



Eco-Village Feasibility Report

August 9, 2021 Council Presentation





Mandate from Council

- On February 22, 2021:

THAT Council reaffirms the commitment to complete the Solar and Storage Battery project in its chosen location.

- 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.



Project Approach / Methodology

1. Determine high level planning considerations based on initial assessment
2. Understand existing land use context
3. Understand land and engineering attributes
4. Research Eco-village best practices
5. Complete environmental inventory desktop review
6. Understand current recreational uses on site
7. Preliminary engagement with PIB on cultural values
8. Finalize preliminary design
9. Report back to Council (August 9, 2021)

Stakeholder Engagement to Date

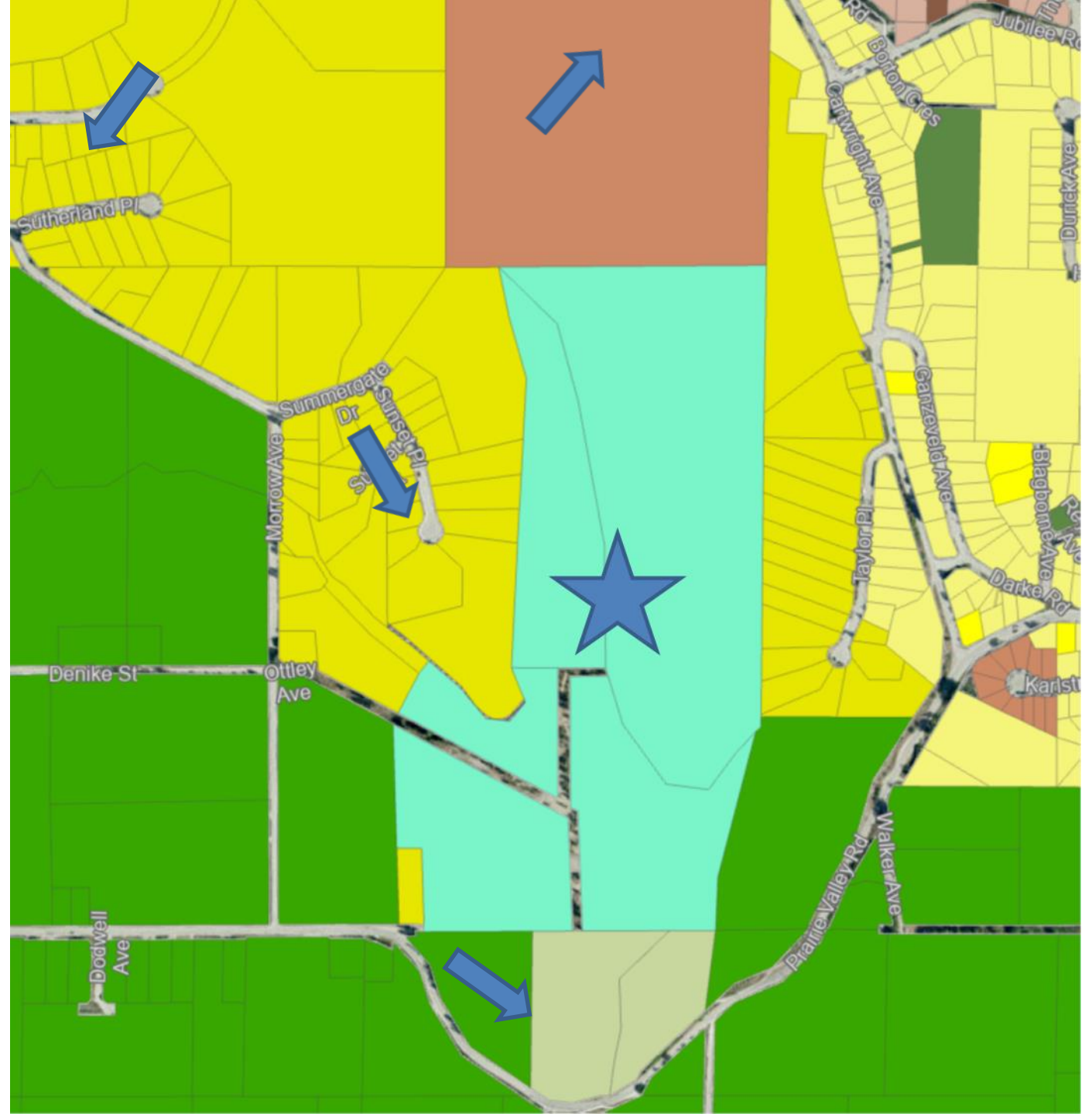
- No formal public consultation has occurred to date
- Internal inter-department project team

Staff have engaged with the following key stakeholder groups:

- Cartwright Mountain Recreation Trail Users
- Key Adjacent Landowners
- Penticton Indian Band Council

