Comox Valley REGIONAL DISTRICT

Staff Report

DATE: April 2, 2020

FILE: 3060-20 / DP 23B 19
3060-20 / DP 24B 19

TO: Chair and Directors
Electoral Areas Services Committee

FROM: Russell Dyson
Chief Administrative Officer

Supported by Russell Dyson
Chief Administrative Officer

R. Dyson

RE: **Farm Land Protection, Commercial and Industrial Development Permit**
1607 Little River Road (HBI Industries Ltd.)
Lot A, District Lot 196, Comox District, Plan 28498, PID 002-071-339

Purpose
To consider a Development Permit (DP) (Appendix A) under the Commercial and Industrial (form and character) and the Farm Land Protection Guidelines, all related to the development of three light industrial buildings.

Recommendation from the Chief Administrative Officer:
THAT the board approve Development Permit DP 23B 19 and DP 24B 19 (HBI Industries Ltd.) on property described as Lot A, District Lot 196, Comox District, Plan 28498, PID 002-071-339 (1607 Little River Road) for the development of three light industrial buildings;

AND FINALLY THAT the Corporate Legislative Officer be authorized to execute the permit.

Executive Summary

- The applicant is proposing to construct three buildings on a light industrial lot that is surrounded by agricultural lands.
- The proposal requires issuance of a DP which is to be considered under the Commercial and Industrial (form and character) and the Farm Land Protection Guidelines whose objectives are to ensure that adequate buffers are provided to protect farming and to ensure that the development is attractive and coordinated with respect to form and character of the neighbourhood.
- Both the Area B and the Agricultural Advisory Planning Commissions (APC) reviewed the proposal with respect to the guidelines and recommended supporting the application as proposed.
- Staff recommends issuance of the DP with adherence to the landscape plan, form and character details, and stormwater management plan as conditions (Appendix A).

Prepared by:	Concurrence:	Concurrence:
J. MacLean	***T. Trieu***	***S. Smith***
Jodi MacLean, RPP, MCIP Rural Planner	Ton Trieu, RPP, MCIP Manager of Planning Services	Scott Smith, RPP, MCIP General Manager of Planning and Development Services Branch

Government Partners and Stakeholder Distribution (Upon Agenda Publication)

Applicant	✔

Background/Current Situation

The subject property is a 0.9 hectare light industrial lot located between the airport and agricultural lands (Figures 1 and 2). It is cleared of vegetation and has been principally used in the past for outdoor light industrial and storage uses. There are currently no buildings located on the lot but the owner would like to construct three buildings for light industrial purposes with an accessory residential suite and office space at the front (Figure 3). A Development Permit is required for constructing buildings on industrial lots and adjacent to agricultural areas.

Planning Analysis

Official Community Plan

Section 85 of the Official Community Plan (OCP), Bylaw No. 337 being the "Rural Comox Valley Official Community Plan Bylaw No. 337, 2014", contains guidelines that establish objectives for the form and character of commercial and light industrial development. This Development Permit Area is intended to minimize potential for conflict with established residential properties, to ensure that development is attractive and coordinated with respect to form and character of the neighbourhood and that adequate buffers are provided. Similarly, Section 86 contains guidelines that establish objectives for farm land protection.

Commercial and Industrial Development Permit Area (form and character)

The guidelines direct that all buildings and structures be architecturally coordinated and give consideration to the relationship between buildings and open areas, circulation systems, visual impact and design compatibility with the surrounding development. The three buildings are intended to have an exterior finish of burgundy metal siding with black trim. The front of the front building, facing the street is intended to include an office/reception area on the first floor and a dwelling unit on the second floor. Behind this, the front two buildings will include bay doors to interior work areas and will be centrally located near the middle of the lot to allow vehicle access or parking off their sides. The rear building is intended to be an unenclosed shelter for vehicles and equipment storage. The site is proposed to be gravelled and surrounded by wire and wood fencing in the front and solid metal fencing along the sides and rear.

The applicant provided a Stormwater Management Plan prepared by Greg Merchant, B.Eng., EIT, and Jenny Burgess, P.Eng., of Wedler Engineering, dated December 6, 2019 (Appendix A). As most of the property is intended to be gravelled or covered by buildings and structures, the plan recommends grading the lot so that it drains towards the front, and gravel swales with underground rainwater detention facilities being connected to building roof leaders.

The DP guideline concerning landscaping requires a landscape treatment along the entire frontage of the building site abutting onto existing or future public roads. In support of the application, the applicant submitted a Landscape Plan (Appendix A) prepared by Allie Adamson of Adamson Designs. To address the frontage, the landscape plan laces a grass area between the front building and the road with a single red maple tree and two Red Obelisk beech trees, as well as a single row of shrubs (mostly sedges, pines, Lily of the Valley) bordering the front parking area. A separate grass area to the side is intended for a septic field.

Aquatic and Riparian Habitat Development Permit Area
The landscape plan includes additional planting along the sides and at the rear, however, these are related to wetland and watercourse protection and restoration (Figure 3). As the proposal includes land alterations and buildings within 30 metres of a wetland (to the rear) and watercourses (along the sides) that connect the wetland to Little River across the road, a *Riparian Areas Protection Regulation* Assessment Report was prepared by Kayt Chambers, RPBio, Baynes Sound Environmental. The rear and side plantings are being done upon her recommendation and supervision.

Farm Land Protection Development Permit Area
Section 86 of the OCP contains the guidelines that establish objectives for the protection of farming. Placement of buildings and structures within 30 metres of an adjacent agricultural area must include a buffer consisting of screening, landscaping, and/or fencing. The intention of the farm land protection DP is to create an agricultural interface that mitigates potential for land use conflicts (e.g. farm trespass, vandalism to crops and equipment, disturbance to farm animals, capture of some dust and spray drift, reduction of invasive species and litter, nuisance complaints, etc.). As the subject property is surrounded by agricultural properties on both sides, and the lot is only 60 metres at its widest, the entirety of the lot is within this Development Permit Area. The watercourses and wetland noted above separate the industrial land from the agricultural lands and the above noted riparian plantings will help buffer the two. To further protect the agricultural potential of the neighbouring lots from the impacts of light industrial uses, the applicant proposes solid metal fencing along the rear and sides. This solid barrier provides screening and makes further landscape unnecessary.

Policy Analysis
Sections 488(1) and 490 of the *Local Government Act* (RSBC, 2015, c. 1) (LGA) allow a local government to designate Development Permit Areas and establish guidelines within the OCP for numerous purposes, including the establishment of objectives for the protection of farming and for the form and character of commercial and industrial development. Section 491(6) specifies that a DP relating to protection of farming may include requirements for screening, landscaping, fencing and siting of buildings or other structures, in order to provide for the buffering or separation of development from farming on adjoining or reasonably adjacent land. Section 491(7) specifies that a DP relating to commercial form and character may include requirements respecting the character of the development, including landscaping, and the siting, form, exterior design and finish of buildings and other structures. Pursuant to Bylaw No. 337, development within 30 metres of a lot designated as Agricultural Areas requires a DP for the protection of farming, and development on commercial and industrial lots requires a DP for form and character control.

Options
The Board could approve, deny or modify the draft DP (Appendix A). Given the above discussion, planning staff recommends approval of the DP.

Financial Factors
Applicable fees have been collected for these two applications under the "Comox Valley Regional District Planning Procedures and Fees Bylaw No. 328, 2014."

In order to ensure that the landscape plan is implemented, a landscape security deposit is required. The applicant provided a cost estimate of $4,639.50 (without taxes) to implement the landscape plan. Therefore the landscape security deposit is $5,799.38 (125 per cent of the cost estimate); this deposit is a condition of the execution of the DP.

Legal Factors
This report and the recommendations contained herein are in compliance with the LGA and CVRD bylaws.

Regional Growth Strategy Implications
The subject property is designated as a Settlement Expansion Area in the Regional Growth Strategy (RGS), Bylaw No. 120, being the "Comox Valley Regional District Regional Growth Strategy Bylaw No. 120, 2010". MG Policy 1E-5, "New Development within Settlement Expansion Areas," states:

> "*New development within Settlement Expansion Areas will be phased in an orderly manner in order to ensure that appropriate infrastructure capacity is available, that new development does not detract from compact growth options within Municipal Areas, and that the financial stability of Municipal Areas is not negatively impacted*."

As the subject property is already zoned for industrial use, the proposal does not require any changes to the existing land use; therefore, issuance of a DP is consistent with the policy of the RGS.

