

Fox Run Phase 5

Servicing Summary and Allocation Rationale

June 24, 2024

CAIVAN

June 21, 2024

City of Ottawa
Development Review Rural

Planning, Real Estate and Economic Development Department
110 Laurier Avenue West, 4th Floor
Ottawa, ON, K1P 1J1

Attention: Cheryl McWilliams

**Re: Fox Run - 6335 Perth Street Lifting of a Holding Symbol
D07-07-23-0005
Servicing Summary and Allocation Rationale**

Caivan has applied to lift the holding symbol for the last phase of Fox Run situated at 6335 Perth Street. We received your letter dated May 29, 2024, informing us that the application was deemed incomplete as the submission was deficient. We have prepared the Servicing Summary and Allocation Rationale report that addresses the listed deficiencies into one report.

We appreciate your quick attention to the review and decision on permitting the holding zone to be lifted for the remaining phase in the Fox Run subdivision.

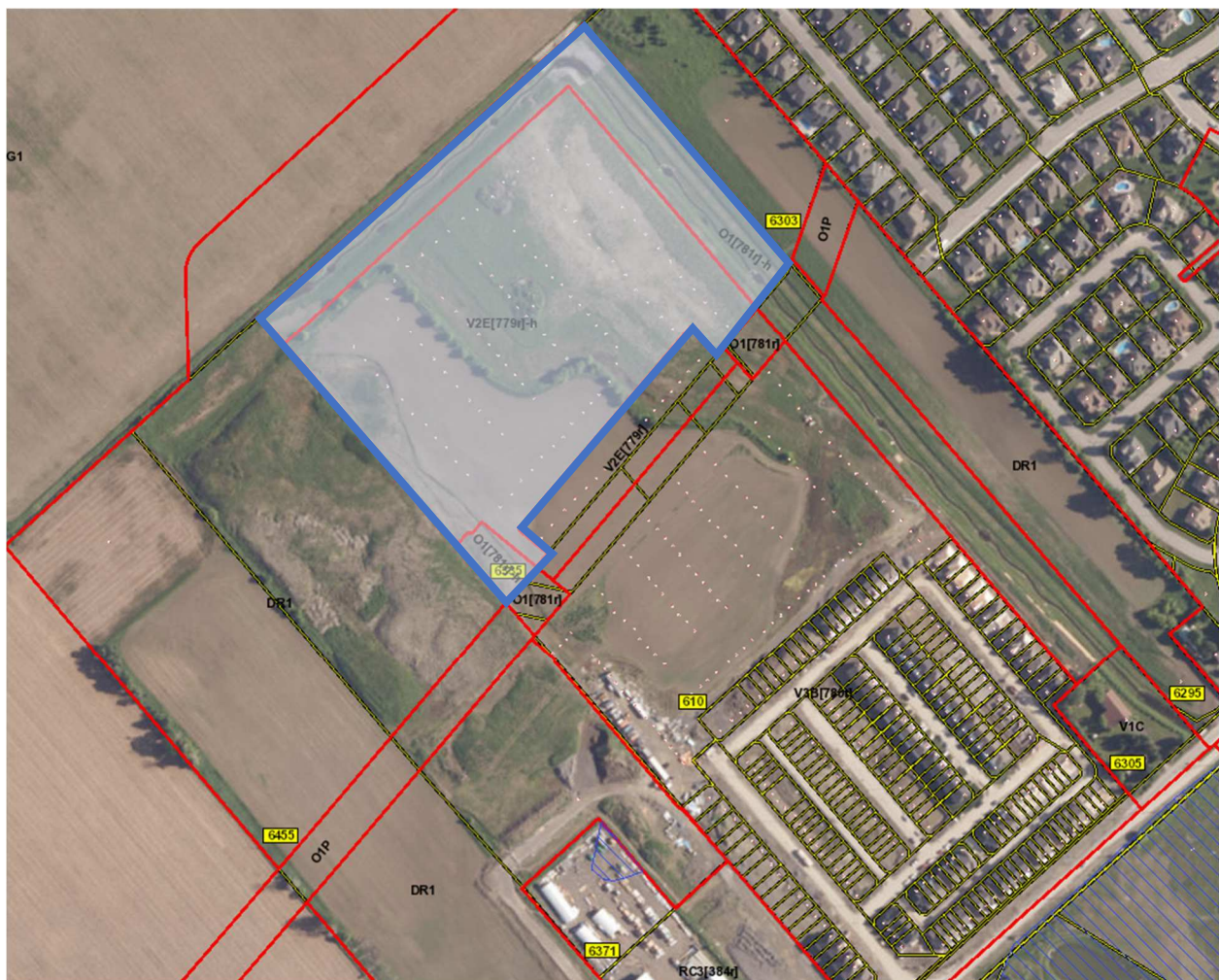
Sincerely,



Susan Murphy,
President, Land Development
Caivan
susan.murphy@caivan.com

This report has been prepared in support of Lifting the Holding Symbol associated with Caivan's Fox Run (Phase 5) subdivision situated at 6335 Perth Street. The purpose of this report is to summarize the servicing status of the Fox Run application and to demonstrate that the servicing requirements have been met to lift the holding zone.

The subject lands are draft plan approved (D07-16-11-0014) and zoned for residential purposes (By-law 2022-344) with a holding symbol applied to the lands. The subdivision was originally approved by the OLT in June 2014. Two revisions to the conditions have occurred with the most recent draft approval revision approved in November 2022 for the last phase of Fox Run.



By-Law 2022-344 states that a holding symbol on lands north of Perth Street can only be removed when:

- 3

2. at such time as the 'interim floodplain' as shown on Schedule A in the Richmond Secondary Plan is deemed to be appropriately removed by the Conservation Authority and the City.

Conditions 8 and 20 of draft approval stipulate the requirements of the holding symbol as follows:

(8) *The Owner acknowledges and agrees prior to the earlier of early servicing, lifting of the holding zone, final approval or commence work for the lands north of Perth Street that Owner shall obtain all approvals and complete all works necessary to remove the lands north of Perth Street from the interim flood plain subject to the approval of the Rideau Valley Conservation Authority, City's Drainage Supervisor, General Manager Planning, Real Estate and Economic Development.*

