

# Autodesk Revit

## User Guide for Building Library Components Drawing Office





**Autodesk Revit  
User Guide  
for  
Building Library Components**

**Drawing Office  
Water Supplies Department**

**(Provisional Copy)**

1<sup>st</sup> June 2017

# Contents

<b>1.0 Introduction .....</b>	<b>3</b>
<b>2.0 Library Components for Civil and Mechanical Disciplines .....</b>	<b>4</b>
<b>3.0 Library Component for Electrical Discipline.....</b>	<b>41</b>
<b>4.0 Detail Level and Element Visibility .....</b>	<b>43</b>
<b>5.0 Category .....</b>	<b>44</b>
<b>6.0 Consideration for Creating Revit Family .....</b>	<b>45</b>
<b>7.0 Family, Type and Parameter Naming Conventions .....</b>	<b>46</b>
7.1 Family Naming.....	46
7.2 Type Naming .....	46
7.3 Parameter Naming .....	47
<b>8.0 Reference.....</b>	<b>48</b>

# 1.0 Introduction

This user guide provides a guidance to staff members of the Drawing Office, Design Division, Water Supplies Department, when creating common components and symbols by Autodesk Revit to be used for projects works to achieve completeness, consistency, stability and accuracy.

The guide should be read in conjunction with the WSD Standard Drawings from which some library components' dimensions and parameters come. The link for downloading the drawings is as follows:-

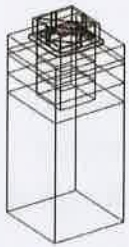




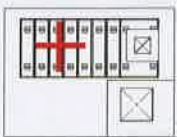

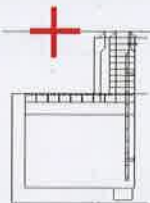




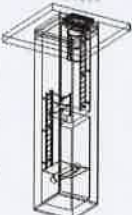
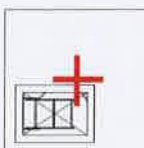
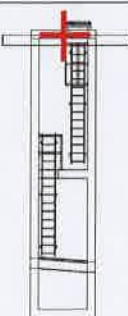
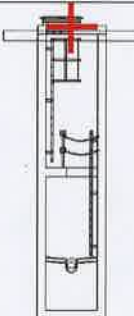
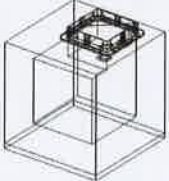
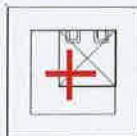
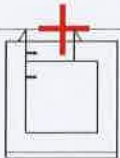
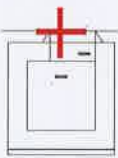
[http://www.wsd.gov.hk/en/publications\\_and\\_statistics/guidelines\\_drawings\\_and\\_specifications/wsd\\_standard\\_drawings/index.html](http://www.wsd.gov.hk/en/publications_and_statistics/guidelines_drawings_and_specifications/wsd_standard_drawings/index.html)

With the rapid changing of BIM technology, this user guide will be continuously improved and updated.

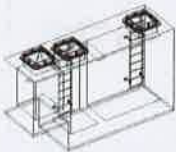


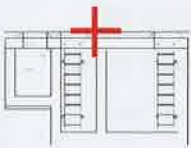




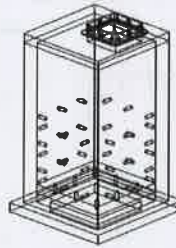
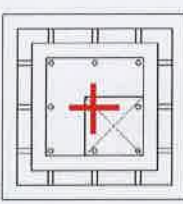

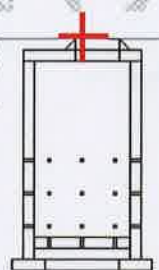


## 2.0 Library Components for Civil and Mechanical Disciplines









### Section 1 – Mainlaying\Chamber

Name of Family	Graphic Representation			
	Isometric View	Plan View	Side View	Front View
Chamber for Gate Valve not exceeding DN300 (Parametric family)				
Chamber for Horizontal Gate Valve DN400 or above (Parametric family)				
Double Air Valve Chamber (Parametric family)				
Rodding Pit for Under Floor Drains – Depth between 6 and 9m (Parametric family)				
Septic Tank Inlet Chamber (Parametric family)				

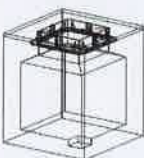
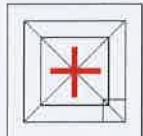

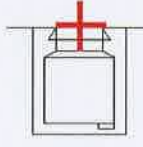
+ Insertion Point

Name of Family	Graphic Representation			
	Isometric View	Plan View	Side View	Front View
Septic Tank (Parametric family)				
Single Air Valve Chamber (Parametric family)				
Soakaway Pit (Parametric family)				


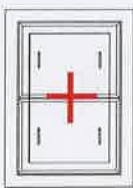
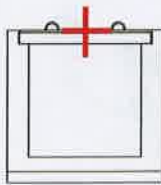
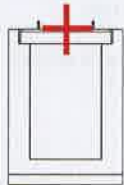
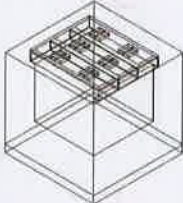
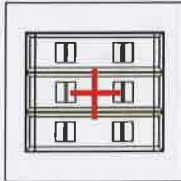
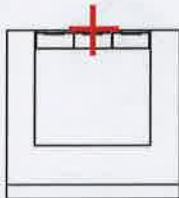
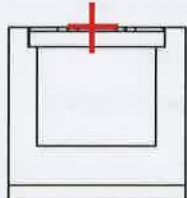
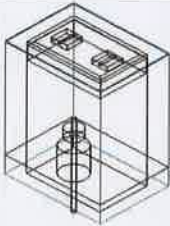
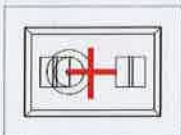
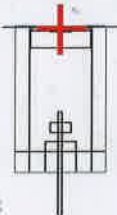
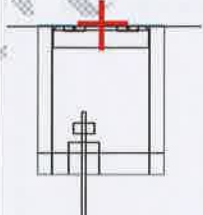
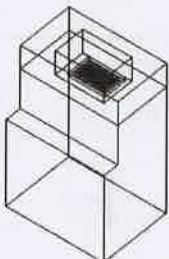
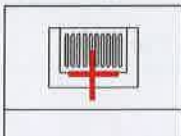

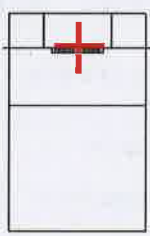
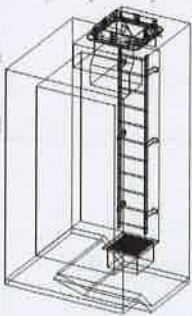
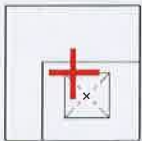