Intergovernmental Factors
A referral was issued to the Ministry of Agriculture for comment on the farm land protection measures. The Regional Agrologist responded: "*Given the review by the Qualified Environmental Professional, drainage plan by a Qualified Engineer and provision for a solid metal fence as part of the buffer, the proposed setback distances appear to be adequate to protect the adjacent farmland."* (Appendix B).

Interdepartmental Involvement
This DP has been circulated to internal departments for review and comments. No concerns were identified.

Citizen/Public Relations
Public notification is not required for a DP application. On March 17, 2020, the Area B APC reviewed this application as it relates to the light industrial form and character guidelines; the APC recommended approval of proposal, as proposed, citing the thoroughness of the prepared plans and satisfactorily meeting the requirements. On March 19, 2020, the Agricultural APC reviewed this application as it relates to the farm land protection guidelines; the APC recommended approval, as proposed, citing the appropriateness of the fencing and use of the sides (on the farm property) for watercourses and driveways as protecting the area suitable for farming.

Attachments: Appendix A – "Draft Development Permit DP 23B 19 and DP 24B 19"
Appendix B – "Correspondence from Regional Agrologist"

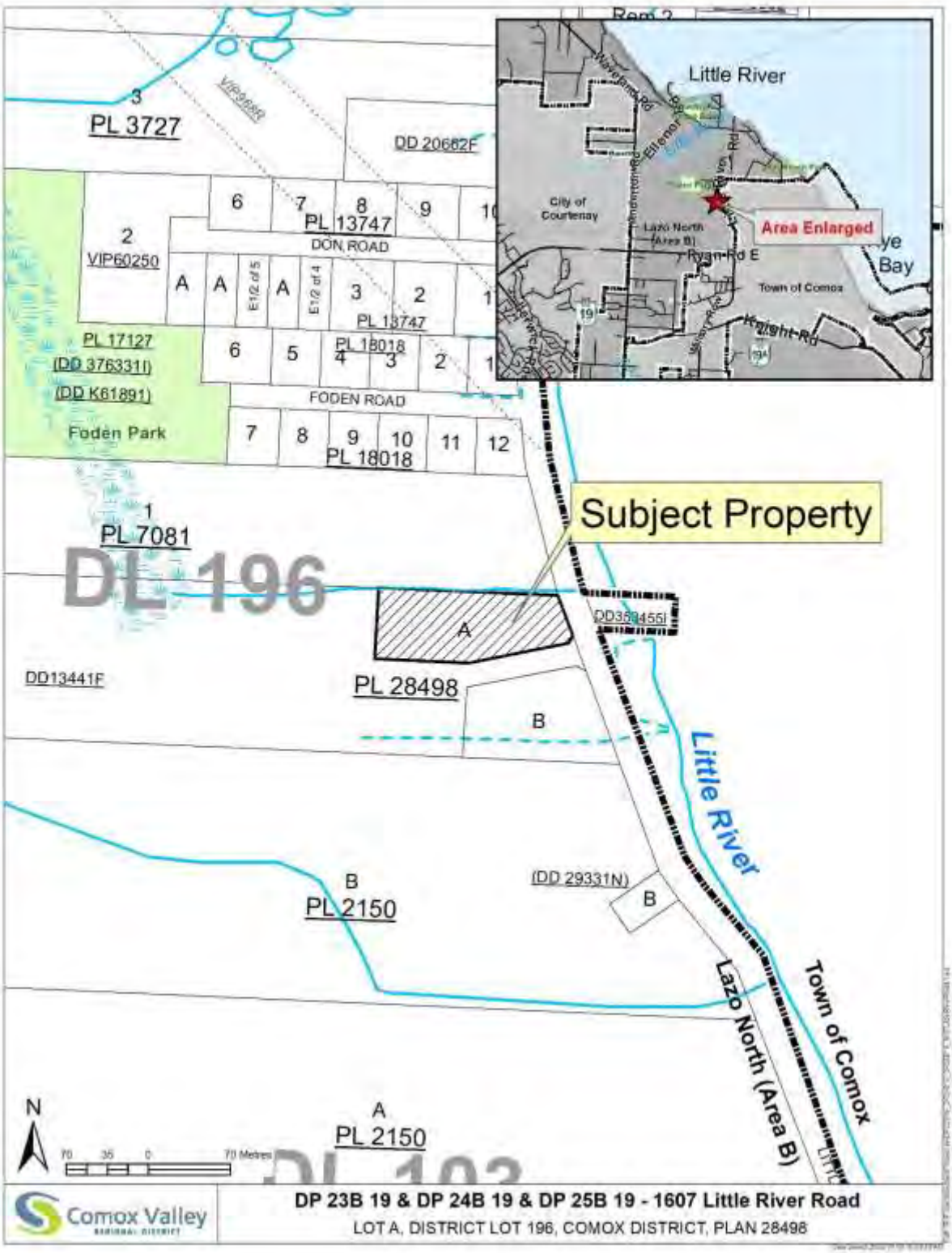


Figure 1: Subject Property

Figure 2: Air Photo

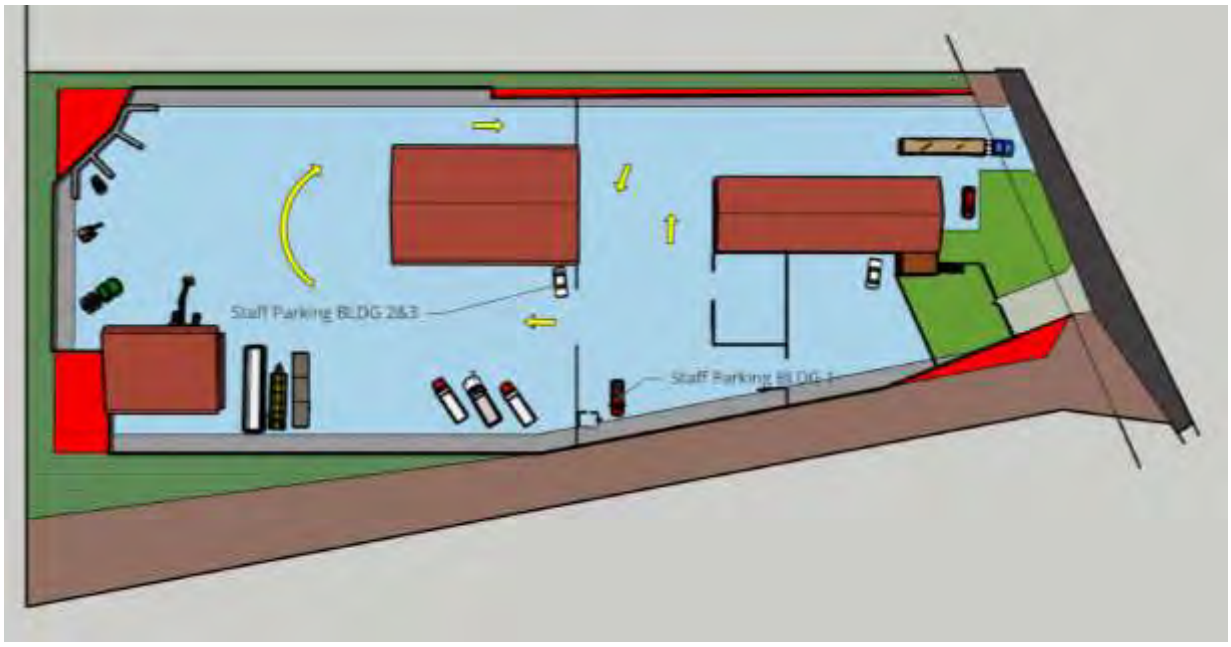


Figure 3: Site Plan Illustrating Approximate Locations of Proposed Buildings, Vehicle Circulation and Parking; Red Areas are Wetland and Watercourse Protection and Restoration Areas Located on the Subject Property.

Comox Valley REGIONAL DISTRICT

Appendix A
Development Permit

DP 23B 19
DP 24B 19

TO: HBI Industries Ltd.

