basins
- Maintaining vegetation



Mobility Transformation Facility (MCity)

U-M installed a detention basin with upstream pre-treatment including a filtration basin, vegetated filter strips/swales, and water quality devices capturing drainage from approximately 65% of the Mobility Transformation Facility, also called MCity. Additionally, runoff from 15% of the site is treated through a vegetated filter strip prior to maintaining flow to an existing wetland. The remaining 20% of the site is stabilized with prairie grasses and drains off-site, accepting no paved runoff. The storm water control measures are designed to treat and detain runoff beyond the required storm water management for the site.

Requirements: The disturbed area is greater than one acre triggering adherence to U-M Storm Water Permit Post Construction requirements—> ehs.umich.edu/construction-projects/environmental-considerations/storm-water-management/

U-M Storm Water Permit Requirements (based on site size and characteristics)	Constructed
Minimum Treatment Volume Required: 172,700 gallons (23,100 cubic feet) of runoff	785,300 gallons (105,000 cubic feet) of treatment only; and 1.41 million gallons (189,000 cubic feet) of treatment and detention during the 100-yr, 24-hr storm
Channel Protection Volume Required (detention of 120% of the increase in 2-year storm volume due to clay soils): Because there is an increase in runoff from the site, 267,200 gallons x 120% = 320,600 gallons (42,900 cubic feet) of detention are required.	

Performance: For the 2-year, 24-hour and 100-year, 24-hour design storms, the project results in a 34% reduction and 57% reduction in peak flow, respectively, as compared to the pre-project condition.

Benefits: This system provides water quality treatment and reduces peak flow to Millers Creek, which reduces erosion, provides slope stability, and reduces sedimentation. Portions of Millers Creek and upland riparian areas are stabilized with riprap and planted extensively with vegetated filters to protect the creek.



Detention Basin

