



London
CANADA

The Corporation of the City of London
P.O. Box 5035
300 Dufferin Avenue
London, ON N6A 4L9

Chapter 13

Material Substitutions for City of London Projects

Design Specifications & Requirements Manual

October 2003

Updated January 2025



City of London

Design Specifications and Requirements Manual

The design information contained in this manual is intended to provide guidance beyond legislative and standard design practices for use in the City of London (the City). There will be site specific situations where the design will depart from these practices as it is not possible nor is it the intention of the City to anticipate every situation. The City intends to review and revise the Manual from time to time. The City also acknowledges that other references such as the 'Standard Contract Documents for Municipal Construction Projects' are to be used in conjunction with this manual. The 2012 update of this manual incorporates design information from the City's former 'Subdivision & Development Guide Manual' to provide consistent and current design information for development projects.

The City of London maintains its right to accept or refuse any design submissions and requires an acceptable design for any given circumstance.

Index

Chapter 1	Introduction
Chapter 2	Transportation
Chapter 3	Sanitary Sewer Collection System
Chapter 4	Sewage Pumping Stations
Chapter 5	Storm Sewer Collection System
Chapter 6	Stormwater Management Requirements
Chapter 7	Water Distribution System
Chapter 8	Water Pumping Stations
Chapter 9	Grading
Chapter 10	Erosion and Sediment Control
Chapter 11	Parks and Open Space
Chapter 12	Tree Planting and Protection Guidelines
Chapter 13	Material Substitutions for City of London Projects
Chapter 14	Contact Information
Chapter 15	Installation, Inspection of Water and Sewer Works
Chapter 16	Noise Attenuation Measures
Chapter 17	Trenchless Technologies (for New Construction)
Chapter 18	Drafting and Design Requirements
Chapter 19	Development Compliance Procedure
Chapter 20	Area-Specific Streetscape Standards



Contents

13	Material Substitutions for City of London Projects.....	13-1
13.1	Introduction.....	13-1
13.2	Specifications	13-1
13.3	Lists of Materials	13-1
13.3.1	Lists of Acceptable Products	13-1
13.3.2	Utilization of the Lists.....	13-1
13.4	Product Approvals	13-2
13.4.1	Product Approval Committee.....	13-2
13.4.2	Materials Not Subject to Product Approval Committee Review	13-2
13.5	Drawing Approval.....	13-2
13.6	How to Propose a Substitution	13-3

13 Material Substitutions for City of London Projects

13.1 Introduction

There is a history of confusion surrounding the substitution of a material during construction projects, for example, using PVC pipe instead of HDPE pipe. This chapter is intended to clarify the City's position on the matter of substitution of a material specified on an approved set of drawings with an alternative material. In no case can a substitution occur without the consent of the City.

13.2 Specifications

In the most simple of terms, the City of London has, at the minimum, two basic needs:

- the material must work for its intended use and life.
- the City must be able to maintain the works.

The City applies two decision-making tools to meet these needs:

- general acceptance of a material through the Product Approval Committee (PAC).
- specific acceptance, through the detailed design and drawing review process of a material based on the site specific design criteria.

13.3 Lists of Materials

13.3.1 Lists of Acceptable Products

- The City of London Standard Contract Documents for Municipal Construction Projects has partial lists of acceptable products for use on construction projects where the City will ultimately be assuming the works.
- There is also a list of products that have been previously approved for use in the City of London, by the PAC.

13.3.2 Utilization of the Lists

The materials listings have been developed to meet a multitude of general City needs such as durability and future maintenance, spare parts inventories, etc. The lists are not tailored to site specific needs.

Selecting from the pre-approved list allows the designer to avoid the additional process of having a material approved for use through the PAC. The designer may choose to offer options of all acceptable materials for a given application, or may specify one product only, depending on site specific design constraints. If for example the designer chooses to allow either PVC, or Concrete Pipe, then the design drawings and related contract tender items must specify both, with full details for each with respect to class of pipe, and bedding requirements for type of material, taking into account depth of cover, soil conditions, etc. If the designer only specifies one material type for site specific reasons, then no substitutions may be allowed.

13.4 Product Approvals

13.4.1 Product Approval Committee

- a. The Product Approval Committee (PAC) is a committee comprised of City of London Environment and Infrastructure Department staff. If a new product is being proposed for future routine use in the City of London, the material must be reviewed, evaluated, and approved by the PAC, prior to its being used. The review, evaluation and approval of a new product takes, on average, six months to one year, depending on the product.
- b. The designer is expected to select materials approved by the PAC if any are available that are suitable for the use.

13.4.2 Materials Not Subject to Product Approval Committee Review

On occasion, PAC excludes materials from the review process which they do not consider to be 'products'. Examples include recycled asphalt as a granular base or painted glue. In these cases the City relies on acceptance of detailing drawings and/or contract specifications and/or manufacturer's specifications. In all cases, the City has the final say as to whether a material may be used.

If the designer is unsure as to whether the material should be reviewed by the PAC, they should contact the PAC for confirmation.

13.5 Drawing Approval

The City requires all substitutions for items that are specified on an approved set of drawings, be approved by the City Engineer before use on that project. A note to this effect is included on all sets of servicing plans, as part of the City's standard "Construction Notes for Engineering Drawings." Consequently, after the design drawings have been accepted by the City, the designer **MUST** discuss and receive

approval from the appropriate City of London staff, for any proposed changes of material prior to its being used on a project.

For the purposes of future maintenance and development, the As Constructed Drawings **must** accurately reflect the material or product used.

13.6 How to Propose a Substitution

Refer to the City of London's Consultant Resources webpage for information and to find the applicable forms to be completed to propose a substitution

(in accordance with OPS General Conditions GC5.0)

- a. A tenderer may propose a material substitution to the designer. However, the tenderer may not assume that the approved lists of materials (10.3.1.) are an approved equal and alternate' materials list, especially, for the purposes of tendering and construction.
- b. The designer must evaluate the proposed material substitution and discuss any changes with the PAC or designate. If the designer determines that the proposed substitution is 'not suitable for use' for the proposed municipal works, then that substitution can not be used.
- c. If the proposed substitution is acceptable to the designer, then the PAC must review and accept the proposal. The PAC has the final acceptance authority for any proposed material substitution.
- d. If the material substitution is approved, then an addendum for the tendering process or a change order for the construction process must be processed. In no cases can a tenderer/constructor independently decide to substitute a material.
- e. The 'As Constructed' drawings must also accurately reflect the material or product used. The City does routinely consent to viable alternatives provided the appropriate process is followed and the attendant paperwork is in place.