

**CAPITAL PROJECT INFRASTRUCTURE DELIVERY****SMALL CAPITAL PROJECT BUSINESS CASE****(COMBINED STATEMENT OF OBJECTIVES AND BUSINESS CASE) FOR THE****IMPLEMENTATION PHASE****FOR EXPENDITURE AUTHORIZATION REQUEST (EAR)**

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WILLOUGHBY PROPERTY PURCHASE PROJECT**TM-0592****TX902958****31-JULY-2024****PROJECT SPONSOR: CHARLOTTE MITHA****PROJECT INITIATOR: MAUREEN DASCHUK****PROJECT MANAGER: ROBERT HEPPLE**

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Document Author:

Version	Author	Role
1	Lauren Simpson	Commercial Manager

Documentation History:

Version	Reason for Version	Date
1	Business Case for Implementation phase	2024-Jul-31

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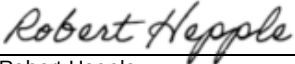
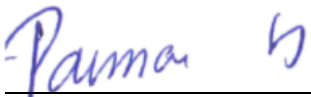
Approval

This Small Capital Business Case (SCBC) is approved and complies with the Project Management and Management & Accounting Policies and Procedures of BC Hydro.

Robert Hepple is appointed Project Manager with authority and responsibility in accordance with the Project Management Policies and Procedures of BC Hydro, Capital Infrastructure Project Delivery and Engineering.

An IR Adequacy of Consultation Assessment will be completed before subject conditions are removed to finalize the property purchase.

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Prepared by:	 Robert Hepple Project Manager	Aug 13, 2024 Date
Reviewed by:	 Surinder Parmar Project Independent Reviewer Manager, Capital Projects	Aug 13, 2024 Date
Approved by:	Al Leonard EVP Capital Infrastructure Project Delivery	Date
Approved by:	Maureen Daschuk Project Initiator EVP Integrated Planning	Date
Approved by:	Charlotte Mitha Project Sponsor EVP Operations	Date

To be completed by
Finance

FAAP Approver: _____

Only for **EAR Exempt** CIPD projects <\$500k where the Statement of Objectives (SoO) is used in place of SCBC and where an EAR form is not prepared by Finance

*This is a property purchase project and this approval approach is approved by the Electrification Steering Committee

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Thesis Statement

Project Forecast Cost Table (\$M)¹

Costs to Date*	Latest EAR Approved Funding		Current Phase Incremental Request		Total Request (Approved Funding)		Total Project Forecast	
	Expected	Authorized	Expected	Authorized	Expected	Authorized	Expected	Authorized
\$0.12	\$0.65	\$0.65	\$37.9	\$40.9	\$38.6	\$41.6	\$38.6	\$41.6

*Costs as of Jun 30, 2024.

The purpose of this business case is to request Implementation phase funding for the Willoughby Property Purchase Project (the **Project**). The funding request for this phase includes an expected amount of \$37.9M and an authorized amount of \$40.9 million, and is required to initiate negotiations on conditional property purchase agreements, undertake due diligence and finalize property acquisition. The Project's in-service date is October 31, 2026.

The objective of the Project is to purchase a 12-acre property in the Willoughby area of Surrey and Langley. This will enable the construction of a new outdoor 230/60kV and 230/25kV, 200MVA (ultimate²) switching and distribution substation to be built as part of a future project. The Project will secure a suitable location to ensure station capacity can meet customers' requirements and support the load growth in the area.

Due to the limited availability of large properties and the lack of interest from landowners to sell, the Project needs to initiate negotiations now to meet the Project's In-Service Date. The Project has identified two feasible locations with available parcels and where multiple parcels could be assembled.

The business case seeks approval to negotiate conditional property purchase agreements, as necessary, to assemble a minimum of 12 acres for the new Willoughby substation. The funding request is estimated based on a unit cost of \$3 million / acre for a total of \$36 million. A \$3 million Special Reserve has been included to cover cost escalation in the purchase price and \$1.91 million has been estimated for internal costs and other closing costs.