1. This Development Permit (DP 23B 19 and DP 24B 19) is issued subject to compliance with all of the bylaws of the Comox Valley Regional District applicable thereto, except as specifically varied or supplemented by this permit for the **purpose of the construction of three buildings.**

2. This Development Permit applies to, and only to, those lands within the Comox Valley Regional District described below:

Legal Description:	**Lot A, District Lot 196, Comox District, Plan 28498**		
Parcel Identifier (PID):	**002-071-339**	**Folio:**	**771 03170.010**
Civic Address:	**1607 Little River Road**		

3. The land described herein (Schedule A) shall be developed strictly in accordance with the following terms and conditions and provisions of this permit:

Construction and Development Activities:

i. THAT the proposed buildings are constructed and externally finished in accordance with the submitted Site Plan and Illustrative Building Elevations hereto attached as Schedule B);

ii. THAT development is in accordance with the Stormwater Management Plan prepared by Greg Merchant, B.Eng., EIT, and Jenny Burgess, P.Eng., of Wedler Engineering, dated December 6, 2019, hereto attached as Schedule C, and subsequent amendments by a qualified professional;

Landscaping:

iii. THAT the proposed landscaping for the property is completed and maintained in accordance with the submitted Landscape Plan attached as Schedule D;

iv. THAT the applicants provide a Landscape Performance Bond subject to the requirements of Bylaw No. 328 being the "Comox Valley Regional District Planning Procedures and Fees Bylaw No. 328, 2014", in the form of an Irrevocable Letter of Credit or a Security Bond in the amount of $5,799.38. The amount may be returned upon confirmation that the landscaping has been completed in accordance with the Landscape Plan.

v. THAT the applicant is required to maintain all landscaping as part of regular yard maintenance to keep the property in a neat and tidy appearance;

Signage and Lighting:

vi. THAT any lighting installed on the property shall be in compliance with the Comox Valley Regional District's DarkSky policy hereto attached as Schedule E;

vii. THAT one freestanding sign is permitted, only within a landscaped area;

viii. THAT billboard and rooftop signs are not permitted;

ix. THAT neither signs nor any external building surfaces shall be equipped with flashing, oscillating or moving lights or beacons; and

Other:

x. THAT no parking is permitted within 1.5 metres of any lot line.

4. This Development Permit (DP 23B 19 and DP 24B 19) shall lapse if construction is not substantially commenced within two (2) years of the Comox Valley Regional District Board's resolution regarding issuance of the development permit (see below). Lapsed permits cannot be renewed; however, a new application for a second development permit can be applied for in order to complete the remainder of the work.

5. This Development Permit is ***not*** a Building Permit.

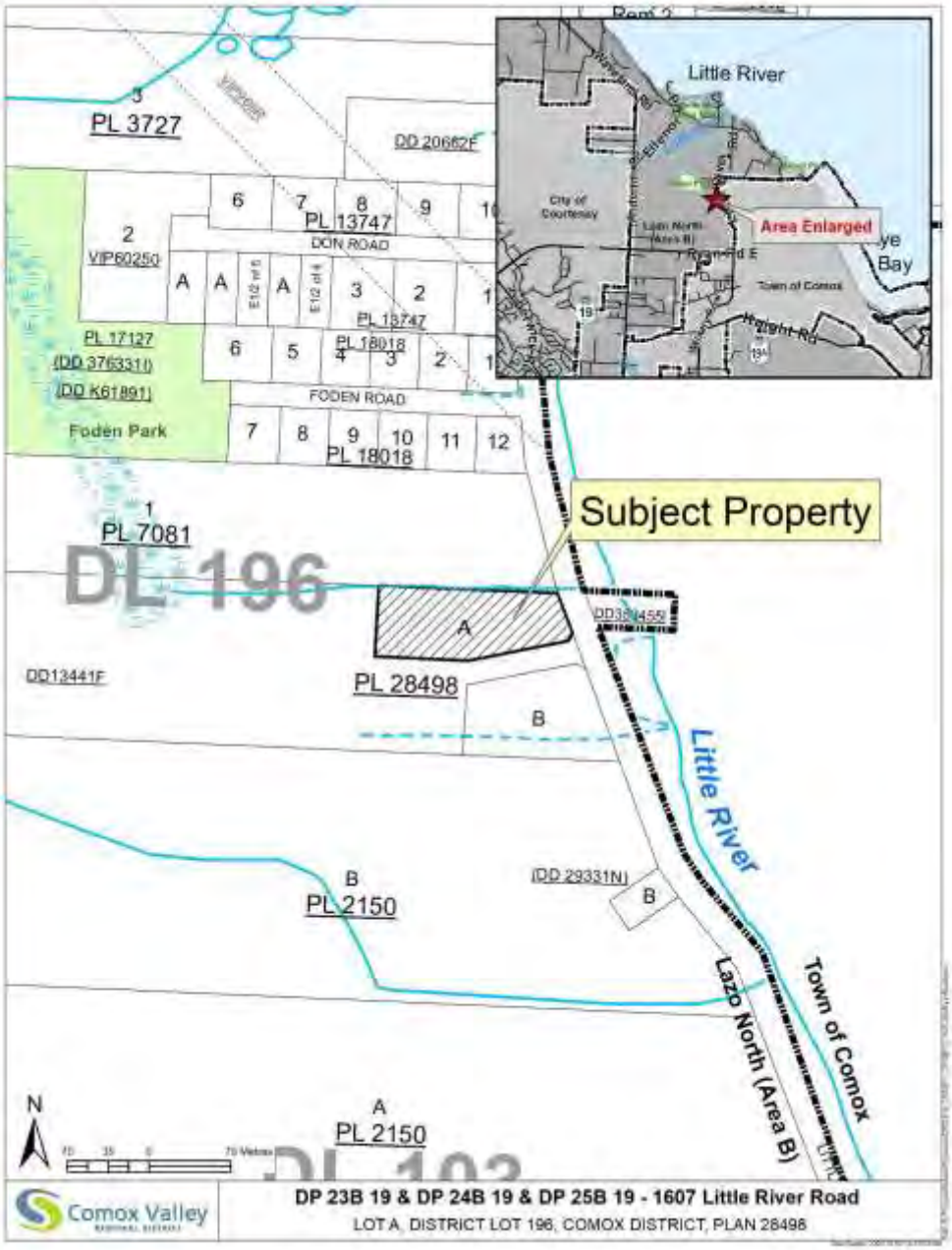
CERTIFIED as the **DEVELOPMENT PERMIT** issued by resolution of the Board of the Comox Valley Regional District on _____.

_____
James Warren
Corporate Legislative Officer

Certified on _____

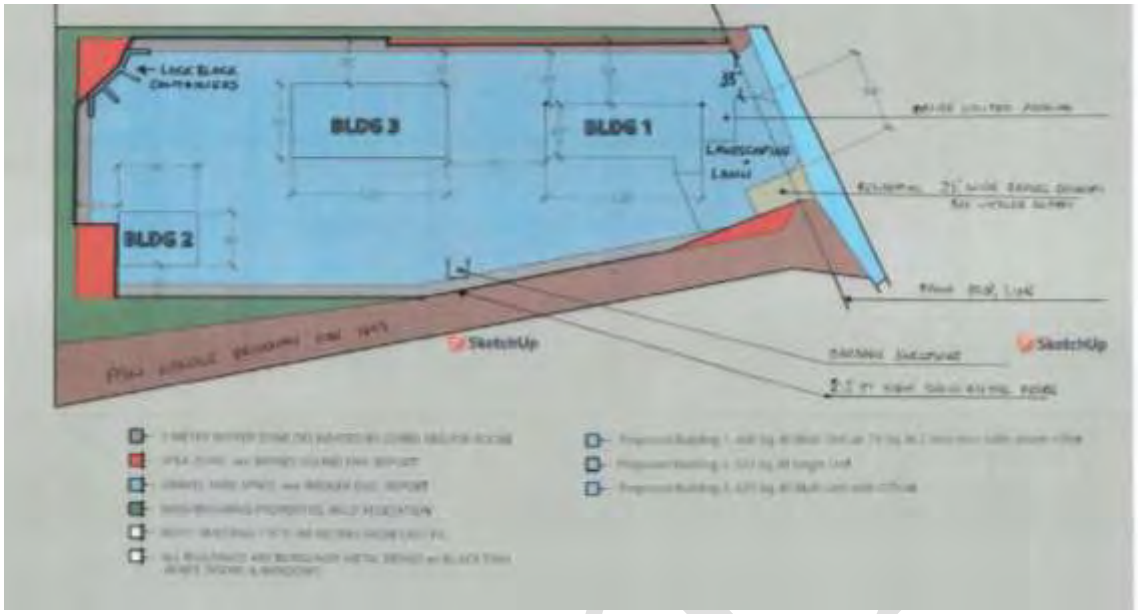
Attachments: Schedule A – "Subject Property Map"
Schedule B – "Site Plan and Illustrative Building Elevations"
Schedule C – "Stormwater Management Plan by Wedler Engineering"
Schedule D – "Landscape Plan by Adamson Designs"
Schedule E – "Comox Valley Regional District DarkSky Policy"

Schedule A
Subject Property Map



Schedule B

Site Plan and Illustrative Building Elevations



Wedler Engineering LLP
211-2459 Cousins Avenue
Courtenay, BC V9N 3N6

WEDLER ENGINEERING

December 6, 2019

File Ref: V20-0411/A

HBI Industries Ltd.
1824 Anderton Road
Comox, BC V9M-4B1
Via email: loic@telus.net

Attention: Loic Hersco

Reference: **Proposed Development, 1607 Little River Rd, Comox Valley Regional District, BC**
Lot A, Plan 28498, DL 196, Comox District
Stormwater Management Report

This report has been prepared in response to the requirements listed in the Comox Valley Regional District's "Rural Comox Valley Official Community Plan, 2014". This report specifically addresses the light industrial development of the subject property.

