

# BIM MODELLING MANUAL

*Second Edition, May 2019*

DRAINAGE SERVICES DEPARTMENT

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*Government of the Hong Kong  
Special Administrative Region*



## Table of Content

1.	Introduction.....	1
1.1	Objective .....	1
1.2	Acronyms and Abbreviations.....	1
2.	Project Setup.....	2
2.1	Folder Structure.....	2
2.2	Shared Drive .....	13
3.	Naming Convention .....	14
3.1	Introduction.....	14
3.2	Model File Naming .....	14
3.3	Object File Naming.....	24
3.4	View Naming .....	26
4.	Modelling Fundamental .....	27
4.1	Model Coordinates and Orientation .....	27
4.2	Model Scale & Unit.....	27
4.3	Presentation Styles .....	29
4.4	Model Division.....	31
4.5	Model Control.....	31
4.6	Model Link .....	33
4.7	Software.....	34
5.	Level of Development (LOD).....	36
5.1	Introduction.....	36
5.2	LOD - G.....	36
5.3	LOD - I.....	37
5.4	LOD Responsibility Matrix.....	39
6.	Quality Control .....	40
6.1	BIM Compliance Check.....	40
7.	Construction Operations Building Information Exchange (COBie) .....	44
7.1	Definition of COBie.....	44
7.2	COBie Worksheet.....	44
7.3	COBie Colour Code .....	46
7.4	COBie Mapping .....	47
7.5	COBie Export for Asset Management.....	51
8.	Reference .....	53
9.	Appendices.....	54
	Appendix A - Acronyms and Abbreviations	
	Appendix B - District Code	
	Appendix C - Folder Structure	

- Appendix D - Feature Code
- Appendix E - Model File Naming
- Appendix F - Object File Naming and Object Sheet
- Appendix G - DSD CAT CODE and DSD SUB-CAT CODE
- Appendix H - Attribute Table and DSD Asset Code Naming
- Appendix I - Space / Room Code and E&M System / Grid Code
- Appendix J - LOD Specification
- Appendix K - COBie Sample Worksheets
- Appendix L - Model and Object Checklist

## Revision Control Sheet Summary

Revision	Issue Date	Amendment Incorporated
First Edition	19 December 2017	NA
Second Edition	29 May 2019	NA

	Prepared by	Checked by	Reviewed by	Approved by
Party	Drawing Offices	Various	DSD BIM Working Group (WG) Members	DSD BIM WG Chairman

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## 1. Introduction

### 1.1 Objective

1.1.1 The BIM Modelling Manual (hereinafter called Manual) provides guidance in creating Building Information Modelling (BIM) models for drainage / sewerage facilities / networks managed and maintained by Drainage Services Department (DSD). Facilities include sewage treatment plants, pumping stations and underground storage tanks while such networks include tunnels, outfalls, box culverts, river training and other underground assets.

1.1.2 This Manual should be followed with an aim to:-

- (a) producing standardized, quality and interoperable BIM models / deliverables;
- (b) promoting use of BIM models throughout the whole project life cycle;
- (c) facilitating collaboration, communication and information / data exchange amongst related projects;
- (d) fostering an efficient and effective workflow;
- (e) enabling asset data in BIM models to transfer to the existing asset management (AM) and facility management (FM) systems.

### 1.2 Acronyms and Abbreviations

1.2.1 Full list of acronyms and abbreviations is at **Appendix A**.

## 2. Project Setup

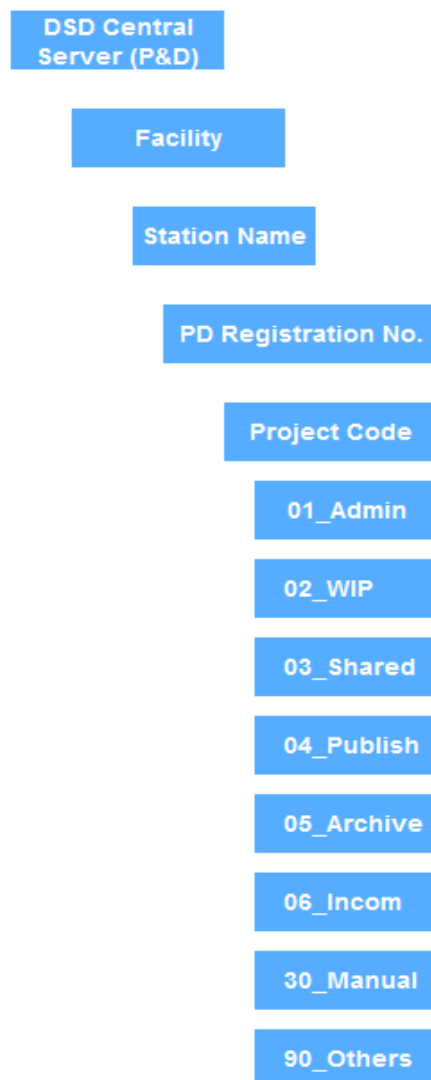
### 2.1 Folder Structure

2.1.1 The folder structure is developed with reference to BS 1192, BS 8356 and PAS 1192 so as to enable the generation, sharing, handing over and operation and maintenance (O&M) of information in a systematic manner.

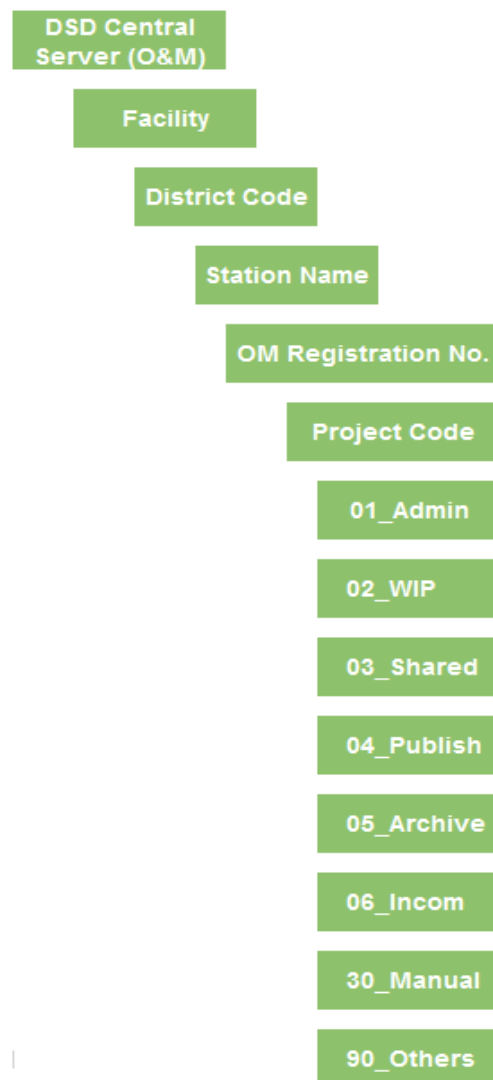
2.1.2 The folder structure for drainage and sewerage facilities and networks at project & O&M stages are as follows:-.

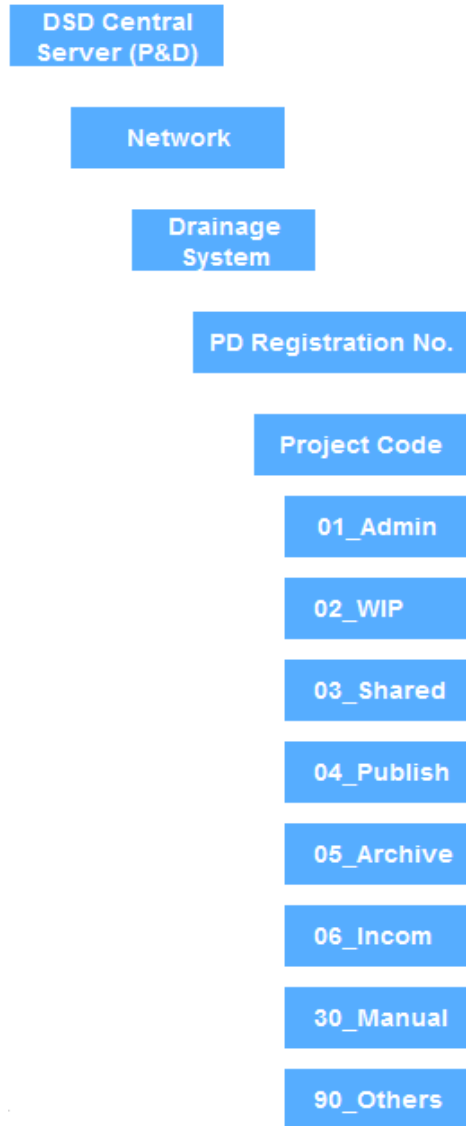
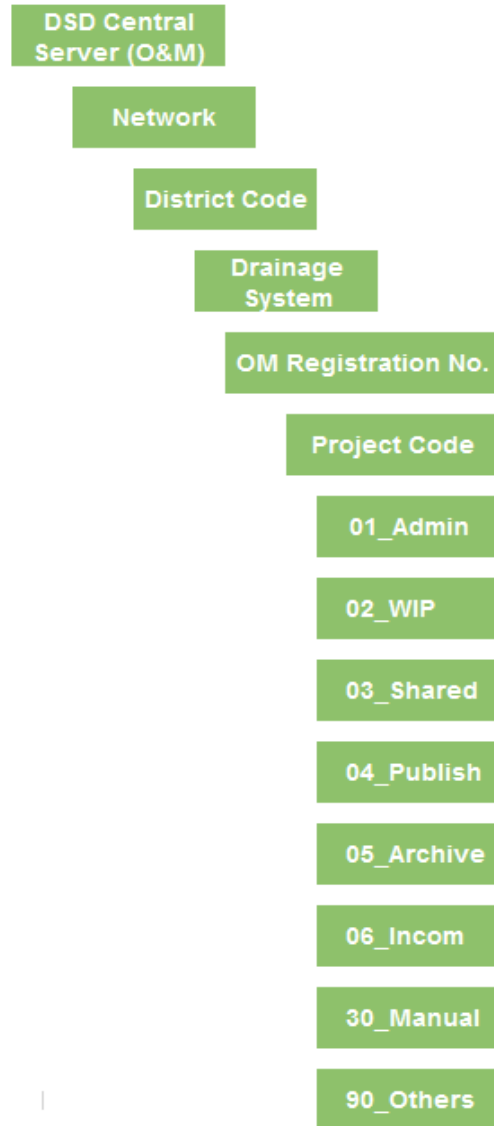
#### For Facility

##### Project Stage



##### O&M Stage



For NetworkProject StageO&M Stage

Asset Type	It is categorized into Facility or Network
District Code	It should be assigned by division responsible for maintaining a Facility or Network and is only applicable in O&M stage
Station Name	It is only applicable to Facility and refers to the abbreviation of the name of sewage treatment plant, pumping station or underground storage tank
Drainage System	It is only applicable to Network and is categorized into Stormwater or Sewerage
PD Registration No	PD Registration No is a number assigned by the DSD BIM support team to a project with BIM use in project stage
OM Registration No	OM Registration No is a number assigned by the DSD BIM support team to a project with BIM use in O&M stage
Project Code	It refers to contract no, agreement no or temporary project number assigned by drawing offices
01_Admin	To store project management information such as contract documents, project BIM Execution Plan, seed files / templates etc
02_WIP	To store work-in-progress (WIP) model files and documents that have not been checked and verified by project BIM coordinators
03_Shared	To store model files / documents that have been checked and verified by project BIM coordinators such that the model files are ready for sharing and collaboration

04_Publish	To store all model files / documents generated from BIM process that have been approved by project BIM manager
05_Archive	To store all obsolete project information
06_Incom	To store all incoming files including but not limited to sketches, drawings, images, 3D spatial data as well as reference materials
30_Manual	To store all information related to O&M such as testing & commissioning (T&C) reports, catalogues, certificates and O&M manual
90_Others	To store all other miscellaneous information which cannot be classified under the above folders

### Asset Type

- 2.1.2.1 Asset Type is categorized into Facility or Network. For the avoidance of doubt, sewage treatment plant, pumping station and underground storage tank are classified as Facility while other type of assets including sewerage / effluent / drainage tunnel, submarine / seawall outfall, box culvert, river training and other underground pipe are classified as Network.

### District Code

- 2.1.2.2 The District Code is to enable the easy retrieval of information. The general layout plan showing the District Code of Network and tables showing the District Code for Facility and Network are at **Appendix B**.

For Facility

Location	Responsible Division	District	District Code
Hong Kong and Island	STD2	Central & Western	CW
	STD2	Eastern	E
	STD2	Southern	S
	STD2	Wan Chai	WC
Kowloon	STD2	Kowloon City	KC
	STD2	Kwun Tong	KT
	STD2	Sham Shui Po	SSP
	STD2	Wong Tai Sin	WTS
	STD2	Yau Tsim Mong	YTM
New Territories	STD2	Islands	I
	STD2	Kwai Tsing	KWT
	STD1	North New Territories	NNT
	STD1	Sai Kung	SK
	STD1	Sha Tin	ST
	STD1	Tai Po	TP
	STD2	Tsuen Wan	TW
	STD1	Sham Tseng and Tuen Mun	SmT_TM
	STD1	Yuen Long and North West Territories	YL_NWNT

For Network

Location	Responsible Division	District Code
Hong Kong and Island	HK&ID	W1
		W2
		W3
		W5
		W6
		E1
		E2
		E3
		E5
		L1
		L2
		L3
		L5
Kowloon	MSD	K1
		K2
		K3
		K4
		K5
		K6
		K7
		K8
		K9
		KTD
New Territories	MND	TK1
		TK2
		TK3
		TK4
		TKO
		SK
		MOS

Location	Responsible Division	District Code
New Territories	MND	TM1
		TM2
		TM5
		YL2
		YL3
		YL4
		SM4
		N1
		N2
		N3
		N4
		SD
		TP2
		TP3
		TP4

#### Station Name / Drainage System

- 2.1.2.3 Station Name refers to the abbreviation of the name of a Facility and should be agreed between the project team and O&M team at the onset of a project. Drainage System is only applicable to Network and is categorized into Stormwater or Sewerage. Examples are appended below for reference:-

Station Name	Abbreviation
Shek Wu Hui Sewage Treatment Works	SWHSTW
Ma On Shan Sewage Pumping Station No.1	MOSSPS01
Happy Valley Underground Stormwater Storage Tank	HVUSST

Drainage System	Abbreviation
Stormwater	SW
Sewerage	FW



PD Registration No / OM Registration No

- 2.1.2.4 The registration number is assigned by DSD BIM support team for ease of internal administration. Civil and Electrical and Mechanical (E&M) related projects will be assigned with the same registration number. It should be in the form of “ZZYYYYXXX”. “ZZ” denotes either “PD” for project team or “OM” for O&M team whenever applicable. “YYYY” denotes year and “XXX” denotes the order of that project in a particular year. If it is the first project with BIM use by a project team in 2018, then the PD Registration No. should be “PD2018001”.

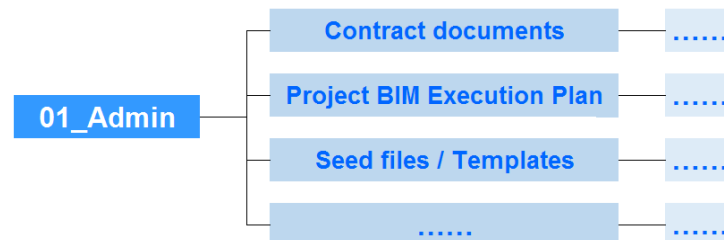
Project Code

- 2.1.2.5 The Project Code should be adopted in the following sequence. Contract No. should be used whenever available. If the project is in design stage, Agreement No. should be used. If Agreement No. is not available, then the temporary project number assigned by the respective drawing office should be used. Examples are as follows:-

Project	Code
Contract No. DC/2015/02	DC201502
Contract No. DE/2017/04	DE201704
Minor Works Contract No. DEMP/2017/08	DEMP1708
Agreement No. CE 30/2014 (DS)	CE302014
Agreement No. EMP 01/2013	EMP0113
Temporary project number	S1609
Temporary project number	DEM1663

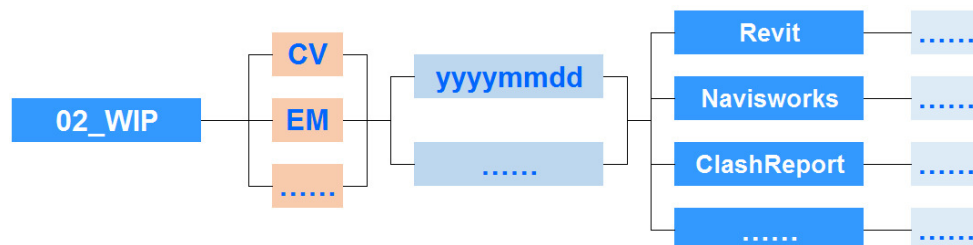
## 01 Admin

- 2.1.2.6 This folder is to store project management information such as contract documents, project BIM Execution Plan, seed files / templates etc.



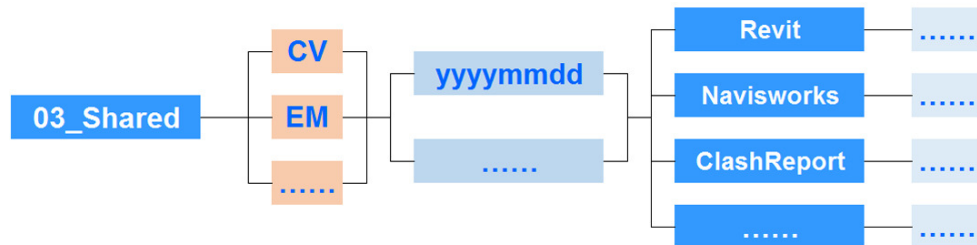
## 02 WIP

- 2.1.2.7 This folder is to store work-in-progress (WIP) model files and documents that have not been checked and verified by project BIM coordinators. For clarity, model files under trial should be saved in this folder.



### 03 Shared

- 2.1.2.8 This folder is to store model files / documents that have been checked and verified by project BIM coordinators such that the model files are ready for sharing and collaboration.



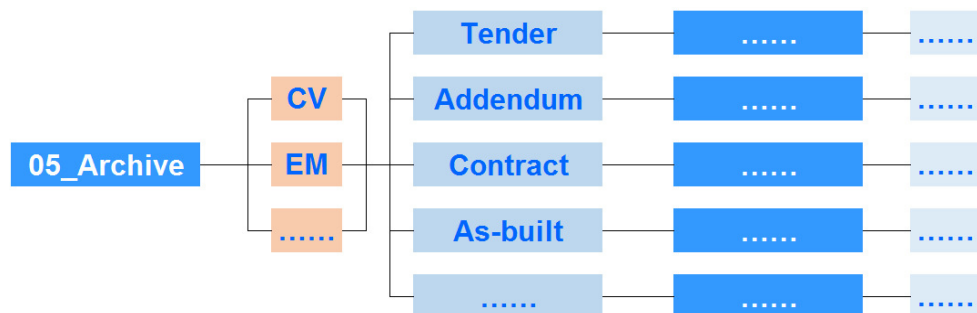
### 04 Publish

- 2.1.2.9 This folder is to store all model files / documents generated from BIM process that have been approved by project BIM manager.



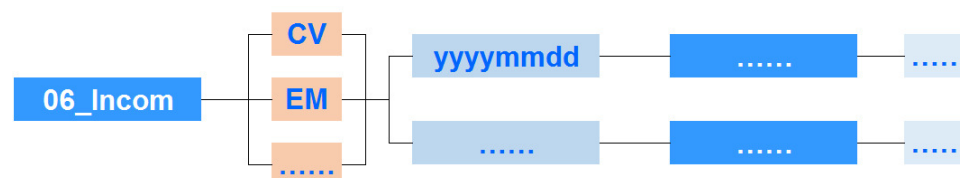
### 05 Archive

- 2.1.2.10 This folder is to store all obsolete project information.

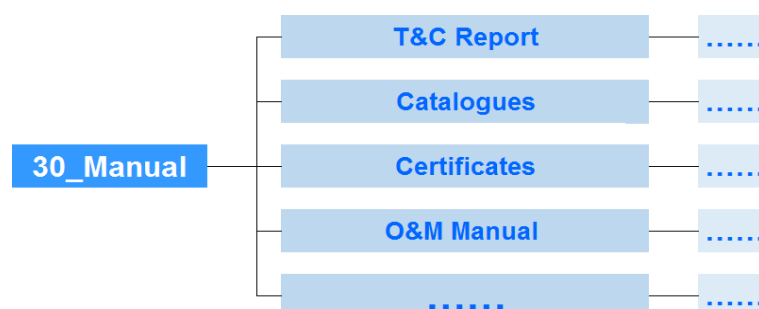


06\_Incom

2.1.2.11 This folder is to store all incoming files including but not limited to sketches, drawings, images, 3D spatial data as well as reference materials.

30\_Manual

2.1.2.12 This folder is to store all information related to O&M such as testing & commissioning (T&C) reports, catalogues, certificates and O&M manual. Link to this folder may be added in a BIM model.

90\_Others

2.1.2.13 This folder is to store all other miscellaneous information which cannot be classified under the above folders.



2.1.3 For the avoidance of doubt, federated model shall be stored at CV folder. A diagram showing the proposed folder structure is at **Appendix C**.

## 2.2 Shared Drive

- 2.2.1 BIM server will be set up and mainly be divided into two partitions, with one for project team and the other for O&M team. The main advantage to divide into two partitions is to enable the proper management of BIM models and information in project stage and O&M stage.
- 2.2.2 Upon request, Information Technology Management Unit (ITMU) of DSD can assist to create a shared drive to facilitate the information exchange for projects. Access control to folders in the shared drive can also be set up.
- 2.2.3 ITMU can be requested to set up a private cloud service (M Folder) to facilitate information exchange with consultants / contractors. Please refer to “M-Folder User Guide for Contractors and Consultants” prepared by ITMU for details, which may be updated from time to time due to technological advancement.

### 3. Naming Convention

#### 3.1 Introduction

3.1.1 This section describes the naming convention of file for BIM model and object.

3.1.2 File name of BIM model, object and model element should follow a consistent naming convention. The general notes on naming convention are summarized as follows:-

- (a) only alphabetic letters A-Z, hyphen, underscore and numbers 0-9 should be used for all fields;
- (b) all fields should be separated by a hyphen character “-” or an underscore “\_”; space should not be used;
- (c) a single period character “.” should only be used to separate the filename from the extension; and
- (d) file extension should not be amended nor deleted.

3.1.3 Once a file name is created, care should be taken in renaming the file which may invalidate links created amongst models.

#### 3.2 Model File Naming

3.2.1 All BIM model file names should be composed of 8 fields (excluding file extension) separated by a hyphen “-” according to the format below unless or otherwise specified:-

<Identity Code>-<Project Code>-<Discipline Code>-<Feature Code>-  
<Location Code>-<Level Code>-<Type of Model File Code>-<Revision Code>-<File Extension>

<b>Field</b>	<b>Format</b>	<b>Definition and Details</b>
Identity Code	3 Alphanumeric	It refers to the Agent Responsible Codes (ARCs) of consultants / contractors registered under the Computer-Aided Drafting Standard for Works Project (CSWP) or codes assigned to various divisions / units of DSD defined in paragraph 3.2.1.1
Project Code	4 to 8 Alphanumeric	Same as paragraph 2.1.2.5
Discipline Code	2 Alphabetic	It refers to the discipline of a model file
Feature Code	2 to 6 Alphabetic	It refers to an area of a facility or feature in a project which the model file relates to
Location Code	3 Alphanumeric	It refers to a location or group of location in a project which the model file relates to
Level Code	2 to 3 Alphanumeric	It refers to a level, or group of level in a project which the model file relates to
Type of Model File Code	1 Alphabetic	It refers to the type of a model file
Revision Code	2 to 3 Alphanumeric	It refers to the revision of a model file
File Extension	.rfa	It refers to the file extension (Use Revit as a reference only)

### Identity Code

3.2.1.1 The Identity Code for various divisions of DSD are the same as the Agent Responsible Codes (ARC) registered under Computer-Aided Drafting Standard for Works Projects (CSWP)'s ARC v3.07.00 published by Development Bureau (DEVB) except Harbour Area Treatment Scheme Division (HATSD) and Building Civil Maintenance (BCM) unit who have no ARC code and Sewerage Treatment Division 1 (STD1) and 2 (STD2) who share the same ARC with Electrical and Mechanical Projects Division (E&MPD). However, for BIM internal administrative purpose, the Identity Code of HATSD, STD1 and STD2 and BCM unit have to be defined. The Identity Code for consultants / contractors should be the one registered under CSWP's ARC v3.07.00. The Identity Code for various divisions / units of DSD, consultants and contractors are tabulated as follows:-

<b>Division / Unit</b>	<b>Identity Code</b>
Harbour Area Treatment Scheme Division	DDA
Hong Kong & Islands Division	DDH
Building Civil Maintenance Unit	DDB
Mainland South Division	DDM
Mainland North Division	DDN
Land Drainage Division	DDL
Consultants Management Division	DDC
Project Management Division	DDP
Sewerage Projects Division	DDS
Drainage Projects Division	DDD
Electrical & Mechanical Projects Division	DDE
Sewerage Treatment Division 1	DDX
Sewerage Treatment Division 2	DDY
Engineering Survey Unit	DDU
Consultants / contractors	Refer to ARC (see examples below)



## Consulting Engineers

Development Bureau  
CAD Standard for Works Projects  
Agent Responsible Codes V 3.07.00

### CONSULTING ENGINEERS

Consulting Engineer	ARC
ACLA Limited	ACD
AECOM Asia Company Limited	ACM
AIM Group Limited	AIM
Associated Consulting Engineers	ACE
Atkins China Ltd	ATK
Au Posford Consultants Ltd	APC
Aurecon Hong Kong Limited	AUR
Babtie Asia Ltd	BAL
Binnie Black & Veatch Ltd	BBV
Black & Veatch Hong Kong Limited	B&V
Bridgewater & Coulton Limited	BCL
BMMK, Ratcliffe Hoare & Co	BRH
BMT Asia Pacific Limited	BMA
CM Wong & Associates Ltd	CMW
Camp Dresser & McKee International Inc	CDM
Canwest Consultants Limited	CAN
Citex Asia Limited	CTA
CH2M Hill (China) Limited	CHM
CSE International Limited	CSE
C.S. Toh & Sons & Associates Limited	CTS
Daniel Chan & Associates Ltd	DCA
D G Jones and Partners (Hong Kong) Ltd	DGJ
Davis Langdon & Seah Hong Kong Limited	DLS
DTZ Debenham Tie Leung Project Services Limited	DTZ
Earthasia Limited	ERL
ESA Consulting Engineers Ltd	ESA
EDAW Limited	EDL
Far East Consulting Engineers Ltd	FEC
Ferrier Chan & Partners Limited	FCP
Fugro (Hong Kong) Limited	FUG
GHD Limited	GHD
Gregory Asia Ltd	GAL
Greg Wong & Associates Ltd	GWA

## Contractors

Development Bureau  
CAD Standard for Works Projects  
Agent Responsible Codes V 3.07.00

### CONTRACTORS - A

Contractor	ARC
A.E.S. Destructive & Non-Destructive Testing Limited	AES
ABB (Hong Kong) Limited	ABB
Able Engineering Company Limited	AEC
ABS Worldwide Technical Services, Inc.	ABS
Access Control Systems Limited	ACS
Action Design Company Limited	ADC
Active Way Limited	AWL
ADC Engineering Trading Company Limited	AET
Adrian Engineering Limited	ADR
Advance Specialist Treatment Engineering Limited	AST
Advanced Communication Equipment (International) Company Limited	ADV
Alfa Engineering Company Limited	ALF
Alga (Far East) Limited	ALG
Alliance Contracting Company Limited	ALC
Allink Hong Kong Limited	ALK
Alpha Building Construction Limited	ABC
AMEC Electrical and Mechanical Engineers Limited	AME
AMEC International Construction Limited	AMC
An Hsin Construction Company Limited	AHC
Anderson Asphalt Limited	AND
Andrew Lau & Associates (China) Limited	ALA
Aoki Corporation	AOK
Aquality Engineering Company Limited	AQU
Arnhold & Company, Limited	ARN
Amlee Engineering Limited	ARL
Artcom Computer Project Company Limited	ART
ASC (HK) Limited	ASC
Asia Construction Co., Limited	ACC
Asia Landscaping Limited	ASL
Asia Rock Art Limited	ARA
Asian (Ah Chi) Engineering and Construction Works Limited trading as Asian Construction Company	ASE
Asian Growing Engineering Limited	AGE

### Project Code

- 3.2.1.2 The definition of Project Code should be the same as defined in paragraph 2.1.3.5.

