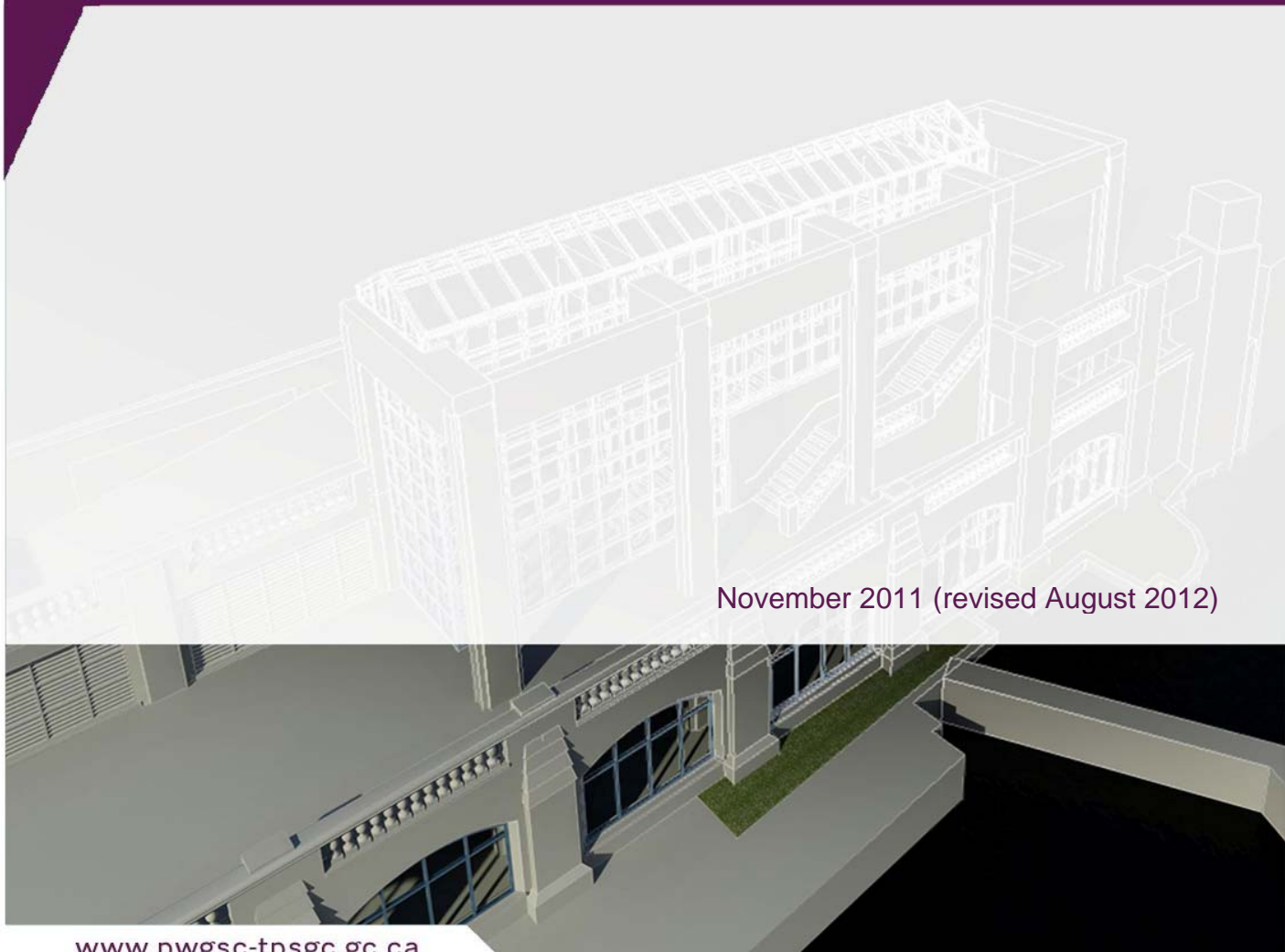




# PWGSC

# National CADD Standard

## Computer-Aided Design and Drafting



November 2011 (revised August 2012)



## TABLE OF CONTENTS

<b>1.0 Introduction</b>	<b>5</b>
1.1 Scope	5
<b>2.0 Project Delivery</b>	<b>6</b>
2.1 Drawing File Format	6
2.2 Project Start-up	6
2.3 Quality Assurance of CADD Data	7
2.4 Work Completed	8
2.5 Production of Contract Drawings	9
2.6 Disclaimers and Limitation of Liabilities	10
2.7 Copyright	10
<b>3.0 PWGSC Computer Aided Drafting Standard</b>	<b>11</b>
3.1 File Presentation	11
3.2 Layering Standard	11
3.3 Block Standard	17
3.4 Text Style Standard	18
3.5 Dimension Style / Multileader Style Standard	19
3.6 Linetype and Hatch Standard	21
3.7 Title Blocks and Graphic Scales	22
3.8 Systems of Measurement and Preferred Scales	23
<b>4.0 Drawing File Naming Conventions</b>	<b>24</b>
<b>Annex A – CADD Layers</b>	<b>25</b>
Architecture	26
Bridges and Dams Engineering	28
Civil Engineering, Site Design and Landscape Architecture	29
Electrical Systems	34
General Information	38
Mechanical	39
Interior Design	42
Legal Surveys	43
Marine	44
Real Property Space Management	46
Structure	48
<b>Annex B – Layer Field Descriptions</b>	<b>49</b>
Group Field	49
Single Layer Field and First Layer Name Extension	50
Second Layer Name Extension	54
<b>Annex C – Pen and Colour Assignment Tables</b>	<b>55</b>
<b>Annex D - Quality Control of CADD Data</b>	<b>60</b>
<b>Annex E – Glossary</b>	<b>63</b>



## 1.0 Introduction

Computer-Aided Design and Drafting (CADD) is an integral component of information management for Public Works and Government Services Canada (PWGSC). The production of digital files by CADD is an important corporate asset. The greatest payback for CADD and related technology is in the reuse of the digital data for facilities management and as a foundation for future projects. If CADD files are to be an effective source of information, they must adhere to a standardized set of criteria that all CADD users will understand.

As an ongoing effort to keep up with changing technology, we are pleased to introduce the third edition of the PWGSC National CADD Standard. A concerted effort has been made not only to simplify the standard, but also to reinforce the requirements in areas we feel are critical to our goals.

PWGSC is aware of the emerging technology and processes related to building information modelling (BIM). As BIM represents a significant change, a new BIM standard, by necessity, will be created, facilitating the transition in the architecture, engineering, and construction (AEC) industry.

In addition, some of the regions have developed a regional CADD standard, which is to be used as a complement to this national standard.

For questions or further information regarding this document, please contact the National CADD Coordinator at the following e-mail address:

[CADD-CDAO@pwgsc-tpsgc.gc.ca](mailto:CADD-CDAO@pwgsc-tpsgc.gc.ca)

For a list of regional contacts, please visit the PWGSC National CADD Standard Web site and regional pages at:

<http://www.tpsgc-pwgsc.gc.ca/cdao-cadd/index-eng.html>

### 1.1 Scope

This standard applies to all services that generate CADD data files for PWGSC, including both internal PWGSC CADD service(s), and external consultant(s).

All CADD data files submitted to PWGSC must meet this standard.

## 2.0 Project Delivery

### 2.1 Drawing File Format

PWGSC requires all files to be compatible with Microsoft® Operating Systems. The CADD drawing format required for drawings is the AutoCAD® native format DWG file, i.e., they may not be submitted in Adobe® PDF, Autodesk® DWF, or any other simplified format unless specified in the contract. PWGSC will not supply or accept formats that are no longer supported by Autodesk®.

### 2.2 Project Start-up

All project drawings must be created using the PWGSC National CADD Standard. To ensure this requirement is met, PWGSC will undertake drawing coordination and quality assurance.

Where CADD services will be provided externally, the PWGSC project manager or technical authority will convey its requirements to the consultant or CADD service. PWGSC will provide the pertinent CADD drawings for the related facility or property, the drawing templates, the regional supplement to this standard and the symbol library if applicable. . All new work must meet this standard irrespective of the condition of any existing files provided at the outset of work.

The PWGSC National CADD Standard is available on the PWGSC Web site at <http://www.tpsgc-pwgsc.gc.ca/biens-property/cdao-cadd/index-eng.html>.

#### 2.2.1 Regional supplement and symbol library

Some of the regions have developed regional supplement and/or a symbol library, which is to be used as a complement to this national standard. The regional supplements are available on the PWGSC Web site at: <http://www.tpsgc-pwgsc.gc.ca/cdao-cadd/index-eng.html>

#### 2.2.2 CADD Base Plans

The CADD base plans maintained by PWGSC have been drawn from building and property surveys. The intent is to use the files for project drawings, and then PWGSC will be in charge of updating the base plans once the project is completed and measurements of the affected area(s) are verified.

Existing digital information, when available, is used to form the foundation for new project drawings. Any areas critical to the project should be verified by field checking.

New digital drawing files created must be modified to include the most up-to-date information contained in the National CADD Standard. Older legacy CADD data that is used in new drawing files must be updated to the current standard.

The project start-up meeting with the project manager or technical authority and CADD Coordinator should address the extent to which the existing digital files require verification and updating. All new work must meet this standard irrespective of the condition of any existing files provided at the outset of the work.

#### 2.2.3 Template Drawing

Drawing templates set the default metric units, text styles, and dimension styles. Recognizing the differences between engineering drawings and architectural drawings, the templates are provided with dimension styles and lettering for multiple disciplines. PWGSC templates must be used to start a new project. Please visit the PWGSC National CADD Standard Web site or contact the PWGSC project manager regarding the use of drawing templates.

## 2.3 Quality Assurance of CADD Data

PWGSC will carry out quality assurance of delivered CADD data files to ensure adherence with the PWGSC National CADD Standard and regional supplements.

### 2.3.1 Digital File Review

- **Colour Assignment**

PWGSC colour/line weight assignment must be used. ([See 3.2.5 Colour Assignment Standard](#))

- **Layer Management**

The PWGSC Layering Standard must be used. ([See 3.2 Layering Standard](#))

Standard layer names must be used.

Entities must be on the correct layers.

- **Text Style Management**

Only standard AutoCAD® SHX fonts or TTF fonts can be used. ([See 3.4 Text Style Standard](#))

- **Dimension Style / Multileader Style Management**

The PWGSC naming convention must be used. ([See 3.5 Dimension Style MultiLeader Style Standard](#))

Associative dimensions must be used.

- **Linetype and Hatch Pattern Management**

Only standard AutoCAD® and/or PWGSC linetypes and hatch patterns can be used. ([See 3.6 Linetype and Hatch Standard](#))

Linetype display variables must be used correctly.

- **External Referencing**

The use of external references is authorized only if certain conditions are met. ([See 2.3.3 External References \(XREF\)](#))

- **PWGSC Title Blocks and Graphic Scales**

PWGSC title blocks must be used. Please visit the PWGSC National CADD Standard Web site or contact the PWGSC project manager.

Title blocks must contain the minimum information ([See 3.7 Title Blocks and Graphic Scales](#)).

Graphic scales or written scales must accompany all plans, sections, details, and elevations, etc.

- **1:1 Metric Model**

Drawings must be modelled at full size using the International System of Units (S.I.)

- **Real-World Coordinate System**

Maintain coordinate systems integrity for 2D drawings.

### 2.3.2 Drawing file approval

PWGSC has jurisdiction over all drafting-related aspects of the final drawing, including but not limited to drawing content, title block layout, symbols, and font usage continuity throughout a drawing set. All drawings must be completed to the satisfaction of PWGSC.

In the absence of a drawing submission schedule, PWGSC reserves the right to request CADD data files at the midpoint (50%) of the scheduled work to conduct a CADD drafting review.

Note that the content of the digital CADD data file is just as important as the printed content, and no drawing will be accepted as final until all issues are resolved.

Delivered work that fails to meet any requirement in any of these areas will result in the work being deemed unacceptable. The consultant/CADD service will be required to correct the problem(s) at their cost. Furthermore, PWGSC will exercise its option to withhold payment of the contracted work as set out in the contract terms until the work is made right.

Alternatively, PWGSC may, if the consultant/CADD service refuses to correct the problem, make the corrections to the CADD data files and printed drawing plans and deduct the cost thereof from the consultant's/CADD service's fee. The consultant/CADD service grants to PWGSC an irrevocable licence to make such corrections and use the corrected CADD data files and printed drawing plans as it sees fit. Furthermore, PWGSC reserves the right to use the printed drawing plans resulting from the CADD data files with no payment obligation until the CADD data files are corrected.

### **2.3.3 External References (XREF)**

The use of external references will be conditionally authorized if the regional supplement of the CADD standard where the work is being performed permits the use of xrefs.

When this condition is met, xrefs may only be used in conjunction with the "Sheet Set Manager" to support the transmission of drawing files in a compressed format.

In all the other cases, external references must be converted into blocks. (Do not BIND XREFs, instead use BIND INSERT.) **Under no circumstances should a drawing contain referenced symbols; they must be inserted as blocks.**

### **2.3.4 Raster Images**

When separate raster images are included in a drawing, all related files containing images and information on coordinates, rotation angles, scaling, etc. are to be provided. As these files are essential for their geo-referencing, they must be delivered intact. Raster images should be used as a reference only and cannot replace the vector data normally required in drawing files.

### **2.3.5 Digital Signature**

Drawing files containing digital signatures are not accepted and can not legally replace printed copies signed and stamped as original.

## **2.4 Work Completed**


When work is complete and the drawing files are delivered to PWGSC, they must be reviewed for compliance with the National CADD Standard. The CADD service shall maintain the drawings in a suitable manner until all drawings for the project are verified and accepted by PWGSC. Once completed, a PWGSC will archive the file(s) in an electronic document and record management system.



## 2.4.1 File Delivery

File transfer will be stipulated by PWGSC on a per project basis by one of the methods listed below:

- Submission and upload of drawing files to a project collaboration tool (PCT) designated by the contact person.
- Submission and upload of drawing files to an information management tool designated by the contact person.
- Submission and transfer of drawing files through e-mail.
- Should a file transfer exceed the e-mail file transfer limit, the file can be uploaded to an FTP site if permitted under regional rules.
- In the case of inability to access a FTP site, lack of Internet access, no permission, or security considerations of the drawing content (unencrypted Protected B, Protected C, Confidential, Secret, Top Secret), a portable electronic storage media (CD, DVD, USB key, etc.) will be delivered to the designated contact person.

 Note: The FTP sites are not secure. Therefore, files containing sensitive information (requiring security clearance greater than Protected A) cannot be uploaded to this site and must be transferred via a portable electronic storage media.

After uploading the file, e-mail the following information to the designated contact person:

- Project location
- Project name
- Project number
- Fully qualified URL path/file name(s) link

 Notes:

- Uploaded files must be named using only alphanumeric characters with no spaces.
- All files are deleted from the site every second day. Timely notification is required to ensure file retrieval.
- No files are to be presented as an executable (.exe extension).
- Files should not be password-protected
- Files should not contain any electronic signature.
- Drawings should not contain hyperlinks.


## 2.5 Production of Contract Drawings


The following formats should be applied.

### 2.5.1 Sheet Size for Page Setup

This table shows the sheet designations and sizes for the drawing page setup. Drawing sheet size will conform to the following specifications:

<u>Sheet Designation</u>	<u>Overall Size (mm)</u>
B1	707 x 1000
A0	841 x 1189
A1	594 x 841
A2	420 x 594
11 x 17 (Tabloid / Ledger)	279 x 432
14 x 8.5 (Legal Landscape)	356 x 216
8.5 x 14 (Legal Portrait)	216 x 356
11 x 8.5 (Letter Landscape)	279 x 216
8.5 x 11 (Letter Portrait)	216 x 279

 Note: The paper size naming may vary depending on the printer drivers.

 Note: When drawings larger than A0 are required, it is recommended that they use a width of 841 mm and a length in increments of 150 mm. Digital files of standard PWGSC or client title block formats will be provided in the required standard sizes and **must not be altered or modified without authorization.**

## 2.6 Disclaimers and Limitation of Liabilities

Maps, drawings, and data produced for PWGSC purposes should be considered for illustrative or reference purposes only by users outside of PWGSC.

PWGSC and its agents, consultants, contractors, or employees provide these materials and information “as is” without warranty of any kind, implied or express, as to the information being accurate or complete, and without any warranty of merchantability and fitness for a particular purpose.

PWGSC does not assume any legal liability or responsibility for the accuracy, completeness, or usefulness of the maps, drawings, data, or information incidental thereto. PWGSC recommends that users exercise their own skill and care with respect to their use or seek professional advice.

Under no circumstances will PWGSC be liable to any person or business entity for any direct, indirect, special, incidental, consequential, or other damages as a result of any use of the maps, drawings, data, or any information incidental thereto, including, without limitation, any lost profits or business interruption.

## 2.7 Copyright

The Copyright Act protects all works (including drawings, charts, photos, etc.) from being copied without permission. Copying a work is called ‘copyright infringement’. Copying including ‘cutting and pasting’, reproducing, publishing or transmitting any work without permission *by any means* is considered copyright infringement. All work is copyright protected even if it does not explicitly say so.

Without prejudice to any rights or privileges of the Crown, where any work is, or has been, prepared or published by or under the direction or control of Her Majesty or any government department, the copyright in the work shall, subject to any agreement with the author, belong to Her Majesty. The copyrights ownership can also be transferred to the client by written contract. **Use of any PWGSC content without permission, in whole or in part, is strictly forbidden.**

## 3.0 PWGSC Computer Aided Drafting Standard

This section describes the general PWGSC Computer Aided Drafting Standard. Specific instructions can be added in the context of a request for proposal.

### 3.1 File Presentation

Files presented must conform to the following rules:

- A drawing must be purged of all definitions that are not used, such as layer names, text styles, dimension styles, layer filters, and blocks.
- A drawing must not contain any object definitions without geometry, such as empty text or blocks without objects.
- No objects should reside on layer “0” or “DEFPOINTS” except for objects contained in a block definition and dimensions. Use the “Plot/Non plot” layer property instead of the Defpoints layer.
- A drawing must not contain errors that are detectable using the Audit command.
- Drawings are to be modelled at full scale (real-world units) in model space, with text, symbols, hatch patterns, and line widths adjusted by the required scale factor.