(20) *The Owner acknowledges and agrees that a holding zone will be placed on the proposed subdivision lands as follows:*

a) To require that prior to proceeding with registration of any phase of development the Owner shall demonstrate a program for both servicing capacity for sanitary and stormwater and water for the phase in question;

b) That the works required to remove the lands north of Perth Street from the interim flood plain are completed; and

c) That a detailed grading and drainage plan demonstrating the underside of footings to be above the groundwater pursuant to Condition 11.

Fox Run Floodplain Clearance

In terms of Condition 8 and Condition 20b), the Rideau Valley Conservation Authority has provided the clearance letter dated March 20, 2023 (see Appendix A) that confirms:

- a) The works associated with the realignment of the Van Gaal Drain has been completed to the satisfaction of the Conservation Authority.
- b) An update to the floodplain mapping resulting from the realignment work based on the JFSA (2017) report has been completed. This report and the updated mapping were presented at a public open house on October 5, 2022.
- c) The updated mapping was then adopted by the RVCA Board of Directors, at its meeting on October 27, 2022.
- d) The RVCA forwarded the floodplain mapping to the City of Ottawa November 11, 2022.
- e) The RVCA confirms that the majority of Fox Run Phase 2 (north of Perth Street) is no longer within the regulated floodplain.
- f) The RVCA does not have objections to this phase of the subdivision resuming its processing of Plan of Subdivision through the municipality and will continue to be engaged in its role as technical review agency, where required.

The updated floodplain as shown on Figure 1 has been incorporated in the City's Municipal GeoOttawa GIS portal. Based on the RVCA letter, the floodplain requirements have been satisfied for Condition 8 and Condition 20b) of the draft conditions and part 2 of the zoning by-law.

Fox Run Servicing Status

The Fox Run subdivision is a draft plan approved subdivision at various stages of approval, construction, and homeowner occupancies. Generally, the first two Phases are over 98% occupied with Phase 3 at 90% occupancy. Phase 4 has been civil serviced and home construction has commenced in March 2024. Phase 5 is the last phase in the subdivision. The figure below illustrates the Caivan phasing limits that will be referenced in this rationale, with Table 1 breaking down the Fox Run phases and closings.



