

1.0 GENERAL REQUIREMENTS

1.1 GENERAL

The Richmond Engineering Design Specifications (“Design Specifications”) is to be used as a guide for the provision of minimum standard requirements for both City of Richmond (referred to in this manual as the “City”) Capital Works Projects and subdivision and development services design. It is not intended to be a substitute for sound engineering knowledge and experience.

If, however, criteria is not covered in the design specifications, then the design criteria shall be in accordance with good engineering practice, as determined in consultation with the Consultant and the General Manager of Engineering and Public Works (referred to in this manual as the “General Manager”) or their representative.

Consultants are encouraged to seek innovative and superior solutions where appropriate. A Consultant who wishes to adopt criteria not specifically included in or variant from those within this design specification shall justify the proposed change in a letter/report prepared, signed and sealed by a professional engineer. Submissions must demonstrate that the proposed change is equivalent to or better than these guidelines. The letter/report shall be submitted to the General Manager of Engineering and Public Works (“General Manager”) for review and approval, prior to acceptance of the proposed change.

In spite of using these standards and specifications, the Developers and their Consultants remain fully responsible for the design and construction of City infrastructure and utilities according to good engineering standards adequate to address the specific needs and site conditions of their project.

The Consultant must be satisfied that the design criteria contained herein are applicable to the project at hand, and must apply more stringent criteria where appropriate. The Consultant is fully responsible for designing to standards, which exceed these standards when specific site conditions dictate that more stringent performance measures are required. The Consultant shall sign and seal all pertinent analyses and design documents and drawings.

All designs must be in accordance with the City of Richmond approved edition of the Master Municipal Construction Documents (MMCD) Specifications and Standard Detail Drawings and the City of Richmond Supplementary Specifications and Detail Drawings.

1.2 APPROVAL OF SERVICES

Approval of the proposed design and construction of services, as applicable, must be given by several authorities in addition to the City. These authorities are listed in Table 1.1.

Table 1.1 Governing Authorities

Governing Authorities	Areas of Jurisdiction
B.C. Hydro	As per BC Hydro regulations
	All work in the vicinity of any underground plant as well as any transmission lines and rights of way
C.N. Railway	As per Canadian Transport Commission
	All underground services crossing existing Railway rights-of-way
	Installation of overhead transmission lines crossing existing Railway rights of way
C.P. Railway	As per C.N. Railway
Canadian Transport Commission	Crossing of existing railway at grade associated with roadway widening
	Construction of new road crossing existing Railway track at grade
	Replacing existing Railway trestles
Department of Fisheries and Oceans (DFO)	All instream work and within riparian area
Fraser River Estuary Management Program (FREMP)	Works on or about river and strait foreshore
	Dredging proposals
	Storm water discharge points
Greater Vancouver Sewerage and Drainage (G.V.S. & D.D.)	Sanitary sewer systems, sanitary sewer drainage areas
Greater Vancouver Water District (G.V.W.D)	G.V.W.D. watermains
Harbour Commission (Fraser River) And City of Richmond	Dredging proposals
	Crossing of dykes – temporary or permanent works
Inspector of Dykes	Reconstruction of dykes, fill and excavations adjacent to dykes
	Any structure on or across dykes
Ministry of Transportation	All construction (underground and/or surface work) on Ministry of Transportation rights-of-way
	Development and improvement within radius of 0.8 km of the intersection of a controlled access highway with any other highway. (See Transportation Act)
Provincial Health Branch	Pollution, sanitary sewer systems

Governing Authorities	Areas of Jurisdiction
Terasen Gas	As per Terasen Gas regulations and the Pipeline Act
	All work in the vicinity of intermediate pressure (IP) and transmission pressure (TP) gas mains and rights of way
Trans Mountain Oil Pipe Line Ltd. (Jet Fuel Line) & Ministry of Transport	All underground services crossing the Jet Fuel Line
Vancouver International Airport Authority (YVR)	Works on Sea Island under the Airport Authority Jurisdiction

For City projects the Consultant will make all applications to the Authorities concerned on behalf of the City, unless otherwise advised.

In case of subdivisions, applications will be made by the Developer, with any costs incurred from the application being assessed to the Developer.

The final agreement for such application will be drawn between the Authority concerned and the City, provided the proposed services, upon satisfactory completion, revert to and form part of the City services system.

No construction may proceed without the approval of the Authority having jurisdiction.

In all cases, the Authority having jurisdiction has specific requirements of its own, i.e.:

- Specific application forms
- Utility clearance from the proposed services
- Protection of services, carrier pipes, depth of cover
- Method of construction (Ministry of Transportation and railway companies may not permit open trenching on major highways and freeways.)
- Type of information to be shown on drawings, size of drawings (specifically C.N.R & C.P.R.)

These requirements will be obtained directly from the Authority involved.

1.3 SUBDIVISION AND DEVELOPMENT SERVICING PROCEDURES

Unless otherwise specified, the Developer shall design and install complete City services for the land being subdivided or developed, including services to the immediate adjacent properties.

The City services shall include:

1. Roads, lanes and walkways
2. Concrete sidewalks, extruded curbs, combined curb and gutter
3. Sanitary Sewers, conveyance systems
4. Storm Sewers, conveyance systems
5. Watermains
6. Roadway Lighting
7. Traffic Signal Devices and City Owned Communication Network
8. Traffic Calming Device
9. Trees and Landscaping
10. Underground Hydro power
11. Underground Telephone
12. Underground Cablevision
13. Natural Gas

1.4 GENERAL MANAGER OF ENGINEERING AND PUBLIC WORKS

In all matters of engineering judgement, the General Manager's opinion shall be final.

1.5 DRAFTING REQUIREMENTS

All drafting work shall be performed in accordance with the Drafting Standards (as amended) document of the City of Richmond. This document is bound separately. The standards set out in this document shall apply to both City and private (off-site) construction within the City.

1.6 RIGHTS OF WAY AND EASEMENTS

The Consultant shall show on all relevant drawings the impacts of works on public or private land. Where rights of way or easements are required they shall be clearly shown. For City projects, the negotiations for obtaining these rights of way or easements will be looked after by the City, unless advised otherwise. In case of subdivisions the process of land acquisition shall be in accordance with the Bylaw "To Regulate the Provision of Works and Services Upon Subdivision of Land".

1.7 REVISIONS TO THE DESIGN SPECIFICATIONS

The criteria and design parameters contained in this manual are subject to constant review and re-evaluation and the General Manager reserves the right to initiate revisions or additions to these criteria as and when deemed necessary.

1.8 GLOSSARY OF TERMS

The following terms used in the Design Specifications shall have the meanings indicated below:

“City” shall mean the City of Richmond as a corporate body, as represented by the General Manager.

“General Manager” shall mean the General Manager of Engineering and Public Works or his/her appointed alternate.

“Consultant” shall mean the BC registered Professional Engineer (in good standing) responsible for and qualified to undertake the preparation of: proposals, calculations, reports, associated documents, design submissions and detailed engineering designs and drawings, and for the execution and the implementation of such designs for infrastructure utilities and services to be incorporate in the City.

“Developer” shall mean the proponent of a land development proposal, or the Owner as defined in a Servicing Agreement. Requirements of the Developer stated in this document, or associated documents, apply to the Consultant or Contractor acting on the Developer’s behalf.