All presented files must also adhere to the following rules of best practice:

- When appropriate to the type of drawing, lines must be drawn in an orthogonal mode.
- All vector endpoint intersections must be drawn with closed corners.
- The drawing must be saved with properly formatted Page Setup (Paper Size, Plot Style, Plot Area, Plot Scale, etc.). The main layout must be active and all the viewports adjusted and locked to the correct scale.

### 3.2 Layering Standard

All digital CADD files must follow the PWGSC Layering Standard. The standard facilitates data management by using a layering structure and naming convention to organize the drawing data in the CADD files into related data groups.

[See Annex A – CADD Layers](#) for the complete Standard Layer List.

[See Annex B – Layer Field Descriptions](#) for the abbreviations and descriptions lists used to create layer names.

#### 3.2.1 Sorting Graphic Data into Related Data Groups

Layers are used to sort the graphical data types depicted by the line work into related data groups. (They are not intended for use in sorting line weights, line types, colours, or other schemes.)

Layering is the only way to identify what the entities on a graphical screen represent without resorting to annotations. For example, it answers questions such as whether a rectangle represents a building outline, a concrete pad, a storage tank, or whether it is an annotation box. All digital CADD files must follow the PWGSC Layering Standard to create the appropriate layers to accommodate the grouping of related data.

To simplify the layering, drawing data can be broken into two major groupings: principal data and supporting data. The level of complexity and number of layers required for the two groups are significantly different.

### 3.2.2 Principal Data

Principal data is contained mainly in the plan views of the facility, i.e., the base plan, floor plan, site plan, etc.

This type of data requires strict adherence to layer naming and proper grouping of data. The line work used to depict facility components must always be drawn using the most up-to-date and accurate information available. Line work depicting objects must be placed in the proper standard layer according to the data type being represented. For example, in a floor plan, the walls, doors, windows, and bathroom fixtures must be grouped under separate layers.

### 3.2.3 Supporting Data

Supporting data is made up of sections, details, elevations, schedules, legends, and title blocks, etc.

This type of data requires minimal layering breakdown. Line work in a detail representing different components does not need to be placed in separate layers. For example, a building construction detail can be drawn with foundation wall, frame wall, floor, and roof line work in a single layer, although the dimensions, annotation, and hatching should be separated.

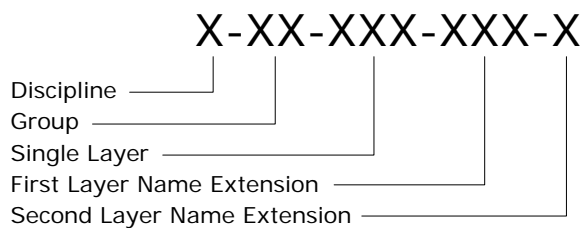
### 3.2.4 Layering Naming Convention

Layering of CADD information must adhere to the layering naming convention described in this section.

The layer is the basic tool for organizing and managing graphic information. Layers are used to sort graphic objects into groupings of related data. PWGSC has developed a modular, alphanumeric layer nomenclature format designed to sort graphic data in a specific manner.

The layer name format consists of five fields separated by hyphens.

- The first three fields—Discipline, Group, and Single Layer—are mandatory.
- The last two fields—First Layer Name Extension and Second Layer Name Extension—are optional fields that allow a more precise data identification where necessary.



[See Annex A – CADD Layers](#) for a list of the most frequently used layer names and their descriptions.

[See Annex B – Layer Field Descriptions](#) for a complete list of the field abbreviations and descriptions for the last four of the five fields of the layer name structure.

Two-field layer names (X-XX) can only be used under special conditions and must have PWGSC approval.

#### **Discipline Field**      **X-XX-XXX**

The Discipline field identifies the discipline responsible for the layer content. Where an object cannot be associated with a specific discipline, or is applicable to all disciplines, the special abbreviation of “G” may be used to indicate “General Information.”

## Discipline Field Abbreviations List:

A	Architecture
B	Bridges and Dams Engineering
C	Civil Engineering, Site Design, and Landscape Architecture
E	Electrical Systems
G	General Information
H	Mechanical
I	Interior Design
L	Legal Surveys
M	Marine
R	Real Property Space Management
S	Building Structure

**Group Field** X-~~XX~~-XXX

The Group field identifies groupings of common types of drawing information relevant to each discipline. The Group abbreviations defined for each discipline are listed in the Standard Layer List in [Annex A – CADD Layers](#). In addition, there are some common Group abbreviations defined for use with all disciplines for supporting graphic data such as sections, details, and others. [Annex B – Layer Field Descriptions](#) contains a complete list of all Group abbreviations and their descriptions.

Examples of common Group field abbreviations:

GL	Global
GR	Grid
PL	Plan
SC	Schedules

**Single Layer Field** X-XX-~~XXX~~

The Single Layer field subdivides the classifications to identify each layer more precisely. Single Layer abbreviations allow information pertaining to Physical Properties, Materials, Graphics, Text and discipline related data such as building systems to be included. The Single Layer abbreviations are listed in the Standard Layer List in [Annex A – CADD Layers](#) and [Annex B – Layer Field Descriptions](#).

**First Layer Name Extension (Optional)** X-XX-XXX-~~XXX~~-X

The First Layer Name Extension, like the Single Layer field, allows information pertaining to Physical Properties, Materials, Graphics, Text and discipline related data to be included. The extensions use the same abbreviations as the Single Layer field. They may be used with any valid layer from the Standard Layer List. They may also be used as a Single Layer field value where appropriate.

Examples of common Single Layer and First Layer Name Extension abbreviations for all disciplines: ([See Annex B - Layer Field Descriptions](#) for a complete list.)

## Physical Properties:

ABV	Above ground, above grade
EME	Emergency
EQP	Equipment
EXT	Exterior
HOR	Horizontal
INT	Interior
NOD	Node, horizontal reference point
OPN	Openings
RET	Return
SUP	Supply
UND	Underground, below grade
VER	Vertical

## Materials:

ASP	Asphalt
BLK	Block
BRK	Brick
CON	Concrete
CRP	Carpet
FIN	Finishes
GRV	Gravel
INS	Insulation
PLA	Plastic
STL	Steel
STO	Stone
TIL	Tile
TIM	Timber

## Graphics:

3DM	3D model components of 2D symbols
CLR	Colours
DIG	Digitized or vectorized from scanned image
HAT	Hatching
LIN	Line work
OLN	Outlines
PRO	Profiles
SPC	Special
SYM	SymbolsTAB Tables
TMP	Temporary

## Texts:

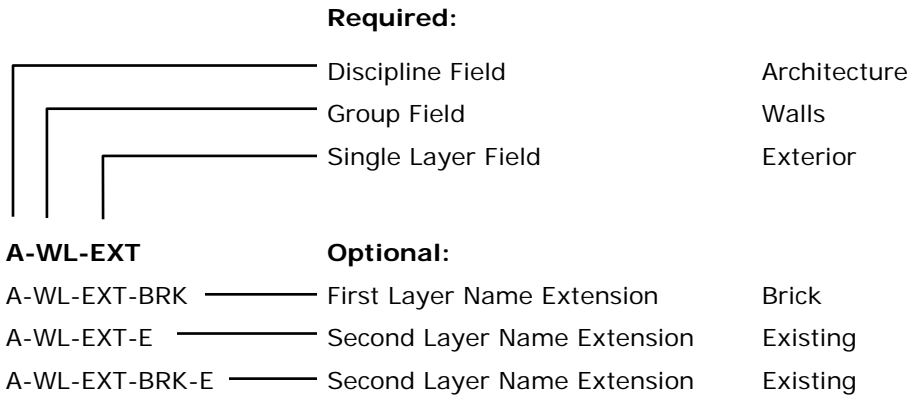
ATT	Attributes
DIM	Dimensions
IDN	Identification numbers or names
SPT	Spot elevations
TXT	Annotation, Text, detail notations, bubbles, graphic scales

**Second Layer Name Extension (Optional) X-XX-XXX-XXX-X**

The Second Layer Name Extension allows information pertaining to Geometry, Construction, Status, Second Language, and Numerical Options to be included. The extensions may be used with any valid layer from the Standard Layer List. [Annex B – Layer Field Descriptions](#) contains a complete list of all Second Layer Name Extension abbreviations and their descriptions.

Valid Layer Name Formats:

Four variants of the layer name format will be accepted, as indicated below:



Free Text Examples:

☞ Add an underscore character at the end of a valid layer name to append free text to the layer name.

- M-SN-SPT\_-1.0**                      Soundings at -1.0 m depth
- M-SN-HWL\_14 January 1990**    High Water Line on a specific date

Existing Floor Plan Examples:

☞ Where plans are specifically titled “New” (or “Existing”), the “N” (or “E”) Second Layer Name Extension modifier indicating the construction status may be omitted, but all disparate construction status extensions must be included.

- A-WL-INT-N**    Architecture - Wall - Interior - New
- A-WL-INT-X**    Architecture - Wall - Interior - Remove
- A-WL-OLN**     Architecture - Wall Outline - Exterior (“Existing” implied)
- A-DR-INT**      Architecture - Door - Interior (“Existing” implied)
- A-DR-INT-N**    Architecture - Door - Interior - New
- A-WD-EXT**     Architecture - Window - Exterior (“Existing” implied)

Symbols Examples:

☞ When a symbol is placed to represent an object, it must be placed in a symbols layer.

- E-SD-SYM**     Electrical - Site Distribution - Symbols (Power poles, luminary, etc.)
- G-GL-SYM**     General - Global - Symbols (Key plans, north arrow, bar scale, etc.)

Detail Examples:

Supporting data such as dimensions, annotation, and hatching should be separated as indicated in the examples below. Colour should be set “Bylayer” for the majority of the entities in a layer and specifically where necessary to obtain varying line weights in that layer.

<b>G-DT-LIN</b>	General - Detail - Line work (Wall, floor and roof line work)
<b>G-DT-TXT</b>	General - Detail - Text (Annotations, title, graphic scale, etc.)
<b>G-DT-DIM</b>	General - Detail - Dimensions
<b>G-DT-HAT</b>	General - Detail - Hatching (Insulation, wood grain, etc.)

Schedule Examples:

<b>A-SC-LIN</b>	Architecture - Schedule - Line work (Schedule grid or Line work)
<b>A-SC-TXT</b>	Architecture - Schedule - Text (Schedule data, annotation)

Plan Views Examples:

Supporting data can also appear on plan views.

<b>H-PL-TXT</b>	Mechanical - Plan - Text (Titles, graphic scale, annotation bubbles)
<b>S-PL-DIM</b>	Structural - Plan -Dimensions

### 3.2.5 Colour Assignment Standard: Layer Colours and Pen Weights

Colour is to be used as a method of defining line weight to the plotter. Layers must be assigned appropriate colours and entities should be created with colour “Bylayer” where possible, except as provided for in the creation of symbols. If a CTB is provided by PWGSC, it must be used.

Suggested Line Weight Settings:**Extra Thin - 0.10 mm**

Hatching

**Thin - 0.15 to 0.25 mm**

Dimension Lines	Centre Line	Intermediate Contour Lines
Leader and Extension	Phantom Lines	Grid Lines

**Medium - 0.30 mm to 0.50 mm**

Hidden Lines	Index Contour Line	Text Normal (0.3 mm)
Text - Sub Headings (0.5 mm)		Visible Object Outlines

**Thick - 0.70 mm**

Cutting Lines	Match Lines	Reference Lines
Section Lines	Text - Titles/Major Headings	Viewing Planes

**Extra Thick - 1.00 mm**

Title Sheet Border



### 3.2.6 Provision for Creation of New Layers

Because the Standard Layer List ([Annex A – CADD Layers](#)) does not cover all possibilities, the layering standard provides for the ability to create new layer names for new objects as required.

As in the preceding example of E-SD-SYM, a quick look in the Standard Layer List under the Electrical Systems section would indicate that this layer name is invalid since it is not on the list. However, it is an acceptable layer name created by adding an existing *First Layer Name Extension* to an existing *Discipline-Group* abbreviation.

The rules for creating new layer names are as follows:

- a) A proper standard layer name for the object must not already exist.
- b) Must follow the standard layer name format.
- c) Must use an existing Discipline abbreviation. (E-SD-SYM)
- d) Must use an existing Group abbreviation. (E-SD-SYM)
- e) Must use an existing three-character Single Layer field abbreviation or First Layer Name Extension. (E-SD-SYM)

## 3.3 Block Standard

AutoCAD® blocks are used to group entities. Graphic blocks shall **not** be exploded. Blocks representing simple objects or simple symbols shall not contain nested blocks (blocks made of blocks). The use of groups is preferable when grouping blocks together, for example, a table with chairs around it. Most symbols should be created with linetype and colour “Byblock.” This allows complete control over the appearance of the symbol. By default a symbol will take on the properties of the layer it is placed on, but it can be changed to suit requirements independent of the layer settings.

There are two different ways of creating and inserting AutoCAD® blocks, depending on their complexity. The basic rules are as follows:

#### 1. Simple blocks with one data type, e.g., toilet fixtures, furniture:

- a) Create the block on layer “0.”
- b) The block must be inserted on the proper layer, e.g., office chair inserted on layer I-FU-SET.

#### 2. Complex graphics requiring the use of multiple data types:

- a) Create each data type on its proper layer.
- b) Colour and linetype must be “Bylayer” or “Byblock” so that these two attributes may be assigned to the symbol regardless of the layer properties the symbol is inserted on, e.g., title blocks created with objects on different layers.

Objects that could be represented by AutoCAD® blocks are categorized as being either symbols or graphics.

### 3.3.1 Graphics


Graphics are AutoCAD® blocks that are dimensionally accurate pictorial representations of real objects. A graphic may be a simplified representation of a building component or assembly such as a desk or chair, but it is accurate with respect to the component’s principal dimensions.

Drawing scale does not affect the insertion of graphics. Graphics may be fixed or variable, and basic rules for their creation and insertion must be followed:

1. Fixed - Not scaled
  - a) Objects must be created full size.
  - b) Graphics must be inserted with 1-by-1 scale in model space.
2. Variable - Scaled to represent different size objects such as doors, round tables, etc.
  - a) Objects must be created inside a 1-by-1 square
  - b) Blocks must be inserted using the actual dimensions of the objects they represent in model space.

### 3.3.2 Symbol (Annotative)

Symbols are AutoCAD® blocks that are pictorial representations of objects not drawn to scale, such as an electrical outlet symbol. Drawing scale affects symbols in the same manner as annotation and therefore must be inserted into a working drawing at a scale factor corresponding to the drawing or plot scale as required.

 Note: It is now possible to create annotative blocks that can scale themselves automatically to any given scale. To avoid confusion, it is strongly recommended to use only one method throughout each project drawing set: the traditional method that lets the user choose the insertion scale, or the Annotative option that automatically manages the insertion scale.

Basic rules for the creation of symbols must be followed:

- a) Symbols should be drawn at actual plotted size and not smaller than 2.5 mm. The Annotative option can also be selected when creating the block.
- b) Symbols should be inserted using the plotted scale if they are inserted in model space, and 1 if they are inserted in paper space (layout), i.e., 50x on a 1:50 floor plan in model space, or 1x on a 1:1 drawing sheet in paper space. If the block was created with the annotative option selected, it will scale itself automatically during the insertion.

### 3.3.3 Block Library

Taking into account the specific needs of each project and the huge diversity, there is no national block library.

- a) If a block library is provided with a project, the consultant/CADD service must use it.
- b) All the blocks should be created respecting the rules described in this block standard.
- c) Use of blocks should be uniform throughout each project drawing set.
- d) If no blocks are provided, the consultant/CADD service must have their block library pre-approved by PWGSC.

### 3.3.4 Block Naming

A good structure for block naming is very important to allow for the creation and management of schedules, inventories, legends, etc. If the consultant/CADD service uses their own block library, they need to use a pertinent naming convention that must be pre-approved by the lead technologist.

## 3.4 Text Style Standard

Text styles for use in drawings must be created using Standard AutoCAD® SHX, the following TTF font files: Arial, Arial Narrow, and StylusBT and any font files specifically provided by PWGSC.

Annotative text styles are allowed.


Text style usage should be uniform throughout each project drawing set and limited to a maximum of four different font files per project that will be determined in collaboration with PWGSC.

The height of text styles must be set to 0 (not fixed) so that it can be changed to suit different scaling requirements.

All French characters should be accented whether upper or lower case.

Private company logos must not contain a special font file.

Paragraphs must be created with MTEXT objects.

 Note: It is now possible to create annotative text styles that can size themselves automatically to any given scale. To avoid confusion, it is strongly recommended to use only one method throughout each project drawing set: traditional text styles or annotative text styles.

### 3.4.1 Text Style Naming

Text style names should reflect the information below:

- Usage
- Font name
- Any other special effects (if required)

Examples:

<b>NOTES_SIMPLEX</b>	Text style with SIMPLEX used for notes
<b>TITLE_ARIAL_WF-1.2</b>	Text style with ARIAL and width factor 1.2 used for titles
<b>SPECIAL_SIMPLEX_OA-20</b>	Text style with SIMPLEX, oblique angle 20 used for special notes
<b>NOTES_ARIAL_ANNO</b>	Text style with ARIAL and Annotative property enabled for notes

### 3.4.2 Text height

**Standard text height for:**

Notes, dimensions, annotations, etc.	2.5 mm
Major headings	4.5 mm, 5.0 mm
Subheadings	3.5 mm.

Text smaller than 2.5 mm can only be used under special conditions and must have PWGSC approval.

## 3.5 Dimension Style / Multileader Style Standard

All dimensioning must be created on entities in model space with associative dimensions.

Annotative dimension styles and Multileader Styles are now allowed. However, as for blocks and text styles, it is strongly recommended to use only one method throughout each drawing set: traditional dimension styles set with different overall scales to suit different printing scales, or annotative dimension styles that are set up automatically based on the drawing scale.

