



Eco-Village Feasibility: Mid-Point Report

May 10, 2021





Mandate from Council

- March 8, 2021:

THAT Council direct staff to investigate the feasibility of an environmentally sensitive eco-village style development that would enhance and complement the District Solar + Storage project at 13500 Prairie Valley Road/12591 Morrow Street/Denike Street.

Progress to Date

- CAO has established internal steering committee of key department representatives (Fire, Dev. Services, Infrastructure, Electrical, Recreation, Sustainability)
- Initial high-level planning has been undertaken
- Consultants for environmental desktop review and engineering onboard
- Solar + Storage project continuing as planned

Engagement to Date

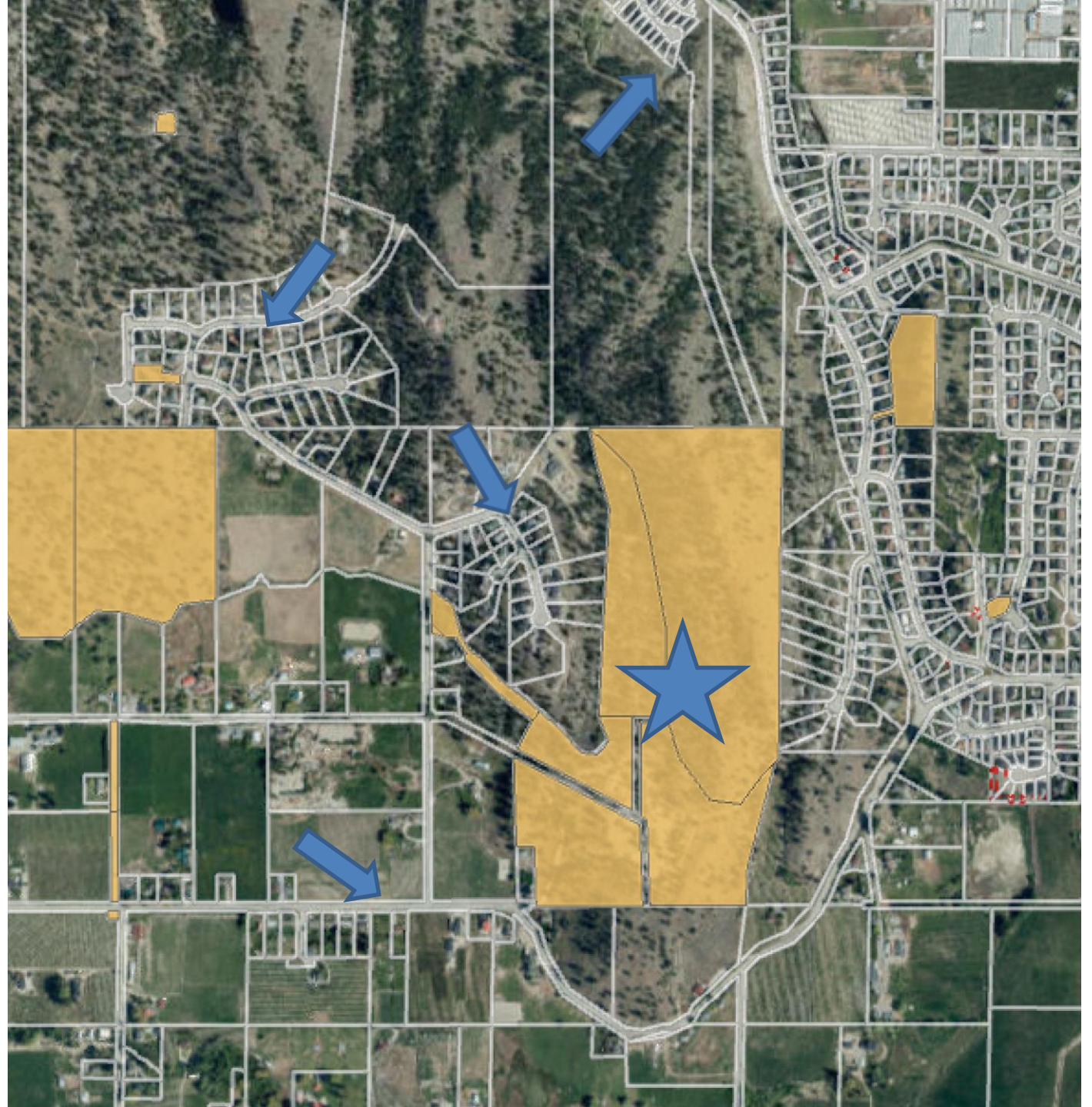
- No formal public consultation has occurred to date
- Media articles:
 - “Eco-village development proposed for area around Summerland’s solar site” – Summerland Review, March 9, 2021
 - “Eco-village pitched for Summerland solar site” – Penticton Herald, March 9, 2021
 - “Oversight committee formed for Summerland’s eco-village” – Summerland Review, April 14, 2021
 - “Eco-village feasibility under study now” – Penticton Herald, April 13, 2021
- 3 letters of correspondence/editor, 8 facebook comments
- Some conversations with area landowners
- May 17: Council-Council discussion topic with PIB

Project Approach / Methodology

1. Determine high level planning considerations based on initial assessment
2. Understand existing land use context
3. Understand land and engineering constraints
4. Research Eco-village best practices
5. Complete environmental desktop review
6. Understand current recreational uses on site
7. Start preliminary engagement with PIB on cultural values
8. Report back to Council (expected mid-June)

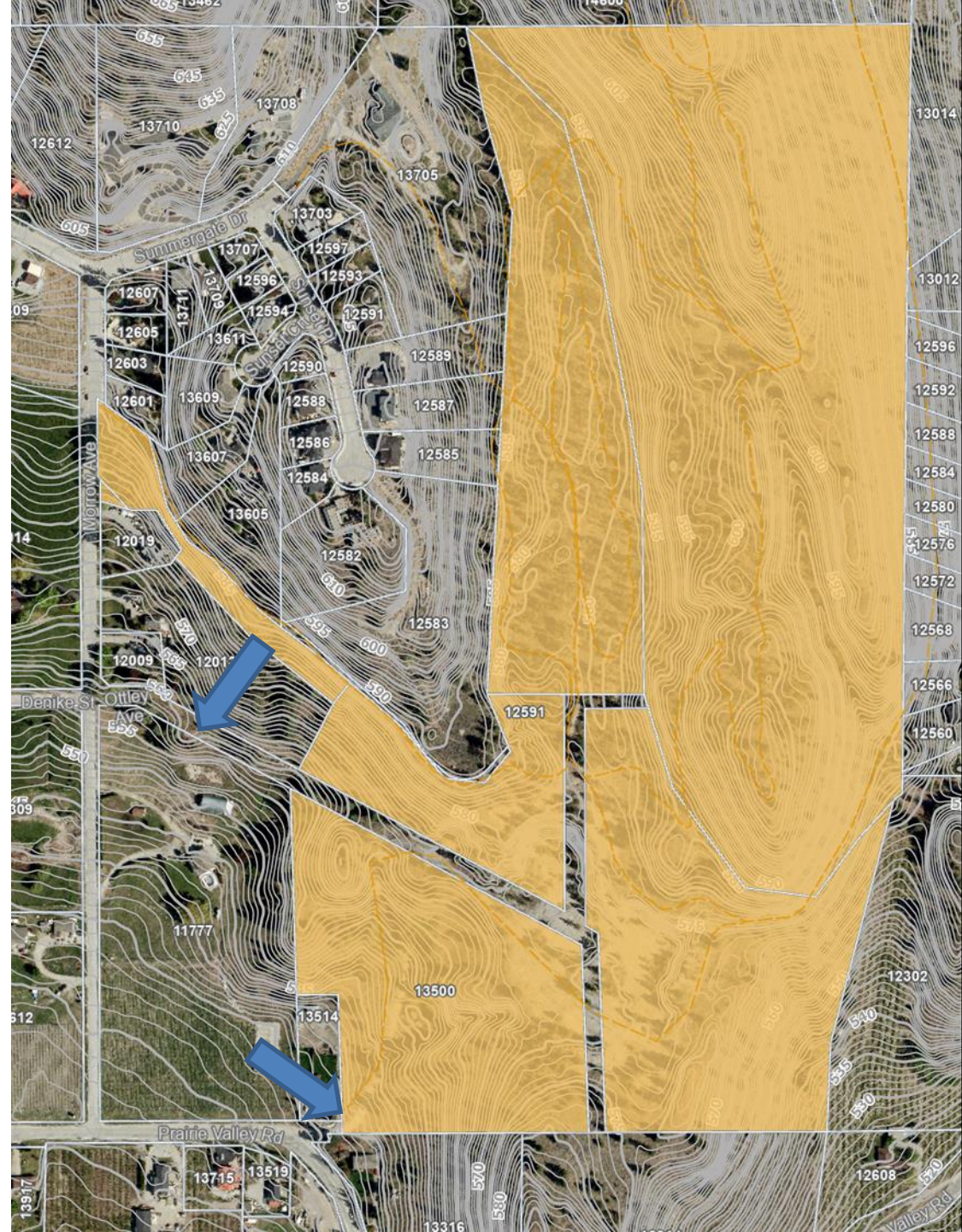


- **Subject Property:**
13500 Prairie Valley Road
12591 Morrow Ave
(Denike St. Lands)
- **OCP:** Administrative
- **Zoning:** Institutional
- **Access:** Prairie Valley Road
- **Existing residential:** Deer Ridge, Sunset Place, Cartwright Mountain