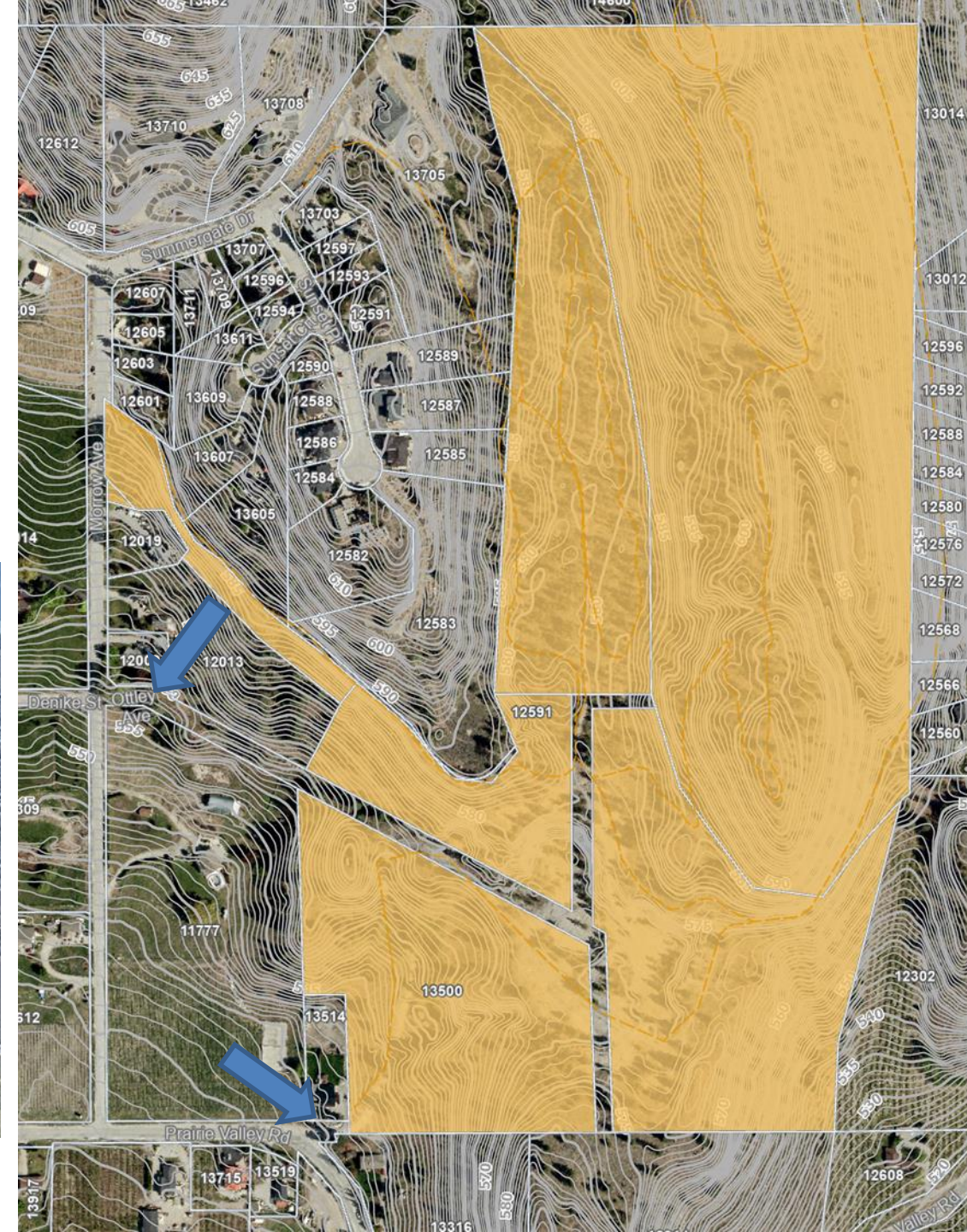


- **Subject Property:**
13500 Prairie Valley Road
12591 Morrow Ave
- **OCP:** Administrative
- **Zoning:** Institutional
- **Access:** Prairie Valley Road
- **Existing residential:** Deer Ridge, Sunset Place, Cartwright Mountain





- District owned land = ~66 acres



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.



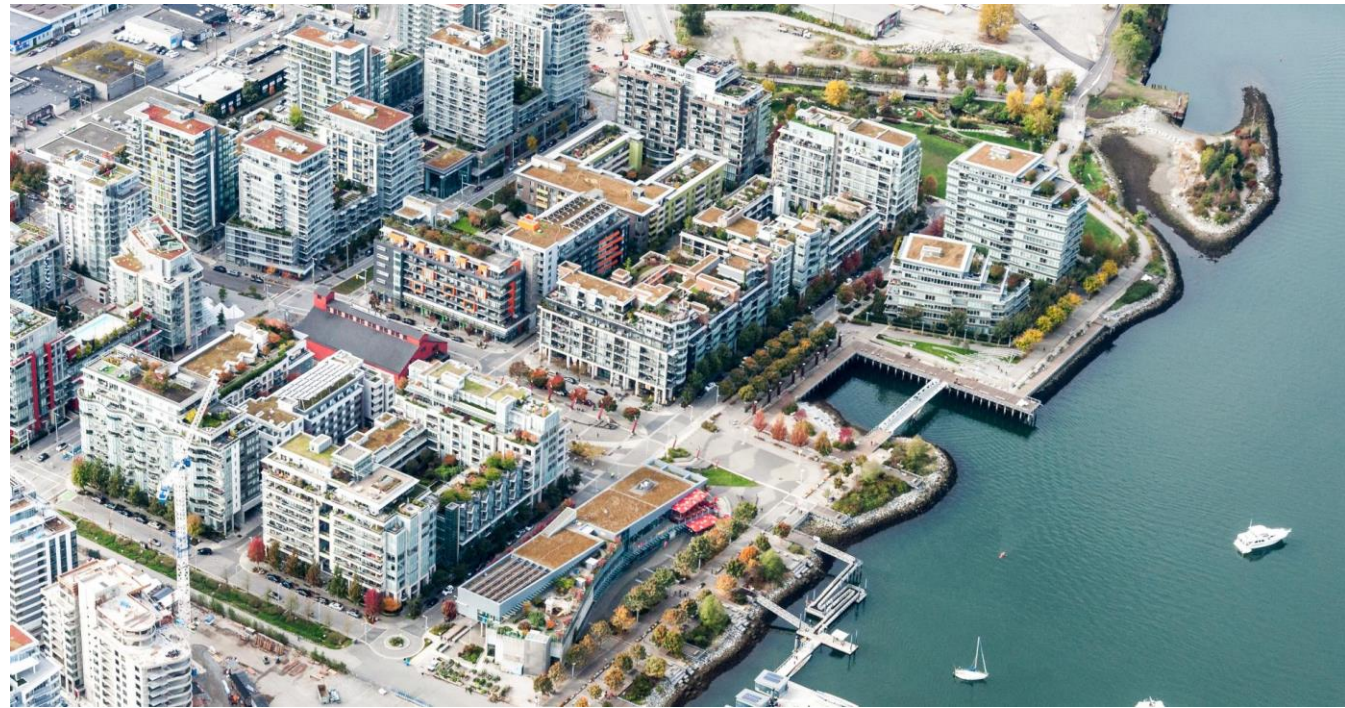
What do we mean by 'Eco-Village'?

