

NO: R141

COUNCIL DATE: June 29, 2015

REGULAR COUNCIL

TO: **Mayor & Council**

DATE: **June 29, 2015**

FROM: **General Manager, Planning and Development**

FILE: **6520-20** (South Campbell Heights SSA)

SUBJECT: **South Campbell Heights Environmental Study Results**

RECOMMENDATION

The Planning and Development Department recommends that Council:

1. Receive this report as information; and
2. Authorize staff to prepare a Terms of Reference for a land use planning process, including public and stakeholder consultation for Council's consideration, in order to continue the planning process for the Special Study Area in South Campbell Heights.

INTENT

The purpose of this report is to:

- provide Council with the results of the Environmental Study for the South Campbell Heights Special Study "Area A" lands (the "Special Study Area");
- advise Council on the Environmental Study "Area B" addendum consultant work being undertaken for a portion of the Campbell Heights Local Area Plan area; and
- seek Council's direction for staff to prepare a Terms of Reference for a land use planning process, including public and stakeholder consultation, in order to resolve the Special Study Area for South Campbell Heights in the Metro Vancouver Regional Growth Strategy (the "RGS") and Surrey's Official Community Plan (the "OCP").

BACKGROUND

At the Regular Council Meeting on September 8, 2014, Council considered Corporate Report No R152;2014, regarding the initiation of background studies, including an environmental study, a market demand assessment and engineering servicing studies in advance of a local area planning process for the South Campbell Heights Special Study. Council considered some of the proposed background studies identified in the report to be premature, and resolved as follows:

"RES. R14-1603

That Council authorize staff to conduct an environmental study in support of South Campbell Heights Special Study Area Planning".

At the Regular Council Meeting on December 1, 2014, Council considered Corporate Report No. R199;2014, seeking Council authorization to proceed with the preparation of an Environmental Study for the South Campbell Heights Special Study Area. Council resolved as follows:

"RES. R14 – 2112 That Council Approve the Terms of Reference, attached as Appendix "I" to Corporate Report R199, as the basis for the preparation of an Environmental Study for South Campbell Heights Special Study Area and authorize staff to proceed with the development of an Environmental Study in accordance with the Terms of Reference".

On March 2, 2015 the City engaged Madrone Environmental Services Ltd to provide environmental consultant services in connection with the South Campbell Heights Environmental Study.

On May 8, 2015 the City and Madrone Environmental Services Ltd agreed to amend the original provisions in connection with the South Campbell Heights Environmental Study agreement dated March 2, 2015, to include an additional area of land within the Campbell Heights Local Area Plan, illustrated as "Area B" in Appendix I of this report.

DISCUSSION

The Special Study Area contains significant environmental values and contains a major regional Biodiversity corridor along the Little Campbell River, as identified in the Surrey Biodiversity Conservation Strategy (the "BCS"). The significance of environmental values and the identification of the Special Study Area in the OCP prompted staff to seek the direction of Council regarding the development of an Environmental Study for the area before future land use planning is considered.

South Campbell Heights Environmental Study Boundary

The South Campbell Heights environmental study "Area A" includes the land south of the Campbell Heights Local Area Plan as shown in Appendix I. The study area is approximately 245 hectares (600 acres) and is identified as a Special Study Area in both the Metro Vancouver RGS and the OCP. The Special Study Area indicates an area where future land planning is projected, potentially leading to land use changes in the future.

Summary of Environmental Study Results

The South Campbell Heights Special Study Area environmental study assessed surface and groundwater hydrology, terrestrial vegetation conditions, significant tree stands, fish habitat and riparian areas, wildlife, soils and terrain, hydrology and groundwater recharge, and archaeology. The results of each study component and associated recommendations are generally summarized below. The full report is available from the Planning and Development Department and will be made available on the City of Surrey website.

Surface and Groundwater Hydrology

- The Brookwood aquifer illustrated in Appendix II is identified as highly vulnerable to contamination from surface sources and is heavily developed, meaning that the aquifer is nearing or at capacity to provide domestic water without decreasing the water table.
- A general decline is predicted for baseflow and recharge under changing land use due to increase in impervious surfaces and reduced opportunity for stormwater infiltration. Surface watercourses are illustrated in Appendix III.
- Six areas are identified as critical to groundwater recharge to provide baseflow as illustrated in Appendix IV.
- A Well Closure Checklist has been developed for effective isolation/closure of abandoned or redundant wells.

Terrestrial Ecosystems

- Mature tree stands between 50 and 100 years old (structural stages 5 and 6) dominate the forested landscape. Small patches of younger forest (structural stage 3) occur sporadically throughout larger forest blocks. Both young forests and mature stands are of high value for maintaining biodiversity due to tree age, tree diameter and association with complex forest cover.
- Four Sensitive Ecosystem types were identified within the study area as identified in Appendix V as part of the Sensitive Ecosystem Inventory.
- All the ecosystems within the CDFmm1 ecosystem type are red-listed (23) or blue-listed (4).
- Almost all ecosystems identified in the study area are impacted by urban development or human activity and contain disturbed, non-climax vegetation. Over time, these ecosystems could succeed to the more stable climax stage, so planning should incorporate suitable disturbed areas for preservation along with less-disturbed forested areas.

Large trees

- No old-growth forest (>140 years, structural stage 7) remains in the study area, but many large trees established after logging between the 1880s and the 1920s are now more than 100 cm dbh and are common in the forested Hubs and Corridors, in farmland patches, and on residential lots. The highest density of large trees are located in Hub O of the BCS.
- Large trees are most often western red cedar, but many Douglas-firs also reach 1 m diameter at breast height ("dbh"). As well, occasional big leaf maples and black cottonwoods achieve such size. Trees of this size are rare in Surrey and the developed parts of the Lower Mainland.
- Maps of locations of big trees, or stands with big trees are illustrated in Appendix VI.