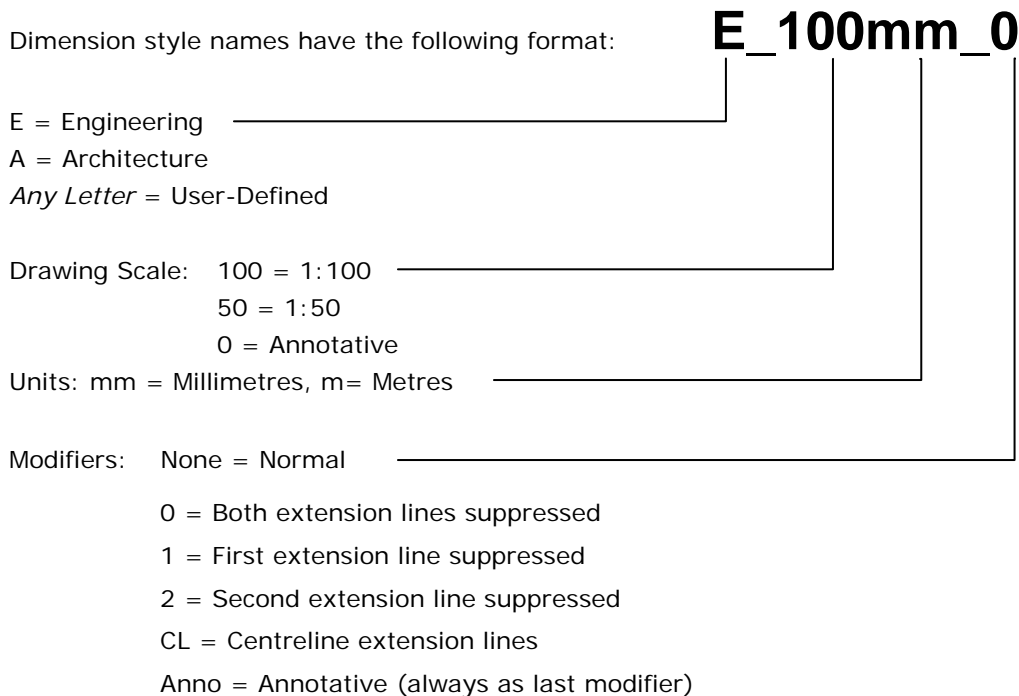
Two formats are used to cover most applications for PWGSC projects:

- a) Engineering with arrowheads for dimension and leader terminators
- b) Architectural with ticks for dimension terminators and arrowheads for leader terminators.

### 3.5.1 Dimension Style Naming

Dimension style usage should be uniform throughout each project drawing set. Using dimension styles reduces the time necessary to create, edit, and maintain dimensions. Dimension styles are created by specifying values for a number of dimension variables and saving the style with a unique name. The dimension style controls the appearance of all the dimensions created while the dimension style is active. Changes to the dimension style will automatically be reflected in the associated dimensions.

Use of Dimension Style Overrides is not allowed and the dimensions must be associative. A new dimension style should be created to work with different properties.



Examples:

- A\_50mm** Normal Architectural dimension for floor plans
- A\_0mm Anno** Architectural dimension with Annotative property enabled
- A\_50mm\_0** Architectural dimension with no extension lines to dimension to grid lines
- E\_1000m** Normal Engineering dimension for site plans with metres as base unit
- A\_50mm\_CL Architectural dimension with centreline extension lines
- E\_100mm\_CL Anno Annotative Engineering dimension with centreline extension lines

### 3.5.2 Multileader Style Naming

Multileader style usage should be uniform throughout each project drawing set.

Multileader style names have the following format:

**E\_100mm\_D1**

E = Engineering

A = Architecture

*Any Letter* = User-Defined

Drawing Scale: 100 = 1:100

50 = 1:50

0 = Annotative

Units: mm = Millimetres, m= Metres

Modifiers: None = Normal Mtext Multileader

D1 = Multileader with Detail Callout Block (D2, D3,etc. for alternate Detail callout Blocks)

S = Multileader with Slot Callout Block

C = Multileader with Circle Callout Block

B = Multileader with Box Callout Block

H = Multileader with Hexagon Callout Block

T = Multileader with Triangle Callout Block

Anno = Annotative

#### Examples:

<b>A_50mm</b>	Normal Mtext Multileader with Architectural font
<b>A_0mm Anno</b>	Annotative Mtext Multileader with Architectural font
<b>E_50mm_D1</b>	Normal Engineering Detail Callout Multileader
<b>E_0mm_C Anno</b>	Annotative Engineering Circle Callout Multileader

### 3.6 Linetype and Hatch Standard

The appearance of linetypes in a drawing is determined by the system variables LTSCALE, PSLTSCALE, MSLTSCALE, and MEASUREMENT.

- The MEASUREMENT variable determines which linetype description file to use for linetype loading:
  - “1” sets the default files to the **metric** unit files **acadiso.lin** and **acadiso.pat**. (See Note 1 below.)
  - “0” sets the default files to the **imperial** unit files **acad.lin** and **acad.pat**. These must not be used. (See Note 2 below.)
- The LTSCALE variable sets the global linetype scale factor.
- The PSLTSCALE controls linetype appearance in paper space.
- The MSLTSCALE controls the linetype appearance in model space in conjunction with the annotative scale (CANNOSCALE system variable in AutoCAD 2008+). When using MSLTSCALE, the variable LTSCALE should be set to between 0.5 and 1.

Note 1: Drawings must not contain linetypes, complex linetypes or hatch patterns other than those respectively defined in the acadiso.lin and acadiso.pat files supplied with the AutoCAD® based Autodesk products or other linetypes supplied by PWGSC.

Note 2: The linetypes and hatch patterns contained respectively in the acad.lin and acad.pat files should not be used because they are drawn to be used with imperial drawings. For consistent linetype appearance and plotting results, the required values for the variables are as follows:

**1. Final Drawings:** Title sheet must be in paper space with multiple, variously scaled VIEWPORTS.

- a) MEASUREMENT = 1
- b) LTSCALE between 0.5 and 1.0 (See Note 3 below.)
- c) PSLTSCALE = 1 (On)

Note 3: The LTSCALE value should be set between 0.5 and 1.0 while printing in paper space depending on the size of the linetypes used in the drawing.

Do not set the linetype scale at the entity level. The Current Object Scale in the Linetype Properties dialog box (system variable CELTSCALE) must be set to 1.0 to ensure that the creation of new entities do not have entity-level linetype scaling.

For consistent hatch pattern plotting and scanning results, gray scale SOLID hatch patterns are not permitted on contract drawings.

## 3.7 Title Blocks and Graphic Scales

### 3.7.1 Title Block Set-up

Completed drawings must adhere to the following composition standard:

- a) Title block sheets must always be inserted in a layout (paper space) at 0,0,0 with scale factor of 1 and rotation angle of 0.
- b) Model space graphics must appear in the layout in correctly scaled VIEWPORTS.
- c) There must be only one (1) title block per layout.
- d) The title block is not to be exploded. Attributes must be used to enter title block information.
- e) No entities outside the title block perimeter.

### 3.7.2 Information in Title Blocks

All project drawings must be compiled on standard sheets and must be in accordance with the PWGSC corporate identity. The lead technologist for each project will coordinate the size of the sheet to be used and provide a standard title block and the content of the title block fields.

Each title block must contain the information below:

- a) Project name
- b) Address
- c) Drawing name, e.g. floor plan, building
- d) Measured or designed by and date
- e) Drawn by and date
- f) Approved by and date
- g) Project manager
- h) PWGSC project number
- i) Tender
- j) Drawing number

- k) Revision chart
- l) Consultant or CADD service identification
- m) North arrow
- n) Site plan (if pertinent)

### 3.7.3 Headings, Titles, and Graphic Scales

To facilitate scaling from reduced or enlarged reproductions, each plan, section, detail, elevation, profile, etc. on a completed drawing sheet shall be accompanied by a graphic scale. The graphic scale shall be located immediately below the pertinent heading on final plot.

### 3.8 Systems of Measurement and Preferred Scales

The International System of Units (S.I.) must be used to prepare all drawings.

The unit for linear dimensioning is the millimetre, except where the scope of the drawing requires the use of the metre, such as in site plans.

Integers shall indicate millimetres, e.g. 435, 4300. Decimal numbers with three decimal places shall indicate metres, e.g. 5.435, 4.300.

All other dimensions and notations should be followed by the unit symbol.

Preferred Viewport Scale:

1:1	1:25	1:500
1:2	1:50	1:1000
1:5	1:100	1:2000
1:10	1:200	1:5000
1:20	1:250	1:10000

## 4.0 Drawing File Naming Conventions

All CADD information submitted must be arranged in a logical format so that it can be easily accessed and modified by the user. This standard provides a framework for the information and will assist in data entry, manipulation, storage, and retrieval at different stages of the design and operation of the facility over its life cycle.



## Annex A – CADD Layers

The Standard Layer List below lists the most-used layer names defined under the PWGSC Layering Standard. New layer names can always be created using the field abbreviations and extensions listed in [Annex B – Layer Field Descriptions](#). The French abbreviations are listed just as a reference and should only be used with drawings annotated in French.

A layer name may include an additional subdivision for grouping subsets of layers that represent building systems or categories of related data. Each subdivision contains a primary layer (underlined) and supplementary layers (in gray) to subdivide the information with greater precision. The use of supplementary layers is optional and depends on a drawing's requirements.

<b>Architecture</b>		
<b>English Abvn</b>	<b>Description</b>	<b>French Abvn</b>
<b>A-CI</b>	<b>Circulation</b>	<b>A-CI</b>
A-CI-CVY	Horizontal conveyors, moving sidewalks	A-CI-HOR
<u>A-CI-ELE</u>	<u>Elevators</u>	<u>A-CI-ELE</u>
A-CI-ELE-BRF	Lift platforms for barrier-free access	A-CI-ELE-ACF
<u>A-CI-RMP</u>	<u>Ramps</u>	<u>A-CI-RAM</u>
A-CI-RMP-BRF	Barrier-free ramps	A-CI-RAM-ACF
<u>A-CI-STR</u>	<u>Stairs, stairwells, and ladders</u>	<u>A-CI-ESC</u>
A-CI-STR-ESC	Escalators	A-CI-ESC-ROU
<b>A-CL</b>	<b>Ceilings</b>	<b>A-PF</b>
A-CL-BKH	Bulkheads	A-PF-GYP
<u>A-CL-FIN</u>	<u>Ceiling finishes</u>	<u>A-PF-FIN</u>
A-CL-FIN-IDN	Ceiling finishes description	A-PF-FIN-NUI
<u>A-CL-GRD</u>	<u>Physical ceiling grid</u>	<u>A-PF-TRA</u>
A-CL-GRD-SCD	Planning grid lines	A-PF-TRA-SCD
A-CL-OPN	Openings, penetrations, skylights	A-PF-OUV
<b>A-DK</b>	<b>Deck</b>	<b>A-TR</b>
A-DK-BAR	Deck railings	A-TR-BAR
A-DK-OLN	Deck outline	A-TR-CON
<b>A-DR</b>	<b>Doors</b>	<b>A-PO</b>
<u>A-DR-EXT</u>	<u>Exterior doors, jambs, casework, swings</u>	<u>A-PO-EXT</u>
A-DR-EXT-IDN	Exterior doors identification numbers	A-PO-EXT-NUI
<u>A-DR-INT</u>	<u>Interior doors, jambs, casework, swings</u>	<u>A-PO-INT</u>
A-DR-INT-IDN	Interior doors identification numbers	A-PO-INT-NUI
A-DR-INT-PRT	Interior doors in a partition wall	A-PO-INT-CLS
<b>A-EM</b>	<b>Emergency</b>	<b>A-UR</b>
<u>A-EM-HAT</u>	<u>General hatching</u>	<u>A-UR-HAC</u>
A-EM-HAT-COR	Corridor hatching	A-UR-HAC-COR
A-EM-HAT-STR	Staircase hatching	A-UR-HAC-ESC
A-EM-HAT-WAL	Wall hatching	A-UR-HAC-MUR
<u>A-EM-OLN</u>	<u>General outline</u>	<u>A-UR-CON</u>
A-EM-OLN-COR	Corridor outline	A-UR-CON-COR
A-EM-OLN-STR	Staircase outline	A-UR-CON-ESC
A-EM-OLN-WAL	Wall outline	A-UR-CON-MUR
A-EM-SYM	Emergency symbols: exit signs, stairs, first aid kit location, etc.	A-UR-SYM
A-EM-TXT	Emergency text	A-UR-TEX
<b>A-FL</b>	<b>Floors</b>	<b>A-PC</b>
<u>A-FL-CTP</u>	<u>Countertops</u>	<u>A-PC-CMP</u>
A-FL-CTP-PRT	Countertops on partitions	A-PC-CMP-CLS
<u>A-FL-FIN</u>	<u>Floor finishes</u>	<u>A-PC-FIN</u>
A-FL-FIN-IDN	Floor finishes description	A-PC-FIN-NUI
A-FL-LEV	Floor level changes, ramps, truck wells	A-PC-NIV
A-FL-MIL	Architectural specialties, casework and millwork	A-PC-EBE
A-FL-OPN	Openings, floor hatching	A-PC-OUV

A-FL-OVH	Overhead items, skylights, overhangs, soffits	<i>A-PC-SUS</i>
A-FL-RAS	Raised floors	<i>A-PC-SUR</i>
<b>A-GL</b>	<b>General</b>	<i>A-GL</i>
A-GL-ATT	Attributes	<i>A-GL-ATT</i>
A-GL-DIM	General architectural dimensions	<i>A-GL-DIM</i>
A-GL-IDN	Identification, elevation points	<i>A-GL-NUI</i>
A-GL-RME	Read Me general drawing info.	<i>A-GL-LIS</i>
A-GL-TMP	Under construction lines, temporary aids	<i>A-GL-TEM</i>
A-GL-TXT	General text (street names)	<i>A-GL-TEX</i>
<b>A-PL</b>	<b>Plan Information</b>	<i>A-PN</i>
A-PL-OLN	Open-to-Below plan information outline	<i>A-PN-CON</i>
<b>A-RF</b>	<b>Roofs</b>	<i>A-TO</i>
A-RF-OLN	Roofs edge and features	<i>A-TO-CON</i>
A-RF-OPN	Roof openings for fans, stacks and ducts	<i>A-TO-OUV</i>
A-RF-OVH	Overhead items, roof above, canopies, soffits	<i>A-TO-SUR</i>
A-RF-WLK	Roof boardwalks, catwalks	<i>A-TO-PAS</i>
<b>A-WD</b>	<b>Windows</b>	<i>A-FN</i>
A-WD-EXT	Exterior window panes and frames	<i>A-FN-EXT</i>
<u>A-WD-INT</u>	<u>Interior window panes and frames, side windows</u>	<i><u>A-FN-INT</u></i>
A-WD-INT-PRT	Interior windows in a partition wall	<i>A-FN-INT-CLS</i>
A-WD-OVH	Overhead windows, skylights	<i>A-FN-SUR</i>
A-WD-SIL	Window sills	<i>A-FN-ALL</i>
<b>A-WL</b>	<b>Non-Structural Walls</b>	<i>A-MU</i>
<u>A-WL-ACC</u>	<u>Architectural or protection elements, guards</u>	<i><u>A-MU-ACC</u></i>
A-WL-ACC-BRF	Barrier-free accessories (grab bars, etc.)	<i>A-MU-ACC-ACF</i>
<u>A-WL-EXT</u>	<u>Exterior walls</u>	<i><u>A-MU-EXT</u></i>
A-WL-EXT-HAT	Exterior walls hatching	<i>A-MU-EXT-HAC</i>
<u>A-WL-FIN</u>	<u>Wall finishes</u>	<i><u>A-MU-FIN</u></i>
A-WL-FIN-IDN	Wall finishes description	<i>A-MU-FIN-NUI</i>
<u>A-WL-HED</u>	<u>Door and window headers</u>	<i><u>A-MU-LIN</u></i>
A-WL-HED-PRT	Door and window headers on partition	<i>A-MU-LIN-CLS</i>
<u>A-WL-INT</u>	<u>Interior walls</u>	<i><u>A-MU-INT</u></i>
A-WL-INT-LOW	Interior walls - low walls	<i>A-MU-INT-BAS</i>
A-WL-INT-LOW-PRT	Interior partitions - low walls	<i>A-MU-INT-BAS-CLS</i>
A-WL-INT-PRT	Interior partition walls	<i>A-MU-INT-CLS</i>
A-WL-OLN	Wall outlines, building footprints, sheds, etc.	<i>A-MU-CON</i>
A-WL-WSR-PRT	Washroom partitions	<i>A-MU-SAT-CLS</i>

## Bridges and Dams Engineering

English Abvn	Description	French Abvn
<b>B-AP Approach Slabs B-DA</b>		
B-AP-PLN	Approach slabs in plan view	B-DA-PLN
<b>B-DK Deck and Components B-TA</b>		
B-DK-BAR	Barriers, railings	B-TA-BAR
B-DK-CRB	Curbs, sidewalks	B-TA-BOR
B-DK-DRN	Deck drains	B-TA-DRA
B-DK-JNT	Expansion joints	B-TA-JOC
B-DK-PLN	Deck plan	B-TA-PLN
B-DK-REB	Deck reinforcing	B-TA-ACR
B-DK-STG	Steel grating	B-TA-GRI
<b>B-GL General B-GL</b>		
B-GL-DIM	Dimensions	B-GL-DIM
B-GL-HAT	Hatching	B-GL-HAC
B-GL-LAY	Layout line work	B-GL-TRI
B-GL-TXT	Text	B-GL-TEX
<b>B-SB Substructure B-SO</b>		
B-SB-ABU	Abutments	B-SO-CUL
B-SB-APR	Approach slabs	B-SO-APR
B-SB-BRG	Bearing	B-SO-POR
B-SB-FTG	Footing	B-SO-SEM
B-SB-LIN	Bearing plan line work	B-SO-TRI
B-SB-PIR	Piers	B-SO-PIL
B-SB-REB	Substructure reinforcing	B-SO-ACR
<b>B-SR Scour Protection B-PA</b>		
B-SR-GAB	Gabions	B-PA-GAB
B-SR-RRP	Riprap	B-PA-PIR
<b>B-SS Superstructure B-SP</b>		
B-SS-BEM	Beams	B-SP-POU
B-SS-BRC	Bracing	B-SP-ENT
B-SS-CTW	Catwalks	B-SP-PAS
B-SS-REB	Superstructure reinforcing	B-SP-ACR
B-SS-SNL	Stringers	B-SP-LON

