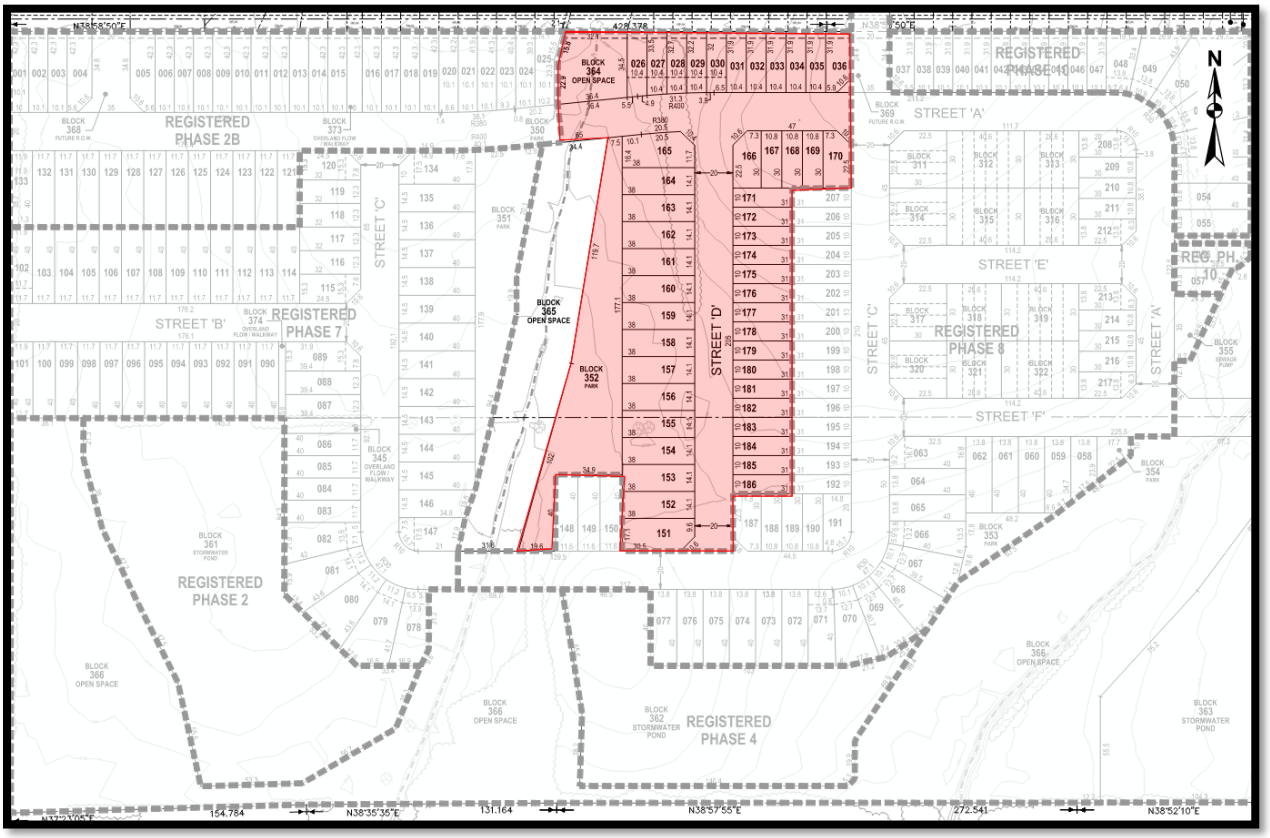
TRITON ENGINEERING SERVICES LIMITED
Consulting Engineers

Memorandum

DATE:	June 27, 2025
TO:	Justin L'Abbe
FROM:	Dustin Lyttle & Sandeep Shrestha
RE:	Edgewood Greens (Phase 9) Municipal Servicing Assessment
FILE:	A4167C

1.0 Introduction:

This Municipal Servicing Assessment (MSA) is intended to provide insight into the expected sanitary sewer capacity, water system operating conditions and available water for firefighting purposes within Phase 9 of the Flato East Development in Dundalk. Further, to provide assessment of this developments' potential impact on municipal services in the context of the currently Committed development scenario and the Future development scenario (Uncommitted Development), as per Table 3 of the 2025 Reserve Capacity Calculations (RCC). The proposed development is 3.1ha, including 47 residential units, internal roadways, and a park block.



The following MSA is based on information provided in the following documents and correspondence:

- Phase 9 – Servicing and Stormwater Management Implementation Report, dated December 2024.
- Detailed Design Drawing Set, dated Dec 17, 2024, prepared by Crozier Consulting Engineers.
- Dundalk Water and Sanitary Servicing Strategy, dated July 2024, prepared by Triton Engineering
- 2025 Reserve Capacity Calculation dated May 2025, prepared by Triton Engineering

2.0 Development Projections & Allocations:

This assessment will review available servicing for this development under two development scenarios. The first scenario (**Committed**) will assess the system considering the proposed development with the equivalent residential units (ERUs) that are currently committed namely **539 ERUs (water)** and **316 ERUs (sanitary)** as per Table 3, 2025 RCC. The second scenario (**Future**) will assess the available servicing with the addition of the Unallocated developments on-line which would be an additional 1,945 potential ERUs applicable to the water system and 1,911 potential ERUs applicable to the sanitary system as per the RCC Table 3 which includes this proposed Development.

3.0 Water:

3.1 Reserve Capacity:

As indicated in the 2025 RCC for Dundalk, the current water system has a firm capacity of 2,817m^3/day, a Max Day Demand (MDD) of 1,371m^3/day and a resulting reserve capacity of 1,446m^3/day equating the 1,630 ERUs.