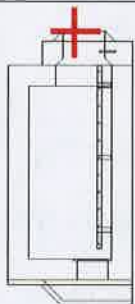
### Section 1 – Mainlaying\Chamber\Parts

Name of Family	Graphic Representation			
	Isometric View	Plan View	Side View	Front View
Concrete Unit (Parametric family)				
Hessian Bag				

### Section 1 – Mainlaying\Manhole

Name of Family	Graphic Representation			
	Isometric View	Plan View	Side View	Front View
Cable Drawpit (Parametric family)				

 Insertion Point

Name of Family	Graphic Representation			
	Isometric View	Plan View	Side View	Front View
Catchpit with 2 Precast Concrete Cover Units (Parametric family)				
Catchpit (Parametric family)				
Earthing Pit				
Gully Trap				
Washout Pump Pit (Parametric family)				

+ Insertion Point

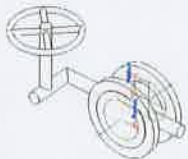



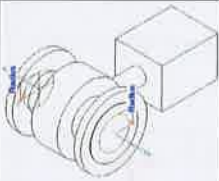
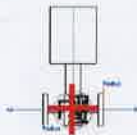
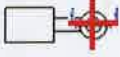









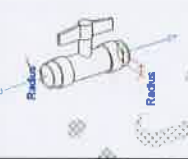


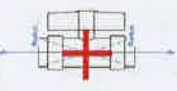


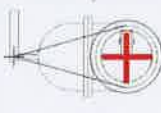

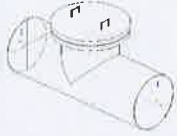


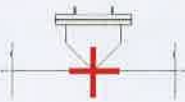







## Section 1 – Mainlaying\Manhole\Parts

Name of Family	Graphic Representation			
	Isometric View	Plan View	Side View	Front View
300 sq Manhole Cover				
600 sq Manhole Cover				
Earthing Rod				
Grating				
Precast Concrete Unit with Four Lifting Holes (Parametric family)				
Precast Concrete Unit with Lifting Hooks (Parametric family)				
Precast Concrete Unit with 300 sq Manhole Opening (Parametric family)				
Precast Concrete Unit (Parametric family)				


+ Insertion Point

## Section 1 – Mainlaying\Pipe Accessories


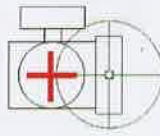
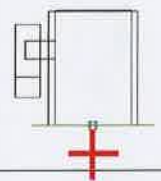
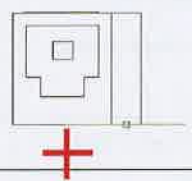
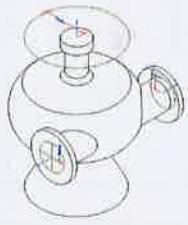
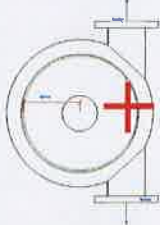










Name of Family	Graphic Representation			
	Isometric View	Plan View	Side View	Front View
Butterfly Valve (BV) (Parametric family)				
Electromagnetic Flowmeter (Parametric family)				
Flap Valve (Parametric family)				
Gate Valve - Type A (Parametric family)				
Gate Valve - Type B (Parametric family)				
Horizontal Sluice Valve (SV) (Parametric family)				
Inspection Tee welded on Steel Pipe (Parametric family)				
Motorized Butterfly Valve (MBV) (Parametric family)				

 Insertion Point





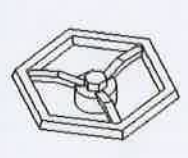



Name of Family	Graphic Representation			
	Isometric View	Plan View	Side View	Front View
Motorized Sluice Valve (MSV) (Parametric family)				
Non Return Valve (NRV) (Parametric family)				
Reflux Valve (RV) (Parametric family)				
Sluice Valve (SV) (Parametric family)				
Valve Actuator with Pillar (Parametric family)				
Valve Actuator (Parametric family)				
Water Meter (Parametric family)				
Water Tap - Type A (Parametric family)				
Water Tap - Type B (Parametric family)				

 Insertion Point

## Section 1 – Mainlaying\Pipe Accessories\Motor and Pump Set

Name of Family	Graphic Representation			
	Isometric View	Plan View	Side View	Front View
Motor				
Pump				
Safety Guard for Shaft				
Universal Shaft				






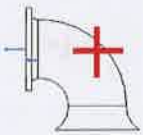




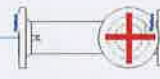


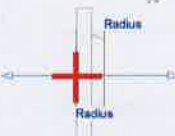


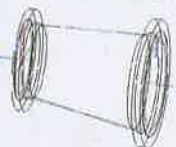
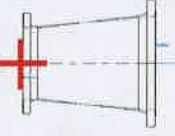

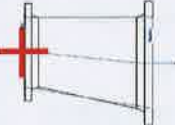

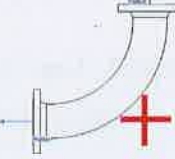


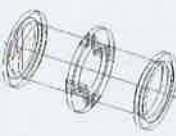



## Section 1 – Mainlaying\Pipe Accessories\Parts

Name of Family	Graphic Representation			
	Isometric View	Plan View	Side View	Front View
Frame of Handle				
Handwheel				

+ Insertion Point


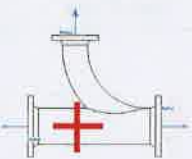
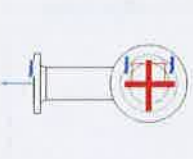
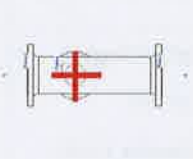

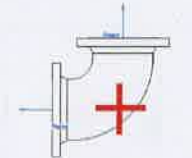
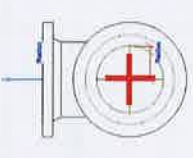
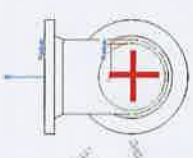

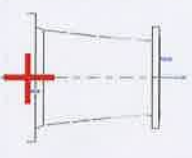

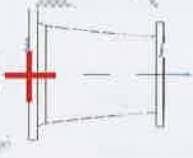
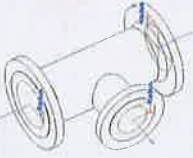
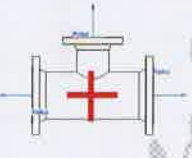
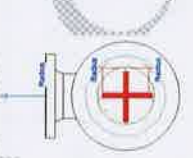



