

**Functional Service Report  
234 King Street  
Midland, Ontario**



**PWTEAM**

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**Submitted to:  
City of Midland**

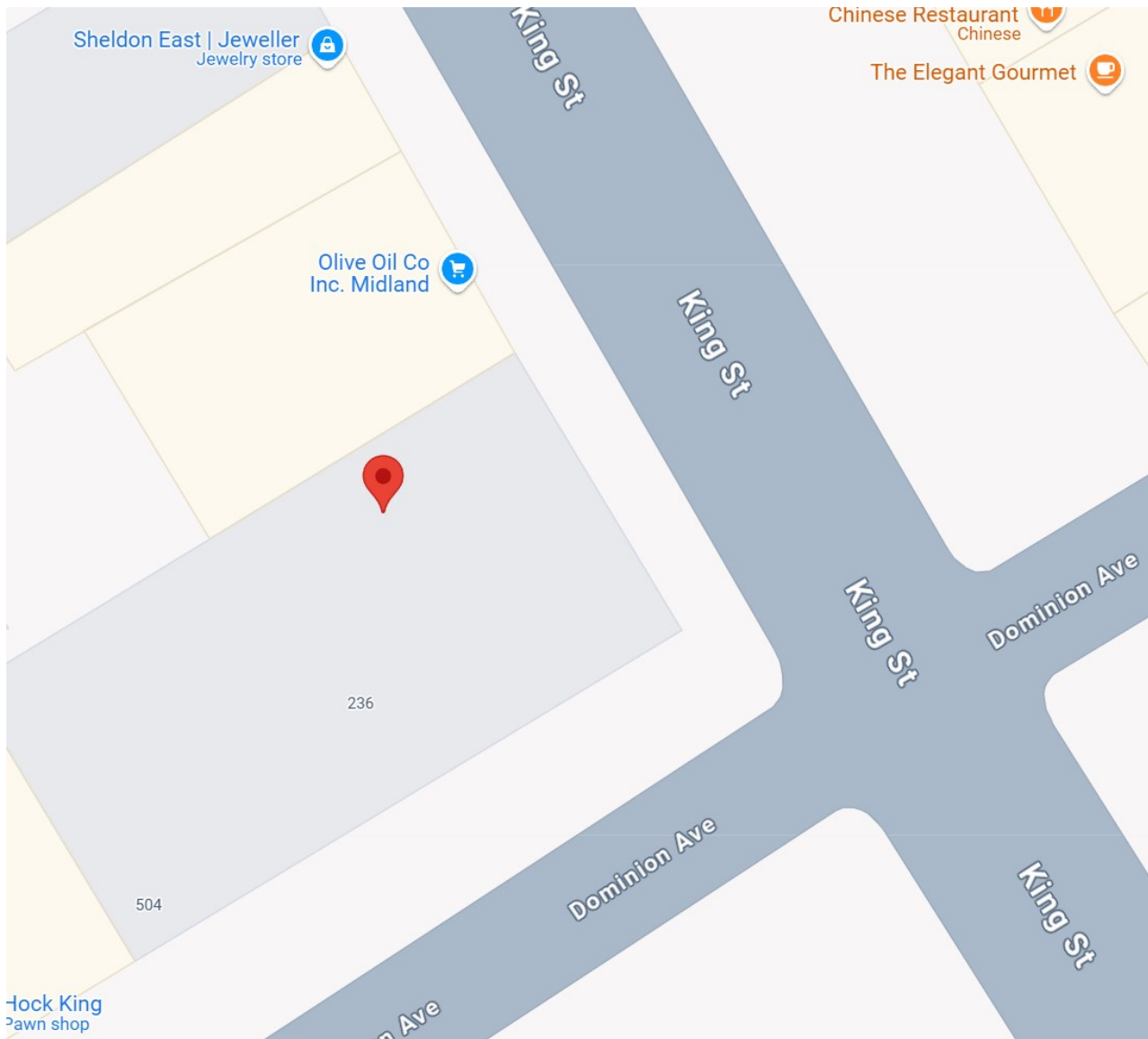
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## 1.0 GENERAL

Public Works Team Inc. (Engineering Consultants) was retained by Owner of the property at 234 King Street, Midland for the preparation of Functional Servicing Report (FSR) including water, wastewater and stormwater study.

