

## Ecological benefits of the associated creek and corridor restoration at Arden Park

- Conversion from lentic to lotic system – Drop structure removal steepens the gradient. Restoration of riffles and pools with moving water will result in a conversion of the macroinvertebrate community from a warmer water, lake (lentic) generalist community to a flowing water (lotic) community, likely more diverse than the former.
- Reduced biological oxygen demand will result from reduced algal growth and accumulation of decaying vegetation
- Meander restoration increases the available habitat volume for *stream* fish and macroinvertebrates. Muddy bottom cattail dominated nearshore conditions will be replaced with defined banks, pools, riffles and a diverse native riparian buffer.
- Improved buffer – The riparian buffer in this reach is currently a monoculture of either cattails or turf grass. The restored channel would include constructed banks with a diverse native mixture of grasses, forbs, trees and shrubs important in creating a passable wildlife corridor. Green corridors along rivers are important for movement of terrestrial mammals, reptiles, amphibians and birds.
- Sediment continuity – Incoming sediment and organic deposits are retained in this area due to the presence of backwater from the dam. Removal of the structure and increase in the overall channel slope will help to transport fines through the reach. The proposed hydraulic conditions would help to keep gravels in the built channel bottom clear of fines and more conducive to spawning fish.
- Fish passage – The drop structure is currently a barrier for fish traveling upstream from the stream, adjacent lakes and wetland areas. Fish would have access to riparian wetland areas (e.g. northern pike spawning) and in-stream spawning.