**Civil Engineering, Site Design and Landscape Architecture**

English Abvtn	Description	French Abvtn
<b>C-BH</b>	<b>Borehole Data (Geotechnical)</b>	<b>C-FO</b>
C-BH-IDN	Borehole identification numbers	C-FO-NUI
C-BH-LOG	Borehole logs and data	C-FO-SCH
C-BH-SMP	Soil sample locations	C-FO-SON
C-BH-SPR	Stratigraphic profiles	C-FO-STR
C-BH-SYM	Symbols	C-FO-SYM
C-BH-WEL	Geotechnical or environmental monitoring wells	C-FO-PUA
<b>C-DI</b>	<b>Diesel Fuel Distribution</b>	<b>C-DI</b>
C-DI-MAN	Diesel fuel manholes	C-DI-PUA
C-DI-MET	Diesel fuel meters	C-DI-CPT
C-DI-PIP	Diesel fuel pipelines	C-DI-PIP
C-DI-VAL	Diesel fuel valves	C-DI-VAN
<b>C-EN</b>	<b>Environment</b>	<b>C-EN</b>
C-EN-CTM	Contamination zone	C-EN-CTM
C-EN-PLM	Plume outline	C-EN-CPA
C-EN-TNK	Holding tank	C-EN-RSV
<b>C-GL</b>	<b>General</b>	<b>C-GL</b>
C-GL-PIC	Inserted pictures	C-GL-IMA
<b>C-HY</b>	<b>Hydrology</b>	<b>C-HY</b>
C-HY-CAT	Catchments area	C-HY-BAV
C-HY-FLO	Flow, discharge	C-HY-ECO
C-HY-ICE	Ice thickness	C-HY-GLA
<b>C-LD</b>	<b>Landscaping</b>	<b>C-AX</b>
C-LD-ANT	Antenna	C-AX-ANT
C-LD-ART	Artwork, special features	C-AX-ART
C-LD-BRD	Foot bridges	C-AX-PAS
C-LD-CON	Concrete features, slabs	C-AX-BET
C-LD-FEN	Fencing	C-AX-CLO
C-LD-FIL	Filling zone	C-AX-REM
C-LD-FLG	Flagpoles	C-AX-MAT
C-LD-FTN	Fountains, pools	C-AX-BSN
C-LD-FUR	Site furnishings, benches, garbage cans, etc.	C-AX-MOB
C-LD-GRA	Grading	C-AX-NVL
<b>C-LD-IRR</b>	<b><u>Irrigation system</u></b>	<b>C-AX-IRR</b>
C-LD-IRR-PIP	Irrigation system piping	C-AX-IRR-TUY
C-LD-IRR-SYM	Irrigation heads, controls, valves	C-AX-IRR-SYM
C-LD-RWL	Retaining walls	C-AX-SOU
C-LD-SPO	Equipment, sports facilities, goal nets, shooting targets, etc.	C-AX-EQU
C-LD-STR	Stairs (not attached to buildings)	C-AX-ESC
C-LD-SWK	Sidewalks	C-AX-TRO
C-LD-TER	Terraces, courtyards, patios (not attached to buildings)	C-AX-TER
C-LD-TOE	Toe of erosion control, armourstone, riprap, berms	C-AX-BRV

C-LD-TOP	Crest of erosion control, armourstone, riprap, berms	<i>C-AX-HRV</i>
C-LD-TRL	Trails, footpaths	<i>C-AX-SEN</i>
C-LD-TUN	Tunnels	<i>C-AX-TUN</i>
C-LD-TXT	Descriptive information text	<i>C-AX-TEX</i>
<b>C-NZ</b>	<b>Natural Gas Distribution</b>	<b><i>C-GN</i></b>
C-NZ-MAN	Natural gas manholes	<i>C-GN-PUA</i>
C-NZ-MET	Natural gas meters	<i>C-GN-CPT</i>
C-NZ-PIP	Natural gas pipelines	<i>C-GN-PIP</i>
C-NZ-VAL	Natural gas valves	<i>C-GN-VAN</i>
<b>C-OI</b>	<b>Oil Distribution</b>	<b><i>C-PE</i></b>
C-OI-MAN	Oil manholes	<i>C-PE-PUA</i>
C-OI-MET	Oil meters	<i>C-PE-CPT</i>
C-OI-PIP	Oil pipelines	<i>C-PE-PIP</i>
C-OI-VAL	Oil valves	<i>C-PE-VAN</i>
<b>C-PG</b>	<b>Propane Gas Distribution</b>	<b><i>C-GP</i></b>
C-PG-MAN	Propane gas manholes	<i>C-GP-PUA</i>
C-PG-MET	Propane gas meters	<i>C-GP-CPT</i>
C-PG-PIP	Propane gas pipelines	<i>C-GP-PIP</i>
C-PG-VAL	Propane gas valves	<i>C-GP-VAN</i>
<b>C-PR</b>	<b>Profile Data</b>	<b><i>C-PR</i></b>
C-PR-HOR	Horizontal profiles	<i>C-PR-HOR</i>
C-PR-VER	Vertical profiles	<i>C-PR-VER</i>
<b>C-RO</b>	<b>Roads</b>	<b><i>C-RO</i></b>
C-RO-ACR	Fire department access routes	<i>C-RO-URG</i>
C-RO-ALI	Alignment	<i>C-RO-TRC</i>
C-RO-ASP	Asphalt road	<i>C-RO-ASP</i>
C-RO-BAR	Barrier	<i>C-RO-BAR</i>
C-RO-BRD	Bridges, overpasses, etc.	<i>C-RO-PON</i>
C-RO-CLI	Road centreline	<i>C-RO-MED</i>
C-RO-CNT	Highway construction staging	<i>C-RO-CNT</i>
C-RO-CRB	Curbs	<i>C-RO-BOR</i>
C-RO-GRL	Guides, guard rails, median dividers, bollards	<i>C-RO-PRT</i>
C-RO-GRV	Gravel road	<i>C-RO-GRV</i>
C-RO-GUT	Gutter lines	<i>C-RO-CAN</i>
C-RO-HWY	Highway plan	<i>C-RO-TRR</i>
C-RO-JER	Jersey barrier	<i>C-RO-JER</i>
C-RO-MRK	Markings and road striping	<i>C-RO-MAC</i>
C-RO-MSH	Mass hauling diagrams	<i>C-RO-SCH</i>
C-RO-RMP	Ramps, on-ramps, loading docks, etc.	<i>C-RO-RAM</i>
<u>C-RO-ROD</u>	<u>Drivable road limits (asphalt) road, lots</u>	<u><i>C-RO-LIM</i></u>
C-RO-ROD-APX	Drivable road limits' approximate location	<i>C-RO-LIM-APX</i>
C-RO-SHO	Shoulders	<i>C-RO-ACT</i>
C-RO-STG	Staging layout plan	<i>C-RO-PHA</i>
C-RO-STR	Bridge abutments, piers, and supports	<i>C-RO-PIL</i>

C-RO-SWK	Sidewalks	<i>C-RO-TRO</i>
C-RO-TRL	Trails, footpaths	<i>C-RO-SEN</i>
C-RO-TUN	Road tunnels, underpasses, etc.	<i>C-RO-TUN</i>
C-RO-TXT	Road description, information text	<i>C-RO-TEX</i>
<b>C-RW</b>	<b>Railways</b>	<b>C-CF</b>
C-RW-ALI	Alignment	<i>C-CF-TRC</i>
C-RW-BRD	Bridges	<i>C-CF-PON</i>
C-RW-CLI	Rail centrelines	<i>C-CF-MED</i>
C-RW-RAI	Railway lines, switches	<i>C-CF-DIA</i>
C-RW-RMP	Ramps	<i>C-CF-RAM</i>
C-RW-STR	Bridge abutments, piers, trestles, and supports	<i>C-CF-PIL</i>
C-RW-TUN	Tunnels	<i>C-CF-TUN</i>
<b>C-SA</b>	<b>Sanitary Sewer</b>	<b>C-ES</b>
C-SA-CAT	Drainage catch areas	<i>C-ES-BAV</i>
C-SA-CLE	Cleanout	<i>C-ES-RNT</i>
C-SA-IND	Industrial sewer	<i>C-ES-IND</i>
C-SA-IOT	Sanitary inlet outlet structure	<i>C-ES-SES</i>
<u>C-SA-MAN</u>	<u>Sewer manholes, catch basins</u>	<i>C-ES-PUA</i>
C-SA-MAN-IDN	Text regarding t/g elevation, inverts elevation, etc.	<i>C-ES-PUA-TEX</i>
C-SA-PMP	Pumping stations	<i>C-ES-PMP</i>
<u>C-SA-SEP</u>	<u>Septic system</u>	<i>C-ES-SEP</i>
C-SA-SEP-FIL	Septic field filling zone	<i>C-ES-SEP-REM</i>
C-SA-SEP-PIP	Septic field piping	<i>C-ES-SEP-TUY</i>
C-SA-SEP-TNK	Septic tank	<i>C-ES-SEP-RSV</i>
<u>C-SA-SEW</u>	<u>Sewer lines system</u>	<i>C-ES-EGO</i>
C-SA-SEW-ABN	Abandoned sanitary sewer lines	<i>C-ES-EGO-ABN</i>
C-SA-SEW-CMB-MLI	Combined main sewer lines	<i>C-ES-EGO-CMB-PRI</i>
C-SA-SEW-CMB-SLI	Combined service sewer lines	<i>C-ES-EGO-CMB-SEV</i>
C-SA-SEW-MLI	Main sanitary sewer lines	<i>C-ES-EGO-PRI</i>
C-SA-SEW-SLI	Sanitary service sewer lines	<i>C-ES-EGO-SEV</i>
<u>C-SA-SYM</u>	<u>Junction symbols</u>	<i>C-ES-SYM</i>
C-SA-SYM-IDN	Text description - type of junction	<i>C-ES-SYM-TEX</i>
C-SA-TMT	Sewage treatment areas	<i>C-ES-TEU</i>
C-SA-TXT	General text: length of sewer, slope, material, etc.	<i>C-ES-TEX</i>
<b>C-SF</b>	<b>Natural Site Features</b>	<b>C-CS</b>
C-SF-DBR	Debris, rubble, loose rock and soil	<i>C-CS-DEB</i>
C-SF-MAR	Marshes, wetlands	<i>C-CS-TEH</i>
C-SF-PIT	Borrow pit	<i>C-CS-BEM</i>
<u>C-SF-RMN</u>	<u>Archaeological remnants</u>	<i>C-CS-VST</i>
C-SF-RMN-ABV	Archaeological remnants above ground	<i>C-CS-VST-AUD</i>
C-SF-RMN-UND	Archaeological remnants underground	<i>C-CS-VST-SOU</i>
<u>C-SF-TRE</u>	<u>Trees, tree lines</u>	<i>C-CS-ARB</i>
C-SF-TRE-TXT	Text describing trees	<i>C-CS-ARB-TEX</i>
C-SF-TXT	Site feature description text	<i>C-CS-TEX</i>
C-SF-WTR	Natural boundaries watercourses, shorelines	<i>C-CS-LBM</i>

<b>C-SI</b>	<b>Signs and Guideposts</b>	<b>C-SI</b>
C-SI-GDP	Guideposts	<i>C-SI-POT</i>
C-SI-SGL	Sign layouts and details	<i>C-SI-DET</i>
C-SI-SGN	Signs	<i>C-SI-ECR</i>
C-SI-TXT	Signage text	<i>C-SI-TEX</i>
<b>C-SV</b>	<b>Survey Control, Non-Legal</b>	<b>C-LV</b>
C-SV-BEN	Local bench marks	<i>C-LV-RNL</i>
C-SV-BND	Non-legal boundaries	<i>C-LV-LIP</i>
C-SV-CHN	Chainage	<i>C-LV-CHI</i>
C-SV-CLN	Radial ties, traverse lines, control lines	<i>C-LV-LCH</i>
<u>C-SV-CPT</u>	<u>Control points</u>	<u><i>C-LV-POA</i></u>
C-SV-CPT-HOR	Horizontal control points	<i>C-LV-POA-HOR</i>
C-SV-CPT-VER	Vertical control points	<i>C-LV-POA-VER</i>
C-SV-GRD	Survey grid	<i>C-LV-QUA</i>
C-SV-HOR	Horizontal alignment	<i>C-LV-HOR</i>
C-SV-LIM	Limits of contract, non-legal	<i>C-LV-LIM</i>
C-SV-LIN	Survey feature connectivity line work	<i>C-LV-TRI</i>
C-SV-MON	Found monuments (non-legal)	<i>C-LV-RAR</i>
<u>C-SV-PAR</u>	<u>Parcel line work (non-legal)</u>	<u><i>C-LV-PAC</i></u>
C-SV-PAR-TXT	Parcel text (non-legal)	<i>C-LV-PAC-TEX</i>
C-SV-SEL	Super elevation	<i>C-LV-SUE</i>
<u>C-SV-SPT</u>	<u>Survey points</u>	<u><b>C-LV-POL</b></u>
C-SV-SPT-PNT	Survey points	<i>C-LV-POL-PTS</i>
C-SV-SPT-ELV	Survey point elevation	<i>C-LV-POL-ELV</i>
C-SV-SPT-NUM	Survey point number text	<i>C-LV-POL-NUI</i>
C-SV-SPT-DES	Survey point description	<i>C-LV-POL-DES</i>
<u>C-SV-STA</u>	<u>Station equation labels</u>	<u><i>C-LV-STA</i></u>
C-SV-STA-IDN	Station labels	<i>C-LV-STA-NUI</i>
C-SV-STA-PNT	Station points	<i>C-LV-STA-PTS</i>
C-SV-STB	Setbacks	<i>C-LV-MAR</i>
C-SV-VER	Vertical alignment	<i>C-LV-VER</i>
<b>C-SW</b>	<b>Storm Water Drainage and Systems</b>	<b>C-EP</b>
C-SW-CAT	Drainage catchments areas	<i>C-EP-BAV</i>
C-SW-CUL	Culverts	<i>C-EP-PON</i>
C-SW-DCL	Ditch centre lines	<i>C-EP-MED</i>
C-SW-IOT	Storm inlet outlet structure	<i>C-EP-SES</i>
<u>C-SW-MAN</u>	<u>Catch basins, manholes</u>	<u><i>C-EP-PUA</i></u>
C-SW-MAN-IDN	Manhole description text: elevation, direction	<i>C-EP-PUA-TEX</i>
C-SW-MNG	Storm water management pond	<i>C-EP-BSN</i>
C-SW-PMP	Pumping stations	<i>C-EP-PMP</i>
<u>C-SW-SEW</u>	<u>Sewer lines system</u>	<u><i>C-EP-EGO</i></u>
C-SW-SEW-ABN	Abandoned storm sewer lines	<i>C-EP-EGO-ABN</i>
C-SW-SEW-MLI	Storm main sewer lines	<i>C-EP-EGO-PRI</i>
C-SW-SEW-SLI	Storm service sewer lines	<i>C-EP-EGO-SEV</i>
C-SW-SUB	Subdrains	<i>C-EP-DRA</i>



<u>C-SW-SYM</u>	<u>Junction symbols</u>	<i>C-EP-SYM</i>
C-SW-SYM-IDN	Junction description text	<i>C-EP-SYM-TEX</i>
C-SW-TXT	Text describing length of sewer, slopes, material	<i>C-EP-TEX</i>
<b>C-TP</b>	<b>Topographical Information</b>	<b>C-TG</b>
C-TP-MAJ	Major contours	<i>C-TG-COP</i>
C-TP-MIN	Minor contours	<i>C-TG-COS</i>
C-TP-SPT	Spot elevation	<i>C-TG-POC</i>
<u>C-TP-SRF</u>	<u>Surface model line work</u>	<i>C-TG-MNT</i>
C-TP-SRF-BRL	Surface model break lines	<i>C-TG-MNT-LCO</i>
C-TP-SRF-TXT	Surface calculation text	<i>C-TG-MNT-TEX</i>
C-TP-TOE	Bank (toe)	<i>C-TG-BRV</i>
C-TP-TOP	Top of bank	<i>C-TG-HRV</i>
<b>C-VG</b>	<b>Vegetation</b>	<b>C-VG</b>
<u>C-VG-FLW</u>	<u>Flowers</u>	<i>C-VG-FLR</i>
C-VG-FLW-ANN	Annual flowers	<i>C-VG-FLR-ANN</i>
C-VG-FLW-PER	Perennial flowers	<i>C-VG-FLR-VIV</i>
<u>C-VG-GCV</u>	<u>Ground cover</u>	<i>C-VG-CVS</i>
C-VG-GCV-DEC	Deciduous ground cover	<i>C-VG-CVS-CDC</i>
C-VG-GCV-EVR	Evergreen ground cover	<i>C-VG-CVS-PST</i>
C-VG-GCV-ORN	Ornamental ground cover	<i>C-VG-CVS-ORN</i>
<u>C-VG-GRS</u>	<u>Grass area</u>	<i>C-VG-PEL</i>
C-VG-GRS-SED	Seeded grass area	<i>C-VG-PEL-ESM</i>
C-VG-GRS-SOD	Sodded grass area	<i>C-VG-PEL-EGZ</i>
<u>C-VG-SRB</u>	<u>Shrubs</u>	<i>C-VG-ABT</i>
C-VG-SRB-DEC	Deciduous shrubs	<i>C-VG-ABT-CDC</i>
C-VG-SRB-EVR	Evergreen shrubs	<i>C-VG-ABT-PST</i>
C-VG-SRB-ORN	Ornamental shrubs	<i>C-VG-ABT-ORN</i>
<u>C-VG-TRE</u>	<u>Trees</u>	<i>C-VG-ARB</i>
C-VG-TRE-DEC	Deciduous trees	<i>C-VG-ARB-CDC</i>
C-VG-TRE-ORN	Flowering trees, fruit trees	<i>C-VG-ARB-ORN</i>
C-VG-VIN	Vines	<i>C-VG-VIG</i>
<b>C-WM</b>	<b>Water and Fire</b>	<b>C-CE</b>
C-WM-FHY	Fire hydrants	<i>C-CE-BOI</i>
C-WM-FRL	Fire lines	<i>C-CE-CAX</i>
<u>C-WM-MAN</u>	<u>Manholes, storage, valves</u>	<i>C-CE-PUA</i>
C-WM-MAN-IDN	Text describing; t/g elevation, t/pipe elevation	<i>C-CE-PUA-TEX</i>
C-WM-PMP	Pumping stations	<i>C-CE-PMP</i>
C-WM-RAW	Raw water lines	<i>C-CE-CEN</i>
<u>C-WM-SYM</u>	<u>Junction symbols</u>	<i>C-CE-SYM</i>
C-WM-SYM-IDN	Text describing type of junction	<i>C-CE-SYM-TEX</i>
C-WM-TXT	Water main descriptive text	<i>C-CE-TEX</i>
C-WM-WEL	Water wells	<i>C-CE-PUE</i>
<u>C-WM-WLI</u>	<u>Water line</u>	<i>C-CE-CED</i>
C-WM-WLI-MLI	Water main	<i>C-CE-CED-PRI</i>
C-WM-WLI-SLI	Water service line	<i>C-CE-CED-SEV</i>