This report will review the following with respect to the proposed subdivision:

- Pre-development conditions and flow characteristics.
- Estimated pre and post development flows.
- Proposed flow mitigation strategies and recommended best management practices.
- Proposed erosion and sediment control measures for during construction.

Pre-Development conditions and flow characteristics

The subject property is 0.895 ha in size and is currently used for the stockpiling soil material used in landscaping operations. A small firewood cutting operation is also present in the western portion of the property. Figure 1 is an aerial photo from 2018 obtained from the CVRD iMap. It is noted that the site has been used for similar operations with aerial photo's showing clearing and earthworks dating back to 1992. See figure 2.

Figure 1 – Current (2018) aerial view of subject property. Subject property outlined in red.

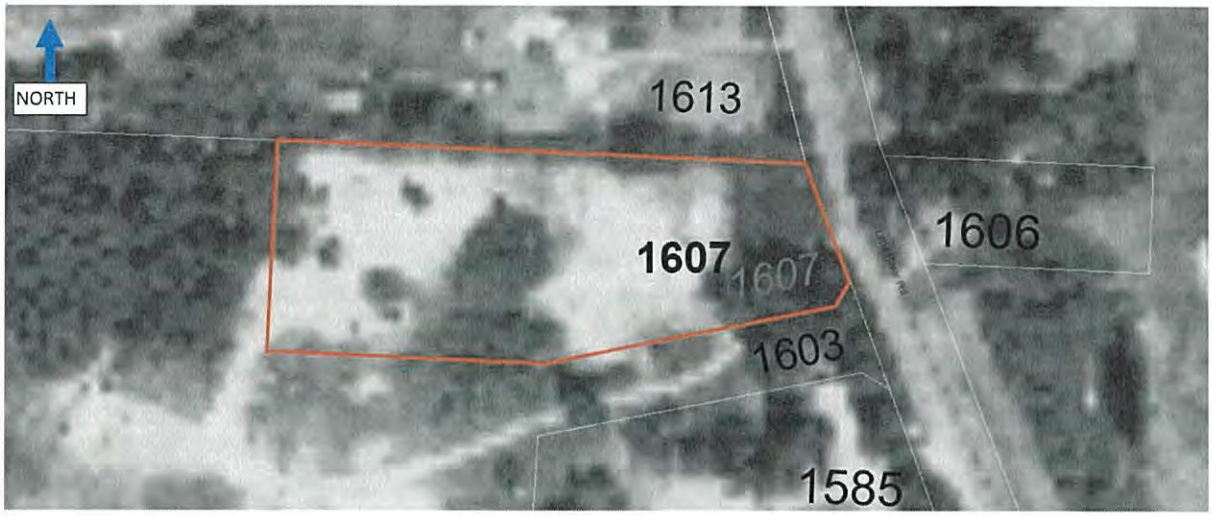


Figure 2 – Aerial photo from 1992 showing historical use and clearing of the property – subject property outlined in red.

A Riparian Area Regulation (RAR) assessment was completed by Baynes Sound Environmental. In general, the RAR assessment of the property is consistent with observations during a site visit completed by Wedler Engineering on October 18, 2019.

The subject property slopes generally from the southwest corner of the lot to the northeast with a total elevation change of approximately 2.2 m. Average slope from southwest to northeast is 1.4%. The property is bounded by rural residential property to the north, Little River Road to the east, agricultural land to the south and a wetland to the west. Existing drainage ditches are located along the north and south side of the property. The northern drainage ditch connects to an existing roadside watercourse which drains north along the western side of Little River Road. The southern drainage drains to a series of two 450 mm diameter culverts which discharge to an existing watercourse on the east side of Little River Road. This existing watercourse appears to drain through DND land. Both drainage ditches are assumed to eventually tie into the Little River drainage network. Figure 3 shows the existing drainage ditches, culverts, and general site slope present on and around the property.

Figure 3 – Drainage Features – Existing drainage ditches shown as green arrows and culvert shown as green lines with circles at each end. General site slope shown as black line.

A review of the surficial geology map for Vancouver Island indicates that the in-situ soils consist of "Bowser marine sediments including loamy sand and gravely sandy loam soils with a drainage class of imperfectly drained." In general, soil remains wet in subsurface horizons for moderately long periods during the year.

Four soil test pits were dug on the subject property with excavations being advanced 1.2 m to 1.5 m below the surface. The subsurface soils encountered in the test pits varied considerably throughout the site, presumably due to the inherent historical use of the site, however the below observations were extracted from the test pitting:

- Upper horizon generally consisted of 0.7 m thick layer of dark brown loose to friable sandy loam soil. Coarse gravel content varied from 20%-50%.
- Lower horizon generally consisted of a firm to very firm grey sandy clay soil. This layer was present in 3 of the 4 test pits and generally started between 0.7 – 1.0m below the surface. Mottling was observed in this soil layer in two of the test pits which is generally an indication of the presence of a seasonal high water table.
- Water table was not encountered in any of the test pits, however seepage was observed in test pit 3 in a thin sandy layer located above a very firm layer of sandy clay approximately 0.7 m below ground surface.
- Test pit 2 was not consistent with the other three test pits. The soils encountered in test pit 2 were a loose medium sand throughout the depth of the excavation. Colour varied from gray to dark brown with depth and coarse gravel content varied from 5% to 50%.
- Asphalt rubble was encountered in test pit 2. Current owner indicated that the previous property owner had buried some asphalt on the property generally centered in the western third portion of the

property. It's anticipated that a large portion of this asphalt will be removed as part of future building foundation excavation works.

Field permeability tests were performed at test pit locations 2 and 4 at a depth of approximately 0.8m using a permeameter apparatus. Field Saturated Hydraulic Conductivity (Kfs) values ranged from 2.4E-6 m/s and 6.0E-06 m/s. These values indicate low to medium infiltration potential for the areas tested.

Based on topography and the result of test pits dug and permeability testing completed in mid-October, this site appears to be moderately well drained. There is potential for shallow stormwater infiltration so long as the site is graded to ensure low areas provide overland flow drainage routes to existing watercourses.

Proposed Site Development

The proposed development proposes to construct 3 new buildings which are estimated to create an additional equivalent impervious area of 1,347 m^2 on the property. A new septic field and landscape area is also proposed in the south east corner of the subject property. The developer has advised the balance of the site (with the exception of stream side protection areas) will be surfaced with a thick layer of gravel. See Figure 3 below showing the general proposed site layout.