- **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? (Step 5)
- Some highly 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

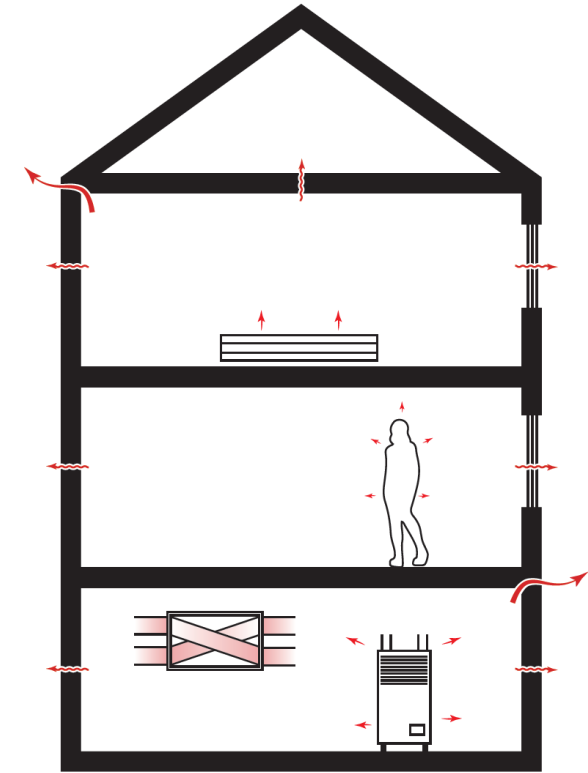
ENVISION – Sustainable Infrastructure Network

- 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
=
High thermal performance