## Electrical Systems

English Abvtn	Description	French Abvtn
<b>E-CK</b>	<b>Clock Systems</b>	<b>E-HO</b>
E-CK-EQP	Clock equipment	E-HO-EQU
E-CK-REC	Clock locations	E-HO-PRS
E-CK-WRG	Wiring	E-HO-CAB
<b>E-DA</b>	<b>Data Systems</b>	<b>E-DN</b>
E-DA-EQP	Data equipment	E-DN-EQU
E-DA-OUT	Data outlets, jacks	E-DN-PRS
E-DA-WRG	Wiring	E-DN-CAB
<b>E-EG</b>	<b>Emergency Generation</b>	<b>E-AS</b>
E-EG-COD	Conduits	E-AS-COD
E-EG-EQP	Emergency power generation equipment	E-AS-EQU
E-EG-GEN	Generators, control switchboards	E-AS-GEN
<b>E-EL</b>	<b>Emergency Lighting</b>	<b>E-EU</b>
E-EL-CLG	Emergency luminaries ceiling-mounted	E-EU-PFD
E-EL-ESG	Exit signs	E-EU-SOS
E-EL-EXT	Emergency outside luminaries attached to buildings, poles	E-EU-EXT
E-EL-WAL	Emergency luminaries wall-mounted	E-EU-MUR
<b>E-EP</b>	<b>Emergency Power Equipment</b>	<b>E-RU</b>
E-EP-CTL	Motors and controls	E-RU-COM
E-EP-DCB	DC battery systems	E-RU-ACU
E-EP-REC	Receptacles	E-RU-PRS
E-EP-TEN	Special tenant systems	E-RU-LOC
E-EP-UPS	UPS and conditioned power	E-RU-ASC
<b>E-EW</b>	<b>Emergency Power Wiring and Cabling</b>	<b>E-CU</b>
E-EW-CBT	Cable trays, ducts, and raceways	E-CU-CCC
E-EW-CLG	Ceiling-mounted wiring	E-CU-PFD
E-EW-CLT	Control wiring for emergency lighting	E-CU-COM
E-EW-EXP	Exposed inside/outside wiring	E-CU-EXT
<u>E-EW-HVD</u>	<u>High voltage wiring</u>	<u>E-CU-HTE</u>
E-EW-HVD-CLG	High voltage in ceiling space	E-CU-HTE-PFD
<u>E-EW-LVD</u>	<u>Low voltage wiring</u>	<u>E-CU-BTE</u>
E-EW-LVD-CLG	Low voltage in ceiling space	E-CU-BTE-PFD
E-EW-LVD-FLR	Low voltage under floor	E-CU-BTE-PCH
E-EW-PAN	Electrical panel for emergency power	E-CU-PAN
E-EW-UPS	Uninterruptible power system (UPS)	E-CU-ASC
<b>E-FR</b>	<b>Electrical Fire Protection</b>	<b>E-AI</b>
E-FR-ELD	Electromagnetic locking devices	E-AI-DVE
E-FR-EQP	Equipment: master fire warning panel, alarm, annunciator panels	E-AI-EQU
E-FR-SIG	Signalling devices	E-AI-SIG
E-FR-SYM	Electrical FP symbols: pull stations, heat, smoke detectors	E-AI-DDA
<u>E-FR-VCE</u>	<u>Emergency voice communication</u>	<u>E-AI-CVU</u>
E-FR-VCE-WRG	Emergency voice communication wiring	E-AI-CVU-CAB

<b>E-FW</b>	<b>Flat Wiring</b>	<b>E-CP</b>
E-FW-CBL	Flat wiring cable location	E-CP-CAB
E-FW-CNB	Flat wiring connection boxes	E-CP-BOJ
<b>E-GD</b>	<b>Grounding</b>	<b>E-MT</b>
E-GC-EQP	Equipment and devices (rods, bus plates)	E-MT-EQU
E-GD-WRG	Wiring	E-MT-CAB
<b>E-LP</b>	<b>Lightning Protection</b>	<b>E-PT</b>
E-LP-EQP	Equipment and devices	E-PT-EQU
E-LP-WRG	Wiring	E-PT-CAB
<b>E-NG</b>	<b>Normal Power Generation</b>	<b>E-AN</b>
E-NG-COD	Conduits	E-AN-COD
E-NG-EQP	Normal power generation equipment	E-AN-EQU
E-NG-GEN	Generators, control switchboard	E-AN-GEN
<b>E-NL</b>	<b>Normal Lighting</b>	<b>E-EN</b>
E-NL-CLG	Luminaries ceiling-mounted	E-EN-PFD
E-NL-CTL	Lighting controls	E-EN-COM
E-NL-EXT	Outside luminaries attached to buildings, poles	E-EN-EXT
E-NL-WAL	Luminaries in workspace and wall-mounted	E-EN-MUR
<b>E-NP</b>	<b>Normal Power Equipment</b>	<b>E-RN</b>
E-NP-CTL	Motors and controls	E-RN-COM
E-NP-EQP	Normal power equipment: ceiling fans, etc.	E-RN-EQU
E-NP-HVD	High voltage distribution	E-RN-HTE
E-NP-LVD	Low voltage distribution	E-RN-BTE
E-NP-MEC	Electrical connections to mechanical equipment	E-RN-MEC
E-NP-OUT	Outlets, receptacles	E-RN-PRS
E-NP-PAN	Electrical panels	E-RN-PAN
E-NP-RAD	Radiant heating panels	E-RN-RAY
E-NP-TEN	Special tenant systems	E-RN-LOC
<b>E-NW</b>	<b>Normal Power Wiring and Cabling</b>	<b>E-CN</b>
E-NW-CBT	Cable trays, ducts, and raceways	E-CN-CCC
E-NW-CTL	Control wiring lighting	E-CN-COM
E-NW-EXP	Exposed inside/outside wiring	E-CN-EXT
<b>E-NW-HVD</b>	<b>High voltage wiring</b>	<b>E-CN-HTE</b>
E-NW-HVD-CLG	High voltage wiring in ceiling space	E-CN-HTE-PFD
<b>E-NW-LVD</b>	<b>Low voltage wiring</b>	<b>E-CN-BTE</b>
E-NW-LVD-CLG	Low voltage wiring in ceiling space	E-CN-BTE-PFD
E-NW-LVD-FLR	Low voltage under floor	E-CN-BTE-PCH
E-NW-LVD-WOR	Low voltage in workspace	E-CN-BTE-PTV
E-NW-PST	Power poles with receptacles	E-CN-COL
E-NW-TEN	Tenant systems in workspace	E-CN-LOC
E-NW-UPS	Ups and conditioned power	E-CN-ASC
<b>E-PA</b>	<b>Sound and PA Systems</b>	<b>E-SV</b>
E-PA-EME	Emergency	E-SV-URG
E-PA-EQP	Sound equipment, speakers	E-SV-EQU

E-PA-OUT	Outlets	<i>E-SV-PRS</i>
E-PA-SYM	Symbols	<i>E-SV-SYM</i>
E-PA-WRG	Wiring	<i>E-SV-CAB</i>
<b>E-PH</b>	<b>Telephone Systems</b>	<b><i>E-TE</i></b>
E-PH-EQP	Equipment	<i>E-TE-EQU</i>
E-PH-OUT	Outlets	<i>E-TE-PRS</i>
E-PH-PAN	Telephone panel	<i>E-TE-PAN</i>
E-PH-WRG	Wiring	<i>E-TE-CAB</i>
<b>E-SD</b>	<b>Site Distribution and Electrical Equipment</b>	<b><i>E-DS</i></b>
E-SD-COD	Conduits	<i>E-DS-COD</i>
E-SD-DUC	Concrete ducts	<i>E-DS-CBE</i>
E-SD-EQP	Site distribution equipment: transformers, pedestals	<i>E-DS-EQU</i>
<b><u>E-SD-HVD</u></b>	<b><u>High voltage distribution</u></b>	<b><i>E-DS-HTE</i></b>
E-SD-HVD-ABV	High voltage distribution - above grade	<i>E-DS-HTE-AER</i>
E-SD-HVD-UND	High voltage distribution - below grade	<i>E-DS-HTE-SOU</i>
<b><u>E-SD-LTG</u></b>	<b><u>Lighting and wiring</u></b>	<b><i>E-DS-ECL</i></b>
E-SD-LTG-ABV	Lighting and wiring - above grade	<i>E-DS-ECL-AER</i>
E-SD-LTG-UND	Lighting and wiring - below grade	<i>E-DS-ECL-SOU</i>
<b><u>E-SD-LVD</u></b>	<b><u>Low voltage distribution</u></b>	<b><i>E-DS-BTE</i></b>
E-SD-LVD-ABV	Low voltage distribution - above grade	<i>E-DS-BTE-AER</i>
E-SD-LVD-UND	Low voltage distribution - below grade	<i>E-DS-BTE-SOU</i>
<b><u>E-SD-MAN</u></b>	<b><u>Manhole, handwells, junction box, pull pit ground inspection box</u></b>	<b><i>E-DS-PUA</i></b>
E-SD-MAN-IDN	Text describing; t/g elevation, line elevation	<i>E-DS-PUA-IDN</i>
E-SD-MUN	Municipal and utility services	<i>E-DS-MUN</i>
E-SD-POL	Poles and towers (electrical, communication)	<i>E-DS-POT</i>
E-SD-SUB	Substations	<i>E-DS-SST</i>
<b><u>E-SD-TEL</u></b>	<b><u>Telephone lines</u></b>	<b><i>E-DS-TEL</i></b>
E-SD-TEL-ABV	Telephone lines - above grade	<i>E-DS-TEL-AER</i>
E-SD-TEL-UND	Telephone lines - below grade	<i>E-DS-TEL-SOU</i>
E-SD-TXT	Text describing type of distribution system	<i>E-DS-TEX</i>
<b><u>E-SD-VID</u></b>	<b><u>Video lines</u></b>	<b><i>E-DS-VID</i></b>
E-SD-VID-ABV	Video lines – above grade	<i>E-DS-VID-AER</i>
E-SD-VID-UND	Video lines – below grade	<i>E-DS-VID-SOU</i>
<b>E-SE</b>	<b>Security Systems</b>	<b><i>E-SS</i></b>
E-SE-ALM	Intrusion alarms	<i>E-SS-SAA</i>
E-SE-CTL	Intrusion controls and controllers	<i>E-SS-COM</i>
E-SE-ELK	Electrical security locks	<i>E-SS-VEE</i>
E-SE-LAN	Intrusion system LAN	<i>E-SS-REL</i>
E-SE-SEN	Motion sensors	<i>E-SS-DEI</i>
E-SE-VCL	Video controllers (digital)	<i>E-SS-CMV</i>
E-SE-VCM	Video cameras and monitors	<i>E-SS-EQU</i>
E-SE-WRG	Intrusion controller wiring	<i>E-SS-CAB</i>
<b>E-SG</b>	<b>Signal Systems</b>	<b><i>E-SI</i></b>
E-SG-EQP	Equipment	<i>E-SI-EQU</i>

E-SG-OUT	Outlets	<i>E-SI-PRS</i>
E-SG-WRG	Wiring	<i>E-SI-CAB</i>
<b>E-SM</b>	<b>Electrical Schematics</b>	<b><i>E-SM</i></b>
E-SM-CLK	Clock system schematics	<i>E-SM-HOL</i>
E-SM-DAS	Data systems schematics	<i>E-SM-DAT</i>
E-SM-EFP	Electrical fire protection schematics	<i>E-SM-ALI</i>
<u>E-SM-EPR</u>	<u>Emergency distribution schematics</u>	<u><i>E-SM-ALU</i></u>
E-SM-EPR-EQP	Emergency power equipment	<i>E-SM-ALU-EQU</i>
E-SM-EPR-GEN	Emergency generation schematics, generators	<i>E-SM-ALU-GEN</i>
E-SM-EPR-LTG	Emergency lighting schematics	<i>E-SM-ALU-ECL</i>
E-SM-EPR-MMS	MMS tag numbers for emergency distribution	<i>E-SM-ALU-SGE</i>
E-SM-EPR-TXT	Text for emergency distribution	<i>E-SM-ALU-TEX</i>
E-SM-EPR-WRG	Emergency wiring schematics	<i>E-SM-ALU-CAB</i>
E-SM-GND	Grounding schematics	<i>E-SM-MIT</i>
E-SM-HVD	High voltage (>750v) emergency distribution	<i>E-SM-HTE</i>
E-SM-HVD-MMS	MMS tag numbers for high voltage distribution	<i>E-SM-HTE-SGE</i>
E-SM-KRK	Kirk key interlocks	<i>E-SM-KRK</i>
E-SM-LAN	Local area network schematics	<i>E-SM-REL</i>
E-SM-LTP	Lightning protection schematics	<i>E-SM-PRF</i>
E-SM-LVD	Low voltage emergency distribution	<i>E-SM-BTE</i>
E-SM-MMS	Maintenance management system (MMS) tag numbers	<i>E-SM-SGE</i>
<u>E-SM-MTR</u>	<u>Metering</u>	<u><i>E-SM-CPT</i></u>
E-SM-MTR-EQP	Metering equipment, switch board	<i>E-SM-CPT-EQU</i>
E-SM-MTR-TXT	Metering text	<i>E-SM-CPT-TEX</i>
E-SM-MTR-WRG	Metering wiring	<i>E-SM-CPT-CAB</i>
<u>E-SM-NPR</u>	<u>Normal power distribution schematics</u>	<u><i>E-SM-ANV</i></u>
E-SM-NPR-EQP	Normal power distribution equipment	<i>E-SM-ANV-EQU</i>
E-SM-NPR-LTG	Normal lighting schematics	<i>E-SM-ANV-ECL</i>
E-SM-NPR-MMS	MMS tag numbers for normal power distribution	<i>E-SM-ANV-SGE</i>
E-SM-NPR-TXT	Text for normal power distribution	<i>E-SM-ANV-TEX</i>
E-SM-NPR-WRG	Normal power wiring	<i>E-SM-ANV-CAB</i>
E-SM-PAS	Public address system schematics	<i>E-SM-COV</i>
E-SM-SGN	Signal schematic	<i>E-SM-SGN</i>
E-SM-TEL	Telephone schematics	<i>E-SM-TEL</i>
E-SM-UPS	Uninterruptible power system (UPS)	<i>E-SM-ASC</i>
E-SM-VID	Video system schematics	<i>E-SM-VID</i>
<b>E-SY</b>	<b>Electricity on System Furniture</b>	<b><i>E-EA</i></b>
E-SY-LAN	LAN network jack	<i>E-EA-REL</i>
E-SY-LTG	Normal powered lighting	<i>E-EA-ECL</i>
E-SY-OUT	Electrical outlet	<i>E-EA-PRS</i>
E-SY-PST	Electrical posts on system furniture	<i>E-EA-COL</i>
E-SY-TEL	Telephone outlet	<i>E-EA-TEL</i>
<b>E-VD</b>	<b>Video Conferencing Systems</b>	<b><i>E-VD</i></b>
E-VD-EQP	Equipment	<i>E-VD-EQU</i>
E-VD-OUT	Outlets	<i>E-VD-PRS</i>
E-VD-WRG	Wiring	<i>E-VD-CAB</i>

## General Information

English Abvn	Description	French Abvn
<b>G-DT</b>	<b>Details</b>	<b>G-DT</b>
G-DT-DIM	Detail, section, elevation dimensions	<i>G-DT-DIM</i>
G-DT-HAT	Detail, section, elevation hatching	<i>G-DT-HAC</i>
G-DT-LIN	Detail, section, elevation linework	<i>G-DT-TRI</i>
G-DT-TXT	Detail, section, elevation annotation, text	<i>G-DT-TEX</i>
<b>G-GL</b>	<b>General</b>	<b>G-GL</b>
G-GL-SYM	Symbols, key plan, north arrow, bar scale	<i>G-GL-SYM</i>
<u>G-GL-TXT</u>	<u>Text, Callout blocks</u>	<u><i>G-GL-TEX</i></u>
G-GL-TXT-E	English text	<i>G-GL-TEX-A</i>
G-GL-TXT-F	French text	<i>G-GL-TEX-F</i>
G-GL-XRE	External reference	<i>G-GL-XRE</i>
<b>G-LG</b>	<b>Legend</b>	<b>G-LE</b>
G-LG-LIN	Symbol legend line work	<i>G-LE-TRI</i>
G-LG-TXT	Symbol legend text	<i>G-LE-TEX</i>
<b>G-TL</b>	<b>Title Block</b>	<b>G-CT</b>
G-TL-ATT	Attributes for title block	<i>G-CT-ATT</i>
G-TL-CRT	Stamps, Certificates	<i>G-CT-CRF</i>
G-TL-LGO	Logos	<i>G-CT-LOG</i>
G-TL-LIN	Line work for title block	<i>G-CT-TRI</i>
G-TL-RME	Title block read me layer	<i>G-CT-LIS</i>
G-TL-TBK	Title block insertion Layer	<i>G-CT-CAR</i>
G-TL-TXT	Text for title block	<i>G-CT-TEX</i>
G-TL-VPT	Viewport boundaries	<i>G-CT-MET</i>