### Discipline Code

- 3.2.1.3 It refers to the discipline of a model file. A referenced definition of Discipline Code is tabulated below. Agreement should be sought from DSD BIM support team on any changes to the Discipline Code. The Discipline Code “MD” is applicable to a model file which links all the latest files of different disciplines together.

<b>Discipline</b>	<b>Code</b>
Architectural	AR
Building Services	BS
Civil	CV
Control and Instrumentation	CI
Electrical	EL
Engineering Survey	ES
Landscape	LU
Mechanical	ME
Structural	ST
Stormwater	SW
Sewerage	FW
Multi-Disciplines	MD

### Feature Code

- 3.2.1.4 It refers to an area of a facility or feature in a project which the model file relates to. A referenced definition of Feature Code is tabulated below and at **Appendix D**. If it cannot be found in this Manual, project team should agree with DSD BIM support team and O&M team at the onset of a project.

<b>Feature</b>	<b>Code</b>
Activated Sludge Pumping Station	ASPS
Administration Building	ADB
Aerobic Tank	AET
Anaerobic Tank	ANT
Anoxic Tank	AXT
Bioreactor	BRC
Box Culvert	BOC
Car Park	CAP
Channel	CHL
Chemical Enhanced Primary Treatment Works	CEPTW
Chemical Waste Store	CWS
Coarse Screen Facility	CSF
Detritor	DTR
Drainage Tunnel	DUN
Dry Weather Flow Interceptor	DWFI
Effluent Pumping Station	EPS
Engineering Survey Products	ESP
Final Sedimentation Tank	FST
Fine Screen Facility	FSF
Grit Trap Facility	GTF
Inlet Pumping Station	IPS
Maintenance Access	MAS
Major Secondary Treatment Works	MASTW
Minor Secondary Treatment Works	MISTW
Miscellaneous	MIS
Moving Bed Biofilm Reactor	MBBR
Multiple Features	MF
No Feature	—
Nullah	NUL
Pipe Bridge	PPB
Preliminary / Screening Treatment Works	PSTW
Primary Sedimentation Tank	PST
Primary Treatment Works	PTW
Pump House	PUH
Reverse Osmosis Facility	ROF
Rising Main	RM

<b>Feature</b>	<b>Code</b>
Secondary Sedimentation Tank	SST
Sewage Pumping Station	SPS
Sewage Tunnel	SUN
Sludge Consolidation Tank	SCT
Sludge Dewatering House	SDH
Sludge Digester	SDR
Sludge Pumping Station	SLPS
Sludge Thickening House	STH
Solar PV Farm	SPV
Storage Area	SAA
Storage Tank	STT
Stormwater Pumping Station	SmPS
Submarine Outfall	SBO
Terrain	TER
Tertiary Treatment Works	TTW
Transformer Room	TMR
Trickling Filter	TFR
Utilities	UUS
UV disinfection facility	UVF
Water Rehabilitation System	WRS
Water Sampling House	WSH
Feature	Code

### Location Code

3.2.1.5 It refers to a location or group of location in a project which the model file relates to. Location Code is applicable for indicating the location of clustered underground asset within a contract. A reference definition of Location Code is tabulated below. If it is not applicable, project team should agree with O&M team at the onset of a project.

<b>Location</b>	<b>Code</b>
Location No. 1	L01
Location No. 18	L18

Level Code

- 3.2.1.6 It refers to a level or group of level in a project which the model file relates to. Level Code is only applicable for indicating the level of a facility or feature in a model. A referenced definition of Level Code is tabulated below. If it is not applicable, project team should agree with O&M team at the onset of a project.

<b>Level</b>	<b>Code</b>
Reference Level from Engineering Survey	ESP
Basement 2	B2
Basement 1	B1
Ground Floor	00F
First Floor	01F
Second Floor	02F
Roof	RF
Whole Building	WB
No Level	—

Type of Model File Code

- 3.2.1.7 It refers to the type of a model file tabulated as follows:-

<b>Type of Model File</b>	<b>Code</b>
Seed File / Template File	S
Proposed Works	M
Temporary Works	T
Existing Features	E
Link File	L

Revision Code

3.2.1.8 It refers to the revision of a model file in different project stages tabulated as follows:-

<b>Project Stage</b>	<b>Abbreviation</b>	<b>Revision</b>	<b>Code</b>
Feasibility	F	00,01,02...99	F01
Investigation	I	00,01,02...99	I01
Design	D	00,01,02...99	D01
Tender	T	00,01,02...99	T01
Construction	C	00,01,02...99	C01
As-constructed	AC	N/A	AC

Examples of Model File Naming

3.2.1.9 Examples of model file naming are at **Appendix E**.

### 3.3 Object File Naming

- 3.3.1 The file name of an object (**Appendix F**) should be composed of 5 fields separated by a hyphen “-” according to the format below unless or otherwise specified:

**<Class>-<Sub-class>-<Originator>-< Description1>-  
<Description2>.<File Extension>**

	<b>Format</b>	<b>Definition</b>
<b>Class</b>	3 Alphabetic	It defines as equivalent to DSD CAT CODE of a model element
<b>Sub-class</b>	3 Alphabetic	It defines as equivalent to DSD Sub CAT CODE
<b>Originator</b>	2 to 4 Alphabetic	It refers to the short form of creator of an object
<b>Description1</b>	1 to 8 Alphanumeric	It provides information about the material of an object
<b>Description2</b>	1 to 12 Alphanumeric	It provides additional information about an object for ease of identification
<b>File Extension</b>	.rfa	It refers to the file extension (Use Revit as a reference only)



Class

- 3.3.1.1 It defines as equivalent to DSD CAT CODE of a model element. Reference can be made to **Appendix G**. Any changes to DSD CAT CODE should be agreed by DSD BIM support team.

Sub-class

- 3.3.1.2 It defines as equivalent to DSD SUB CAT CODE of a model element. Reference can be made to **Appendix G**. Any changes to DSD SUB CAT CODE should be agreed by DSD BIM support team.

Originator

- 3.3.1.3 It refers to the short form of creator of an object. For example, the short form of this Department is DSD.

Description1

- 3.3.1.4 It provides information about the material of an object.

Description2

- 3.3.1.5 It provides additional information about an object for ease of identification.

File Extension

- 3.3.1.6 It refers to the file extension type. For example, if it is a Revit file type, the ending should be in “.rfa”.
- 3.3.2 Reference can be made to the respective BIM software in modelling an object.

### 3.4 View Naming

3.4.1 Examples of View Naming are tabulated as follows:-

View Type		Value
Draft		Refer to drawing practices of individual drawing office
Sheet		
Plan	Basement 1	01_B1_(+4.00mPD)
	Ground Floor	02_00F_(+8.00mPD)
	First Floor	03_01F_(+10.00mPD)
	Roof	04_RF_(+12.00mPD)
		etc...
Details		A, B, C, etc...
Elevation		A, B, C, etc...
Section		1-1, 2-2, A-A, B-B, etc...

## 4. Modelling Fundamental

### 4.1 Model Coordinates and Orientation

The base point and orientation of BIM models should be made reference to the project location, the Hong Kong 1980 Grid (HK1980 Grid) and the Hong Kong Principal Datum (HKPD). The HK1980 Grid is a local rectangular grid system based on the HK80 Datum and Transverse Mercator projection. It is used in cadastral, engineering surveying and large scale mapping in Hong Kong. All heights and levels on land refer to the Principal Datum, which is formerly known as Ordnance Datum. A True North direction (i.e. True Bearing = 0°) should be indicated in BIM models. The shared coordinates of both Project Base Point and Survey Point are recommended to be located at the leftmost bottom corner in round up figure (e.g. 835200N, 837400E), with the elevation be zero.

### 4.2 Model Scale & Unit

4.2.1 BIM model should be modelled in 1:1 true scale, and in metric and consistent units. Common model units are as follows:-

Base Units:

Name	Unit	Symbol
Length	meter / millimetre	m / mm
Area	square metre	m <sup>2</sup>
Volume	cubic metre	m <sup>3</sup>
Angle	decimal degree	°
Mass	kilogram	kg

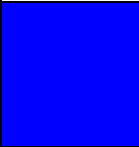
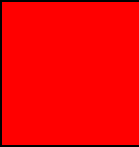
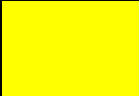






## Engineering Units:

Name	Unit	Symbol
Force	newton	N
Stress	newton per square metre	N/m <sup>2</sup>
Mass Density	kilogram per cubic metre	kg/m <sup>3</sup>
Power	watt	W
Pressure	Pascal	Pa
Temperature	Celsius	°C
Velocity	metre per second	m/s
Flow	litre per second	l/s
Duct / Pipe Size	millimetre	mm
Cooling Load	kilowatt	kW
Heating Load	kilowatt	kW
Current	Ampere	A
Electrical Potential	Volts	V
Frequency	Hertz	Hz
Illuminance	Lux	Lx
Wattage	Watt	W
Colour Temperature	Kelvin	K
Apparent Power	kilovolt-ampere	kVA
Energy	Joules	J

## 4.3 Presentation Styles

### 4.3.1 Colour Scheme

- 4.3.1.1 All colours in model elements should be in a standard range, chosen and applied in accordance with BS 4800 unless or otherwise specified. The colour scheme of different model elements should be presented as follows whenever applicable:-

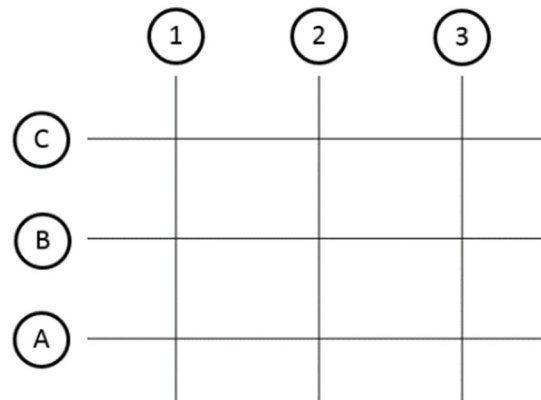
Discipline	Model Element(s)	BS 4800	RGB Color	Color Palette
Stormwater / Sewerage	Stormwater (except Tunnel / Box Culvert)	NA	0, 0, 255	
	Sewerage (except Tunnel / Box Culvert)	NA	255, 0, 0	
	Stormwater – Tunnel / Box Culvert	NA	255, 255, 0	
	Sewerage – Tunnel / Box Culvert	NA	255, 0, 255	
	Stormwater (Abandoned)	06 C 37	168, 116, 86	
	Sewerage (Abandoned)	06 D 45	143, 91, 63	
Structural	Foundation, Wall, Column	08 B 25	119, 104, 93	
	Slab, Roof, Stair	00 A 09	130, 131, 133	
	Beam	00 A 13	90, 90, 91	

Discipline	Treatment / System(s)	BS 4800	RGB Color	Color Palette
<b>E&amp;M</b>	Primary Treatment	00 E 53	47, 47, 48	
	Sludge Treatment	06 C 39	114, 80, 59	
	Chemical Treatment	16 E 50	158, 215, 208	
	Aeration Treatment	20 E 51	108, 164, 211	
	Biological Treatment	06 C 33	226, 193, 159	
	Effluent System	18 E 50	173, 212, 218	
	Mechanical System	10 E 53	233, 193, 0	
	Lighting System	04 E 49	245, 219, 212	
	Electricity Supply System	14 E 51	93, 173, 115	
	Fire Service System	04 E 55	197, 73, 55	
	Supply Air System	12 E 53	153, 176, 63	
	Exhaust Air System	20 D 45	63, 95, 132	
	Deodorization System	24 E 53	137, 95, 143	
	Biogas System	14 C 39	66, 94, 79	
	All other minor fixed equipment / system	06 E 56	181, 104, 53	
	All other minor moving equipment / system	04 C 37	166, 111, 103	

### 4.3.2 Line Styles, Text Styles, Dimension Styles and Grid Line

4.3.2.1 The line weight, line pattern, text styles, dimension styles for elevation, section, plan and details of drawings generated from a BIM model should be in-line with 2D drawing practices.

#### 4.3.2.2 Grid Line



## 4.4 Model Division

4.4.1 It is not recommended to create a single huge BIM model, with all details from different disciplines embedded. Instead, a BIM model should be divided into appropriate discipline, feature, location and level by the project BIM team in accordance with the guidelines given in Chapter 3 of this Manual. BIM models from different disciplines should be linked together in a logical hierarchy for easy handling and collaboration.

## 4.5 Model Control

### General

4.5.1 Different version of BIM models may have to be created due to design changes and / or the need to record certain milestones during the course of a project. To ensure the latest version of a BIM model can be used and a single source of truth, proper model control practices should be implemented as follows:-

- a) saving model files in the corresponding folder in accordance with the guidelines given in Chapter 2 of this Manual;

- b) duplicating model files should be avoided in the same folder; and
- c) archiving obsolete model files periodically.

### Model Separation

- 4.5.2 Model separation is to isolate a portion of BIM model, which will be useful in situation where the project team requires only part of a BIM model for upgrading works. The extent of a BIM model to be separated depends on a number of factors such as project needs and the model hierarchy.

### Model Merge

- 4.5.3 Once a BIM model is created or modified, it can be used to replace or merge with other BIM models to present the most updated condition.
- 4.5.4 The information embedded in BIM models need to be very carefully scrutinized before merging. To ensure compatibility, it is necessary to thoroughly audit each BIM model to be merged to ensure its quality is in compliance with this Manual.

### Model Update

- 4.5.5 Besides the need to update a BIM model to truly reflect the as-built condition, a BIM model should be reviewed and updated as appropriate when the corresponding BIM software is upgraded. Attention should be drawn to the possible impact on a BIM model before software upgrade.
- 4.5.6 The project team and O&M team should be responsible to ensure the integrity of BIM models at project stage and O&M stage respectively. DSD BIM support team will conduct regularly audit to check for BIM compliance as detailed in Chapter 6 of this Manual.



### Model Archive

4.5.7 BIM models should be backed up regularly to prevent the loss of information due to file corruption, human error, or physical hardware failure. The appropriate regularity of archiving is dependent on the amount of changes being made in a given time. Some practices for model archive are as follows:-

- a) archive should be made on the last day of every week;
- b) archive should not be taken from a local drive but should be taken from the latest version saved in the shared drive; and
- c) archive should be performed before some important edit such as model merge or at milestones of a project.

## **4.6 Model Link**

- 4.6.1 BIM models of different disciplines and projects can be virtually linked together into a single model file for ease of collaboration / viewing.
- 4.6.2 In order to properly link cross-disciplinary BIM models such as architectural, structural and E&M BIM models, the base point and orientation in all relevant BIM models should be properly aligned to ensure the geo-locations are consistent.
- 4.6.3 BIM model virtually linking different disciplines together should be maintained in a manageable model file size.
- 4.6.4 All links to irrelevant or extraneous files should be removed.
- 4.6.5 All relevant model files involving in model link should be submitted.

## 4.7 Software

4.7.1 The BIM software should comply with the latest industry interoperability standards, e.g. Industry Foundation Classes (IFC) and and Construction Operations Building Information Exchange (COBie). User friendly and effective software should be adopted to facilitate different BIM uses such as design authoring, design review, 3D coordination, Phase Planning (4D Modelling).

4.7.2 The current software being adopted by DSD for BIM are listed below for reference:-

Purpose	Software *	Version	File Format
Design Authoring for Architectural, Structural and E&M,	Autodesk Revit	Latest where appropriate	rvt, rfa, rte
Design Authoring for Stormwater and Sewerage Network	Bentley OpenRoads Designer		dgn, itl
Existing Conditions Modelling (e.g. Topographical Model)	Autodesk Civil 3D		dwg
3D Coordination including Clash Analysis	Autodesk Navisworks Manage		nwc, nwf
	Bentley Navigator		dgn, i.dgn, imodel
	Fuzor		che, chl
Design Review	Autodesk Navisworks		nwc, nwd, nwf

	Manage / Freedom  Bentley Navigator  Fuzor		dgn, i.dgn, imodel  che, chl
Phase Planning (4D Modelling)	Autodesk Navisworks Manage  Fuzor		nwc, nwf  che, chl
Asset Information Exchange to AM / FM systems	COBie worksheet		xls
Internal Common Data Environment (CDE)	Bentley ProjectWise		N/A

\* Software other than those listed above may be used, subject to the approval by project team.

- 4.7.3 BIM models with information should be submitted in editable, native and open format, unless or other specified, to meet the interoperability and compatibility with the BIM software adopted by DSD which may be updated / upgraded from time to time.
- 4.7.4 Drawings generated from a BIM model should be submitted in the file format of dgn to meet the Computer-Aided Drafting (CAD) software being adopted by DSD from time to time unless or otherwise specified by project team.

## 5. Level of Development (LOD)

### 5.1 Introduction

5.1.1 BIM models will be developed gradually from investigation phase to O&M phase in a project life cycle. Each model comprises of various model elements. The required Level of Development - Graphic (LOD-G) and Level of Development – Information (LOD – I) of model elements should be clearly specified by project BIM manager at each stage of a project.

### 5.2 LOD - G

5.2.1 The LOD-G is used to describe graphic of model elements but not models as a whole. A model element is said to have achieved a given LOD-G when all requirement has been met.

5.2.2 LOD-G notations are comprised of numbers from LOD – G100 to LOD - G400. The definition of LOD-G should be made reference to the latest HKCIC BIM standard and is extracted as follows:-

LOD	Description
LOD – G 100	Model element may be graphically represented in model with symbol or other generic representation. Information related to model element (i.e. cost per square foot, tonnage etc...) could be derived from other model element.
LOD - G 200	Model element is graphically represented within the model as a generic system, object or assembly with approximate quantities, size, shape, location and orientation.
LOD - G 300	Model element is graphically represented within model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation.

LOD	Description
LOD - G 400	Model element is graphically represented within the model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation with detailing, fabrication, assembly and installation information.

5.2.3 The LOD - G specification of each model element should be clearly defined to facilitate the project BIM team to appreciate the details of a model element in an easy manner and provide reference for acceptance.

5.2.4 Reference can be made to **Appendix J** for LOD – G specification of model elements relevant to DSD. If it cannot be found in this Manual, the HKCIC BIM standard should be referred to as appropriate. Under any circumstances, the LOD – G of model elements should not deviate from the definition above.

5.2.5 For LOD - G100 to 400, non-graphic information and data may also be attached to the model elements. For more details, please refer to Section 5.3 below.

## 5.3 LOD - I

5.3.1 The LOD - I is used to describe information embedded in a model element. LOD - I notations are comprised of numbers from LOD - I100 to LOD - I400.

5.3.2 Generally, the attributes of a model element in BIM model should mainly cover design and construction related information, and a unique identity defined by DSD Asset Code, for integration with AM systems. The attributes to be included should be increased / updated with time and are dependent on the nature of work.

5.3.3 DSD Asset Code should be composed of 7 fields separated by a hyphen “-” according to the format below unless or otherwise specified:

**<Station Name / Drainage System>-<Feature Code>-  
<Level>-<Space / Room Code>-<E&M System / Grid Code>-  
<DSD CAT Code>-<DSD Sub CAT Code and Unit Number>**

	<b>Format</b>	<b>Definition</b>
Station Name / Drainage System	3 to 9 Alphanumeric	Refer to Section 2.1.2.3
Feature Code	2 to 7 Alphanumeric	Refer to Section 3.2.1.4
Level Code	2 to 3 Alphanumeric	Refer to Section 3.2.1.6
Space / Room Code	3 to 8 Alphanumeric	It refers to the short form of the space / room where the object is installed. Reference can be made to <b>Appendix I</b>
E&M System / Grid Code	3 to 8 Alphanumeric	It refers to the short form of E&M system of which an E&M object belongs to, or the nearest intersection between grid lines for structural objects. Reference can be made to <b>Appendix I</b>
DSD CAT Code	3 Alphabetic	Refer to <b>Appendix G</b>
DSD Sub- CAT Code and Unit Number	6 Alphanumeric	Refer to <b>Appendix G</b> Unit number counts from bottom to top, then left to right

5.3.4 Sample asset templates for some model elements at different LOD – I are at **Appendix H**.

## 5.4 LOD Responsibility Matrix

- 5.4.1 In addition to specifying the anticipated LOD of a model element at each stage of a project, it is necessary to specify the author of model element. Together with DSD CAT CODE, it forms the LOD Responsibility Matrix.
- 5.4.2 Sample templates of LOD Responsibility Matrix such as architectural BIM model, structural BIM model can be made reference to the latest HKCIC BIM standard. The project BIM manager may add or remove model elements from the sample templates to suit the project specific needs.
- 5.4.3 The assets maintained by DSD are specific and are mainly categorized into eight disciplines namely Stormwater, Sewerage, Architectural, Structural, Mechanical, Electrical, Building Services, and Control and Instrumentation. DSD has developed its own specific LOD Responsibility Matrix for BIM models of different disciplines (**Appendix G**). These shall prevail the ones shown in the HKCIC BIM standard.
- 5.4.4 Typical LOD requirement for model elements in different project stages are summarized as follows:-

<b>Project Stage</b>	<b>LOD - G</b>	<b>LOD - I</b>
Feasibility Study / Investigation	100	100
Design	200 - 300	200 - 300
Tender	300	300
Construction	300 - 400	300 - 400
As-built	400	400

## **6. Quality Control**

### **6.1 BIM Compliance Check**

6.1.1 BIM model should be created and updated by project BIM team during the course of a project. The project BIM manager should ensure that BIM model is constructed in quality and in compliance with this Manual.

6.1.2 Quality check should comprise design and BIM compliance check. Design compliance check covers mainly the realization of design intent and faithful as-built construction record in a BIM model. Design compliance check should be carried out by project design team. BIM model compliance check covers mainly the modelling standard being in compliance with this Manual. BIM compliance check should be carried out by project BIM team.

6.1.3 BIM compliance check should cover checking on the geometric and non-geometric information of a BIM model. It should include but not limited to the followings:-

- (a) visual check to ensure model elements have been modelled adequately according to design intent and / or to delete / purge unused information / view for cleanness of BIM models;
- (b) format of a BIM model such as software version and extension;
- (c) naming convention such as model file naming and the corresponding folder structure;
- (d) model coordinates and orientation such as grid, survey point and base point;
- (e) colour scheme of model elements;
- (f) interference check to eliminate clashes between model elements and / or to ensure provision of adequate clearance to facilitate maintenance;



- (g) information shown on drawings generated from BIM models; and
- (h) asset information compliance check to ensure the required attributes have been adequately inputted into the models. More details on asset information compliance check are covered in Chapter 7 of this Manual.

6.1.4 In addition, the BIM related documents such as the project BIM Execution Plan, clash reports, BIM model registration list should be checked regularly.

6.1.5 The following sets out the general procedures to control the data integrity and quality of BIM models in design and construction phases of a project.

#### 6.1.5.1 Design Stage

- (a) Project team should prepare the project BIM Execution Plan setting out the necessary BIM requirement before creating a BIM model;
- (b) Project team should make reference to this Manual in creating a BIM model. Project team should consult and coordinate with O&M team and BIM support team on any changes to the agreed asset templates appended in this Manual at the start of creating a BIM model;
- (c) Project team should conduct clash analysis and resolve clashes in coordination meetings to improve the quality of a BIM model. All changes made should be properly documented;
- (d) Project team should generate 2D drawings from a BIM model to check if model elements have been modelled in accordance with design intent and in compliance with the requirement stipulated in the project BIM Execution Plan;

- (e) Project team should generate COBie from a BIM model, particularly upon completion of design stage, to ensure the quality and completeness of asset information, complying with the project BIM Execution Plan and this Manual; and
- (f) BIM support team may conduct audit on project BIM related issues regularly to ensure compliance with this Manual.

#### 6.1.5.2 Construction Stage

- (a) Project team should prepare the project BIM Execution Plan setting out the necessary BIM requirement before creating a BIM model;
- (b) Project team should make reference to this Manual in creating / enhancing a BIM model. Project team should consult and coordinate with O&M team and BIM support team on any changes to the agreed asset templates appended in this Manual at the start of creating / enhancing a BIM model;
- (c) Project team should conduct clash analysis and resolve clashes in coordination meetings to improve the quality of a BIM model. All changes made should be properly recorded;
- (d) Project team should generate 2D drawings from BIM models to check if model elements have been modelled in according with design intent or as-constructed condition, and in compliance with the requirement stipulated in the project BIM Execution Plan;
- (e) Project team should generate COBie from a BIM model, particularly upon completion of construction stage, to ensure the quality and completeness of asset data, complying with the project BIM Execution Plan and this Manual;
- (f) Project team should submit an as-built BIM model to facilitate the handover. An as-built BIM model can be verified by means of point cloud 3D laser scanning. An as-built BIM model should be checked and agreed by project team and O&M team respectively;

- (g) Project team should prepare the Sewage Treatment Operation and Maintenance Management Information System (STOMMIS) asset input templates from COBie (e.g. by contractor's customized software tool sets), and coordinate with O&M team to upload the asset information and document links onto the STOMMIS system; and
- (h) BIM support team may conduct audit on project BIM related issues regularly to ensure compliance with this Manual.

6.1.6 Examples of Model and Object checklist can be referred to **Appendix L**.

## **7. Construction Operations Building Information Exchange (COBie)**

### **7.1 Definition of COBie**

7.1.1 COBie is an acronym of Construction Operations Building Information Exchange. As its name implies, COBie is developed to transfer information between construction stage and O&M stage. It transforms predominantly non-graphic information to an universally accepted open format for migration into a central maintenance management system.