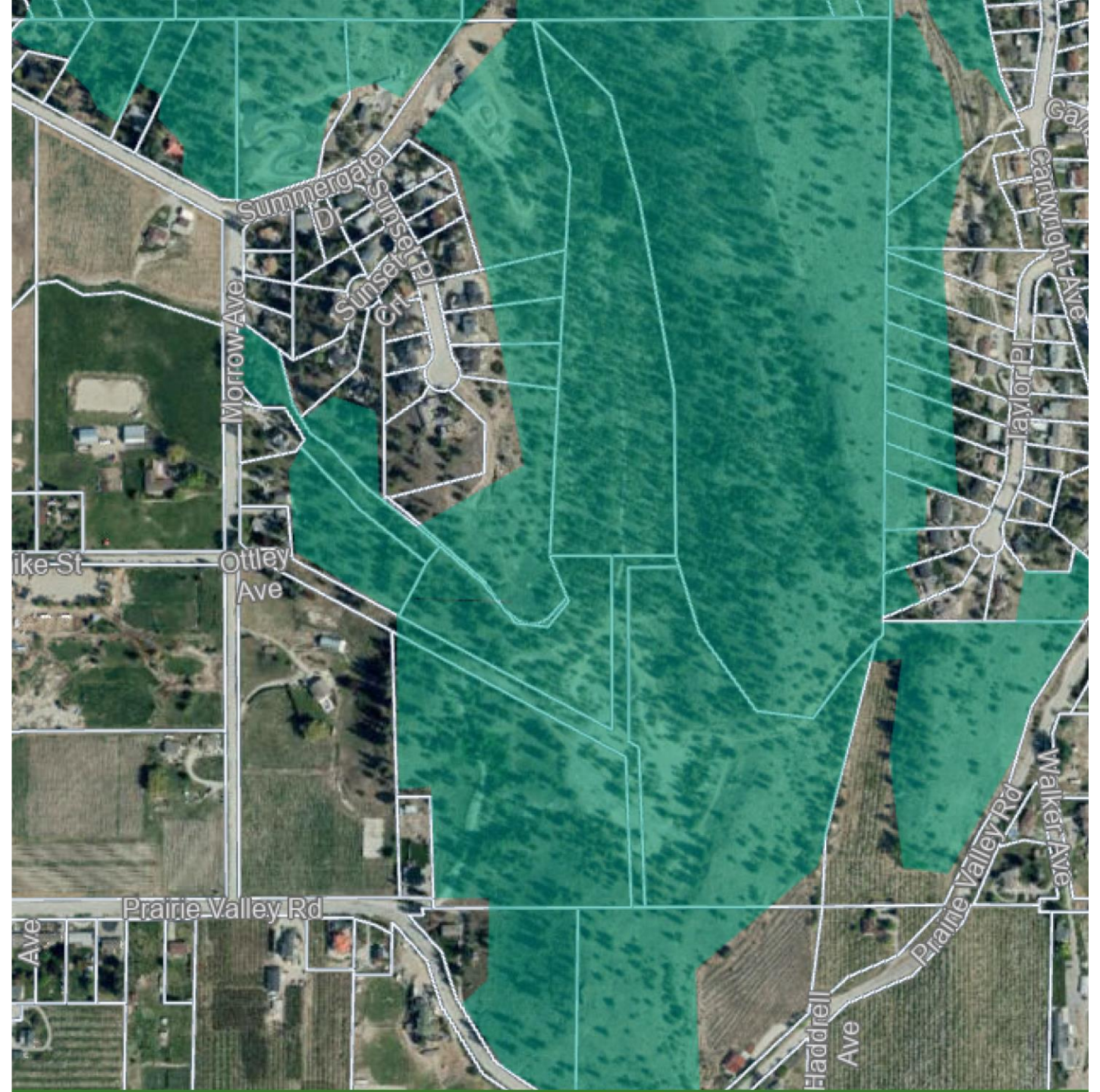
- District owned land = ~66 acres



- **Land Use Planning:**
- Urban Growth Boundary



- **Land Use Planning:**
- Environmentally Sensitive Development Permit

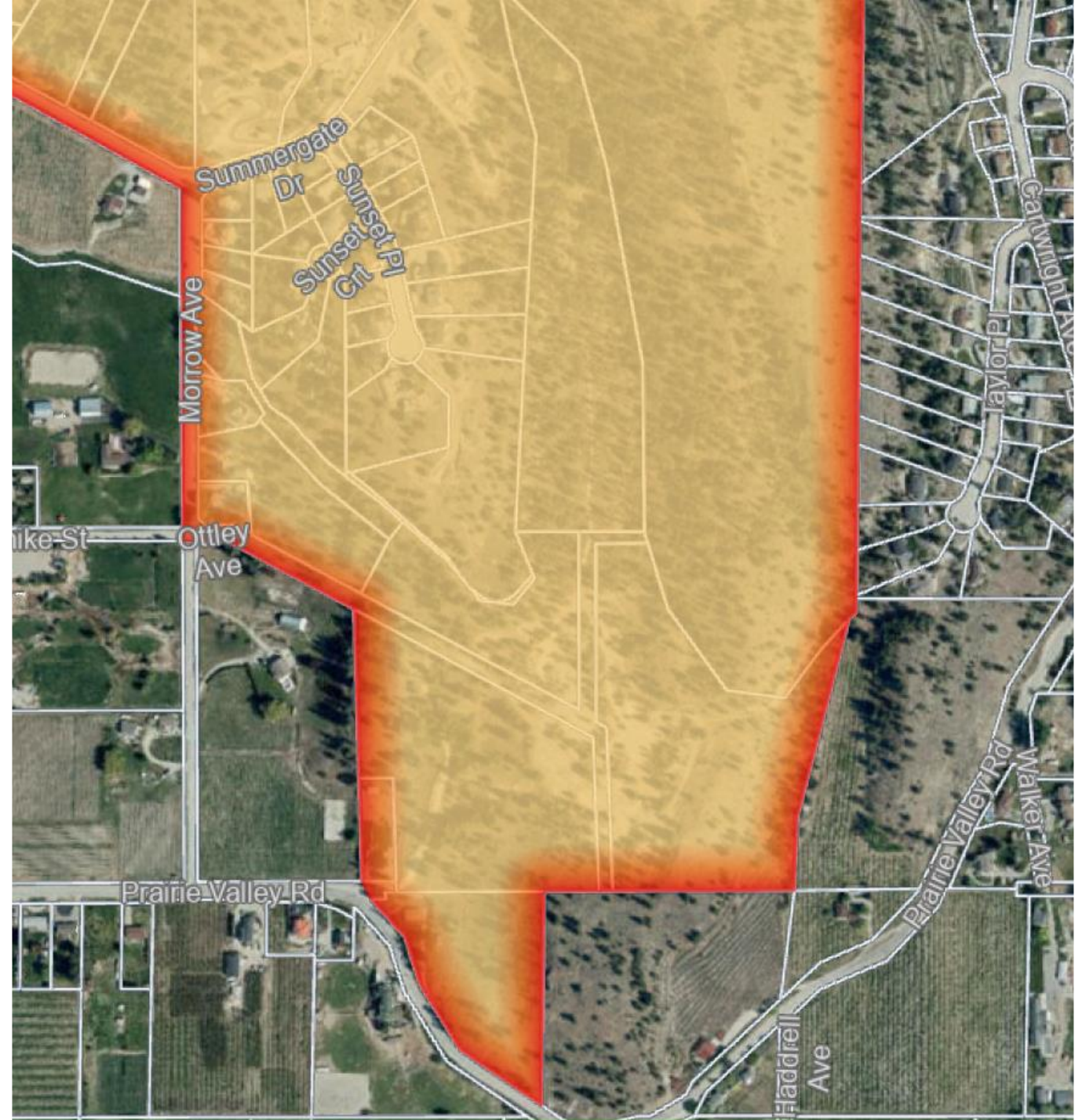


Environmentally Sensitive DP

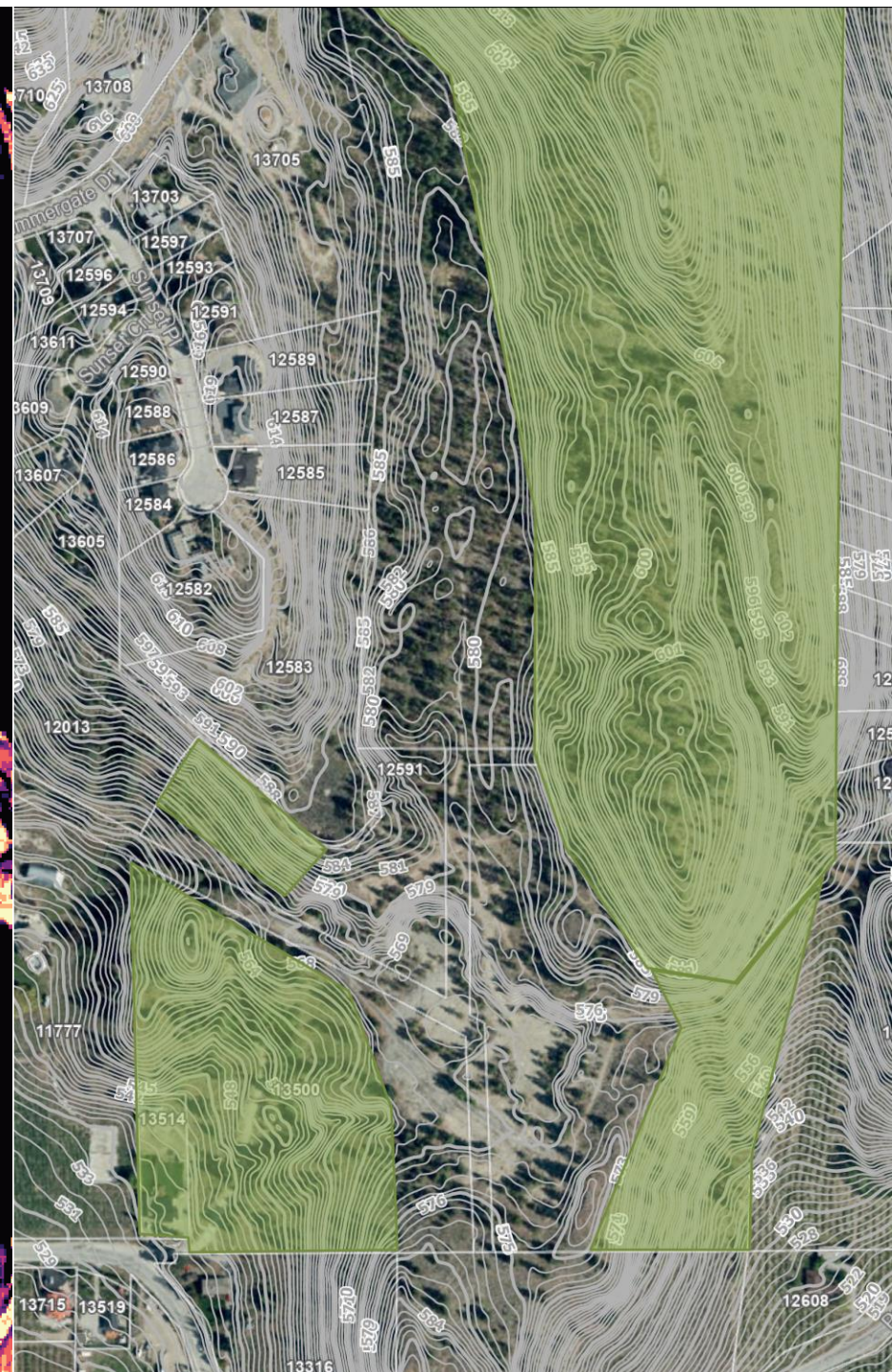
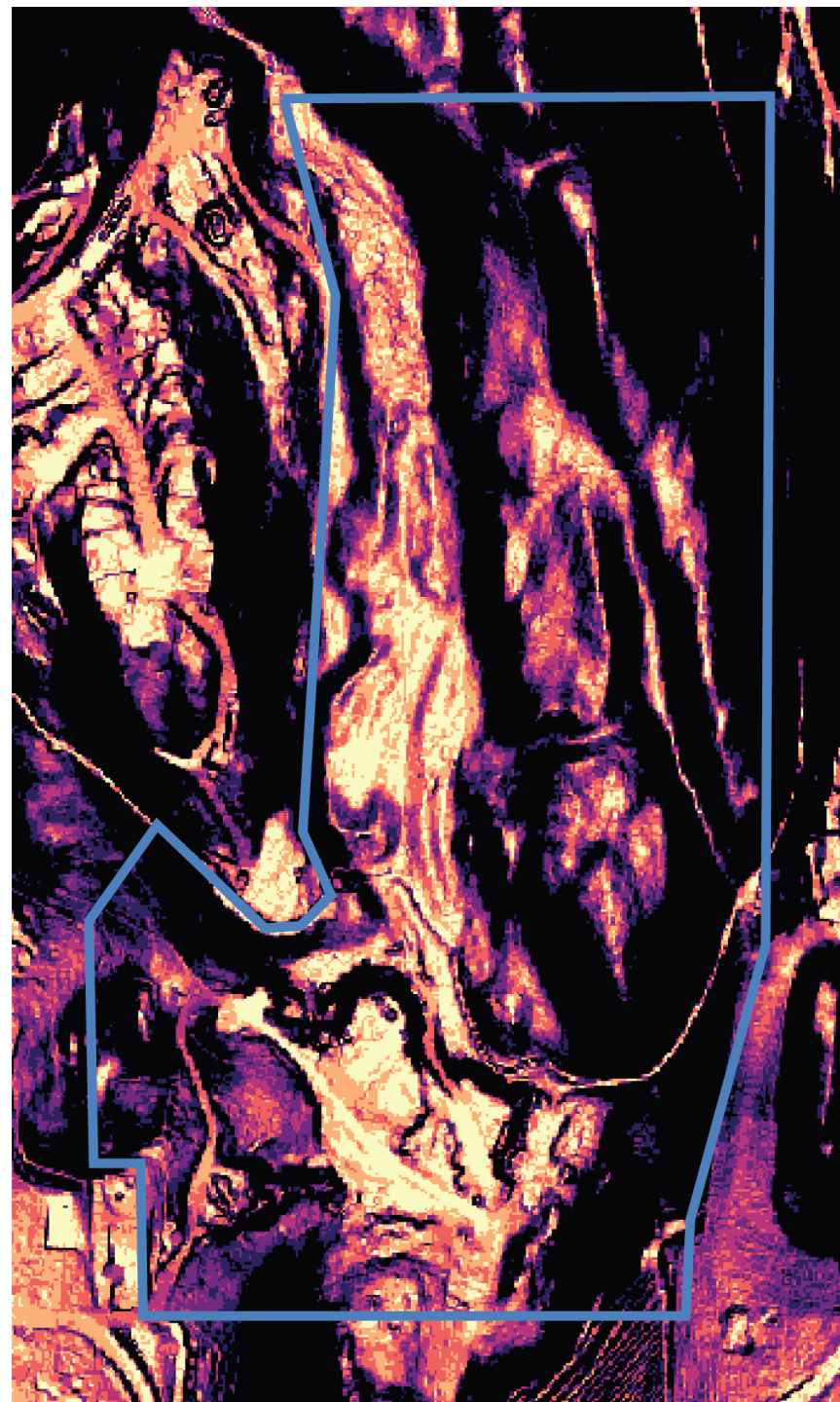
- **OCP Section 23.0 - Guidelines**

- Section 23.4.1.2: *“In accordance with the environmental assessment, lands deemed highly environmentally sensitive (**ESA1**) **must** be designated in the development permit as ‘**non-disturbance**’ areas and protected through conservation covenants, parkland dedication and/or protection mechanisms acceptable to the District of Summerland”*
- Section 23.4.1.4: *“Developments should be planned, designed and constructed to **avoid encroachment** on sensitive ecosystems identified in the environmental assessment...”*
- Section 23.4.1.6: *“Should the development plan, including construction staging, include unavoidable disturbance of sensitive ecosystems, an environmental impact assessment must be provided by the RPBio explaining how the **impacts are to be mitigated** and what other environmental best management practices will be undertaken to offset the proposed impact.”*