<b>Mechanical</b>		
English Abv'n	Description	French Abv'n
<b>H-CS</b>	<b>Control Systems</b>	<b>H-SR</b>
H-CS-AIR	Control air piping	H-SR-AIR
H-CS-EQP	Control systems equipment	H-SR-EQU
H-CS-SYM	Control system symbols: thermostats, humidistat, sensors, etc.	H-SR-SYM
H-CS-TXT	Control system text	H-SR-TEX
H-CS-WRG	Control wiring	H-SR-CAB
<b>H-DW</b>	<b>Domestic Water</b>	<b>H-ED</b>
H-DW-CLD	Domestic cold water	H-ED-EFR
H-DW-EQP	Domestic water equipment: pumps, water softeners, filters, etc.	H-ED-EQU
<u>H-DW-FIX</u>	<u>Plumbing fixtures</u>	<u>H-ED-APP</u>
H-DW-FIX-PRT	Plumbing fixtures on partitions	H-ED-APP-CLS
<u>H-DW-HOT</u>	<u>Domestic hot water</u>	<u>H-ED-ECD</u>
H-DW-HOT-RCL	Domestic hot water recirculation	H-ED-ECD-REC
H-DW-HOT-TNK	Domestic hot water tanks	H-ED-ECD-RSV
H-DW-ROW	Reverse osmosis water (medical)	H-ED-EOI
<b>H-FP</b>	<b>Fire Protection</b>	<b>H-PI</b>
<u>H-FP-CEX</u>	<u>Chemical extinguishing system</u>	<u>H-PI-EXC</u>
H-FP-CEX-EQP	Chemical extinguishing equipment	H-PI-EXC-EQU
H-FP-CEX-PIP	Chemical extinguishing piping	H-PI-EXC-TUY
H-FP-EPE	Explosion-proof equipment	H-PI-EQA
H-FP-EQP	Fire protection equipment: fire hose cabinet, fire dampers, etc.	H-PI-EQU
<u>H-FP-FEX</u>	<u>Foamed extinguishing system</u>	<u>H-PI-EXM</u>
H-FP-FEX-EQP	Foamed extinguishing equipment	H-PI-EXM-EQU
H-FP-FEX-PIP	Foamed extinguishing piping	H-PI-EXM-TUY
<u>H-FP-SPK</u>	<u>Sprinkler system</u>	<u>H-PI-GIC</u>
H-FP-SPK-EQP	Sprinkler equipment	H-PI-GIC-EQU
H-FP-SPK-PIP	Sprinkler piping	H-PI-GIC-TUY
H-FP-SPK-SYM	Sprinkler system symbols: sprinkler heads, backflow preventer, etc.	H-PI-GIC-SYM
H-FP-SPK-TXT	Sprinkler system text	H-PI-GIC-TEX
H-FP-SPK-ZNS	Sprinkler system zones	H-PI-GIC-ZON
<u>H-FP-STP</u>	<u>Standpipe system</u>	<u>H-PI-CMG</u>
H-FP-STP-EQP	Standpipe equipment	H-PI-CMG-EQU
H-FP-STP-PIP	Standpipe piping	H-PI-CMG-TUY
H-FP-SYM	Fire protection symbols: fire extinguisher, hydrants Siamese connections, etc.	H-PI-SYM
H-FP-TXT	Fire protection text	H-PI-TEX
<b>H-HC</b>	<b>Heating and Cooling</b>	<b>H-CH</b>
<u>H-HC-CHL</u>	<u>Chilled water</u>	<u>H-CH-ERF</u>
H-HC-CHL-RET	Chilled water return	H-CH-ERF-RET
H-HC-CHL-SUP	Chilled water supply	H-CH-ERF-ALM
H-HC-CNV	Convectors	H-CH-CNV
<u>H-HC-COT</u>	<u>Cooling tower water</u>	<u>H-CH-TRF</u>
H-HC-COT-RET	Cooling tower water return	H-CH-TRF-RET
H-HC-COT-SUP	Cooling tower water supply	H-CH-TRF-ALM

<b>H-HC-GLY</b>	<b><u>Glycol</u></b>	<i>H-CH-GLY</i>
H-HC-GLY-RET	Glycol return	<i>H-CH-GLY-RET</i>
H-HC-GLY-SUP	Glycol supply	<i>H-CH-GLY-ALM</i>
<b>H-HC-HWA</b>	<b><u>Heating water</u></b>	<i>H-CH-ECF</i>
H-HC-HWA-RET	Heating water return	<i>H-CH-ECF-RET</i>
H-HC-HWA-SUP	Heating water supply	<i>H-CH-ECF-ALM</i>
H-HC-HYD	Hydronic equipment	<i>H-CH-HYD</i>
H-HC-RAD	Radiant heat tubing	<i>H-CH-RAY</i>
H-HC-REF-EQP	Refrigerant equipment	<i>H-CH-FRI-EQU</i>
H-HC-RFG	Refrigerant gas	<i>H-CH-GAF</i>
H-HC-RFL	Refrigerant liquid	<i>H-CH-FLF</i>
<b>H-HC-STM</b>	<b><u>Steam</u></b>	<i>H-CH-VAP</i>
H-HC-STM-EQP	Steam equipment	<i>H-CH-VAP-EQU</i>
H-HC-STM-RET	Steam condensate (return)	<i>H-CH-VAP-RET</i>
H-HC-STM-SUP	Steam supply	<i>H-CH-VAP-ALM</i>
<b>H-PB</b>	<b>Plumbing</b>	<b>H-PB</b>
<b>H-PB-CMA</b>	<b><u>Compressed air</u></b>	<i>H-PB-AIC</i>
H-PB-CMA-EQP	Compressed air equipment	<i>H-PB-AIC-EQU</i>
H-PB-CO2	Carbon dioxide gas	<i>H-PB-CO2</i>
<b>H-PB-DWV</b>	<b><u>Drainage waste and vent system</u></b>	<i>H-PB-REV</i>
H-PB-DWV-SYM	Symbols: roof drains, floor drains, etc.	<i>H-PB-REV-SYM</i>
H-PB-DWV-VEN	Ventilating circuit, vents	<i>H-PB-REV-EVE</i>
H-PB-DWV-WST	Drainage circuit	<i>H-PB-REV-EEU</i>
H-PB-EQP	Plumbing equipment: pumps, coils motors, grease interceptor, etc.	<i>H-PB-EQU</i>
<b>H-PB-FOI</b>	<b><u>Fuel oil</u></b>	<i>H-PB-MAZ</i>
H-PB-FOI-EQP	Fuel equipment	<i>H-PB-MAZ-EQU</i>
H-PB-FOI-RET	Fuel oil return	<i>H-PB-MAZ-RET</i>
H-PB-FOI-SUP	Fuel oil supply	<i>H-PB-MAZ-ALM</i>
H-PB-FOI-VEN	Fuel oil vent	<i>H-PB-MAZ-EVE</i>
H-PB-HEG	Helium gas	<i>H-PB-HEL</i>
H-PB-HYG	Hydrogen gas	<i>H-PB-HYG</i>
H-PB-MAN	Access holes	<i>H-PB-PUA</i>
H-PB-MEG	Methane gas	<i>H-PB-MTH</i>
H-PB-NGA	Natural gas	<i>H-PB-GAN</i>
H-PB-NIT	Nitrogen gas	<i>H-PB-AZO</i>
H-PB-OXY	Oxygen gas	<i>H-PB-OXY</i>
H-PB-PGA	Propane gas	<i>H-PB-GAP</i>
H-PB-SYM	Plumbing symbols: gauges, fittings, valves elbows, unions, reducer	<i>H-PB-SYM</i>
H-PB-VAC	Cleaning system, vacuum	<i>H-PB-NET</i>
<b>H-PP</b>	<b>Fuel and Process Piping</b>	<b>H-TC</b>
H-PP-MAN	Manholes fuelling stations	<i>H-TC-PUA</i>
H-PP-MET	Meters	<i>H-TC-CPT</i>
H-PP-PIP	Fuel and process piping	<i>H-TC-TUY</i>
H-PP-PMP	Pumping stations	<i>H-TC-PMP</i>



H-PP-TNK	Fuel tanks	<i>H-TC-RSV</i>
H-PP-VAL	Valves	<i>H-TC-VAN</i>
<b>H-SM</b>	<b>Mechanical Schematics and Riser Diagrams</b>	<b><i>H-SM</i></b>
H-SM-CTL	Control system schematics	<i>H-SM-COM</i>
H-SM-DRS	Duct riser diagrams	<i>H-SM-CMC</i>
H-SM-DUC	Duct schematic diagrams	<i>H-SM-COD</i>
H-SM-PIP	Piping schematic diagrams	<i>H-SM-TUY</i>
H-SM-PRS	Piping riser diagrams	<i>H-SM-CMT</i>
H-SM-SYM	Symbols	<i>H-SM-SYM</i>
H-SM-WST	Waste schematics	<i>H-SM-EEU</i>
<b>H-VA</b>	<b>Ventilation and Air Conditioning</b>	<b><i>H-VC</i></b>
H-VA-COA	Combustion air ductwork	<i>H-VC-ACO</i>
H-VA-EQP	Equipment: fans, dampers, coils, filters, etc.	<i>H-VC-EQU</i>
<u>H-VA-EXH</u>	<u>Exhaust air system</u>	<u><i>H-VC-AEV</i></u>
H-VA-EXH-DUC	Exhaust air ductwork	<i>H-VC-AEV-COD</i>
H-VA-EXH-GRI	Exhaust grilles	<i>H-VC-AEV-GRI</i>
H-VA-INS	Duct insulation, acoustical lining	<i>H-VC-ISO</i>
<u>H-VA-OTA</u>	<u>Outside air system</u>	<u><i>H-VC-AEX</i></u>
H-VA-OTA-DUC	Outside air ductwork	<i>H-VC-AEX-COD</i>
H-VA-OTA-GRI	Outside air grilles	<i>H-VC-AEX-GRI</i>
<u>H-VA-RET</u>	<u>Return system</u>	<u><i>H-VC-REP</i></u>
H-VA-RET-DUC	Return ductwork	<i>H-VC-REP-COD</i>
H-VA-RET-GRI	Return grills	<i>H-VC-REP-GRI</i>
<u>H-VA-SUP</u>	<u>Supply system</u>	<u><i>H-VC-AMA</i></u>
H-VA-SUP-DIF	Supply diffusers	<i>H-VC-AMA-DIF</i>
H-VA-SUP-DUC	Supply ductwork	<i>H-VC-AMA-COD</i>
H-VA-VAV	Variable air volume boxes	<i>H-VC-DAV</i>
H-VA-VEN	Flue, vent, breaching	<i>H-VC-EVE</i>

## Interior Design

English Abvn	Description	French Abvn
<b>I-BP</b>	<b>Blocking Plan</b>	<b>I-BE</b>
I-BP-DIM	Dimensions	I-BE-DIM
I-BP-OLN	Sector outlines	I-BE-CON
I-BP-TXT	Text, notes	I-BE-TEX
<b>I-EI</b>	<b>Employee Information</b>	<b>I-EM</b>
I-EI-IDN	Employee identification	I-EM-NUI
<b>I-EQ</b>	<b>Equipment</b>	<b>I-EQ</b>
I-EQ-CMP	Computers	I-EQ-ORD
I-EQ-OEQ	Office equipment	I-EQ-EXI
I-EQ-SPC	Special equipment	I-EQ-SPE
<b>I-FU</b>	<b>Furniture</b>	<b>I-MO</b>
I-FU-ACC	Accessories, coat trees, racks	I-MO-ACC
I-FU-ART	Artwork	I-MO-ART
I-FU-CAB	Storage cabinets, files	I-MO-RAG
I-FU-CLR	Furniture colour	I-MO-COU
I-FU-DSK	Desks, freestanding work surfaces	I-MO-SUT
I-FU-NOF	Non-office furniture, first aid room beds, etc.	I-MO-APE
I-FU-PLT	Plants	I-MO-PLT
I-FU-SET	Seating	I-MO-SIE
I-FU-SHL	Shelving	I-MO-ETA
I-FU-TAB	Tables	I-MO-TAB
I-FU-TXT	Annotations, text furniture	I-MO-TEX
I-FU-SIZ	Furniture size	I-MO-DIM
<b>I-SI</b>	<b>Signage</b>	<b>I-SI</b>
I-SI-EQP	Barrier-free signs	I-SI-ACF
I-SI-OFF	Office signage	I-SI-BUR
I-SI-SPC	Special signage	I-SI-SPE
<b>I-SY</b>	<b>System Furniture</b>	<b>I-EA</b>
I-SY-CLR	Panel colour	I-EA-COU
I-SY-OVH	Panel overhead storage, etc.	I-EA-SUR
I-SY-SCR	Panels, screens	I-EA-ECA
I-SY-SIZ	Panel sizes	I-EA-DIM
I-SY-SUR	Work surfaces for system furniture	I-EA-SUT

## Legal Surveys

English Abv'n	Description	French Abv'n
<b>L-AZ</b>	<b>Airport Zoning</b>	<b>L-ZA</b>
L-AZ-ZNS	Zoning surfaces, runway strips, centrelines	L-ZA-ZON
<b>L-CF</b>	<b>Cadastral Fabric</b>	<b>L-CD</b>
L-CF-BDY	Legal surveyed boundary	L-CD-LIF
L-CF-DIM	Parcel segment labelling, bearings, and distance	L-CD-DIM
L-CF-EAS	Limited interest estate, easement, right of way	L-CD-DRO
L-CF-OTH	Other parcels/boundaries	L-CD-AUT
L-CF-STB	Setbacks	L-CD-MAR
L-CF-SYM	Symbols: coordinate monument, control point	L-CD-SYM
L-CF-TXT	Parcel labelling, description, property ID, book number, etc.	L-CD-TEX
<b>L-GL</b>	<b>General</b>	<b>L-GL</b>
L-GL-TXT	General text	L-GL-TEX
<b>L-SP</b>	<b>Legal Site Plan</b>	<b>L-PS</b>
L-SP-CAN	Canadian boundaries	L-PS-FCN
L-SP-CLS	CLSR boundaries, reserves, parks	L-PS-RTC
L-SP-PRO	Provincial boundaries	L-PS-PRV
L-SP-REG	Regional and municipality boundaries	L-PS-MUN
<b>L-SV</b>	<b>Legal Survey</b>	<b>L-LV</b>
L-SV-CLN	Radial ties, traverse lines, control lines	L-LV-LCH
L-SV-GRD	Survey grid	L-LV-QUA
<u>L-SV-SPT</u>	<u>Survey points</u>	<u>L-LV-POL</u>
L-SV-SPT-DES	Survey point description	L-LV-POL-DES
L-SV-SPT-ELV	Survey point elevation	L-LV-POL-ELV
L-SV-SPT-NUM	Survey point number text	L-LV-POL-NUI
L-SV-SPT-PNT	Survey points	L-LV-POL-PTS
L-SV-SYM	Symbols: survey pins, iron bars, etc.	L-LV-SYM
L-SV-TXT	Identification text	L-LV-TEX

**Marine**

English Abvtn	Description	French Abvtn
<b>M-BW</b>	<b>Breakwater Features</b>	<b>M-BL</b>
M-BW-OLN	Breakwater outline	M-BL-CON
M-BW-TOE	Toe of breakwater	M-BL-BRV
M-BW-TOP	Crest of breakwater, berms	M-BL-HRV
<b>M-GL</b>	<b>General</b>	<b>M-GL</b>
M-GL-DIM	Dimensions	M-GL-DIM
M-GL-HAT	Hatching	M-GL-HAC
M-GL-LAY	Layout line work	M-GL-TRI
M-GL-TXT	Text	M-GL-TEX
<b>M-NV</b>	<b>Navigation</b>	<b>M-NA</b>
M-NV-BUO	Buoys	M-NA-BOU
M-NV-CAR	Cards	M-NA-SYM
M-NV-CNL	Navigation channels, corridors	M-NA-CNL
M-NV-EQP	Floating aids, marker buoys, fog horns	M-NA-EQU
M-NV-SPA	Spars	M-NA-MAT
<b>M-SK</b>	<b>Skid-way, Haul-outs, Slipways</b>	<b>M-CA</b>
M-SK-BED	Vessel beds	M-CA-PLF
M-SK-BLK	Anchor blocks, haul out blocks	M-CA-BLC
M-SK-FTG	Footings	M-CA-SEM
M-SK-GUA	Guards	M-CA-GUA
M-SK-OLN	Skid-way outline	M-CA-CON
M-SK-RAI	Railway	M-CA-TRC
M-SK-SKD	Skid timbers, skid poles	M-CA-POU
M-SK-SLB	Concrete slabs, precast panels	M-CA-DPP
M-SK-SSP	Steel sheet piling	M-CA-PAL
<b>M-SN</b>	<b>Hydrographic Survey Information, Non Legal</b>	<b>M-RH</b>
M-SN-DAT	Chart datum contour, 0.00 m	M-RH-ZDC
M-SN-DRG	Dredged area or limits	M-RH-LID
M-SN-HNT	High normal tide	M-RH-MHN
M-SN-HWL	High water lines	M-RH-LHM
M-SN-LNT	Low normal tide	M-RH-MBN
M-SN-LWL	Low water lines	M-RH-LBM
M-SN-MAJ	Major sea bottom contours	M-RH-PFM
M-SN-MIN	Minor sea bottom contours	M-RH-SFM
<b>M-SN-SPT</b>	<b>Soundings, spot elevations</b>	<b>M-RH-SON</b>
M-SN-SPT-ELV	Survey point elevation	M-RH-POL-ELV
M-SN-SPT-PNT	Survey points	M-RH-POL-PTS
M-SN-SPT-NUM	Survey point number text	M-RH-POL-NUI
M-SN-SPT-DES	Survey point description	M-RH-POL-DES
M-SN-TID	Tide gauges, tidal equipment, tide datum	M-RH-EQU

<b>M-WF</b>	<b>Wharf Features</b>	<b>M-CQ</b>
M-WF-BEM	Pile caps, beams	<i>M-CQ-POU</i>
M-WF-BRC	Bracing, wales	<i>M-CQ-ENT</i>
M-WF-CAI	Caissons	<i>M-CQ-FLO</i>
M-WF-CRW	Crown slopes, crowns	<i>M-CQ-SOM</i>
M-WF-CTW	Catwalks	<i>M-CQ-PAS</i>
M-WF-CWK	Cribwork, ballast floor	<i>M-CQ-CCV</i>
M-WF-CWL	Cope walls, cope beams	<i>M-CQ-MPC</i>
M-WF-DRK	Derricks, cranes, gallows	<i>M-CQ-GRU</i>
M-WF-DRN	Drains, scuppers	<i>M-CQ-DRA</i>
M-WF-FND	Fenders	<i>M-CQ-DEF</i>
M-WF-FST	Floating wharves	<i>M-CQ-QUF</i>
M-WF-FTG	Footings, mattresses, deck substructures	<i>M-CQ-SEM</i>
M-WF-FWL	Firewalls	<i>M-CQ-MCF</i>
M-WF-GUA	Guards	<i>M-CQ-BAR</i>
M-WF-GWY	Gangways	<i>M-CQ-PAE</i>
M-WF-JNT	Construction, control joints	<i>M-CQ-JOC</i>
M-WF-LAD	Ladders	<i>M-CQ-ECH</i>
M-WF-MOR	Mooring cleats, mooring rings, bollards	<i>M-CQ-TAA</i>
M-WF-OLN	Wharf and dolphin outlines	<i>M-CQ-CON</i>
M-WF-PIL	Piles and bents	<i>M-CQ-PIL</i>
M-WF-SSP	Steel sheet piling	<i>M-CQ-PAL</i>
M-WF-TIE	Tie rods, anchor blocks, tie back walls	<i>M-CQ-TBA</i>