Greenways: Hubs and Corridors

- Two main Hubs and several Corridors identified in the BCS fall within the study area. These areas are of high ecological importance, with the northern Hub (I) being dominated by Douglas-fir over story and the southern Hub (O) being dominated by western red cedar over story. Photos from Hubs and Corridors in the Study Area are illustrated in Appendix VII.
- Both Hubs (I and O) contain a mix of other species and both commonly have trees in excess of 70 cm dbh and often in excess of 90 cm dbh. Many (estimated 40 to 50) trees more than 100 cm dbh exist in Hub I and many more trees larger than 100 cm dbh (too many to count during this project) occur in Hub O.

- Hub O is privately-owned land and the consultant recommends strong efforts be made to protect it over the long term, as intended by the BCS.
- Hub I is City-owned land and the consultant recommends that these lands be considered for protection, consistent with the intent of the BCS, particularly since only 1% of the Campbell River Management Area is currently protected.
- A number of high-traffic roads (16 Avenue and 192 Street in particular) intersect Corridors and Hubs in the study area, and their impacts should be considered in future development. Where future roads or road expansions are planned, underpasses or other means of enabling wildlife to cross roads should be undertaken where feasible.

Fish Habitat and Riparian Areas

- The streams in and adjacent to the study area, illustrated in Appendix III, flow into the Little Campbell River (and ultimately into Semiahmoo Bay). The Little Campbell River and many of its tributaries are known to contain fish, including threatened species such as the Salish Sucker.
- Many of the watercourses are fish bearing and many of the fish bearing water courses constitute the core of Local and Regional Corridors, of significance to the protection of both terrestrial and aquatic habitat.
- It is recommended that efforts be made to remove barriers to fish passage, particularly along West Twin Creek and Jacobsen Creek as illustrated in Appendix VIII.
- It is recommended that efforts be made to restore riparian buffers along highly disturbed sections of watercourses, particularly along West Twin Creek, East Twin Creek, Jacobsen Creek, and Highland Creek. Most of these areas are in the Agricultural Land Reserve ("ALR"), so cooperation from landowners is needed and incentives to landowners should be considered.

Wildlife

- Thirteen taxa of species at risk are confirmed for the study area, two more are likely to be present, and four more appear extirpated from the area.
- Although many of the species at risk require forest cover, several exploit open fields or openings near forests (e.g., Band-tailed Pigeon, Barn Swallow, Olive-sided Flycatcher).
- Some species at risk have been confirmed very nearby to the study area (Vancouver Island beggarticks, Pacific water shrew, Painted turtle).
- It is recommended that, on a case by case basis, the City should consider a detailed survey and salvage for species at risk where development is projected to occur within 500 m of a watercourse.
- For poorly known species at risk (e.g., Pacific water shrew, Trowbridge's shrew, the two bat species) detailed local surveys are recommended prior to any land clearing.
- It is recommended that a wildlife tree assessment should be conducted prior to development planning to ensure no listed species are impacted by wildlife tree removal and to identify wildlife trees that should be retained during development.
- It is recommended that all mature trees, particularly Douglas-fir and black cottonwood, should be assessed for Bald Eagle nests or nests of other raptors. Large Douglas-fir and cottonwood trees should be retained during development wherever possible.

Archaeology

- One archaeological site and eight historic sites are located in close proximity to the study area, with one historic site within the study area as illustrated in Appendix IX.
- Three locations of low archaeological potential are identified within the study area where gravel extraction has occurred, as illustrated in Appendix X.
- Besides these locations of low archaeological potential, the remainder of the study area is considered to have high archaeological potential due to the proximity of prehistoric resources (Campbell River), the possibility of culturally modified tree encounters, a traditional use site, an archaeological site and established travel corridors through the area.

Land Use and Zoning (ALR/Non-ALR Land/City land)

- The consultant recommends that:
 - clearing trees in the ALR be minimized.
 - some of the non-ALR lands could become productive farmland, as they are of the same soils and climax ecosystem type as areas within the ALR.
 - the low proportion of protected area in the Campbell River Management Area, and in the study areas specifically, implies that opportunities to preserve forest cover and protect forested portions of City-owned property be pursued.
 - efforts should be made to acquire (or otherwise secure for the long term) other forested areas (particularly within Hub O) through the implementation of the BCS.

Environmental Study for "Area B" Lands

The South Campbell Heights Environmental Study "Area B" includes land north east of the Special Study Area (as shown Appendix I). "Area B" includes nearly 97 hectares (240 acres) within the approved Campbell Heights Local Area Plan, the majority of which is owned by the City of Surrey. The "Area B" lands are designated as a mix of future Business Park and or Business Park or Live/Work in Cluster Housing Form within the Campbell Heights Local Area Plan.

The detailed South Campbell Heights Environmental Study "Area B" environmental assessment is expected to be completed by June 30, 2015. Council will be apprised of the environmental study results for the "Area B" land portion of the South Campbell Heights Environmental Study at a future Council meeting.

SUSTAINABILITY CONSIDERATIONS

Planning for significant environmental considerations in South Campbell Heights is in line with the Sustainability Charter goal to: *"Demonstrate good stewardship of the land, water, air and built environment, protecting, preserving and enhancing Surrey's natural areas and ecosystems for current and future generations while making nature accessible for all to enjoy"*.

This includes the following specific actions:

- EN7: Implement Green Infrastructure;
- EN9: Sustainable Land Use Planning and Development Practices; and
- EN12: Enhancement and Protection of Natural Areas, Fish Habitat and Wildlife Habitat.