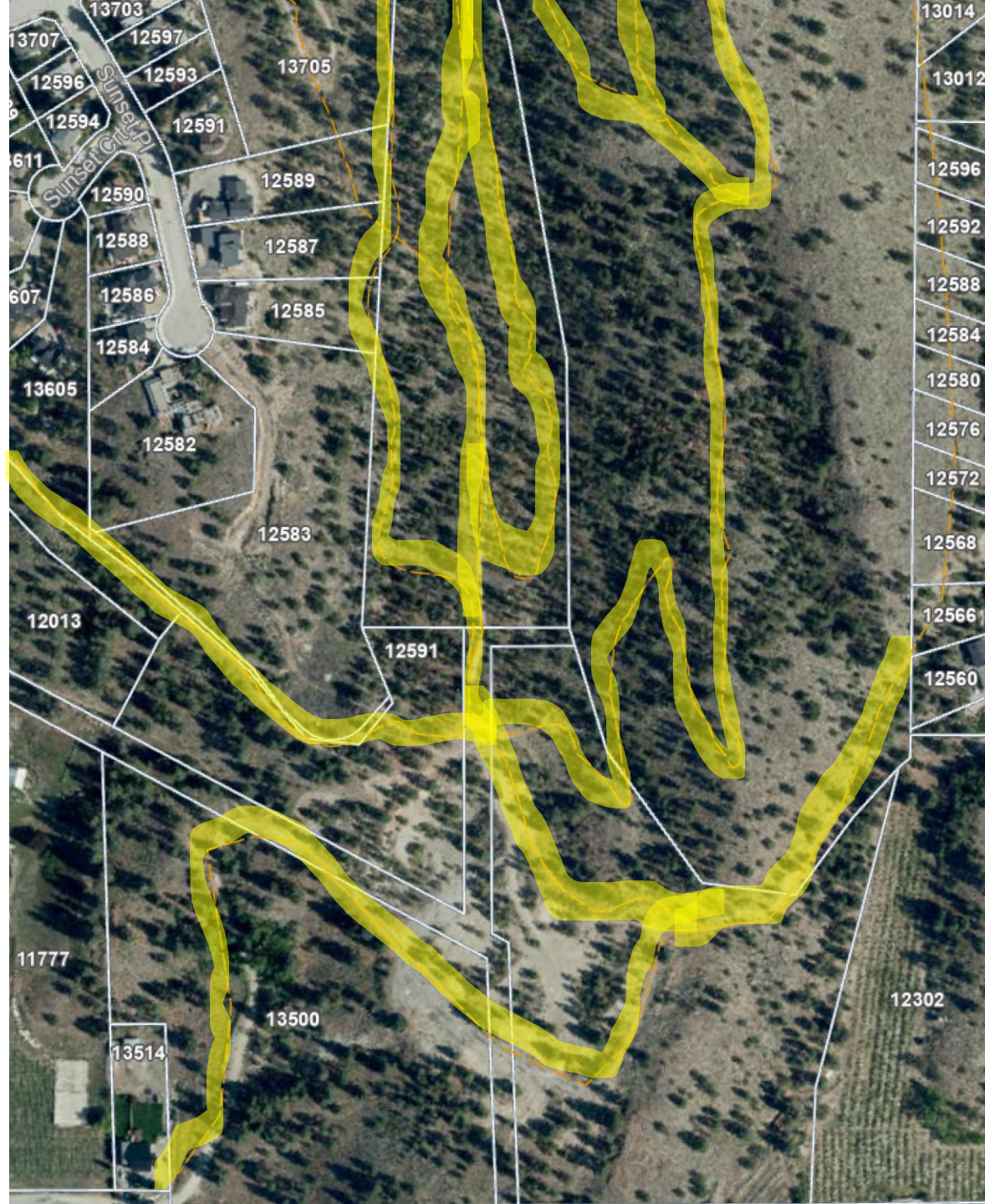
- **Land Use Planning:**
- Wildfire Hazard
Development Permit



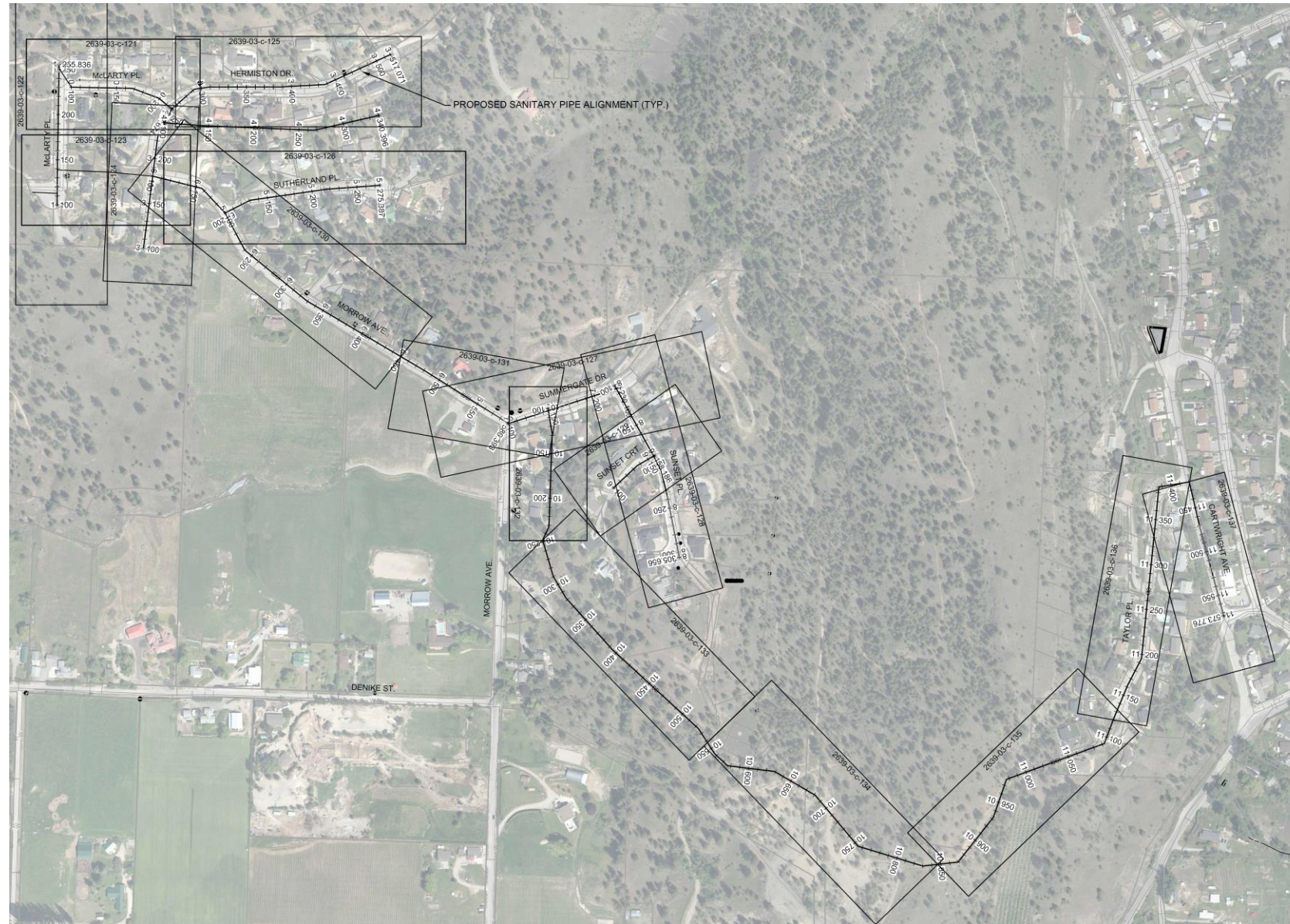
- Land and Engineering Constraints
- Grades