## Real Property Space Management

English Abvtn	Description	French Abvtn
<b>R-BC</b>	<b>Building Common Areas "Accessory B"</b>	<b>R-CB</b>
R-BC-COR	Shared public corridors	R-CB-COR
R-BC-OLN	General shared building outline	R-CB-CON
R-BC-RMS	Shared rooms	R-CB-SAL
<b>R-BS</b>	<b>Building Service Areas</b>	<b>R-SB</b>
R-BS-OLN	General building service outline	R-SB-CON
R-BS-RMS	Building service rooms	R-SB-SAL
R-BS-SFT	Vertical shafts, elevators, stairs (takes walls over RMS)	R-SB-PUV
<b>R-EX</b>	<b>Exterior Site Areas</b>	<b>R-EX</b>
R-EX-OLN	Exterior site areas	R-EX-CON
<b>R-FC</b>	<b>Floor Common Areas</b>	<b>R-AE</b>
R-FC-CNV	Convectors (baseboard, radiators)	R-AE-CNV
R-FC-COL	Building structure, columns (interior and perimeter)	R-AE-COL
R-FC-COR	Primary circulation	R-AE-COR
R-FC-ENC	Encroachments (unusable space)	R-AE-EMP
R-FC-FIR	Fire egress cross over areas, fire refuge areas	R-AE-SOS
R-FC-LOB	Floor elevator lobbies	R-AE-HAL
R-FC-OLN	General outline of floor common areas	R-AE-CON
R-FC-RMS	Electrical, telecom, janitor's closets	R-AE-SAL
<u>R-FC-WSR</u>	<u>Washrooms</u>	<u>R-AE-SAT</u>
R-FC-WSR-BRF	Accessible washrooms	R-AE-SAT-ACF
<b>R-GA</b>	<b>Gross Area</b>	<b>R-AB</b>
R-GA-EXT	Exterior gross area	R-AB-EXT
R-GA-INT	Interior gross area	R-AB-INT
<b>R-GL</b>	<b>General</b>	<b>R-GL</b>
R-GL-TXT	Street names for space audit	R-GL-TEX
<b>R-PK</b>	<b>Parking</b>	<b>R-ST</b>
R-PK-0000-BRF	Barrier-free parking	R-ST-0000-ACF
R-PK-0000-DEP	Parking number - department name (Special use only)	R-ST-0000-MIN
R-PK-DIV	Parking divisions	R-ST-DIV
R-PK-EXT	Exterior parking (Special use only)	R-ST-EXT
R-PK-IDN	Parking identification numbers	R-ST-NUI
R-PK-INT	Interior parking (Special use only)	R-ST-INT
R-PK-OLN	Outlines	R-ST-CON
R-PK-SPC	Special parking	R-ST-SPE
<b>R-SU</b>	<b>Surface Maintenance Building</b>	<b>R-SU</b>
R-SU-CLG	Ceiling finishes	R-SU-PFD
R-SU-COR	Primary corridors	R-SU-COR
R-SU-DEP	Space allocation by department	R-SU-MIN
R-SU-DIV	Division of area	R-SU-DIV
R-SU-EXT	Exterior finishes	R-SU-EXT

<b>R-SU-FLR</b>	<b>Floor finishes</b>	<i>R-SU-PCH</i>
R-SU-FLR-HIG	High-traffic area	<i>R-SU-PCH-ELV</i>
R-SU-FLR-LOW	Low-traffic area	<i>R-SU-PCH-BAS</i>
R-SU-GRP	Space allocation by group / branch	<i>R-SU-GRP</i>
R-SU-IDN	Surface identification number	<i>R-SU-NUI</i>
R-SU-OLN	Outlines	<i>R-SU-CON</i>
R-SU-RMS	Rooms	<i>R-SU-SAL</i>
R-SU-SFT	Shafts	<i>R-SU-PUV</i>
R-SU-SPC	Special surfaces	<i>R-SU-SPE</i>
R-SU-WAL	Walls	<i>R-SU-MUR</i>
R-SU-WIN	Windows	<i>R-SU-FEN</i>

<b>R-UC</b>	<b>User Common</b>	<b>R-AC</b>
R-UC-COR	Shared public corridors	<i>R-AC-COR</i>
R-UC-OLN	General shared user outline	<i>R-AC-CON</i>
R-UC-RMS	Shared rooms (Conference room, day care, mail, etc.)	<i>R-AC-SAL</i>

<b>R-US</b>	<b>Usable</b>	<b>R-AU</b>
R-US-001, 002...	Usable area polygons by location	<i>R-AU-001, 002</i>
R-US-COR	Primary circulation areas	(Special use only) <i>R-AU-COR</i>
R-US-DEP	Space allocation by department	(Special use only) <i>R-AU-MIN</i>
R-US-DIV	Division of areas	<i>R-AU-DIV</i>
R-US-GRP	Space allocation by group / branch	(Special use only) <i>R-AU-GRP</i>
R-US-IDN	Location identification numbers	<i>R-AU-NUI</i>
R-US-OLN	General usable outlines	(Special use only) <i>R-AU-CON</i>
R-US-RMS	Room identification numbers	(Special use only) <i>R-AU-SAL-NUI</i>
R-US-UNT	Space allocation by units	(Special use only) <i>R-AU-UNI</i>

<b>R-ZN</b>	<b>Zoning</b>	<b>R-ZO</b>
R-ZN-CLE	Cleaning zoning	<i>R-ZO-NET</i>
R-ZN-FIR	Fire egress zoning	<i>R-ZO-SOS</i>
R-ZN-SEC	Security zoning	<i>R-ZO-SEU</i>

**Structure**

English Abvtn	Description	French Abvtn
<b>S-CL</b>	<b>Ceilings</b>	<b>S-PF</b>
S-CL-BEM	Ceiling beams	S-PF-POU
<b>S-FL</b>	<b>Floors</b>	<b>S-PC</b>
S-FL-BEM	Floor beams	S-PC-POU
S-FL-BRC	Bracing	S-PC-ENT
S-FL-DEK	Decking, waffle	S-PC-PLA
S-FL-FRM	Framing	S-PC-CHR
S-FL-JNT	Joints, expansion, construction	S-PC-JOC
S-FL-JST	Joists	S-PC-PLP
S-FL-OLN	Floor outlines	S-PC-CON
S-FL-OPN	Floor openings	S-PC-OUV
S-FL-SLB	Floor slabs	S-PC-DPP
S-FL-STR	Structural landings	S-PC-ESC
<b>S-FN</b>	<b>Foundations</b>	<b>S-FD</b>
S-FN-BEM	Pile caps, cap beams, grade beams	S-FD-POU
S-FN-FIL	Backfill, soil line	S-FD-REM
S-FN-FTG	Footings	S-FD-SEM
S-FN-OLN	Foundation outlines	S-FD-CON
S-FN-PIL	Piles, caissons, piers	S-FD-PIE
<b>S-GR</b>	<b>Structural Grid</b>	<b>S-QU</b>
S-GR-EXT	Structural grid lines outside building	S-QU-EXT
S-GR-INT	Structural grid lines inside building	S-QU-INT
<b>S-RF</b>	<b>Roofs</b>	<b>S-TO</b>
S-RF-BEM	Beams	S-TO-POU
S-RF-BRC	Bracing	S-TO-ENT
S-RF-DEK	Decking, waffle	S-TO-PLA
S-RF-FRM	Framing,	S-TO-CHR
S-RF-JNT	Joints, expansion, construction	S-TO-JOC
S-RF-JST	Joists	S-TO-PLP
S-RF-OLN	Roof outlines	S-TO-CON
S-RF-OPN	Roof openings	S-TO-OUV
S-RF-SLB	Roof slabs	S-TO-DPP
S-RF-TRU	Roof Trusses	S-TO-FER
<b>S-WL</b>	<b>Walls, Columns</b>	<b>S-MU</b>
S-WL-BRC	Cross bracing	S-MU-ENT
S-WL-BRG	Bearing walls	S-MU-POR
S-WL-COL	Columns	S-MU-COL
S-WL-JNT	Joints, expansion, construction	S-MU-JOC
S-WL-OPN	Wall openings	S-MU-OUV
S-WL-RWL	Retaining walls	S-MU-STM



## Annex B – Layer Field Descriptions

Ext.	Description	Ext.	Description
------	-------------	------	-------------

### Group Field

The following table lists the Group field abbreviations that can be used to create new layer names. This is the second part of the layer name following the Discipline field:

X-**XX**-XXX

AP	Approach Slabs	PA	Sound and PA Systems
AZ	Airport Zoning	PB	Plumbing
BC	Building Common Areas "Accessory B"	PG	Propane Gas
BH	Borehole Data (Geotechnical)	PH	Telephone Systems
BP	Blocking Plan	PK	Parking
BS	Building Service Areas	PL	Plan
BW	Breakwater Features	PP	Fuel and Process Piping
CF	Cadastral Fabric	PR	Profile Data
CI	Circulation	RF	Roofs
CK	Clock Systems	RO	Roads
CL	Ceilings	RW	Railways
CS	Control Systems	SA	Sanitary Sewer
DA	Data Systems	SB	Substructure
DI	Diesel Fuel Distribution	SC	Schedules
DK	Deck	SD	Site Distribution and Electrical Equipment
DR	Doors	SE	Security Systems
DT	Details	SF	Natural Site Features
DW	Domestic Water	SG	Signal Systems
EG	Emergency Generation	SI	Signage
EI	Employee Information	SK	Skid-way, Haul-outs, Slipways
EL	Emergency Lighting	SM	Schematics
EM	Emergency	SN	Hydrographic Survey Information, Non-Legal
EN	Environment	SP	Legal Site Plan
EP	Emergency Power Equipment	SR	Scour Protection
EQ	Equipment	SS	Superstructure
EW	Emergency Power Wiring and Cabling	SU	Surface Maintenance Building
EX	Exterior Site Areas	SV	Survey
FC	Floor Common Areas	SW	Storm Water and Drainage
FL	Floors	SY	System Furniture
FN	Foundations	TL	Title Block
FP	Fire Protection	TP	Topographical Information
FR	Electrical Fire Protection	UC	User Common
FU	Furniture	US	Usable
FW	Flat Wiring	VA	Ventilation and Air Conditioning
GA	Gross Area	VD	Video Conferencing Systems
GD	Grounding	VG	Vegetation
GL	Global	WD	Windows
GR	Grid	WF	Wharf Features
HC	Heating and Cooling	WL	Walls, Columns
HY	Hydrology	WM	Water and Fire
LD	Landscaping	ZN	Zoning
LG	Legend		
LP	Lightning Protection		
NG	Normal Power Generation		
NL	Normal Lighting		
NP	Normal Power Equipment		
NV	Navigation		
NW	Normal Power Wiring and Cabling		
NZ	Natural Gas		
OI	Oil Distribution		

## Single Layer Field and First Layer Name Extension

Ext.	Description	Ext.	Description
------	-------------	------	-------------

The following table lists the Single Layer field and First Layer Name Extension abbreviations that can be used to create new layer names. This is the third or fourth part (if required) of the layer name following the Group field:

X-XX-**XXX**    X-XX-XXX-**XXX**-X

3DM	3D model components of 2D symbols	CLK	Clock system
ABN	Abandoned	CLN	Control lines
ABU	Abutments	CLR	Colours
ABV	Above ground, above grade	CLS	CLSR boundaries, reserves, parks
ACC	Accessories	CLT	Control wiring for emergency lighting
ACR	Fire department access routes	CMA	Compressed air
AIR	Control air piping	CMB	Combined sewers
ALI	Alignment	CMP	Computers
ALM	Intrusion alarms	CNB	Flat wiring connection boxes
ANN	Annual flowers	CNL	Navigation channels, corridors
ANT	Antenna	CNT	Construction
APC	Approach surface (airport)	CNV	Convectors
APR	Approach slabs	CO2	Carbon dioxide gas
APX	Approximate	COA	Combustion air ductwork
ART	Artwork	COD	Conduits
ASP	Asphalt	COL	Columns
ATT	Attributes	CON	Concrete
AWP	Acid waste piping (medical)	COR	Corridors
BAR	Barriers, railings	COT	Cooling tower
BDY	Legal limits, fee simple, admin., control	CPT	Control points
BED	Vessel beds	CRB	Curbs
BEM	Beams	CRP	Carpet
BEN	Local benchmarks	CRT	Certificates, stamps
BIR	Bird hazard (airport)	CRW	Crown slopes, crowns
BKH	Bulkheads	CTL	Controls
BLK	Block	CTM	Contamination (environment)
BND	Boundaries	CTP	Countertops
BRC	Bracing	CTW	Catwalks
BRF	Barrier-free	CUL	Culverts
BRD	Bridges	CVY	Horizontal conveyors, moving sidewalks
BRG	Bearing	CWL	Cope walls, cope beams
BRK	Brick	CWK	Cribwork, ballast floor
BRL	Break lines	DAS	Data systems schematics
BUO	Buoys	DAT	Chart datum contour, 0.00 m
BYP	By-pass box	DBR	Debris, rubble, loose rock and soil
CAB	Cabinet	DCB	DC battery systems
CAI	Caissons	DCL	Ditch centre lines
CAL	Callout blocks	DEC	Deciduous
CAN	Canadian boundaries	DEK	Deck
CAR	Cards	DEP	Space allocation by department
CAT	Catchments area	DES	Description
CBL	Flat wiring cable location	DIF	Diffusers
CBT	Cable trays, ducts, and raceways	DIG	Digitized or vectorized from scanned Image
CEX	Chemical extinguisher		
CHL	Chilled water	DIM	Dimensions
CHN	Chainage	DIV	Divisions
CLD	Cold water	DRG	Dredged area or limits
CLE	Cleaning, clean out	DRK	Derricks, cranes, gallows
CLG	Ceiling-mounted equipment, wiring, or finishes	DRN	Drains, scuppers
CLI	Centrelines	DRS	Duct riser diagrams
		DSK	Desks, work surfaces, tables

Ext.	Description	Ext.	Description
DUC	Ducts	GWY	Gangways
DWV	Drainage waste and vent system	HAT	Hatching
EAS	Easement	HED	Door and window headers
EFP	Electrical fire protection schematics	HEG	Helium gas
ELD	Electromagnetic locking devices	HIG	High
ELE	Elevators	HNT	High normal tide
ELK	Electrical security locks	HOR	Horizontal
ELV	Elevation (survey points)	HOT	Hot water
EME	Emergency	HVD	High voltage distribution
ENC	Encroachments (unusable space)	HWA	Heating water
EPE	Explosion-proof equipment	HWL	High water lines
EPR	Emergency power wiring & equipment	HWY	Highway plan
EQP	Equipment	HYD	Hydronic equipment
ESC	Escalator	HYG	Hydrogen gas
ESG	Exit signs	ICE	Ice thickness
EVR	Evergreen	IDN	Identification
EXH	Exhaust	IMP	Imports (Revit families)
EXP	Exposed inside/outside wiring	IND	Industrial
EXT	Exterior	INS	Insulation
FEN	Fencing	INT	Interior
FEX	Foamed extinguisher	IOT	Inlet outlet
FHY	Fire hydrants	IRR	Irrigation system
FIL	Backfill, soil line	JER	Jersey wall
FIN	Finishes	JNT	Joints
FIR	Fire egress	JST	Joists
FIX	Plumbing fixtures	KRK	Kirk key interlocks
FLG	Flagpoles	LAD	Ladders
FLO	Flow, discharge	LAN	Local area network
FLR	Floor-mounted equipment, wiring or finishes	LAY	Layout line work
FLW	Flowers	LEV	Floor level changes, ramps, truck wells
FND	Fenders	LGO	Logos
FOI	Fuel oil	LGT	Lighting control schematics and diagrams
FRL	Fire lines	LIM	Limits
FRM	Framing	LIN	Line work
FST	Floating wharfs	LNT	Low normal tide
FTG	Footing	LOB	Floor elevator lobbies
FTN	Fountains, pools	LOG	Borehole logs and data
FUR	Site furnishings, benches, garbage cans, etc.	LOW	Low
FWL	Fire walls	LTG	Normal powered lighting
GAB	Gabions	LTP	Lightning protection schematics
GCV	Ground cover	LVD	Low voltage distribution
GDP	Guideposts	LWL	Low water lines
GEN	Generators	MAJ	Major contours
GLY	Glycol	MAN	Manholes
GLZ	Glass, glazing	MAR	Marshes, wetlands
GND	Grounding schematics	MEC	Electrical connections to mechanical equipment
GPS	Global Positioning System	MEG	Methane gas
GRA	Grading	MET	Meters
GRD	Grid	MIL	Architectural specialties, casework and millwork
GRI	Grilles	MIN	Minor contours
GRL	Guides, guardrails, median dividers, bollards	MLI	Main lines
GRP	Space allocation by group / branch	MMS	Maintenance Management System
GRS	Grass, lawn area	MNG	Storm water management pond
GRV	Gravel	MON	Monuments
GUA	Guards	MOR	Mooring cleats, bollards
GUT	Gutter lines	MRK	Markings and road striping
		MSH	Mass hauling diagrams