Using RCC 2025 parameters, the total maximum day water demand for this phase is **0.48L/sec (41.5 m^3/day)**. Based on the above, the development scenarios considered will result in water reserve capacity as follows:

Scenario	Reserve Capacity (ERUs)				
	Reserve Capacity (ERUs)	Required	Available (Pre-Site)	Required (for Site)	Remaining (Post-Site)
Committed	1,629	539	1,090	47	1,043
Future		2,484	-855	0	-855

3.3 Water Distribution:

As proposed within the Servicing Report, the development will connect to municipal water distribution system via three watermain stubs as mentioned below:

- 150 mm diameter watermain stub on Russell Street.
- 150 mm diameter watermain stub on VanDusen Avenue.
- 150 mm diameter watermain stub near the VanDusen Avenue and Russell Street intersection.

The available water pressure and estimated flow available for firefighting purposes while maintaining a minimum 20PSI in the system, based on the above noted demands and conditions are as follows:

Operating Pressure (PSI)	Fire Flow Available (L/s)
62.5	159.8

Based on the above-described layout, the estimated available fire flow meets the 100L/s requirement as mentioned within Appendix D of the Servicing Report.

3.4 Water Storage Capacity:

Using the populations and demands described in the above section, the required fire flows and total storage requirements of the system have been calculated using Table 8-1 and Section 8.4.2 of the MECP Guidelines.

The calculated storage requirements of a water system and the impact of the proposed site-development are as follows:

Scenario	Equivalent Population	Storage (m^3)				
		Current Available*	Required	Available (Pre-Site)	Required (for Site)	Remaining (Post-Site)
Current	4,261	5,360	1,598	3,762	13	3,749
Committed	5,748		1,928	3,432		3,419
Future	10,974		3,938	1,422	0	1,422

* Current storage available considers storage available at D3 and the Dundalk Water Tower.

4.0 Wastewater:

4.1 Reserve Capacity:

As indicated in the 2025 RCC for the Dundalk Wastewater Treatment Facility (WWTF) the current system has a three-year average daily sewage flow of 1,215m^3/day resulting in a reserve capacity of 617m^3/day equating to 745 ERUs.

Using RCC 2025 parameters, the expected average daily sanitary loading from the site will be **0.45L/sec (38.9m^3/day)** and assumes that the water used by the development, as discussed above, will be conveyed to the sanitary system.

It is expected that after completion of the WWTF Phase 1 expansion in 2025, the treatment capacity will be increased to 3,025m^3/day. The Future scenario assumes the additional capacity from the WWTF expansion is available.

Based on the above, the proposed development will impact the Dundalk WWTF reserve capacity as follows:

Scenario	Reserve Capacity (ERUs)				
	Available	Required	Available (Pre-Site)	Required (for Site)	Remaining (Post-Site)
Committed / Existing	745	316	429	47	382
Future	2,188	2,227	-39	0	-39

4.2 Wastewater Collection:

The proposed development will be serviced firstly through gravity network along VanDusen Avenue and Wright Street to an existing sanitary maintenance hole (MH) at the intersection of Wright Street and Russell Street which will then direct flows towards the newly constructed Sanitary Pumping Station (SPS) within Phase 10. The SPS then discharges to an existing MH via a 150mm diameter forcemain following road alignment through Morgan Ave and Russel Street which is then conveyed via gravity to the Dundalk WWTF.

Sewage Pumping Station

At the time of writing this report, the SPS as discussed above is servicing Phases 7-8-10 (188 units) with 40 units yet to be occupied. Phase 11 (197 units) sewers have been constructed but there are no units constructed or occupied except for the commercial block. The SPS was designed and constructed to accommodate the expected flows from Phases 7 – 10 and the Commercial Block, resulting in an estimated average day flow of **5.43L/s (469m^3/day**) or peak flow of **14.94L/s** based on a 3.9 peaking factor. It was anticipated that when Phase 11 is occupied, the pumps within the SPS may need to be replaced with higher capacity pumps, with a third added.

Between January and April the average day flow being received at the SPS was between 74 -106 m^3/day, which equates to a maximum of 0.716m^3/day per unit, including infiltration and the flows from the commercial block. Therefore, it can be estimated that the fully occupied Phase 7-8-10 and 11 will result in an ADF at the SPS of 275.7m^3/day, or 3.19L/s, and a peak flow of **12.44L/s,** based on a 3.9 peaking factor.

Based on the above per units' flow rates, Phase 9 can be expected to contribute an ADF of 33.7m^3/day, resulting in a total ADF of 309.4m^3/day (3.58L/s) being conveyed to the SPS.

If a peaking factor of 3.9 is applied, the estimated peak flow can be estimated at **13.97L/s** which remains below the total constructed design flow of the SPS of **14.94L/s.**

Based on the above, all downstream sewers and the SPS are not expected to exceed their design capacity.

5.0 Conclusion:

5.1 Water:

Based on the above, the proposed development is expected to have adequate water pressure and is expected to have adequate available fire flows (i.e. >100L/s). However, nearby hydrant testing may be warranted if the proponent does not believe the noted available flows are sufficient for the proposed development.

The capacity of the existing water supply system is expected to meet the needs of the Site.

5.2 Sanitary:

Based on the above noted loading, there is sufficient capacity to convey and treat the expected sanitary flows from this development.

The capacity of the existing wastewater treatment system is expected to meet the needs of the Site.

If there are any questions, please do not hesitate to contact us.