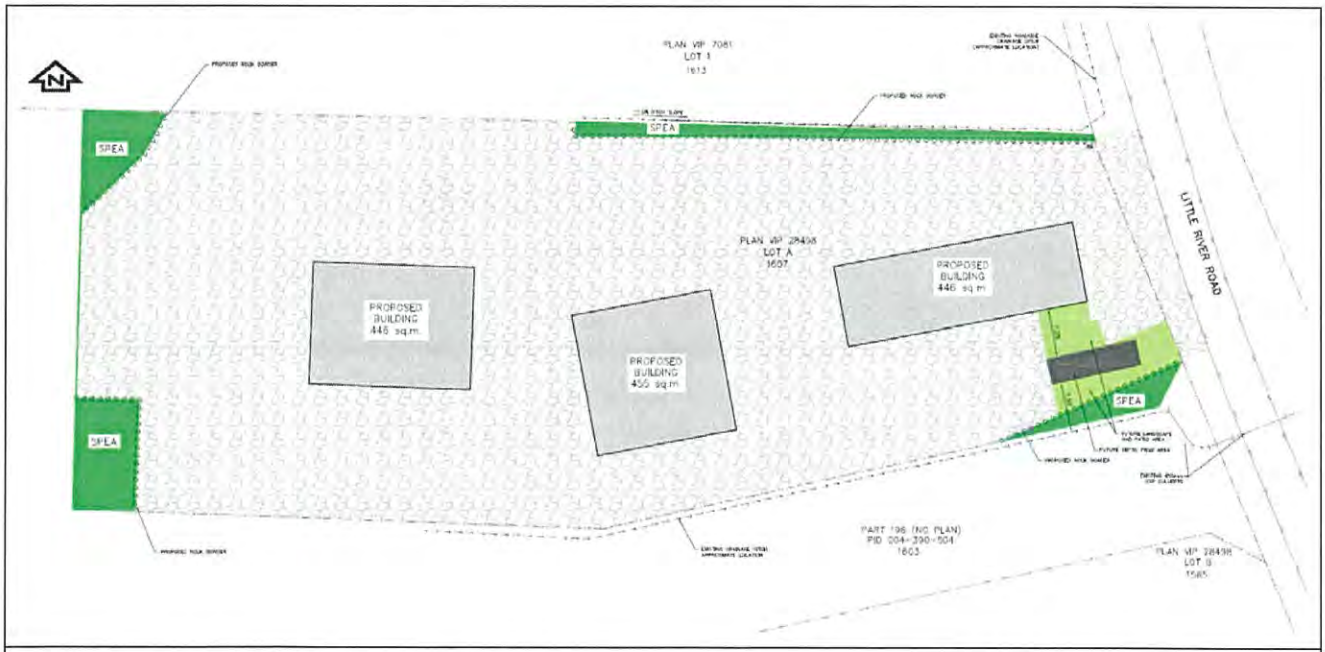


Figure 3 – Proposed development general site layout. Streamside protection and enhancement areas shown as dark green, buildings shown as light grey solid hatch, septic field shown as dark grey solid hatch, and light grey rock hatching denotes area proposed as surface gravel.

Estimated pre-development and post development flows

In order to accurately analyze the site's stormwater characteristics, an appropriate runoff coefficient (C factor) is required. The C factors have been calculated based on a preliminary site plan using the MMCD Design Guideline and standard engineering practices:

- C = 0.37 for 1:5 yr and 1:10 yr, 0.48 for 1:100 yr (pre-development)
- C = 0.74 for 1:5 yr and 1:10 yr, 0.83 for 1:100yr (post-development)

The post-development C factor assumes that areas protected by SPEA boundaries remain vegetated and that gravel surfacing proposed by the developer will consist of free draining gravel. Flow rates were calculated using existing flow routes to arrive at a time of concentration, and the Comox A Intensity Duration Curve (IDF). Rainfall intensities were increased by 15% to account for climate change.

Time of concentration is calculated by combining time it takes for runoff to travel along the overland flow portion of the drainage route, with the time to travel through watercourses from the furthest point of the catchment. The results of rational method calculations to determine pre and post development storm flows are summarized in Table 1.

Table 1: Pre-Development Storm Runoff

Pre-Development				**Tc = 14.7 minutes**
Storm Recurrence	C	i (mm/hr)	A (hectares)	Q (m^3/second)
5 year	0.37	33.4	0.895	0.031
10 year	0.37	38.5	0.895	0.035
100 year	0.48	56.9	0.895	0.068

Post-Development conditions are based on the assumption that the plan as depicted in Figure 5 will be followed.

Table 2: Post-Development Run-off

Post-Development				**Tc = 14.7 minutes**
Storm Recurrence	C	i (mm/hr)	A (hectares)	Q (m^3/second)
5 year	0.74	33.4	0.895	0.062
10 year	0.74	38.5	0.895	0.071
100 year	0.83	56.9	0.895	0.0118

Proposed flow mitigation strategies and recommended best management practices

In order to maintain flow rates at pre-development levels, some form of stormwater detention and retention will be required.

The source for the stormwater management strategies proposed is a June 2008 publication, "Beyond the Guidebook: The New Business as Usual – Create Liveable Communities and Protect Stream Health – Rainwater Management: An Introduction to the Guidebook for British Columbia". This publication lists performance targets that are applicable to a site specific design.

The following measures are recommended in the June 2008 publication:

- *Rainfall Capture - keep rain on site by means of 'rainfall capture' measures such as rain gardens and infiltration soak aways*
- *Runoff Control - delay overflow runoff by means of detention storage ponds which provide 'runoff control'*
- *Flood Mitigation – reduce flooding by providing sufficient hydraulic capacity to 'contain and convey'*

As such, this report will address these three measures and the recommended mitigation procedures, including using in-ground soak away pits or other detention facilities to capture rainfall via storage / infiltration & control runoff via detention and using site grading for flood mitigation.

The modified rational method is an appropriate design methodology for determining the volume of detention required to maintain pre-development flow rates. The storm recurrence interval that was analyzed to determine the detention volume is the 5 year storm. This is consistent with Department of Fisheries and Oceans guidelines which state that the 6 month, 2 year and 5 year storm flows should be maintained at pre-development levels. Given the size of this site, providing a facility to retain flow levels for the 5 year storm will also be more than sufficient to maintain pre-development flow levels for all storms of more common recurrence intervals as they will have lower intensity.

Using the modified rational method, the detention volume to maintain pre-development flow rates for a 1:5 year storm for the subject property was calculated. Furthermore, the detention facility has been sized accounting for infiltration of stored rain water into the underlying soils. The total minimum volume that should be retained is **27.5 m^3**. In general, installing a rock filled detention facility sized 1.2 m wide x 76 m long x 0.9 deep will provide sufficient detention and infiltration to maintain run-off levels from the parcel at pre-development flow rates. Onsite facilities can include:

- Rainwater storage facilities connected directly to building roof leaders. These detention facilities can be above ground (i.e. rain barrels/pots) or rain gardens or in combination with shallow below ground (i.e. rock pits/infiltration chambers). Multiple facilities can be used provided the minimum storage volume is achieved. If a rock pit is selected the correct void ratio should be used to determine the size necessary to achieve the required storage volume. When tying roof leaders into below ground detention systems a downspout overflow diverter is recommended to be installed.
- All rainwater from the gravel surfaced areas should be directed by way of overland flow to detention facilities. If detention facilities are below ground rock pits/infiltration chambers they shall generally conform to the details provided in the detail provided in Appendix A.
- In ground detention facilities should generally be long and skinny with a maximum width of 1.8 m. detention facilities should be located no closer than 5 m to any breakout points such as perimeter drains and embankments greater than 0.6 m in height, and a minimum of 7.5 m horizontal separation from any septic field. When located in vehicle traffic areas detention facilities including proposed gravel materials and road structure should be reviewed by a geotechnical engineer.

- Ensure that the building perimeter drains do not get connected to soak-away(s).
- All onsite detention facilities and site grading should be designed with a suitable overflow that will convey excess flows safely offsite to the existing drainage system on Little River Road without causing property damage or other unwanted affects.
- Sub surface soils proposed to be used below gravel surfaces should be free draining material.

A stormwater management plan for the proposed development has been prepared in consultation with the developer and is provided in Appendix A. This stormwater management plan presents a general layout of stormwater management facilities and grading suitable for the proposed development. This plan is provided for general guidance in terms of stormwater detention facility locations and grading to ensure overland flow routes for minor and major stormwater flows are provided. Final location and sizing should be confirmed at time of building permit.

Additional best management practices recommended for this site which may be implemented as part of site development and building construction are as follows:

- Bioswales
- Rain gardens
- Green roofs to reduce run-off.
- Storage and re-use of rainwater to reduce runoff volume and flows.
- Provision of overland flow routes through site grading design for major storms (i.e. 1 in 100 year recurrence interval).

Proposed temporary erosion and sediment control measures for during construction

The following measures are recommended for the construction stage of any possible development of the property, however the exact implementation would be adapted based the stage of construction and ground condition observed. Not all measures would be used at all times, and some may not end up being applicable:

- Construct permanent or temporary fencing around sensitive features and their buffers.
- Retain as much natural vegetation as possible. Minimise the size of the cleared area required for construction.
- Install suitable vegetation and complete site landscaping as soon as practical to disrupted site areas.
- Prevent any disturbance within the root zone (drip line) of established trees.
- Retain the natural soils and put them back onsite during landscaping.
- Reduce soil compaction by avoiding machinery use except where necessary.
- Cut-off potentially sediment laden surface water with interception ditches or compost filled geotextile tubes.
- Build and maintain a sedimentation pond that captures all run-off from cleared areas.
- Cover any areas that will be left unplanted with straw to reduce soil stripping.
- Stage construction and stripping to avoid having large areas of the site excavated.

