



Staff Report to Special Sustainable Development Advisory Committee

DATE: Monday, April 22, 2024

DEPARTMENT: Engineering

SUBJECT: Omnibus Amendments to Subdivision and Development Servicing Bylaw No. 1000, Bylaw No. 1926

EXECUTIVE SUMMARY:

The purpose of this report is to provide background information to the proposed Subdivision and Development Servicing Bylaw No. 1000, Amendment No. 25, 2024 (Omnibus) Bylaw No. 1926. The bylaw amendments in this omnibus are being proposed for additional clarification on titles, design requirements and approvals for retaining walls, cut/fill slopes, and bridges, in accordance with Council's 2023-2027 Strategic Plan and early guidance to the development community. There is a sense of urgency due the fact that retaining walls being built in Langford now typically have a design-life ranging from 50 to 100 years on average. These amendments, if adopted, will contribute to Council's vision for a vibrant, thriving, inclusive and climate resilient community by making informed decisions for current and future generations including residents, businesses, and visitors.

BACKGROUND:

Council published the early guidance document for developers on May 18, 2023, which spoke to high-quality growth with an emphasis on community building, as advised by our consultants for the Official Community Plan refresh. Council's 2023-2027 Strategic Plan further speaks to the need for design guidelines and an Urban Forest Management Plan. Consultants for these initiatives spoke about the urban heat island effect and the need for increasing tree canopy within public rights-of-way, particularly over sidewalks. Consultants also spoke about the importance of massing of structures and how structures land within the streetscape with regards to equity and comfortability for residents, particularly in multi-family or high-density areas.

While these initiatives are still ongoing, there are gaps in the bylaw that could be closed now that would positively contribute to these initiatives in the long term. Gaps include but are not limited to the following:

- retaining walls not physically connected to a building do not currently require a building permit;
- there are currently no retaining wall regulations in Langford's Zoning Bylaw No. 300;
- lot leveling and perimeter retaining walls or slope stabilization typically occur at the development permit stage, prior to subdivision;

- all current local retaining wall requirements, restrictions, and prohibitions can be found in Langford's Subdivision and Servicing Bylaw No. 1000, Section 3.1 General Geotechnical; and
- the road classification and adjacency of the wall to the road are consistently contested when there is a dispute on bylaw compliance or interpretation thereof.

COMMENTARY:

See attached the proposed bylaw amendments and the sketch concept for the proposed retaining wall terracing. A summary of the staff recommended bylaw amendments include but are not limited to the following:

- retaining wall terracing and setback requirements to allow for more landscape boulevard with trees and shrubbery with irrigation at an easily maintainable height;
- further exclusions of unattractive retaining wall types and stabilization treatments with broadened visibility;
- expanded approval requirements for retaining walls and cut or fill slopes with additional regard for public safety and heat reflection;
- requiring minimum certification period of 10 years for natural rock faces (cut slopes) to protect property owners;
- visibly complementary or consistent retaining wall type, colour, and pattern requirements; and
- design and submittal requirements for bridge approvals.

Staff are not proposing setting a maximum height on the overall retaining wall beyond the first tier/terrace to minimize the impact on the buildable area while still improving the experience for those at the base of the wall. This single tier also allows for a larger tree canopy farther away from the underground utilities within the roadway. The additional greenscape to buffer the hardscape will make for a more pleasant and comfortable experience on public roads and walkways adjacent to large retaining walls and slopes while defending against heat reflection then effects of climate change. The additional clarity provided in all these amendments will lead to more visible quality and consistency in these designs throughout the city over time.

CUTS/FILLS AND RETAINING WALLS

Where topography is unfavourable for the development, cuts and fills may be necessary to create a flat lot. Owners typically engage professional engineers and geoscientists to assess the natural conditions where necessary and provide options for stabilization solutions that meet or exceed all applicable bylaws and regulations, including but not limited to the B.C. Building Code earthquake design standard. When choosing between the different permissible recommendations presented, it is typically the most economical solution that drives the design and aesthetic beyond this point. This has resulted in an assortment of different retaining wall types all within the same area or even connected. The following are representative photos taken by staff on March 5, 2024, of existing retaining walls in Langford:



Four types of retaining walls facing multi-family development



Two types of retaining walls facing collector road



Gabion basket retaining walls with roadside jersey barriers



Lock blocks on top of boulder-stack (non-face mortar)