- Land and Engineering Constraints
- Recreational Trails

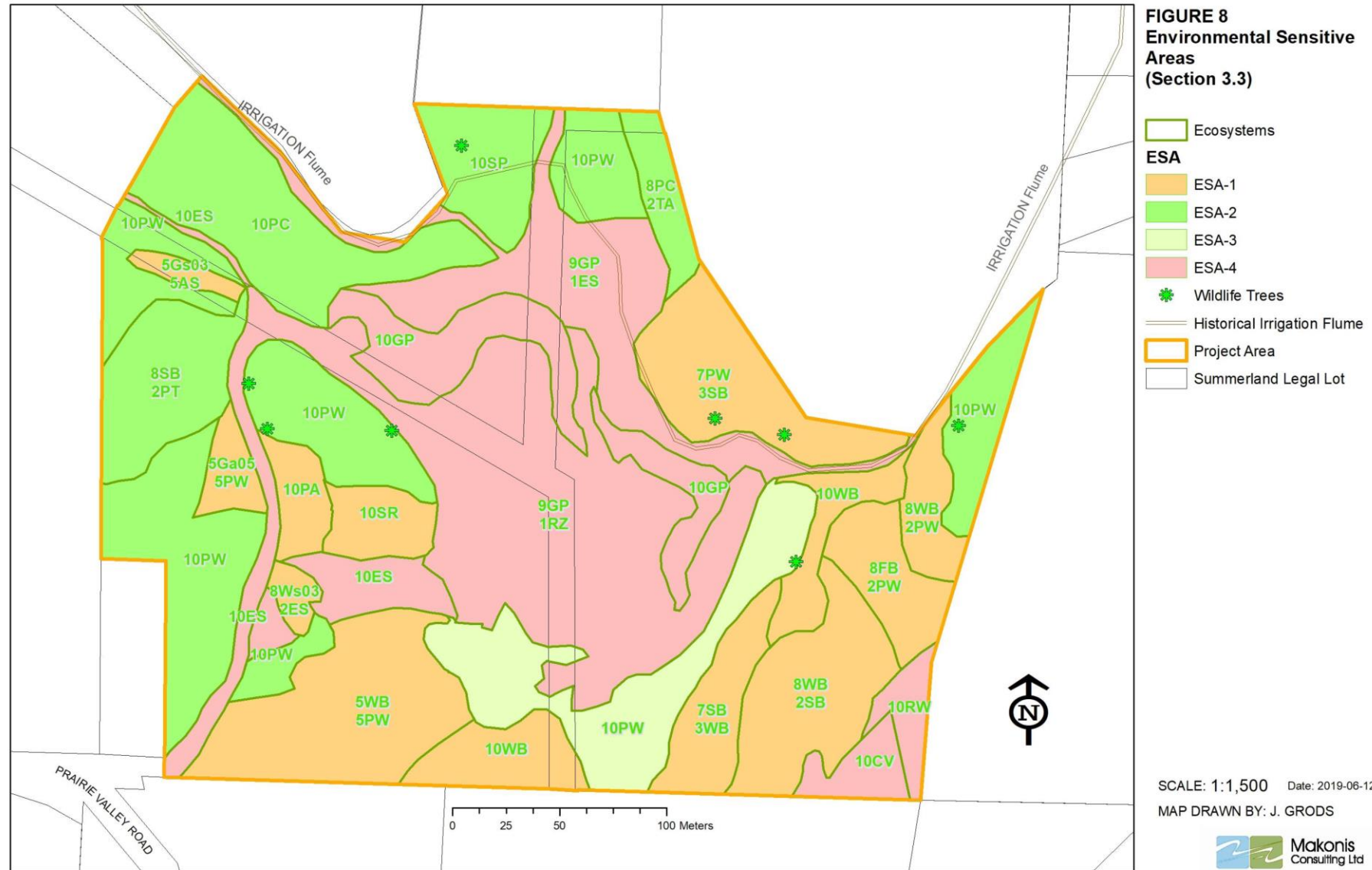


- **Land and Engineering Constraints**
- **Sewer Extension (90% Design – Gravity)**

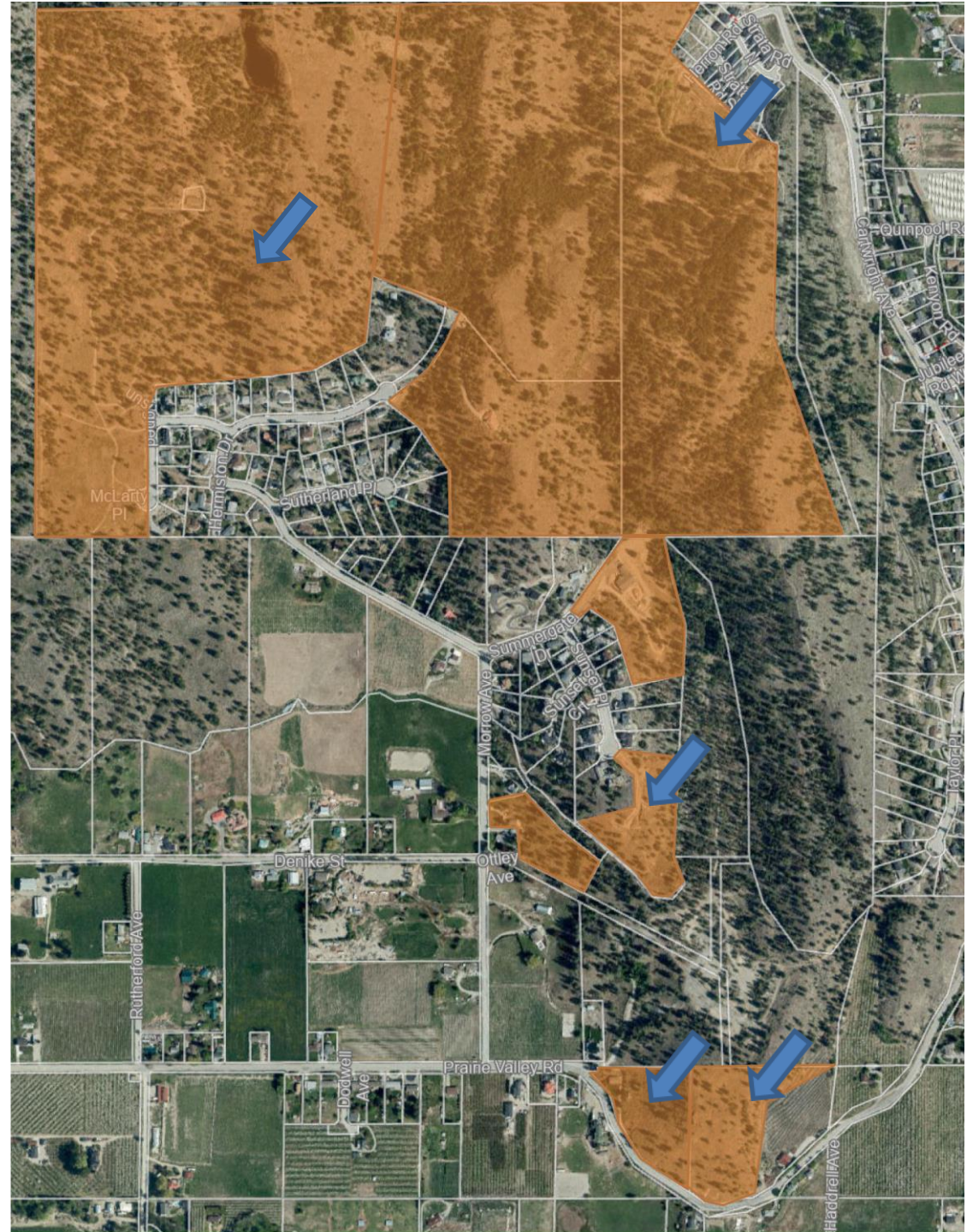


Land and Engineering Constraints

- Environmental Sensitivity

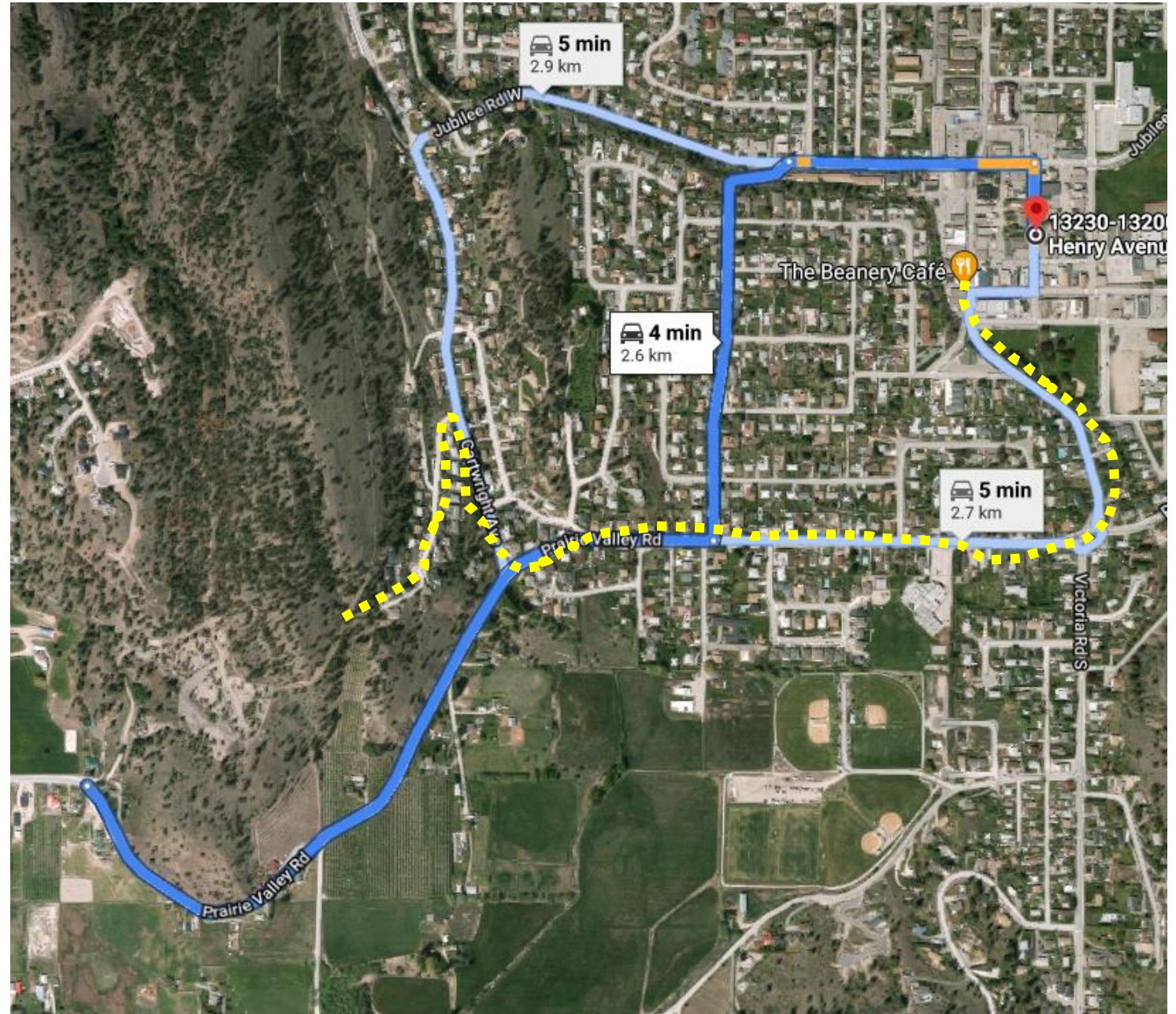


- **Context – Broader Area**
- Potential Development in Surrounding Area



- **Context – Broader Area**

- 2 km walk/cycle to Downtown
- 5 minute drive



What do we mean by ‘Eco-Village’?

