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Initials

WM

City of  
**Kelowna**  
DEVELOPMENT PLANNING

# MEMORANDUM

**Date:** October 20, 2023  
**File No.:** Z23-0064  
**To:** Urban Planning Manager (WM)  
**From:** Development Engineering Manager (NC)  
**Subject:** 949 Hewetson Court Rezoning RU1 to MF2

The Development Engineering Branch has the following comments for this Rezoning application for the cluster housing project named The Heights At Upper Mission. All works and servicing upgrades will be required as a condition of rezoning. The Development Engineering Technologist for this project is John Filipenko ([jfilipenko@kelowna.ca](mailto:jfilipenko@kelowna.ca)).

## 1. GENERAL

- a. This proposed development may require the installation of centralized mail delivery equipment. Please contact Arif Bhatia, Delivery Planning Officer, Canada Post Corporation, 530 Gaston Avenue, Kelowna, BC, V1Y 2K0, (250) 859-0198, [arif.bhatia@canadapost.ca](mailto:arif.bhatia@canadapost.ca) to obtain further information and to determine suitable location(s) within the development.
- b. The following requirements are valid for two (2) years from the reference date of this memo, or until the application has been closed, whichever occurs first.  
The City of Kelowna reserves the rights to update/change some or all items in this memo once these time limits have been reached.

## 2. DOMESTIC WATER AND FIRE PROTECTION

- a. The subject lot is located within the City of Kelowna water supply area.
- b. The existing lot is not currently serviced. Only one service will be permitted for this development.
- c. The Developer's Consulting Engineer will determine the domestic and fire protection requirements of this proposed development and establish hydrant requirements and service needs. The bylaw maximum fire flow demand for two dwelling residential is 60 L/s and is available at the property line of the site. If it is determined that upgrades to any other existing water distribution system must be made to achieve the required fire flows at the higher elevations of the site, additional bonding may be required.

- d. The Neighborhood 3 Area Structure Plan identifies that this property requires a booster station. The booster station will serve this property exclusively and needs to be privately owned and operated by the property owner, if determined to be necessary to achieve MDD+FF demand for the site. The Developer's Consulting Engineer must consider infrastructure design that is adequate for fire protection, including fire hydrants, fire flows, and backup power.
- e. An approved backflow protection device must be installed on site as required by the City Plumbing Regulation and Water Regulation bylaws.
- f. A water meter is mandatory for this development and must be installed inside a building on the water service inlet as required by the City Plumbing Regulation and Water Regulation bylaws. The developer or building contractor must purchase the meter from the City at the time of application for a building permit from the Inspection Services Department and prepare the meter setter at their cost.
- g. The subject property is within the South Mission Water ESA #15 and the Kuipers Reservoir Expansion ESA #17 and latecomer fees will apply.

### 3. **SANITARY SEWER SYSTEM**

- a. The subject property is located within the City of Kelowna sewer service area. Our records indicate that this property is not currently serviced by sanitary sewer.
- b. Service connections are to be completed with an inspection chamber (c/w Brooks Box) as per SS-S7 and may not be extended at an angle that exceeds 45° from perpendicular to the main.
- c. The Applicant's Consulting Mechanical Engineer will determine the requirements of the proposed development and establish the service needs.
- d. Only one service will be permitted for this development.

### 4. **STORM DRAINAGE**

- a. The subject property is located within the City of Kelowna drainage service area. The hillside areas of Kelowna are not suitable for groundwater recharge or disposal of on/offsite drainage via infiltration. Roof or site drainage for this development must discharge directly to the City of Kelowna's storm system at the 1:5 yr. pre-development rate. The City will not permit infiltration to ground except for foundation perimeter drains above the established high-level groundwater table.
- b. Our records indicate that this property is not currently serviced by storm sewer.
- c. The developer must engage a consulting civil engineer to provide a storm water management plan for the site, which meets the requirements of the Subdivision, Development and Servicing Bylaw No. 7900.

