



Water Resources  
Neighbourhood-Specific Infrastructure Report

# **Killarney-Glengarry**

Updated December 2017



## **Purpose of This Report**

Information contained in this report is intended to assist in preliminary infrastructure due diligence investigations related to potable water, sanitary, and storm servicing prior to redevelopment of a site by land owners, developers, and/or their consultants. This information may be useful at various stages in the development process to help better understand broad, community-scale infrastructure context, from land acquisition through to conceptual design work or prior to a formal application for land use re-designation or development permit. As a starting point, the grain of detail contained in this report can help provide a basic understanding of key infrastructure features in the community that may be important considerations for those seeking to develop or redevelop a site.

## **Information Limitations**

Infrastructure capacity and the systems that deliver the municipal services of water, sanitary, and storm services are dynamic. The information found in this report is not intended to replace required studies nor is it a guarantee of capacity in advance of a formal land use re-designation, development permit, or building permit application. The scale of information is at a neighbourhood level, not specific to a particular site; for site specific details, additional study is recommended. Due to the timeliness of information, this report should be viewed as a starting point and not a replacement for fulsome analysis. The need for any specific infrastructure upgrades, and any associated costs, to support the development or redevelopment of a site will be determined at the time of a formal pre-application or application.

The timing and delivery of infrastructure upgrades required to support redevelopment are driven by where and when redevelopment occurs, often as specific as the site-by-site locations of individual projects. Any information that landowners or developers are able to provide in advance of a formal application as to when and where this redevelopment may occur may also help Water Resources better understand future development needs and plan accordingly.

## Study Area



Killarney-Glengarry is an inner-city Calgary community that runs from 17th Avenue SW in the north to Richmond Rd SW in the south, and from 37th Street SW in the west to 25a Street SW in the east<sup>1</sup>. The study area for this report varies slightly to incorporate areas between 17th Avenue SW and Bow Trail SW, which are adjacent to the West LRT and are already experiencing redevelopment, evidenced through current construction and pre-application interest. The study area also includes the West Brook TOD site and the eastern portion of 37 Street SW, incorporating studies undertaken to support the Main Streets initiative.

### Development Overview of Killarney-Glengarry

The first plans for subdivision in the area were registered just after the turn of the 20<sup>th</sup> century, but development of Killarney-Glengarry occurred primarily after World War II, following the return of soldiers from overseas. A large portion of the community consists of single-family, post-war bungalows that were originally constructed on the 25 to 50 ft wide lots. Much of the infrastructure in the area was built in the 1950s, designed to serve single-family densities of the community.

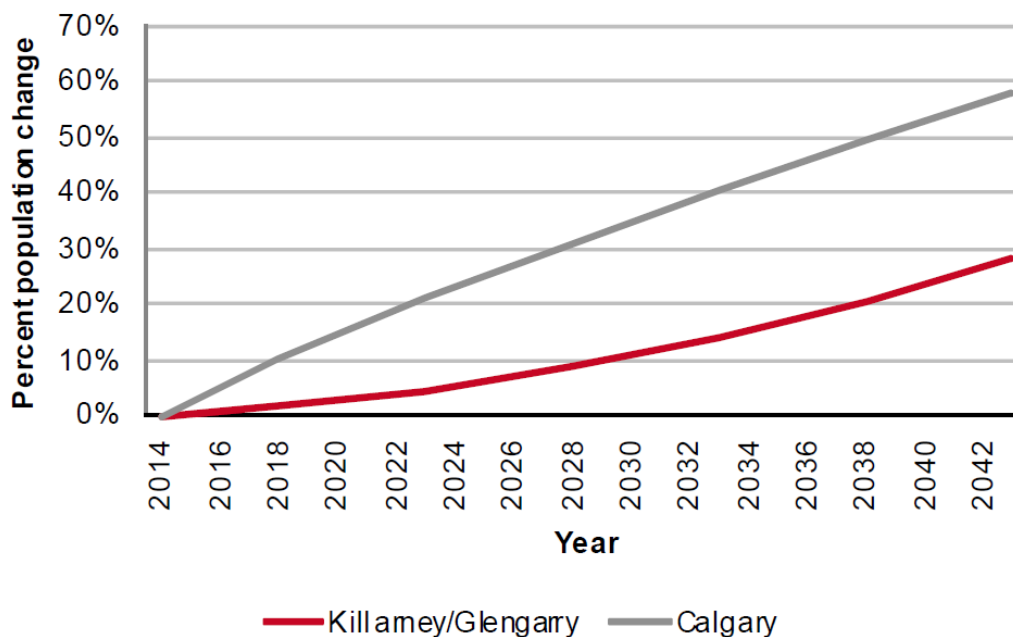
<sup>1</sup> <https://www.killarneyglengarry.com/history/>

Redevelopment has occurred throughout the community, varying in scale from new single-family homes replacing original homes, infill homes on subdivided lots, to larger multi-family and commercial sites along major corridors, like 17<sup>th</sup> Avenue SW. Westbrook Mall and the adjacent West LRT extension that opened in late 2012 may also serve to drive further redevelopment and intensification in the community.