- **Case Study examples:**
- **Dockside Green – Victoria, BC**
 - LEED platinum-level green building
 - Contaminated property – former Dock yards
 - Development teams selected through “triple bottom line” approach
 - Sale process encouraged bidders to submit lower bids if higher level of sustainability achieved
 - Integrated Energy system (biomass plant)
 - Roof-mounted wind turbines, package wastewater treatment plant, re-use of treated water, climate adaptive landscaping, terraced ponds with wetland plants interconnect through central greenway.



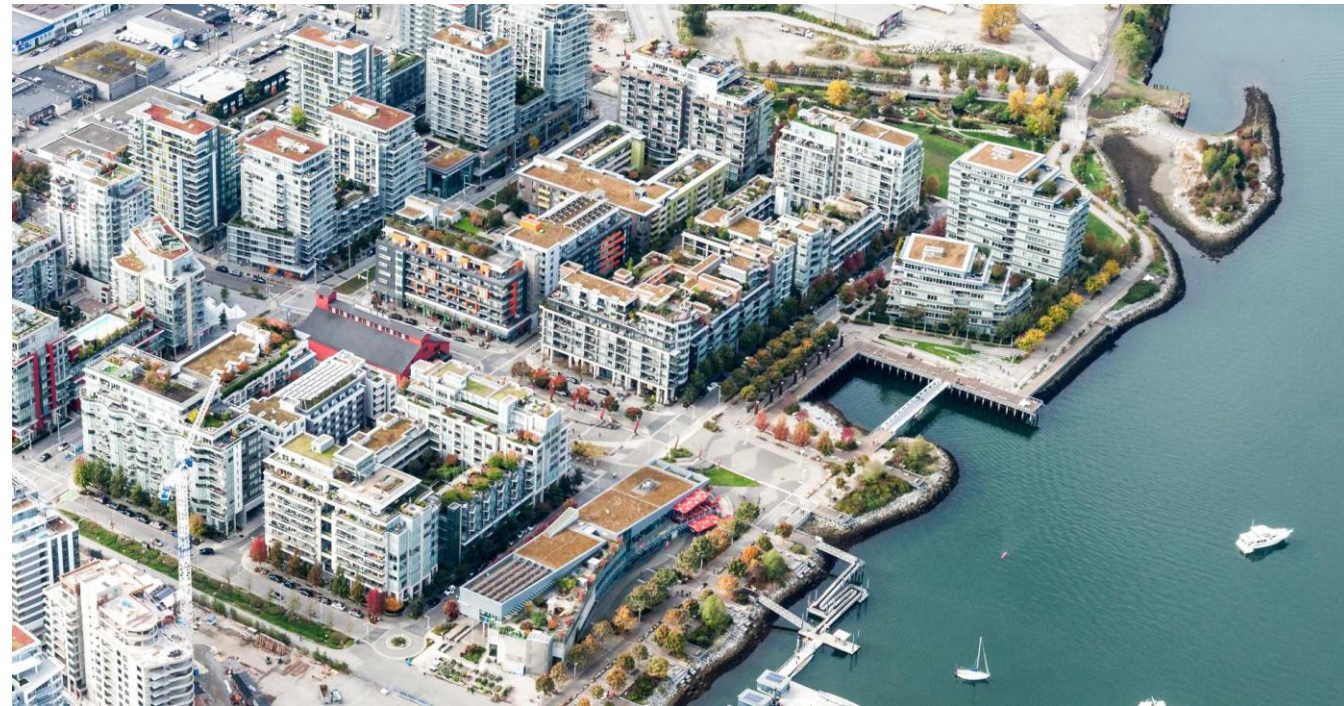
What do we mean by 'Eco-Village'?

- **Case Study examples:**
- Greenridge Heights – Fort St. John, BC
 - 'Passive' homebuilding
 - Active transportation options: cycling in summer, cross-country skiing in the winter
 - Water from building roofs collected for re-use for domestic and irrigation purposes
 - Bio-swales for natural storm drainage
 - Constructed wetlands for stormwater ponds



What do we mean by 'Eco-Village'?

- **Case Study examples:**
- Southeast False Creek – Vancouver, BC
 - Urban agriculture
 - Green roofs
 - Fish habitat conservation
 - Seaside greenways and bikeways
 - Rainwater management systems
 - 50% re-use of rainwater
 - Neighbourhood Energy System
 - Waste thermal energy captured from sewage



Sustainability Characteristics – Subject property

- 1 MW Solar Facility on-site
 - Power to 100 average homes
 - Potential for “Micro-grid” connection
 - Potential for carbon neutrality?
- Environmentally sensitive habitat
- Community sanitary sewer
- 2 km Walk/Cycle to Downtown
- Recreation Trails and “Park” access
- Solar project – brownfield site



LEED Certification for Neighbourhood Development

- Objectives

- Reduce vehicle kilometres traveled
- **Increase diversity of housing types**
- Make jobs and services accessible by foot, bicycle or public transit
- Increase transportation choices
- **Facilitate healthy lifestyles**
- **Protect threatened species**
- **Reduce energy and water use per capita**
- Connect people and place

Certified	Silver	Gold	Platinum
40 – 49 points	50 – 59 points	60 – 79 points	80+ points

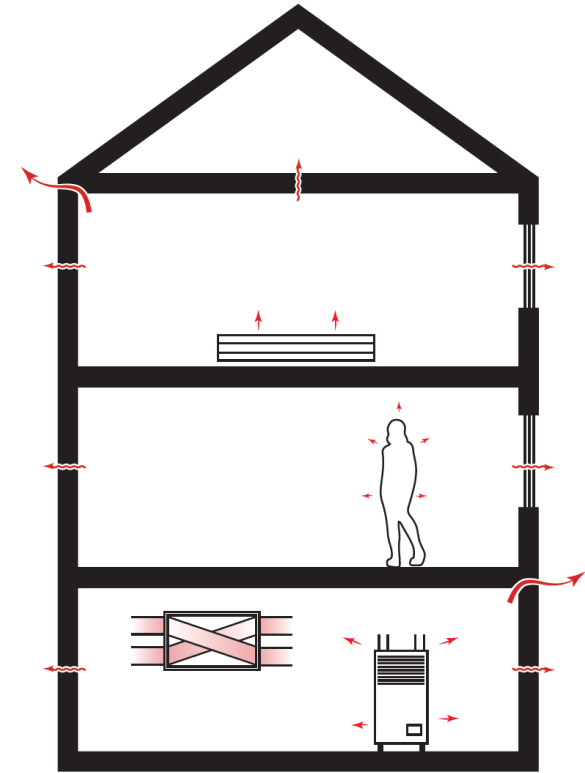
ENVISION – Sustainable Infrastructure Network

- Rating system from the Institute of Sustainable Infrastructure
 - 5 categories: Quality of Life, Leadership, Resource Allocation, Natural World, Climate and Resilience
 - Broader criteria than LEED (social, quality of life, climate resiliency)
 - Most projects based in the US (10 in Canada)
 - All infrastructure projects applicable (not just neighbourhood development)



BC Energy Step Code

- Step 5 - Part 9 buildings (homes) that are:
 - Net-zero energy ready
 - Passive-house standard
 - Require minimum heating or cooling (if any)
- Energy Step Code Council recommends local governments require Step 4 or 5 for any public building projects.