CONCLUSION

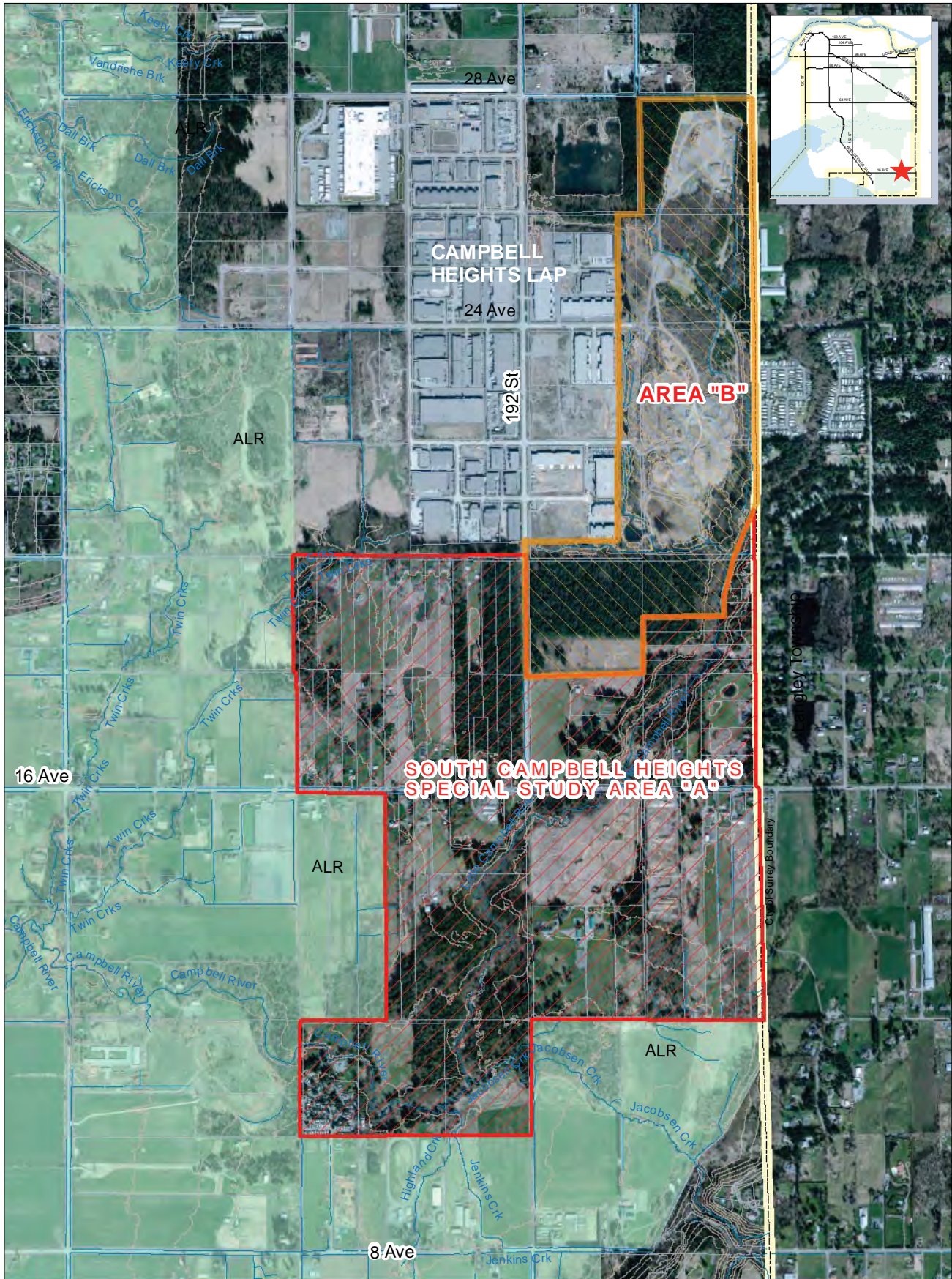
Based on the above discussion, it is recommended that Council authorize staff to prepare a Terms of Reference for a land use planning process, including public and stakeholder consultation for Council's consideration, in order to continue the planning process for the Special Study Area in South Campbell Heights.

Original signed by
Jean Lamontagne
General Manager,
Planning and Development

MK:saw








Attachments:


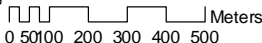
- Appendix I South Campbell Heights Special Study Area "A" and Addendum "B" Lands
- Appendix II Aquifers of South Campbell Heights
- Appendix III Surface Watercourses of South Campbell Heights
- Appendix IV ISMP and Recharge Areas of South Campbell Heights
- Appendix V Sensitive Ecosystem Inventory Mapping with Study Area
- Appendix VI Areas with Medium to Very High Large Tree Densities
- Appendix VII Photos from Hubs and Corridors in the Study Area
- Appendix VIII Select Watercourse Restoration Areas and Fish Barriers
- Appendix IX Archaeological Potential areas for South Campbell Heights
- Appendix X Areas of low Archeological potential due to gravel extraction