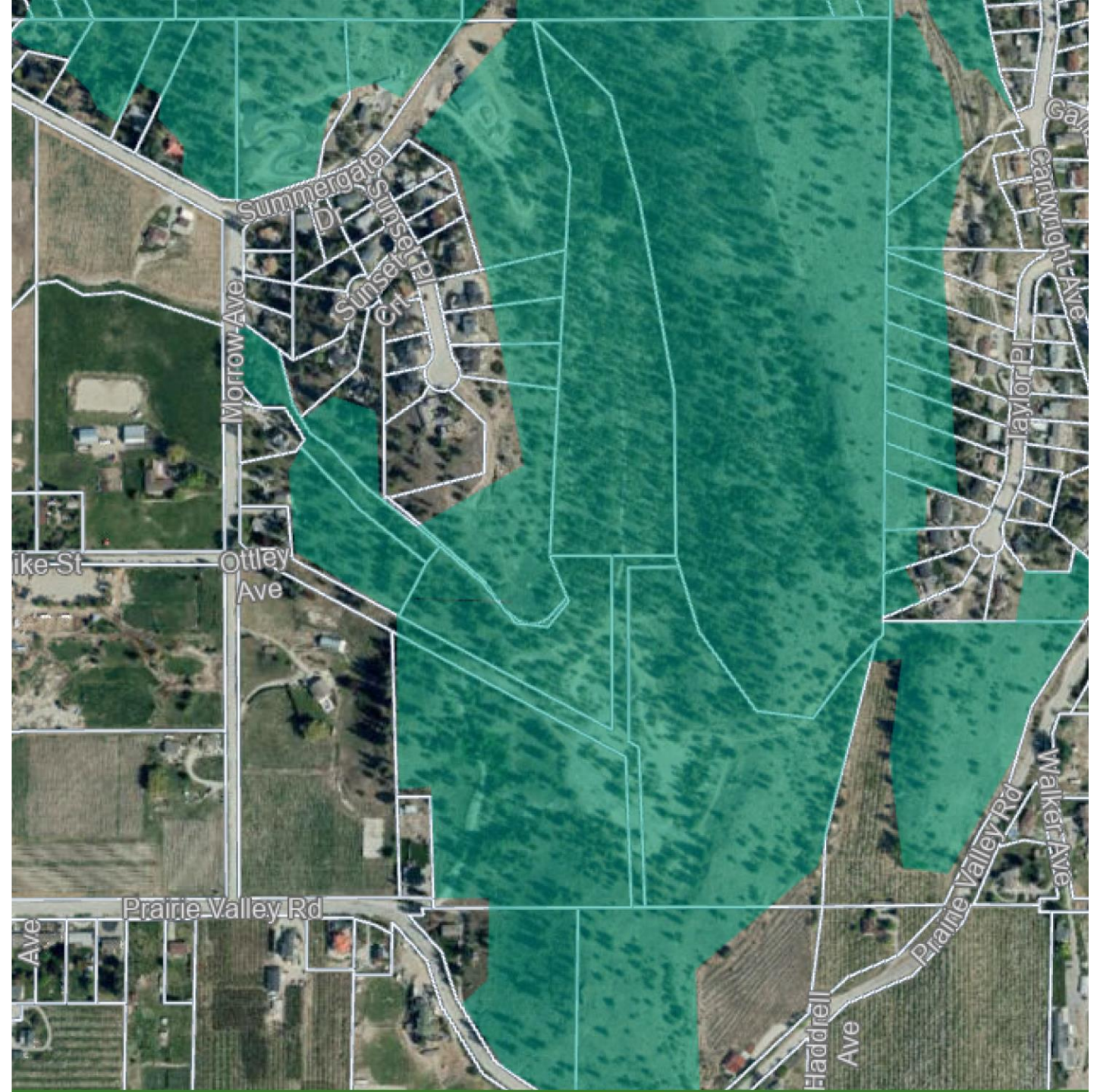


- **Land Use Planning:**
- Urban Growth Boundary





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

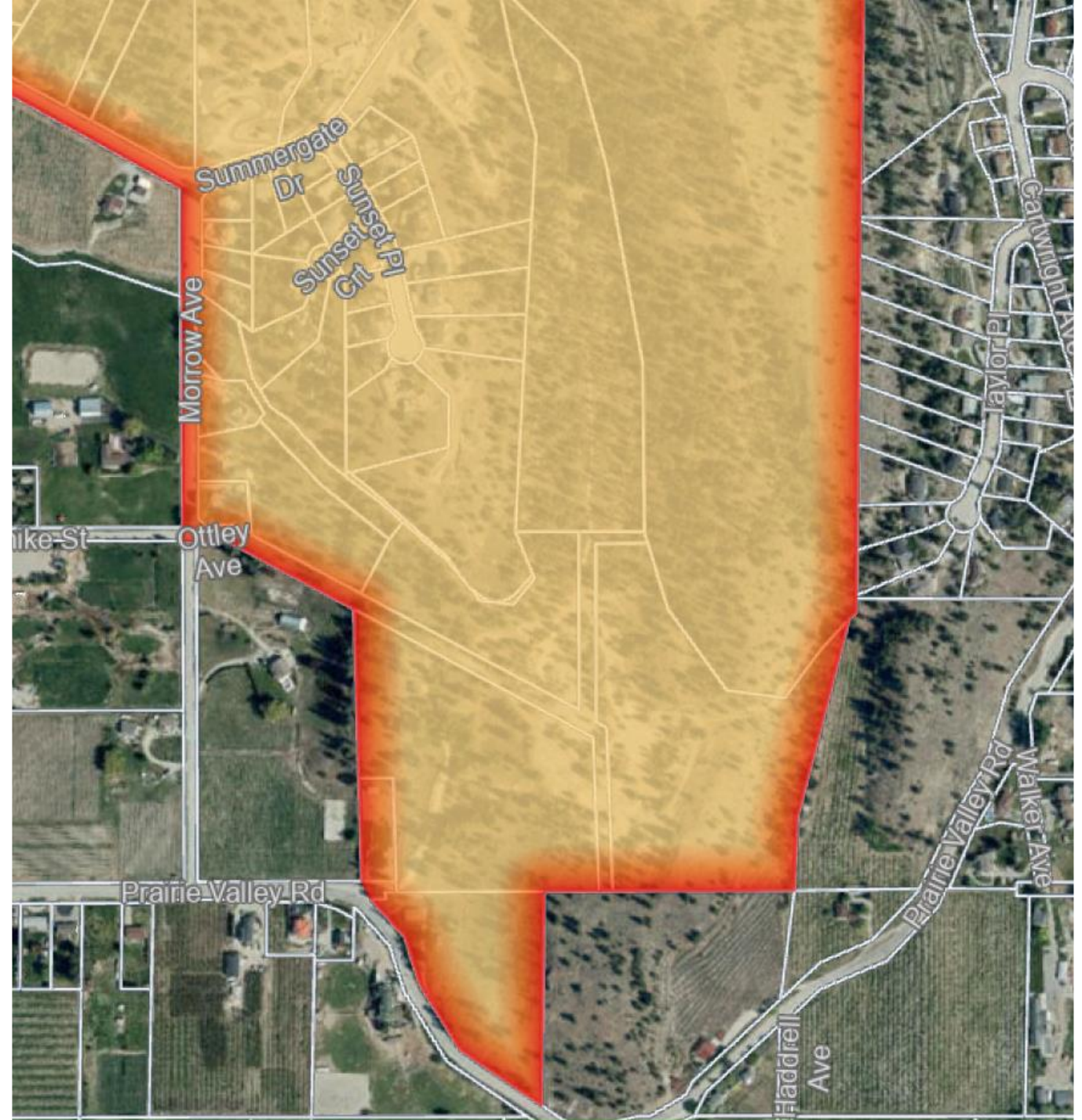


Environmentally Sensitive DP

- **OCP Section 23.0 - Guidelines**

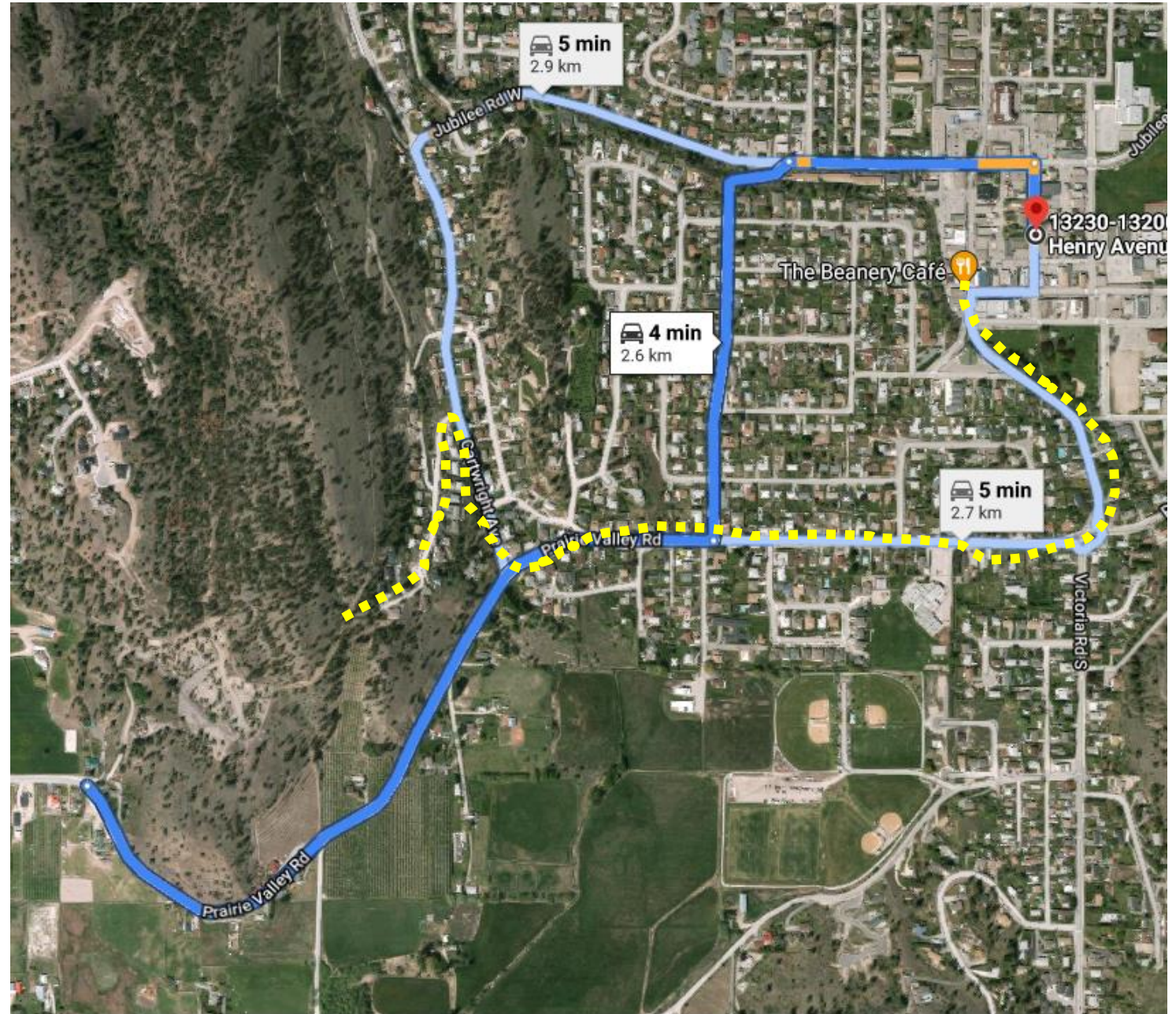
- Section 23.4.1.2: *“In accordance with the environmental assessment, lands deemed highly environmentally sensitive (**ESA1**) **must** be designated in the development permit as ‘**non-disturbance**’ areas and protected through conservation covenants, parkland dedication and/or protection mechanisms 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