- d. Provide the following drawings:
  - a. A detailed Lot Grading Plan (indicate on the Lot Grading Plan any slopes that are steeper than 30% and areas that have greater than 1.0 m of fill), grading directly to a natural drainage path must include adequate erosion control and water quality improvement measures.
  - b. A detailed Stormwater Management Plan for this development; and,
  - c. An Erosion and Sediment Control Plan is to be prepared by a Professional Engineer proficient in the field of erosion and sediment control. The plan is to be prepared as per section 3.14 of Schedule 4 of Bylaw 7900. If a line item for ESC is not included in the Engineer's cost estimate for off-site work, then an additional 3% will be added to the performance security based on the total off-site construction estimate.
- e. On-site detention systems are to be compliant with Bylaw 7900, Schedule 4, Section 3.11.1 Detention Storage.
- f. As per Bylaw 7900, Schedule 4, Section 3.1.3 Climate Change, the capacity of storm works will include an additional 15 percent (15%) upward adjustment and applied to the rainfall intensity curve stage (IDF) in Section 3.7.2.
- g. Show details of dedications, rights-of-way, setbacks and non-disturbance areas on the lot Grading Plan.
- h. Register right of ways on private properties for all the storm water infrastructure carrying, conveying, detaining and/or retaining storm water that is generated from the public properties, public road right of ways, and golf course lands.
- i. Identify clearly on a contour map, or lot grading plan, all steep areas (>30 %). Provide cross sections for all steep areas at each property corner and at locations where there are significant changes in slope. Cross sections are to be perpendicular to the contour of the slope. Show the proposed property lines on the cross sections. Not all areas have a clear top of bank; and therefore, field reconnaissance by City staff and the applicant may be needed to verify a suitable location for property lines.
- j. Where structures are designed or constructed below the proven high groundwater table, permanent groundwater pumping will not be permitted to discharge to the storm system. The City will approve designs that include provisions for eliminating groundwater penetration into the structure, while addressing buoyancy concerns. These design aspects must be reviewed and approved by the City Engineer.
- k. Only one service will be permitted for this development.

## 5. ROAD IMPROVEMENTS

- a. Hewetson Court fronting the subject property must be upgraded to an urban standard (modified SS-H14) with a landscaped and irrigated boulevard.
- b. All Landscape and Irrigation plans require design and inspection by a Qualified Professional registered with the BCSLA and the IIABC, are to be included as a line item in the estimate for the Servicing Agreement performance security. Landscape and irrigation plans require approval by the Development Engineering Branch at the same time as other “issued for construction” drawings.
- c. Grade the fronting road boulevards in accordance with the standard drawing. Major cut/fill slopes must start at the property lines.
- d. Streetlights must be installed on all public roads. All streetlighting plans are to include photometric calculations demonstrating Bylaw 7900 requirements are met and require approval by the Development Engineering Branch at the same time as other “issued for construction” drawings.

## 6. POWER AND TELECOMMUNICATION SERVICES

- a. All proposed distribution and service connections are to be installed underground. It is the developer’s responsibility to make a servicing application with the respective electric power, telephone and cable transmission companies to arrange for these services, which would be at the applicant’s cost. The utility companies are required to obtain the City’s approval before commencing construction.
- b. Please make arrangements with Fortis BC for the pre-payment of applicable charges.

## 7. GEOTECHNICAL STUDY

- a. Provide a geotechnical report prepared by a Professional Engineer competent in the field of hydro-geotechnical engineering to address the items below: **NOTE: The City is relying on the Geotechnical Engineer’s report to prevent any damage to property and/or injury to persons from occurring as a result of problems with soil slippage or soil instability related to this proposed subdivision.**
- b. The Geotechnical reports must be submitted to the Development Services Department (Subdivision Approving officer) for distribution to the Development Engineering Branch and Inspection Services Division prior to submission of Engineering drawings or application for subdivision approval.
  - a. Area ground water characteristics, including any springs and overland surface drainage courses traversing the property. Identify any monitoring required.
  - b. Site suitability for development.

- c. Site soil characteristics (i.e., fill areas, sulphate content, unsuitable soils such as organic material, etc.).
  - d. Any special requirements for construction of roads, utilities and building structures.
  - e. Slope stability, rock fall hazard and slippage including the effects of drainage on the site.
  - f. Identify slopes greater than 30%.
  - g. Top of bank assessment and location including recommendations for property line locations, building setbacks, and ground water disposal locations.
  - h. Recommendations for items that should be included in a Restrictive Covenant.
  - i. Any special requirements that the proposed development should undertake so that it will not impact the banks(s). The report must consider erosion and structural requirements.
  - j. Recommendations for erosion and sedimentation controls for water and wind.
  - k. Any items required in other sections of this document.
  - l. Recommendations for roof drains, perimeter drains and septic tank effluent on the site.
- c. If any blasting is proposed as part of this subdivision, a Soil Removal and Deposit Application must be made to the City for such works. The proposed blasting work is to comply with Amendment No. 1 to the Soil Removal and Deposit Regulation Bylaw No. 9612, specifically Section 6 PERMIT REQUIREMENTS – (k) and (g).
- d. Should any on-site retaining walls surpass the following limits, an Over Height Retaining Wall Permit will be required:

“Retaining walls on all lots, except those required as a condition of subdivision approval, must not exceed a height of 1.2 m measured from natural grade on the lower side, and must be constructed so that any retaining walls are spaced to provide a 1.2 m horizontal separation between tiers. The maximum number of tiers is two with a maximum total height of 2.4 m. Any multi-tier structure more than 2 tiers must be designed and constructed under the direction of a qualified professional engineer.”