SOUTH CAMPBELL HEIGHTS SPECIAL STUDY AREA
Context Map for Environmental Study

Legend

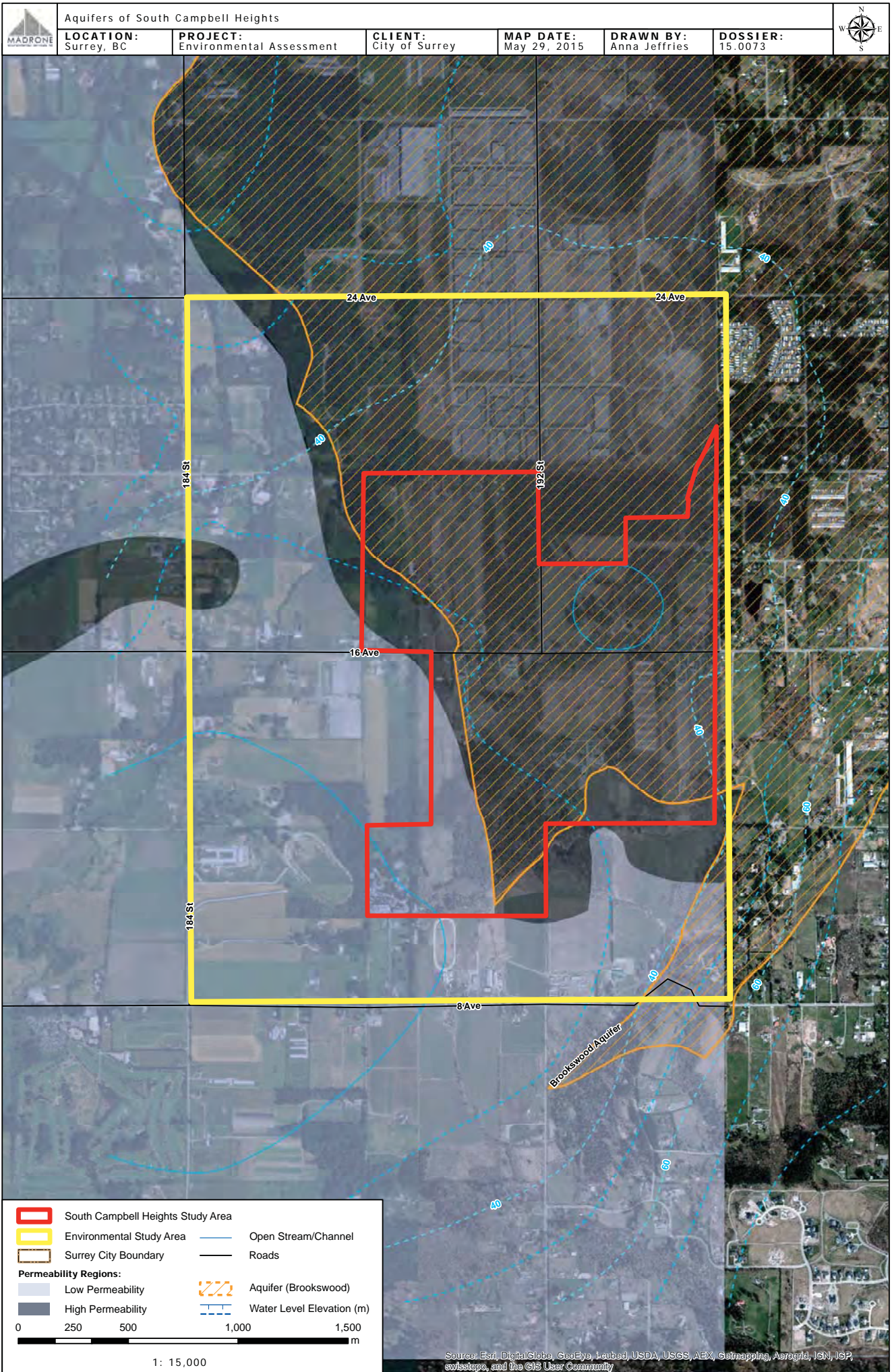
-  South Campbell Heights Study Area "A"
-  South Campbell Heights Study "Area B"
-  Open Stream/Channel
-  Surrey City Boundary
-  Lots
-  Contours - 5 metre
-  ALR