Due diligence investigations will be completed in the Implementation phase once a conditional offer to purchase has been negotiated and signed. BC Hydro would not remove subject conditions and finalize the purchase until the due diligence investigation and the corresponding Property Due Diligence checklist has been completed.

Project Background and Drivers

A.1 Description of Problem

A new Willoughby substation (**WIB**) is required in Langley to meet the customers' load requirements and to support load growth and the electrification plan for the area after F2033. There are no BC Hydro owned properties in the area to serve as a station location and this Project is required to

¹ Excludes asset value writeoffs, if any. Values may not add up due to rounding

² The ultimate capacity is the future final capacity of the substation.

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procure a suitable property to meet the planned timeline for the future substation build. To meet this timeline, a property suitable for an ultimate 230/60kV & 230/25kV, 200MVA outdoor switching and distribution substation (WIB substation) needs to be purchased as soon as possible.

The Willoughby area of Surrey and Langley is growing rapidly due to electrification and city developments (see **Figure 1**). This area is presently supplied by three substations, Port Kell (**PKL**), Harvey Road (**HRD**) and McLellan (**MLN**) substations. PKL and HRD are 60/25kV substations, and are at their ultimate capacities of 100MVA in Winter and 79MVA in Summer. MLN is a 230/25kV, 200MVA (Winter) / 158MVA (Summer) substation and being upgraded to 400MVA (Winter) / 315MVA (Summer) with 42 feeder positions in F2030.

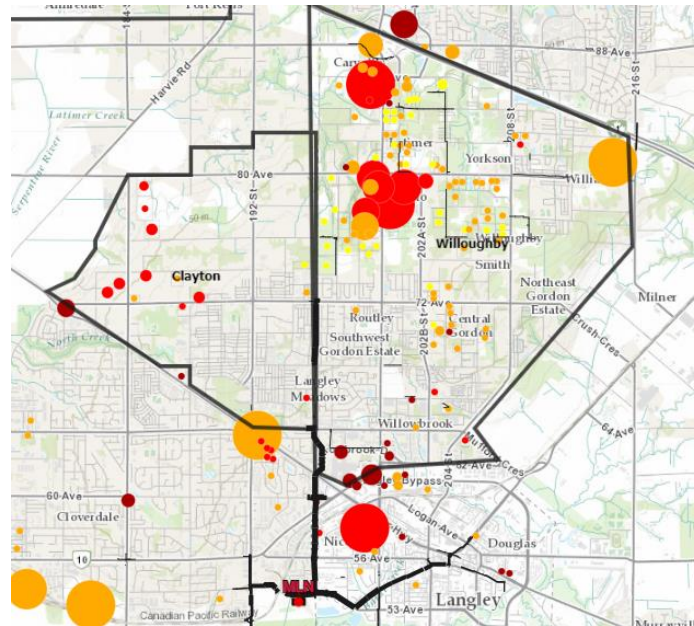


Figure 1 Willoughby Load Growth Map

Based on the present load forecast, the load in the Willoughby area will increase by approximately 48MVA by F2033. After the planned upgrade of MLN, capacity will be sufficient to meet the areas load requirements until F2033. With projections for additional load of more than 130MVA in the Willoughby area beyond F2033, a new substation will be required in the area to meet this future load growth.

The size of the property was determined based on the ultimate requirement for a 200MVA outdoor WIB substation. Based on the proposed WIB station layout, a minimum property size of 42,000 square meters (10.3 acres) is required for the 230/25 kV substation, with provision of 2 acres for a 230/60kV switching station. The ultimate WIB station will require four 230kV line positions; a minimum of eight 230 kV breakers; two 230/25 kV 150 MVA transformers; two 230/60 kV 150 MVA transformers; twenty-four 25 kV feeder positions; and a 60 kV section that includes six 60 kV breaker rings³.

