Please refer to the corresponding City of Surrey “WCA Report - Terms of Reference and Template Guidance” document for template guidance and submission instructions. Note, WCA Reports may be subject to review and/or updates five (5) years from the date of their acceptance to assess for legislative compliance.

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| --- | --- | --- | --- |
| **Report Information** | | | |
| Date | Click or tap to enter a date. | Version No. | Click or tap here to enter text. |

|  |  |
| --- | --- |
| **Property Information** | |
| Property Address | Click or tap here to enter text. |
| Parcel Identifier (PID) | Click or tap here to enter text. |
| Legal Description | Click or tap here to enter text. |

|  |  |  |  |
| --- | --- | --- | --- |
| **Applicant Information** | | | |
| First Name | Click or tap here to enter text. | Last Name | Click or tap here to enter text. |
| Company | Click or tap here to enter text. | Phone No. | Click or tap here to enter text. |
| Address | Click or tap here to enter text. | | |
| Email | Click or tap here to enter text. | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **Primary QEP Information** | | | |
| First Name | Click or tap here to enter text. | Last Name | Click or tap here to enter text. |
| Designation | Click or tap here to enter text. | Registration No. | Click or tap here to enter text. |
| Company | Click or tap here to enter text. | | |
| Address | Click or tap here to enter text. | | |
| Phone No. | Click or tap here to enter text. | | |
| Email | Click or tap here to enter text. | | |

|  |
| --- |
| **Primary QEP Sign Off and Declaration** |
| I hereby declare that this WCA Report was completed and overseen by the primary QEP and that all information has been provided with due consideration of my professional designation, scope of practice, and the code of ethics laid out by my professional association. |

X  Click or tap to enter a date.

Primary QEP Signature/ Stamp Date

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**Attachment A** Figures

**Attachment B** Photographs

**Attachment C** Other Supporting Documents

## **Site Description**

|  |
| --- |
| Describe the property relative to the surrounding area, present and historic land use, general vegetation composition, and any key features of note (e.g., existing structures, impervious surfaces, mapped watercourses, etc.). |
| Click or tap here to enter text. |

## **2.0 Methodology**

Identify the methods and equipment used to conduct the watercourse classification assessment in the table below. Applied assessment methods should reflect the intensity of effort needed to deliver a sound professional opinion, be scientifically defendable, and carried out in accordance with industry standards.

|  |  |  |  |
| --- | --- | --- | --- |
| **Background Research and Historical Data Analysis:** Identify desktop research efforts and any databases queried for background reports and records. | | | |
| Click or tap here to enter text. | | | |
| **Field Assessments/Surveys**: Identify the date, time, weather conditions, and rainfall in the preceding 72 hours, any field assessment/survey methodologies used, and intensity of effort for each site visit. | | | |
| Date of Survey(s) | Click or tap here to enter text. | Time | Click or tap here to enter text. |
| Weather at the time | Click or tap here to enter text. | Rainfall 72 hours preceding (mm) | Click or tap here to enter text. |
| Field assessment/survey methodologies and intensity of effort | | | |
| Click or tap here to enter text. | | | |
| **Equipment:** Identify any field equipment used to carry out the field assessment (e.g., soil auger, handheld GPS, water quality sampling and monitoring metres). | | | |
| Click or tap here to enter text. | | | |
| **Mapping and Delineation**: Identify any specific methods and/or techniques consulted to delineate wetted areas of interest, watercourses, and/or wetlands. | | | |
| Click or tap here to enter text. | | | |