Ext.	Description	Ext.	Description
MTR	Metering wiring & equipment	RMN	Remnants (archaeology)
MUN	Municipal and utility services	RMP	Ramps
NGA	Natural gas	RMS	Rooms
NIT	Nitrogen (medical)	ROD	Drivable road limits (asphalt) road, lots
NOD	Node, horizontal reference point	ROW	RO water or distilled water (medical)
NOF	Non-office furniture, first aid room beds, etc.	RPL	Reference plan
NPR	Normal power schematics, risers	RPS	Real Property information
NUM	Number	RRP	Riprap
OEQ	Office equipment	RWL	Retaining walls
OFF	Office signage	SAF	Life safety
OLN	Outlines	SCD	Secondary
OPN	Openings	SCR	System furniture panels, screens
ORN	Ornamental	SEC	Security zoning
OTA	Outside air	SED	Seeded area
OTH	Other	SEL	Super elevation
OUT	Outlets	SEN	Motion sensors
OVH	Overhead	SEP	Septic (field, tank, etc.)
OXY	Oxygen (medical)	SET	Seating
PAN	Distribution panel (electrical, telephone)	SEW	Sewer
PAR	Parcel line work	SFT	Shafts
PAS	Public address system schematics	SGL	Sign layouts and details
PER	Perennial	SGN	Signs
PGA	Propane gas	SHL	Shelving
PIC	Inserted pictures	SHO	Shoulder
PIL	Piles	SIG	Signalling devices
PIP	Pipes, piping	SIL	Window sills
PIR	Piers	SIZ	Size
PIT	Borrow pit	SKD	Skid timbers, skid poles
PLA	Plastic	SLB	Slabs
PLM	Plume outline	SLI	Service lines
PLN	Approach slabs in plan view	SMP	Soil sample locations
PLT	Plants	SND	Sand
PMP	Pumping stations	SNL	Stringers
PNT	Points	SOD	Sodded
POL	Poles and towers (electrical, communication)	SPA	Spars
PRF	Profiles	SPC	Special
PRI	Primary	SPK	Sprinkler system
PRO	Provincial boundaries	SPO	Sports facilities, goal nets, etc.
PRS	Piping riser diagrams	SPR	Stratigraphic profiles
PRT	Partitions (walls)	SPT	Spot elevations
PST	Posts	SRB	Shrubs
PTS	Station points	SRF	Surface model line work
RAD	Radiant heat	SSP	Steel sheet piling
RAI	Railway	STA	Stations (survey)
RAS	Raised floors	STB	Setbacks
RAW	Raw water lines	STG	Staging layout plan
RCK	Rock	STI	Strip (airport)
RCL	Recirculation	STL	Steel
REB	Reinforcing	STM	Steam
REC	Receptacles	STO	Stone
REF	Refrigerant equipment	STP	Standpipe
REG	Regional and municipality boundaries	STR	Stairs, stairwells, and ladders
RET	Return	SUB	Sub
RFG	Refrigerant gas	SUP	Supply
RFL	Refrigerant liquid	SUR	Work surfaces, D-tops, P-tops, etc.
RLN	Reference lines	SWK	Sidewalks
RME	Read Me info	SYM	Symbols
		TAB	Tables
		TBK	Title block

Ext.	Description	Ext.	Description
TEL	Telephone	VAL	Valves
TEN	Tenant	VAV	Variable air volume boxes
TER	Terraces	VCE	Emergency voice communication
TID	Tide gauges, tidal equipment, tide datum	VCL	Video controllers (Digital)
TIE	Tie rods, anchor blocks, tie-back walls	VCM	Video cameras and monitors
TIL	Tile	VEN	Vents
TIM	Timber	VER	Vertical
TMP	Temporary	VID	Video system schematics
TMT	Sewage treatment areas	VIN	Vines
TNK	Tanks	VPC	Valve pump chamber
TOE	Toe of bank, breakwater, berms	VPT	Viewports
TOP	Top of bank, crest of breakwater, berms	WAL	Wall-mounted equipment or wiring
TRE	Trees	WEL	Well
TRL	Trails	WIN	Windows
TRS	Transitional surface (airport)	WLI	Water lines
TRU	Trusses	WLK	Roof boardwalks, catwalks
TUN	Tunnels	WNG	Wing wall
TXT	Text	WOR	Working area
UCD	Underlying cadastral fabric, deeds, lots, plans	WRG	Wiring
UND	Underground, below grade	WSR	Washrooms
UNT	Space allocation by units	WST	Waste schematics
UPS	Ups and conditioned power	WTR	Watercourse
VAC	Vacuum piping	XRE	External reference
		ZNS	Zoning surfaces

## Second Layer Name Extension

Ext.	Description	Ext.	Description
------	-------------	------	-------------

The following table lists the Second Layer Name Extension abbreviations that can be used to create new layer names. This is the fourth or fifth part of the layer name following the Single Layer field or First Layer Name Extension:

X-XX-XXX--**X**    X-XX-XXX-XXX-**X**












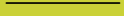































1 to 9	Options or Phases 1 to 9
A	English Text (Anglais)
B	As Built (As Constructed)
E	Existing
F	French Text
M	To be Moved or Relocated
N	New
P	Planned or Proposed
S	Base
X	To Be Removed

## Annex C – Pen and Colour Assignment Tables

<b>Atlantic Region</b>				
<i>Pen No.</i>	<i>Line Width</i>	<i>% Intensity</i>	<i>Printed Colour</i>	<i>Width Sample</i>
1 (Red)	0.25	100%	Black	————
2 (Yellow)	0.7	100%	Black	————
3 (Green)	0,3	100%	Black	————
4 (Cyan)	0,4	100%	Black	————
5 (Blue)	1	100%	Black	————
6 (Magenta)	0,3	100%	Black	————
7 (White)	0.5	100%	Black	————
8 (Gray)	0.5	100%	Black	————
9	0.25	50%	Black	————
10	0.25	100%	Black	————
11	0.3	100%	Black	————
12	0.4	100%	Black	————
13	0.1	100%	Black	————
14	0.4	100%	Black	————
15	0.5	100%	Black	————
16-249	0.3	100%	AutoCAD Colour	————
250	0.3	60%	Gray tone	————
251	0.3	50%	Gray tone	————
252	0.3	40%	Gray tone	————
253	0.3	30%	Gray tone	————
254	0.3	20%	Gray tone	————
255	0.3	10%	Gray tone	————

<b>Quebec Region</b>				
<i>Pen No.</i>	<i>Line Width</i>	<i>% Intensity</i>	<i>Printed Colour</i>	<i>Width Sample</i>
1 (Red)	0.2	100%	Black	_____
2 (Yellow)	0.8	100%	Black	_____
3 (Green)	0.35	100%	Black	_____
4 (Cyan)	0.25	100%	Black	_____
5 (Blue)	0.25	100%	Black	_____
6 (Magenta)	0.35	100%	Black	_____
7 (White)	0.5	100%	Black	_____
8 (Gray)	0.2	100%	Black	_____
9	0.2	100%	Black	_____
10	0.05	100%	Black	_____
11	0.13	100%	Black	_____
12	0.13	100%	Black	_____
13	0.2	80%	Gray tone	_____
14	0.2	70%	Gray tone	_____
15	0.2	60%	Gray tone	_____
16	0.2	50%	Gray tone	_____
17	0.2	40%	Gray tone	_____
18	0.2	30%	Gray tone	_____
19	0.2	15%	Gray tone	_____
253	0.2	20%	Gray tone	_____



<b>Ontario Region</b>				
<i>Pen No.</i>	<i>Line Width</i>	<i>% Intensity</i>	<i>Printed Colour</i>	<i>Width Sample</i>
1 (Red)	0.25	100%	Black	
2 (Yellow)	0.18	100%	Black	
3 (Green)	0.35	100%	Black	
4 (Cyan)	0.25	100%	Black	
5 (Blue)	0.06	100%	Black	
6 Magenta)	0.35	100%	Black	
7 (White)	0.35	100%	Black	
8 (Gray)	0.18	100%	Black	
9	0.18	100%	Black	
10	0.18	100%	Black	
11	0.25	100%	Black	
12	0.25	100%	Black	
13	0.06	100%	Black	
14	0.6	100%	Black	
15	0.7	100%	Black	
16	0.25	100%	251 (Medium-dark gray)	
17	0.35	100%	251 (Medium-dark gray)	
18	0.5	100%	251 (Medium-dark gray)	
19	0.7	100%	251 (Medium-dark gray)	
20	0.25	100%	Pen colour	
21 - 24	0.25	100%	Pen colour	
25	0.18	100%	Black	
26-29	0.25	100%	Pen colour	
30	0.5	100%	Black	
40	0.25	100%	Pen colour	
80	0.25	100%	Pen colour	
100	0.25	100%	253 (Gray)	
101	0.35	100%	253 (Gray)	
102	0.5	100%	253 (Gray)	
103	0.7	100%	253 (Gray)	
104	0.25	100%	250 (Dark gray)	
105	0.35	100%	250 (Dark gray)	
106	0.5	100%	250 (Dark gray)	
107	0.7	100%	250 (Dark gray)	
108-109	0.25	100%	Pen colour	
110	0.12	100%	Black	
111-149	0.25	100%	Pen colour	
150	0.06	100%	Object colour	
151-210	0.25	100%	Pen colour	
211	1	100%	Black	
212	1.5	100%	Black	
213	2	100%	Black	
214-255	0.25	100%	Pen colour	

<b>National Capital Area (NCA)</b>				
<i>Pen No.</i>	<i>Line Width</i>	<i>% Intensity</i>	<i>Printed Colour</i>	<i>Width Sample</i>
1 (Red)	0.35	100%	Black	_____
2 (Yellow)	0.7	100%	Black	_____
3 (Green)	0.25	100%	Black	_____
4 (Cyan)	0.18	100%	Black	_____
5 (Blue)	0.5	100%	Black	_____
6 Magenta)	0.35	100%	Black	_____
7 (White)	0.25	100%	Black	_____
8 (Gray)	0.05	100%	Black	_____
9	0.15	50%	Dark gray	_____
10	0.15	100%	Black	_____
11	0.1	100%	Black	_____
12	0.15	100%	Black	_____
13	0.2	100%	Black	_____
14	0.25	100%	Black	_____
15	0.35	100%	Black	_____
16	0.45	100%	Black	_____
17	0.5	100%	Black	_____
18	0.7	100%	Black	_____
19	1	100%	Black	_____
50	0.5	100%	Black	_____
90	0.25	100%	Black	_____
130	0.15	100%	Black	_____
170	0.35	100%	Black	_____
210	0.2	100%	Black	_____
20, 60, 100, 140, 180, 220	0.15	100%	Black	_____
30, 70, 110, 150, 190, 230	0.25	100%	Black	_____
40, 80, 120, 160, 200, 240	0.35	100%	Black	_____
From 21 to 241 increment of 10 (21, 31, etc.)	0.1	100%	Black	_____
From 22 to 242 increment of 10 (22, 32, etc.)	0.15	100%	Black	_____
From 23 to 243 increment of 10 (23, 33, etc.)	0.2	100%	Black	_____
From 24 to 244 increment of 10 (24, 34, etc.)	0.25	100%	Black	_____
From 25 to 245 increment of 10 (25, 35, etc.)	0.35	100%	Black	_____
From 26 to 246 increment of 10 (26, 36, etc.)	0.45	100%	Black	_____
From 27 to 247 increment of 10 (27, 37, etc.)	0.5	100%	Black	_____
From 28 to 248 increment of 10 (28, 38, etc.)	0.7	100%	Black	_____
From 29 to 249 increment of 10 (29, 39, etc.)	1	100%	Black	_____
250	0.18	50%	Dark gray	_____
251	0.18	40%	Medium-dark gray	_____
252	0.18	30%	Gray	_____
253	0.18	20%	Medium-light gray	_____
254	0.18	10%	Light gray	_____
255	0.18	white	White	_____

<b>PWGSC Western</b>				
<i>No.</i>	<i>Line Width</i>	<i>% Intensity</i>	<i>Printed Colour</i>	<i>Width Sample</i>
1 (Red)	0.25	100%	black	_____
2 (Yellow)	0.35	100%	black	_____
3 (Green)	0.15	100%	black	_____
4 (Cyan)	0.5	100%	black	_____
5 (Blue)	0.25	100%	black	_____
6 (Magenta)	0.7	100%	black	_____
7 (White)	0.35	100%	black	_____
8 (Gray)	0.35	55%	Gray tone	_____
9	0.25	100%	black	_____
10	0.35	100%	black	_____
11	0.1	100%	black	_____
12	1	100%	black	_____
13	0.25	100%	black	_____
14	0.35	100%	black	_____
15	0.25	100%	black	_____
16 – 29 , 140 - 149	0.05	100%	black	_____
30 – 49 , 150 - 159	0.1	100%	black	_____
50 – 69 , 160 - 179	0.15	100%	black	_____
70 – 89 , 180 - 199	0.25	100%	black	_____
90 - 109 , 200 - 219	0.35	100%	black	_____
110 – 119 , 220 - 229	0.5	100%	black	_____
120 – 129 , 230 - 239	0.7	100%	black	_____
130 – 131 , 240 - 243	1	100%	black	_____
132 , 244 - 246	1.5	100%	black	_____
133 , 247 - 248	2	100%	black	_____
134	0.2	55%	Gray tone	_____
135	0.2	50%	Gray tone	_____
136	0.2	45%	Gray tone	_____
137	0.2	40%	Gray tone	_____
138	0.2	35%	Gray tone	_____
139	0.2	30%	Gray tone	_____
249	0.35	65%	Gray tone	_____
250	0.35	60%	Gray tone	_____
251	0.35	55%	Gray tone	_____
252	0.35	50%	Gray tone	_____
253	0.35	45%	Gray tone	_____
254	0.35	40%	Gray tone	_____
255	0.35	35%	Gray tone	_____

## Annex D - Quality Control of CADD Data

The items shown highlighted indicate a zero tolerance with regard to the non-compliance

Article	Quality Control requirements	Compliance		
		Yes	No	n/a
<b>Layers</b>		Yes	No	n/a
3.2	Layer names are compliant with the PWGSC National CADD Standard			
3.2.1	Objects are on the correct layers			
3.1	No object resides on layer 0 or DEFPOINTS			
3.2.6	No new layer name was created when the proper standard layer already exists			
2.3.3	No layer names with an external reference "Bind" prefix			
<b>Colour assignment</b>		Yes	No	n/a
3.2.5	The colors assigned to layers are set up to obtain the correct line thickness using the appropriate PWGSC regional pen charts. (Annex C)			
3.2.5	Objects are created with colour "ByLayer" (except for objects in blocks)			
<b>Blocks</b>		Yes	No	n/a
3.3.3	The block library provided by the regional PWGSC office is used (if applicable)			
3.3.3	The use of blocks is uniform throughout the project drawing set			
3.3.3	The blocks are created respecting the rules described in the PWGSC National CADD Standard (i.e. Created on layer "0", colour and linetype "ByBlock" or "ByLayer", appropriate scale and dimension, etc.)			
3.3	Blocks are not exploded			
<b>Text styles</b>		Yes	No	n/a
3.4	Text Styles are created using only standard AutoCAD® SHX fonts or Arial, Arial Narrow and StylusBT TTF font files			
3.4.1	Text Styles names are compliant with the PWGSC National CADD Standard			
3.4.2	Proper use of text height			
<b>Dimension and multileader styles</b>		Yes	No	n/a
3.5	All dimensions are associative			
3.5.1	Dimension and Multileader Style names are compliant with the PWGSC National CADD Standard			
3.5	Layout of dimensioning follows one of the two accepted formats (Engineering or Architectural)			

<b>Linetypes and hatch patterns</b>		Yes	No	n/a
3.6	Only standard AutoCAD® and/or PWGSC linetypes / hatch patterns are used			
3.6	Linetypes and hatch patterns are metric			
3.6	Linetype display variables are set up correctly (i.e. LTSCALE, PSLTSCALE)			
<b>External references and raster images</b>		Yes	No	n/a
2.3.3	Drawings do not contain any external reference (except if certain conditions are met and are inserted with path type set to “No Path”)			
2.3.4	Raster images and related coordinates information files used in the drawings are included in the submission			
<b>Drawing set up and page layout</b>		Yes	No	n/a
3.7.1	The appropriate PWGSC regional title blocks are inserted in the layouts at coordinates (0,0,0) with scale factor of 1 and rotation angle of 0			
3.7.1	Only one title block is inserted per layout			
3.7.1	Title blocks are not exploded			
3.7.2	Title blocks contain all the required information			
3.1	Viewports are set to the preferred scale and locked			
3.7.3	Each plan, section, detail, elevation, etc. is accompanied by a heading, the appropriate graphic scale and, if required, a north arrow			
3.7	Annotations objects such as notes, dimensions, hatch patterns, linetypes, blocks, etc are scaled accordingly to match final viewport or block insertion scaling			
<b>System of measurement and coordinate system</b>		Yes	No	n/a
3.8	Drawings are modeled at full-size using metric units in the model space. Buildings/structures plans and details are in millimeters. Site plans are in meters			
2.3.1	The coordinate systems integrity is maintained for 2D drawings			
<b>Drawing Presentation</b>		Yes	No	n/a
3.0	Good drafting practices are used in the project to make the drawings easy to interpret: good positioning of annotations and dimensions, use of legends and schedules, layout of structural grid and cross-referencing bubbles.			
3.0	A key plan is placed in the title sheet that locates the structure for large projects			
3.1	Lines are drawn in an orthogonal mode when appropriate to the drawing			
3.1	Vector endpoint intersections are drawn with closed corners			
3.0	Drawings do not contain unnecessary frozen or off layers For Tender and As-built drawings			

File presentation		Yes	No	n/a
3.1	Drawings are purged of all definitions that are not used			
3.1	Drawings do not contain any object definitions without geometry, such as empty text or blocks without objects			
3.1	Drawings do not contain errors that are detectable using the Audit command			
4.0	Drawing files are named according to the appropriate PWGSC regional standard. When there is no regional naming convention, names are arranged in a logical format			
2.4.1	The files are not compressed in EXE format, not password-protected, do not contain any electronic signature or hyperlink			
3.1	Drawings are saved with properly formatted Page Setup and the main layout zoomed out and active			
	As-built drawings contains engineering/architect's stamps for certification (Ontario region)			

## Annex E – Glossary

**“As-built”** shall mean a set of construction drawings reflecting on-site changes required during the project as well as the original design intent.

**“AutoCAD®”** shall mean the CADD software developed by Autodesk® Inc.

**“Base plan”** shall mean a clean, two-dimensional floor plan of a building drawn from field surveys containing all pertinent graphic information. The intent is to use base plan files for project drawings, then update them once a project is complete and the area affected is re-measured.

**“CADD”** shall mean Computer-Aided Design and Drafting.

**“CLSR”** shall mean Canada Lands Survey Records.

**“Layers”** shall mean the AutoCAD® system of dividing drawing elements.

**“Legacy drawings”** shall mean older hardcopy drawings, microfiche aperture cards not in digital format, or older CADD files not produced to the present standard.

**“PWGSC”** shall mean the Department of Public Works and Government Services Canada.

**“RPB”** shall mean Real Property Branch, a branch of PWGSC.