



**London**  
CANADA

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# **Chapter 13**

## **Material Substitutions for City of London Projects**

# **Design Specifications & Requirements Manual**

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# 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.

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# 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 Products Approval Committee.

### 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 Product Approval Committee. 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 (PAC)**

- 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 Product Approval Committee, 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 Product Approval Committee if any are available that are suitable for the use.

### **13.4.2 Materials Not Subject to Product Approval Committee Review**

On occasion, the Product Approval Committee (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

(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 Product Approval Committee 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 Product Approval Committee must review and accept the proposal. The Product Approval Committee 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.