### Anticipated Population Growth<sup>2</sup>

Although the boundary that defines the Killarney-Glengarry community varies slightly from the study area selected for this report, future population projections for the Killarney-Glengarry community anticipate continued growth, slightly less than the overall change anticipated for the City of Calgary as a whole. As with any established community, this population growth will continue to serve as a driver for redevelopment and intensification within the existing community.

## Killarney/Glengarry Population Projection



## Historic Infrastructure

Although exceptions exist, infrastructure installed in Calgary communities generally aligns the following materials with the installation timeframes noted below:

| <b>Water Infrastructure</b>                                      |                                |
|--|--------------------------------|
| Asbestos Cement  | 1955 – 1978                    |
| Cast Iron  | 1919 – 1968                    |
| Ductile Iron, Polywrapped Ductile Iron                           | 1963 – 1979                    |
| Yellow Jacketed Ductile Iron                                     | 1973 – 2000                    |
| PVC  | 1976 – current                 |
| <b>Sanitary Infrastructure (excluding syphons or forcemains)</b> |                                |
| Asbestos Cement  | 1961 – 1982                    |
| Brick  | 1915                           |
| Concrete   | 1909 – current                 |
| PVC  | 1975 – current                 |
| Vitrified Clay Tile  | 1905 – early 1990s             |
| <b>Storm Infrastructure</b>                                      |                                |
| Concrete   | 1912 – current                 |
| PVC  | 1975 – current                 |
| Vitrified Clay Tile  | 1955 – 1982 (very limited use) |

With a large portion of the community constructed in the 1950s, significant portions of original infrastructure remain in use in Killarney-Glengarry, including:

### Water Infrastructure

- Cast iron pipe, predominantly 150 mm in diameter to serve single-family, residential development, with some mains larger in size
- Some limited sections of ductile iron pipe, although far less commonly seen than cast iron pipe
- Most of this original infrastructure was installed between 1950 and 1959

### Sanitary Infrastructure

- Concrete pipe commonly seen for sanitary mains
- Vitrified clay tile, predominantly 200 mm in diameter when serving single-family, residential development
- Most of this original infrastructure was installed between 1950 and 1959

## Redevelopment Infrastructure

Over time, redevelopment of sites throughout the community and infrastructure improvements have driven the replacement of some of the original infrastructure. Smaller diameter water infrastructure serving residential development that was originally cast iron has most commonly been upgraded to PVC pipe. Similar replacements can be found in proximity to the Westbrook LRT station, where pipe sizing has been upgraded to accommodate future redevelopment anticipated to centre around the TOD area as well as in pockets that have seen some infill redevelopment in residential settings.

## Neighbourhood Specific Considerations for Redevelopment

When redevelopment occurs in a community, there are certain conditions Water Resources looks for to determine the need for infrastructure upgrades (improvements) to support increased density or improve the existing system by bringing it up to current standards:

### Water Infrastructure

- In Killarney-Glengarry, most of the water lines are adequate to serve the single family and duplex homes that were built in the 1950s and 1960s, but are undersized to service increased density that may arrive with new construction of single family homes on subdivided lots or multi-family homes.
- Based on current design standards, an application of land use or development application that brings increased density may trigger the upgrade of existing small mains (150 mm and 200 mm) found throughout the residential areas of Killarney-Glengarry:
  - The minimum size for ICI and Multi-family development should be 250 mm, based on Design Guidelines for Subdivision Servicing (DGSS)
  - This helps to ensure adequate fire flow protection is met
- Given the age of the community and the layout of the current pipe network that was originally constructed in the 1950s, hydraulic deficiencies in the water network may be seen where the length between cross-ties exceeds the maximum allowable distance noted in the DGSS. Fire flow requirements are a significant driver in determining upgrade needs.
- It is beneficial to form a strong loop of 250 mm and 300 mm mains within the existing main network – we look for suitable opportunities to improve the strength of the grid network of 250 mm and 300 mm mains in redeveloping communities such as Killarney-Glengarry.

### Sanitary Infrastructure

- Sanitary infrastructure and water infrastructure are impacted by redevelopment, but in very different ways - the cumulative impacts of multiple developments may trigger a sanitary upgrade to be considered.

- A sanitary servicing study prepared at the time of application (by the applicant or their consultant) is required when proposed sanitary flows are greater than 1 L/s. Development Planning uses these studies to evaluate the downstream infrastructure, identifying any required upgrades.
- Individual, smaller developments do not trigger impacts to offsite sanitary servicing in pipes 375mm or greater. Cumulative impacts from multiple individual developments are considered and may trigger offsite infrastructure upgrades. There may still be upsizing required in local, smaller pipes, which is usually the responsibility of the developer.

### **Future Planned Capital Upgrades**

There may be additional information following the next budget update; no upgrades are currently identified for the Killarney-Glengarry community.