³ [Willoughby Design Plan](#) - WIB-E05-SK001-Option 1

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Project Alternatives

The Project team investigated over 22 properties to identify suitable locations that could be acquired for the future WIB substation (Appendix C). The Project team also contacted the City of Surrey and the Township of Langley to inquire if they own lands that might be suitable, and both responded that they do not have any land available in the Willoughby area. Some properties were excluded from consideration due to existing or planned use, general unsuitability based on engineering and environmental screenings, feedback from the City of Langley and unfavourable initial communications with landowners. The results provided two viable locations, as described below.

Qualico Group

The Qualico Group of properties is centred around two Qualico owned parcels (PID 011-988-959, 011-988-967) located at 19526 78th Avenue and 19570 78th Avenue in Surrey. These two parcels provide eight acres of land (see Appendix D, Figure 2). BC Hydro has initiated discussions with Qualico and has sent a draft non-binding letter of intent. Appraisals of these two parcels have been initiated.

The additional acreage required for the substation can be acquired from a property owner to the west or multiple property owners to the south. BC Hydro has contacted all three of the landowners to the south and they have all indicated that they are willing to sell. Appraisals have been initiated for one of the properties to the south (PID: 002-401-428 Owned by the Ngo family. Both the Qualico and Ngo appraisals have been received.

This group of properties provides additional flexibility as three or four of the properties located to the south of the Qualico parcels could be assembled, if BC Hydro cannot negotiate a conditional property purchase agreement with Qualico.

Bosa Group

The Bosa Group of properties is centred around two Bosa owned properties (PID: 012-828-670, 012-828-696) located at 7507 196 Street and 7528 194 Street in Surrey. These two parcels provide 9.5 acres of land (see Appendix D, Figure 3), but the linear configuration prohibits development of the substation without additional parcels to the north or south. BC Hydro has initiated discussions with Bosa and they are willing to sell, but they currently have a letter of interest (LoI) from another party, which they accepted. Bosa has not acted on accepting the LoI until they see the offer from BC Hydro. That is why timing is of the essence for this finding to be approved.

The additional acreage required for the substation can be acquired from the property owner to the south. BC Hydro has made contact with this property owner and they are willing to sell and have requested that BC Hydro submit a conditional property purchase agreement for consideration.

Investment Recommendation

Due to the limited availability of suitable properties in the area and the requirement to assemble properties to achieve the required minimum of 12 acres, the Project team recommends proceeding with the negotiations to purchase properties within the Qualico and Bosa groups, immediately while these properties are still available. The Project team has confirmed that the properties meet the requirements for the future WIB substation and has estimated the upper limit of the potential purchase price based on early communications with the property owners.

Once negotiations have progressed with either Qualico or Bosa to a point where the signing of a conditional purchase agreement is likely, the Project team will begin negotiations with the adjacent

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landowners to work towards assembling a minimum of the required 12-acres. The Project team will remain in the Conceptual stage and will draw on Conceptual (OMA) funding until a conditional offer to purchase has been signed with all property owners associated with the 12-acre assembled property. Once those are signed, the Project will be advanced into the Implementation phase, and due diligence investigations will be performed in the Implementation phase.

There is a risk that BC Hydro will be unable to purchase all the properties to assemble the required acreage. However, the proposed locations provide multiple options and conditional purchase agreements will be made to manage the risk.