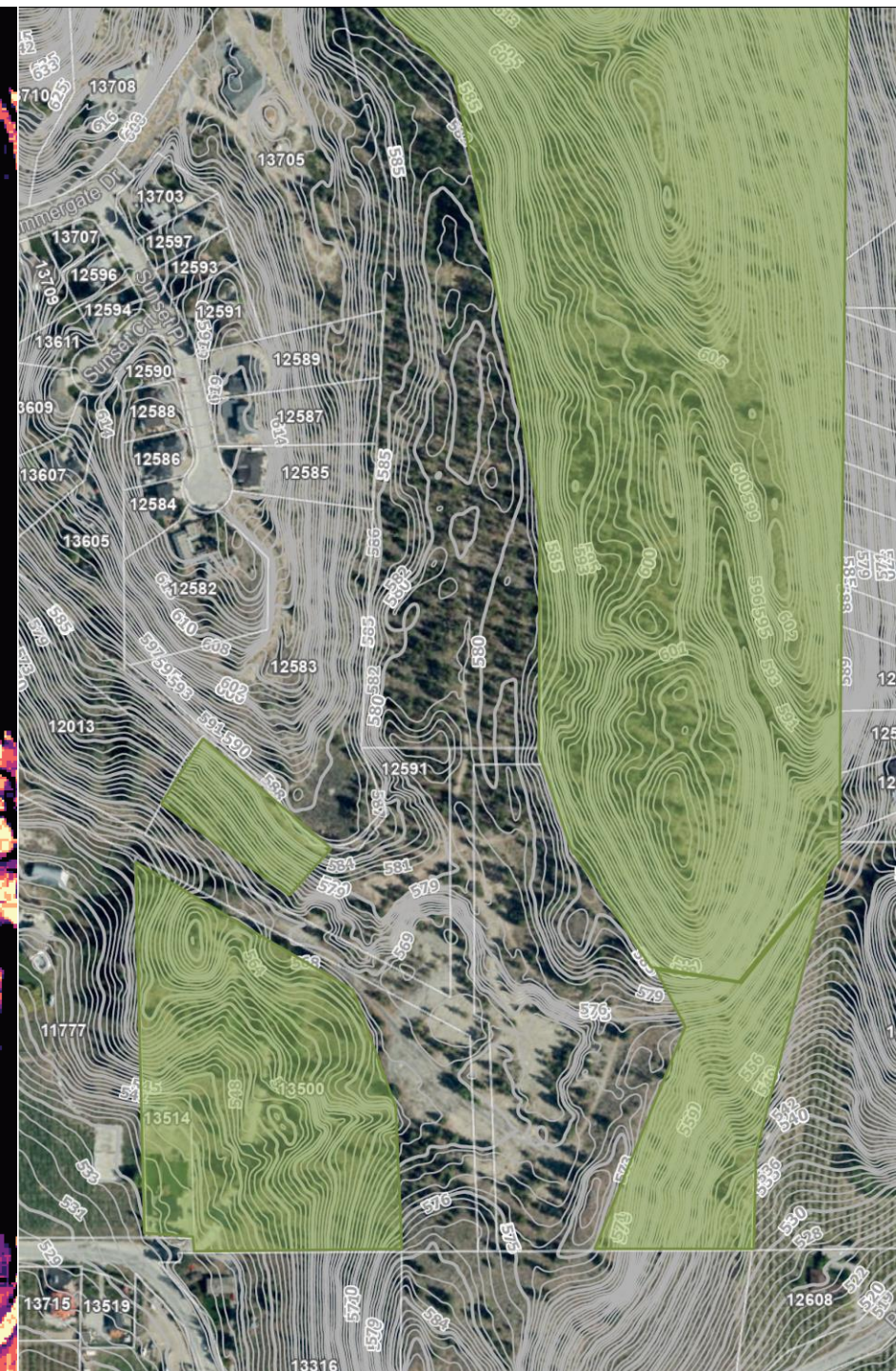
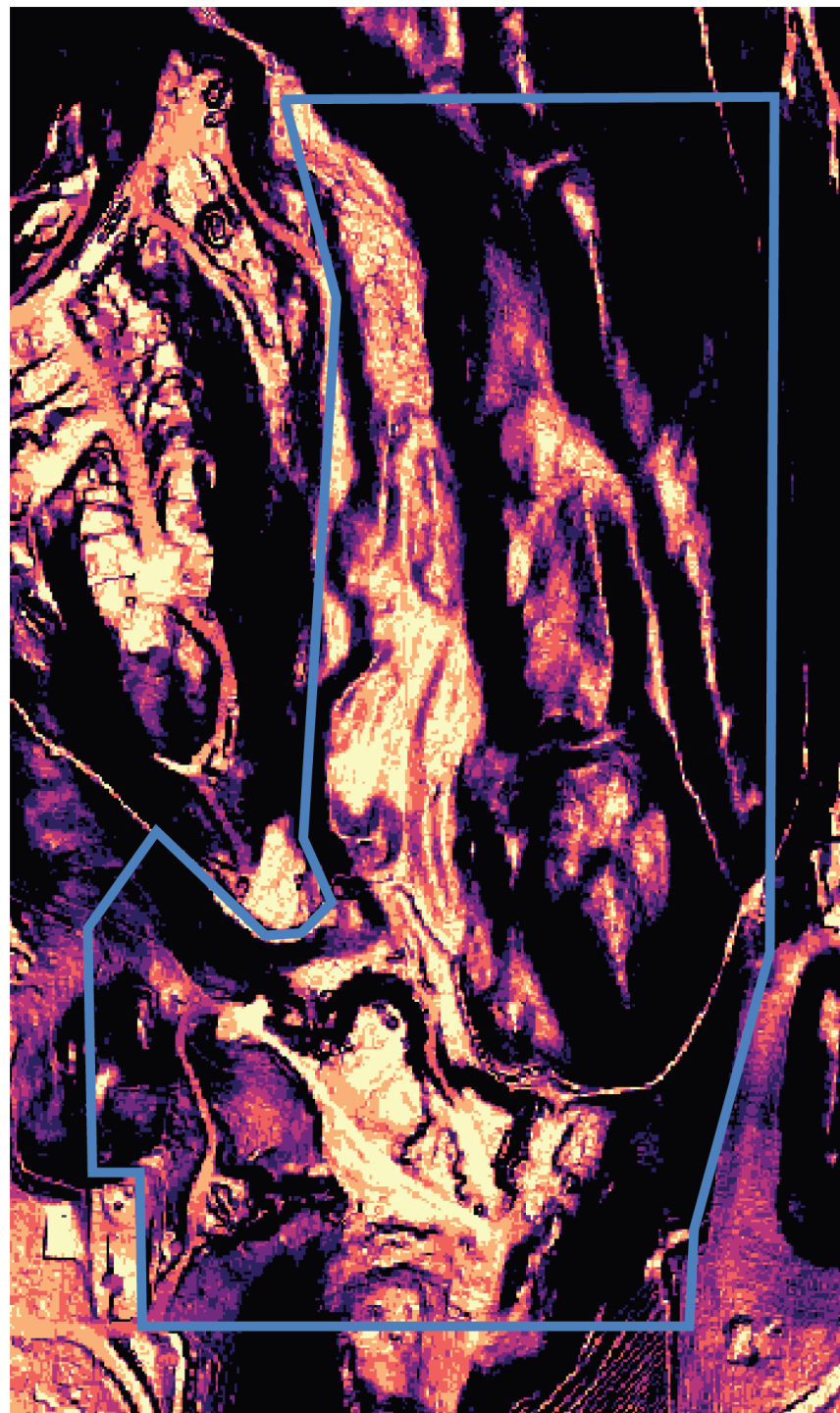