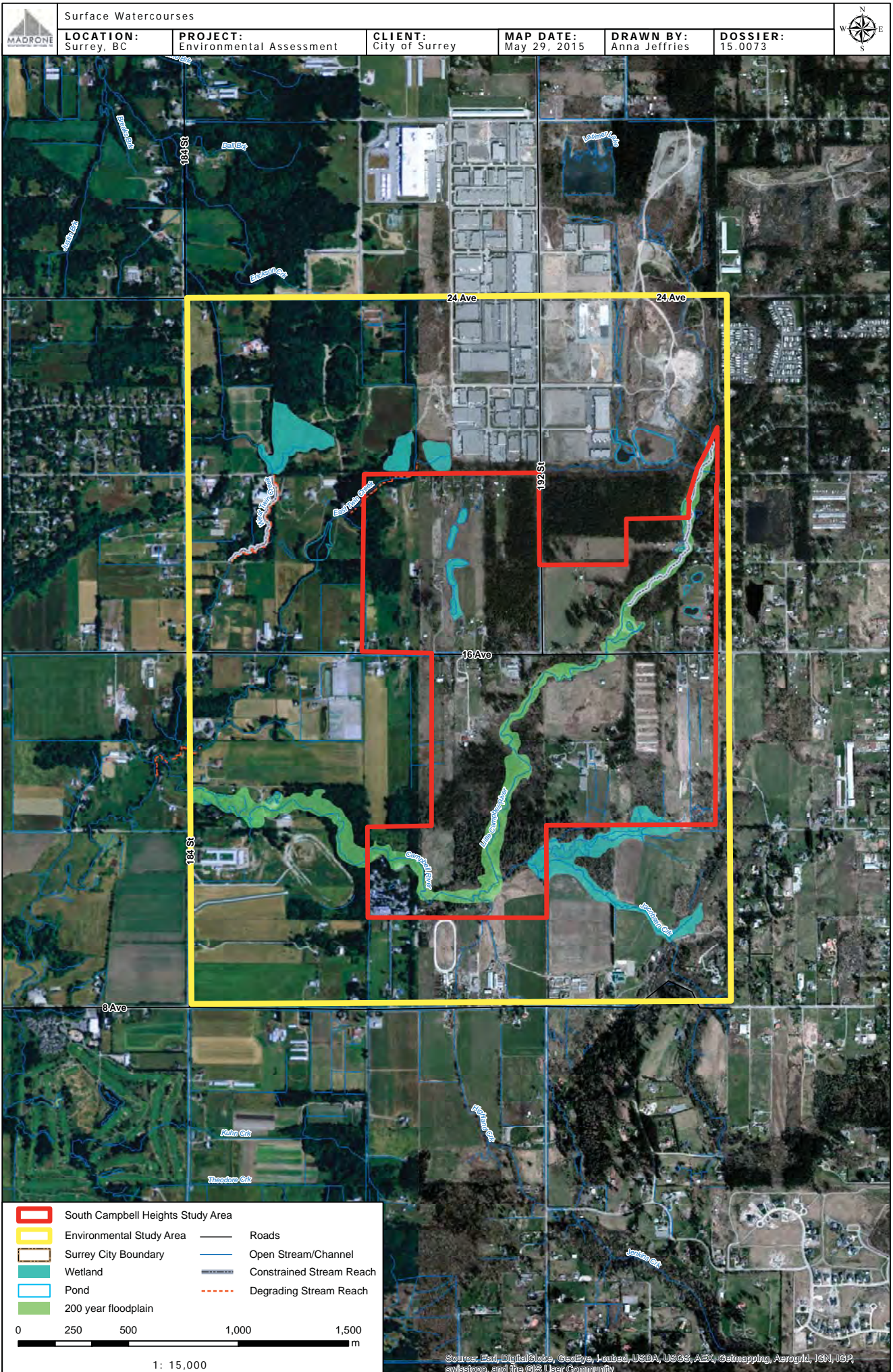
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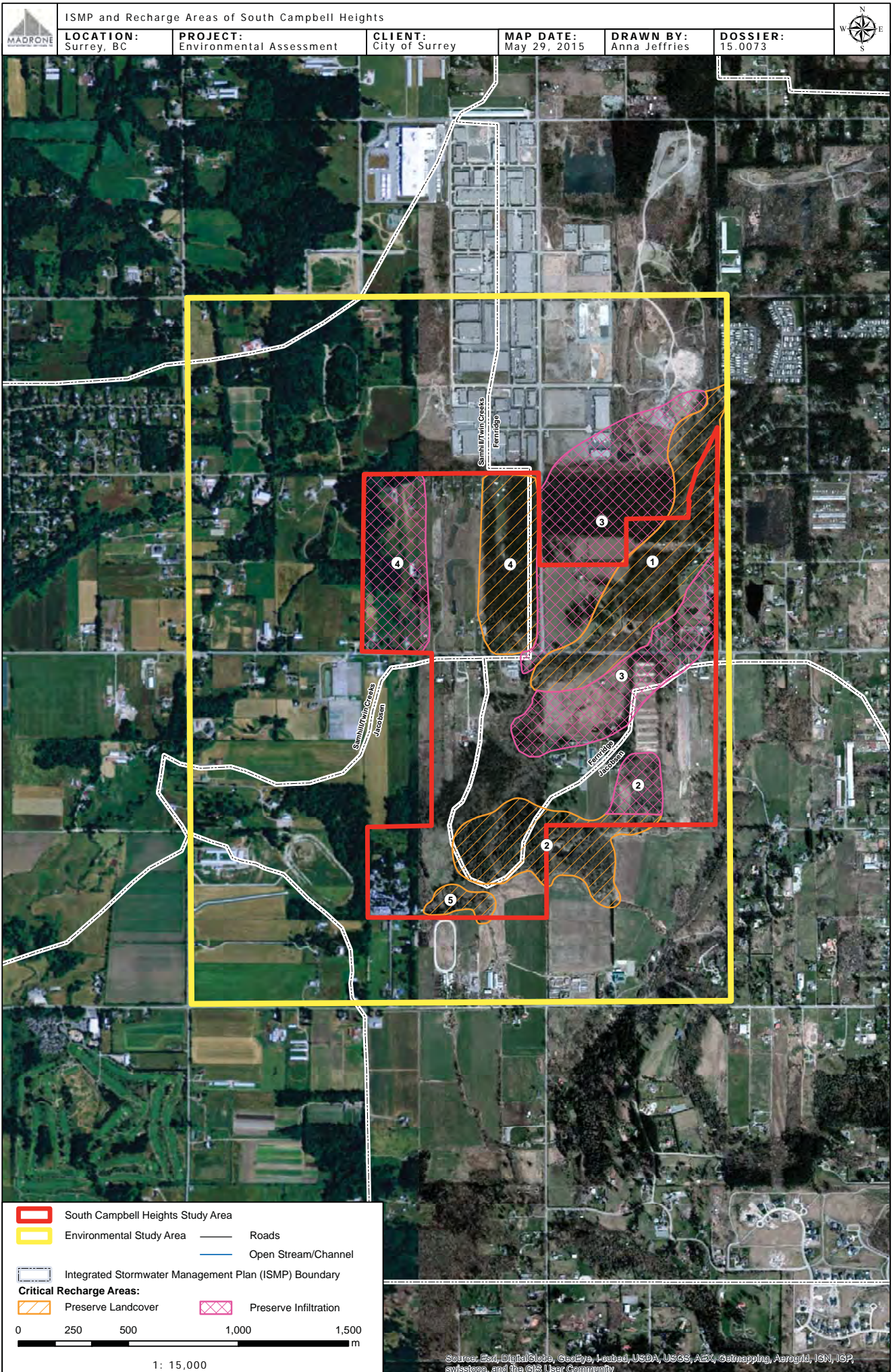
City of Surrey Planning & Development Department

1:12,500

This map is provided as general reference only. The City of Surrey makes no warranties, express or implied, as to the fitness of the information for any purpose, or to the accuracy, completeness or timeliness of the information and is not responsible for any action taken in reliance on the information contained herein.