The details of the measures that will be employed, and how they would be staged, will depend on the form and nature of eventual development. A detailed Erosion and Sediment Control (ESC) Plan should be prepared with any building permit submissions for the property.

Conclusions

On-site detention with retention of stormwater flows through storage and infiltration is recommended to maintain post-development flows at pre-development levels. Recommendations for erosion and sediment control as well as best management practices are provided.

The analysis performed for the stormwater management discussed in this report is based on site specifications and a proposed lot development plan as provided by the client. The mitigative methods discussed in this report to reduce & control runoff and provide flood protection meet recommended minimum standards and align with accepted engineering practices based on the provided information.

Yours truly,
Wedler Engineering LLP

Per:

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Civil Engineer
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p. 250-334-3263 f. 250-338-2296

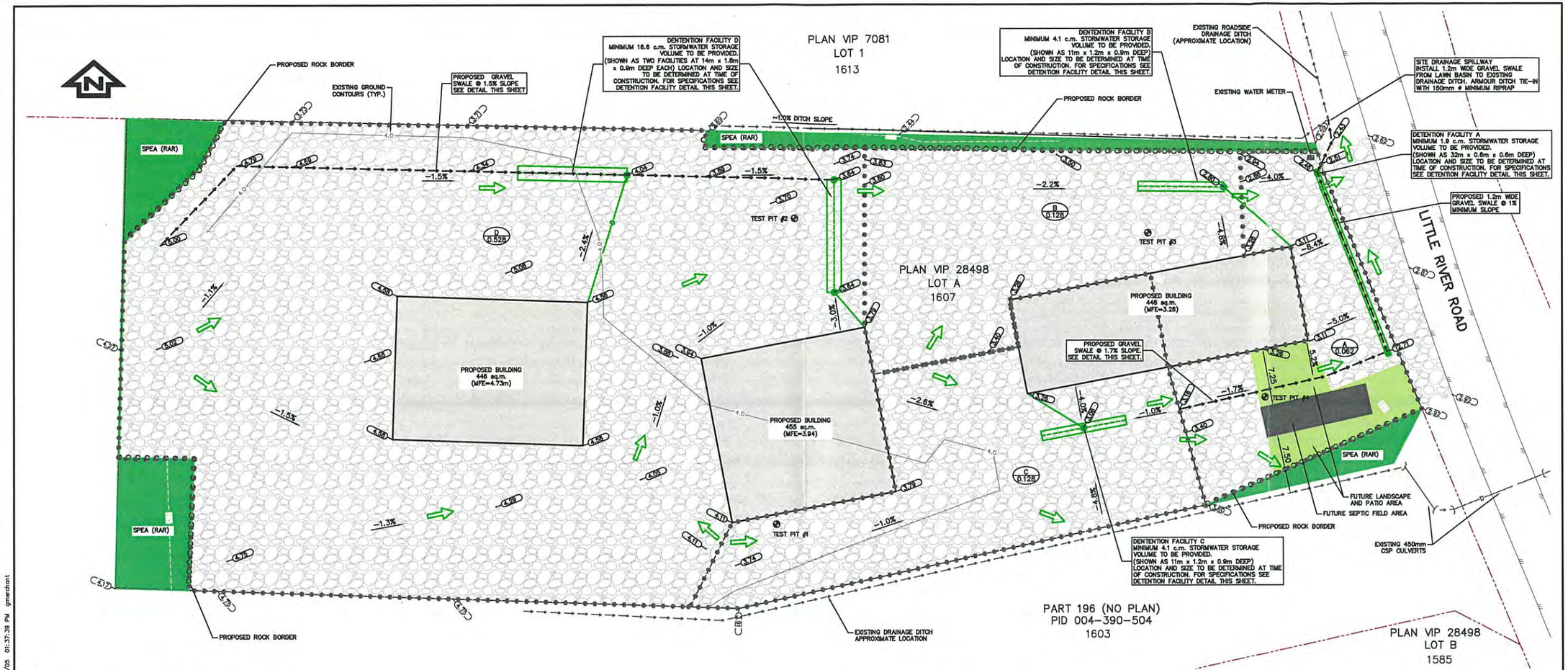
Reviewed by:

PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
J. D. BURGESS
43242
6 Dec 2019

Jenny Burgess, P.Eng.
Civil Engineer
jburgess@wedler.com

Appendix A: V20-0411/A – Stormwater Management Plan

APPENDIX A
Stormwater Management Plan

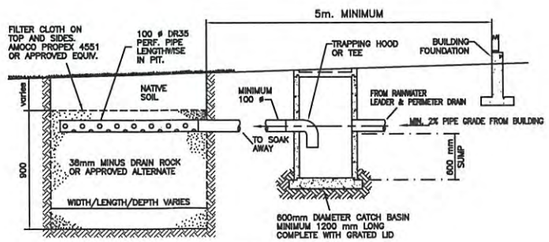


LEGEND

- EXISTING CONTOURS
- EXISTING ELEVATION (4.53)
- PROPOSED ELEVATION (4.63)
- LOT GRADING 0.50%
- CATCHMENT LABEL / CATCHMENT AREA (ha) XX / 0.xxx
- SUB-CATCHMENT BOUNDARY
- EMERGENCY OVERLAND FLOW ROUTE
- CATCH BASIN MANHOLE
- DRAINAGE DITCH
- PROPERTY LINE
- BUILDING FOOTPRINT
- EDGE OF ASPHALT

NOTES:

1. GRADING POINTS AND SLOPES PROVIDED IN THE STORMWATER MANAGEMENT ARE FOR GENERAL GUIDANCE PURPOSES. FINAL SITE GRADING SHALL GENERALLY CONFORM WITH THE POINTS AND SLOPES TO ENSURE PROTECTION OF OVERLAND FLOW DRAINAGE ROUTES.
2. EXISTING GROUND SURVEY PROVIDED BY CLIENT. WEDLER ENGINEERING DOES NOT GUARANTEE ACCURACY OF EXISTING GROUND TOPOGRAPHY GENERATED FROM CLIENT SURVEY.
3. PROPOSED STORMWATER DETENTION FACILITY LOCATIONS AND SIZES ARE APPROXIMATE AND SHALL BE ADJUSTED TO SUIT FINAL GRADING AT TIME OF CONSTRUCTION IN CONSULTATION WITH WEDLER ENGINEERING.
4. SPEA (RAR) AREA PERIMETERS, ON INTERIOR SIDE OR PROPERTY, ARE PROPOSED TO BE DELINEATED WITH LARGE ROCK



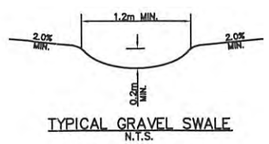
DETENTION FACILITY
(ALL DIMENSIONS ARE IN MILLIMETRES)

NOTES:

1. ONLY CLEAN WATER FREE OF ANY SILT, CLAY OR OTHER CONTAMINANTS IS TO ENTER THE SOAK-AWAY PIT.
2. ENGINEER TO INSPECT EXCAVATION WITH FILTER CLOTH INSTALLED & BACKFILL MATERIAL ON SITE PRIOR TO INFILLING.
3. VOID RATIO OF DRAIN ROCK ASSUMED TO BE 33%. FINAL FACILITY SIZING TO BE ADJUSTED IF ALTERNATIVE MATERIAL IS USED.
4. GEOTECHNICAL ENGINEER TO REVIEW EXCAVATION WALLS AND BASE PRIOR TO BACKFILLING. ROCK GALLERY MATERIAL TO BE REVIEWED BY GEOTECHNICAL ENGINEER FOR SUITABILITY TO SUPPORT VEHICLE LOADS AND FINAL INTENDED ROAD USE.

DISCLAIMER

WEDLER ENGINEERING LTD. DOES NOT GUARANTEE OR ASSUME ANY LIABILITY FOR FLOODED BASEMENTS OR CRAWL SPACES.



TYPICAL GRAVEL SWALE
N.T.S.

