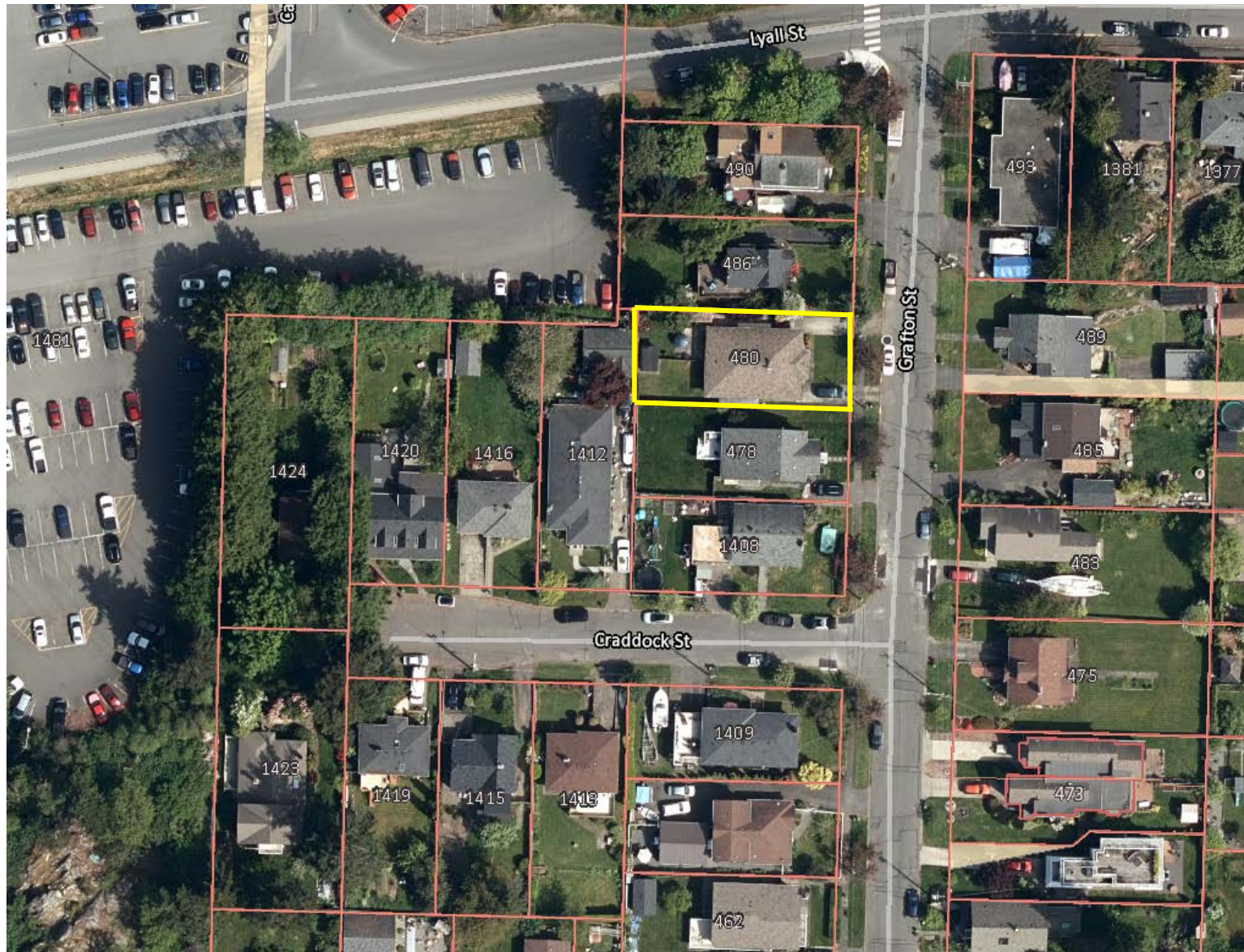
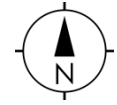


# 480 Grafton



## 18 DPA NO. 1: NATURAL ENVIRONMENT



### 18.1 Area

Land within the municipal boundaries of the Corporation of the Township of Esquimalt.

### 18.2 Designation

Development Permit Area No. 1 is designated for the purpose of establishing objectives for:

- Section 488 (1) (a) – protection of the natural environment, its ecosystems and biological diversity.

### 18.3 Justification

- The gradual erosion of the natural environment incrementally degrades the value and function of local and regional ecosystem services. The average person owns a parcel of land for a relatively short time period of time (10-15 years); care can be taken to ensure larger trees and natural areas are available for the next generation.
- Landscapes and ecosystems are composed of patches of diverse habitats that may include 'species at risk', 'environmentally sensitive areas', and micro-ecosystems containing 'ecological memory'. Even small patches of native soil and vegetation support indigenous species; therefore, all areas can contribute to regional biodiversity and support ecosystem services.
- Protecting Esquimalt's natural environmental features [including but not limited to: local Garry Oak and Douglas-fir ecosystems, rock outcrops, hilly terrain, and rugged clean shorelines] contributes to natural ecosystem functioning and protection of biodiversity.
- Esquimalt has over 20 kilometres of shoreline that serves industrial, commercial and residential purposes, recreation enjoyment, and is vital habitat for numerous plants and animals (e.g. otters, whales, seal, oyster catchers, gulls, various species of waterfowl, and eagles). Shoreline ecology and fish habitat can be protected and enhanced by regulating development near shorelines, and by mitigating the impacts of stormwater entering local waterways. Keeping the urban environment absorbent helps lessen marine ecosystem damage from: introduced pollutants, sudden changes in water salinity and temperature, and shoreline erosion from surges in volume at storm-water pipe outfalls.