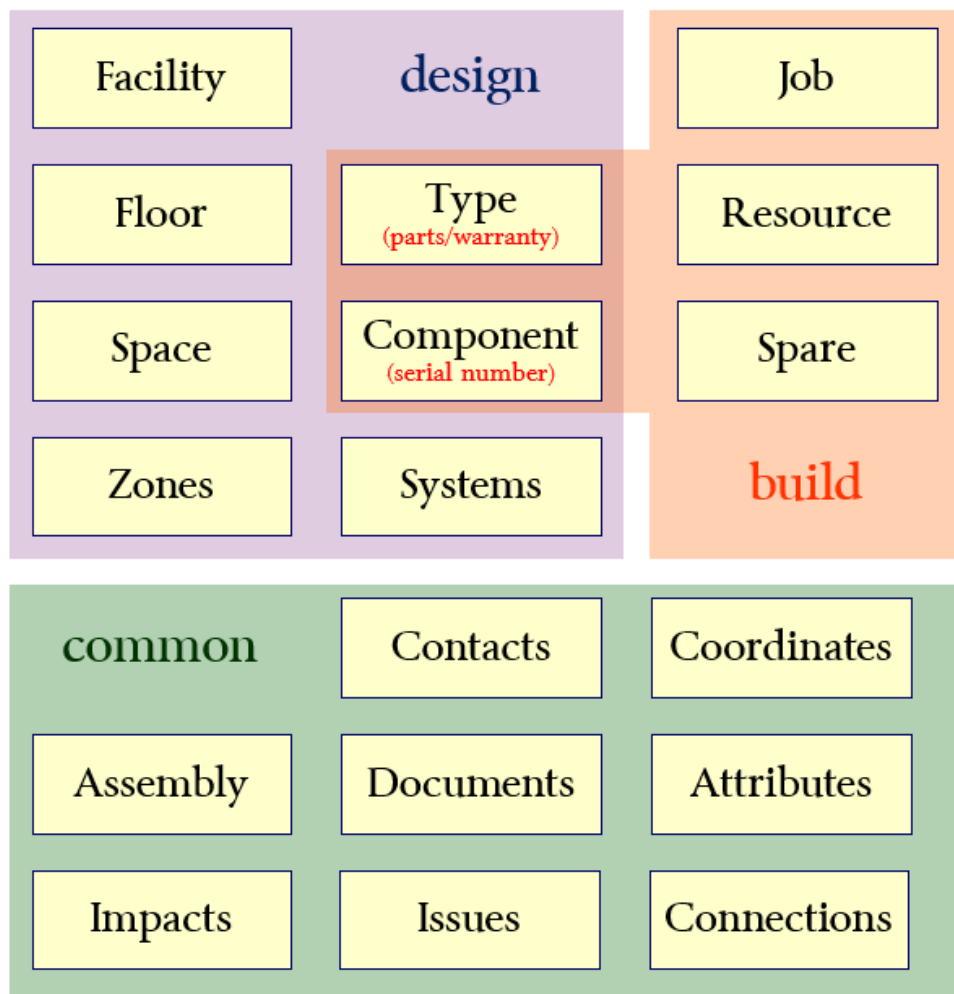
7.1.2 To enable an effective information exchange via COBie, it relies on:

- (a) quality input of information in design and construction stages;
- (b) timely update of information during the course of a project; and
- (c) accurate mapping of asset-related information.

### **7.2 COBie Worksheet**

7.2.1 COBie usually exists in the form of an excel file (.xlsx) exported from a BIM model which classifies project information in different categorized worksheets.

7.2.2 A COBie file contains twenty worksheets which can be separated into three main categories namely “design”, “build” and “common”. Two worksheets namely “Instruction” and “PickLists” are excluded from the schema shown below because they are for reference only. Project information should first be properly defined, inputted and updated directly in a BIM model before exporting COBie worksheets. Then, project information can be generated automatically in different categorized worksheets.



7.2.3 Key information contained in each worksheet is shown below:-

Worksheet	Key Content
Assembly	Constituents for Type, Component and others
Attributes	Properties of referenced item
Component	Individually named or scheduled item
Connections	Logical connections between component
Contacts	People and companies
Coordinates	Spatial locations in box, line, or point format
Documents	All applicable document references
Facility	Project, site and facility
Floor	Vertical levels and exterior areas
Impacts	Economic, environmental and social impacts at various stages of a project life cycle
Issues	Other issues remaining at handover
Job	Safety and other job plans

Resource	Required materials, tools, and training
Space	Spaces
Spare	Onsite and replacement parts
System	Sets of component providing a service
Type	Types of equipment, products, and materials
Zone	Sets of space sharing a specific attribute

## 7.3 COBie Colour Code

7.3.1 Each COBie worksheet contains specific content which may differ from one another but they share some common characteristics. COBie worksheets operate in columns, with parameters always shown in grey and columns coloured. The definition of different colour adopted in column is as follows:-

Color	Purpose
	Columns highlighted in yellow require filling of every entry
	Columns highlighted in orange represent reference to other entries. The information under these columns should have their own entries in other worksheets of the same COBie file
	Columns highlighted in purple are external reference. The information are automatically generated by software
	Columns highlighted in light green are optional. Users can choose to input information at their own judgment
	Columns highlighted in grey represent parameters which assist users to prepare data
	Column highlighted in black are not used

7.3.2 A sample of COBie worksheets are tabulated at **Appendix K** for reference.

7.4.1 Since COBie worksheet acts as an information carrier between BIM model and AM system, project information should be structured in a way to enable an efficient identification of the location of an equipment and understanding its relationship with other equipment. It is also necessary to facilitate mapping with asset management structure and hierarchy under ISO 55001.

7.4.2 In accordance with ISO 55001, the assets in DSD facilities are arranged in the following 5-level structure and hierarchy.

ISO 55001		COBie Sheets	Example
Asset hierarchy	Asset Entity		
1 <sup>st</sup> level	Plant Name	Facility	Ma On Shan 108 SPS
2 <sup>nd</sup> level	Site / Area	Floor, Space, Zone	Inlet Chamber
3 <sup>rd</sup> level	Area / Main Equipment / System Name	System	Screen Control System
4 <sup>th</sup> level	Main equipment / Sub equipment	Component, Attribute, Type	Mechanised Bar Screen
5 <sup>th</sup> level	Sub-equipment	Assembly	Chain, rakes, gripper

7.4.3 Some BIM software in the market support OmniClass codes. OmniClass is useful for many applications, from organizing library materials, product literature, and project information, to providing a classification structure for electronic databases. It is intended to be the means for organizing, sorting, and retrieving information and deriving relational computer applications. In this connection, project data mapping with OminClass codes will therefore be required to facilitate the information exchange with existing AM system. Agreement should be sought from O&M team on the correctness of data mapping.



7.4.4 Products from OmniClass construction classification is applicable for assets and could be mapped with the built-in library in BIM software. The following illustrate the mapping for some typical assets of DSD:-

Item	Typical Asset	OmniClass Code
1.	Penstock	23-39 21 13 23 Penstocks and Sluice Gate
2.	Mechanised Bar Screen	23-39 33 11 13 Chain-and-Rage Bar Screens
3.	Gate Valve	23-27 31 25 Gate Valves
4.	Air Blower	23-33 31 13 Blowers
5.	Air Compressor	23-27 21 00 Compressors
6.	Boiler	23-33 11 00 Commercial Boilers
7.	Electric Chain Hoist	23-23 17 27 13 13 Electric Trolley Hoists
8.	Actuator	23-27 33 11 Electrical Valve Actuators
9.	Submersible Pump	23-27 17 00 Pumps
10.	Diesel Generator Set	23-35 11 15 11 Diesel Generator Sets
11.	LV Switchboard	23-35 31 29 Switchboards
12.	Transformer	23-35 13 00 Transformers
13.	Variable Speed Drive	23-27 35 00 Variable Speed Drives
14.	Axial Fan	23-33 31 19 11 Axial Fans
15.	Fire Extinguisher	23-29 25 19 Fire Extinguishers
16.	Lighting Fitting	23-35 47 00 Electrical Lighting
17.	Electromagnetic Flowmeter	23-27 11 15 Flow Measuring Instrument And Controls
18.	Ultrasonic Level Sensor	23-27 11 21 23 Level Sensors
19.	Columns	23-13 35 11 13 11 Columns
20.	Beams	23-13 35 11 13 13 Beams
21.	Doors	23-17 11 00 Doors
22.	Windows	23-17 13 00 Windows

7.4.5 Project information particularly the asset information embedded in a BIM model should be updated consistently throughout the course of a project since the BIM model will not change visually in appearance if dimension-related information is not amended.

7.4.6 Due to the sheer number of information, it takes time to examine all COBie worksheets. Project BIM team should perform regularly check during the course of a project to verify the basic competence of a COBie file. The following areas should be paid attention to:-

- (a) avoid any missing entry in any yellow column since yellow columns require filling of every entry; if unavailable, the entry should at least be filled with n/a;
- (b) floor(s) and space(s) that are not in use but export in the “Floor” and “Space” worksheets;
- (c) the number of component in the “Component” worksheet should tally with the number of instances;
- (d) check for any redundant entries in the “Attribute” worksheet;
- (e) in “Type” worksheet, name column should be unique and incorporated with the object name, category column should be classified by OmniClass;
- (f) in “Component” worksheet, the name column should be equal to the DSD asset code, the space column should be mandatory and should not filled with n/a, it used to locate the element in the AM system; and;
- (g) all required DSD attributes for AM system should be input in the “Attribute” worksheet.

## 7.5 COBie Export for Asset Management

### Existing AM System (STOMMIS)

7.5.1 STOMMIS system serves to be a central information repository to facilitate the retrieval, analysis, management and storage of operational and maintenance information from various systems including Computerized Maintenance & Management System (CMMS), Laboratory Information Management System (LIMS), Supervisory Control & Data Acquisition Systems (SCADA) repositories and Government Financial and Management Information System (GFMIS). Of the MMS packages in support of O&M activities, Avantis PRO and Maximo are the major systems to initiate work orders for preventive and corrective maintenance. The following lists the major MMS operation and servers:

<b>Regional Control Centre</b>	<b>CMMS Server</b>
Shatin	Avantis PRO 4.2
Shek Wu Hui	
Yuen Long	
Sham Tsang	
Tai Po	
Sai Kung	
Wan Chai East	
Siu Ho Wan	
Stanley	
Laboratory	
Stonecutters Island	Maximo 6.2

### Data integration using COBie

7.5.2 For the avoidance of doubt, COBie should be adopted as a short term measure for transferring information from BIM to AM / FM system. While newer versions of CMMSs support the direct integration of BIM via COBie data drop, older versions of CMMSs will require the use of Application Programming Interface (API).

7.5.3 API can be programmed and embedded in a BIM software to filter, map and export the asset information onto the input templates. Alternatively, a BIM software can export available asset information into a COBie file, APIs can then be programmed to filter, map and export these asset information onto the input templates. The related input templates are tabulated below of which the sample templates could be made reference to the link in DSD's Portal:

Maximo	Avantis PRO
<ul style="list-style-type: none"><li>- Asset Template.xls</li><li>- Inventory.xls</li><li>- Locations Template.xls</li><li>- PM Template.xls</li></ul>	<ul style="list-style-type: none"><li>- Entity.xls</li><li>- Inventory Item.xls</li><li>- PM.xls</li></ul>

URL:<http://dsdp.dsd.hksarg/project/stommis/ProjectMaintenance/LoadNewFacilities/Forms/AllItems.aspx>

## **8. Reference**

1. CIC Building Information Modelling Standards (the latest version available)
2. DSD CAD Manual (Version 05.1.01)
3. DSD Drawing Office Procedure Manual (DOPM) (Revision M)
4. HKIBIM BIM Project Specification (Rev 3.0)
5. AECOM's BIM Strategy Report, BIM Execution Plan, Sample Consultancy Brief and Construction Specification prepared for DSD

## **9. Appendices**

Appendix A - Acronyms and Abbreviations

Appendix B - District Code

Appendix C - Folder Structure

Appendix D - Feature Code

Appendix E - Model File Naming

Appendix F - Object File Naming and Object Sheet

Appendix G - DSD CAT CODE and DSD SUB-CAT CODE

Appendix H - Attribute Table and DSD Asset Code Naming

Appendix I - Space / Room Code and E&M System / Grid Code

Appendix J - LOD Specification

Appendix K - COBie Sample Worksheets

Appendix L - Model and Object Checklist

# **Appendix A**

## **Acronyms and Abbreviations**

**Appendix A: Acronyms and Abbreviations**

AM	Asset Management
API	Application Programming Interface
ARCs	Agent Responsible Codes
BCM	Buildings Civil Maintenance
BIM	Building Information Modelling
CAD	Computer Aided Drafting
CDE	Common Data Environment
CMMS	Computerized Maintenance & Management System
COBie	Construction Operations Building Information Exchange
CSWP	Computer-Aided Drafting Standard for Works Projects
DEVB	Development Bureau
DOPM	Drawing Office Procedural Manual
DSD	Drainage Services Department
E&M	Electrical and Mechanical
E&MPD	Electrical and Mechanical Projects Division
FM	Facility Management
GFMIS	Government Financial and Management Information System
HKCIC	Hong Kong Construction Industry Council
HKPD	Hong Kong Principal Datum
IFC	Industry Foundation Class
ITMU	Information Technology Management Unit
HATS	Harbour Area Treatment Scheme
LIMS	Laboratory Information Management System
LOD-I	Level of Development – Information

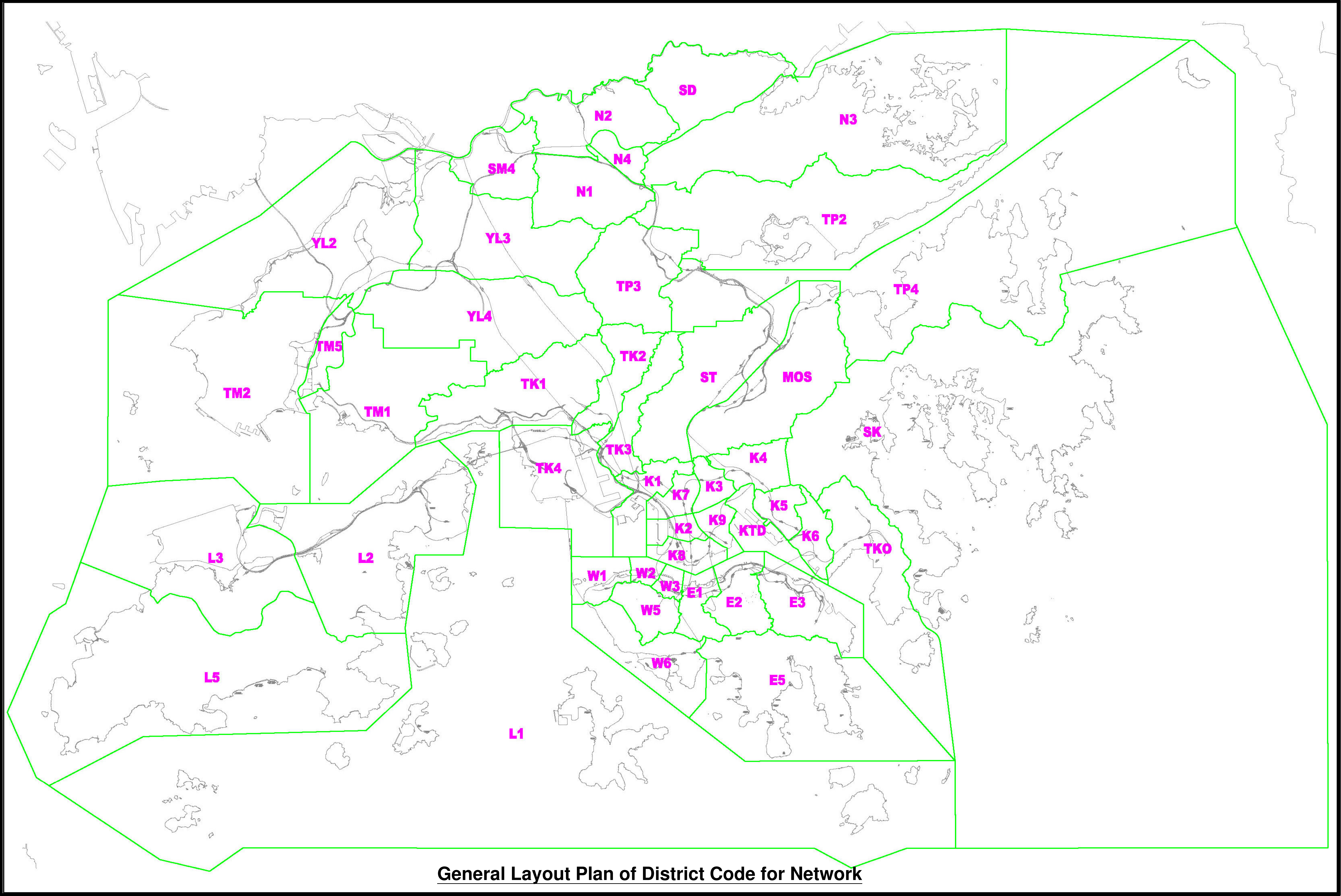


LOD-G	Level of Development – Graphic
O&M	Operation and Maintenance
OmniClass	OmniClass Construction Classification
SCADA	Supervisory Control & Data Acquisition
STOMMIS	Sewage Treatment Operation and Maintenance Management Information System
STD1	Sewerage Treatment Division 1
STD2	Sewerage Treatment Division 2
T&C	Testing and Commissioning
WIP	Work-in-progress

# **Appendix B**

## **District Code**







**District Code for Network**

Location	Responsible Division	District Code
Hong Kong and Island	HK&ID	W1
		W2
		W3
		W5
		W6
		E1
		E2
		E3
		E5
		L1
		L2
		L3
		L5
Kowloon	MSD	K1
		K2
		K3
		K4
		K5
		K6
		K7
		K8
		K9
		KTD
New Territories	MND	TK1
		TK2
		TK3
		TK4
		TKO
		SK
		MOS

Location	Responsible Division	District Code
New Territories	MND	TM1
		TM2
		TM5
		YL2
		YL3
		YL4
		SM4
		N1
		N2
		N3
		N4
		SD
		TP2
		TP3
		TP4

**District Code for Facility**

Location	Responsible Division	District	District Code
Hong Kong and Island	STD2	Central & Western	CW
	STD2	Eastern	E
	STD2	Southern	S
	STD2	Wan Chai	WC
Kowloon	STD2	Kowloon City	KC
	STD2	Kwun Tong	KT
	STD2	Sham Shui Po	SSP
	STD2	Wong Tai Sin	WTS
	STD2	Yau Tsim Mong	YTM
New Territories	STD2	Islands	I
	STD2	Kwai Tsing	KWT
	STD1	North New Territories	NNT
	STD1	Sai Kung	SK
	STD1	Sha Tin	ST
	STD1	Tai Po	TP
	STD2	Tsuen Wan	TW
	STD1	Sham Tseng and Tuen Mun	SmT_TM
	STD1	Yuen Long and North West Territories	YL_NWNT

# **Appendix C**

## **Folder Structure**





# **Appendix D**

## **Feature Code**

## **Feature Code**

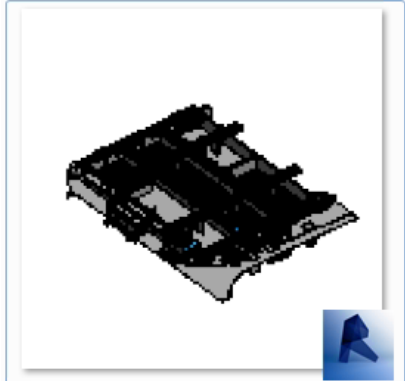
<b>Feature</b>	<b>Code</b>
Activated Sludge Pumping Station	ASPS
Administration Building	ADB
Aerobic Tank	AET
Anaerobic Tank	ANT
Anoxic Tank	AXT
Bioreactor	BRC
Box Culvert	BOC
Car Park	CAP
Channel	CHL
Chemical Enhanced Primary Treatment Works	CEPTW
Chemical Waste Store	CWS
Coarse Screen Facility	CSF
Detritor	DTR
Drainage Tunnel	DUN
Dry Weather Flow Interceptor	DWFI
Effluent Pumping Station	EPS
Engineering Survey Products	ESP
Final Sedimentation Tank	FST
Fine Screen Facility	FSF
Grit Trap Facility	GTF
Inlet Pumping Station	IPS
Maintenance Access	MAS
Major Secondary Treatment Works	MASTW
Minor Secondary Treatment Works	MISTW
Miscellaneous	MIS
Moving Bed Biofilm Reactor	MBBR
Multiple Features	MF
No Feature	—
Nullah	NUL
Pipe Bridge	PPB
Preliminary / Screening Treatment Works	PSTW
Primary Sedimentation Tank	PST
Primary Treatment Works	PTW
Pump House	PUH

<b>Feature</b>	<b>Code</b>
Reverse Osmosis Facility	ROF
Rising Main	RM
Secondary Sedimentation Tank	SST
Sewage Pumping Station	SPS
Sewage Tunnel	SUN
Sludge Consolidation Tank	SCT
Sludge Dewatering House	SDH
Sludge Digester	SDR
Sludge Pumping Station	SLPS
Sludge Thickening House	STH
Solar PV Farm	SPV
Storage Area	SAA
Storage Tank	STT
Stormwater Pumping Station	SmPS
Submarine Outfall	SBO
Terrain	TER
Tertiary Treatment Works	TTW
Transformer Room	TMR
Trickling Filter	TFR
Utilities	UUS
UV disinfection facility	UVF
Water Rehabilitation System	WRS
Water Sampling House	WSH

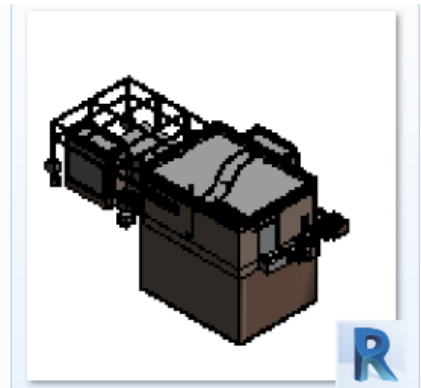
# **Appendix E**

## **Model File Naming**


## Example 1:

Identity Code	Project Code	Discipline Code	Feature Code	Location Code	Level Code	Type of Model File Code	Revision Code	
DDS	DC201309	MD	BRC	___	WB	L	D00	
Remarks:								
<p>File Name - DDS-DC201309-MD-BRC-___-WB-L-D00.rvt</p> <p>DDS - The model file is prepared by Sewerage Projects Division</p> <p>DC201309 - The model file is prepared under Contract No. DC/2013/09 - Advance Works for Shek Wu Hui Sewage Treatment Works - Further Expansion Phase 1A and Sewerage Works at Ping Che Road</p> <p>MD - The model file is related to multi-disciplines</p> <p>BRC - The model file is about bioreactor</p> <p>___ - Location Code is not applicable to this model file</p> <p>WB - The model file covers the whole feature</p> <p>L - The model file is a link file</p> <p>D00 - The model file is the first issue in design stage</p>							<p>Image of model file –</p> 	

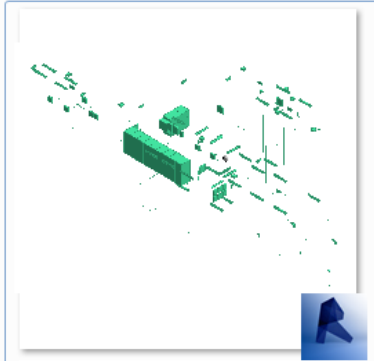
## Example 2a:

Identity Code	Project Code	Discipline Code	Feature Code	Location Code	Level Code	Type of Model File Code	Revision Code	
DDS	DC200616	CV	SPS	___	WB	M	D00	
Remarks:								
<p>File Name - DDS-DC200616-CV-SPS-___-WB-M-D00.rvt</p> <p>DDS - The model file is prepared by Sewerage Projects Division</p> <p>DC200616 - The model file is prepared under Contract No. DC/2006/16 - Improvement Works for Ma On Shan Area 108 Sewage Pumping Station and Sewerage along Che Kung Miu Road, Shatin</p> <p>CV - The model file is related to civil discipline</p> <p>SPS - The model file is about Sewage Pumping Station</p> <p>___ - Location Code is not applicable to this model file</p> <p>WB - The model file covers the whole building</p> <p>M - The model file belongs to proposed works</p> <p>D00 - The model file is the first issue in design stage</p>							<p>Image of model file –</p> 	

## Example 2b:

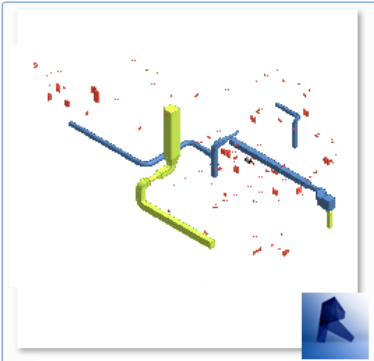
Identity Code	Project Code	Discipline Code	Feature Code	Location Code	Level Code	Type of Model File Code	Revision Code	
DDE	DE200701	ME	SPS	___	WB	M	D00	
Remarks:								
<p>File Name - DDE-DE200701-ME-SPS-___-WB-M-D00.rvt</p> <p>DDE - The model file is prepared by Electrical and Mechanical Projects Division</p> <p>DE200701 - The model file is prepared under Contract No. DE/2007/01 - Supply and Installation of Electrical and Mechanical Equipment for Ma On Shan Area 108 Sewage Pumping Station and Ma On Shan Sewage Pumping Station</p> <p>ME - The model file is related to mechanical discipline</p> <p>SPS - The model file is about Sewage Pumping Station</p> <p>___ - Location Code is not applicable to this model file</p> <p>WB - The model file covers the whole building</p> <p>M - The model file belongs to proposed works</p> <p>D00 - The model file is the first issue in design stage</p>							<p>Image of model file –</p> 	

## Example 2c:


Identity Code	Project Code	Discipline Code	Feature Code	Location Code	Level Code	Type of Model File Code	Revision Code	
DDE	DE200701	EL	SPS	___	WB	M	D00	
Remarks:								
<p>File Name - DDE-DE200701-EL-SPS-___-WB-M-D00.rvt</p> <p>DDE - The model file is prepared by Electrical and Mechanical Projects Division</p> <p>DE200701 - The model file is prepared under Contract No. DE/2007/01 - Supply and Installation of Electrical and Mechanical Equipment for Ma On Shan Area 108 Sewage Pumping Station and Ma On Shan Sewage Pumping Station</p> <p>EL - The model file is related to electrical discipline</p> <p>SPS - The model file is about Sewage Pumping Station</p> <p>___ - Location Code is not applicable to this model file</p> <p>WB - The model file covers the whole building</p> <p>M - The model file belongs to proposed works</p> <p>D00 - The model file is the first issue in design stage</p>							<p>Image of model file –</p> 	



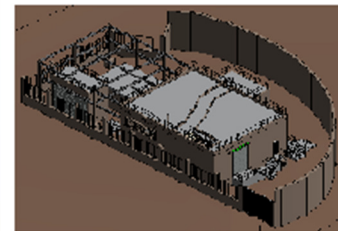
## Example 2d:

Identity Code	Project Code	Discipline Code	Feature Code	Location Code	Level Code	Type of Model File Code	Revision Code	
DDE	DE200701	BS	SPS	___	WB	M	D00	
Remarks:								
<p>File Name - DDE-DE200701-BS-SPS-___-WB-M-D00.rvt</p> <p>DDE - The model file is prepared by Electrical and Mechanical Projects Division</p> <p>DE200701 - The model file is prepared under Contract No. DE/2007/01 - Supply and Installation of Electrical and Mechanical Equipment for Ma On Shan Area 108 Sewage Pumping Station and Ma On Shan Sewage Pumping Station</p> <p>BS - The model file is related to building services discipline</p> <p>SPS - The model file is about Sewage Pumping Station</p> <p>___ - Location Code is not applicable to this model file</p> <p>WB - The model file covers the whole building</p> <p>M - The model file belongs to proposed works</p> <p>D00 - The model file is the first issue in design stage</p>							<p>Image of model file –</p> 	