In many cases, where there is a separated boulevard within the public road right-of-way, the private property line is located at the back of the public sidewalk. To maximize the buildable area of a development, when creating a flat lot on a naturally sloped property, the private retaining wall or rockfall catchment ditch typically begins at the property line (back of sidewalk). There are currently no setback requirements, no height limits, and no terracing requirements for retaining walls in our bylaws. This has resulted in retaining walls that are several meters or storeys tall directly adjacent to sidewalk, pathway, or roadway curbs. Also, in many cases where there has been selective terracing, terraces are either too narrow for growth or too high to maintain (without fall-arrest anchor points) and therefore too costly to maintain and overgrown. The following are representative photos taken by staff on March 5, 2024, of existing retaining walls in Langford:



Terrace high and narrow, sidewalk between wall and parking



Large precast wall, one terrace, no landscaping



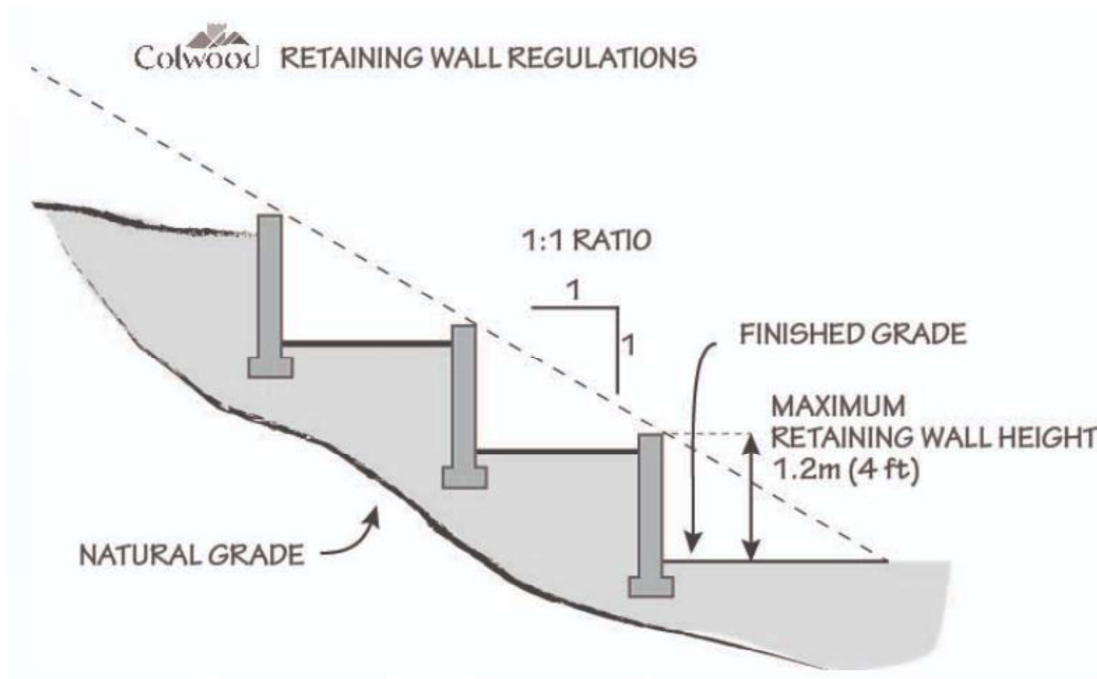
Multiple terraces, overgrown, costly to maintain



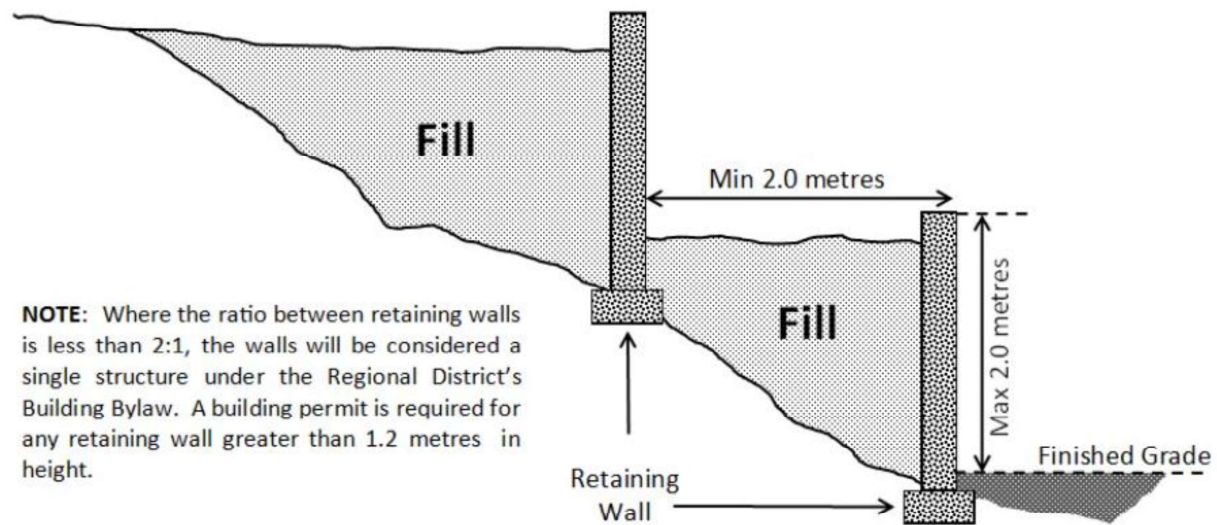
Abandoned boulder wall with unmanaged terrace