ISMP and Recharge Areas of South Campbell Heights



LOCATION:
Surrey, BC

PROJECT:
Environmental Assessment

CLIENT:
City of Surrey

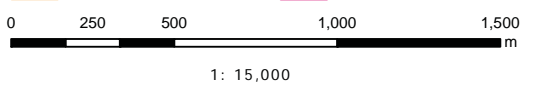
MAP DATE:
May 29, 2015

DRAWN BY:
Anna Jeffries

DOSSIER:
15.0073



	South Campbell Heights Study Area		Roads
	Environmental Study Area		Open Stream/Channel
	Integrated Stormwater Management Plan (ISMP) Boundary		
Critical Recharge Areas:			
	Preserve Landcover		Preserve Infiltration



Source: Esri, DigitalGlobe, GeoEye, Earthstar, USDA, USGS, AeroGRID, IGN, IGP, swisstopo, and the GIS User Community



Sensitive Ecosystem Inventory (SEI) Mapping within the Study Area

LOCATION:
Surrey, BC

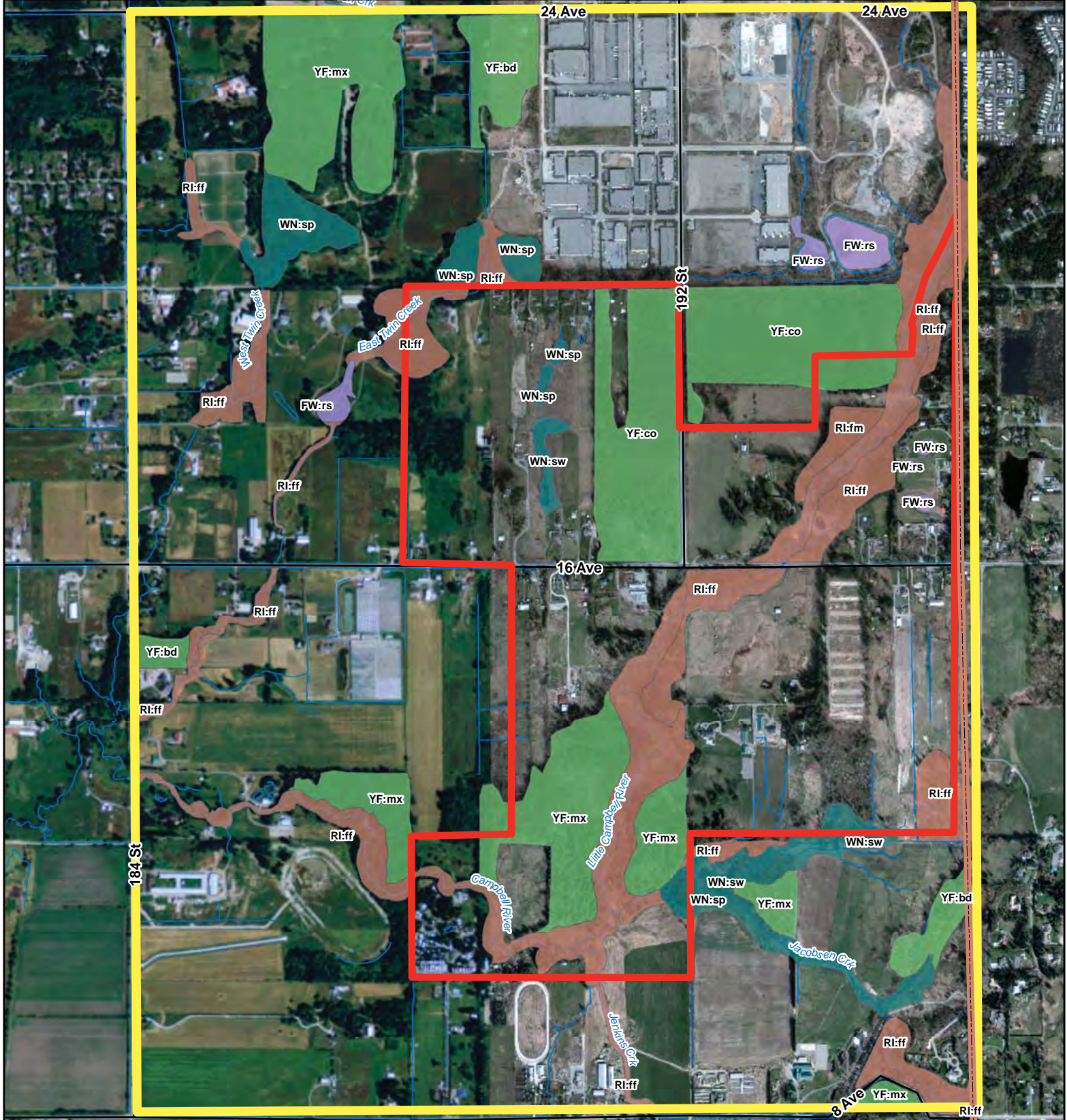
PROJECT:
Environmental Assessment

CLIENT:
City of Surrey

MAP DATE:
June 08, 2015

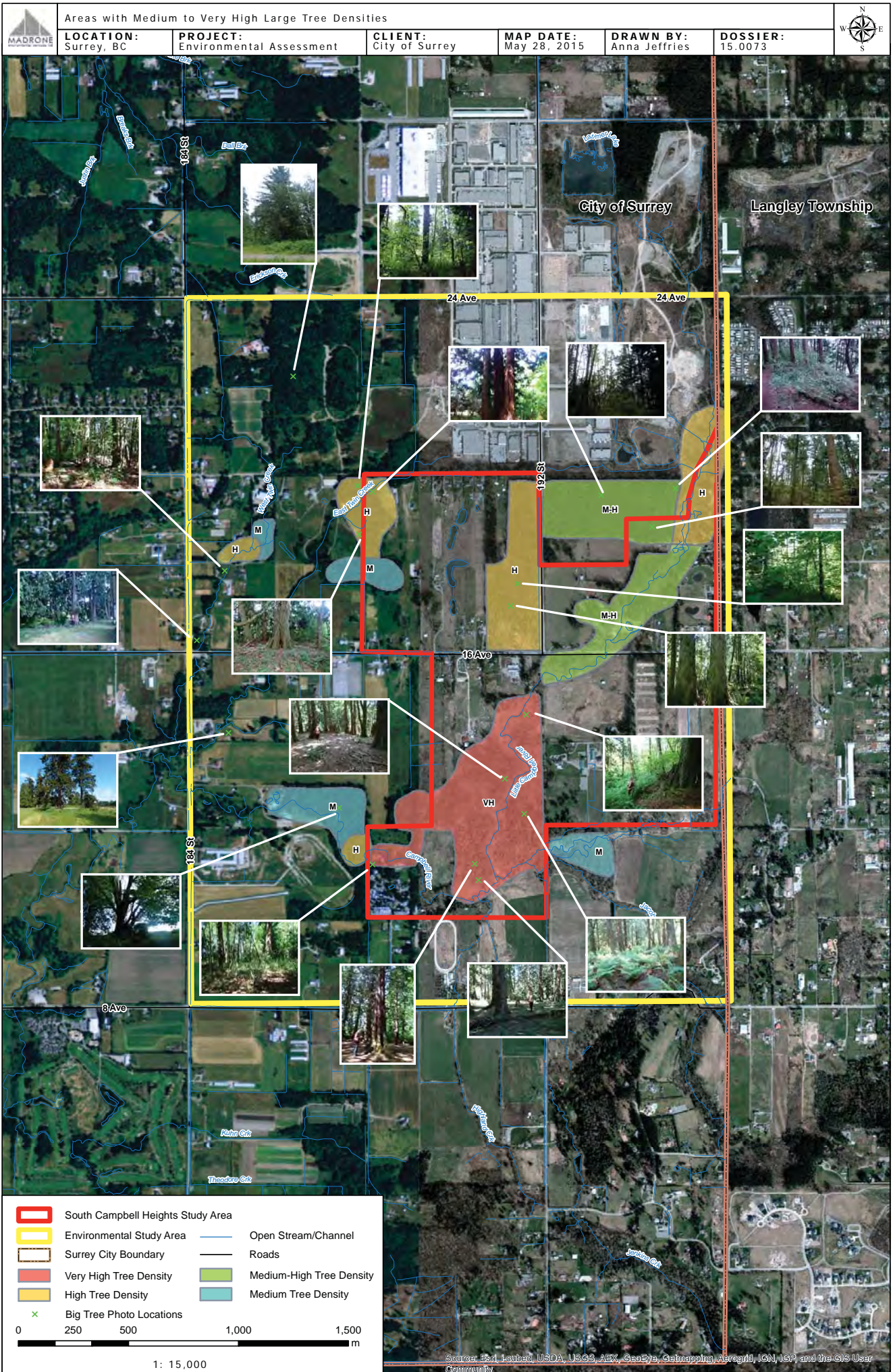
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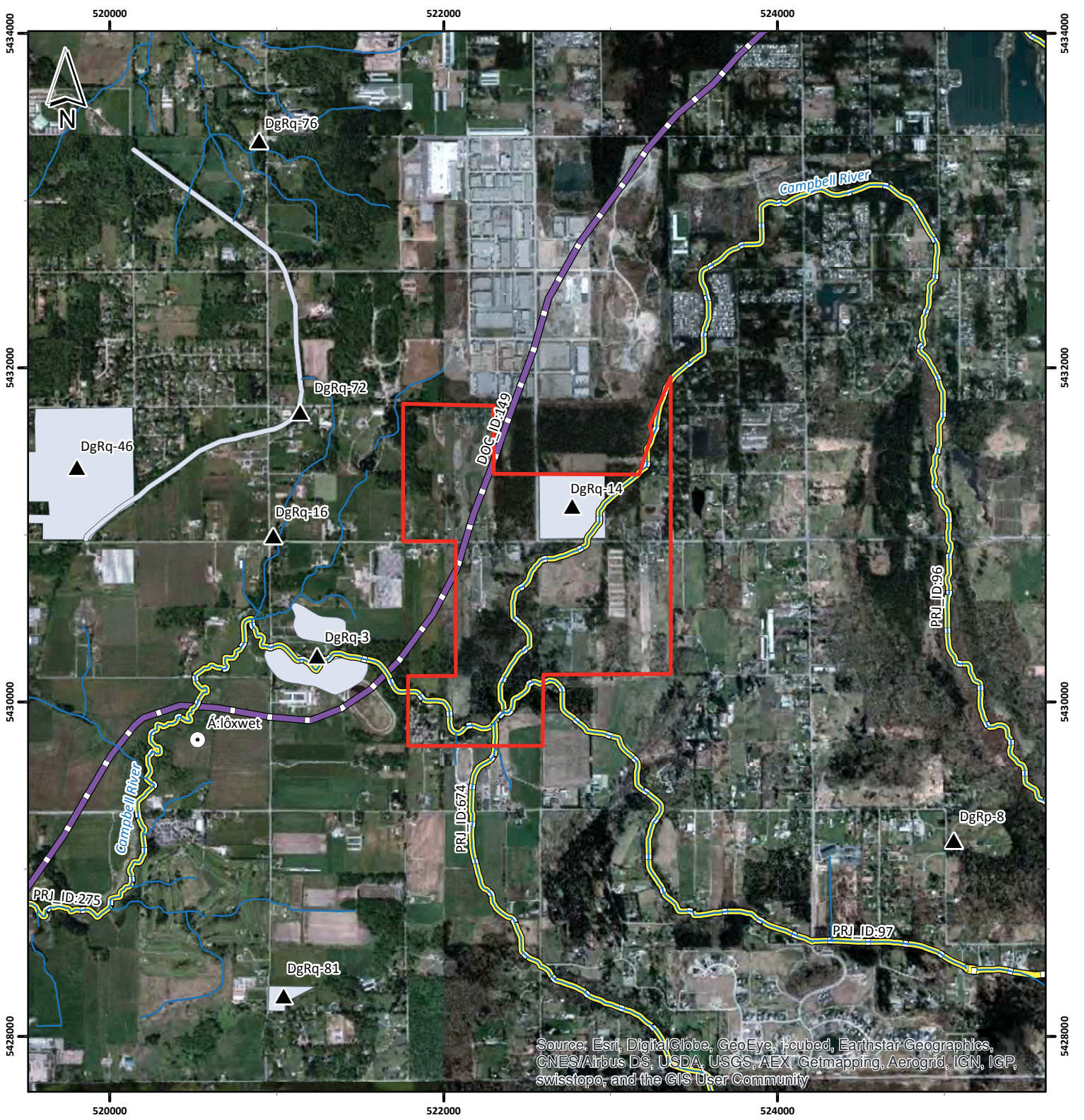