## Example 2e:

Identity Code	Project Code	Discipline Code	Feature Code	Location Code	Level Code	Type of Model File Code	Revision Code	
DDE	DE200701	CI	SPS	___	WB	M	D00	
Remarks:								
<p>File Name - DDE-DE200701-CI-SPS-___-WB-M-D00.rvt</p> <p>DDE - The model file is prepared by Electrical and Mechanical Projects Division</p> <p>DE200701 - The model file is prepared under Contract No. DE/2007/01 - Supply and Installation of Electrical and Mechanical Equipment for Ma On Shan Area 108 Sewage Pumping Station and Ma On Shan Sewage Pumping Station</p> <p>CI - The model file is related to control and instrumentation discipline</p> <p>SPS - The model file is about Sewage Pumping Station</p> <p>___ - Location Code is not applicable to this model file</p> <p>WB - The model file covers the whole building</p> <p>M - The model file belongs to proposed works</p> <p>D00 - The model file is the first issue in design stage</p>							<p>Image of model file –</p> 	

Example 2f:

Identity Code	Project Code	Discipline Code	Feature Code	Location Code	Level Code	Type of Model File Code	Revision Code	
DDS	DC200616	MD	SPS	___	WB	L	D00	
Remarks:								
<p>File Name - DDS-DC200616-MD-SPS-___-WB-L-D00.rvt</p> <p>DDS - The model file is prepared by Sewerage Projects Division</p> <p>DC200616 - The model file is prepared under Contract No. DC/2006/16 - Improvement Works for Ma On Shan Area 108 Sewage Pumping Station and Sewerage along Che Kung Miu Road, Shatin</p> <p>MD - The model file is related to building services, civil, control and instrumentation, electrical, mechanical and structural discipline</p> <p>SPS - The model file is about Sewage Pumping Station</p> <p>___ - Location Code is not applicable to this model file</p> <p>WB - The model file covers the whole building</p> <p>L - The model file is a link file which links up all disciplines</p> <p>D00 - The model file is the first issue in design stage</p>							<p>Image of model file –</p> 	

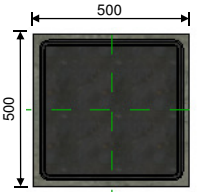

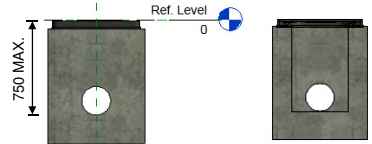
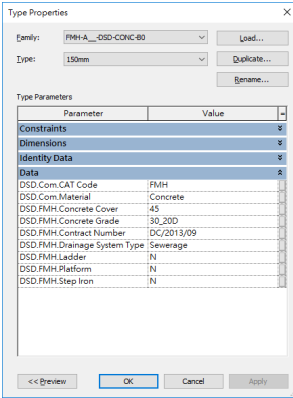
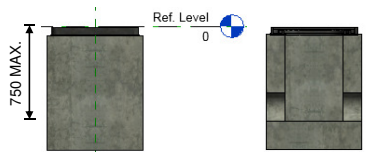
# **Appendix F**


## **Object File Naming and Object Sheet**

**BIM OBJECT SHEET**

QR CODE For AM	SOFTWARE VERSION <b>Revit 2018</b>	REFERENCE NUMBER  <b>DSD-OS-0001</b>
	DATE <b>11-2018</b>	
	REVISION <b>0</b>	


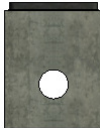
**INPUT**

Object Name <b>FMH-A_-DSD-CONC-B0</b>	CATEGORY <b>Generic Models</b>	LOD-G <b>300</b>
		
<b>PLAN</b>	<b>3D</b>	
		
<b>FRONT ELEVATION / SECTION</b>	<b>FAMILY VIEW : PARAMETER</b>	
		
<b>SIDE ELEVATION / SECTION</b>		

Anno_FMH	Tag_FMH
	<b>FMH0001</b> Type A
<b>2D SYMBOL</b>	<b>2D TAG / LABEL / ANNOTATION</b>

**PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES**

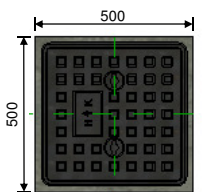

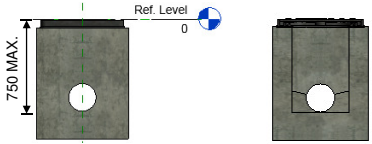
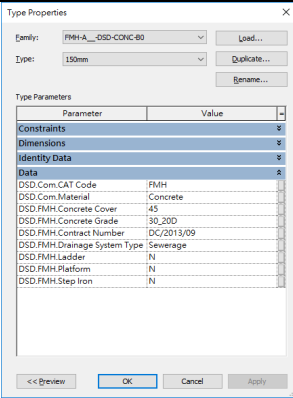
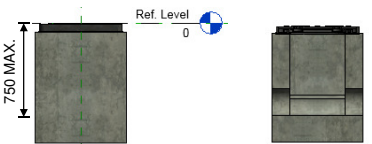
**OUTPUT**


SHEET VIEW : PLAN	SHEET VIEW : ELEVATION	PRESENTATION DRAWING																
																		
N.A.	N.A.	STATUTORY / AUTHORITIES SUBMISSION DRAWING																
Project Specific	Refer to DSD Standard Drawing (DS1001)	TENDER / CONSTRUCTION DRAWING																
<table border="1"><thead><tr><th colspan="4">&lt;Manhole Schedule&gt;</th></tr><tr><th>A</th><th>B</th><th>C</th><th>D</th></tr></thead><tbody><tr><td>DSD.FMH.ID Mark</td><td>DSD.FMH.Manhole Type</td><td>DSD.FMH.Invert Level A1</td><td>DSD.FMH.Cover Level</td></tr><tr><td>FMH0001</td><td>Type A</td><td>-0.750</td><td>0.000</td></tr></tbody></table>		<Manhole Schedule>				A	B	C	D	DSD.FMH.ID Mark	DSD.FMH.Manhole Type	DSD.FMH.Invert Level A1	DSD.FMH.Cover Level	FMH0001	Type A	-0.750	0.000	SCHEDULE IN DRAWING
<Manhole Schedule>																		
A	B	C	D															
DSD.FMH.ID Mark	DSD.FMH.Manhole Type	DSD.FMH.Invert Level A1	DSD.FMH.Cover Level															
FMH0001	Type A	-0.750	0.000															

BIM OBJECT SHEET

QR CODE For AM	SOFTWARE VERSION Revit 2018	REFERENCE NUMBER  DSD-OS-0001
	DATE 11-2018	
	REVISION 0	


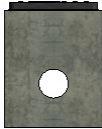
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<b>PLAN</b>	<b>3D</b>	
		
<b>FRONT ELEVATION / SECTION</b>	<b>FAMILY VIEW : PARAMETER</b>	
		
<b>SIDE ELEVATION / SECTION</b>		

Anno_FMH	2D SYMBOL	Tag_FMH	2D TAG / LABEL / ANNOTATION
		FMH0001 Type A	

PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES

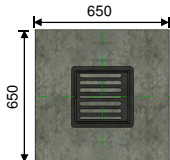

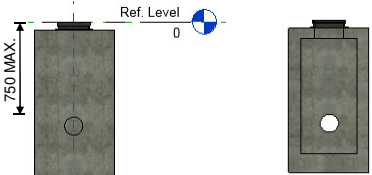
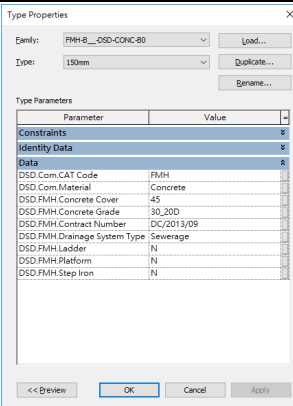
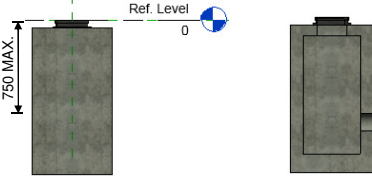
OUTPUT


SHEET VIEW : PLAN		SHEET VIEW : ELEVATION		PRESENTATION DRAWING																
																				
N.A.		N.A.			STATUTORY / AUTHORITIES SUBMISSION DRAWING															
Project Specific		Refer to DSD Standard Drawing (DS1001)		TENDER / CONSTRUCTION DRAWING																
<table border="1"><thead><tr><th colspan="4">&lt;Manhole Schedule&gt;</th></tr><tr><th>A</th><th>B</th><th>C</th><th>D</th></tr></thead><tbody><tr><td>DSD.FMH.ID Mark</td><td>DSD.FMH.Manhole Type</td><td>DSD.FMH.Invert Level A1</td><td>DSD.FMH.Cover Level</td></tr><tr><td>FMH0001</td><td>Type A</td><td>-0.750</td><td>0.000</td></tr></tbody></table>					<Manhole Schedule>				A	B	C	D	DSD.FMH.ID Mark	DSD.FMH.Manhole Type	DSD.FMH.Invert Level A1	DSD.FMH.Cover Level	FMH0001	Type A	-0.750	0.000
<Manhole Schedule>																				
A	B	C	D																	
DSD.FMH.ID Mark	DSD.FMH.Manhole Type	DSD.FMH.Invert Level A1	DSD.FMH.Cover Level																	
FMH0001	Type A	-0.750	0.000																	

BIM OBJECT SHEET

QR CODE For AM	SOFTWARE VERSION Revit 2018	REFERENCE NUMBER  DSD-OS-0002
	DATE 11-2018	
	REVISION 0	



INPUT

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<b>PLAN</b>	<b>3D</b>	
		
<b>FRONT ELEVATION / SECTION</b>	<b>FAMILY VIEW : PARAMETER</b>	
		
<b>SIDE ELEVATION / SECTION</b>		

Anno_FMH	Tag_FMH
	FMH0002 Type B
<b>2D SYMBOL</b>	<b>2D TAG / LABEL / ANNOTATION</b>

PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES

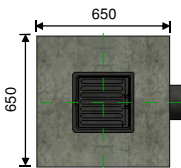
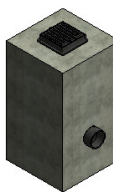
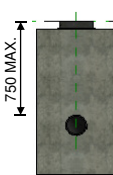
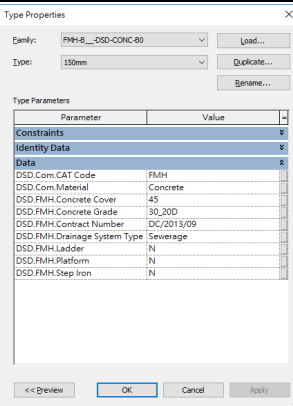
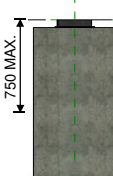
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
SHEET VIEW : PLAN		SHEET VIEW : ELEVATION		PRESENTATION DRAWING																
																				
N.A.		N.A.			STATUTORY / AUTHORITIES SUBMISSION DRAWING															
Project Specific		Refer to DSD Standard Drawing (DS1002)		TENDER / CONSTRUCTION DRAWING																
<table><tr><th colspan="4">&lt;Manhole Schedule&gt;</th></tr><tr><th>A</th><th>B</th><th>C</th><th>D</th></tr><tr><td>DSD.FMH.ID Mark</td><td>DSD.FMH.Manhole Type</td><td>DSD.FMH.Invert Level A1</td><td>DSD.FMH.Cover Level</td></tr><tr><td>FMH0002</td><td>Type B</td><td>-0.750</td><td>0.000</td></tr></table>					<Manhole Schedule>				A	B	C	D	DSD.FMH.ID Mark	DSD.FMH.Manhole Type	DSD.FMH.Invert Level A1	DSD.FMH.Cover Level	FMH0002	Type B	-0.750	0.000
<Manhole Schedule>																				
A	B	C	D																	
DSD.FMH.ID Mark	DSD.FMH.Manhole Type	DSD.FMH.Invert Level A1	DSD.FMH.Cover Level																	
FMH0002	Type B	-0.750	0.000																	

BIM OBJECT SHEET

QR CODE For AM	SOFTWARE VERSION Revit 2018	REFERENCE NUMBER  DSD-OS-0002
	DATE 11-2018	
	REVISION 0	



INPUT

Object Name <b>FMH-B_-DSD-CONC-B0</b>	CATEGORY <b>Generic Models</b>	LOD-G <b>400</b>
		
<b>PLAN</b>	<b>3D</b>	
		
<b>FRONT ELEVATION / SECTION</b>	<b>FAMILY VIEW : PARAMETER</b>	
		
<b>SIDE ELEVATION / SECTION</b>		

Anno_FMH	Tag_FMH
	FMH0002 Type B
2D SYMBOL	2D TAG / LABEL / ANNOTATION

PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES

OUTPUT

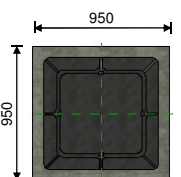
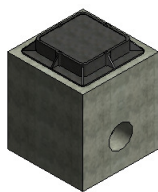
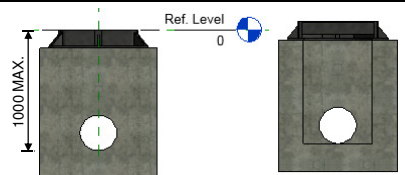
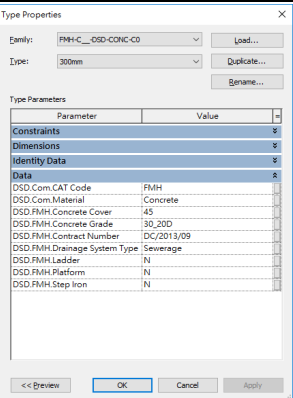
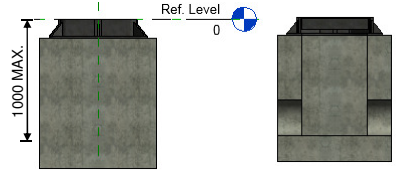
SHEET VIEW : PLAN		SHEET VIEW : ELEVATION		PRESENTATION DRAWING																
																				
N.A.		N.A.																		
Project Specific		Refer to DSD Standard Drawing (DS1002)		TENDER / CONSTRUCTION DRAWING																
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<Manhole Schedule>																				
A	B	C	D																	
DSD.FMH.ID Mark	DSD.FMH.Manhole Type	DSD.FMH.Invert Level A1	DSD.FMH.Cover Level																	
FMH0002	Type B	-0.750	0.000																	




BIM OBJECT SHEET

QR CODE For AM	SOFTWARE VERSION Revit 2018	REFERENCE NUMBER  DSD-OS-0003
	DATE 11-2018	
	REVISION 0	


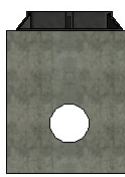
INPUT

Object Name <b>FMH-C_-DSD-CONC-C0</b>	CATEGORY <b>Generic Models</b>	LOD-G <b>300</b>
		
<b>PLAN</b>	<b>3D</b>	
		
<b>FRONT ELEVATION / SECTION</b>	<b>FAMILY VIEW : PARAMETER</b>	
		
<b>SIDE ELEVATION / SECTION</b>		

Anno_FMH	Tag_FMH
	FMH0003 Type C
2D SYMBOL	2D TAG / LABEL / ANNOTATION

PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES

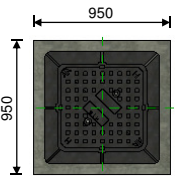
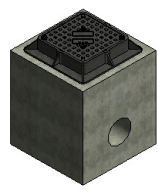
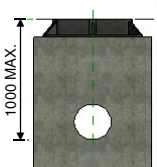
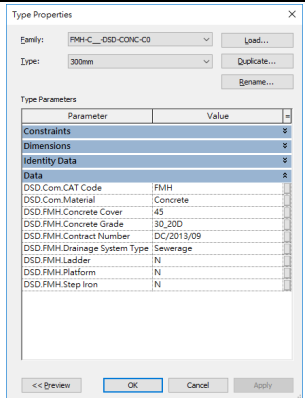
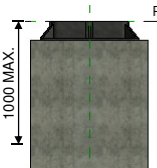
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
SHEET VIEW : PLAN	SHEET VIEW : ELEVATION																	
		PRESENTATION DRAWING																
N.A.	N.A.	STATUTORY / AUTHORITIES SUBMISSION DRAWING																
Project Specific	Refer to DSD Standard Drawing (DS1003)	TENDER / CONSTRUCTION DRAWING																
<table><tr><th colspan="4">&lt;Manhole Schedule&gt;</th></tr><tr><th>A</th><th>B</th><th>C</th><th>D</th></tr><tr><td>DSD.FMH.ID Mark</td><td>DSD.FMH.Manhole Type</td><td>DSD.FMH.Invert Level A1</td><td>DSD.FMH.Cover Level</td></tr><tr><td>FMH0003</td><td>Type C</td><td>-1.000</td><td>0.000</td></tr></table>		<Manhole Schedule>				A	B	C	D	DSD.FMH.ID Mark	DSD.FMH.Manhole Type	DSD.FMH.Invert Level A1	DSD.FMH.Cover Level	FMH0003	Type C	-1.000	0.000	SCHEDULE IN DRAWING
<Manhole Schedule>																		
A	B	C	D															
DSD.FMH.ID Mark	DSD.FMH.Manhole Type	DSD.FMH.Invert Level A1	DSD.FMH.Cover Level															
FMH0003	Type C	-1.000	0.000															

BIM OBJECT SHEET

QR CODE For AM	SOFTWARE VERSION Revit 2018	REFERENCE NUMBER  DSD-OS-0003
	DATE 11-2018	
	REVISION 0	



INPUT

Object Name <b>FMH-C_-DSD-CONC-C0</b>	CATEGORY <b>Generic Models</b>	LOD-G <b>400</b>
		
<b>PLAN</b>	<b>3D</b>	
		
<b>FRONT ELEVATION / SECTION</b>	<b>FAMILY VIEW : PARAMETER</b>	
		
<b>SIDE ELEVATION / SECTION</b>		

Anno_FMH	Tag_FMH
	FMH0003 Type C
2D SYMBOL	2D TAG / LABEL / ANNOTATION

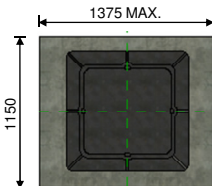
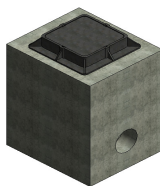
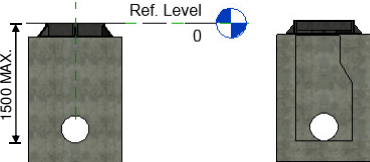
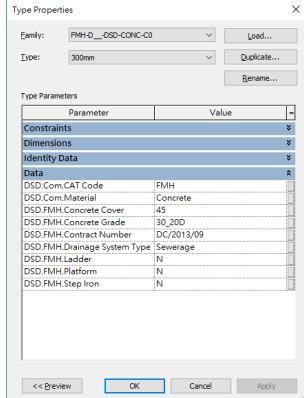
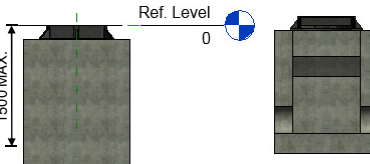
PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES


OUTPUT

SHEET VIEW : PLAN		SHEET VIEW : ELEVATION		PRESENTATION DRAWING																	
																					
N.A.		N.A.		STATUTORY / AUTHORITIES SUBMISSION DRAWING																	
Project Specific		Refer to DSD Standard Drawing (DS1003)		TENDER / CONSTRUCTION DRAWING																	
<table border="1"><thead><tr><th colspan="4">&lt;Manhole Schedule&gt;</th></tr><tr><th>A</th><th>B</th><th>C</th><th>D</th></tr><tr><th>DSD.FMH.ID Mark</th><th>DSD.FMH.Manhole Type</th><th>DSD.FMH.Invert Level A1</th><th>DSD.FMH.Cover Level</th></tr></thead><tbody><tr><td>FMH0003</td><td>Type C</td><td>-1.000</td><td>0.000</td></tr></tbody></table>					<Manhole Schedule>				A	B	C	D	DSD.FMH.ID Mark	DSD.FMH.Manhole Type	DSD.FMH.Invert Level A1	DSD.FMH.Cover Level	FMH0003	Type C	-1.000	0.000	SCHEDULE IN DRAWING
<Manhole Schedule>																					
A	B	C	D																		
DSD.FMH.ID Mark	DSD.FMH.Manhole Type	DSD.FMH.Invert Level A1	DSD.FMH.Cover Level																		
FMH0003	Type C	-1.000	0.000																		

QR CODE For AM	SOFTWARE VERSION	REFERENCE NUMBER
	Revit 2018	
	DATE	
	11-2018	DSD-OS-0004
	REVISION	
	0	



## INPUT

<p>Object Name <b>FMH-D__-DSD-CONC-C0</b></p>	<p>CATEGORY <b>Generic Models</b></p> <p>LOD: <b>300</b></p>																												
 <p>1375 MAX.</p> <p>1150</p>																													
<p><b>PLAN</b></p>  <p>1500 MAX.</p> <p>Ref. Level 0</p>	<p><b>3D</b></p>  <p>Type Properties</p> <p>Family: <b>FMH-D__-DSD-CONC-C0</b> Load...</p> <p>Type: <b>300mm</b> Duplicate... Rename...</p> <p>Type Parameters</p> <table border="1"> <thead> <tr> <th>Parameter</th> <th>Value</th> </tr> </thead> <tbody> <tr> <td><b>Constraints</b></td> <td></td> </tr> <tr> <td>Dimensions</td> <td></td> </tr> <tr> <td>Identity Data</td> <td></td> </tr> <tr> <td><b>Data</b></td> <td></td> </tr> <tr> <td>DSD.Com.CAT Code</td> <td>FMH</td> </tr> <tr> <td>DSD.Com.Material</td> <td>Concrete</td> </tr> <tr> <td>DSD.FMH.Concrete Cover</td> <td>45</td> </tr> <tr> <td>DSD.FMH.Concrete Grade</td> <td>30,200</td> </tr> <tr> <td>DSD.FMH.Contract Number</td> <td>DC/2013/09</td> </tr> <tr> <td>DSD.FMH.Drainage System Type</td> <td>Sewerage</td> </tr> <tr> <td>DSD.FMH.Ladder</td> <td>IN</td> </tr> <tr> <td>DSD.FMH.Platform</td> <td>IN</td> </tr> <tr> <td>DSD.FMH.Step Iron</td> <td>IN</td> </tr> </tbody> </table> <p>&lt;&lt; Previous OK Cancel Apply</p>	Parameter	Value	<b>Constraints</b>		Dimensions		Identity Data		<b>Data</b>		DSD.Com.CAT Code	FMH	DSD.Com.Material	Concrete	DSD.FMH.Concrete Cover	45	DSD.FMH.Concrete Grade	30,200	DSD.FMH.Contract Number	DC/2013/09	DSD.FMH.Drainage System Type	Sewerage	DSD.FMH.Ladder	IN	DSD.FMH.Platform	IN	DSD.FMH.Step Iron	IN
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DSD.FMH.Step Iron	IN																												
<p><b>FRONT ELEVATION / SECTION</b></p>  <p>1500 MAX.</p> <p>Ref. Level 0</p>	<p><b>SIDE ELEVATION / SECTION</b></p> <p><b>FAMILY VIEW : PARAMETER</b></p>																												

Anno_FMH	Tag_FMH
	<p>FMH0004 Type D</p>

## PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES

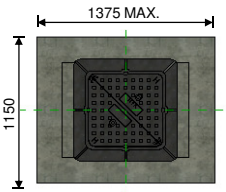
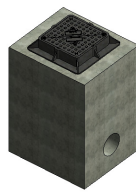

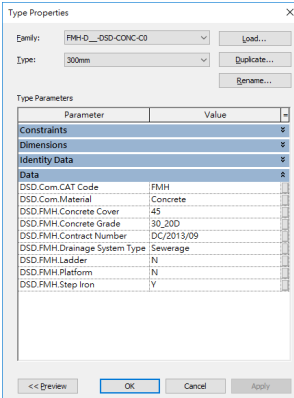
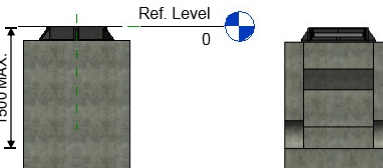
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
SHEET VIEW : PLAN		SHEET VIEW : ELEVATION		PRESENTATION DRAWING															
																			
N.A.		N.A.																	
Project Specific		Refer to DSD Standard Drawing (DS1004)		TENDER / CONSTRUCTION DRAWING															
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<Manhole Schedule>																			
A	B	C	D																
DSD.FMH.ID Mark	DSD.FMH.Manhole Type	DSD.FMH.Invert Level A1	DSD.FMH.Cover Level																
FMH0004	Type D	-1.500	0.000																
				SCHEDULE IN DRAWING															

**BIM OBJECT SHEET**

QR CODE For AM	SOFTWARE VERSION <b>Revit 2018</b>	REFERENCE NUMBER  <b>DSD-OS-0004</b>
	DATE <b>11-2018</b>	
	REVISION <b>0</b>	



**INPUT**

Object Name <b>FMH-D_-DSD-CONC-C0</b>	CATEGORY <b>Generic Models</b>	LOD-G <b>400</b>
		
<b>PLAN</b>	<b>3D</b>	
		
<b>FRONT ELEVATION / SECTION</b>		
		
<b>SIDE ELEVATION / SECTION</b>	<b>FAMILY VIEW : PARAMETER</b>	

Anno_FMH	Tag_FMH
	<b>FMH0004</b> Type D
<b>2D SYMBOL</b>	<b>2D TAG / LABEL / ANNOTATION</b>

**PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES**

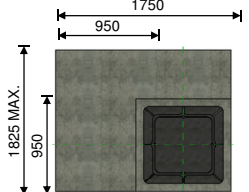
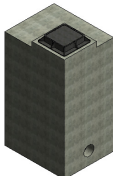
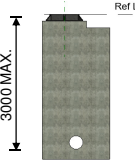
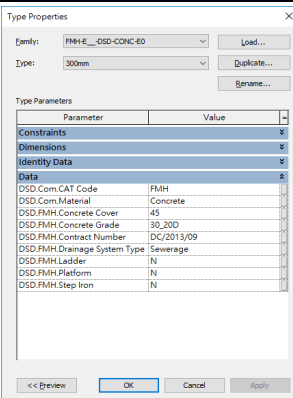
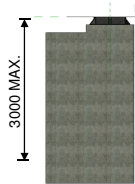
**OUTPUT**


SHEET VIEW : PLAN		SHEET VIEW : ELEVATION	PRESENTATION DRAWING												
															
N.A.		N.A.	STATUTORY / AUTHORITIES SUBMISSION DRAWING												
Project Specific		Refer to DSD Standard Drawing (DS1004)	TENDER / CONSTRUCTION DRAWING												
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A	B	C	D												
DSD.FMH.ID Mark	DSD.FMH.Manhole Type	DSD.FMH.Invert Level A1	DSD.FMH.Cover Level												
FMH0004	Type D	-1.500	0.000												