- The Gorge waterway is a sensitive, tidal-influenced watercourse that connects the fish-bearing fresh water of Craigflower and Colquitz Creeks with the salt waters of Victoria Harbour. Over the past few decades, significant public expenditures and efforts have gone into removing sources of pollution and contamination that once plagued this waterway. However, the removal of native shoreline vegetation and the construction of extensive seawalls have substantially diminished the quality of the shoreline as supportive habitat for fish and wildlife.
- Both private and public landowners are responsible for this loss of habitat, often through well meaning and beneficial projects such as shoreline walkways.
- Protecting and maintaining current wave energy patterns and natural patterns of erosion along Esquimalt's shorelines will contribute to the protection of natural features and dynamic processes.
- Invasive alien plant species pose a significant threat to regional biodiversity. Managing and reducing the introduction and spread of these species protects local ecosystem structure and function and biodiversity.
- Esquimalt has several natural area parks of varying sizes distributed across the municipality. These pieces of fragmented natural habitat can be better connected through the use of native plant landscaping along roadways and in private yards; thereby supporting regional biodiversity.
- Biodiversity can be enhanced in an urban region through the thoughtful selection of building methods and landscape design. Siting buildings to provide space for trees of varying species and sizes provides vertical habitat for birds, pollinators and other creatures. In addition, the plants of a traditional Garry Oak meadow ecosystem are well adapted for the seasonally dry conditions found on local building roofs, and therefore can be effectively used in a 'living roof' system (a green roof with enhanced ecosystem services). A living roof will moderate stormwater discharge while providing habitat for indigenous plants, invertebrates, and ground feeding and nesting birds.
- Native birds are an important component of urban biodiversity and provide important ecosystem services that contribute to human health. Esquimalt is located within the 'Pacific Flyway' (A chain of habitats used by at least one billion birds biannually as their migratory route along the west coast of North and South America, from Alaska to Patagonia.) and much of Esquimalt's shoreline is part of the 'Victoria Harbour Migratory Bird Sanctuary'. Reasonable actions can be taken to enhance bird habitat in an urban setting; including providing vertical habitat through protection and enhancement of the urban forest, and protecting local shorelines and waterways.
- Habitat corridors for pollinators and other wildlife will be enhanced; linking natural areas within and through the urban matrix to support biodiversity and local food gardens

## 18.4 Exemptions

### 18.4.1 Properties

For all properties:

1. Interior renovations or alterations of existing buildings where residential density is not being increased.
2. Ecological restoration projects undertaken or approved by the Township of Esquimalt.
3. Installation of unpaved paths or walking trails that are less than 1 m in width and covered in naturally permeable materials [wood chips, bark mulch, sand or loose gravel] where the soil remains undisturbed.

## 18.4.2 Gorge Waterway

For all lands located more than 7.5 m from the high watermark of the Gorge Waterway:

1. Repair, maintenance or reconstruction, on the same footprint, of existing legal or legally non-conforming buildings, patios, driveways, parking areas and utilities, provided there is no alteration to natural soil or native vegetation.
2. Construction of fencing where no native trees are removed and disturbance to native vegetation is negligible.
3. The addition of small temporary landscape amenities including benches, tables, garden ornaments, playground equipment, and raised garden beds (not including retaining walls).



## 18.4.3 High Watermark

For lands located more than 20 m from the high watermark of the Gorge Waterway, and more than 15 m from the high watermark of the Strait of Juan de Fuca:

1. Minor additions [less than 10 m<sup>2</sup> in area] to an existing legal or legally non-conforming building or structure.
2. Construction of buildings and structures less than 10 m<sup>2</sup> in area.
3. Installation of seasonal recreation equipment such as children's play equipment, patio furniture, temporary above natural ground level pools/hot tubs.
4. Temporary tent/carport structures.

## 18.5 Guidelines

The expertise of qualified environmental professionals (retained by applicants), is strongly encouraged and may be required in certain circumstances.

### 18.5.1 Lands Free of Development

Lands to remain free of development, with conditions:

1. Lands within 7.5 m of the high watermark of the Gorge Waterway shall be retained in as natural a state as possible. Where the land has been previously altered, the area shall be restored with native trees and plants.
2. New buildings/ structures shall not be located within 20 m of the high watermark of the Gorge Waterway.
3. New buildings/ structures shall not be located within 10 m the high watermark of the Strait of Juan de Fuca.
4. Replacement of, expansion of, densification and intensification of the use of existing buildings within 20 m of the high watermark of the Gorge Waterway is discouraged; detached accessory dwelling units are strongly discouraged in this location.
5. Replacement of, expansion of, densification and intensification of the use of existing buildings within 10 m of the high watermark of the Strait of Juan de Fuca is discouraged and detached accessory dwelling units are strongly discouraged in this location.
6. Variances to 'Building Height' and 'Siting Requirements' will be considered where natural areas and trees are being protected.
7. Consider the use of conservation covenants for areas having high ecosystem conservation values. Property owners are encouraged to work with local land trusts to protect natural features and valuable habitat areas through land covenants.