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Project Risk Management

Key Investment and Project Delivery Risks⁴

Risk ID	Consequence Type	Risk Event Description	Risk Status	Risk and Response Summary	Risk Level	Residual Risk Level	Residual Risk Zone
12	Financial Loss	Risk that an indoor station is required	Identified	Due to the size requirement for a 230/60 kV switching station, there is a risk that a suitably sized property is not available for a reasonable price, which may require an indoor station design to reduce the station size. This risk is accepted.	10.5	10.5	Zone 3 - Executives
11	Financial Loss	Risk that there are a limited number of suitable properties	Identified	Due to the size of the property required to accommodate the 230/60 kV switching station, there is a risk that a limited number of properties are available, which could result in a higher purchase price. The treatment plan is investigate all potential properties and locations, investigate alternate layouts to minimize the size required and consider an indoor station design if the property cost is prohibitive.	9.5	9	Zone 2 - Initiators
5	Financial Loss	Risk that negotiations take too long	Identified	Due to the duration of the Project and the competitive real estate market there is a risk that a property becomes unavailable (is sold) during the project lifecycle, which may result in schedule delays and increased costs to find an alternate property. The treatment plan is to scale the project to shorten the project duration, request IMP funding to negotiate with multiple owners, and initiate discussions with the property owners before suitability has been confirmed.	8.5	8	Zone 2 - Initiators
13	Financial Loss	Risk that properties cannot be assembled	Identified	Due to the size of the station required, there is a risk that BC Hydro will be unable to assemble all the properties required, which could result in stranded assets. The treatment plan is to negotiate agreements that are conditional upon BC Hydro's ability to assemble the required land.	9.5	9	Zone 2 - Initiators
14	Financial Loss	Risk that load does not materialize	Identified	Due to the project being based on forecasted loads, there is a risk that the load may not materialize, which may result in the project not being required. The treatment plan is the confirm with Planning that the load forecast has not changed.	8	7	Zone 1 - Project Manager

⁴ Table is focused on key risks that could impact the decision to invest in the Project or those that could change the recommended alternative/option. Additional Project risks are reflected in the Project Risk Register.

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Project Summary

A.2 Scope

Project

The objective of the Project is to purchase (or assemble) a minimum of 12-acres of property in the Willoughby area of Surrey/Langley to allow a new ultimate 230/60kV and 230/25kV, 200MVA outdoor substation to be built as part of a future project. The Project's objective is to purchase properties at a suitable location to ensure the station's capacity can meet customers' requirements and support load growth in the area.

Current Phase/Stage:

- Conceptual Stage:
 - Identify suitable locations for the future WIB substation and confirm availability from the landowner.
 - The project will advance directly into the Implementation phase once negotiations of a conditional property purchase agreement are completed in the Conceptual Stage.

Schedule

The Project is utilizing the Atypical PPM scaling model and will commence directly to the Implementation Phase.

The target dates for milestone events for the Project are:

Date	Description	PPM Milestone UID
December 31, 2024	Feasibility Design stage and Definition phase complete	2.01, 2.02
October 30, 2026	Project ISD	1.01
January 22, 2027	Project Completion & Evaluation Report Signed & Accepted	3.08
April 15, 2027	Project Financial Close	3.58

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A.3 Project Cost

1.1.1 Funding Request and Project Cost Forecast

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Willoughby Property Purchase	EAC	
Current Funding Request	Project Cost	% of overall
INI Phase	-	0%
Initiation Phase	-	0%
IDN Phase	646,032	2%
IDN Phase Needs Stage	100,000	0%
IDN Phase Conceptual Stage	546,032	1%
IDN Phase Feasibility Stage	-	0%
DEF Phase	-	0%
IMP Phase	37,908,000	91%
Project Mgmt	600,000	1%
Engineering Design	-	0%
Construction and Contract Mgmt	-	0%
Environment	-	0%
Properties	250,000	1%
Indigenous Relations	-	0%
Procurement and QA	-	0%
Supply/Install	-	0%
Property Purchase and Tax	37,058,000	89%
Subtotal Directs	38,554,032	93%
Contingency		0%
Subtotal with Contingency	38,554,032	93%
Loadings:		
Capital Overhead	-	0%
Interest During Construction	-	0%
Total Expected Amount (P50)	38,554,032	93%
Project Reserve	3,000,000	7%
Total Authorized Amount (P90)	41,554,032	100%
	Expected (P50)	Authorized (P90)
Previous Amount	646,032	646,032
Incremental Funding Request	37,908,000	40,908,000

Cost information is based on initial discussions with property owners and their expectation of a purchase price of up to \$3M/acre.

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Any dismantling costs associated with the properties being purchased through this Project will be estimated and included in the future WIB Substation Construction Project.

1.1.2 Capital Plan Variance

The net capital amount from the F25 to F34 Power System Capital plan for the WIB Property purchase project is \$24.9 million. The Project capital EAC is estimated based on the expected purchase price and property transfer tax.