### 1.1 LOCATION & DESCRIPTION OF THE PROJECT

The subject property is approximately rectangular in shape and located at the West side of King Street (see picture below) and North side of Dominion Ave. The project area is located at a mixed used zone as of Commercial and residential area.



## 1.2 OVERVIEW

The site is not a new development rather an interior renovation including a vertical addition to an existing building. The proposed site has a total of 459.83 sq. m. of land. The building is sitting on 456.56 sq. m. (99.28%), whereas, driveway, parking area & sidewalk are occupied on 3.27 sq. m. (0.72%).

The purpose of this Functional Servicing Report is to:

- ✚ Evaluate the water supply and distribution of municipal water to meet the domestic and fire flow need.
- ✚ Evaluate the adequacy of sanitary services.
- ✚ Evaluate the existing stormwater runoff quantity and quality.
- ✚ Study of the Waste Management Facility

The land distribution of the proposed development site is as follows:

Land use type	Area (sq.m)
Building	456.56
Paved surface	3.27
Landscape	0.00
Total	459.83

## 1.3 DESCRIPTION OF EXISTING INFRASTRUCTURES & SERVICES

**Water:** An existing 200 mm diameter water main is located along King Street. A 50 mm diameter pipe is connected at the East side of the building.

The water demand is calculated by according to Table 3.1 below which is mentioned in ROP Functional Servicing and Storm Water Management Report Manual. And water demand for the site was show in Table 3.2.

Table 3.1 Water Demand Calculation Basic (According to the City of Midland Municipal Standard)

Population Type	Unit	Average consumption rate	Max Day Factor	Peak Hour Factor
Residential	L/capita/day	320	1.75	2.70

Table 3.2 Water Demand Calculation

Demand Type	Demand	Unit	Demand (L/sec) for 80 persons
Average day flow	320	L/capita/day	7.12
Maximum day flow	570	L/capita/day	12.67
Peak hour flow	860	L/capita/day	19.12
Fire flow	104.00	L/Sec	
<b>ANALYSIS</b>			
Maximum day plus fire flow	116.67	L/Sec	
Peak hour flow	19.12	L/Sec	
<b>Maximum demand flow</b>	116.67	L/Sec	

The domestic water demand is estimated to be only 19.12 l/sec that is less than the fire flow demand. This demand is based upon maximum occupant load of 80 persons that is not going to be happened every day. Besides, all plumbing fixtures proposed for this project will have water saving fixtures such as 0.032 l/sec faucets, the actual water demand on daily basis will be significantly less than 3.65 l/sec.

The site has been provided with existing 50Ø mm diameter water supply connection with a valve and box at a property line.

**Sanitary:** An existing 450 mm diameter sanitary sewer is located along King Street. Presently there's an existing connection of 100 mm diameter pipe to serve the property.

In this building, there are 40 units proposed and each unit has one bathroom group and 4 washing machines (2 is in each floor). The total hydraulic loads of plumbing fixtures units are 250, however as per OBC Table 7.4.10.8 allowable plumbing fixtures units is 700 with a slope 1 in 100. Therefore, sanitary drainage capacity is adequate and no upgrade is required.

**Storm Sewer:** There's no catch basins in this lot, however area is well graded to drain with gravity toward King Street and Dominion Ave.

The existing stormwater system is in good working order and it will be continuing without additional works.

### Waste Disposal:

Presently curbside disposal of waste/garbage is maintaining according to guideline of the city of Midland. The garbage will be sorted as per guideline of the City of Midland and dispose the garbage bin according the schedule.

## 5.1 Control Measures

The site is relatively small, and there's no exterior earth work and/or excavation will be taken place except interior demolition therefore no sediment control measures are required.

## 1.2 Construction Sequencing

The schedule of construction activities with respect to sediment controls is as follows:

- Demolition of interior in an appropriate manner.

- Interior renovation and addition of new floor

### **5.3 Inspection & Maintenance**

As standard schedule inspection and contractor will book inspection when it requires.

- Demolition completion
- During Construction of new floor
- Plumbing
- HVAC
- Fire separation
- Fire Alarm
- Occupancy

### **6.0 CONCLUSION**

It is obvious from the above review of the available information, the proposed renovation met the requirement of the city of Midland, thus it is requested for review of the submission of site servicing plan and put them forward for approval.