

CASE STUDY: THE QUARTERS DOWNTOWN SOIL CELLS

Location: 96 Street from Jasper Avenue to 102A Avenue
Construction Completed: 2015



Project Description

When the City of Edmonton began planning the redevelopment of the Quarters Downtown area, the vision was to transform it into a vibrant neighbourhood destination for Edmontonians and visitors. A primary component of this vision is the integration of sustainability and low impact development (LID) into the streetscape and public spaces to reduce stormwater runoff and any pollutants it may carry through the drainage system and into the North Saskatchewan River.

Facility Design

Stormwater management and landscape design were integrated through using soil cells, which are an innovative that support large tree growth and provide powerful on-site stormwater management. The soil cells are created to hold high conductivity soil to help soak up stormwater. Street runoff is collected into catch basins where sediments settle and are cleaned out throughout the year. The remaining flow travels along perforated pipes that are placed along the upper layer of the soil structure and soaked up by the trees. Another perforated pipe along the lower layer of the soil collects excess water not absorbed by the tree and drains into the downstream sewer. This pipe ensures

that the soil does not become saturated so more runoff and associated pollutants can be filtered through the soil in longer rainfall events. This underdrain feature is not available in many traditional tree cells.

Monitoring

City staff continue to monitor this location to see whether the soil cells have helped reduce the volume of runoff and amount of pollutants it carries into the drainage system. Since this site also has ongoing road maintenance, staff also record the impact that winter snow and ice removal practices have on the soil and trees.



View across Jasper Ave in the Quarters Downtown, Summer 2016.