Table 1 – Fox Run Phase Unit Count and Closing Velocity

Phase	Unit Count	Closed Units YTD	Remaining Units	2024 Closings	2025 Closings	2026 Closings	2027 Closings
Phase 1	177	167	10				10
Phase 1 - Metric	42	31	11	4	4	3	
Phase 2	200	165	6				
Phase 3	194	23	354	52			
Phase 4	134	0	134	60	74		
Phase 5	110	0	110		110		
TOTAL	857	386	634	116	188	3	10

Note -

Phase 1 remaining 10 lots - model complex

Sanitary Services

In August of 2020, the City and Caivan entered into a Development Agreement whereby Caivan paid for an automated by-pass infrastructure within the Richmond sanitary pump station allowing the City to allocate sanitary capacity for the 750 units or 35.8L/s in Fox Run draft plan as approved by the OLT. On July 12th, 2023, By-Law No. 2023-343 was passed to lift the holding zone on the Phase 4 lands. Phase 4, as shown on Figure 1, consists of 134 units which brings the total number of units to 747 in Fox Run, leaving 3 units remaining in the unit allocation.

Phase 5 is the final Phase within Fox Run and consists of 110 units.

In August of 2021, the City and Caivan reached a settlement agreement associated with Caivan's appeal to the Development Charges By-law within the Village of Richmond. The letter which is contained in Appendix B states that Richmond Village Development Corporation (inclusive of Richmond North and Richmond South) will be eligible for additional sanitary wastewater allocation pursuant to a monitoring program that requires the City to reassess at regular intervals the number of units that can be accommodated within the Richmond Village Pump Station. Pursuant to the settlement agreement, the City will undertake the reassessment on a bi-annual basis; once in Q2 and once in Q4 based on quarterly monitoring reports prepared by Caivan's engineer. The August 24, 2022, settlement agreement also states that the City will expeditiously manage the upgrades to the Richmond Village wastewater collection system in a manner that permits future development within Richmond Village including all necessary measures for flow removal.

The sanitary monitoring program was initiated in coordination with city staff and quarterly reports provided to the City in 2022. Caivan formally requested sanitary allocation for Fox Run Phase 5 in November 2022 based on the sanitary monitoring results and the Q4 reassessment timeframe stipulated in the settlement agreement. The monitoring results demonstrate that the current sanitary system can support the allocation to Fox Run Phase 5. The table below summarizes flow monitoring data and available capacity to support development.

Month	Min Flow (L/s)	Mean Flow (L/s)	Max Flow (L/s)	5-min Peak (L/s)	Occupancy	Flow Allocation
October 2023	4.015	4.586	7.781	17.428	62.8%	48.7%
November 2023	4.109	4.816	5.530	9.552	64.8%	26.7%
December 2023	4.259	4.896	5.395	9.784	65.5%	27.3%
January 2024	4.741	5.121	5.917	9.061	66.3%	25.3%
February 2024	4.590	5.107	5.864	10.246	67.1%	28.6%
March 2024	4.107	4.905	5.716	10.023	67.9%	28.0%

Fox Run was observed to contribute a 5-min peak flow of 10.023L/s during the month of March, while the allocated flow is 35.8L/s. RVDC has completed 509 units, 68% of its unit allocation the September 5min peak used 28% (10.023 L/s / 35.8 L/s) of its sanitary capacity allocation. The observed increase in maximum flow and 5-min peak during the month of October are attributed to watermain commissioning in Fox Run Phase 4 on October 24 and 25.

On May 9, 2024 the City conditionally allocated 3.96 L/s of sanitary capacity, corresponding to the design flow of 71 SFH and 4 MLT within Fox Run Phase 5. The allocation was communicated through an email from Christopher Rogers and the conditions are as followed:

1. Before Early Servicing

- *Prepare multi-barrier inflow prevention and maintenance plan (including locations and sizes orifices, inspection protocol and schedule) for City approval*

2. During Early Servicing construction

- *Continue flow monitoring and include automated alarm(s) for high level / high flow conditions.*
- *Automatic notification for:*
 - *Construction supervisor to identify and resolve issue*
 - *Notification to City operators*
- *Post-construction testing of new infrastructure, corrective actions if applicable*