REV	DESCRIPTION	YYYY-MM-DD	BY
A	ISSUED FOR REVIEW	2019-11-18	GRM

LEGAL:

BM/TBM:

PROJ. MGR. GRM
DESIGN/DRAWN TJD
PEER REVIEWED GDH
HORIZ. SCALE 1:250
VERT. SCALE –

WEDLER ENGINEERING
www.wedler.com

THE WEDLER GROUP
- Abbotsford 1.604.746.0300
- Chilliwack 1.604.792.0651
- Courtenay 1.250.334.3263
- Surrey 1.604.588.1919

HBI INDUSTRIES LTD.
SWMR – 1607 LITTLE RIVER ROAD
1607 LITTLE RIVER ROAD, CVRD

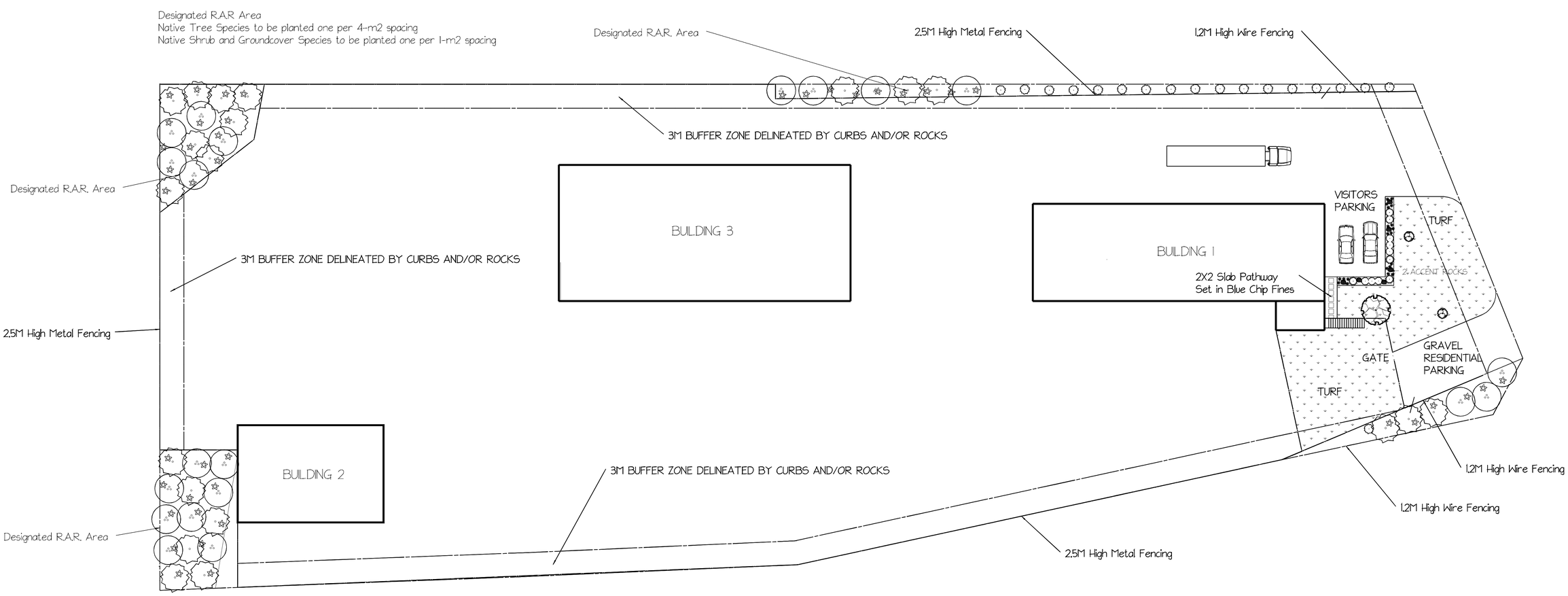
CONCEPTUAL STORMWATER MANAGEMENT AND GRADING PLAN

DRAWING NO. V20-0411/A-01 OF –1–
LOCAL GOVERNMENT FILE –
PHASE
REVISION A

N:\20\V20-0411A - SWMR-1607 Little River Rd-HBI\Design\- Current Drawing Files\20191125-V20-0411A.dwg 2019/12/05 01:37:39 PM gmerchant

PROGRESS PRINT - NOT FOR CONSTRUCTION

TLC - 1607 LITTLE RIVER ROAD, COMOX VALLEY



KEY FOR R.A.R AREA REQUIREMENTS (See Seperate Report)

Symbol	Qty	Description	Size
	20	NATIVE DECIDUOUS TREE	2 gal
	20	NATIVE CONIFEROUS TREE	2 gal
	18	NATIVE INTERMEDIATE SHRUB	1 gal
	42	NATIVE UNDERSTORY GROUND COVER	1 gal

KEY FOR FRONT LANDSCAPE AREA

Symbol	Qty	Description	Size
	1	ACER RUBRUM 'BOWHALL'	15 gal
	2	FAGUS SYLVATICA 'RED OBELISK'	20 gal
	5	PINUS MUGHO PUMILIO	3 gal
	6	PIERIS JAPONICA 'PRELUDE'	2 gal
	15	CAREX MORROWII 'ICE DANCE'	1 gal

ADAMSON DESIGNS
Landscape Design, Installation and Maintenance
Allie Adamson, Owner/Operator
9375 Doyle Rd, Black Creek, BC V9J 1E6
o: 250 337 5002
c: 250 204 8852

N

NORTH

TLC STONEWORKS
1607 LITTLE RIVER ROAD, COMOX BC
SCALE 1" = 20' DATE JANUARY 11TH 2020 DRAWING # 2/2

Policy

Subject: DarkSky	
Category: Community Planning Services	**Policy Reference:** 3010-00

Purpose

1. To include a set of guidelines to be considered regarding exterior lighting for commercial, industrial, and multi-family residential unit development. These regulations include an interpretation section to define the various terms, standardize how light systems are designed, constructed and installed, and to reduce glare, light trespass and obtrusive light while conserving energy and resources. Safety, security and productivity shall be maintained and encouraged while reducing the degradation of the nighttime visual environment.

Scope

2. The scope of this policy includes the various electoral area official community plans that have a form and character development permit area for commercial, industrial or multi-unit family residential development.

Guiding Principle

3. To guide commercial, industrial and multi-family residential development to have exterior lighting that does not negatively impact the quality of life for adjacent neighbours nor create any light pollution.

Interpretation

4. The following are definitions relating to this DarkSky policy:

   a) Abandonment: The relinquishment of a property, or the cessation of a use or activity by the owner or tenant for a period of six months, excluding temporary or short term interruptions for the purpose of remodeling, maintaining, or otherwise improving or rearranging a facility. A use shall be deemed abandoned when such use is suspended as evidenced by the cessation of activities or conditions that constitute the principle use of the property.

   b) Development project: Any multi-family residential, commercial, industrial or mixed use subdivision plan or development plan which is submitted to the regional district for approval.

   c) Direct illumination: Illumination resulting from light emitted directly from a lamp or luminaire, not light diffused through translucent signs or reflected/bounced from other surfaces such as the ground or building faces.

   d) Filtered light: Light from a light source that is covered by a glass, acrylic or other cover that restricts the amount of non-visible radiation (infrared, ultraviolet) emitted by the light fixture.

   e) Fully shielded fixture: An outdoor light fixture shielded in such a manner that all light emitted by the fixture, either directly from the lamp or indirectly from the fixture, is projected below the horizontal as certified by the manufacturer.

f) Glare: Harsh, uncomfortable bright light emitting from a luminaire causing reduced vision or momentary blindness when shining into one's cone of vision.

g) Installed lighting: Attached, or fixed in place, whether or not connected to a power source.

h) Light trespass: Exterior light fixtures shining light beyond one's property line.

i) Multi-unit family residential: properties zoned and utilized for multi-unit family residential use.

j) Outdoor light fixture: Outdoor electricity powered illuminating devices, outdoor lighting or reflective surfaces, lamps and similar devices, either permanently installed or portable, which are used for illumination or advertisement. Such devices shall include, but are not limited to, search, spot and flood lights for: buildings and structures; recreational areas; parking lot lighting; landscaping and architectural lighting; billboards and other signs (advertising or other); street lighting; product display area lighting.

k) Outdoor recreation facility: A facility used and equipped for the conduct of sports, leisure and/or entertainment.

l) Partially shielded light fixture: An outdoor light fixture shielded in such a manner that more than zero but less than ten percent of the light emitted directly from the lamp or indirectly from the fixture is projected at angles above the horizontal, as certified by the manufacturer.

m) Sign: Any object, device, display, structure, or part thereof, which is used to advertise, identify, display, direct or attract attention to any object, service, event or location by any means including words, letters, figures, design, symbols, fixtures, colours, illumination or projected image.

n) Sign, indirectly lit: Any sign facing that reflects light from a source intentionally directed upon it.

o) Sign, internally lit: Any sign that has the source of light entirely enclosed within the sign and not directly visible to the eye.

p) Temporary lighting: Lighting which does not conform to the provisions of the DarkSky policy and will not be used for more than one thirty day period within a calendar year may be permitted, subject to approval from the regional district, with a possible one, thirty day extension. Temporary lighting is intended for uses that by their nature are limited in duration; example: holiday decorations, civic events or construction projects.

q) Up light: Any light from a luminaire that shines above the horizontal plane causing illumination of the sky.