A	B	C = B-A
Capital Plan Amount A	Project Capital EAC B	Variance
\$24.9 million	~\$37.9 million	\$13.0 million

The difference between the Capital Plan and the Project Capital EAC is due to the current market conditions resulting in a highly competitive real estate market.

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Post-Project Incremental Costs and/or Savings

There are no post-project incremental operating costs or savings.

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Appendix A Project Initiator's Statement of Summary Requirements

A.4 Safety, Security (Critical Infrastructure Protection) and Confidentiality Requirements

- Incorporate Safety by Design (to be incorporated in the Construction project)
- Review any applicable MRS standards.

A.5 Maintenance and Operational Requirements

- Project User Requirements: User requirements to be developed upon funding approval.

A.6 Indigenous Relations Business Strategy Requirements

With the intention of gaining First Nations' support for the project through relationship building, listed below are Aboriginal Relations Business Strategy Requirements expected to be delivered by this project:

- To be developed during Definition phase upon funding approval

A.7 Project Initiator's Design Requirements

The Project Initiator has the following high level Design Requirements for the project:

- Project is seeking funds for property purchase(s) for an ultimate station layout for the WIB Substation project.

A.8 Project Initiator's Interim Decision Requirements

The Project Initiator requires the following items, in addition to the above requirements, for the current project phase(s)/Stage(s). The list includes the Project Initiator's requirement for approval, acceptance, or permission to proceed for each item.

- Provide IP planner and IP Director project updates at least once every 3 months.

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Appendix B Gating Plan

This project will utilize the soft paper gate process.

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Appendix C List of Properties Considered and Dismissed as Non-Viable

Property PID	Justification for exclusion
023-242-680, 031-167-993	The existing use as community centre (Langley Events Centre) makes this property undesirable for development as a substation.
031-168-001	The existing use as a community park (Willoughby Community Park) makes this property undesirable for development as a substation.
029-820-405	The existing use as a community school (Peter Ewart Middle School) makes this property undesirable for development as a substation.
029-820-413	The existing use as a community school (Mountain Secondary School) makes this property undesirable for development as a substation.
012-058-599, 012-058-611, 012-058-581, 010-053-611	Township of Langley does not support a new substation along 200th Ave.
006-555-926, 005-436-443, 005-436-460, 009-720-197	This property is too small for the proposed substation and multiple properties would need to be added to the north making this location undesirable for development as a substation.
028-571-002, 031-684-009, 031-684-017	This property is in pre-sale as a multi-family development.
031-185-843	This property is too small for the proposed substation. New alternatives 13 was created by merging alternative 8 and 9.
031-185-827, 031-185-835	This property is too small for the proposed substation. New alternatives 13 was created by merging alternative 8 and 9.
006-499-121, 002-379-708, 007-152-345, 007-152-353, 007-152-361	Township of Langley does not support a new substation along 200th Ave.
007-152-388, 004-875-109, 007-152-370, 006-475-248, 006-475-264	Township of Langley does not support a new substation along 200th Ave.
007-152-345, 007-152-353, 007-152-361, 007-152-388, 004-875-109, 007-152-370	Township of Langley does not support a new substation along 200th Ave.

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031-185-827, 031-185-835, 031-185-843	Township of Langley does not support a new substation along 200th Ave.
011-946-954, 004-413-385, 010-750-029, 010-750-045, 004-092-767	The owner is not interested in selling.
006-845-878, 006-845-860, 006-845-851	There is a new home on this parcel and the owner is not interested in selling.
007-791-887, 002-136-864, 002-136-813, 018-738-745	The property is not large enough and there is a wetland present.
005-951-704, 005-951-712, 002-229-561, 005-951-721, 003-370-879, 003-370-887	Property would require assembly of 6 private parcels. Significant difficulty was encountered attempting to contact landowners, suggesting assembly of all 6 parcels is unlikely.
003-179-184	There is an option to purchase on this property.
004-417-275, 008-822-158, 008-822-174, 004-406-290	Too far from the load centre and the neighbourhood plan has this location identified for townhouses .
010-996-001, 010-996-028	Owned by Qualico who plans to develop lands and is not interested in selling.
011-175-869, 011-175-877	Owned by Qualico who plans to develop lands and is not interested in selling.