3. Allocation of capacity

- *Early servicing at Caivan's risk*
- *Associated building permits will only be allocated following:*
 - *reinstatement of wet well and automated lagoon bypass (estimated in service date Q3 2024)*
 - *demonstration of developer implementation of successful inflow management during construction*

Any further capacity allocation will be contingent on:

- *Commissioning of forcemain extension (estimated in service date Q4 2024)*
- *Results of continued dry weather and wet weather flow monitoring from development lands, successful post-construction testing of new infrastructure, corrective actions if applicable*

Caivan agreed to the conditions through email on May 27, 2024, and a Multi-Barrier Inflow Prevention and Maintenance Plan was submitted by DSEL on May 28, 2024, to satisfy the conditions prior to Early Servicing.

Accordingly, Caivan is applying to lift the holding zone on 71 SFH and 4 MLT to allow for early servicing to commence. In addition, Caivan is applying to lift the holding zone on all ROWs to allow for the civil servicing exercise to be completed throughout the entirety of Phase 5. Due to the utility servicing constraints, it is not possible for Caivan to restrict the civil servicing of the site to the units with sanitary allocation exclusively. Reserves will be applied to the outstanding 35 lots to restrict building permits from being eligible.

Water Services

Richmond Western Lands Water Pumping Station Facility (RWPS)

The Richmond Western Lands Water Pumping Station Facility (RWPS) was constructed in 2017/2018 by Caivan consistent with the approved Village of Richmond Water & Sanitary Master Servicing Study (July 2011). The RWPS is 100% developer funded consisting of a communal water well, storage, pumping and distribution system that services Caivan and Mattamy Homes subdivision lands within the Western Development Lands.

The existing firm capacity of the well is 28.18 L/s. Firm capacity is required to meet maximum day water demands. The table below summarizes current allocation and status of each development parcel.

Phase	Status	Max Day Demand (L/s)	Cumulative Max Day Demand (L/s)	Capacity Remaining (L/s)	Percent Capacity
Caivan Fox Run Phase 1	In service	4.21	4.21	23.97	15%
Caivan Fox Run Phase 2	In service	3.84	8.06	20.12	29%
Caivan Fox Run Phase 3	In service	1.60	9.66	18.52	34%
Mattamy Meadows Phase 1	In service	2.79	12.45	15.73	44%
Mattamy Meadows Phase 2	Under construction	3.96	16.41	11.77	58%
Caivan Fox Run Phase 4	Under construction	1.56	17.97	10.21	64%
Mattamy Meadows Phase 4	Draft Plan Approved	1.85	19.81	8.37	70%
Mattamy Meadows Phase 3	Draft Plan Approved	3.91	23.72	4.46	84%

Mattamy Meadows Phase 5	Draft Plan Approved	2.29	26.01	2.17	92%
Richmond North Phase 1	Draft Plan Approved	0.76	26.77	1.41	95%

There is 1.41L/s of capacity remaining to support Fox Run Phase 5. This is sufficient to support 71 SFH and 4 MLT in Fox Run Phase 5 without exceeding the firm capacity.

The RWPS will need to be upgraded with an additional well to increase the firm capacity to 41.85 L/s to support the remaining 35 units in Fox Run Phase 5 as well as Caivan's Richmond North and Richmond South subdivisions. Currently, Caivan is working with the City to advance detailed design of the required well upgrades and phasing requirements. All design and construction costs associated with the upgrades will be borne by Caivan and Mattamy Homes.

The RWPS well upgrade project is not required for to support 71 SFH and 4 MLT in Fox Run Phase 5.

Fire Flows

The RWPS was designed to have sufficient storage to provide fire flows based on criteria set out in the Village of Richmond Water and Sanitary Servicing Study (Stantec, July 22, 2011). Fox Run subdivision is accounted for in the reservoir storage. Caivan submitted a revised draft plan and zoning application in November 2021 for the last phase in Fox Run that was previously draft plan approved. Concurrent with the applications, the City retained Stantec in 2021 to undertake the Village of Richmond Water Supply – Functional Design Study. The purpose of the study is to develop a functional design and phasing plan for the Richmond water supply over the short-term, interim, and ultimate conditions to allow for the integration of all existing and known future development areas to be ultimately serviced by an integrated communal well system. The land development stakeholders were invited to form part of the technical advisory committee. In January 2022, through consultation with the TAC, 10,000L/min for 2hrs was agreed upon as the appropriate fire flow target to size the future expansion of the reservoir. Construction commenced in May 2024 to expand the reservoir storage from 1,175m³ to 2,603m³. The construction of the expansion is estimated at 6 months. The reservoir expansion will be completed by the end of 2024.