### 18.5.2 Natural Features

Natural features and areas to be preserved, protected, restored, and enhanced where feasible:

1. Retain existing healthy native trees, vegetation, rock outcrops and soil wherever possible.
2. Preserve and enhance native tree and shrub clusters that overhang the waters edge as these provide shade, protection and feeding habitat for fish and wildlife.
3. Preservation of natural topography is favoured over blasting or building of retaining walls.
4. Narrower manoeuvring aisles, fewer and smaller parking spaces can be considered where natural areas are being conserved.
5. Design new development and landscaping to frame rather than block public views.
6. Avoid disturbing, compacting and removing areas of natural soil as this can lead to invasion by unwanted plant species, poor water absorption and poor establishment of new plantings. Use of local natural soil in disturbed and restored areas will support re-establishment of ecosystem functions.

### 18.5.3 Biodiversity

Landscaping features that will protect, restore and enhance biodiversity. Where feasible:

1. New landscaping shall consist predominantly of native plant and tree species. Plants that are native to the Coastal Douglas-fir biogeoclimatic zone are preferred in landscape treatments as they provide habitat for threatened indigenous flora and fauna. Drought tolerant plants native to western North America, that are known to be non-invasive, are a good alternative choice for landscaped areas.
2. In residential locations plan for 'nature out front'; for new landscaping in front and exterior side yards use a variety of site-appropriate, native species; thereby contributing positively to pedestrian friendly urban streets, future greenways and habitat enhanced corridors.
3. Choose trees and plants for site conditions; consider shade, sunlight, heat, wind-exposure, sea spray tolerance, and year round moisture requirements in their placement.
4. Consider the habitat and food needs of birds, pollinators, and humans in tree and plant species selection and placement; native plantings and food gardens compliment each other.
5. Encourage native plant and food gardens to spill from private land into boulevards.
6. Avoid monoculture plantings, especially expanses of turf grass outside of playing field sites.
7. Snags, logs, driftwood and rock cairns may be used as interesting landscaping features that also provide habitat for native flora and fauna.
8. Avoid using fast-growing non-native plants to cover and retain soils as they may become invasive and a constraint to the establishment of other plants.
9. Locate civil servicing pipes/lines under driveways or other paved areas to minimize tree root damage. (Note that the majority of trees have their roots in the top 0.6 m of the soil).
10. Design retaining wall spacing and landscape planting areas of sufficient width and depth to support plantings (eg. provide larger spaces for trees).
11. Support the daylighting of portions of the stormwater system for enhanced habitat.
12. Aim to meet the Canadian Landscape Standards in all landscaping installations.

### 18.5.4 Natural Environment

Measures to protect, restore and enhance the natural environment (limit noise, light and air pollution). Where it is reasonable:

1. Strategically locate leafy trees/ hedges and water features to mask urban noises such as traffic, garbage collection and delivery locations. Consider that leafy rough barked trees, vine covered walls and natural ground cover materials (mulch, soil) will help dampen urban noise.
2. Use International Dark-Sky Association approved lighting fixtures in outdoor locations. Outdoor lighting shall be no brighter than necessary, be fully shielded (directed downward and designed to serve pedestrian needs), have minimal blue light emissions and only be on when needed. Avoid vanity lighting, and lighting directed into the night sky and trees tops.
3. Light spillage on to waterways is strongly discouraged.
4. Place trees and vegetation near sources of air pollution including busy roadways, to assist in reduction of air pollution through the collection of particulate matter on leaves and needles, and absorption of toxic gases, including but not limited to: ozone, nitrogen dioxide, sulfur dioxide, carbon monoxide, carbon dioxide, cadmium, chromium, nickel and lead.

### 18.5.5 Drainage and Erosion

Measures to control drainage and shoreline erosion. Where it is reasonable:

1. Preserve, restore and enhance treed areas. Trees are the most effective form of absorbent landscaping due to their extensive root zones and their ability to both absorb water from the soil and intercept precipitation on leaves, needles and branches. Consider that native conifers are well adapted to local wet winters.
2. Reduce the impact of surges in stormwater on shorelines by designing on-site stormwater retention systems to contain the first 3 centimetres [1.25 inches] of precipitation on site, per precipitation event; and incorporating rainwater collection systems into roof design and landscaping.
3. Consider using shared private/ public rain gardens. Direct a portion of stormwater to adjacent public open spaces, when deemed appropriate by the Director of Engineering and Public Works.
4. Maximize the ratio of planted and pervious surfaces to unplanted surfaces, and design paved areas to direct water towards vegetated areas, to help reduce surface run off. Where paved surfaces are needed, intersperse with drought resistant vegetation and trees, to help absorb stormwater, provide shade and reduce the local heat island effect.
5. Use porous surfaces to enhance stormwater infiltration, permeable paving is preferable for all open air parking areas. Ensure installation methods contribute to sustained permeability and retention of stormwater on the site.
6. Choose absorbent landscaping materials; leaf mulches, wood chips and good quality top soil, over gravel, pavers and concrete. Provide mulch of organic, locally derived materials; leaf mulch from local tree leaves is most desirable.
7. Incorporation of rain gardens, bio-swales, rain barrels, and even small depressions (puddles) into landscaping will help reduce surges of stormwater entering local waterways.
8. Planting densities should ensure that vegetated areas will have near 100% plant coverage after two full growing seasons.