- e. The design of all retaining walls is to conform with Engineer & Geoscientists British Columbia's *Professional Practice Guidelines for Retaining Wall Design*. Submission requirements for the Over Height Retaining Wall Permit include Engineer of Record documents (Appendix A of *Retaining Wall Design Guideline*) and any necessary independent reviews (as per EGBC's *Documented Independent Review of Structural Designs*).
- f. Any modified slopes having a finished slope greater than 2H:V1 (50%) and an elevation change greater than 1.2 m must be installed under the direction of a qualified professional engineer.
- g. Any exposed natural rock surface on a lot that has the potential for materials to displace causing a hazardous condition, must be reviewed by a qualified professional engineer with the appropriate and measures undertaken as prescribed by the engineer. For adequate Rockfall Protection adjacent to walls and rock cuts, please consider BC MoTI Supplement to TAC Geometric Design Guide 440, page 440-8, which outlines a ditch bottom width depending on wall height. Sidewalks and utilities should be kept out of this protection area. Additional ROW may be required.

## 8. **ROAD DEDICATION AND SITE-RELATED ISSUES**

- a. Review existing cul-de-sac for turning movements. Dedicate and improve Hewetson Court as required for full turning movements based on City of Kelowna SS-R17.
- b. Only one driveway will be permitted with a maximum width of 6.0m.
- c. Indicate, on the site, the locations of the garbage and recycle bins. Provide turning movements for an HSU vehicle to confirm maneuverability on site without requiring reverse movement onto Findlay Road.
- d. Provide all necessary Statutory Rights-of-Way for any utility corridors required, including those on proposed or existing City lands.
- e. If any road dedication affects lands encumbered by a Utility right-of-way, please obtain the approval of the utility prior to application for final subdivision approval. Any works required by the utility as a consequence of the road dedication must be incorporated in the construction drawings submitted to the City's Development Manager.
- f. To prevent private/public encroachment, the applicant will be required to delineate all private property lines adjacent to the open space parcel with a minimum 1.2m high black vinyl chain link fence (or approved equivalent) located 150mm within the private property. On residential lots with registered no-disturb covenants immediately adjacent to the Natural Area Park, the fence shall be located 150mm before the start of the covenant.

**9. DESIGN AND CONSTRUCTION**

- a. Design, construction supervision and inspection of all off-site civil works and site servicing must be performed by a Consulting Civil Engineer and all such work is subject to the approval of the City Engineer. Drawings must conform to City standards and requirements.
- b. Engineering drawing submissions are to be in accordance with the City's "Engineering Drawing Submission Requirements" Policy. Please note the number of sets and drawings required for submissions.
- c. Quality Control and Assurance Plans must be provided in accordance with the Subdivision, Development & Servicing Bylaw No. 7900 (refer to Part 5 and Schedule 3).
- d. A "Consulting Engineering Confirmation Letter" (City document "C") must be completed prior to submission of any designs.
- e. Before any construction related to the requirements of this application commences, design drawings prepared by a professional engineer must be submitted to the City's Development Services department. The design drawings must first be "Issued for Construction" by the City Engineer. On examination of design drawings, it may be determined that right-of-ways are required for current or future needs.

**10. SERVICING AGREEMENTS FOR WORKS AND SERVICES**

- a. A Servicing Agreement is required for all works and services on City lands in accordance with the Subdivision, Development & Servicing Bylaw No. 7900. The applicant's Engineer, prior to preparation of Servicing Agreements, must provide adequate drawings and estimates for the required works. The Servicing Agreement must be in the form as described in Schedule 2 of the bylaw.
- b. Part 3, "Security for Works and Services", of the Bylaw, describes the Bonding and Insurance requirements of the Owner. The liability limit is not to be less than \$5,000,000 and the City is to be named on the insurance policy as an additional insured.

**11. CHARGES, FEES, AND SECURITIES**

- a. Development Cost Charges (DCC’s) are payable.
- b. Fees per the “Development Application Fees Bylaw” include:
  - a. Survey Monument, Replacement Fee: \$1,200.00 (GST exempt) – only if disturbed.
  - b. Engineering and Inspection Fee: 3.5% of construction value (plus GST).
- c. Extended Service Area Latecomer Fees:

ESA#	Frontender	Component	Anniversary (rates increase)	\$ Rate per EDU*
15	No. 21 Great Project Ltd.	South Mission Water (750mm Water Main)	2023-12-19	705.42
17	No. 21 Great Project Ltd.	Kuipers Reservoir Expansion	2024-06-01	2140.49

\*These fees are to be confirmed at time of development.

  
 Nelson Chapman, P.Eng.  
 Development Engineering Manager

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