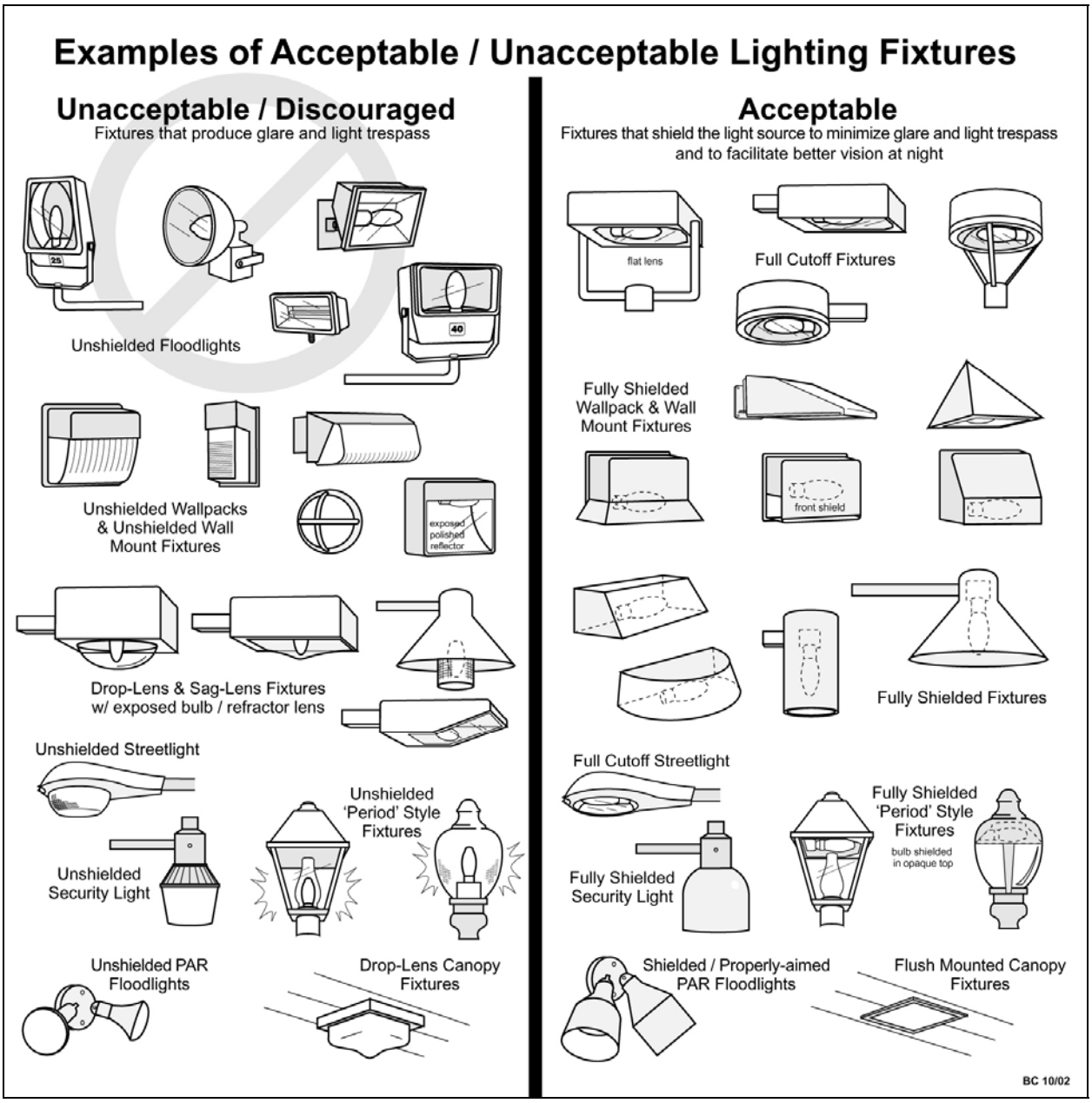


Figure One: Sample of light fixtures that are discouraged and recommended as part of the DarkSky policy.

Policy Statements

5. Shielding of outdoor light fixtures

   a) All outdoor lighting fixtures shall be shielded to minimize up-light. Mounted incandescent type fixtures shall be shielded. Lighting is encouraged to be activated by motion sensors versus being on all the time.

   b) Outdoor floodlighting shall be shielded in such a manner that the lighting system will not produce light trespass.

6. Limiting trespassing of light beyond property lines

   a) All light fixtures shall be located, aimed and or shielded so as no direct light trespasses beyond the property line on which the light is mounted.

7. Non-conforming light fixtures

   a) In addition to other exemptions provided in the regional district DarkSky policy, an outdoor lighting fixture not meeting these provisions shall be allowed if the fixture is extinguished by an automatic shutoff device between sundown and sunrise.

   b) No outdoor recreational facility, whether public or private, shall be illuminated after sundown except when the facility is in use. Outdoor lighting is encouraged to be on only when the field is in use, such as by a user pass activation system.

   c) The use of searchlight, laser light, or any similar high intensity light for outdoor advertising or entertainment, except in emergencies by police and fire personnel is prohibited. Temporary exemption to this may be granted if approved by the General Manager of Community Planning Services.

8. Effective Date

   a) The development permit must conform to the DarkSky policy that exists at the time of application. When existing lighting fixtures are considered inoperable, all replacements are subject to all the provisions of the DarkSky policy. The light will be considered inoperable when the housing of the fixture requires replacement or when the lens, lamp, and ballast need to be replaced.

9. New Construction

   a) All exterior lighting installed shall be approved by the International DarkSky Association (IDA) and must be installed correctly.

10. Exemptions

   a) The following are exempt from the requirements of the DarkSky policy:

      i. Single-family development (less than or equal to three dwelling units on one property and zoned residential). Note: the regional district does encourage single-family development to seriously consider the installation of IDA approved lighting.

      ii. Outdoor lighting fixtures existing and legally installed prior to the implementation of the DarkSky policy.

      iii. Outdoor advertising signs of the type constructed of translucent materials and wholly illuminated from within do not require shielding. Dark backgrounds with lighter coloured lettering or symbols are preferred to minimize detrimental effects.

      iv. Navigational and general life safety lighting systems required at airports and other transportation installations.

Approval History

Policy adopted:	December 13, 2007
Policy amended:	

J. MacLean

3060-20 / DP 24B 19

From: Jodi MacLean
Sent: Thursday, April 09, 2020 2:09 PM
To: Ton Trieu; Sylvia Stephens
Subject: FW: BC Ministry of Agriculture Referral - HBI Industries Ltd.

From: Hatfield, Jill AGRI:EX [mailto:Jill.Hatfield@gov.bc.ca]
Sent: April 9, 2020 10:47 AM
To: Jodi MacLean <jmacLean@comoxvalleyrd.ca>
Subject: BC Ministry of Agriculture Referral - HBI Industries Ltd. and Roger/Guenette

Hi Jodi: I hope you are keeping well given the current situation. My apologies for the delay in responding. Here are the comments on the two referral's from early March.

HBI Industries Ltd. 1607 Huband Road: 3060-20/DP 24B 19

- The Guide to Edge Planning recommends a 15 metre setback, 8 metres being a buffer for non-residential activities i.e. light industrial. A solid fence can be considered part of the buffer; see Appendix C – Fencing Specifications in the Guide to Edge Planning.
- The area is subject to periodic water inundation from the watercourses mentioned. The drainage plan provides confidence that the situation for the neighbouring agricultural land will not subject to additional stormwater run-off from the increase in impermeable surfaces proposed.
- The property has be used as a soil mixing facility for a number of years. The new use is in keeping with this type of industrial activity.
- Given the review by the Qualified Environmental Professional, drainage plan by a Qualified Engineer and provision for a solid metal fence as part of the buffer, the proposed setback distances appear to be adequate to protect the adjacent farmland.

Thank you
Jill Hatfield P.Ag | Regional Agrologist – Vancouver Island North
BC Ministry of Agriculture | cell: 250-334-7272 | email: Jill.Hatfield@gov.bc.ca

AgriServiceBC@gov.bc.ca 1 888 221-7141 | www.gov.bc.ca/agriservicebc