### 18.5.6 Protect, Restore and Enhance Shorelines

Measures to protect, restore and enhance local shorelines (reducing shoreline hardening and dock development). When it is feasible:

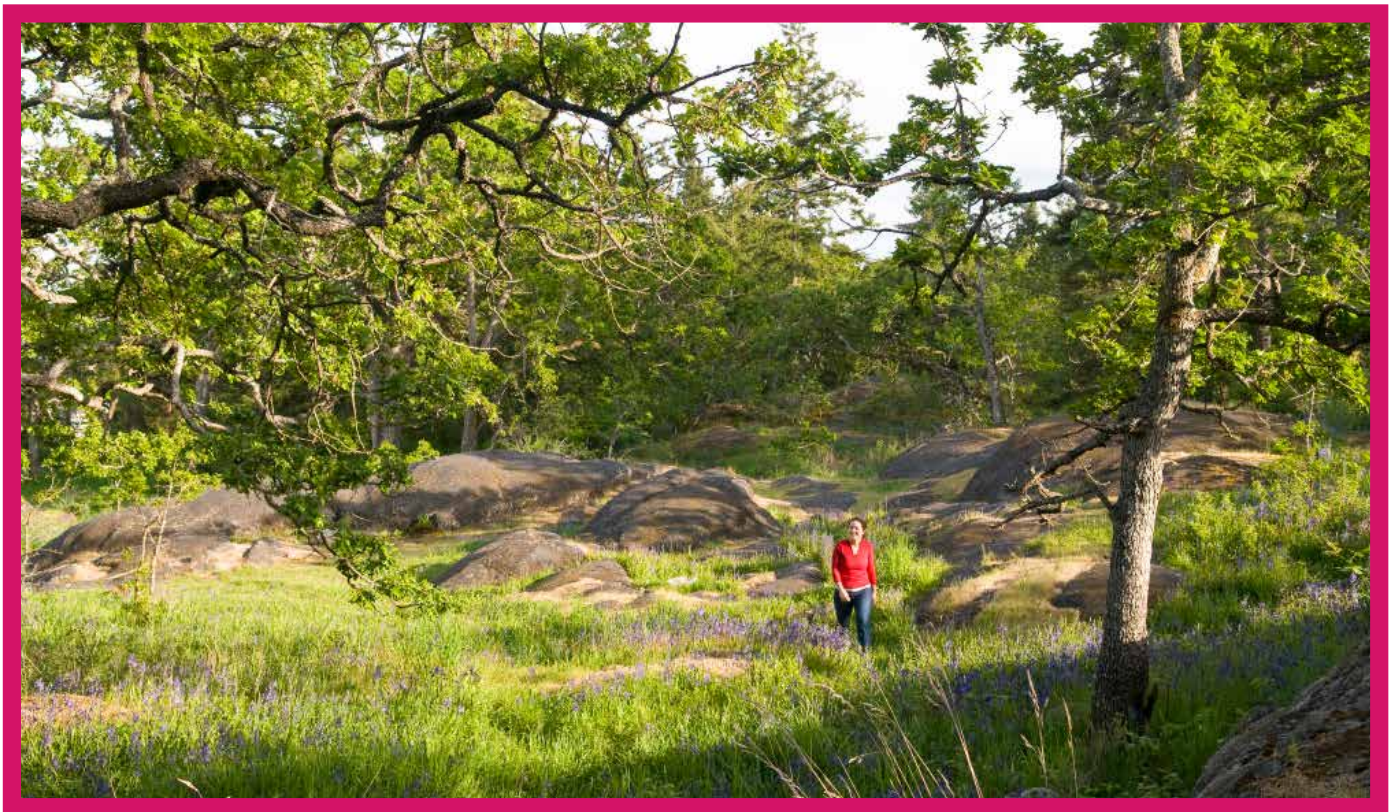
1. Waterfront property owners are encouraged to become familiar with and adopt a 'soft shore' restoration approach to the care of their foreshore property (i.e. Green Shores for Homes).
2. Avoid the expansion of dock area, bulkheads, groins or other shoreline hardening structures. Removal or reductions in the surface area of existing private docks is encouraged.
3. Where shoring methods are required to prevent erosion or the sloughing of the shoreline, choose bio-engineering methods over the use of sea-walls or retaining walls. Where sea-walls or retaining walls are the only means of effectively preventing erosion, design in consultation with qualified environmental professionals, as well as engineering professionals.

### 18.5.7 Native Bird Biodiversity

Measures to protect, restore and enhance native bird biodiversity. Where it is reasonable:

1. Protect and enhance habitat features like mature trees, shrub clusters, native fruit bearing shrubs, fresh water ponds and ephemeral damp areas (puddles).