High-Performance Building

Low thermal transmittance

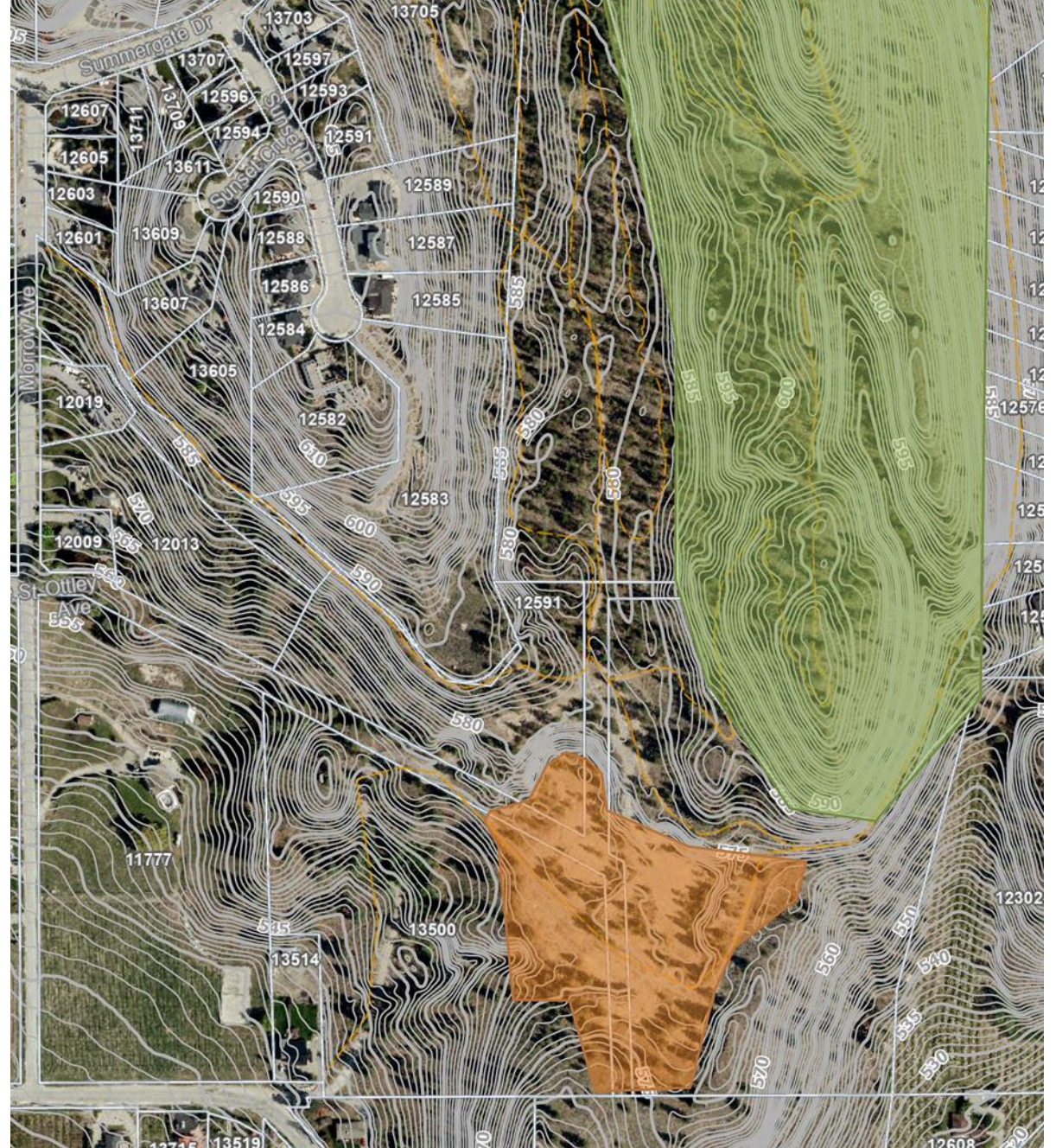
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High thermal performance

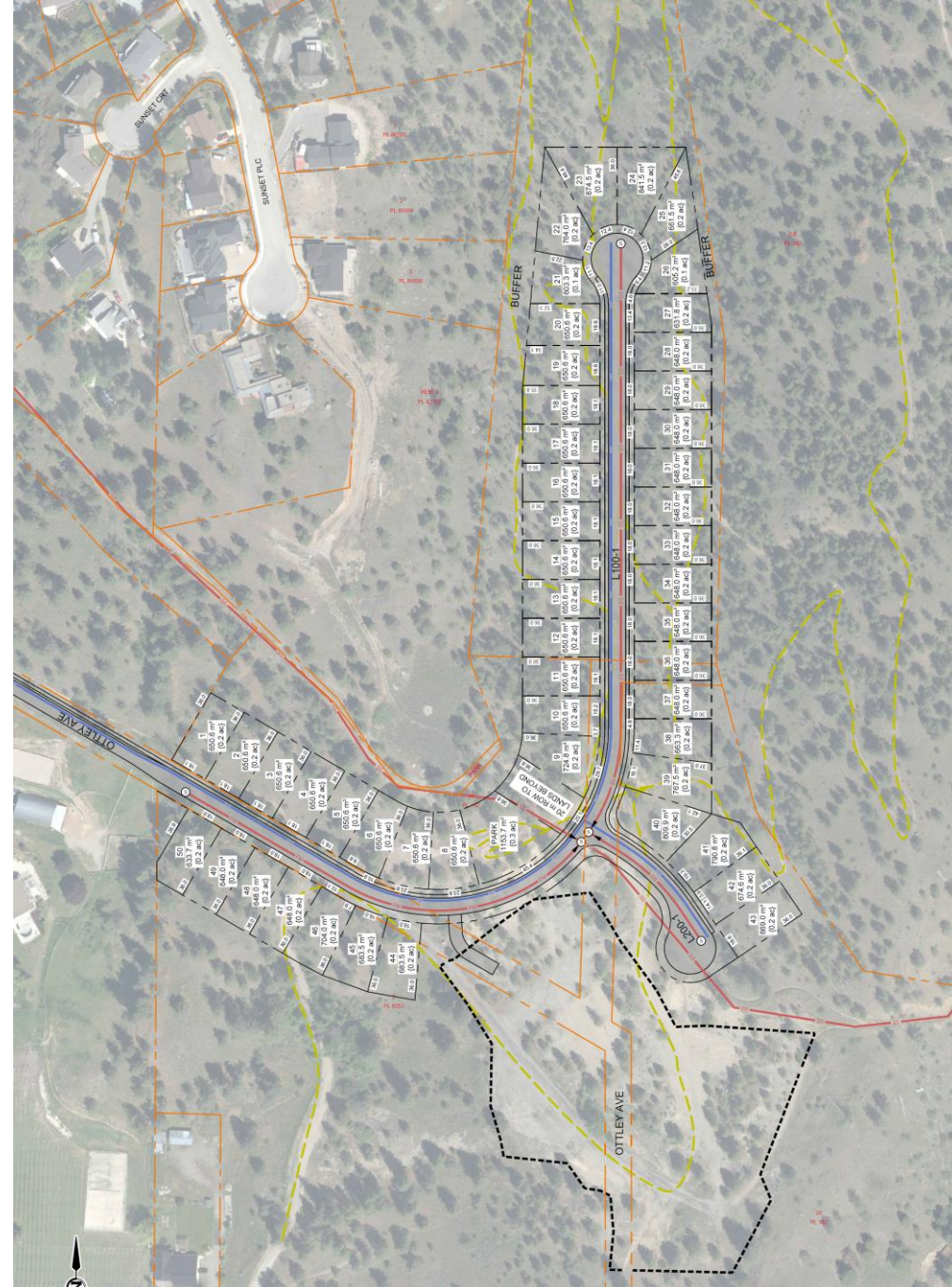
- **Planning Considerations**
- **Grade and Trails**