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Appendix D Figures

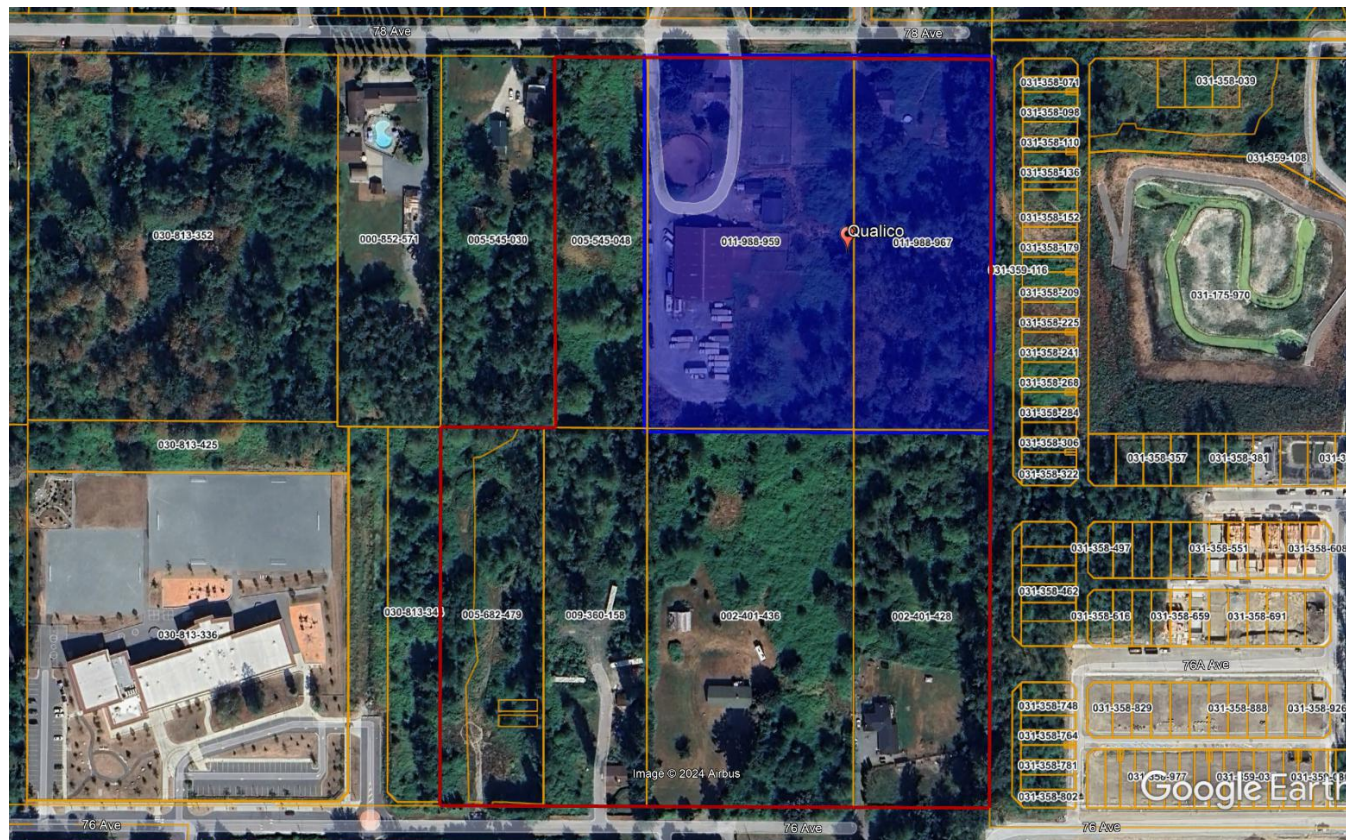


Figure 2. Qualico group of properties (red), with Qualico owned parcels identified (blue).