In general, all engineered cut or fill slopes and structural retaining walls require geotechnical certification stating the property is “safe for the intended use” prior to subdivision or building permit whichever comes first. In certain circumstances, for example, the professional engineer or geoscientist of record will only certify natural rock faces (cut slopes) for a year and require annual monitoring. This is indicative of unideal existing rock conditions that will likely require costly maintenance and intervention in subsequent years. By then however, the property has changed hands, either sold to a homeowner or business, become part of a strata, or donated to the City in a public park or road right-of-way, for example. In order to protect future property owners, staff are recommending setting a minimum certification period of 10 years. This does not apply to retaining walls which have a design-life ranging from 50 to 100 years on average.

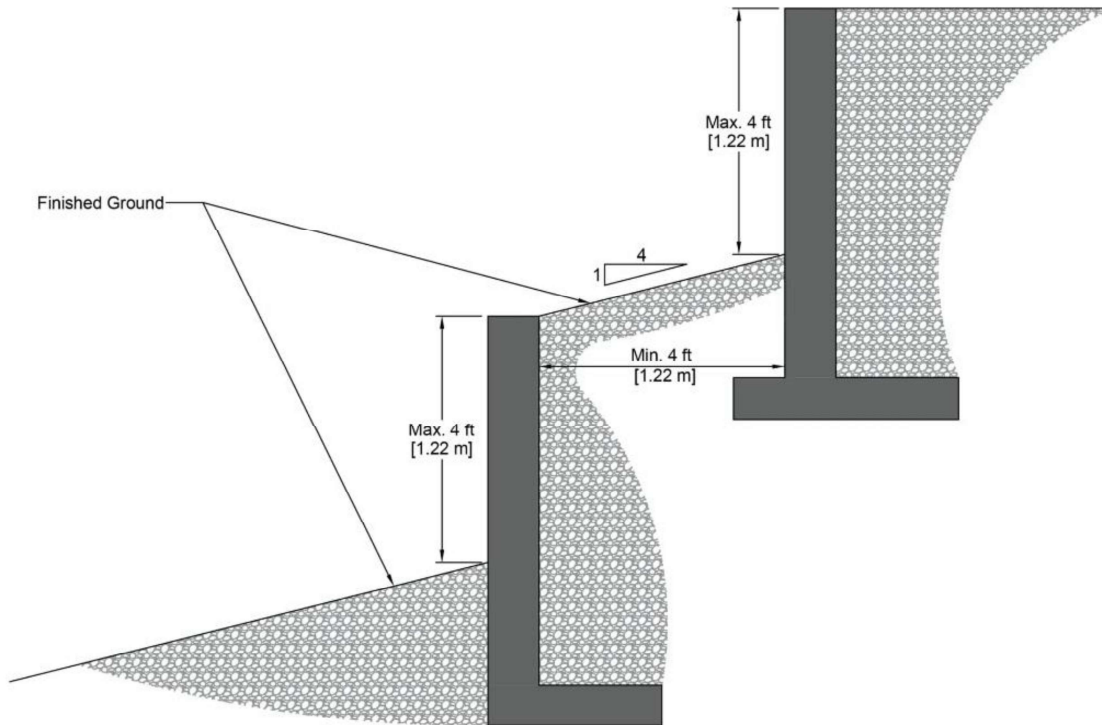
For comparison, see below retaining wall sketch concepts from other municipalities in B.C.:



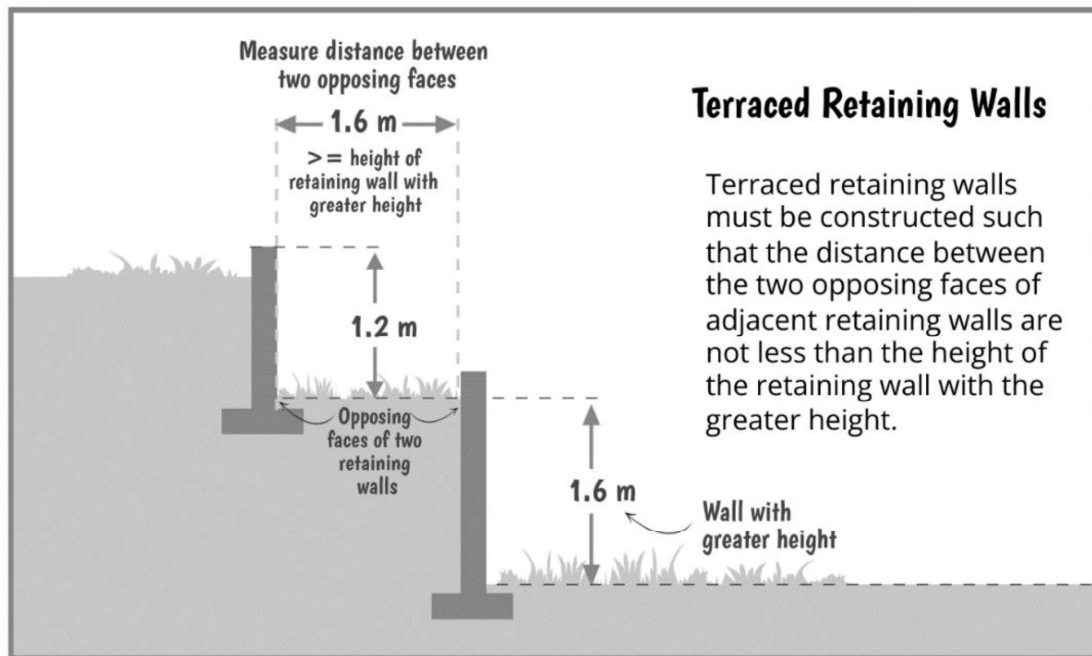
City of Colwood Retaining Wall Terracing Sketch Concept



Regional District of Okanagan-Similkameen Retaining Wall Terracing Sketch Concept



Resort Municipality of Whistler Retaining Wall Terracing Sketch Concept



Municipality of North Cowichan Retaining Wall Terracing Sketch Concept

BRIDGES

With regards to bridges, staff have been communicating Langford's bridge design requirements to developers on an as needed basis but have determined it is now time to add them to Bylaw No. 1000 for clarity and consistency. This was previously a relatively rare occurrence but is becoming more common for developers to be building bridges that will become a dedicated public asset.

FINANCIAL IMPLICATIONS:

None.

LEGAL IMPLICATIONS:

None.

STRATEGIC PLAN INITIATIVES:

Supported by:

- 1c – Create Early Guidance for the Development Community
- 1d – Update Design Guidelines and Consider and Advisory Design Panel
- 1g – Develop an Urban Forest Management Plan

OPTIONS:

Option 1

THAT Committee recommend that Council give first, second, and third readings to Bylaw No. 1926 as attached to this report.

OR Option 2

THAT Committee recommend that Council take no action regarding amendments to Bylaw No. 1000 at this time.

SUBMITTED BY: Katelyn Balzer, P.Eng., Director of Engineering and Public Works

Concurrence: Donna Petrie, Senior Manager of Communications & Economic Development

Concurrence: Yari Nielsen, Director of Parks, Recreation and Facilities

Concurrence: Matthew Baldwin, RPP, MCIP, Director of Development Services

Concurrence: Leah Stohmann, RPP, MCIP, Director of Community Planning and Climate Change