2. Encourage increased front yard habitat along quieter streets to reduce bird vehicle conflicts and enhance the pedestrian experience through native plantings.
3. Sustain a mix of habitat types; including forest, shrub-land, meadow, riparian wetland and coastal shoreline ecosystems in landscaping.
4. Incorporate a vertical vegetation structure [vertical habitat] including layers of ground cover, shrub, understorey and canopy in landscape design.
5. Choose a range of native plant species and sizes; a mix of coniferous and deciduous trees will enhance bird species diversity.
6. Incorporate architectural features that limit collisions between birds and windows including patterned, frosted or tinted glass, exterior louvers, blinds, sun shades and canopies.
7. Cap and screen all ventilation pipes and grates, avoid openings greater than 2.0 x 2.0 cm.



## 20 DPA NO. 3: ENHANCED DESIGN CONTROL RESIDENTIAL



### 20.1 Area

All lands zoned for two-unit dwellings or zoned as Comprehensive Development Districts for residential developments only are designated as part of Development Permit Area No. 3 — Enhanced Design Control — Residential as shown on “Development Permit Areas Map” (Schedule “H”) of this Plan.

### 20.2 Designation

Development Permit Area No. 3 is designated for the purpose of establishing objectives for:

- Section 488(1) (e) – establishment of objectives for the form and character of intensive residential development.

### 20.3 Justification

The following guidelines were developed to allow for the better utilization and redevelopment of parcels within residential neighbourhoods and ensure that development occurs in a manner that retains the desirable physical characteristics of a neighbourhood.

Infill housing represents an important component of the housing spectrum. Because infill housing represents new development that is located within the context of an existing residential neighbourhood, it is important that there is harmonious compatibility between the form and character of the new development and the existing development

### 20.4 Exemptions

The following do not require a development permit:

1. Additions or renovations to one single-unit dwelling (excluding infill units) situated on a fee simple parcel where the floor area of the addition does not exceed 10 percent of the ground floor area of the dwelling; and
2. Additions or renovations to any two-unit dwelling where the floor area of the addition does not exceed 10 percent of the ground floor area of the dwelling.

## 20.5 Guidelines - Duplex Housing

1. The fronts of the buildings should be designed to create the appearance of smaller structures either by staggering the dwelling units or visually breaking up the façade with architectural detailing while still maintaining a complementary streetscape.
2. Innovative and creative site-specific two-unit dwellings are encouraged where usable open space is maintained either on the ground (yard) or as rooftop gardens. Setbacks to the street may be reduced to maximize property use.
3. Front to back duplexes are generally discouraged unless they can be designed to eliminate negative impacts to the immediate neighbours such as shading of gardens, overlook of outdoor amenity areas and violation of privacy.
4. Side by side, up and down, or staggered unit configurations are preferred as these result in a greater number of units facing the street, less disruption of privacy, and a more equitable division of outdoor amenity areas between the two dwelling units.
5. The use of exterior building materials similar to those used in older residential neighbourhoods (i.e. combinations of wood, brick, stucco, and stone) is encouraged.
6. Rooflines of new development should relate in height, shape and pitch to existing residential buildings in the immediate area. For corner sites, the building design should avoid having large unbroken sloped roof areas facing the street.
7. To create interest in the façade of the buildings facing the street, the incorporation of architectural elements such as bay windows, covered porches, verandas and prominent front doors is encouraged.
8. Buildings should be designed to minimize visual intrusion on to the privacy of surrounding homes. Some overlook of adjoining yards and neighbouring decks may be unavoidable; however, additional privacy should be achieved by inseting balconies, decks and patios into the building or by screening them with latticework or landscaping. Windows should be spaced so that they do not align directly with those of other buildings.
9. The height and massing of new two-unit dwellings should be designed to minimize the casting of shadows on to the private outdoor space of adjacent residential dwellings.
10. A landscaping plan showing ground cover areas, planting beds, shrubbery and trees (both existing and proposed) is required. Landscaping should add to the aesthetic appeal of the streetscape as well as provide privacy between dwelling units.
11. The provision of private open space should be part of an overall site development and landscape plan and should take into consideration general site circulation patterns (including parking), existing landscape features, sun access, privacy and usability.
12. Retention and protection of trees and the natural habitat is encouraged where possible.
13. Parking areas, garages and driveways should appear as a minor component of the site when viewed from the street. The building of curving access roads and driveways helps to avoid views from the street of large expanses of paving. The use of shared driveways is encouraged.
14. The use of permeable and decorative surfacing materials, such as brick, concrete pavers, textured concrete, coloured paving or grasscrete is encouraged in place of solid expanses of asphalt or concrete.

15. Where possible, hydro meters should not be placed on the front façade of a building and, if placed in a manner which is visible from the street, will be appropriately screened by the owner in a manner consistent with BC Hydro requirements.
16. Where an existing single-unit dwelling is being converted to a two-unit dwelling both the original structure and the addition shall be in complementary architectural style and constructed of complementary exterior finishes including roofing material, window treatments, exterior finishes, door styles and trims.
17. Roof styles and pitches of the original and new portions of the building must be complimentary.
18. For new or converted two unit dwellings, garages and parking areas are encouraged to be located in the rear yard. Shared driveways are preferred to access the rear yard.
19. Where two single lane driveways serve a two unit lot, landscaping features are encouraged between the driveways.