- **Context – Broader Area**

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

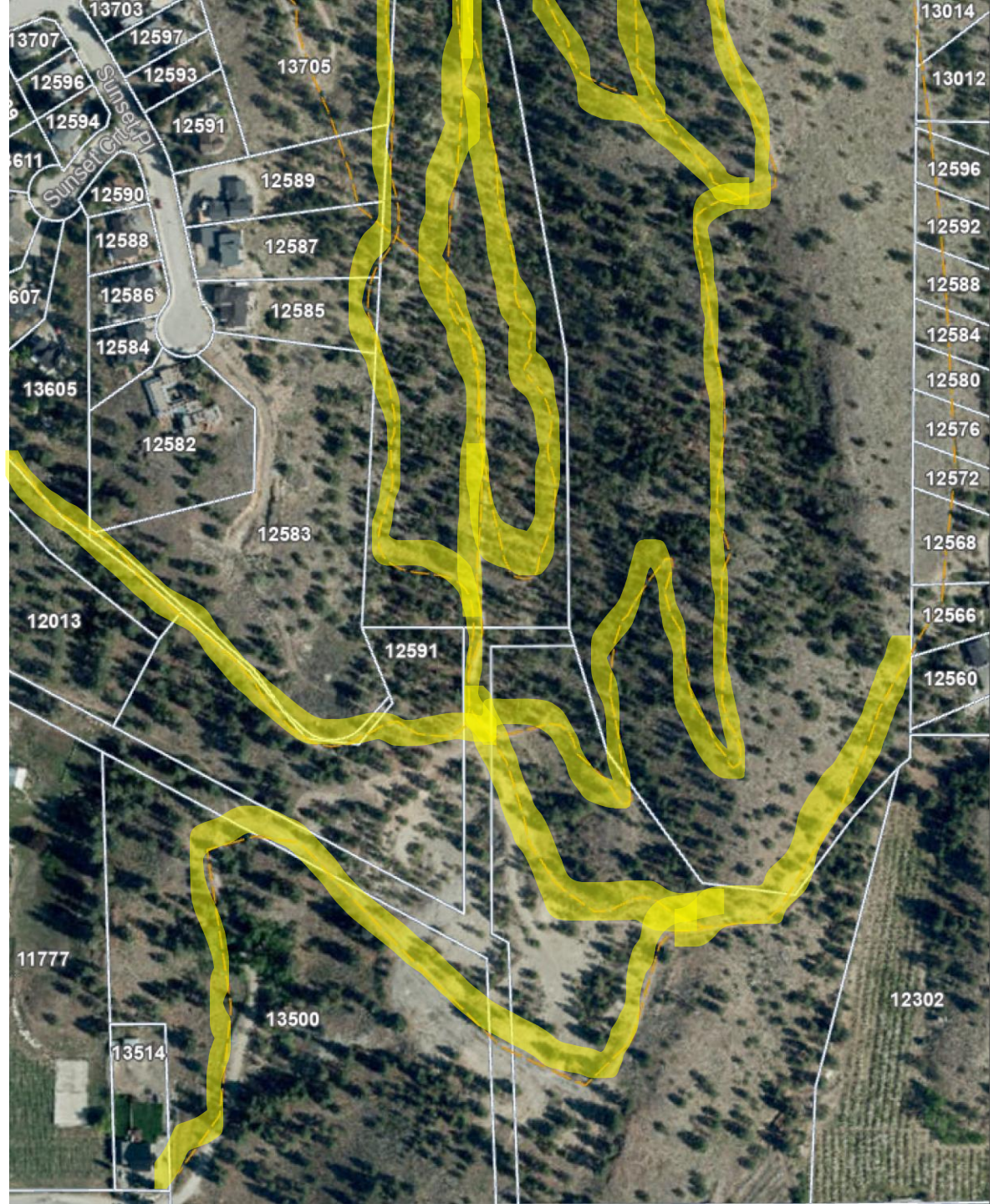


- Land and Engineering Attributes
- Grades

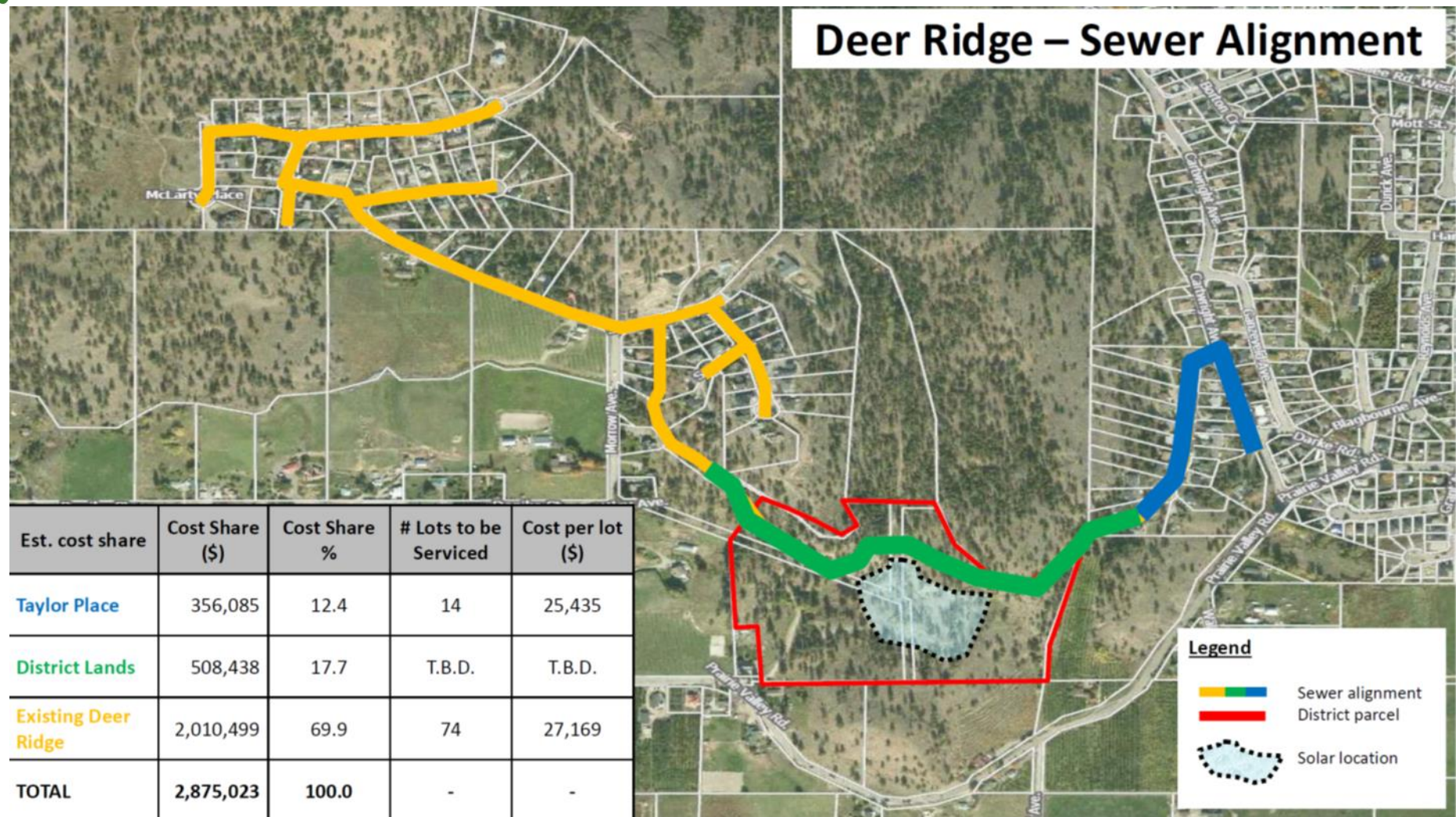




- **Land and Engineering Attributes**
- **Recreational Trails**



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





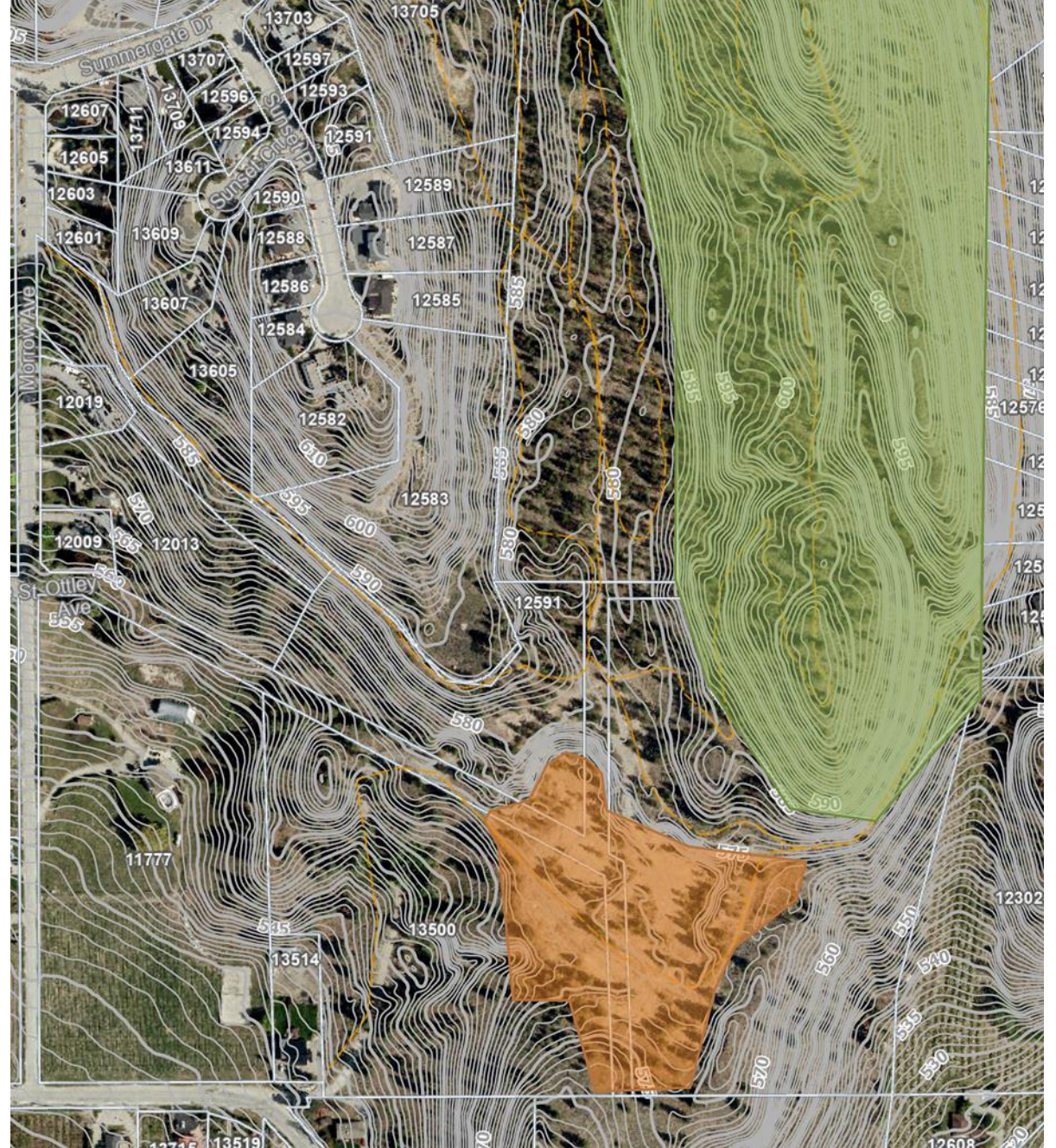
Land and Engineering Attributes

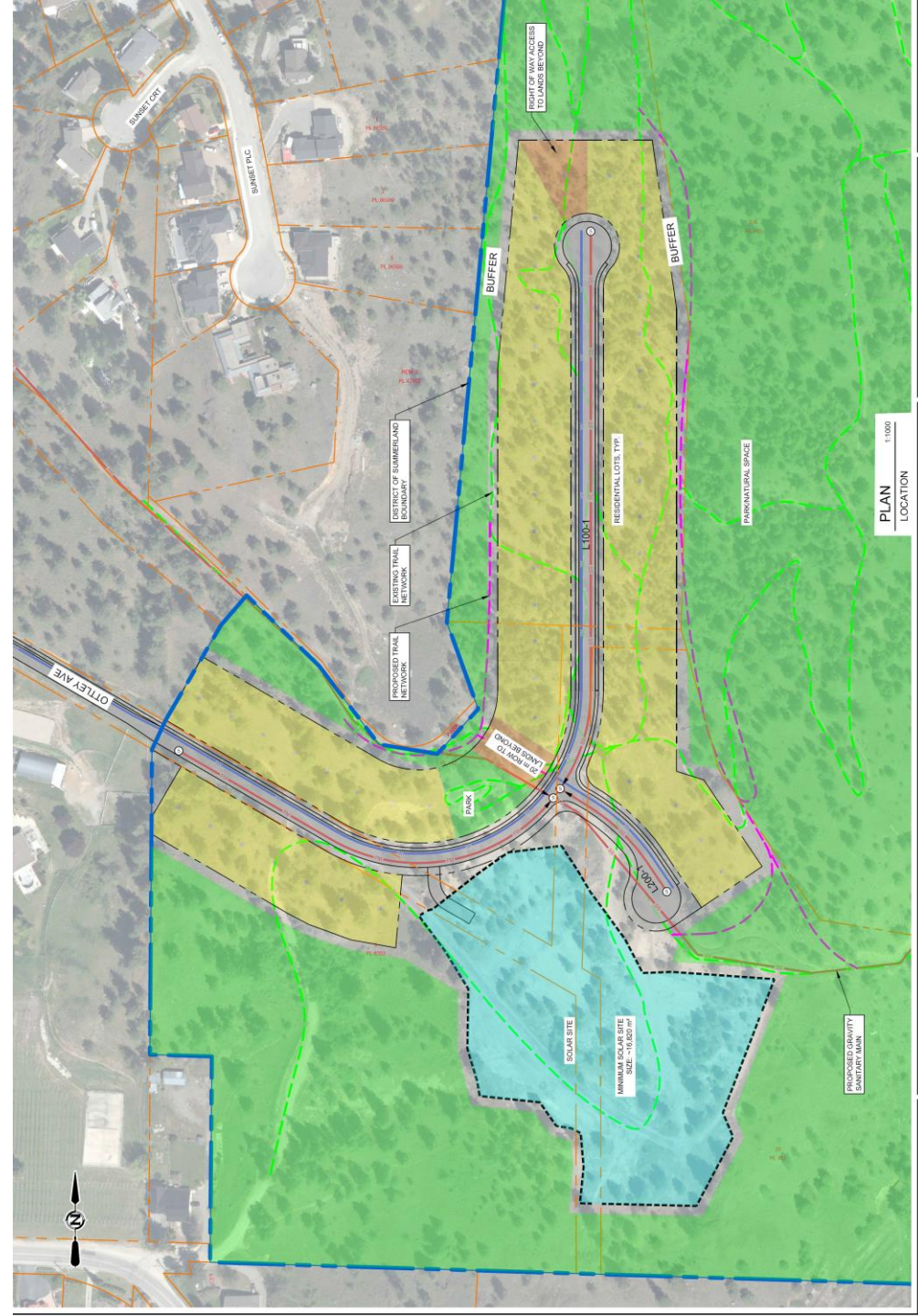
- Environmental Sensitivity – North Area



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









Planning Considerations

CHARACTERISTIC	CONCEPT
Access	Ottley Road, via Morrow Avenue
Grades	Flatter
Servicing	Most lots connected by gravity to Sewer Main
Trails	Multiple Trails to be re-aligned
Solar Site	No Impact (Max footprint of 22,308m ²)
Environmentally Sensitive "1" Areas	Protected
Estimate Number of SFD Lots (RSD1/2)	49
Estimated Cost	\$2.739 million
Estimate Cost per Lot	\$56,000



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





Council Recommendations

1. Council Direction to add Eco-Village Project as a Strategic Priority project.
2. That Council direct staff to prepare a 2021 Budget Amendment and direct \$50,000(?) for the preparation of an “Eco-Village Development Concept” from the Land Sale Reserve (?).
3. That the Agricultural Regulation review project be delayed to the fall of 2022



Potential Next Steps (Timeline)

- Draft and Release Request for Proposals: Eco-Village Development Concept
- Complete Concept (with community engagement) (Aug – Nov, 2021)
- Release Expressions of Interest for development teams to construct Concept (December, 2021)
- Council selects winning team to either partner on a development project or sell land to complete development



Questions and Discussion

Thank you!