- **Planning Considerations**
- **Solar Site Footprint**



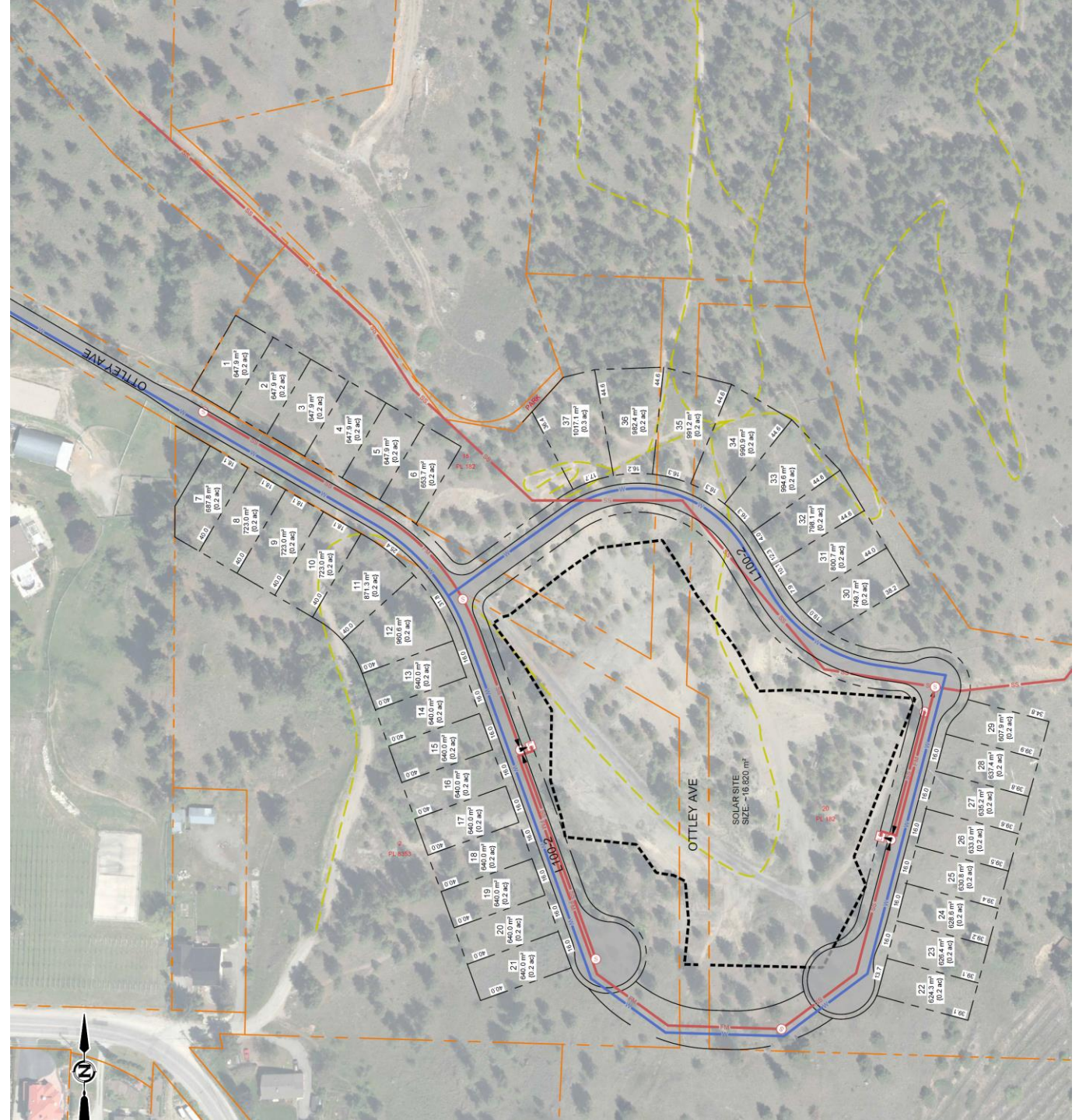
- **Planning Considerations**
- Preliminary Concept 1:
Development North of
Solar Site



Concept 1 Characteristics

- **Access:** Ottley Road, from Morrow Street
- **Grades:** Flatter
- **Servicing:** Most lots connect by gravity to Sewer Main
- **Trails:** Multiple Trails need to be re-aligned
- **Solar Site:** Minimal Impact (22,308 m²)
- **Environmentally Sensitive 1 Areas:** TBD
- **Estimated Number of SFD Lots:** 45 lots
- **Estimated Cost:** \$1.989 million
- **Estimated Cost per lot:** \$44,200 per lot

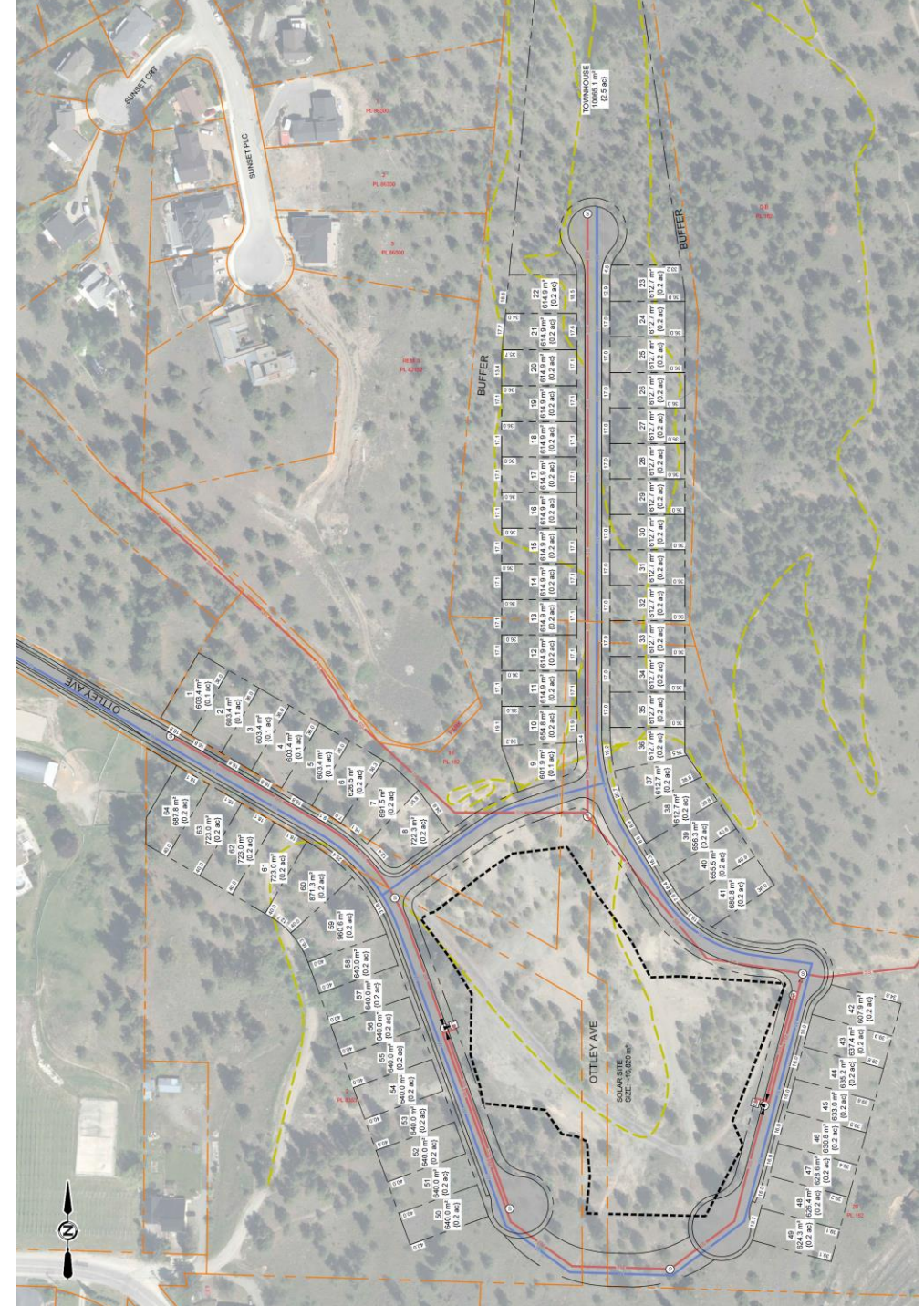
- **Planning Considerations**
- **Preliminary Concept 2:**
Development Around
Solar Site



Concept 2 Characteristics

- **Access:** Ottley Road, from Morrow Street
- **Grades:** Lots are significantly sloped from road
- **Servicing:** Most lots need Lift Station
- **Trails:** Minimal Impact
- **Solar Site:** Reduced Solar footprint (16,820m²), Shading
- **Environmentally Sensitive 1 Areas:** Development in ESA 1
- **Estimated Number of SFD Lots:** 37 lots
- **Estimated Total Cost:** ?
- **Estimated Cost per lot:** ?

- **Planning Considerations**
- Preliminary Concept 3:
Maximum development
(Combined Concept 1 & 2)



Concept 3 Characteristics

- **Access:** Ottley Road, from Morrow Street
- **Grades:** Developable area is steeper
- **Servicing:** Lift Station required for half of development
- **Trails:** Multiple Trails need to be re-aligned
- **Solar Site:** Reduced Solar footprint (16,820m²), Shading
- **Environmentally Sensitive 1 Areas:** Development in ESA 1
- **Estimated Number of SFD Lots:** 64 lots
- **Estimated Total Cost:** ?
- **Estimated Cost per lot:** ?



Strategic Considerations

- Sewer extension may allow for additional development opportunities
- Communities in Deer Ridge and Sunset Place experiencing issues/failures of their septic systems
- Formalization of recreation and trail areas through “park” zoning.
- Potential for enhanced resiliency with Micro-Grid
- Opening additional lands to provide housing options

Detailed Development Concept

- Case Study examples – use of a development concept plan
- Zoning?
- High-Density vs. Low Density?
- Eco-village and sustainability aspects?
- Design of land attributes? (ecological, physical, social)
- Community engagement



Potential Next Steps (Timeline)

- Columbia Environmental completes ESA Inventory (June)
- Narrow down the proposed development area
- Present findings of preliminary engineering, costs, environmental impact, and proposed development area to Council (June)
- Council decision to proceed to a Development Concept RFP and to establish a planning consulting project budget (June).
- Complete Concept (with community engagement) (Aug – Nov)
- Release Expressions of Interest for development teams to construct Concept (December, 2021)
- Council selects winning bid and sells land (February, 2022)

Council Directions

- How does Council define an “Eco-Village”?
- How does Council want us to engage with key stakeholders (adjacent landowners, recreational trail user groups, PIB)?
- In the preliminary concepts, which land values need to be maintained and therefore protected? (ecological, solar facility, trails)



Questions and Discussion

Thank you!