## 20.6 Guidelines - Single-unit Infill Housing

### 20.6.1 Relationship to Existing Houses

1. Where an existing single-unit residence is to be retained and a second residence placed on the parcel, the existing dwelling is to be upgraded and made to be complementary with the new construction.
2. Where two or more new separate dwellings are situated on a parcel or within a comprehensive development zone, the buildings shall be designed as part of a comprehensive scheme with all buildings being finished in complementary materials and incorporating complimentary architectural details.
3. Where new infill single houses are proposed, the design of the new houses should be complementary in scale, size, exterior finishes, rooflines, and colours to the predominant styles of housing in the neighbourhood. It is important to ensure that the new construction fits with the overall scale and character of existing houses.

The intent of this guideline is not to encourage the replication or imitation of surrounding buildings but rather the design of structures that complement the streetscape.

### 20.6.2 Massing

1. New structures should be designed so that the overall massing is in keeping with other single-unit residences in the immediate area. New structures for lots other than corner or double frontage lots should be limited to one and one half storeys.
2. New structures, which are two storeys in height, should be designed so that the second storey is partially concealed within the slope of the roof to minimize the height of the building. The use of dormers set into the roof is preferred to a flat roof or a peaked roof set over the second storey.

### **20.6.3 Privacy/Screening/Shadowing**

1. Proposed infill dwellings should have only a minimal impact on adjacent homes and be separated from neighbouring residences by vegetation, screening, natural elevation differences, or a combination of these features.
2. Windows, decks and patios should be located so as to minimize intrusion on to the privacy of adjacent properties.
3. Infill dwellings should be sited to minimize the casting of shadows on to the private outdoor space of adjacent residential dwellings.

### **20.6.4 Landscaping**

1. Proposals for single-unit infill housing must include a landscape plan showing hard landscaping (i.e., parking areas, fences, and patios) as well as lawns, trees, shrubs, planting areas and proposed plant species.
2. Retention and protection of trees and the natural habitat is encouraged wherever possible.

### **20.6.5 Private Open/Yard Space**

1. Any proposal for single-unit infill housing should provide for usable, private outdoor areas for each dwelling, at grade.

## 24 DPA NO. 7: ENERGY CONSERVATION & GREENHOUSE GAS REDUCTION



### 24.1 Area

Land within the municipal boundaries of the Corporation of the Township of Esquimalt.

### 24.2 Designation

Development Permit Area No. 7 – is designated for:

- Section 488 (1)(h) – energy conservation; and
- Section 488 (1)(j) – GHG emissions reduction.

### 24.3 Justification

The Province of British Columbia has legislated greenhouse gas targets and requires the cooperation of local governments to achieve them. As part of its pledge to the Community Climate Action Charter, Esquimalt set its own target to reduce greenhouse gas emissions by 38% of 2007 levels by 2030; with the eventual goal of progressing towards carbon neutrality.

The objectives in this DPA include:

- Encourage a shift in practice and behavior to accelerate a reduction in fossil fuel dependence;
- Support reductions in energy consumption in buildings, and reduced maintenance costs through the use of durable building materials; support the best use of existing infrastructure and minimizing the need for system capacity expansion and extension;
- Encourage and support innovation in redevelopment, siting and design;
- Deliver neighbourhoods that support residents physical and mental health with long-term livability, including walkability;
- Consider the long-term comfort of building occupants in design decisions;
- Create neighbourhoods and buildings that respect, serve, and support the needs of all economic classes;
- Build neighbourhoods that support transit, walking and other forms of active transportation;

- Support the construction of new buildings that contribute to those neighbourhoods where people are delighted to live, work, walk and play;
- Support development to have a positive impact on the biosphere, community resilience and residents' health.

## 24.4 Exemptions

1. Minor alteration/ addition to the exterior of a building. For the purpose of this section, "minor" is defined as a change which does not:
  - Increase the lot coverage by the lessor of 5% of the parcel or 50 m<sup>2</sup> (based on the site coverage of all buildings and structures);
  - Increase any bylaw non-conformities;
  - Comprise an addition of more than 50 m<sup>2</sup> of gross floor area; or
  - Require a Development Permit for 'Form and Character.'
2. Landscaping.
3. Installation of temporary tent/carport structures intended to be used for less than one year.

## 24.5 Guidelines

The expertise of qualified environmental professionals (retained by applicants) is strongly encouraged and may be required in certain circumstances.

### 24.5.1 Siting of buildings and structures

Where it is feasible:

1. Orient buildings to take advantage of site specific climate conditions, in terms of solar access and wind flow; design massing and solar orientation for optimum passive performance.
2. Build new developments compactly, considering the solar penetration and passive performance provided for neighbouring sites, and avoid shading adjacent to usable outdoor open spaces.
3. In commercial, residential or commercial mixed-use designated areas with taller developments, vary building heights to strategically reduce the shading on to adjacent buildings.
4. Provide space for pleasant pedestrian pathways between buildings.
5. Strategically site buildings to sustain and increase the community's urban forest tree canopy cover.
6. Provide space for significant landscaping including varying heights of trees, shrubs and ground covers.
7. Provide intuitive pedestrian access to storefronts and businesses with site connectivity to nearby amenities and services to help promote walking and the use of other active transportation modes.
8. Provide usable outdoor amenities such as seating, food gardens, mini-libraries, and play spaces in semi-public areas to enhance the experience of walking and recreating in the neighbourhood.