**BIM OBJECT SHEET**

QR CODE For AM	SOFTWARE VERSION <b>Revit 2018</b>	REFERENCE NUMBER  <b>DSD-OS-0005</b>
	DATE <b>11-2018</b>	
	REVISION <b>0</b>	



**INPUT**

Object Name <b>FMH-E_-DSD-CONC-E0</b>	CATEGORY <b>Generic Models</b>	LOD-G <b>300</b>
		
<b>PLAN</b>	<b>3D</b>	
		
<b>FRONT ELEVATION / SECTION</b>	<b>FAMILY VIEW : PARAMETER</b>	
		
<b>SIDE ELEVATION / SECTION</b>		

Anno_FMH	Tag_FMH
	<b>FMH0005</b> Type E
<b>2D SYMBOL</b>	<b>2D TAG / LABEL / ANNOTATION</b>

**PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES**

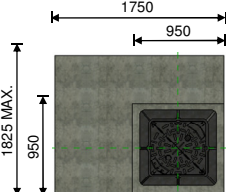


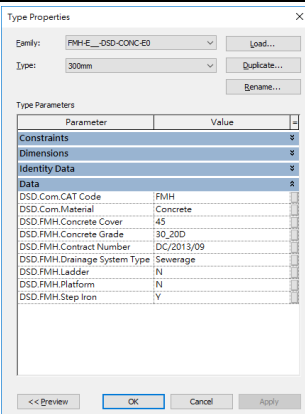

**OUTPUT**


SHEET VIEW : PLAN	SHEET VIEW : ELEVATION																	
		PRESENTATION DRAWING																
N.A.	N.A.	STATUTORY / AUTHORITIES SUBMISSION DRAWING																
Project Specific	Refer to DSD Standard Drawing (DS1005)	TENDER / CONSTRUCTION DRAWING																
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<Manhole Schedule>																		
A	B	C	D															
DSD.FMH.ID Mark	DSD.FMH.Manhole Type	DSD.FMH.Invert Level A1	DSD.FMH.Cover Level															
FMH0005	Type E	-3.000	0.000															

BIM OBJECT SHEET

QR CODE For AM	SOFTWARE VERSION Revit 2018	REFERENCE NUMBER  DSD-OS-0005
	DATE 11-2018	
	REVISION 0	



INPUT

Object Name <b>FMH-E_-DSD-CONC-E0</b>	CATEGORY <b>Generic Models</b>	LOD-G <b>400</b>
		
<b>PLAN</b> 	<b>3D</b> 	
<b>FRONT ELEVATION / SECTION</b> 	<b>FAMILY VIEW : PARAMETER</b>	
<b>SIDE ELEVATION / SECTION</b>		

Anno_FMH	Tag_FMH
	<b>FMH0005</b> Type E

PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES

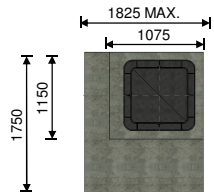
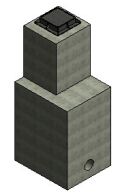
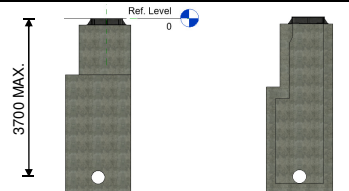
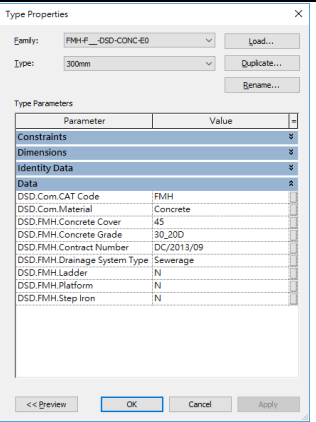
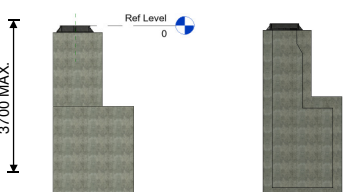
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SHEET VIEW : PLAN		SHEET VIEW : ELEVATION		PRESENTATION DRAWING																	
																					
N.A.		N.A.		STATUTORY / AUTHORITIES SUBMISSION DRAWING																	
Project Specific		Refer to DSD Standard Drawing (DS1005)																			
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<Manhole Schedule>																					
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DSD.FMH.ID Mark	DSD.FMH.Manhole Type	DSD.FMH.Invert Level A1	DSD.FMH.Cover Level																		
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FMH0005	Type E	-3.000	0.000																		
SCHEDULE IN DRAWING																					


**BIM OBJECT SHEET**

QR CODE For AM	SOFTWARE VERSION <b>Revit 2018</b>	REFERENCE NUMBER  <b>DSD-OS-0006</b>
	DATE <b>11-2018</b>	
	REVISION <b>0</b>	

**INPUT**



Object Name <b>FMH-F_-DSD-CONC-E0</b>	CATEGORY <b>Generic Models</b>	LOD-G <b>300</b>
		
<b>PLAN</b>	<b>3D</b>	
		
<b>FRONT ELEVATION / SECTION</b>		
		
<b>SIDE ELEVATION / SECTION</b>	<b>FAMILY VIEW : PARAMETER</b>	

3D GEOMETRY

Anno_FMH	Tag_FMH
	<b>FMH0006</b> Type F
<b>2D SYMBOL</b>	<b>2D TAG / LABEL / ANNOTATION</b>

**PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES**

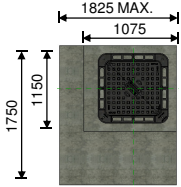
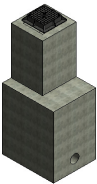
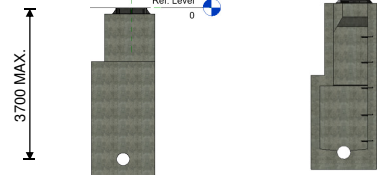
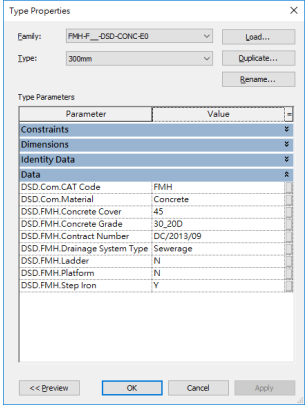
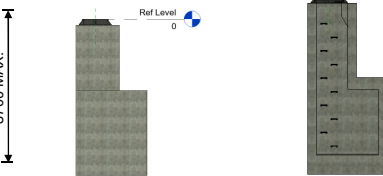
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SHEET VIEW : PLAN	SHEET VIEW : ELEVATION	PRESENTATION DRAWING																	
																			
N.A.	N.A.	STATUTORY / AUTHORITIES SUBMISSION DRAWING																	
Project Specific	Refer to DSD Standard Drawing (DS1006)	TENDER / CONSTRUCTION DRAWING																	
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A	B	C	D																
DSD.FMH.ID Mark	DSD.FMH.Manhole Type	DSD.FMH.Invert Level A1	DSD.FMH.Cover Level																
FMH0006	Type F	-3.700	0.000																


BIM OBJECT SHEET

QR CODE For AM	SOFTWARE VERSION Revit 2018	REFERENCE NUMBER  DSD-OS-0006
	DATE 11-2018	
	REVISION 0	

INPUT



Object Name <b>FMH-F_-DSD-CONC-E0</b>	CATEGORY <b>Generic Models</b>	LOD-G <b>400</b>
		
<b>PLAN</b>	<b>3D</b>	
		
<b>FRONT ELEVATION / SECTION</b>		
		
<b>SIDE ELEVATION / SECTION</b>	<b>FAMILY VIEW : PARAMETER</b>	

3D GEOMETRY

Anno_FMH	Tag_FMH
	<p>FMH0006 Type F</p>
<b>2D SYMBOL</b>	<b>2D TAG / LABEL / ANNOTATION</b>

PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES

OUTPUT

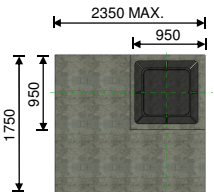
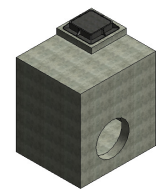
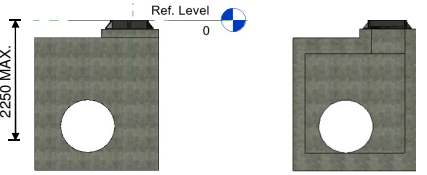
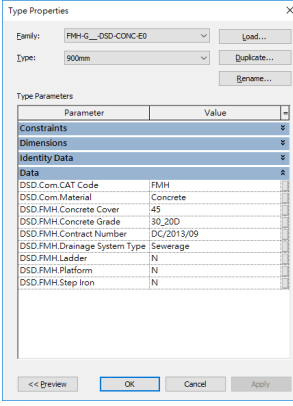
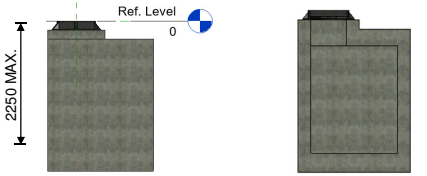
SHEET VIEW : PLAN		SHEET VIEW : ELEVATION		PRESENTATION DRAWING																
																				
N.A.		N.A.			STATUTORY / AUTHORITIES SUBMISSION DRAWING															
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
BIM OBJECT SHEET

QR CODE For AM	SOFTWARE VERSION Revit 2018	REFERENCE NUMBER  DSD-OS-0007
	DATE 11-2018	
	REVISION 0	

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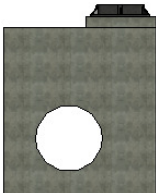
Object Name <b>FMH-G_-DSD-CONC-E0</b>	CATEGORY <b>Generic Models</b>	LOD-G <b>300</b>
		
PLAN	3D	
		
FRONT ELEVATION / SECTION		
		
SIDE ELEVATION / SECTION	FAMILY VIEW : PARAMETER	

3D GEOMETRY

Anno_FMH	Tag_FMH
	<b>FMH0007</b> Type G
2D SYMBOL	2D TAG / LABEL / ANNOTATION

PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES

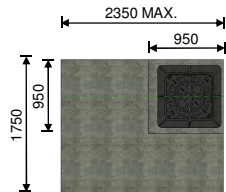
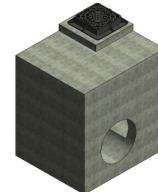
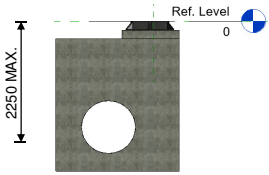
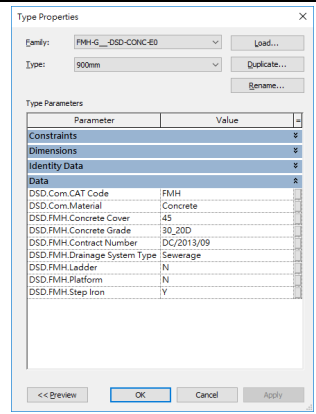
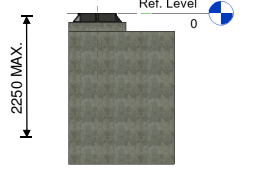
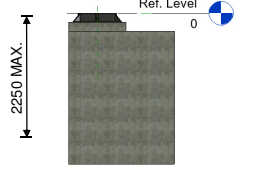
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
SHEET VIEW : PLAN	SHEET VIEW : ELEVATION																	
		PRESENTATION DRAWING																
N.A.	N.A.	STATUTORY / AUTHORITIES SUBMISSION DRAWING																
Project Specific	Refer to DSD Standard Drawing (DS1007)	TENDER / CONSTRUCTION DRAWING																
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FMH0007	Type G	-2.250	0.000															

BIM OBJECT SHEET

QR CODE For AM	SOFTWARE VERSION Revit 2018	REFERENCE NUMBER  DSD-OS-0007
	DATE 11-2018	
	REVISION 0	


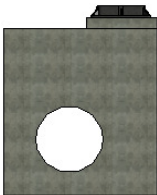
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Object Name <b>FMH-G_-DSD-CONC-E0</b>	CATEGORY <b>Generic Models</b>	LOD-G <b>400</b>
		
<b>PLAN</b> 	<b>3D</b> 	
<b>FRONT ELEVATION / SECTION</b> 		
<b>SIDE ELEVATION / SECTION</b> 	<b>FAMILY VIEW : PARAMETER</b>	

<b>Anno_FMH</b> 	<b>Tag_FMH</b> <p>FMH0007 Type G</p>
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PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES

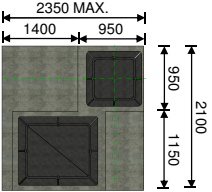
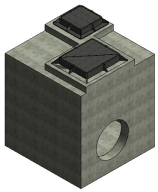
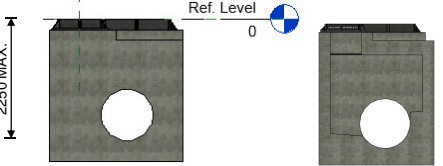
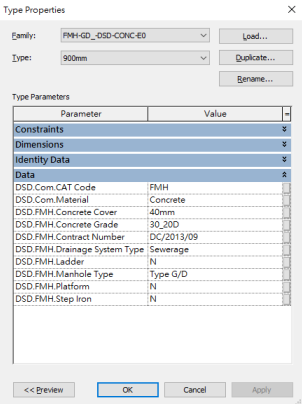
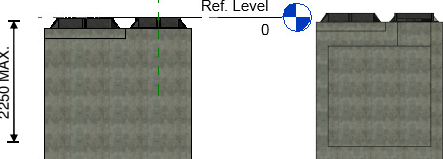
OUTPUT

SHEET VIEW : PLAN		SHEET VIEW : ELEVATION		PRESENTATION DRAWING																	
																					
N.A.		N.A.		STATUTORY / AUTHORITIES SUBMISSION DRAWING																	
Project Specific		Refer to DSD Standard Drawing (DS1007)			TENDER / CONSTRUCTION DRAWING																
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<Manhole Schedule>																					
A	B	C	D																		
DSD.FMH.ID Mark	DSD.FMH.Manhole Type	DSD.FMH.Invert Level A1	DSD.FMH.Cover Level																		
FMH0007	Type G	-2.250	0.000																		


**BIM OBJECT SHEET**

QR CODE For AM	SOFTWARE VERSION <b>Revit 2018</b>	REFERENCE NUMBER  <b>DSD-OS-0008</b>
	DATE <b>11-2018</b>	
	REVISION <b>0</b>	

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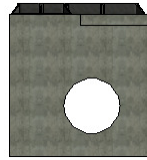
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<b>PLAN</b>	<b>3D</b>	
		
<b>FRONT ELEVATION / SECTION</b>		
		
<b>SIDE ELEVATION / SECTION</b>	<b>FAMILY VIEW : PARAMETER</b>	

3D GEOMETRY

Anno_FMH	Tag_FMH
	<b>FMH0008</b> Type G/D
<b>2D SYMBOL</b>	<b>2D TAG / LABEL / ANNOTATION</b>

**PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES**

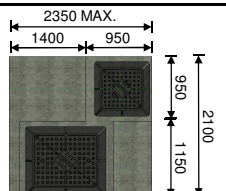
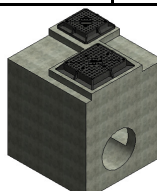
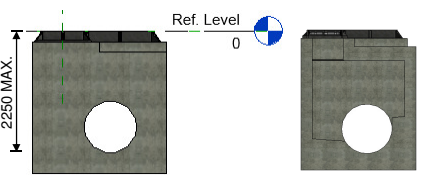
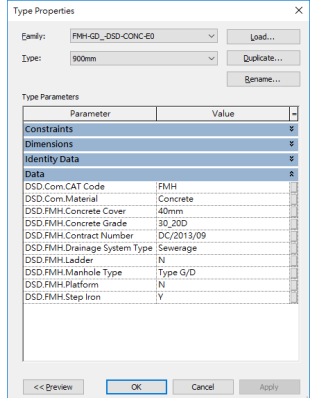
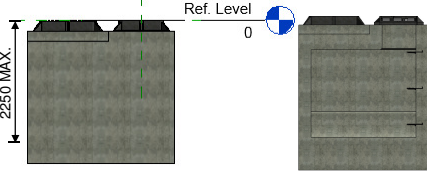
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
SHEET VIEW : PLAN	SHEET VIEW : ELEVATION	PRESENTATION DRAWING																
																		
N.A.	N.A.		STATUTORY / AUTHORITIES SUBMISSION DRAWING															
Project Specific	Refer to DSD Standard Drawing (DS1008)		TENDER / CONSTRUCTION DRAWING															
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<Manhole Schedule>																		
A	B	C	D															
DSD.FMH.ID Mark	DSD.FMH.Manhole Type	DSD.FMH.Invert Level A1	DSD.FMH.Cover Level															
FMH0008	Type G/D	-2.250	0.000															

BIM OBJECT SHEET

QR CODE For AM	SOFTWARE VERSION Revit 2018	REFERENCE NUMBER  DSD-OS-0008
	DATE 11-2018	
	REVISION 0	


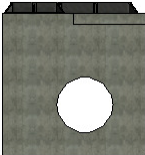
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Object Name <b>FMH-GD_-DSD-CONC-E0</b>	CATEGORY <b>Generic Models</b>	LOD-G <b>400</b>
		
PLAN	3D	
		
FRONT ELEVATION / SECTION	FAMILY VIEW : PARAMETER	
		
SIDE ELEVATION / SECTION		

Anno_FMH	Tag_FMH
	<p>FMH0008 Type G/D</p>
2D SYMBOL	2D TAG / LABEL / ANNOTATION

PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES

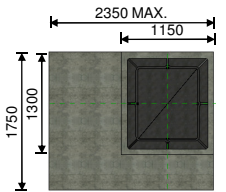
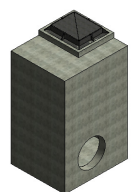
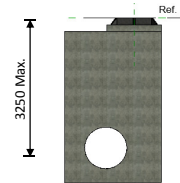
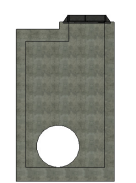
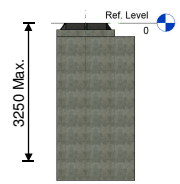
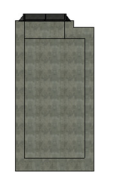
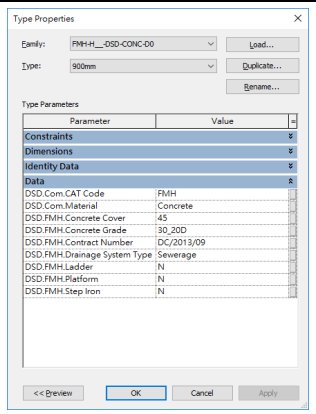
OUTPUT

SHEET VIEW : PLAN		SHEET VIEW : ELEVATION		PRESENTATION DRAWING																	
																					
N.A.		N.A.		STATUTORY / AUTHORITIES SUBMISSION DRAWING																	
Project Specific		Refer to DSD Standard Drawing (DS1008)			TENDER / CONSTRUCTION DRAWING																
<table border="1"><thead><tr><th colspan="4">&lt;Manhole Schedule&gt;</th></tr><tr><th>A</th><th>B</th><th>C</th><th>D</th></tr></thead><tbody><tr><td>DSD.FMH.ID Mark</td><td>DSD.FMH.Manhole Type</td><td>DSD.FMH.Invert Level A1</td><td>DSD.FMH.Cover Level</td></tr><tr><td>FMH0008</td><td>Type G/D</td><td>-2.250</td><td>0.000</td></tr></tbody></table>						<Manhole Schedule>				A	B	C	D	DSD.FMH.ID Mark	DSD.FMH.Manhole Type	DSD.FMH.Invert Level A1	DSD.FMH.Cover Level	FMH0008	Type G/D	-2.250	0.000
<Manhole Schedule>																					
A	B	C	D																		
DSD.FMH.ID Mark	DSD.FMH.Manhole Type	DSD.FMH.Invert Level A1	DSD.FMH.Cover Level																		
FMH0008	Type G/D	-2.250	0.000																		


BIM OBJECT SHEET

QR CODE For AM	SOFTWARE VERSION Revit 2018	REFERENCE NUMBER  DSD-OS-0009
	DATE 11-2018	
	REVISION 0	

INPUT


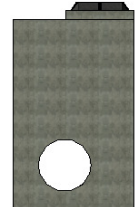
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PLAN	3D	
		
FRONT ELEVATION / SECTION		
		
SIDE ELEVATION / SECTION	FAMILY VIEW : PARAMETER	
		

3D GEOMETRY

Anno_FMH	Tag_FMH
	<p>FMH0009 Type H</p>
2D SYMBOL	2D TAG / LABEL / ANNOTATION

PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES

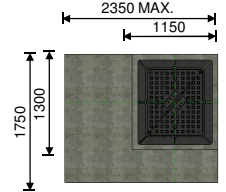
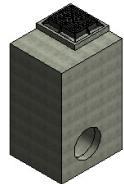
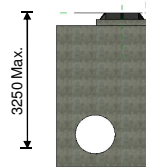
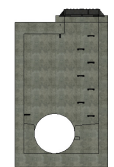
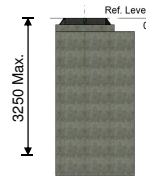
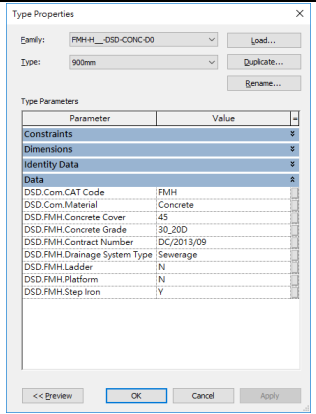
OUTPUT


SHEET VIEW : PLAN	SHEET VIEW : ELEVATION													
		PRESENTATION DRAWING												
N.A.	N.A.	STATUTORY / AUTHORITIES SUBMISSION DRAWING												
Project Specific	Refer to DSD Standard Drawing (DS1009)	TENDER / CONSTRUCTION DRAWING												
<p>&lt;Manhole Schedule&gt;</p> <table border="1"> <thead> <tr> <th>A</th> <th>B</th> <th>C</th> <th>D</th> </tr> </thead> <tbody> <tr> <td>DSD.FMH.ID Mark</td> <td>DSD.FMH.Manhole Type</td> <td>DSD.FMH.Invert Level A1</td> <td>DSD.FMH.Cover Level</td> </tr> <tr> <td>FMH0009</td> <td>Type H</td> <td>-3.250</td> <td>0.000</td> </tr> </tbody> </table>		A	B	C	D	DSD.FMH.ID Mark	DSD.FMH.Manhole Type	DSD.FMH.Invert Level A1	DSD.FMH.Cover Level	FMH0009	Type H	-3.250	0.000	SCHEDULE IN DRAWING
A	B	C	D											
DSD.FMH.ID Mark	DSD.FMH.Manhole Type	DSD.FMH.Invert Level A1	DSD.FMH.Cover Level											
FMH0009	Type H	-3.250	0.000											

BIM OBJECT SHEET

QR CODE For AM	SOFTWARE VERSION Revit 2018	REFERENCE NUMBER  DSD-OS-0009
	DATE 11-2018	
	REVISION 0	


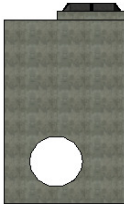
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Object Name <b>FMH-H_-DSD-CONC-D0</b>	CATEGORY <b>Generic Models</b>	LOD-G <b>400</b>
		
<b>PLAN</b>	<b>3D</b>	
		
<b>FRONT ELEVATION / SECTION</b>		
		
<b>SIDE ELEVATION / SECTION</b>	<b>FAMILY VIEW : PARAMETER</b>	

Anno_FMH	Tag_FMH
	<b>FMH0009</b> Type H
<b>2D SYMBOL</b>	<b>2D TAG / LABEL / ANNOTATION</b>

PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES

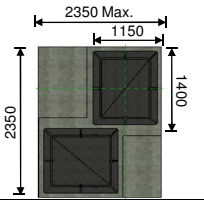
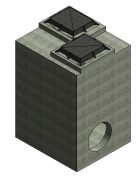
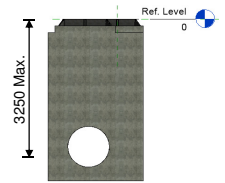
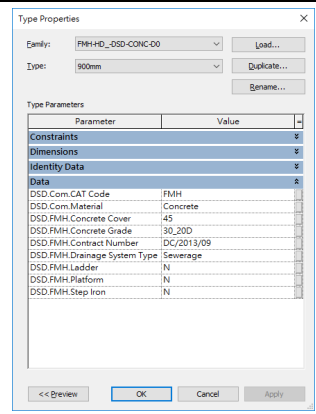
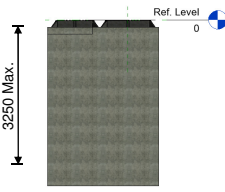
OUTPUT


SHEET VIEW : PLAN		SHEET VIEW : ELEVATION		PRESENTATION DRAWING																	
																					
N.A.		N.A.		STATUTORY / AUTHORITIES SUBMISSION DRAWING																	
Project Specific		Refer to DSD Standard Drawing (DS1009)																			
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<Manhole Schedule>																					
A	B	C	D																		
DSD.FMH.ID Mark	DSD.FMH.Manhole Type	DSD.FMH.Invert Level A1	DSD.FMH.Cover Level																		
FMH0009	Type H	-3.250	0.000																		
SCHEDULE IN DRAWING																					

BIM OBJECT SHEET

QR CODE For AM	SOFTWARE VERSION Revit 2018	REFERENCE NUMBER  DSD-OS-0010
	DATE 11-2018	
	REVISION 0	


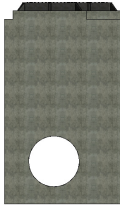
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Object Name <b>FMH-HD_-DSD-CONC-D0</b>	CATEGORY <b>Generic Models</b>	LOD-G <b>300</b>
		
<b>PLAN</b>	<b>3D</b>	
		
<b>FRONT ELEVATION / SECTION</b>		
		
<b>SIDE ELEVATION / SECTION</b>	<b>FAMILY VIEW : PARAMETER</b>	

Anno_FMH	Tag_FMH
	<p>FMH0010 Type H/D</p>
<b>2D SYMBOL</b>	<b>2D TAG / LABEL / ANNOTATION</b>

PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES

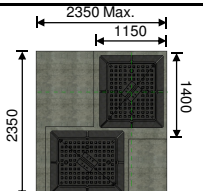
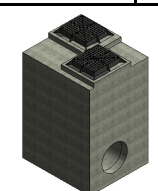
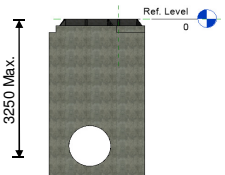
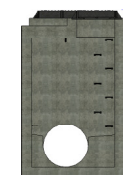
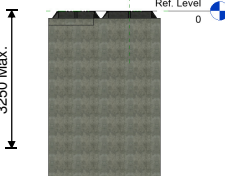
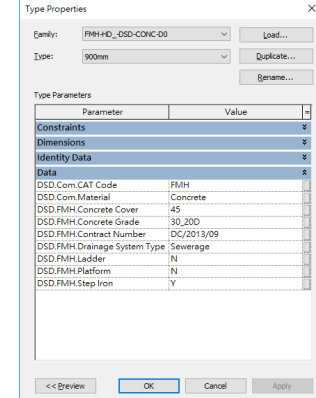
OUTPUT