## Section 1 – Mainlaying\Pipe Fitting\Cast Iron (CI) Pipe Fittings in Flange Joint

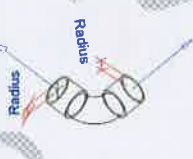
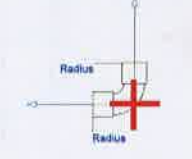
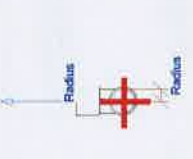
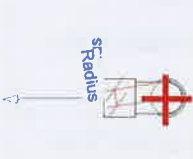
Name of Family	Graphic Representation			
	Isometric View	Plan View	Side View	Front View
Adaptor-Flanged - Cast Iron (Parametric family)				
Bellmouth Short Bend-Flanged - Cast Iron (Parametric family)				
Duckfoot long Bend-Flanged - Cast Iron (Parametric family)				
Flange-Cast Iron (Parametric family)				
Flat Taper-Flanged - Cast Iron (Parametric family)				
Long Bend-Flanged - Cast Iron (Parametric family)				
Puddle Flanged Pipe - Cast Iron (Parametric family)				

+ Insertion Point

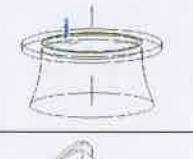
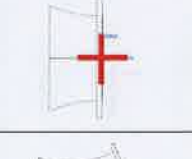
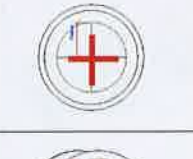
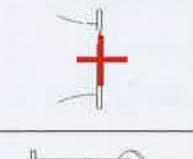


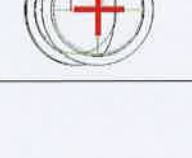
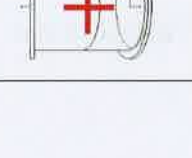


Name of Family	Graphic Representation			
	Isometric View	Plan View	Side View	Front View
Radial Tee-Flanged - Cast Iron (Parametric family)				
Short Bend-Flanged - Cast Iron (Parametric family)				
Taper-Flanged - Cast Iron (Parametric family)				
Tee-Flanged - Cast Iron (Parametric family)				

### Section 1 – Mainlaying\Pipe Fitting\Copper Pipe Fittings in Thread Joint


Name of Family	Graphic Representation			
	Isometric View	Plan View	Side View	Front View
Bend-Threaded - Copper (Parametric family)				

### Section 1 – Mainlaying\Pipe Fitting\Ductile Iron (DI) Pipe Fittings in Flange Joint


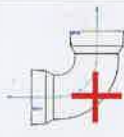
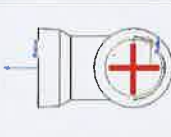
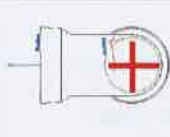





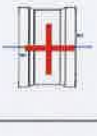







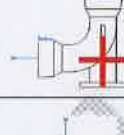
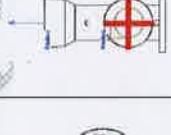
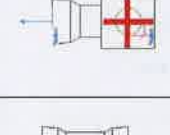

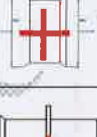
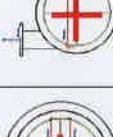
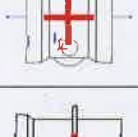

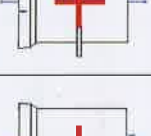
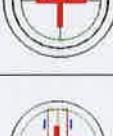
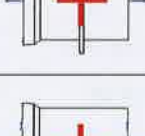

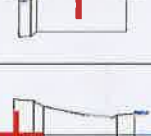

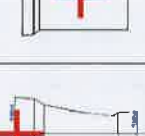

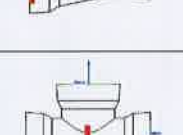

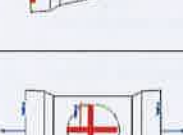



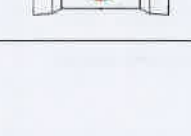
Name of Family	Graphic Representation			
	Isometric View	Plan View	Side View	Front View
Bellmouth-Flanged - DI (Parametric family)				
Bend-Flanged - DI (Parametric family)				

+ Insertion Point

Name of Family	Graphic Representation			
	Isometric View	Plan View	Side View	Front View
Blank-Flanged - DI (Parametric family)				
Collar-Flanged - DI (Parametric family)				
Duckfoot Bend - Flanged DI (Parametric family)				
Flanged Spigots with Puddle Flange - Flanged DI (Parametric family)				
Flanged Spigots - Flanged DI (Parametric family)				
Flange - DI (Parametric family)				
Level Invert Tee - Flanged DI (Parametric family)				
Puddle Flange - DI (Parametric family)				
Taper-Flanged - DI (Parametric family)				
Tee-Flanged - DI (Parametric family)				

 Insertion Point


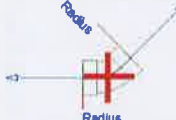

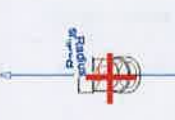





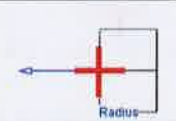



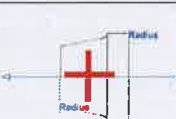

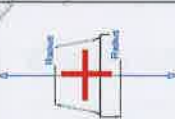

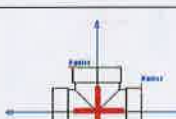
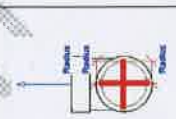
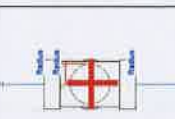
## Section 1 – Mainlaying\Pipe Fitting\Ductile Iron (DI) Pipe Fittings in Socket Joint

Name of Family	Graphic Representation			
	Isometric View	Plan View	Side View	Front View
Bend-Socket - DI (Parametric family)				
Blank-Socket - DI (Parametric family)				
Collar-Socket - DI (Parametric family)				
Double Socket Tee – Socket - DI (Parametric family)				
Duckfoot Bend - Socket - DI (Parametric family)				
Level Invert Tee - Socket - DI (Parametric family)				
Socket Spigot with Puddle Flange - DI (Parametric family)				
Socket Spigot - DI (Parametric family)				
Taper - Socket - DI (Parametric family)				
Tee-Socket - DI (Parametric family)				



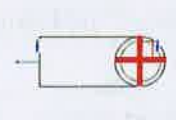
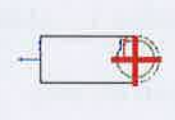