9. In residential neighbourhoods, provide space for larger trees and a second row of street trees as this will enhance the pedestrian experience by lowering wind velocity at street level, reducing excessive heating at ground level and absorbing vehicle and other urban noises.

### **24.5.2 Form and exterior design of buildings and structures.**

Where it is feasible:

1. Orient larger roof surfaces to the south for potential use of solar panels or photo-voltaic roofing.
2. Use roof designs that reduce heat transfer into neighbouring buildings, helping reduce the local heat island effect and the need for cooling of buildings in warmer months.
3. Place more windows on the south side of buildings to increase solar gain, and fewer/ smaller windows on the north side to minimize heat loss.
4. Use roof over-hangs, fixed-fins or other solar shading devices on south and west facing windows to reduce peak summer heat gain while enabling sunlight penetration in winter months.
5. Install adjustable overhangs above windows that can help control the amount of sun exposure in warmer months thereby reducing need for cooling.
6. Provide building occupants with control of ventilation; i.e. windows that open.
7. Skylights are discouraged as they decrease insulating values and can interfere with solar panel installation.
8. Add rooftop patios and gardens, particularly food producing gardens, as they can contribute to local resilience, livability, and reduction in greenhouse gas production by reducing food transportation costs.
9. Install greenhouses for growing food on rooftops where neighbourhood privacy and light intrusion concerns are mitigated.
10. Avoid heavily tinted windows or reflective glass which will diminish the natural daylighting of interior spaces, thereby requiring increased energy requirements for interior lighting.
11. In exposed marine locations select durable materials that will withstand weather and sea spray, to ensure low maintenance costs and infrequent replacement needs.

### **24.5.3 Landscaping**

Where it is feasible:

1. Develop a front yard landscape design that is natural and delightful so residents do not need to leave the neighbourhood to experience nature.
2. Choose open space and landscaping over dedicating space to the parking and manoeuvring of private motor vehicles.
3. Conserve native trees, shrubs and soils, thereby saving the cost of importing materials and preserving already sequestered carbon dioxide.
4. Use deciduous trees for landscaping along southern exposures, as they provide shade in the summer and allow more sunlight through in the winter.
5. Strategically place taller trees and vegetation on the south and west sides of buildings where there is more direct sun exposure.
6. Strategically place coniferous trees such that they can buffer winter winds.

7. As context and space allow, plant trees that will attain a greater mature size, for greater carbon storage; removal of healthy trees is discouraged as the loss of the ecosystem services provided by larger trees will take many years to recover.
8. Plant trees with a larger canopy cover along roadways and sidewalks, thereby providing shading of paved areas, lowering the heating of paved surfaces and reducing the wind velocities in these pedestrian areas.
9. Plant shorter and sturdier vegetation closer to buildings and other structures, and taller vegetation further away to avoid potential damage from strong winds blowing vegetation against buildings.
10. For commercial areas, strategically increase green space between buildings, allowing room for landscaped pathways to improve the pedestrian experience, promote walking, and provide for improved light penetration on to sidewalks.
11. For parking areas and along boulevard/ sidewalk edges; plant trees to provide shade, store carbon and reduce the heat island effect.

#### **24.5.4 Machinery, equipment and systems external to buildings and other structures.**

Where it is feasible:

1. For external lighting:
  - Choose efficient low-energy and long life technologies;
  - Design lighting to reinforce and compliment existing street lighting;
  - Use motion-sensitive or solar-powered lights whenever possible;
  - Layer lighting for varying outdoor needs; and
  - Provide lighting systems that are easily controlled by building occupants.
2. Use heat pumps, solar panels, green (living) roofing or an innovative system to improve a building's energy performance.
3. Use durable, vandalism and graffiti resistant materials where neighbourhood surveillance may be limited.
4. Design for on-site heat recovery and re-use of water.
5. In commercial and industrial areas: design bicycle parking facilities to be inviting for cyclists. Locate bike racks near the main building entrance, with adequate lighting and weather protection.
6. In commercial areas, provide fast charge electric vehicle charging stations near locations that have quick customer turnover, and ensure the station is easily accessible, well lit, and visible from the public street.
7. Provide car sharing facilities that are well lit, available for residents, and easily accessed from the public street.

#### **24.5.5 Special Features**

Where it is feasible:

1. Select building materials that have been shown to have a high level of durability for the use intended.

2. Use wood for construction as a means to sequester carbon dioxide - North American grown and sustainably harvested wood is preferable for building construction.
3. Select local and regionally manufactured building products whenever possible to reduce transportation energy costs.
4. Reuse of existing buildings and building materials is encouraged.
5. Choose materials that have a high likelihood of reuse or recycling at end of life.