SHEET VIEW : PLAN		SHEET VIEW : ELEVATION		PRESENTATION DRAWING																
																				
N.A.		N.A.																		
Project Specific		Refer to DSD Standard Drawing (DS1010)		TENDER / CONSTRUCTION DRAWING																
<table border="1"><thead><tr><th colspan="4">&lt;Manhole Schedule&gt;</th></tr><tr><th>A</th><th>B</th><th>C</th><th>D</th></tr></thead><tbody><tr><td>DSD.FMH.ID Mark</td><td>DSD.FMH.Manhole Type</td><td>DSD.FMH.Invert Level A1</td><td>DSD.FMH.Cover Level</td></tr><tr><td>FMH0010</td><td>Type H/D</td><td>-3.250</td><td>0.000</td></tr></tbody></table>				<Manhole Schedule>				A	B	C	D	DSD.FMH.ID Mark	DSD.FMH.Manhole Type	DSD.FMH.Invert Level A1	DSD.FMH.Cover Level	FMH0010	Type H/D	-3.250	0.000	SCHEDULE IN DRAWING
<Manhole Schedule>																				
A	B	C	D																	
DSD.FMH.ID Mark	DSD.FMH.Manhole Type	DSD.FMH.Invert Level A1	DSD.FMH.Cover Level																	
FMH0010	Type H/D	-3.250	0.000																	


BIM OBJECT SHEET

QR CODE For AM	SOFTWARE VERSION Revit 2018	REFERENCE NUMBER  DSD-OS-0010
	DATE 11-2018	
	REVISION 0	

INPUT



Object Name <b>FMH-HD_-DSD-CONC-D0</b>	CATEGORY <b>Generic Models</b>	LOD-G <b>400</b>
		
PLAN	3D	
		
FRONT ELEVATION / SECTION		
		
SIDE ELEVATION / SECTION	FAMILY VIEW : PARAMETER	

3D GEOMETRY

Anno_FMH	Tag_FMH
	<p>FMH0010 Type H/D</p>
2D SYMBOL	2D TAG / LABEL / ANNOTATION

PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES

OUTPUT

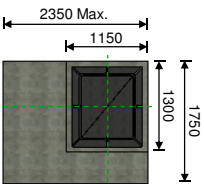
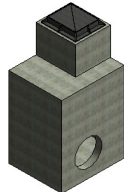
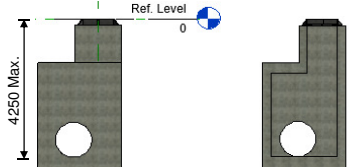
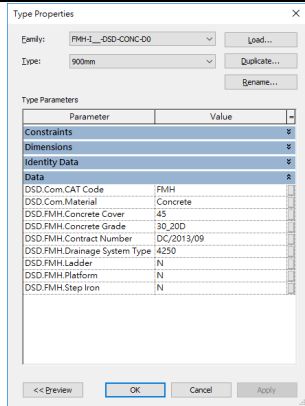
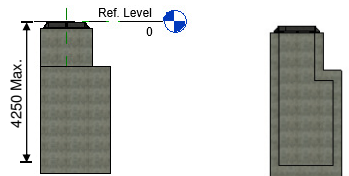
SHEET VIEW : PLAN		SHEET VIEW : ELEVATION		PRESENTATION DRAWING																	
																					
N.A.		N.A.		STATUTORY / AUTHORITIES SUBMISSION DRAWING																	
Project Specific		Refer to DSD Standard Drawing (DS1010)			TENDER / CONSTRUCTION DRAWING																
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<Manhole Schedule>																					
A	B	C	D																		
DSD.FMH.ID Mark	DSD.FMH.Manhole Type	DSD.FMH.Invert Level A1	DSD.FMH.Cover Level																		
FMH0010	Type H/D	-3.250	0.000																		




BIM OBJECT SHEET

QR CODE For AM	SOFTWARE VERSION Revit 2018	REFERENCE NUMBER  DSD-OS-0011
	DATE 11-2018	
	REVISION 0	


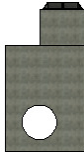
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PLAN	3D	
		
FRONT ELEVATION / SECTION	FAMILY VIEW : PARAMETER	
		
SIDE ELEVATION / SECTION		

Anno_FMH	Tag_FMH
	<b>FMH0011</b> Type I
2D SYMBOL	2D TAG / LABEL / ANNOTATION

PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES

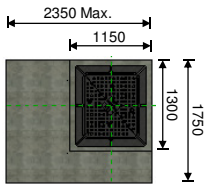
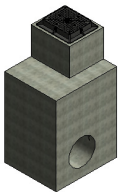
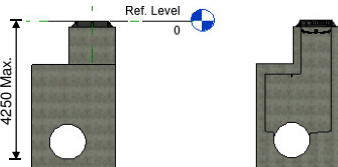
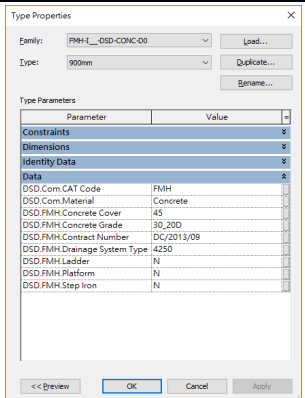
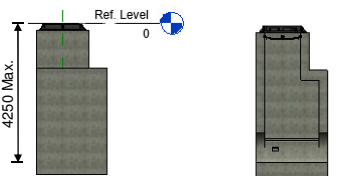
OUTPUT


SHEET VIEW : PLAN		SHEET VIEW : ELEVATION		PRESENTATION DRAWING																	
																					
N.A.		N.A.		STATUTORY / AUTHORITIES SUBMISSION DRAWING																	
Project Specific		Refer to DSD Standard Drawing (DS1011)			TENDER / CONSTRUCTION DRAWING																
<table border="1"><thead><tr><th colspan="4">&lt;Manhole Schedule&gt;</th></tr><tr><th>A</th><th>B</th><th>C</th><th>D</th></tr></thead><tbody><tr><td>DSD.FMH.ID Mark</td><td>DSD.FMH.Manhole Type</td><td>DSD.FMH.Invert Level A1</td><td>DSD.FMH.Cover Level</td></tr><tr><td>FMH1011</td><td>Type I</td><td>-4.250</td><td>0.000</td></tr></tbody></table>						<Manhole Schedule>				A	B	C	D	DSD.FMH.ID Mark	DSD.FMH.Manhole Type	DSD.FMH.Invert Level A1	DSD.FMH.Cover Level	FMH1011	Type I	-4.250	0.000
<Manhole Schedule>																					
A	B	C	D																		
DSD.FMH.ID Mark	DSD.FMH.Manhole Type	DSD.FMH.Invert Level A1	DSD.FMH.Cover Level																		
FMH1011	Type I	-4.250	0.000																		

BIM OBJECT SHEET

QR CODE For AM	SOFTWARE VERSION Revit 2018	REFERENCE NUMBER  DSD-OS-0011
	DATE 11-2018	
	REVISION 0	


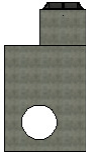
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Object Name <b>FMH-I_-DSD-CONC-_D0</b>	CATEGORY <b>Generic Models</b>	LOD-G <b>400</b>
		
PLAN	3D	
		
FRONT ELEVATION / SECTION	FAMILY VIEW : PARAMETER	
		
SIDE ELEVATION / SECTION		

FMH_TYPEI_SEWMH	FMH_TYPEI_SEWMH_TAG
	FMH0011 Type I
2D SYMBOL	2D TAG / LABEL / ANNOTATION

PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES

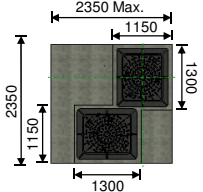
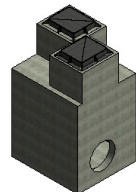
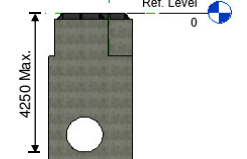
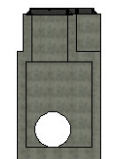
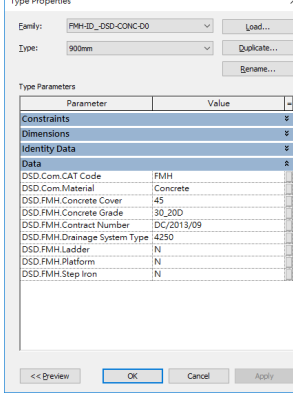
OUTPUT


SHEET VIEW : PLAN	SHEET VIEW : ELEVATION																	
		PRESENTATION DRAWING																
N.A.	N.A.	STATUTORY / AUTHORITIES SUBMISSION DRAWING																
Project Specific	Refer to DSD Standard Drawing (DS1011)	TENDER / CONSTRUCTION DRAWING																
<table border="1"><thead><tr><th colspan="4">&lt;Manhole Schedule&gt;</th></tr><tr><th>A</th><th>B</th><th>C</th><th>D</th></tr></thead><tbody><tr><td>DSD.FMH.ID Mark</td><td>DSD.FMH.Manhole Type</td><td>DSD.FMH.Invert Level A1</td><td>DSD.FMH.Cover Level</td></tr><tr><td>FMH1011</td><td>Type I</td><td>-4.250</td><td>0.000</td></tr></tbody></table>		<Manhole Schedule>				A	B	C	D	DSD.FMH.ID Mark	DSD.FMH.Manhole Type	DSD.FMH.Invert Level A1	DSD.FMH.Cover Level	FMH1011	Type I	-4.250	0.000	SCHEDULE IN DRAWING
<Manhole Schedule>																		
A	B	C	D															
DSD.FMH.ID Mark	DSD.FMH.Manhole Type	DSD.FMH.Invert Level A1	DSD.FMH.Cover Level															
FMH1011	Type I	-4.250	0.000															

BIM OBJECT SHEET

QR CODE For AM	SOFTWARE VERSION Revit 2018	REFERENCE NUMBER  DSD-OS-0012
	DATE 11-2018	
	REVISION 0	


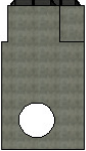
INPUT

Object Name <b>FMH-ID_-DSD-CONC-D0</b>	CATEGORY <b>Generic Models</b>	LOD-G <b>300</b>
		
PLAN	3D	
		
FRONT ELEVATION / SECTION	SIDE ELEVATION / SECTION	
		
FAMILY VIEW : PARAMETER		

Anno_FMH	Tag_FMH
	<p>FMH0012 Type I/D</p>
2D SYMBOL	2D TAG / LABEL / ANNOTATION

PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES

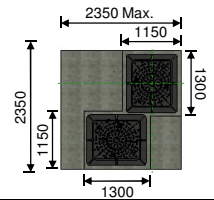
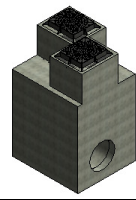
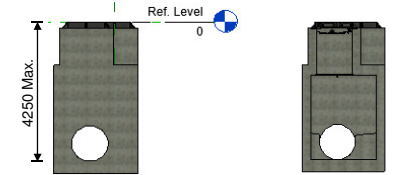
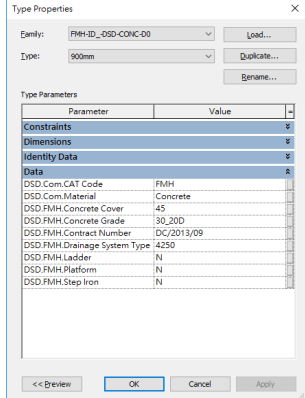
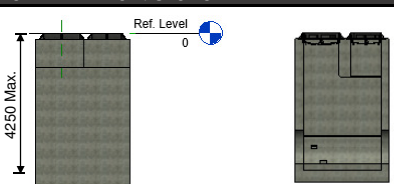
OUTPUT


SHEET VIEW : PLAN		SHEET VIEW : ELEVATION		PRESENTATION DRAWING																
																				
N.A.		N.A.		STATUTORY / AUTHORITIES SUBMISSION DRAWING																
Project Specific		Refer to DSD Standard Drawing (DS1012)																		
<table border="1"><thead><tr><th colspan="4">&lt;Manhole Schedule&gt;</th></tr><tr><th>A</th><th>B</th><th>C</th><th>D</th></tr></thead><tbody><tr><td>DSD.FMH.ID Mark</td><td>DSD.FMH.Manhole Type</td><td>DSD.FMH.Invert Level A1</td><td>DSD.FMH.Cover Level</td></tr><tr><td>FMH1012</td><td>Type I/D</td><td>-4.250</td><td>0.000</td></tr></tbody></table>				<Manhole Schedule>				A	B	C	D	DSD.FMH.ID Mark	DSD.FMH.Manhole Type	DSD.FMH.Invert Level A1	DSD.FMH.Cover Level	FMH1012	Type I/D	-4.250	0.000	TENDER / CONSTRUCTION DRAWING
<Manhole Schedule>																				
A	B	C	D																	
DSD.FMH.ID Mark	DSD.FMH.Manhole Type	DSD.FMH.Invert Level A1	DSD.FMH.Cover Level																	
FMH1012	Type I/D	-4.250	0.000																	
				SCHEDULE IN DRAWING																

BIM OBJECT SHEET

QR CODE For AM	SOFTWARE VERSION Revit 2018	REFERENCE NUMBER  DSD-OS-0012
	DATE 11-2018	
	REVISION 0	


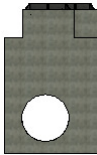
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Object Name <b>FMH-ID_-DSD-CONC-D0</b>	CATEGORY <b>Generic Models</b>	LOD-G <b>400</b>
		
PLAN	3D	
		
FRONT ELEVATION / SECTION		
		
SIDE ELEVATION / SECTION	FAMILY VIEW : PARAMETER	

Anno_FMH	Tag_FMH
	<p>FMH0012 Type I/D</p>
2D SYMBOL	2D TAG / LABEL / ANNOTATION

PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES

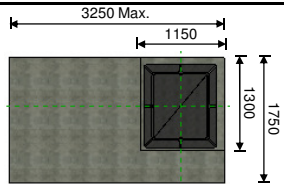
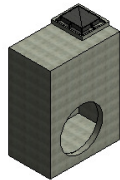
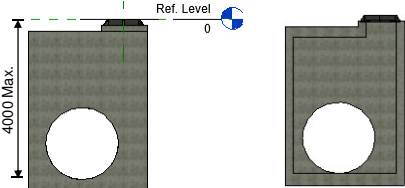
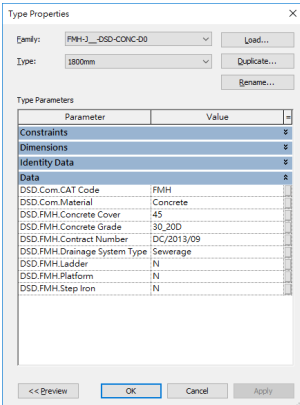
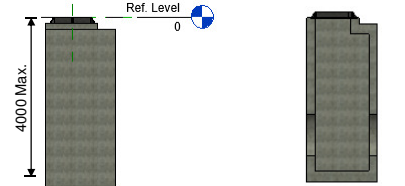
OUTPUT

SHEET VIEW : PLAN		SHEET VIEW : ELEVATION		PRESENTATION DRAWING																	
																					
N.A.		N.A.		STATUTORY / AUTHORITIES SUBMISSION DRAWING																	
Project Specific		Refer to DSD Standard Drawing (DS1012)			TENDER / CONSTRUCTION DRAWING																
<table border="1"><thead><tr><th colspan="4">&lt;Manhole Schedule&gt;</th></tr><tr><th>A</th><th>B</th><th>C</th><th>D</th></tr></thead><tbody><tr><td>DSD.FMH.ID Mark</td><td>DSD.FMH.Manhole Type</td><td>DSD.FMH.Invert Level A1</td><td>DSD.FMH.Cover Level</td></tr><tr><td>FMH1012</td><td>Type I/D</td><td>-4.250</td><td>0.000</td></tr></tbody></table>						<Manhole Schedule>				A	B	C	D	DSD.FMH.ID Mark	DSD.FMH.Manhole Type	DSD.FMH.Invert Level A1	DSD.FMH.Cover Level	FMH1012	Type I/D	-4.250	0.000
<Manhole Schedule>																					
A	B	C	D																		
DSD.FMH.ID Mark	DSD.FMH.Manhole Type	DSD.FMH.Invert Level A1	DSD.FMH.Cover Level																		
FMH1012	Type I/D	-4.250	0.000																		


BIM OBJECT SHEET

QR CODE For AM	SOFTWARE VERSION Revit 2018	REFERENCE NUMBER  DSD-OS-0013
	DATE 11-2018	
	REVISION 0	

INPUT

Object Name <b>FMH-J_-DSD-CONC-D0</b>	CATEGORY <b>Generic Models</b>	LOD-G <b>300</b>
		
<b>PLAN</b> 	<b>3D</b> 	
<b>FRONT ELEVATION / SECTION</b> 	<b>FAMILY VIEW : PARAMETER</b>	

3D GEOMETRY


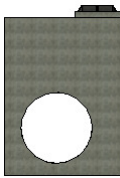
Anno_FMH	Tag_FMH
	<b>FMH0013</b> Type J

2D SYMBOL

2D TAG / LABEL / ANNOTATION

PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES

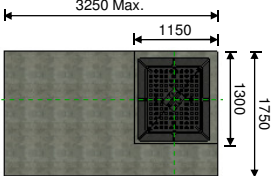
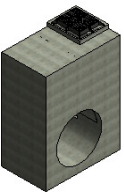
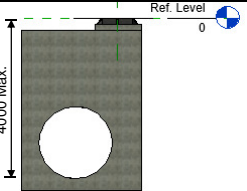
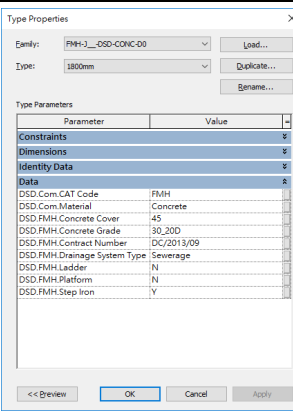
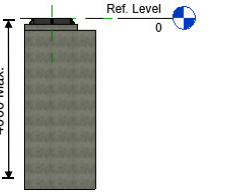
OUTPUT


SHEET VIEW : PLAN	SHEET VIEW : ELEVATION																	
		PRESENTATION DRAWING																
N.A.	N.A.	STATUTORY / AUTHORITIES SUBMISSION DRAWING																
Project Specific	Refer to DSD Standard Drawing (DS1013)	TENDER / CONSTRUCTION DRAWING																
<table><tr><th colspan="4">&lt;Manhole Schedule&gt;</th></tr><tr><th>A</th><th>B</th><th>C</th><th>D</th></tr><tr><td>DSD.FMH.ID Mark</td><td>DSD.FMH.Manhole Type</td><td>DSD.FMH.Invert Level A1</td><td>DSD.FMH.Cover Level</td></tr><tr><td>FMH0013</td><td>Type J</td><td>-4.000</td><td>0.000</td></tr></table>		<Manhole Schedule>				A	B	C	D	DSD.FMH.ID Mark	DSD.FMH.Manhole Type	DSD.FMH.Invert Level A1	DSD.FMH.Cover Level	FMH0013	Type J	-4.000	0.000	SCHEDULE IN DRAWING
<Manhole Schedule>																		
A	B	C	D															
DSD.FMH.ID Mark	DSD.FMH.Manhole Type	DSD.FMH.Invert Level A1	DSD.FMH.Cover Level															
FMH0013	Type J	-4.000	0.000															

BIM OBJECT SHEET

QR CODE For AM	SOFTWARE VERSION Revit 2018	REFERENCE NUMBER  DSD-OS-0013
	DATE 11-2018	
	REVISION 0	


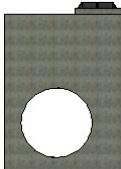
INPUT

Object Name <b>FMH-J_-DSD-CONC-D0</b>		CATEGORY <b>Generic Models</b>	LOD-G <b>400</b>
			
<b>PLAN</b> 		<b>3D</b> 	
<b>FRONT ELEVATION / SECTION</b> 		<b>FAMILY VIEW : PARAMETER</b>	

Anno_FMH	Tag_FMH
	<b>FMH0013</b> Type J

PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES

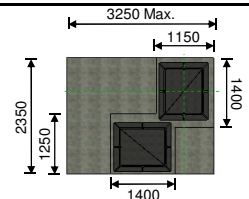
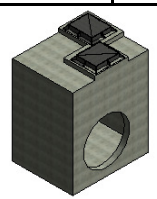
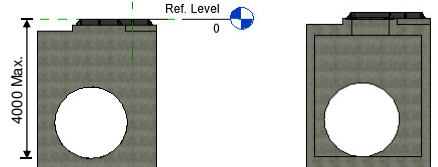
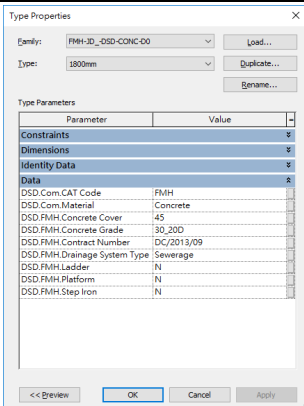
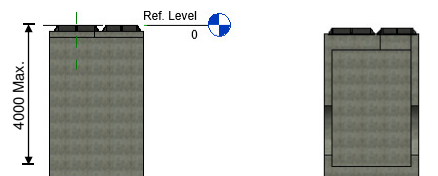
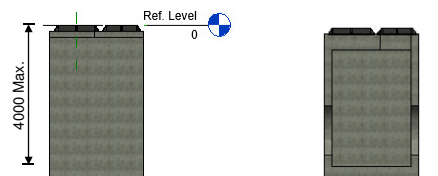
OUTPUT

SHEET VIEW : PLAN	SHEET VIEW : ELEVATION																	
		PRESENTATION DRAWING																
N.A.	N.A.	STATUTORY / AUTHORITIES SUBMISSION DRAWING																
Project Specific	Refer to DSD Standard Drawing (DS1013)	TENDER / CONSTRUCTION DRAWING																
<table border="1"><thead><tr><th colspan="4">&lt;Manhole Schedule&gt;</th></tr><tr><th>A</th><th>B</th><th>C</th><th>D</th></tr></thead><tbody><tr><td>DSD.FMH.ID Mark</td><td>DSD.FMH.Manhole Type</td><td>DSD.FMH.Invert Level A1</td><td>DSD.FMH.Cover Level</td></tr><tr><td>FMH0013</td><td>Type J</td><td>-4.000</td><td>0.000</td></tr></tbody></table>		<Manhole Schedule>				A	B	C	D	DSD.FMH.ID Mark	DSD.FMH.Manhole Type	DSD.FMH.Invert Level A1	DSD.FMH.Cover Level	FMH0013	Type J	-4.000	0.000	SCHEDULE IN DRAWING
<Manhole Schedule>																		
A	B	C	D															
DSD.FMH.ID Mark	DSD.FMH.Manhole Type	DSD.FMH.Invert Level A1	DSD.FMH.Cover Level															
FMH0013	Type J	-4.000	0.000															

BIM OBJECT SHEET

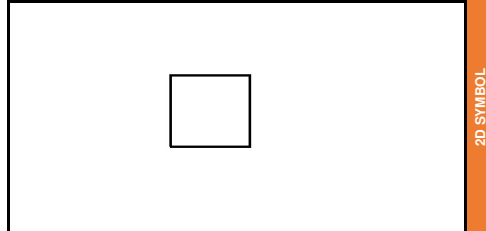
QR CODE For AM	SOFTWARE VERSION Revit 2018	REFERENCE NUMBER  DSD-OS-0014
	DATE 11-2018	
	REVISION 0	

INPUT

Object Name <b>FMH-JD_-DSD-CONC-D0</b>	CATEGORY <b>Generic Models</b>	LOD-G <b>300</b>
		
<b>PLAN</b> 	<b>3D</b> 	
<b>FRONT ELEVATION / SECTION</b> 	<b>FAMILY VIEW : PARAMETER</b>	
<b>SIDE ELEVATION / SECTION</b> 		

3D GEOMETRY

Anno\_FMH



2D SYMBOL


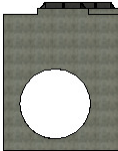
Tag\_FMH

FMH0014  
Type J/D

2D TAG / LABEL / ANNOTATION

PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES

OUTPUT

SHEET VIEW : PLAN		SHEET VIEW : ELEVATION		PRESENTATION DRAWING																	
																					
N.A.		N.A.		STATUTORY / AUTHORITIES SUBMISSION DRAWING																	
Project Specific		Refer to DSD Standard Drawing (DS1014)			TENDER / CONSTRUCTION DRAWING																
<table border="1"><thead><tr><th colspan="4">&lt;Manhole Schedule&gt;</th></tr><tr><th>A</th><th>B</th><th>C</th><th>D</th></tr></thead><tbody><tr><td>DSD.FMH.ID Mark</td><td>DSD.FMH.Manhole Type</td><td>DSD.FMH.Invert Level A1</td><td>DSD.FMH.Cover Level</td></tr><tr><td>FMH0014</td><td>Type J/D</td><td>-4.000</td><td>0.000</td></tr></tbody></table>						<Manhole Schedule>				A	B	C	D	DSD.FMH.ID Mark	DSD.FMH.Manhole Type	DSD.FMH.Invert Level A1	DSD.FMH.Cover Level	FMH0014	Type J/D	-4.000	0.000
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A	B	C	D																		
DSD.FMH.ID Mark	DSD.FMH.Manhole Type	DSD.FMH.Invert Level A1	DSD.FMH.Cover Level																		
FMH0014	Type J/D	-4.000	0.000																		

## BIM OBJECT SHEET

QR CODE For AM	SOFTWARE VERSION	REFERENCE NUMBER
	Revit 2018	
	DATE	
	11-2018	DSD-OS-0014
	REVISION	
	0	

## INPUT

**Object Name** **FMH-JD \_DSD-CONC-D0**

**PLAN**

**FRONT ELEVATION / SECTION**

**SIDE ELEVATION / SECTION**

**CATEGORY** **Generic Models**

**L0D-G** **400**

**3D**

Type Properties

Family: FMH-JD \_DSD-CONC-D0 Load...

Type: 1800mm Duplicate... Rename...