## **3.0 Watercourse(s)**

Fill out the following section for each watercourse or wetted area of interest that was investigated by copying and pasting the table as needed. Note, watercourses with similar source hydrology, biophysical characteristics, and legislative purview (e.g., drainage ditches that originate from a single source) may be grouped together except where they occur onsite vs. offsite. The term ‘watercourse’ herein refers to any body of water, such as a stream, ditch, pond, spring, wetland, and/or wetted area of interest (AOI). The scope of the assessment area is to extend beyond the subject property to an extent that identifies the source of flows, the receiving environment, and any other factors that may influence the hydrology of the watercourse. Any access constraints or other limitations should be identified in the rationale.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Watercourse Name(s):** | | Click or tap here to enter text. | | | | | | | | | | | |
| **Is the watercourse onsite or offsite?** | | Onsite | | Offsite | | | | | | | Both | | |
| **Historical Review:** Consult historical aerial photographs and topographic maps to identify if natural watercourse were present historically on the landscape and if evidence of a modified stream and/or wetland remains. Relevant aerial images (minimum 6) are to be appended to the WCA Report to support the assessment. Images are to be clear (i.e., not pixelated) and labelled. | | | | | | | | | | | | | |
| Are any natural watercourses (e.g., streams, wetlands) apparent on the landscape historically? | | | | | Yes | | | | | No | | | Unsure |
| Provide supporting rationale and description of any points of interest on included aerial imagery. | | | | | | | | | | | | | |
| Click or tap here to enter text. | | | | | | | | | | | | | |
| Is there evidence that a natural or modified watercourse is still present? | | | | | Yes | | | | | No | | | Unsure |
| Provide supporting rationale and any notable changes in the landscape. | | | | | | | | | | | | | |
| Click or tap here to enter text. | | | | | | | | | | | | | |
| **Physical Description:** Describe the physical characteristics of watercourses and riparian habitat. | | | | | | | | | | | | | |
| Provide a description of the physical characteristics of the watercourse including approximate depth, top-of-bank (TOB) and/or stream boundary width, substrate characterization, qualitative gradient (low, steep, etc.), evidence of velocities (e.g. scour), and presence of any anthropogenic features (e.g., culverts, bridges, etc.). | | | | | | | | | | | | | |
| Click or tap here to enter text. | | | | | | | | | | | | | |
| Provide a description of the riparian habitat, vegetation species present, condition, and presence of any anthropogenic features or surfaces (e.g., paved areas). | | | | | | | | | | | | | |
| Click or tap here to enter text. | | | | | | | | | | | | | |
| **Hydrology**: Describe the local hydrology and flow regime of the watercourse | | | | | | | | | | | | | |
| Provide a description of the local hydrology of the catchment area and documents or databases consulted (e.g., ISMP, drainage catchment plans, hydrogeology reports, well records, etc.). | | | | | | | | | | | | | |
| Click or tap here to enter text. | | | | | | | | | | | | | |
| Were source waters identified? | | | | | | Yes | | | | | No | | |
| Provide a description of the source waters (e.g., surface runoff, perched/seasonal groundwater, deep aquifer, another watercourse) and evidence to support the description. If source waters could not be identified, provide rationale why they could not be identified. | | | | | | | | | | | | | |
| Click or tap here to enter text. | | | | | | | | | | | | | |
| Is the watercourse isolated? | | | | | | Yes | | | | | No | | |
| If isolated, provide a description of the intensity of effort undertaken to eliminate the presence of an outflow channel and/or pipe. If the watercourse is connected to another, provide a description of the downstream environment and where the flows discharge to. | | | | | | | | | | | | | |
| Click or tap here to enter text. | | | | | | | | | | | | | |
| What is the flow regime? | Perennial | | Intermittent | | | | Ephemeral | | | | | | Unsure |
| Provide rationale and evidence used to identify the flow regime, the weather conditions preceding the site visit, if observed conditions were reflective of seasonal norms, and/or if additional information is required. Note, a perennial stream never ceases to flow, an intermittent stream flows only part of the year, and an ephemeral stream flows only after a rain event. | | | | | | | | | | | | | |
| Click or tap here to enter text. | | | | | | | | | | | | | |
| **Fish Presence and Habitat:** Describe the fisheries resource values (if present). Note, ‘fish’ herein is the same definition as that of the federal *Fisheries Act*. | | | | | | | | | | | | | |
| Are there fish present and/or able to access the watercourse? | | | | | Yes | | | | No | | | Unsure | |
| If yes, provide a description of fish species present and anticipated use (e.g., rearing, migration, over-wintering, spawning, etc.). If no, provide supporting rationale and expand on the methodologies used to determine fish absence as well as any natural and/or anthropogenic barriers to fish movement. | | | | | | | | | | | | | |
| Click or tap here to enter text. | | | | | | | | | | | | | |
| Does the watercourse directly or indirectly support fish and fulfill the definition of fish habitat as defined by the *Fisheries Act*? | | | | | Yes | | | | No | | | Unsure | |
| Provide supporting rationale as to why the watercourse does or does not meet the criteria of fish habitat (i.e., an area on which fish depend directly or indirectly to carry out their life processes including, but not limited to, food supply and base flows). | | | | | | | | | | | | | |
| Click or tap here to enter text. | | | | | | | | | | | | | |
| **Wildlife:** Other wildlife may rely on aquatic habitat to carry out life history functions (e.g., amphibians) and may be protected under provincial and federal legislation. | | | | | | | | | | | | | |
| If applicable, identify any wildlife species that may rely on the watercourses, their least risk timing windows or conditions, and if they are subject to further protection under legislation (e.g., *Wildlife Act* or *Species at Risk Act*). | | | | | | | | | | | | | |
| Click or tap here to enter text. | | | | | | | | | | | | | |
| **Wetland Indicators**: Provide a description of onsite conditions relative to the three indicators of a wetland (i.e., hydrology, hydrophytic vegetation, and hydric soils) and methodologies used to determine presence/absence of each indicator. Should one or more wetland indicators be present, a detailed wetland assessment may be required using industry recognized and scientifically defensible methodology. If a detailed wetland assessment report was prepared separately, please append to the WCA Report and make note to reference the attachment in the rationale text box. | | | | | | | | | | | | | |
| Is the hydrologic regime capable of supporting wetland presence? For example, sustained soil saturation within 30 cm of the surface during the growing season. | | | | | Yes | | | | No | | | | Unsure |
| Provide supporting rationale of how the local hydrology may or may not support wetland processes. | | | | | | | | | | | | | |
| Click or tap here to enter text. | | | | | | | | | | | | | |
| Are any hydrophytic vegetation species or communities present? | | | | | Yes | | | | No | | | | Unsure |
| Provide a description of the vegetation community, identified to species-level where possible, and the wetland indicator status as prescribed by the USACE for the Western Mountains, Valleys, and Coast Region (if applicable). | | | | | | | | | | | | | |
| Click or tap here to enter text. | | | | | | | | | | | | | |
| Was the soil investigated for the presence of hydric soil indicators? | | | | | | | | Yes | | | | | No |
| If yes, provide a description of the methodology used, intensity of effort, soil properties, and if any hydric indicators were present (i.e., mottling, gleying, organic, and/or sulphur smell within the upper 30-40 cm of soil). If no, provide rationale as to why soil investigation was not undertaken. | | | | | | | | | | | | | |
| Click or tap here to enter text. | | | | | | | | | | | | | |
| Is a detailed wetland assessment recommended? | | | | | | | | Yes | | | | | No |
| Provide supporting rationale on why a detailed wetland assessment is or is not recommended. | | | | | | | | | | | | | |
| Click or tap here to enter text. | | | | | | | | | | | | | |