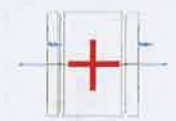

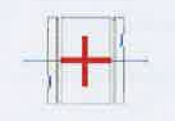
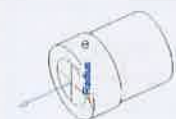
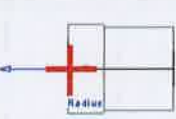

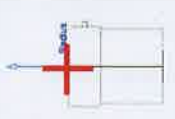
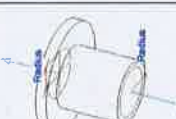
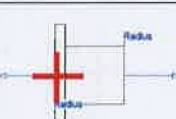

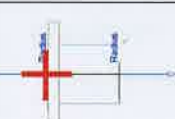
+ Insertion Point



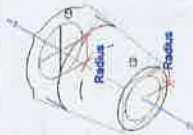


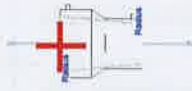

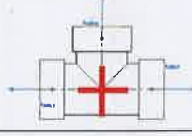
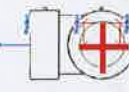
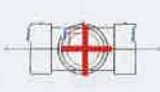

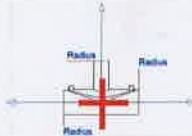


Section 1 – Mainlaying\Pipe Fitting\Galvanized Iron (GI) or Galvanized Iron (Lined) (GIL) Pipe Fittings in Thread Joint

Name of Family	Graphic Representation			
	Isometric View	Plan View	Side View	Front View
Bend-Threaded - GIL (Parametric family)				
Cross-Threaded - GIL (Parametric family)				
End Cap – Threaded - GIL (Parametric family)				
Reducer-Threaded - GIL (Parametric family)				
Tee-Threaded - GIL (Parametric family)				



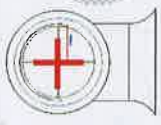
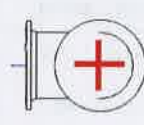
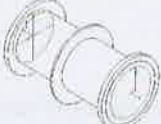
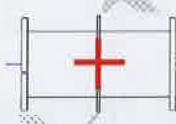

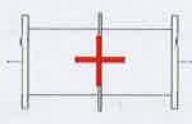
. Section 1 – Mainlaying\Pipe Fitting\PE Pipe Fittings in Electrofusion Joint

Name of Family	Graphic Representation			
	Isometric View	Plan View	Side View	Front View
Bend-Electrofusion - PE (Parametric family)				
Coupler-Electrofusion - PE (Parametric family)				
End Cap - Electrofusion - PE (Parametric family)				
Long Spigot Flange- Electrofusion - PE (Parametric family)				



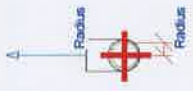
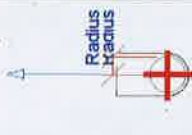





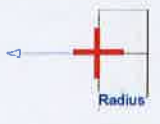


+ Insertion Point

Name of Family	Graphic Representation			
	Isometric View	Plan View	Side View	Front View
Reducer-Electrofusion - PE (Parametric family)				
Tee-Electrofusion - PE (Parametric family)				
Unequal Tee - Electrofusion - PE (Parametric family)				

### Section 1 – Mainlaying\Pipe Fitting\Stainless Steel (SS) Pipe Fittings in Flange Joint






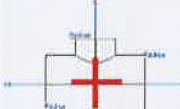
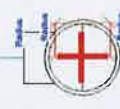

Name of Family	Graphic Representation			
	Isometric View	Plan View	Side View	Front View
Bellmouth – Flanged - SS (Parametric family)				
Puddle Flanged Pipe - Flanged - SS (Parametric family)				

### Section 1 – Mainlaying\Pipe Fitting\Stainless Steel (SS) Fittings in Weld Joint


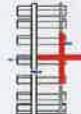

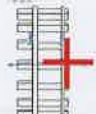

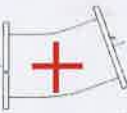

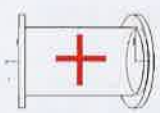






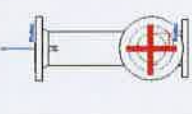
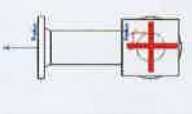








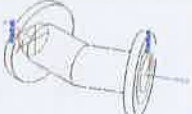
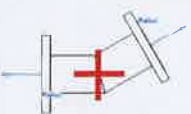

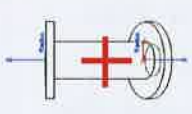

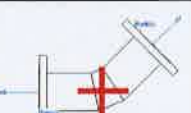

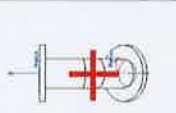
Name of Family	Graphic Representation			
	Isometric View	Plan View	Side View	Front View
Bend-Welded-SS (Parametric family)				
Cross-Welded-SS (Parametric family)				
End Cap-Welded-SS (Parametric family)				

+ Insertion Point



Name of family	Graphic Representation			
	Isometric View	Plan View	Side View	Front View
Reducer-Welded-SS (Parametric family)				
Tee-Welded-SS (Parametric family)				

### Section 1 – Mainlaying\Pipe fitting\Steel Pipe Fittings in Flange Joint

Name of Family	Graphic Representation			
	Isometric View	Plan View	Side View	Front View
Adaptor-Flanged - Steel (Parametric family)				
Bend-Flanged-Steel (Parametric family)				
Blank-Flanged-Steel (Parametric family)				
Duckfoot Long Bend - Flanged - Steel (Parametric family)				
Flange - Steel (Parametric family)				
Flat Taper-Flanged - Steel (Parametric family)				
Gusseted Bend Type 1 - Flanged - Steel (Parametric family)				
Gusseted Bend Type 2 - Flanged-Steel (Parametric family)				

+ Insertion Point

Name of Family	Graphic Representation			
	Isometric View	Plan View	Side View	Front View
Gusseted Bend Type 3 - Flanged-Steel (Parametric family)				
Level Invert Tee - Flanged - Steel (Parametric family)				
Orifice Plate - Steel (Parametric family)				
Puddle Flange Pipe - Steel (Parametric family)				
Puddle Flange - Steel (Parametric family)				
Radial Tee - Flanged - Steel (Parametric family)				
Taper - Flanged - Steel (Parametric family)				
Tee - Flanged - Steel (Parametric family)				

### Section 1 – Mainlaying\Pipe Fitting\Steel Pipe Fittings in Weld Joint

Name of Family	Graphic Representation			
	Isometric View	Plan View	Side View	Front View
Bend - Welded - Steel (Parametric family)				