Type Parameters

Parameter	Value
<b>Constraints</b>	
<b>Dimensions</b>	
<b>Identity Data</b>	
<b>Data</b>	
DSD.Com.CAT Code	FMH
DSD.Com.Material	Concrete
DSD.FMH Concrete Cover	45
DSD.FMH Concrete Grade	30_20D
DSD.FMH Contract Number	DC/2013/09
DSD.FMH Drainage System Type	Sewerage
DSD.FMH Ladder	N
DSD.FMH Platform	N
DSD.FMH Step Iron	Y


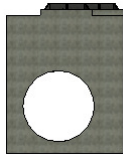
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3D GEOMETRY

Anno_FMH	2D SYMBOL	Tag_FMH	2D TAG / LABEL / ANNOTATION
		FMH0014 Type J/D	

## PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES

## OUTPUT

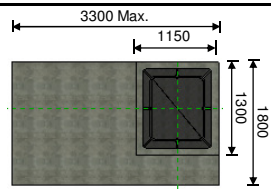
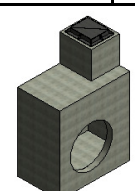
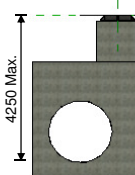
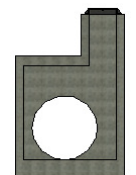
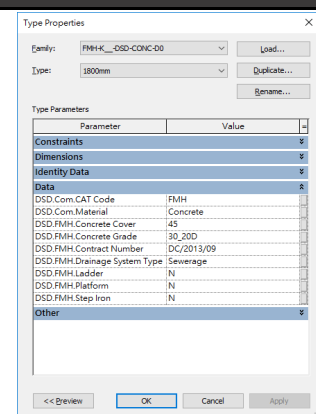
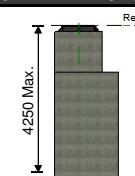
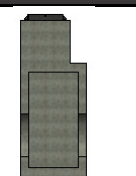
SHEET VIEW : PLAN		SHEET VIEW : ELEVATION		PRESENTATION DRAWING															
																			
N.A.		N.A.																	
Project Specific		Refer to DSD Standard Drawing (DS1014)		TENDER / CONSTRUCTION DRAWING															
<table border="1"> <thead> <tr> <th colspan="4">&lt;Manhole Schedule&gt;</th> </tr> <tr> <th>A</th> <th>B</th> <th>C</th> <th>D</th> </tr> </thead> <tbody> <tr> <td>DSD.FMH.ID Mark</td> <td>DSD.FMH.Manhole Type</td> <td>DSD.FMH.Invert Level A1</td> <td>DSD.FMH.Cover Level</td> </tr> <tr> <td>FMH0014</td> <td>Type J/D</td> <td>-4.000</td> <td>0.000</td> </tr> </tbody> </table>					<Manhole Schedule>				A	B	C	D	DSD.FMH.ID Mark	DSD.FMH.Manhole Type	DSD.FMH.Invert Level A1	DSD.FMH.Cover Level	FMH0014	Type J/D	-4.000
<Manhole Schedule>																			
A	B	C	D																
DSD.FMH.ID Mark	DSD.FMH.Manhole Type	DSD.FMH.Invert Level A1	DSD.FMH.Cover Level																
FMH0014	Type J/D	-4.000	0.000																
				SCHEDULE IN DRAWING															




**BIM OBJECT SHEET**

QR CODE For AM	SOFTWARE VERSION <b>Revit 2018</b>	REFERENCE NUMBER  <b>DSD-OS-0015</b>
	DATE <b>11-2018</b>	
	REVISION <b>0</b>	


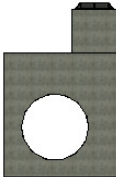
**INPUT**

Object Name <b>FMH-K_-DSD-CONC-D0</b>	CATEGORY <b>Generic Models</b>	LOD-G <b>300</b>
		
<b>PLAN</b>	<b>3D</b>	
 		
<b>FRONT ELEVATION / SECTION</b>	<b>FAMILY VIEW : PARAMETER</b>	
 		
<b>SIDE ELEVATION / SECTION</b>		

Anno_FMH	Tag_FMH
	<b>FMH0015</b> Type K
<b>2D SYMBOL</b>	<b>2D TAG / LABEL / ANNOTATION</b>

**PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES**

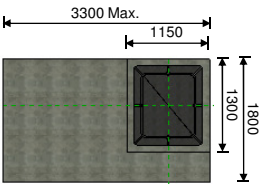
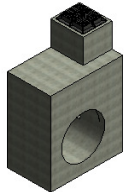
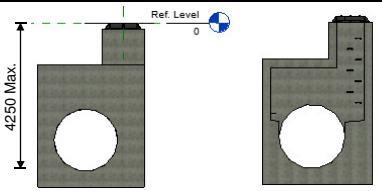
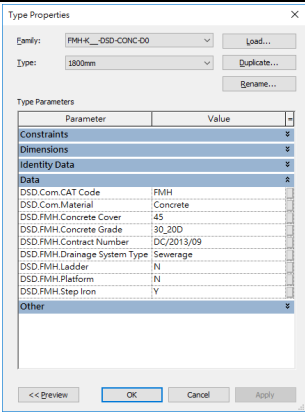
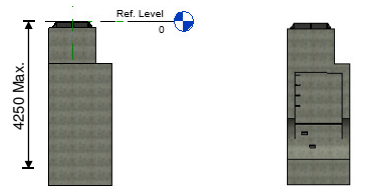
**OUTPUT**


SHEET VIEW : PLAN		SHEET VIEW : ELEVATION		PRESENTATION DRAWING																	
																					
N.A.		N.A.		STATUTORY / AUTHORITIES SUBMISSION DRAWING																	
Project Specific		Refer to DSD Standard Drawing (DS1015)			TENDER / CONSTRUCTION DRAWING																
<table border="1"><thead><tr><th colspan="4">&lt;Manhole Schedule&gt;</th></tr><tr><th>A</th><th>B</th><th>C</th><th>D</th></tr></thead><tbody><tr><td>DSD.FMH.ID Mark</td><td>DSD.FMH.Manhole Type</td><td>DSD.FMH.Invert Level A1</td><td>DSD.FMH.Cover Level</td></tr><tr><td>FMH0015</td><td>Type K</td><td>-4.250</td><td>0.000</td></tr></tbody></table>						<Manhole Schedule>				A	B	C	D	DSD.FMH.ID Mark	DSD.FMH.Manhole Type	DSD.FMH.Invert Level A1	DSD.FMH.Cover Level	FMH0015	Type K	-4.250	0.000
<Manhole Schedule>																					
A	B	C	D																		
DSD.FMH.ID Mark	DSD.FMH.Manhole Type	DSD.FMH.Invert Level A1	DSD.FMH.Cover Level																		
FMH0015	Type K	-4.250	0.000																		

BIM OBJECT SHEET

QR CODE For AM	SOFTWARE VERSION Revit 2018	REFERENCE NUMBER  DSD-OS-0015
	DATE 11-2018	
	REVISION 0	


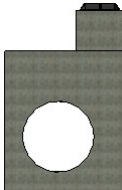
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Object Name FMH-K_-DSD-CONC-D0	CATEGORY Generic Models	LOD-G 400
		
PLAN	3D	
		
FRONT ELEVATION / SECTION	FAMILY VIEW : PARAMETER	
		
SIDE ELEVATION / SECTION		

Anno_FMH	Tag_FMH
	FMH0015 Type K
2D SYMBOL	2D TAG / LABEL / ANNOTATION

PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES

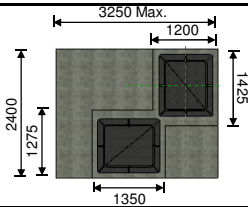
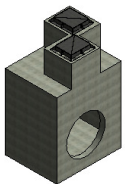
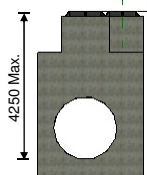
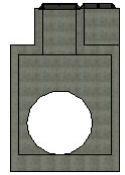
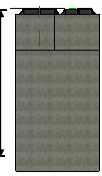
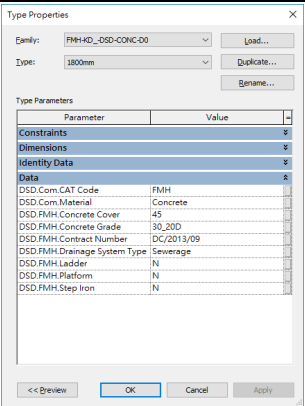
OUTPUT


SHEET VIEW : PLAN		SHEET VIEW : ELEVATION		PRESENTATION DRAWING																
																				
N.A.		N.A.			STATUTORY / AUTHORITIES SUBMISSION DRAWING															
Project Specific		Refer to DSD Standard Drawing (DS1015)		TENDER / CONSTRUCTION DRAWING																
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<Manhole Schedule>																				
A	B	C	D																	
DSD.FMH.ID Mark	DSD.FMH.Manhole Type	DSD.FMH.Invert Level A1	DSD.FMH.Cover Level																	
FMH0015	Type K	-4.250	0.000																	

BIM OBJECT SHEET

QR CODE For AM	SOFTWARE VERSION Revit 2018	REFERENCE NUMBER  DSD-OS-0016
	DATE 11-2018	
	REVISION 0	


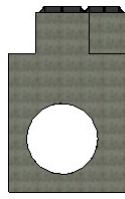
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FRONT ELEVATION / SECTION		
		
SIDE ELEVATION / SECTION	FAMILY VIEW : PARAMETER	

Anno_FMH	Tag_FMH
	<p>FMH0016 Type K/D</p>
2D SYMBOL	2D TAG / LABEL / ANNOTATION

PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES

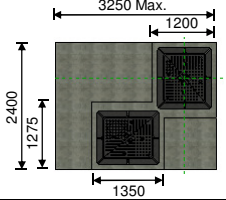
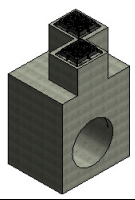
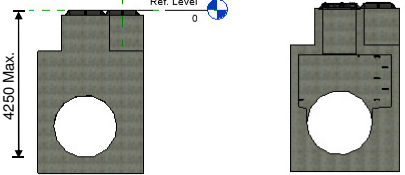
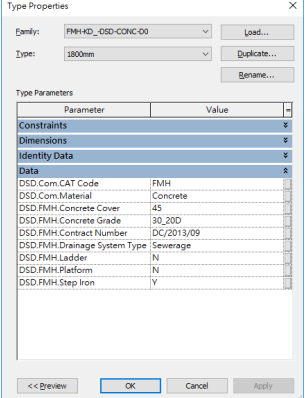
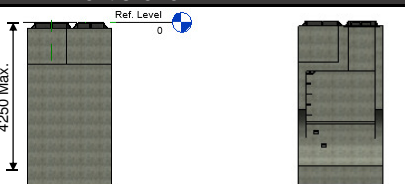
OUTPUT

SHEET VIEW : PLAN	SHEET VIEW : ELEVATION													
		PRESENTATION DRAWING												
N.A.	N.A.	STATUTORY / AUTHORITIES SUBMISSION DRAWING												
Project Specific	Refer to DSD Standard Drawing (DS1016)	TENDER / CONSTRUCTION DRAWING												
<p>&lt;Manhole Schedule&gt;</p> <table border="1"> <thead> <tr> <th>A</th> <th>B</th> <th>C</th> <th>D</th> </tr> </thead> <tbody> <tr> <td>DSD.FMH.ID Mark</td> <td>DSD.FMH.Manhole Type</td> <td>DSD.FMH.Invert Level A1</td> <td>DSD.FMH.Cover Level</td> </tr> <tr> <td>FMH0016</td> <td>Type K/D</td> <td>-4.250</td> <td>0.000</td> </tr> </tbody> </table>		A	B	C	D	DSD.FMH.ID Mark	DSD.FMH.Manhole Type	DSD.FMH.Invert Level A1	DSD.FMH.Cover Level	FMH0016	Type K/D	-4.250	0.000	SCHEDULE IN DRAWING
A	B	C	D											
DSD.FMH.ID Mark	DSD.FMH.Manhole Type	DSD.FMH.Invert Level A1	DSD.FMH.Cover Level											
FMH0016	Type K/D	-4.250	0.000											


BIM OBJECT SHEET

QR CODE For AM	SOFTWARE VERSION Revit 2018	REFERENCE NUMBER  DSD-OS-0016
	DATE 11-2018	
	REVISION 0	

INPUT


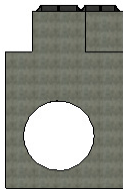
Object Name <b>FMH-KD_-DSD-CONC-D0</b>	CATEGORY <b>Generic Models</b>	LOD-G <b>400</b>
		
PLAN	3D	
		
FRONT ELEVATION / SECTION	FAMILY VIEW : PARAMETER	
		
SIDE ELEVATION / SECTION		

3D GEOMETRY

Anno_FMH	Tag_FMH
	<p>FMH0016 Type K/D</p>
2D SYMBOL	2D TAG / LABEL / ANNOTATION

PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES

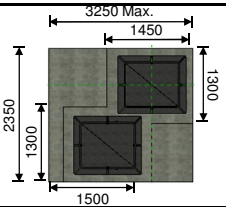
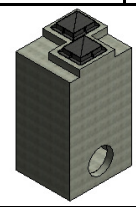

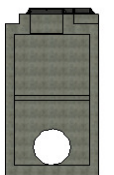
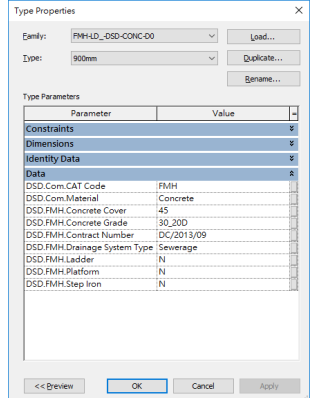
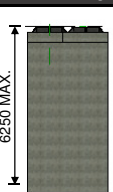
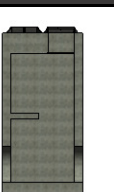
OUTPUT

SHEET VIEW : PLAN	SHEET VIEW : ELEVATION																	
		PRESENTATION DRAWING																
N.A.	N.A.	STATUTORY / AUTHORITIES SUBMISSION DRAWING																
Project Specific	Refer to DSD Standard Drawing (DS1016)	TENDER / CONSTRUCTION DRAWING																
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<Manhole Schedule>																		
A	B	C	D															
DSD.FMH.ID Mark	DSD.FMH.Manhole Type	DSD.FMH.Invert Level A1	DSD.FMH.Cover Level															
FMH0016	Type K/D	-4.250	0.000															

**BIM OBJECT SHEET**

QR CODE For AM	SOFTWARE VERSION <b>Revit 2018</b>	REFERENCE NUMBER  <b>DSD-OS-0017</b>
	DATE <b>11-2018</b>	
	REVISION <b>0</b>	



**INPUT**


Object Name <b>FMH-LD_-DSD-CONC-D0</b>	CATEGORY <b>Generic Models</b>	LOD-G <b>300</b>
		
<b>PLAN</b>  	<b>3D</b> 	
<b>FRONT ELEVATION / SECTION</b>  	<b>FAMILY VIEW : PARAMETER</b>	
<b>SIDE ELEVATION / SECTION</b>		

3D GEOMETRY

**PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES**

**OUTPUT**

SHEET VIEW : PLAN		SHEET VIEW : ELEVATION		PRESENTATION DRAWING																
																				
N.A.		N.A.																		
Project Specific		Refer to DSD Standard Drawing (DS1017)		TENDER / CONSTRUCTION DRAWING																
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<Manhole Schedule>																				
A	B	C	D																	
DSD.FMH.ID Mark	DSD.FMH.Manhole Type	DSD.FMH.Invert Level A1	DSD.FMH.Cover Level																	
FMH0017	Type L/D	-6.250	0.000																	

Anno_FMH	Tag_FMH
	<b>FMH0017</b> Type L/D

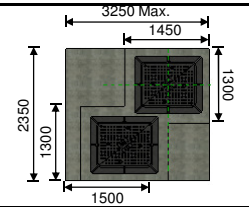
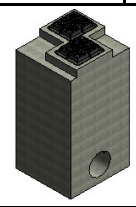
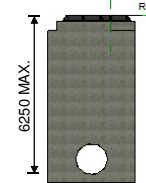
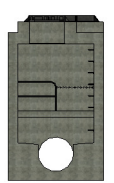
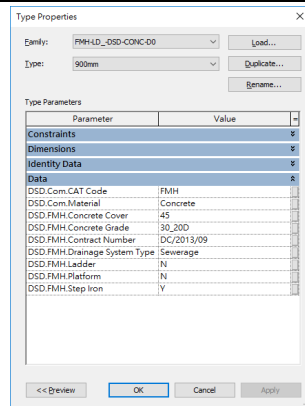
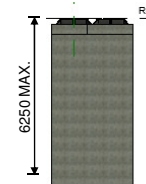
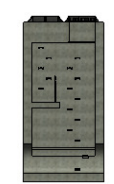
2D SYMBOL


2D TAG / LABEL / ANNOTATION

BIM OBJECT SHEET

QR CODE For AM	SOFTWARE VERSION Revit 2018	REFERENCE NUMBER  DSD-OS-0017
	DATE 11-2018	
	REVISION 0	



INPUT

Object Name <b>FMH-LD_-DSD-CONC-D0</b>	CATEGORY <b>Generic Models</b>	LOD-G <b>400</b>
		
PLAN	3D	
		
FRONT ELEVATION / SECTION		
		
SIDE ELEVATION / SECTION	FAMILY VIEW : PARAMETER	

Anno_FMH	Tag_FMH
	<p>FMH0017 Type L/D</p>
2D SYMBOL	2D TAG / LABEL / ANNOTATION

PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES

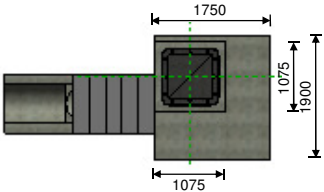
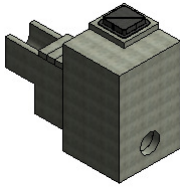
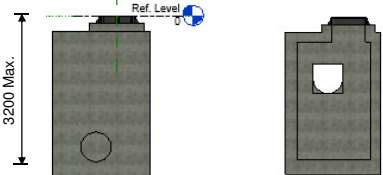
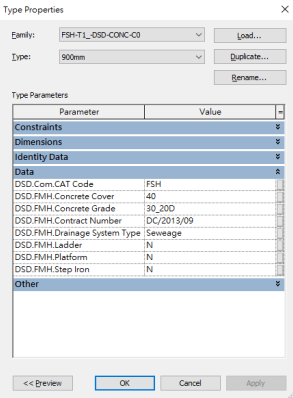
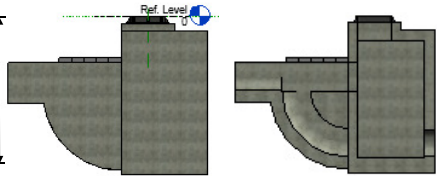
OUTPUT


SHEET VIEW : PLAN		SHEET VIEW : ELEVATION		PRESENTATION DRAWING																
																				
N.A.		N.A.																		
Project Specific		Refer to DSD Standard Drawing (DS1017)		TENDER / CONSTRUCTION DRAWING																
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<Manhole Schedule>																				
A	B	C	D																	
DSD.FMH.ID Mark	DSD.FMH.Manhole Type	DSD.FMH.Invert Level A1	DSD.FMH.Cover Level																	
FMH0017	Type L/D	-6.250	0.000																	

BIM OBJECT SHEET

QR CODE For AM	SOFTWARE VERSION Revit 2018	REFERENCE NUMBER  DSD-OS-0018
	DATE 11-2018	
	REVISION 0	



INPUT

Object Name FSH-T1_-DSD-CONC-C0	CATEGORY Generic Models	LOD-G 300
		
PLAN	3D	
		
FRONT ELEVATION / SECTION	FAMILY VIEW : PARAMETER	
		
SIDE ELEVATION / SECTION		

Anno_FSH	Tag_FSH
	FSH0018 Type 1
2D SYMBOL	2D TAG / LABEL / ANNOTATION

PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES

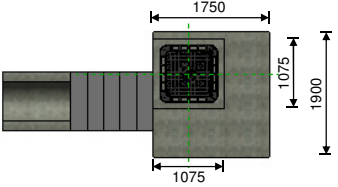
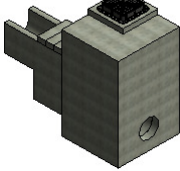
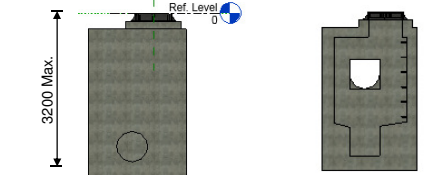
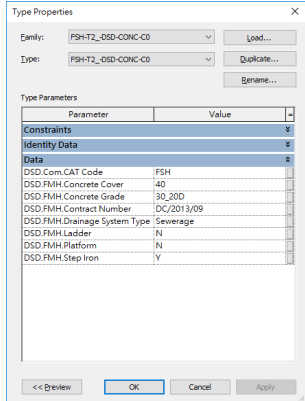
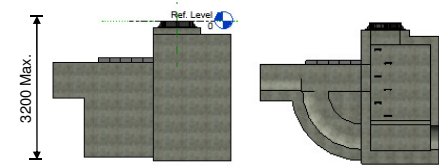
OUTPUT

SHEET VIEW : PLAN		SHEET VIEW : ELEVATION		PRESENTATION DRAWING																
																				
N.A.		N.A.																		
Project Specific		Refer to DSD Standard Drawing (DS1018)		TENDER / CONSTRUCTION DRAWING																
<table border="1"><thead><tr><th colspan="4">&lt;Manhole Schedule&gt;</th></tr><tr><th>A</th><th>B</th><th>C</th><th>D</th></tr></thead><tbody><tr><td>DSD.FMH.ID Mark</td><td>DSD.FMH.Manhole Type</td><td>DSD.FMH.Invert Level A1</td><td>DSD.FMH.Cover Level</td></tr><tr><td>FSH0018</td><td>Type 1</td><td>-3.200</td><td>0.000</td></tr></tbody></table>				<Manhole Schedule>				A	B	C	D	DSD.FMH.ID Mark	DSD.FMH.Manhole Type	DSD.FMH.Invert Level A1	DSD.FMH.Cover Level	FSH0018	Type 1	-3.200	0.000	SCHEDULE IN DRAWING
<Manhole Schedule>																				
A	B	C	D																	
DSD.FMH.ID Mark	DSD.FMH.Manhole Type	DSD.FMH.Invert Level A1	DSD.FMH.Cover Level																	
FSH0018	Type 1	-3.200	0.000																	


**BIM OBJECT SHEET**

QR CODE For AM	SOFTWARE VERSION <b>Revit 2018</b>	REFERENCE NUMBER  <b>DSD-OS-0018</b>
	DATE <b>11-2018</b>	
	REVISION <b>0</b>	

**INPUT**


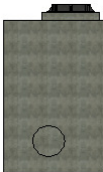
Object Name <b>FSH-T1_-DSD-CONC-C0</b>	CATEGORY <b>Generic Models</b>	LOD-G <b>400</b>
		
<b>PLAN</b>	<b>3D</b>	
		
<b>FRONT ELEVATION / SECTION</b>	<b>FAMILY VIEW : PARAMETER</b>	
		
<b>SIDE ELEVATION / SECTION</b>		

3D GEOMETRY

Anno_FSH	Tag_FSH
	<b>FSH0018</b> Type 1
<b>2D SYMBOL</b>	<b>2D TAG / LABEL / ANNOTATION</b>

**PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES**

**OUTPUT**

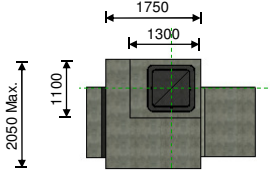
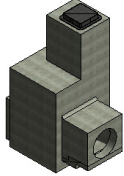
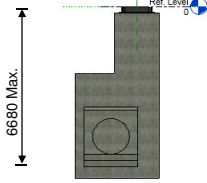
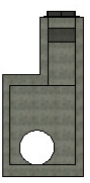
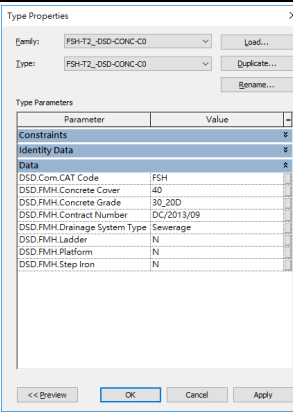
SHEET VIEW : PLAN		SHEET VIEW : ELEVATION		PRESENTATION DRAWING																
																				
N.A.		N.A.																		
Project Specific		Refer to DSD Standard Drawing (DS1018)		TENDER / CONSTRUCTION DRAWING																
<table border="1"><thead><tr><th colspan="4">&lt;Manhole Schedule&gt;</th></tr><tr><th>A</th><th>B</th><th>C</th><th>D</th></tr></thead><tbody><tr><td>DSD.FMH.ID Mark</td><td>DSD.FMH.Manhole Type</td><td>DSD.FMH.Invert Level A1</td><td>DSD.FMH.Cover Level</td></tr><tr><td>FSH0018</td><td>Type 1</td><td>-3.200</td><td>0.000</td></tr></tbody></table>				<Manhole Schedule>				A	B	C	D	DSD.FMH.ID Mark	DSD.FMH.Manhole Type	DSD.FMH.Invert Level A1	DSD.FMH.Cover Level	FSH0018	Type 1	-3.200	0.000	SCHEDULE IN DRAWING
<Manhole Schedule>																				
A	B	C	D																	
DSD.FMH.ID Mark	DSD.FMH.Manhole Type	DSD.FMH.Invert Level A1	DSD.FMH.Cover Level																	
FSH0018	Type 1	-3.200	0.000																	




BIM OBJECT SHEET

QR CODE For AM	SOFTWARE VERSION Revit 2018	REFERENCE NUMBER  DSD-OS-0019
	DATE 11-2018	
	REVISION 0	

INPUT


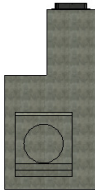
Object Name <b>FSH-T2_-DSD-CONC-C0</b>	CATEGORY <b>Generic Models</b>	LOD-G <b>300</b>
		
<b>PLAN</b>	<b>3D</b>	
		
<b>FRONT ELEVATION / SECTION</b>	<b>SIDE ELEVATION / SECTION</b>	
		
<b>FAMILY VIEW : PARAMETER</b>		

3D GEOMETRY

Anno_FSH	Tag_FSH
	FSH0019 Type 2
<b>2D SYMBOL</b>	<b>2D TAG / LABEL / ANNOTATION</b>

PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES

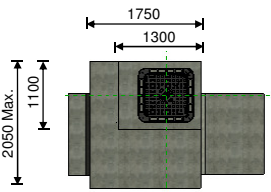
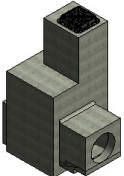
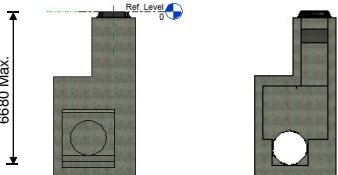
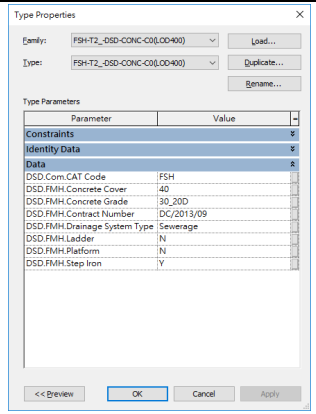
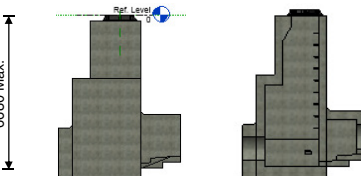
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
SHEET VIEW : PLAN		SHEET VIEW : ELEVATION		PRESENTATION DRAWING													
																	
N.A.		N.A.		STATUTORY / AUTHORITIES SUBMISSION DRAWING													
Project Specific		Refer to DSD Standard Drawing (DS1019)			TENDER / CONSTRUCTION DRAWING												
<div>&lt;Manhole Schedule&gt;</div> <table><tr><th>A</th><th>B</th><th>C</th><th>D</th></tr><tr><td>DSD.FMH.ID Mark</td><td>DSD.FMH.Manhole Type</td><td>DSD.FMH.Invert Level A1</td><td>DSD.FMH.Cover Level</td></tr><tr><td>FSH0019</td><td>Type 2</td><td>-6.680</td><td>0.000</td></tr></table>						A	B	C	D	DSD.FMH.ID Mark	DSD.FMH.Manhole Type	DSD.FMH.Invert Level A1	DSD.FMH.Cover Level	FSH0019	Type 2	-6.680	0.000
A	B	C	D														
DSD.FMH.ID Mark	DSD.FMH.Manhole Type	DSD.FMH.Invert Level A1	DSD.FMH.Cover Level														
FSH0019	Type 2	-6.680	0.000														