The attached DSEL letter dated June 20, 2024, provides engineering confirmation on well capacity and fire flows, current, interim, and ultimate, to permit the continued servicing and home construction in Fox Run concurrent with the design and construction of the RWPS reservoir expansion (Appendix D). In addition to the information provided in the DSEL letter, we offer the following additional points:

- In the approved DSEL Design Brief (March 2023) prepared with the detailed engineering submission, Stantec undertook the Potable Water Hydraulic Analysis for the subdivision. A fire flow assessment was completed to demonstrate that local watermains can provide the objective fire flows of 10,000 L/min.
- There is current fire flow protection today in the existing reservoir storage which includes Fox Run Phase 5. This exceeds the fire flow availability in the existing Village.
- The existing reservoir and firm capacity of the facility can provide 2,778L/min for 2hrs for the full buildout of Fox Run Phases 1- 5 and Mattamy Phases 1-5. This estimate is conservative for two reasons: it assumes that fire supply is based on the highest yielding well out of service; and uses City of Ottawa design rates for water consumption. Removing the two layers of conservatism, the facility is capable of providing 4,038L/min for 2hours. In the FSR analysis prepared by Stantec,

10,000L/min could be made available with the existing system where flow is supplemented by the well. **On an interim basis**, the large well (40L/s) and the available storage can be available in the event of an emergency to provide 10,000L/min for 2hrs.

- The change to the new standard occurred mid-way through the approval of the last phase of Fox Run. A transition provision should apply just as additional development and construction has occurred elsewhere in the Village of Richmond absent the well expansion.
- The well reservoir expansion construction is currently underway. The contractor, Sulpher, construction schedule indicates substantial completion December 15, 2024. House construction in Phase 5 commences in February 2025.

House construction for Phase 5 commences after the completion of the reservoir addition based on the current contractor schedule. Should there be a delay, , there is sufficient existing fire protection with interim solutions available that mitigate the risk of allowing Fox Run home construction concurrent with the completion/commissioning of the well reservoir expansion.

Stormwater Management & Grading

Condition 20a) states that Caivan must demonstrate that there is servicing capacity for stormwater management for the specific phase in question. As per the approved detailed engineering design submission, the subject lands will be serviced by the existing stormwater management pond in Phase 1 of this development. There is sufficient residual capacity in the downstream storm sewers and infrastructure to accommodate the flow brought on by this phase as demonstrated by the stormwater modelling approved with the detailed design submission for Phases 4 and 5 (DSEL 2023). The ECA application to the MECP has been submitted to approve the storm and sanitary sewers connecting to existing sewer stubs within the subdivision. Through the City's approval of the detailed design for the subdivision, the program for the stormwater management system has been demonstrated to be satisfactory to facilitate the full build out of Fox Run subdivision.

In terms of Condition 20c) the approval of the Master Grading Plan has demonstrated the underside of footings to be above the groundwater.

Summary

Fox Run Phase 5	Units	Allocation/Capacity
Sanitary	75	City has allocated 3.96L/s of Sanitary Capacity
Water	75	Water capacity allocated within the existing communal well
Fire flows	110	Well expansion to be completed end of 2024 to increase fire flows to new standard of 10,000 L/min for 2 hrs. Phase 5 home construction start in February 2025 with September 2025 closings after the completion of the expanded reservoir.

Stormwater	110	Adequate storm servicing demonstrated through approval of subdivision detailed engineering approval
Floodplain	110	Floodplain updated by RVCA and clearance letter provided

Appendices

Appendix 1 – Rideau Valley Conservation Authority Clearance Letter (March 20, 2023)

Appendix 2 – DSEL Response Letter to Fox Run Phases 4&5 Availability of Water (June 20, 2024)