Concurrence: Michael Dillabaugh, CPA, CA, Director of Finance

Concurrence: Marie Watmough, Deputy Director of Corporate Services

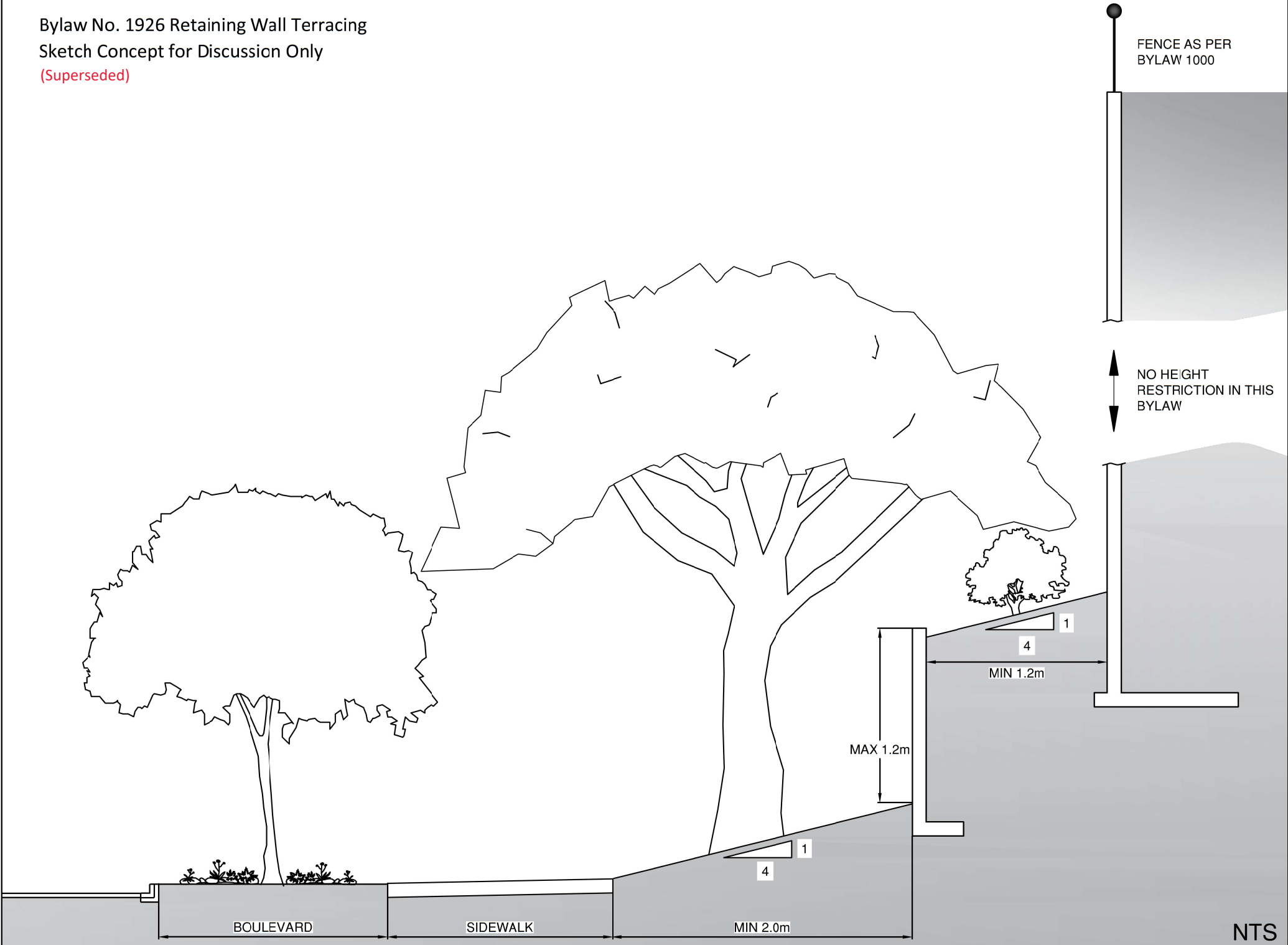
Concurrence: Braden Hutchins, Director of Corporate Services

Concurrence: Darren Kiedyk, Chief Administrative Officer

Attachment: Langford Retaining Wall Terracing Bylaw No. 1926 Sketch Concept (**Superseded**)

DRAFT Bylaw No. 1926 (**Superseded**)

Bylaw No. 1926 Retaining Wall Terracing
Sketch Concept for Discussion Only
(Superseded)



CITY OF LANGFORD
BYLAW NO. 1926

(Superseded)

A BYLAW TO AMEND BYLAW NO. 1000,
“Subdivision and Servicing Bylaw, 2009”

The Council of the City of Langford, in open meeting assembled, hereby enacts as follows:

A. Subdivision and Servicing Bylaw No. 1000, 2009 is amended as follows:

1. By deleting the Section 4.0 definition of “City Engineer”.
2. By adding to Section 4.0 “Definitions” the following definition in appropriate alphabetical order:

““Director of Engineering” means the person appointed by the City as the Director of Engineering and Public Works (also known as the City Engineer) or any employee authorized to act on their behalf.”
3. By amending the Section 4.0 definition of “Director of Parks, Recreation and Facilities” as follows:

““Director of Parks” means the person appointed by the City as the Director of Parks, Recreation and Facilities (also known as the Manager of Parks or Parks Manager) or any employee authorized to act on their behalf.”
4. By adding Section 3.1.3.3: “The toe of the retaining wall at any given point must be setback at minimum 2.0 meters from any hard surface for public passage including but not limited to asphalt, concrete, or pavers on highways or walkways to allow for landscape boulevard with trees and irrigation, all as approved by and to the satisfaction of the Director of Engineering and Director of Parks.”
5. By adding Section 3.1.3.4: “All retaining walls visible from a highway or walkway must include at minimum one separated terrace at a maximum exposed height of 1.2 meters above finished grade with a minimum distance of 1.2 meters between retaining wall structures at a maximum slope of 1:4 (rise/run) to allow for landscape boulevard with shrubbery and irrigation as approved and to the satisfaction of by the Director of Engineering and Director of Parks.”
6. By replacing Section 3.1.4. with the following: “Retaining walls similar to stacked rock or boulder stack (non-face mortar), smooth concrete block, smooth cast-in-place concrete, shotcrete, or gabion basket type, or cut or fill slopes requiring visible anchoring, meshing, fencing, or other mechanical stabilization measures within the next 10 years, are not permitted unless part of a comprehensive landscape design as approved by the Director of Parks or otherwise must not be visible from any other private or public property, highway or walkway with exceptions for existing physical limitations, all as approved by and to the satisfaction of the Director of Engineering.”

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7. By replacing Section 3.1.5. with the following: “All retaining walls, and cut or fill slopes, within or reasonably adjacent (within the collapse zone if a failure were to occur) to existing or future public property, highway or walkway including but not limited to roads, rights-of-way, or park dedication must be approved by and to the satisfaction of the Director of Engineering and Director of Parks on a case-by-case basis with regard to the effect on surrounding uses, public safety, maintenance, heat reflection, and visual impact.”
 8. By adding Section 3.1.11.: “All retaining walls visible from public property, highways or walkways must be complimentary or consistent with other approved retaining walls in the visible vicinity with regards to type, colour, and pattern as approved by and to the satisfaction of the Director of Engineering and Director of Parks.”
 9. By adding Section 4.21.: “Bridges”
 10. By adding Section 4.21.1.: “All bridges must be designed in accordance with CSA S6:19 *Canadian Highway Bridge Design Code* or most recent version thereof, with minimum BCL-625 live loading for vehicular bridges, with foundations designed in accordance with the professional geotechnical engineer of record’s recommendations, with the bridge elevation designed in accordance with the approved stormwater management plan, with the bridge alignment designed in accordance with TAC *Geometric Design Guide for Canadian Roads*, and authenticated by the professional structural bridge engineer of record, all as approved by and to the satisfaction of the Director of Engineering.”
 11. By adding Section 4.21.2.: “All relevant professional work products including but not limited to design drawings and geotechnical reports submitted for approval are to be authenticated in accordance with the EGBC *Guide to the Standard Authentication of Documents*.”
 12. By adding Section 4.21.2.1: “Bridge submittals for approval must confirm at minimum: continuity of the approved road cross-section, vertical/horizontal road alignment continuity, the design standards and maximum loading, geotechnical and seismic compliance, bridge abutment and bank protection, high-water level and freeboard, utility crossing locations and ducts, and public safety features including but not limited to curbs, barriers, bridgerail, guardrail, handrail, or fencing as appropriate.”
 13. By adding Section 4.21.2.2: “Submittal reviews completed by City staff are cursory and a check for general compliance with City bylaws or otherwise for asset management/maintenance purposes and shall not relieve the professional engineer or geoscientist of record or the applicant from their responsibilities for errors or omissions, or of meeting any applicable requirements; no responsibility is assumed for the correctness of dimensions or details. The City’s approval is always contingent upon approval from the Department of Fisheries and Oceans for works within a SPEA or within/near a watercourse and the Ministry of Transportation and Infrastructure for works within/near a Provincial Highway.”
- B. This Bylaw may be cited for all purposes as “Subdivision and Servicing Bylaw No. 1000, Amendment No. 25, Bylaw No. 1926, 2024”.

READ A FIRST TIME this day of , 2024.

READ A SECOND TIME this day of , 2024.

READ A THIRD TIME this day of , 2024.

ADOPTED this day of , 2024.

PRESIDING COUNCIL MEMBER

CORPORATE OFFICER