## **4.0 Legislative Purview**

Review the biophysical characteristics of each watercourse relative to the purview of the *Water Sustainability Act* (WSA)and Regulation (WSR), Riparian Area Protection Regulation (RAPR), and *Fisheries Act*.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ***Water Sustainability Act* and Regulation**: Assess each watercourse against the criteria of a ‘stream’ as defined by the WSA and any relevant criteria listed in the WSR. Review of historical data and source hydrology will be necessary. Note, the historical presence of a natural watercourse likely indicates the feature is a modified WSA ‘stream’. Copy and paste the section below as needed for each watercourse. | | | | |
| Watercourse Name | Click or tap here to enter text. | | | |
| Is the watercourse subject to the WSA? | | Yes | No | Unsure |
| Supporting Rationale (if unsure, state if additional investigation is recommended). | | | | |
| Click or tap here to enter text. | | | | |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Riparian Areas Protection Regulation**: Assess each watercourse against the criteria of a ‘stream’ as defined by the RAPR and the RAPR Technical Assessment document (as amended). Review of fisheries resources values, connectivity, and riparian vegetation will be required. Note, in many instances WSA streams are RAPR Streams and not RAPR Ditches. Copy and paste the section below as needed for each watercourse. | | | | | | |
| Watercourse Name | Click or tap here to enter text. | | | | | |
| Is the watercourse subject to the RAPR? | Yes | | No | | Unsure | |
| What is the RAPR stream type ? | Ditch | Stream | | Pond/Wetland | | N/A |
| Supporting Rationale (if unsure, state if additional investigation is recommended). | | | | | | |
| Click or tap here to enter text. | | | | | | |