	South Campbell Heights Study Area		Open Stream/Channel
	Environmental Study Area		Roads
	Surrey City Boundary		
SEI Class:			
	Freshwater (FW)		Wetland (WN)
	Riparian (RI)		Young Forest (YF)
SEI Mapping completed by Madrone Environmental Services in 2009			
0 250 500 1,000 m			
1: 15,000			

Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community



Sources: Esri, Autodesk, USDA, USGS, AEX, GeoEye, Geomatics, AeroGRID, IGN, IGP, and the GIS User Community



SRRMC TUS Database Search Result
 PROJECT: SHIP 2015-030 Hamm
 South Campbell Heights AOA
 REQUESTED: S. Hamm / Madrone

GIS: LMD
 April 22, 2015

-  Study Area
-  Documented Travel Route
-  GIS-Modeled Travel Route
-  Halq'eméylem Place Name
-  Archaeological Site
-  Stream



FIGURE 6: Areas of Low Archaeological Potential

LOCATION:
Surrey, BC

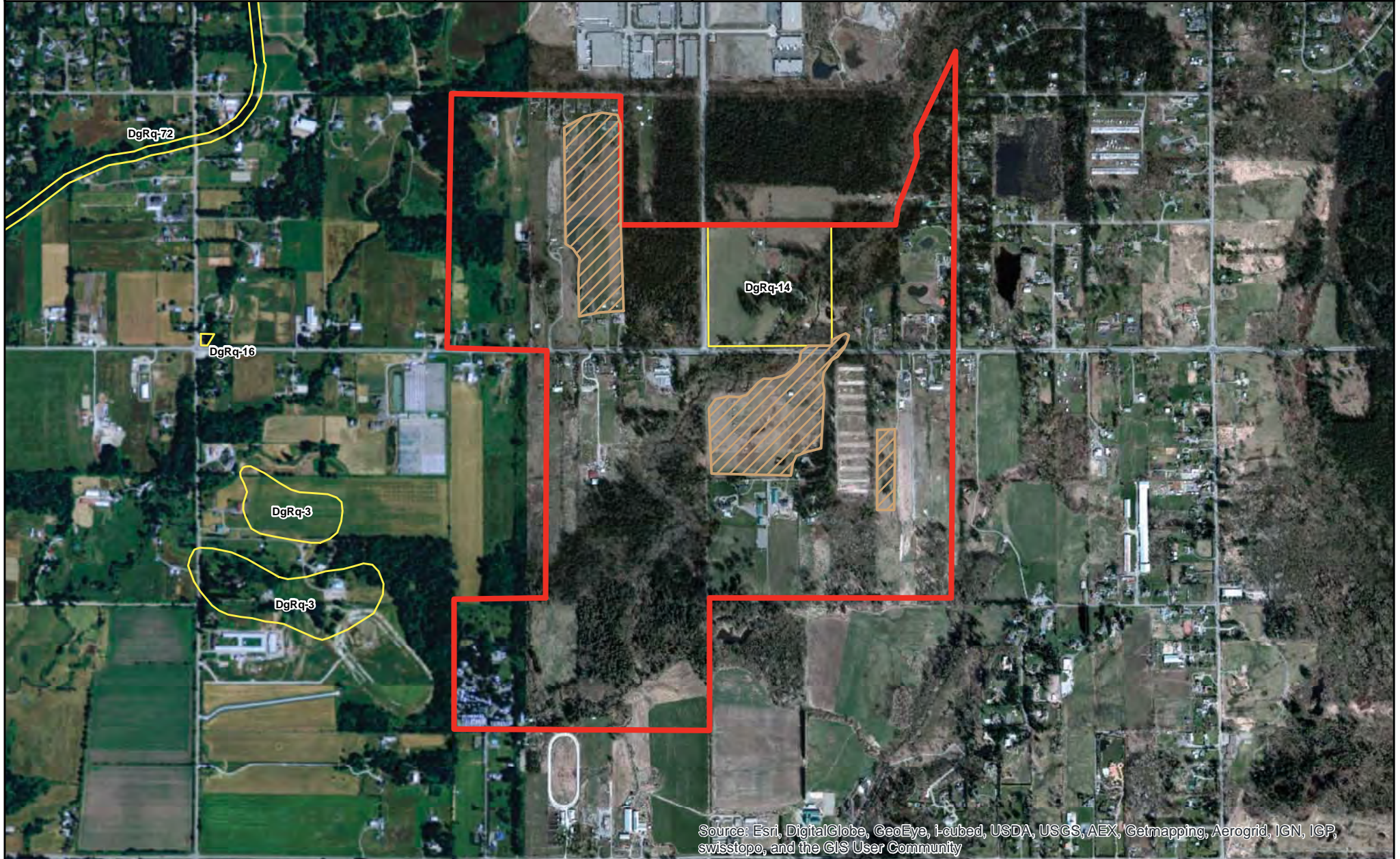
NTS MAP:
92G/2

CLIENT:
City of Surrey




MAP DATE:
May 29, 2015

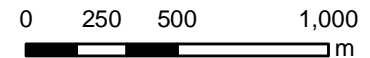
DRAWN BY:
Anna Jeffries

DOSSIER:
15.0073



Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

-  Study Area
-  Archaeology Site
-  Areas of Low Archeological Potential



1: 25,000