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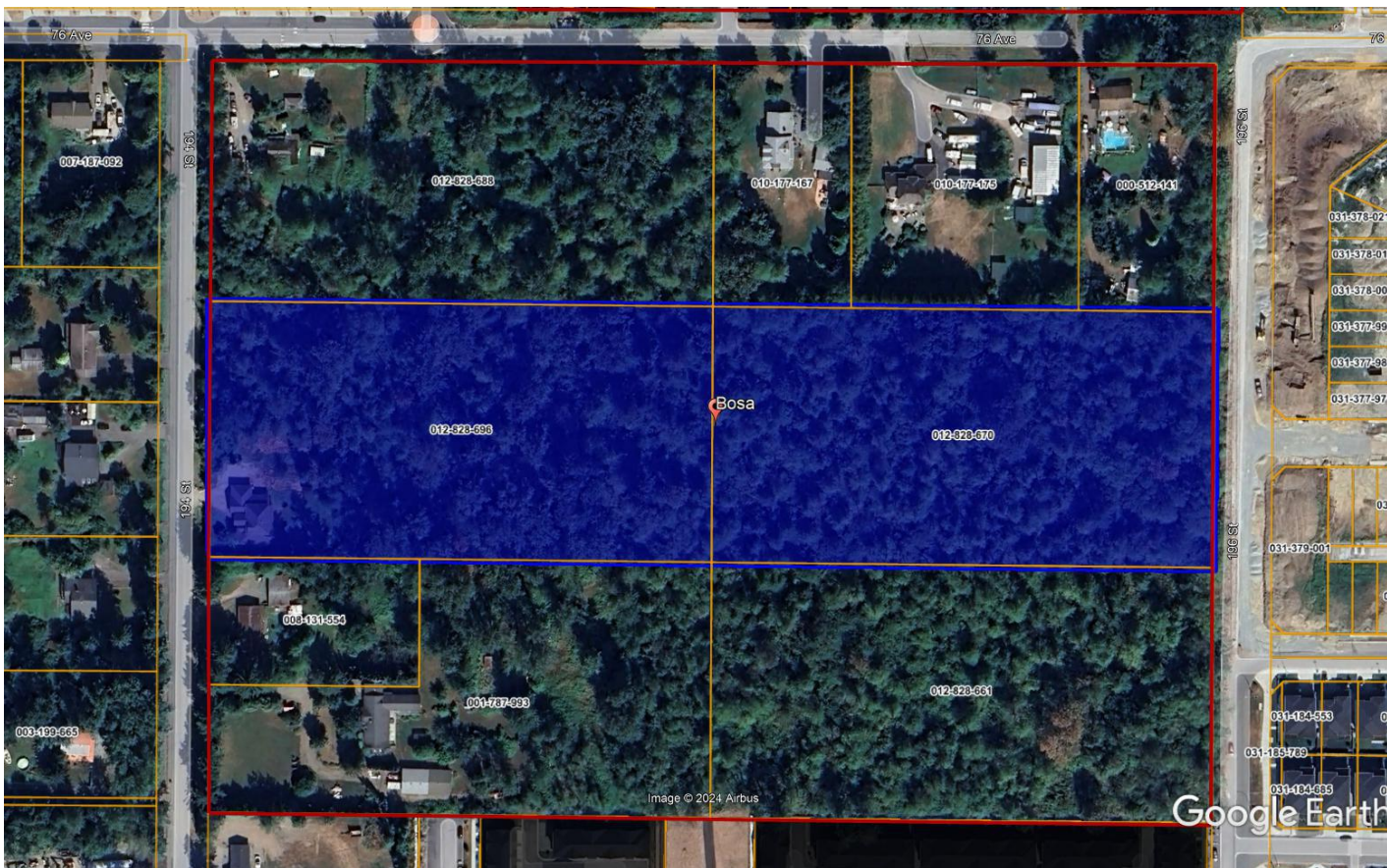


Figure 3. Bosa group of properties (red), with Bosa owned parcels identified (blue).

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