|  |  |  |  |
| --- | --- | --- | --- |
| ***Fisheries Act***: Assess each watercourse against the criteria of ‘fish habitat’ as defined by the *Fisheries Act*. Review of fish presence/absence, stream and riparian conditions, and connectivity will be required. Copy and paste the section below as needed for each watercourse. | | | |
| Watercourse Name | Click or tap here to enter text. | | |
| Is the watercourse subject to the *Fisheries Act*? | Yes | No | Unsure |
| Fish Habitat Type | Direct  (Fish Present) | Indirect  (Fish Absent) | N/A  (Not Fish Habitat) |
| Supporting Rationale (if unsure, identify if additional investigation is recommended). | | | |
| Click or tap here to enter text. | | | |

## **5.0 Municipal Watercourse Classification**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Assign a municipal watercourse classification (stream class and stream type) in accordance with Tables 1 and 2 of the complimentary WCA Report TOR and provide supporting rationale for each watercourse. Copy and paste the section below as needed for each watercourse. | | | | | | | | | |
| Watercourse Name | Click or tap here to enter text. | | | | | | | | |
| Stream Class | A | AO | | B | C | Isolated | Unregulated | | Unsure |
| Stream Type | Natural | | Channelized | | | Large Ravine | | Ditch | Unsure |
| Supporting Rationale (if unsure, identify if additional investigation is recommended). | | | | | | | | | |
| Click or tap here to enter text. | | | | | | | | | |

## **6.0 Limitations**

|  |
| --- |
| Identify any limitations encountered during the assessment, such as timing issues or access constraints. Recommend follow-up actions or additional assessments if knowledge gaps exist in the watercourse classification determination or delineation (e.g., wetland assessment). |
| Click or tap here to enter text. |

## **7.0 Conclusion**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Watercourse Classification Summary Table** | | | | | |
| Watercourse Name | WSA | RAPR | *Fisheries Act* | Municipal Class | |
| Stream Class | Stream Type |
| On Site | | | | | |
| Click or tap here to enter text. | Choose an item. | Choose an item. | Choose an item. | Choose an item. | Choose an item. |
| Off Site | | | | | |
| Click or tap here to enter text. | Choose an item. | Choose an item. | Choose an item. | Choose an item. | Choose an item. |

|  |
| --- |
| Provide a summarized statement of assessed watercourses and rationale to support the legislative purview and assigned municipal classification. State whether additional/follow-up site assessments are required to address any information gaps with regards to the presented watercourse classification conclusions |
| Click or tap here to enter text. |

## **8.0 List of Professionals**

|  |  |  |  |
| --- | --- | --- | --- |
| A QEP is defined in the City’s Zoning Bylaw 12000 as a registered professional Biologist, Geoscientist, Engineer, Forester and /or Agrologist registered in British Columbia, with demonstrated education, expertise, accreditation and knowledge relevant to the sensitive environment, ecosystems and/or riparian/streamside management. Secondary QEP’s with specialized expertise may be required to provide advice where site characteristics warrant. Please list the primary QEP, any additional authors, and any secondary QEP’s below. | | | |
| Name (Company) | Professional Designation (Registration No.) | Component of WCA Report Responsible For | Report Date |
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**ATTACHMENT A**

FIGURES

**ATTACHMENT B**

PHOTOGRAPHS

**ATTACHMENT C**

OTHER SUPPORTING DOCUMENTS