+ Insertion Point






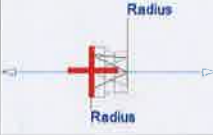

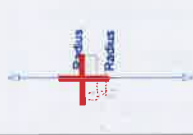

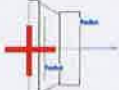




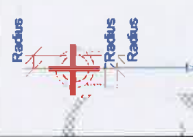

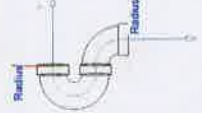


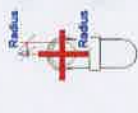
Name of Family	Graphic Representation			
	Isometric View	Plan View	Side View	Front View
Gussetted Bend Type 1 - Welded - Steel (Parametric family)				
Gussetted Bend Type 2 - Welded - Steel (Parametric family)				
Gussetted Bend Type 3 - Welded - Steel (Parametric family)				
Level Invert Tee - Welded - Steel (Parametric family)				
Taper - Welded - Steel (Parametric family)				
Tee - Welded - Steel (Parametric family)				

### Section 1 – Mainlaying\Pipe Fitting\UPVC Pipe Fittings in Thread Joint

















Name of Family	Graphic Representation			
	Isometric View	Plan View	Side View	Front View
Bend - Threaded - UPVC (Parametric family)				
Coupling - Threaded -UPVC (Parametric family)				
End Cap - Threaded - UPVC (Parametric family)				
Puddle Flange Pipe - Threaded - UPVC (Parametric family)				

+ Insertion Point


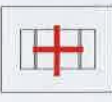







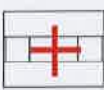




Name of Family	Graphic Representation			
	Isometric View	Plan View	Side View	Front View
Puddle Flange -UPVC (Parametric family)				
Reducer - Threaded - UPVC (Parametric family)				
Round Hopper - Threaded - UPVC (Parametric family)				
Tee -Threaded - UPVC (Parametric family)				
Trap-Threaded - UPVC (Parametric family)				

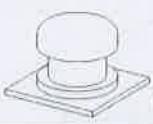



## Section 1 – Mainlaying\Pipe Support

Name of Family	Graphic Representation			
	Isometric View	Plan View	Side View	Front View
Pipe Bracket - various angles (Parametric family)				
Pipe Bracket (Parametric family)				
Saddle Supports for Exposed Pipe (Parametric family)				
Saddle Supports - Slip on Type Coupling or Expansion Joint for Exposed Pipe (Parametric family)				









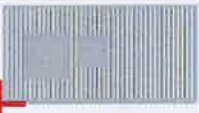

+ Insertion Point

Name of Family	Graphic Representation			
	Isometric View	Plan View	Side View	Front View
Supports for Exposed Pipe across stream course and valley (Parametric family)				
Supports for Exposed Pipe on Steep Gradient - Type A (Parametric family)				
Supports for Exposed Pipe on Steep Gradient - Type B (Parametric family)				

## Section 2 – Pumping Station












Name of Family	Graphic Representation			
	Isometric View	Plan View	Side View	Front View
Roof Extractor				

## Section 3 – Service Reservoir





Name of Family	Graphic Representation			
	Isometric View	Plan View	Side View	Front View
Junction pit (Parametric family)				
Ribbed Finishes with opening (Parametric family)				
Ribbed Finishes with two openings (Parametric family)				

+ Insertion Point



Name of Family	Graphic Representation			
	Isometric View	Plan View	Side View	Front View
Ribbed Finishes (Parametric family)				
Under Floor Drain with End Block (Parametric family)				
Under Floor Drain (Parametric family)				

### Section 3 – Service Reservoir\Parts

Name of Family	Graphic Representation			
	Isometric View	Plan View	Side View	Front View
Void Single Ribbed Finishes (Parametric family)				





### Section 4 – Treatment Works

Name of Family	Graphic Representation			
	Isometric View	Plan View	Side View	Front View
Nil	Nil	Nil	Nil	Nil









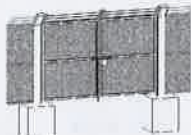


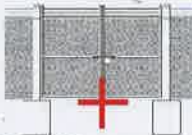








### Section 5 – WSD Access Road

Name of Family	Graphic Representation			
	Isometric View	Plan View	Side View	Front View
Nil	Nil	Nil	Nil	Nil















### Section 6 – Security Measures/Fence/High Strength Security Fence

Name of Family	Graphic Representation			
	Isometric View	Plan View	Side View	Front View
Fence - Chain Link (Parametric family)				

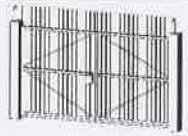


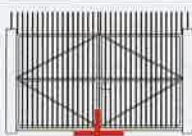



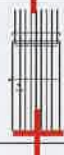
+ Insertion Point

Name of Family	Graphic Representation			
	Isometric View	Plan View	Side View	Front View
High Strength Security Fence (HSSF) (Parametric family)				
Lattice Post for High Strength Security Fence (HSSF)				
Main Gate for HSSF (Parametric family)				
Rolled Hollow Section (RHS) Post (Parametric family)				
Security Fence (Parametric family)				










## Section 6 – Security Measures/High Strength Security Fence - Hooks

Name of Family	Graphic Representation			
	Isometric View	Plan View	Side View	Front View
Fence Post with Hook (Parametric family)				
Fence Post (Parametric family)				
Fence-Hook (Parametric family)				
L Shape Plate - Type I (Profile)		Nil	Nil	Nil
L Shape plate - Type II (Profile)		Nil	Nil	Nil









 Insertion Point

Name of Family	Graphic Representation			
	Isometric View	Plan View	Side View	Front View
Main Gate				
Side Gate				

## Section 6 – Security Measures\Fence\Parts

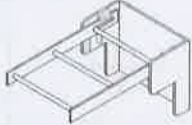

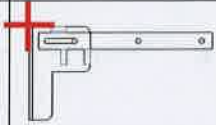




















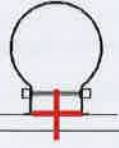




Name of Family	Graphic Representation			
	Isometric View	Plan View	Side View	Front View
Wire (Profile)		Nil	Nil	Nil
Gate Hinge				
Weather Proof Box for Pad Lock				

## Section 7 – General/Access Door

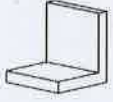







Name of Family	Graphic Representation			
	Isometric View	Plan View	Side View	Front View
Access Door rested on a Stainless Steel Frame on top of concrete upstand (Parametric family)				
Access Door supported on top of concrete upstand (Parametric family)				