## 25 DPA NO. 8: WATER CONSERVATION



### 25.1 Area

Land within the municipal boundaries of the Corporation of the Township of Esquimalt.

### 25.2 Designation

Development Permit Area No. 8 is designated for:

- Section 488(1)(i) – water conservation.

### 25.3 Justification

Guidelines that conserve water also reduce energy use from treating and distributing potable water and treating wastewater, and help communities prepare for expected water shortages from climate change.

Urban areas have high water demands. Landscaping uses a considerable quantity of potable water. Stormwater can be either a burden on municipal infrastructure and local shorelines or a resource used within the community to lessen water demand for landscaping.

The guidelines in this section are intended to implement the Township's sustainability objectives to develop a green economy and reduce the overall risks and impacts of climate change through:

- Reduced per capita water consumption in new developments;
- Better use of existing water system infrastructure and reduced need for system capacity expansion; create a positive impact on the natural environment and hydrological systems;
- Innovation in the use of stormwater to reduce landscaping water requirements; and
- Reduced impact on the stormwater management system from the over use of potable water for landscaping.
- Wise use of potable and stormwater to reduce energy consumption and costs associated with the treating and distribution of potable water;
- By making the best use of existing infrastructure, the need for system capacity expansion and extension can be reduced;

- Reduced potable water consumption which leads to reduced energy consumption associated with the treating of wastewater;
- The best use of existing infrastructure so that the need for system capacity expansion and extension can be reduced;
- Use of stormwater for landscaping to assist in the conservation of local water reserves; and
- Rain gardens, retention ponds, and bioswales that can provide value as an urban design element and provide a source of delight in a passive recreation environment, and enhanced wildlife habitat and biodiversity.

## 25.4 Exemptions

The following do not require a development permit:

1. Changes to landscaping that does not decrease the permeability of a property
2. A minor alteration/ addition to the exterior of a building. For the purpose of this section, “minor” is defined as a change which does not do any of the following:
  - Increase the lot coverage by the lessor of 5% of the parcel or 50 m<sup>2</sup> (based on the site coverage of all buildings and structures);
  - Increase any bylaw non-conformities; or
  - Comprise an addition of more than 50 m<sup>2</sup> of gross floor area.
3. Installation of temporary tent/carport structures to be used for less than one year.

## 25.5 Guidelines

The expertise of qualified environmental professionals (retained by applicants), is strongly encouraged and may be required in certain situations.

### 25.5.1 Building and Landscape Design

Where it is feasible:

1. Reduce the burden on built stormwater infrastructure by designing on-site retention systems to retain the first three centimetres (1.25”) of stormwater on site, per precipitation event.
2. Provide space for absorbent landscaping, including significantly sized trees on the site and by not allowing underground parking structures to extend beyond building walls.
3. Incorporate rainwater collection systems into roof design; consider using living roofs and walls as part of a rainwater collection system.
4. Incorporate rain gardens into landscaping and direct rainwater towards vegetated areas.
5. Intersperse paved surfaces with drought resistant vegetation that will provide shade on those surfaces and design the paved surfaces to drain into the vegetation.
6. Design landscaping with more planted and pervious surfaces than solid surfaces.
7. Direct stormwater towards adjacent public spaces, with rain gardens/ bioswales located on public property where it would benefit both the new development and the municipality and where it is deemed appropriate by municipal staff.

## 25.5.2 Landscaping - Select Plantings for Site and Local Conditions

Where it is feasible:

1. Retain existing native trees vegetation, and soil on site.
2. Plant species native to the Coastal Douglas-fir biogeoclimatic zone, as they are most suited to our climate and require little additional irrigation once established.
3. Consider shade, sunlight, heat, wind-exposure and sea spray, as well as water needs in the selection and placement of plant species.
4. Group plants with similar water needs into hydro-zones.

## 25.5.3 Landscaping – Retaining Stormwater on Site (absorbent landscaping)

Where it is feasible:

1. Preserve and restore treed areas. Trees are the most effective form of absorbent landscaping due to their extensive root zones and their ability to both absorb water from the soil and intercept precipitation on leaves, needles and branches. Consider that native conifers are well adapted to local wet winters.
2. Use pervious landscaping materials to enhance stormwater infiltration; permeable paving is preferable for surface parking areas.
3. Avoid disturbing, compacting and removing areas of natural soil, as these are naturally absorbent areas.
4. Locate civil servicing lines along driveways and other paved areas, to lessen the disturbance of natural soils and loss of their natural absorption qualities.
5. Use good quality top soil and compost for the finish grading of disturbed areas to contribute to the water holding capacity of newly landscaped areas.
6. Choose bark mulches or woodchips for walking paths for enhanced absorption.
7. Plant at densities that will ensure vegetated areas have 100% plant canopy coverage after two full growing seasons. Consider that understory native plants are adapted to local climates, absorb seasonal soil moisture and reduce compaction due to foot traffic.

## 25.5.4 Landscaping - Water Features and Irrigation Systems

Where it is feasible:

1. Use automated high efficiency irrigation systems where irrigation is required.
2. Incorporate stormwater retention features into irrigation system design.
3. Use recirculated water systems for water features such as pools and fountains.
4. Install plantings and irrigation systems to the Canadian Landscape Standard.