+ Insertion Point

## Section 7 – General\Cat ladder

Name of Family	Graphic Representation			
	Isometric view	Plan View	Side View	Front View
Cat-ladder Extension - Type 1				
Cat-ladder Extension - Type 2				
Inclined Ladder				
Vertical Cat-ladder with Handrail (Parametric family)				
Vertical Cat-ladder with safety cage built at corner of walls (Parametric family)				
Vertical Cat-ladder (Parametric family)				
Vertical Cat-ladder - Height less than 1 m (Parametric family)				

## Section 7 – General\Cat-ladder\Parts

Name of Family	Graphic Representation			
	Isometric View	Plan View	Side View	Front View
Bottom Bracket				
Fixing Plate (Parametric family)				

+ Insertion Point



## Section 7 – General\Cat-ladder\Parts

Name of Family	Graphic Representation			
	Isometric View	Plan View	Side View	Front View
Hand Grip to Manhole Access				
Rung for Cat-ladder (Parametric family)				
Safety Cage Hoop				
Safety Cage Hoop - Left (Parametric family)				
Safety Cage Hoop - Right (Parametric family)				
Side Bracket				
Side Handrail Support with Tube for Inclined Ladder				
Side Handrail Support for Inclined Ladder				
Step Iron				
Tread for Inclined Ladder (Parametric family)				

+ Insertion Point



## Section 7 – General/Chequer Plate

Name of Family	Graphic Representation			
	Isometric View	Plan View	Side View	Front View
Steel Angles (Parametric family)				
Chequer Plate (Parametric family)				
Heavy Duty Mesh Flooring (Parametric family)				

## Section 7 – General/Door

Name of Family	Graphic Representation			
	Isometric View	Plan View	Side View	Front View
Double Leaf Door for HEC (Parametric family)				
Double Leaf Stainless Steel door (Parametric family)				
Double Leaf Stainless Steel door (Parametric family)				
Double Leaf Timber Door (Parametric family)				
Single Leaf Steel Door with Steel Channel Door Frame (Parametric family)				
Roller Shutter (Parametric family)				

+ Insertion Point

Name of Family	Graphic Representation			
	Isometric View	Plan View	Side View	Front View
Single Leaf Stainless Steel Door with a single Louve (Parametric family)				
Single Leaf Stainless Steel Door with two Louvers (Parametric family)				
Single Leaf Timber Door with a single Louve (Parametric family)				
Single Leaf Timber Door (Parametric family)				


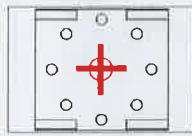



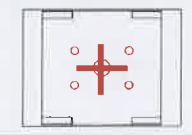





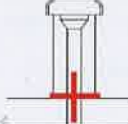


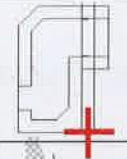








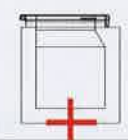
### Section 7 – General\Door\Parts

Name of Family	Graphic Representation			
	Isometric View	Plan View	Side View	Front View
Door Label - Type I (Parametric family)				
Door Label - Type II (Parametric family)				














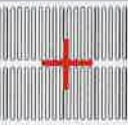


### Section 7 – General\Facilities

Name of Family	Graphic Representation			
	Isometric View	Plan View	Side View	Front View
Anti-Vortex Bench over Outlet inside SR (Parametric family)				
Bollard (Parametric family)				

+ Insertion Point

Name of Family	Graphic Representation			
	Isometric View	Plan View	Side View	Front View
Electrode Mounting Plate for Stilling Well				
Electrode Mounting plate for Stilling Well (5-holes)				
Roof Ventilator for Service Reservoir (Parametric family)				
Vent for Air Blower Room in PS				
Water Sample Collection Point at PS (Parametric family)				
Water Tank for Pumping Station				

## Section 7 – General\Grating

Name of Family	Graphic Representation			
	Isometric View	Plan View	Side View	Front View
Bars Grating (Parametric family)				
Grating - Type 1 - Capsule Void (Parametric family)				
Grating - Type 1 - Rectangular Void (Parametric family)				
Grating - Type 2 - Capsule Void (Parametric family)				

+ Insertion Point

Name of Family	Graphic Representation			
	Isometric View	Plan View	Side View	Front View
Grating - Type 2 - Rectangular Void (Parametric family)				
Grating - Type 3 (Parametric family)				
Grating - Floor Drain (Parametric family)				

### Section 7 – General\Joint Sealant

Name of Family	Graphic Representation			
	Isometric View	Plan View	Side View	Front View
Movement joint (Parametric family)				

### Section 7 – General\Joint Sealant\Profile

Name of Family	Graphic Representation			
	Isometric View	Plan View	Side View	Front View
Waterstop with Centre-bulb and Eyeleted profile (Profile)		Nil	Nil	Nil
Waterstop Plain Web and Eyeleted profile (Profile)		Nil	Nil	Nil

+ Insertion Point







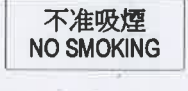



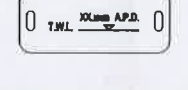















## Section 7 – General\Louvre

Name of Family	Graphic Representation			
	Isometric View	Plan View	Side View	Front View
Exhaust Fan Cowl (Parametric family)				
Louvre and Frame with Xpelair Fan (Parametric family)				
Louvre (Parametric family)				
Louvre with Mesh inside (Parametric family)				
Cover for Louvre (Parametric family)				





## Section 7 – General\Sign Plate

Name of Family	Graphic Representation			
	Isometric View	Plan View	Side View	Front View
Concrete Name Panel on walls of Service Reservoir (Parametric family)				
Name Board (Parametric family)				
Name Plate (Parametric family)				
Sign Plate				


+ Insertion Point

Name of Family	Graphic Representation			
	Isometric View	Plan View	Side View	Front View
Sign Plate - Category 4 Dangerous Goods				
Sign Plate - No Smoking				
Top Water Level Marker Plate (Parametric family)				
Wall Joint Number Horizontal Marker (Parametric family)				
Wall Joint Number Vertical Marker (Parametric family)				
Warning Sign				

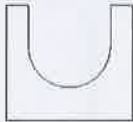
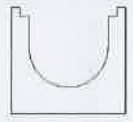
## Section 7 – General\U-Channel

Name of Family	Graphic Representation			
	Isometric View	Plan View	Side View	Front View
U-Channel Grating - Steel (Parametric family)				

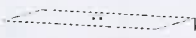



## Section 7 – General\U-Channel\Profile

Name of Family	Graphic Representation			
	Isometric View	Plan View	Side View	Front View
Surface Channel profile (Profile)		Nil	Nil	Nil








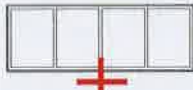








+ Insertion Point

Name of Family	Graphic Representation			
	Isometric View	Plan View	Side View	Front View
Stepped U-Channel profile (Profile)		Nil	Nil	Nil
U-Channel profile (Profile)		Nil	Nil	Nil

### Section 7 – General\U-Hooks

Name of Family	Graphic Representation			
	Isometric View	Plan View	Side View	Front View
U-Hooks (Parametric family)				

### Section 7 – General\Windows

Name of Family	Graphic Representation			
	Isometric View	Plan View	Side View	Front View
Double Glazed Fixed Aluminium Windows - 2 Bays (Parametric family)				
Double Glazed Fixed Aluminium Windows - 4 Bays (Parametric family)				
Double Glazed Sliding Aluminium Window (Parametric family)				
General Single Window (Parametric family)				

 Insertion Point

Name of Family	Graphic Representation			
	Isometric View	Plan View	Side View	Front View
General Windows - 4 Bays (Parametric family)				
Glass Block Window (Parametric family)				
Side Hung Open Outward (Left) (Parametric family)				
Side Hung Open Outward (Right) (Parametric family)				
Single Window with Propeller Fan on top (Parametric family)				
Top Hung Open Outward Window (Parametric family)				
Window with Propeller Fan on top (Parametric family)				









## Section 8 – Structure Steel Beam and Channel

Name of Family	Graphic Representation			
	Isometric View	Plan View	Side View	Front View
Steel Channel Runner (Parametric family)				
Steel Channel (Parametric family)				
Universal Beam (UB) (Parametric family)				

+ Insertion Point

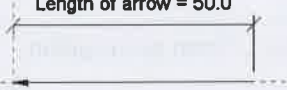




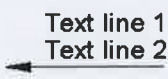

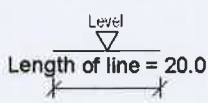










## Section 8 – Structure\Steel Column

Name of Family	Graphic Representation			
	Isometric View	Plan View	Side View	Front View
Steel Channel (Parametric family)				
Universal Column (UC) (Parametric family)				

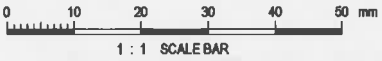



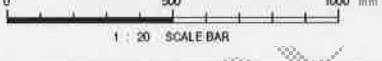
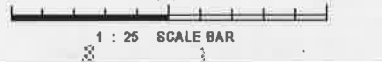
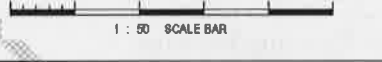
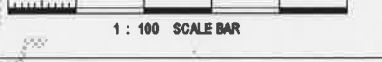
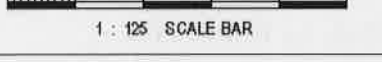





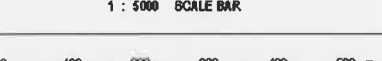

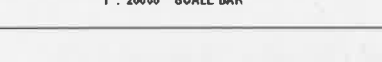
+ Insertion Point

## Section 9 – Presentation/Annotation

Name of Family	Illustration
Directional Arrow	 <p>Length of arrow = 50.0</p>
Callout Head	 <p>Ref</p>
Door Tag	
Fixed Annotation Label Tag	<p>FIXED</p>
Grid Mark	
Keynote Tag	
Label for Direction of Water Flow	 <p>Text line 1 Text line 2</p>
Label for Pipe	<p>Comments</p>
Label for Descriptive Notes	<p>Description Line1 Description Description Line2</p>
Multiple Leader Arrow Heads	<p>Spacing between arrow = 5.0</p>  <p>Text</p>
Existing Level Mark on Section and Elevation	 <p>Level Length of line = 20.0</p>

Existing Level Mark on Plan	<p>Level</p> 
Lourve Mark	
Proposed Level in metre – on Plan	<p>Name</p> <p>Elevation</p> 
Proposed Level in metre – on Section or View	<p>Name Elevation</p> 
Label Tag for Handrail	<p>Description Line1 This is a sample description</p> <p>Description Line2</p>
Label Tag for Reinforcing Bars	<p>Quantity1i - Rebar Number -Spacing</p>
Label Tag for 25mm annotation	<p><u>Room name</u></p> <p><u>Volume</u></p> <p><u>101</u></p>
Label Tag for 35mm annotation	<p><u>Room name</u></p> <p><u>Volume</u></p> <p><u>101</u></p>
Section Mark	
Slide annotation label tag	<p>SLIDE</p> 
Text Label	<p>Label</p>
View Title	<p><u>View Name</u></p> <p>View Scale</p>
Window Mark	
Symbol for View	 <p>VIEW NAME</p>











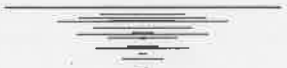
## Section 9 – Presentation\Annotation\Scale Bar

Name of Family	Illustration
S1	 1 : 1 SCALE BAR
S2	 1 : 2 SCALE BAR
S5	 1 : 5 SCALE BAR
S10	 1 : 10 SCALE BAR
S20	 1 : 20 SCALE BAR
S25	 1 : 25 SCALE BAR
S50	 1 : 50 SCALE BAR
S100	 1 : 100 SCALE BAR
S125	 1 : 125 SCALE BAR
S200	 1 : 200 SCALE BAR
S250	 1 : 250 SCALE BAR
S500	 1 : 500 SCALE BAR
S1000	 1 : 1000 SCALE BAR
S2000	 1 : 2000 SCALE BAR
S5000	 1 : 5000 SCALE BAR
S10000	 1 : 10000 SCALE BAR
S20000	 1 : 20000 SCALE BAR



## Section 10 – Presentation\Line Type

Name of family	Illustration
Line type	RW — RW — RW — RW







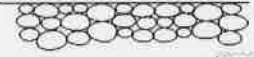
















#### Section 10 – Presentation\Symbol

Name of family	Illustration
Break Mark	
Granular Material	
North Arrow Indicator - General	
North Arrow Indicator - Key Plan	
Mark for Opening/Box-out	
Break Mark for Round Object	
Granular Material in Section View	
Grass Surface/Hydroseeding	
Soil Surface in Section View	
Tree	
Water Surface in Section View	

#### Section 10 – Presentation\Symbol\Parts

Name of family	Illustration
Proposed Granular Material 0.5	
Proposed Granular Material 0.75	



































Proposed Granular Material	
Existing Granular Material Surface 0.5	
Existing Granular Material Surface 0.75	
Existing Granular Material Surface	
Proposed Granular Material Surface 0.5	
Proposed Granular Material Surface 0.75	
Proposed Granular Material Surface	
Existing Grass surface 0.5	
Existing Grass surface 0.75	
Existing Grass surface	
Proposed Grass surface 0.5	
Proposed Grass surface 0.75	
Proposed Grass surface	
Existing Soil surface 0.5	
Existing Soil surface 0.75	
Existing Soil surface	
Proposed Soil surface 0.5	
Proposed Soil surface 0.75	
Proposed Soil surface	
Tree 0.5	
Tree 0.75	
Tree	
Water Surface 0.5	

Water Surface 0.75	
Water Surface	









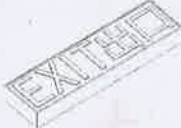











Provisional Copy

## 3.0 Library Component for Electrical Discipline

### Section 1 – Lighting

Name of Family	Graphic Representation			
	Isometric View	Plan View	Side View	Front View
Fluorescent Luminaire 600mm Single				
Fluorescent Luminaire 1200mm Single				
Fluorescent Luminaire 1200mm Twin				
Fluorescent Luminaire 1200mm Twin Metal Reflector				
Fluorescent Luminaire 1500mm Single				
Fluorescent Luminaire 1500mm Twin				
Fluorescent Luminaire 1500mm Twin Metal Reflector				
Fluorescent Lighting Panel Triple Tubes 1200x600mm				

+ Insertion Point

Name of Family	Graphic Representation			
	Isometric View	Plan View	Side View	Front View
Bulkhead Lighting				
Highbay Lighting				
Exit Sign				
MCB Distribution Board (Single Phase)				
MCB Distribution Board (3 Phase)				

+ Insertion Point



## 4.0 Detail Level and Element Visibility

Visibility of a family determines in which view the family displays and what it looks like in that view, whereas Detail Level determines the visibility of elements at different levels of detail, such as Coarse, Medium or Fine.

Typically, the geometry of an element created by a Family will change depending on the current project view. In a plan view, users may want to see a 2D representation of the element. On the contrary, users may want a fully detailed 3D representation of the element in a 3D or elevation view.

The detail level in a project view can be controlled with the Detail Level option on the view control bar. Users can also set the visibility and detail level of any 2D and 3D geometry in the family after creation.

## 5.0 Category

A category is a group of elements that users use to model or document a design.

The family category specified when a family is created determines which family parameters are activated. The settings for these family parameters affect the behaviour for the part and identifies the type of component.

In creating a family, it should be assigned to an appropriate category. The category is defined as its top level of identification (for example: Door, Window or Pipe Fitting) within the project environments.

Categories are predefined in Revit and cannot be created or changed by users. If a family component cannot be classified into any category, the Generic Models may be the best choice.

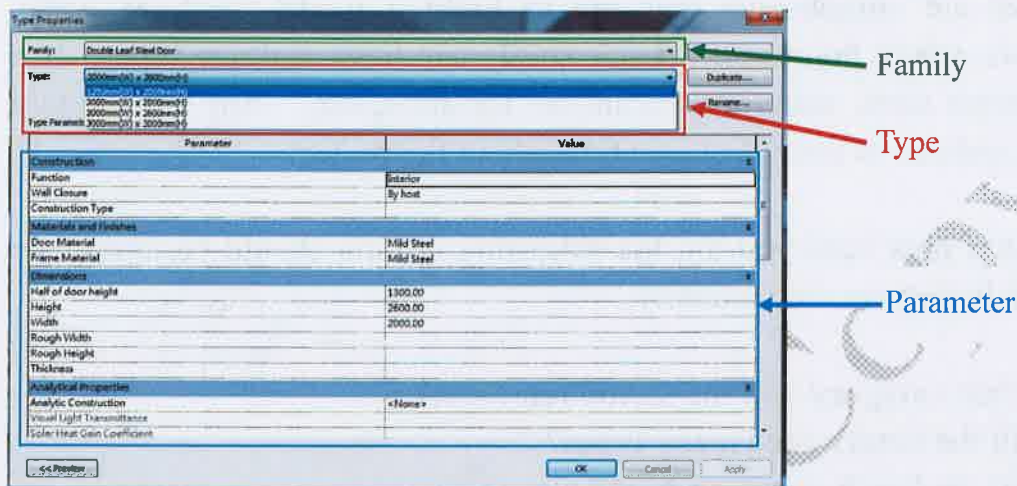
## 6.0 Consideration for Creating Revit Family

Families are components that use to build a model, such as walls, windows, stairs, doors, etc. Each family can have multiple types, such as different sizes, materials, parameter variables, etc. Any change to a type is updated in every instance throughout the project.

No matter how hard you try, the following criteria should be taken into account before creating a family.

- Which **category** will the family represent?
- Will the family need many **types**?
- Will the family require a **host**?
- Where is the family **insertion point**?
- How will the family display at **each detail level**?
- How will the family display from **each view direction**?
- Will the family need **material control**?
- Will the family parameter appear in **schedules or tags**?

## 7.0 Family, Type and Parameter Naming Conventions



### 7.1 Family Naming

The primary means of identifying families in Revit is the **Family** name. A **Family** name shall include a descriptor that enables users to search for a **Family** by element and family types.

For the standards and guidelines for family naming conventions in Revit, reference can be made to the provisional copy of **Chapter 5.3 to Building Information Modelling, Standards Manual, Drawing Office**.

### 7.2 Type Naming

A **Type** name is a description used to provide identification of a family having members with different characteristics, such as units, dimensions and materials.

The guidelines for **Type** naming shall be readable and legible to reflect its content of features. For example,

- Do not include the **Family** name or category in the **Type** name;
- **Type** name should mirror the actual usage; and



- Keep **Type** names as short as possible, and the names must display in dialogs and in the Type Selector.

## 7.3 Parameter Naming

A **Parameter** name is a description used to control values of variables of a family, such as dimensions or materials. It also enables users to understand the functions of the parameter.

The guidelines for **Parameter** naming are as follows:-

- Avoid abbreviation and truncation;
- Keep parameter names as short as possible;
- Use title casing for parameter names as they are case sensitive;
- Avoid using symbols in parameter names, including the reserved characters;
- Do not include units in the name of a parameter; and
- Name Yes/No parameters so they imply that they return a Yes/No value. For example:
  - Has Handle
  - Is Flush
  - Show Mount

## 8.0 Reference

This Revit User Guide for Building Library Component is written with reference to the following documents:-

- Building Information Modelling (BIM) Library Component Design Guide for Development and Construction Division of Hong Kong Housing Authority, Version 1.0 July 2009
- The Family Library Interchange Program (FLIP) Guidelines, Version 1.0, 2015

Provisional Copy



香港特別行政區政府水務署  
Water Supplies Department  
The Government of the Hong Kong  
Special Administrative Region