BIM OBJECT SHEET

QR CODE For AM	SOFTWARE VERSION Revit 2018	REFERENCE NUMBER  DSD-OS-0019
	DATE 11-2018	
	REVISION 0	


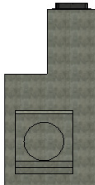
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Object Name FSH-T2_-DSD-CONC-C0	CATEGORY Generic Models	LOD-G 400
		
PLAN	3D	
		
FRONT ELEVATION / SECTION	FAMILY VIEW : PARAMETER	
		
SIDE ELEVATION / SECTION		

Anno_FSH	Tag_FSH
	FSH0019 Type 2
2D SYMBOL	2D TAG / LABEL / ANNOTATION

PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES

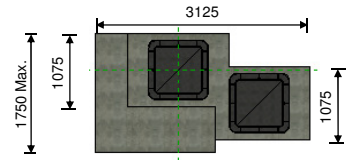
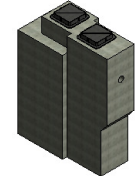
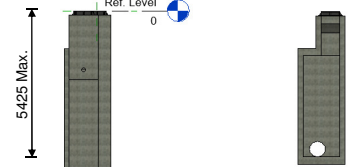
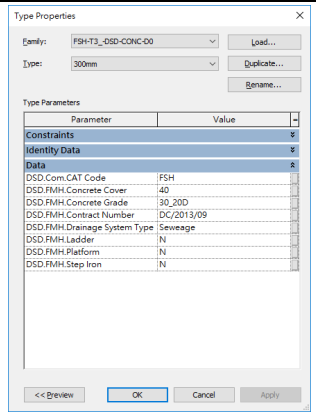
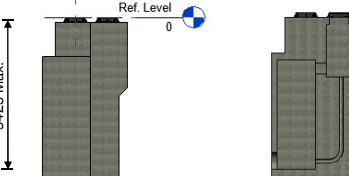
OUTPUT


SHEET VIEW : PLAN		SHEET VIEW : ELEVATION		PRESENTATION DRAWING																	
																					
N.A.		N.A.		STATUTORY / AUTHORITIES SUBMISSION DRAWING																	
Project Specific		Refer to DSD Standard Drawing (DS1019)		TENDER / CONSTRUCTION DRAWING																	
<table><tr><th colspan="4">&lt;Manhole Schedule&gt;</th></tr><tr><th>A</th><th>B</th><th>C</th><th>D</th></tr><tr><td>DSD.FMH.ID Mark</td><td>DSD.FMH.Manhole Type</td><td>DSD.FMH.Invert Level A1</td><td>DSD.FMH.Cover Level</td></tr><tr><td>FSH0019</td><td>Type 2</td><td>-6.680</td><td>0.000</td></tr></table>					<Manhole Schedule>				A	B	C	D	DSD.FMH.ID Mark	DSD.FMH.Manhole Type	DSD.FMH.Invert Level A1	DSD.FMH.Cover Level	FSH0019	Type 2	-6.680	0.000	SCHEDULE IN DRAWING
<Manhole Schedule>																					
A	B	C	D																		
DSD.FMH.ID Mark	DSD.FMH.Manhole Type	DSD.FMH.Invert Level A1	DSD.FMH.Cover Level																		
FSH0019	Type 2	-6.680	0.000																		

BIM OBJECT SHEET

QR CODE For AM	SOFTWARE VERSION Revit 2018	REFERENCE NUMBER  DSD-OS-0020
	DATE 11-2018	
	REVISION 0	



INPUT

Object Name <b>FSH-T3_-DSD-CONC-D0</b>	CATEGORY <b>Generic Models</b>	LOD-G <b>300</b>
		
PLAN	3D	
		
FRONT ELEVATION / SECTION	FAMILY VIEW : PARAMETER	
		
SIDE ELEVATION / SECTION		

Anno_FSH	Tag_FSH
	<b>FSH0020</b> Type 3
2D SYMBOL	2D TAG / LABEL / ANNOTATION

PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES

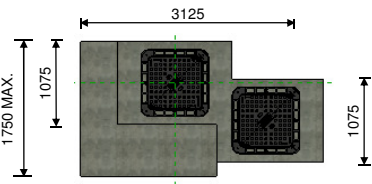
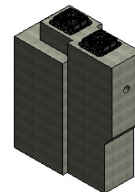
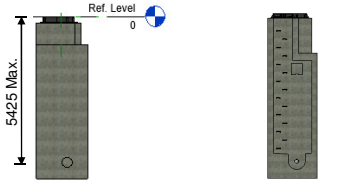
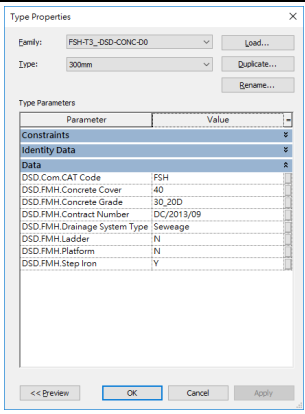
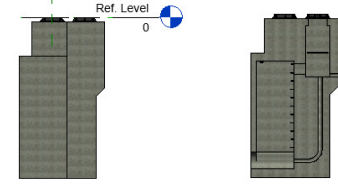
OUTPUT

SHEET VIEW : PLAN		SHEET VIEW : ELEVATION		PRESENTATION DRAWING																
																				
N.A.		N.A.																		
Project Specific		Refer to DSD Standard Drawing (DS1020)		TENDER / CONSTRUCTION DRAWING																
<table border="1"><thead><tr><th colspan="4">&lt;Manhole Schedule&gt;</th></tr><tr><th>A</th><th>B</th><th>C</th><th>D</th></tr></thead><tbody><tr><td>DSD.FMH.ID Mark</td><td>DSD.FMH.Manhole Type</td><td>DSD.FMH.Invert Level A1</td><td>DSD.FMH.Cover Level</td></tr><tr><td>FSH0020</td><td>Type 3</td><td>-5.425</td><td>0.000</td></tr></tbody></table>				<Manhole Schedule>				A	B	C	D	DSD.FMH.ID Mark	DSD.FMH.Manhole Type	DSD.FMH.Invert Level A1	DSD.FMH.Cover Level	FSH0020	Type 3	-5.425	0.000	SCHEDULE IN DRAWING
<Manhole Schedule>																				
A	B	C	D																	
DSD.FMH.ID Mark	DSD.FMH.Manhole Type	DSD.FMH.Invert Level A1	DSD.FMH.Cover Level																	
FSH0020	Type 3	-5.425	0.000																	


BIM OBJECT SHEET

QR CODE For AM	SOFTWARE VERSION Revit 2018	REFERENCE NUMBER  DSD-OS-0020
	DATE 11-2018	
	REVISION 0	

INPUT



Object Name <b>FSH-T3_-DSD-CONC-D0</b>	CATEGORY <b>Generic Models</b>	LOD-G <b>400</b>
		
<b>PLAN</b>	<b>3D</b>	
		
<b>FRONT ELEVATION / SECTION</b>	<b>FAMILY VIEW : PARAMETER</b>	
		
<b>SIDE ELEVATION / SECTION</b>		

3D GEOMETRY

Anno_FSH	Tag_FSH
	<p>FSH0020 Type 3</p>
<b>2D SYMBOL</b>	<b>2D TAG / LABEL / ANNOTATION</b>

PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES

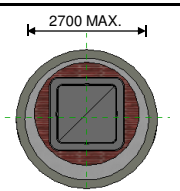

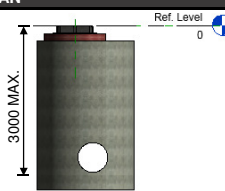
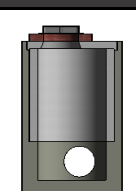
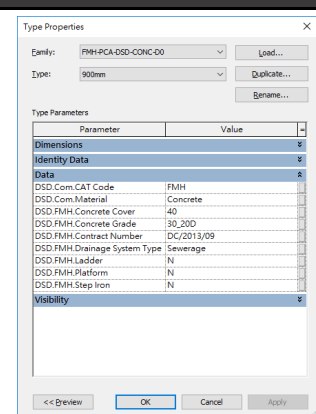
OUTPUT

SHEET VIEW : PLAN		SHEET VIEW : ELEVATION		PRESENTATION DRAWING																	
																					
N.A.		N.A.																			
Project Specific		Refer to DSD Standard Drawing (DS1020)		TENDER / CONSTRUCTION DRAWING																	
<table border="1"><thead><tr><th colspan="4">&lt;Manhole Schedule&gt;</th></tr><tr><th>A</th><th>B</th><th>C</th><th>D</th></tr><tr><th>DSD.FMH.ID Mark</th><th>DSD.FMH.Manhole Type</th><th>DSD.FMH.Invert Level A1</th><th>DSD.FMH.Cover Level</th></tr></thead><tbody><tr><td>FSH0020</td><td>Type 3</td><td>-5.425</td><td>0.000</td></tr></tbody></table>					<Manhole Schedule>				A	B	C	D	DSD.FMH.ID Mark	DSD.FMH.Manhole Type	DSD.FMH.Invert Level A1	DSD.FMH.Cover Level	FSH0020	Type 3	-5.425	0.000	SCHEDULE IN DRAWING
<Manhole Schedule>																					
A	B	C	D																		
DSD.FMH.ID Mark	DSD.FMH.Manhole Type	DSD.FMH.Invert Level A1	DSD.FMH.Cover Level																		
FSH0020	Type 3	-5.425	0.000																		

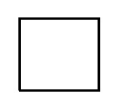
BIM OBJECT SHEET

QR CODE For AM	SOFTWARE VERSION Revit 2018	REFERENCE NUMBER  DSD-OS-0021
	DATE 11-2018	
	REVISION 0	

INPUT



Object Name <b>FMH-PCA-DSD-CONC-D0</b>	CATEGORY <b>Generic Models</b>	LOD-G <b>300</b>
		
<b>PLAN</b>	<b>3D</b>	
		
<b>FRONT ELEVATION / SECTION</b>	<b>SIDE ELEVATION / SECTION</b>	
		
<b>FAMILY VIEW : PARAMETER</b>		

3D GEOMETRY

Anno_FMH	Tag_FMH
	FMH0021 Precast Type A
2D SYMBOL	2D TAG / LABEL / ANNOTATION

PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES

OUTPUT

SHEET VIEW : PLAN		SHEET VIEW : ELEVATION		PRESENTATION DRAWING																	
																					
N.A.		N.A.		STATUTORY / AUTHORITIES SUBMISSION DRAWING																	
Project Specific		Refer to DSD Standard Drawing (DS1023)			TENDER / CONSTRUCTION DRAWING																
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<Manhole Schedule>																					
A	B	C	D																		
DSD.FMH.ID Mark	DSD.FMH.Manhole Type	DSD.FMH.Invert Level A1	DSD.FMH.Cover Level																		
FMH0021	Precast Type A	-3.000	0.000																		

PRESENTATION DRAWING

STATUTORY / AUTHORITIES  
SUBMISSION DRAWING

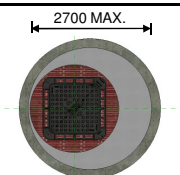

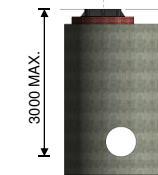
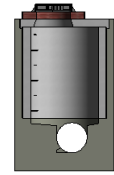
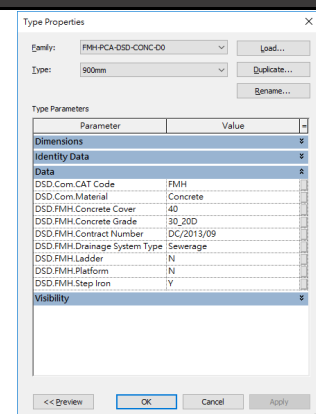
TENDER / CONSTRUCTION  
DRAWING

SCHEDULE IN DRAWING


BIM OBJECT SHEET

QR CODE For AM	SOFTWARE VERSION Revit 2018	REFERENCE NUMBER  DSD-OS-0021
	DATE 11-2018	
	REVISION 0	

INPUT



Object Name <b>FMH-PCA-DSD-CONC-D0</b>	CATEGORY <b>Generic Models</b>	LOD-G <b>400</b>
		
<b>PLAN</b>	<b>3D</b>	
		
		
<b>FRONT ELEVATION / SECTION</b>	<b>SIDE ELEVATION / SECTION</b>	
<b>FAMILY VIEW : PARAMETER</b>		

3D GEOMETRY

Anno_FMH	Tag_FMH
	FMH0021 Precast Type A
2D SYMBOL	2D TAG / LABEL / ANNOTATION

PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES

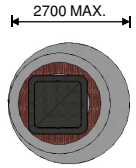

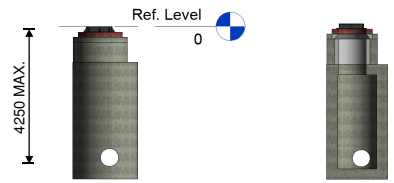
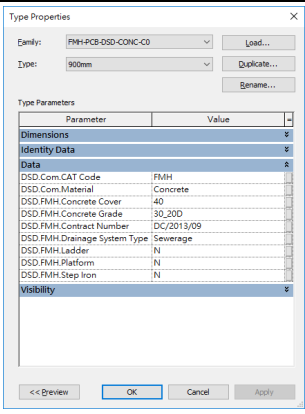
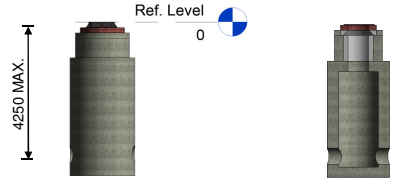
OUTPUT


SHEET VIEW : PLAN		SHEET VIEW : ELEVATION		PRESENTATION DRAWING																
																				
N.A.		N.A.																		
Project Specific		Refer to DSD Standard Drawing (DS1023)		TENDER / CONSTRUCTION DRAWING																
<table border="1"><thead><tr><th colspan="4">&lt;Manhole Schedule&gt;</th></tr><tr><th>A</th><th>B</th><th>C</th><th>D</th></tr></thead><tbody><tr><td>DSD.FMH.ID Mark</td><td>DSD.FMH.Manhole Type</td><td>DSD.FMH.Invert Level A1</td><td>DSD.FMH.Cover Level</td></tr><tr><td>FMH0021</td><td>Precast Type A</td><td>-3.000</td><td>0.000</td></tr></tbody></table>				<Manhole Schedule>				A	B	C	D	DSD.FMH.ID Mark	DSD.FMH.Manhole Type	DSD.FMH.Invert Level A1	DSD.FMH.Cover Level	FMH0021	Precast Type A	-3.000	0.000	SCHEDULE IN DRAWING
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A	B	C	D																	
DSD.FMH.ID Mark	DSD.FMH.Manhole Type	DSD.FMH.Invert Level A1	DSD.FMH.Cover Level																	
FMH0021	Precast Type A	-3.000	0.000																	

BIM OBJECT SHEET

QR CODE For AM	SOFTWARE VERSION Revit 2018	REFERENCE NUMBER  DSD-OS-0022
	DATE 11-2018	
	REVISION 0	



INPUT

Object Name <b>FMH-PCB-DSD-CONC-C0</b>	CATEGORY <b>Generic Models</b>	LOD-G <b>300</b>
		
PLAN	3D	
		
FRONT ELEVATION / SECTION	FAMILY VIEW : PARAMETER	
		
SIDE ELEVATION / SECTION		

Anno_FMH	Tag_FMH
	<b>FMH0022</b> Type B
2D SYMBOL	2D TAG / LABEL / ANNOTATION

PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES

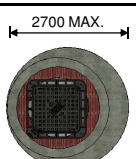

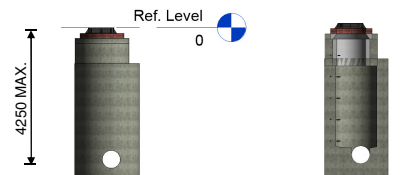
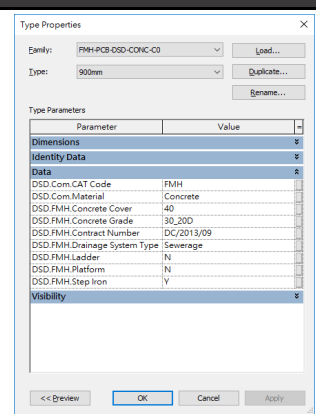
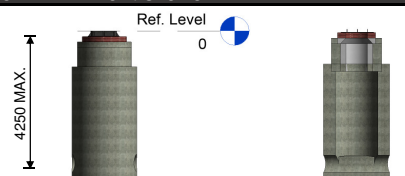
OUTPUT

SHEET VIEW : PLAN	SHEET VIEW : ELEVATION	PRESENTATION DRAWING																
																		
N.A.	N.A.	STATUTORY / AUTHORITIES SUBMISSION DRAWING																
Project Specific	Refer to DSD Standard Drawing (DS1025)	TENDER / CONSTRUCTION DRAWING																
<table border="1"> <thead> <tr> <th colspan="4">&lt;Manhole Schedule&gt;</th> </tr> <tr> <th>A</th> <th>B</th> <th>C</th> <th>D</th> </tr> </thead> <tbody> <tr> <td>DSD.FMH.ID Mark</td> <td>DSD.FMH.Manhole Type</td> <td>DSD.FMH.Invert Level A1</td> <td>DSD.FMH.Cover Level</td> </tr> <tr> <td>FMH0022</td> <td>Precast Type B</td> <td>-4.250</td> <td>0.000</td> </tr> </tbody> </table>		<Manhole Schedule>				A	B	C	D	DSD.FMH.ID Mark	DSD.FMH.Manhole Type	DSD.FMH.Invert Level A1	DSD.FMH.Cover Level	FMH0022	Precast Type B	-4.250	0.000	SCHEDULE IN DRAWING
<Manhole Schedule>																		
A	B	C	D															
DSD.FMH.ID Mark	DSD.FMH.Manhole Type	DSD.FMH.Invert Level A1	DSD.FMH.Cover Level															
FMH0022	Precast Type B	-4.250	0.000															

BIM OBJECT SHEET


QR CODE For AM	SOFTWARE VERSION Revit 2018	REFERENCE NUMBER  DSD-OS-0022
	DATE 11-2018	
	REVISION 0	

INPUT

Object Name <b>FMH-PCB-DSD-CONC-C0</b>	CATEGORY <b>Generic Models</b>	LOD-G <b>400</b>
		
<b>PLAN</b> 	<b>3D</b> 	
<b>FRONT ELEVATION / SECTION</b> 	<b>FAMILY VIEW : PARAMETER</b>	

3D GEOMETRY

Anno\_FMH



2D SYMBOL



Tag\_FMH

FMH0022  
Type B

2D TAG / LABEL / ANNOTATION

PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES

OUTPUT

SHEET VIEW : PLAN	SHEET VIEW : ELEVATION	PRESENTATION DRAWING																
																		
N.A.	N.A.	STATUTORY / AUTHORITIES SUBMISSION DRAWING																
Project Specific	Refer to DSD Standard Drawing (DS1025)	TENDER / CONSTRUCTION DRAWING																
<table border="1"><thead><tr><th colspan="4">&lt;Manhole Schedule&gt;</th></tr><tr><th>A</th><th>B</th><th>C</th><th>D</th></tr></thead><tbody><tr><td>DSD.FMH.ID Mark</td><td>DSD.FMH.Manhole Type</td><td>DSD.FMH.Invert Level A1</td><td>DSD.FMH.Cover Level</td></tr><tr><td>FMH0022</td><td>Precast Type B</td><td>-4.250</td><td>0.000</td></tr></tbody></table>		<Manhole Schedule>				A	B	C	D	DSD.FMH.ID Mark	DSD.FMH.Manhole Type	DSD.FMH.Invert Level A1	DSD.FMH.Cover Level	FMH0022	Precast Type B	-4.250	0.000	SCHEDULE IN DRAWING
<Manhole Schedule>																		
A	B	C	D															
DSD.FMH.ID Mark	DSD.FMH.Manhole Type	DSD.FMH.Invert Level A1	DSD.FMH.Cover Level															
FMH0022	Precast Type B	-4.250	0.000															



BIM OBJECT SHEET

QR CODE For AM	SOFTWARE VERSION Revit 2018	REFERENCE NUMBER  DSD-OS-0023
	DATE 11-2018	
	REVISION 0	

INPUT

Object Name <b>SPH-SD_-DSD-CONC-B0</b>		CATEGORY <b>Generic Models</b>	LOD-G <b>300</b>
<b>PLAN</b>		<b>3D</b>	
<b>FRONT ELEVATION / SECTION</b>		<b>FAMILY VIEW : PARAMETER</b>	
<b>SIDE ELEVATION / SECTION</b>			

3D GEOMETRY

Anno_SPH	2D Tag / Label / Annotation Name
	N.A.
2D SYMBOL	2D TAG / LABEL / ANNOTATION

PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES

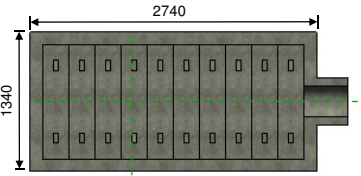
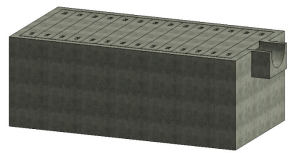
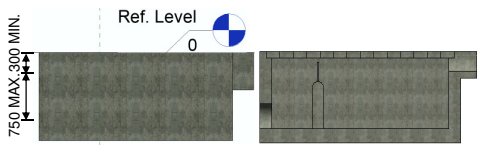
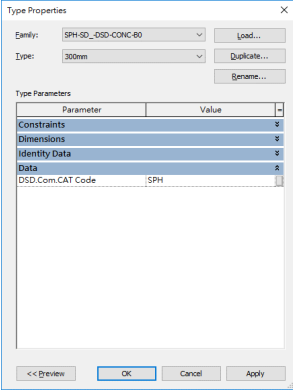
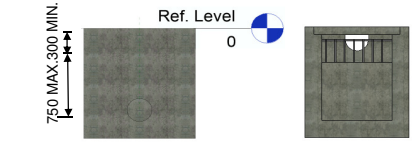
OUTPUT

SHEET VIEW : PLAN	SHEET VIEW : ELEVATION	
		PRESENTATION DRAWING
N.A.	N.A.	STATUTORY / AUTHORITIES SUBMISSION DRAWING
Project Specific	Refer to DSD Standard Drawing (DS1025)	TENDER / CONSTRUCTION DRAWING
N.A.		SCHEDULE IN DRAWING

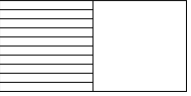
**BIM OBJECT SHEET**

QR CODE For AM	SOFTWARE VERSION <b>Revit 2018</b>	REFERENCE NUMBER  <b>DSD-OS-0023</b>
	DATE <b>11-2018</b>	
	REVISION <b>0</b>	

**INPUT**

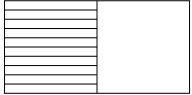

Object Name <b>SPH-SD_-DSD-CONC-B0</b>	CATEGORY <b>Generic Models</b>	LOD-G <b>400</b>
		
<b>PLAN</b>	<b>3D</b>	
		
<b>FRONT ELEVATION / SECTION</b>	<b>FAMILY VIEW : PARAMETER</b>	
		
<b>SIDE ELEVATION / SECTION</b>		

3D GEOMETRY

Anno_SPH	2D Tag / Label / Annotation Name
	<b>N.A.</b>
<b>2D SYMBOL</b>	<b>2D TAG / LABEL / ANNOTATION</b>

**PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES**

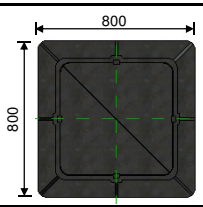
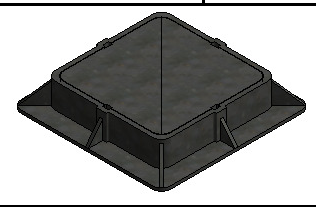

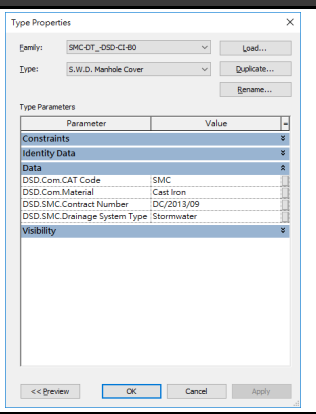

**OUTPUT**

SHEET VIEW : PLAN	SHEET VIEW : ELEVATION	
		<b>PRESENTATION DRAWING</b>
<b>N.A.</b>	<b>N.A.</b>	<b>STATUTORY / AUTHORITIES SUBMISSION DRAWING</b>
Project Specific	Refer to DSD Standard Drawing (DS1025)	<b>TENDER / CONSTRUCTION DRAWING</b>
<b>N.A.</b>		<b>SCHEDULE IN DRAWING</b>

BIM OBJECT SHEET

QR CODE For AM	SOFTWARE VERSION Revit 2018	REFERENCE NUMBER  DSD-OS-0024
	DATE 11-2018	
	REVISION 0	

INPUT


Object Name SMC-DT_-DSD-CI-B0	CATEGORY Generic Models	LOD-G 300
		
PLAN	3D	
		
FRONT ELEVATION / SECTION	FAMILY VIEW : PARAMETER	
		
SIDE ELEVATION / SECTION		

3D GEOMETRY

2D Symbol Name	2D Tag / Label / Annotation Name
N.A.	N.A.
2D SYMBOL	2D TAG / LABEL / ANNOTATION

PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES

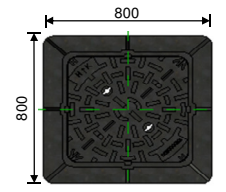
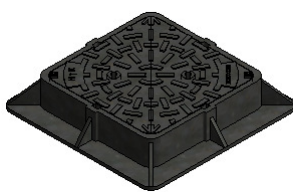

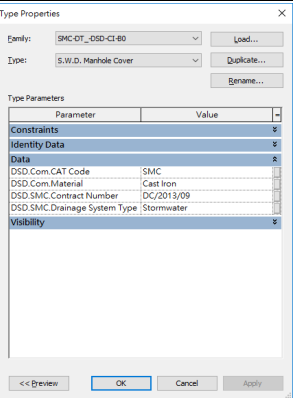
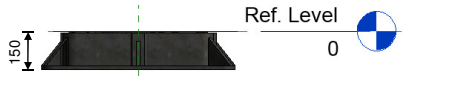
OUTPUT

SHEET VIEW : PLAN	SHEET VIEW : ELEVATION										
N.A.		PRESENTATION DRAWING									
N.A.	N.A.	STATUTORY / AUTHORITIES SUBMISSION DRAWING									
Project Specific	Refer to DSD Standard Drawing (DS1033)	TENDER / CONSTRUCTION DRAWING									
<p>&lt;Manhole Cover Schedule&gt;</p> <table> <tr> <th>A</th><th>B</th><th>C</th></tr> <tr> <th>DSD.SMC.ID Mark</th><th>DSD.SMC.Drainage System Type</th><th>DSD.SMC.Feature Type</th></tr> <tr> <td>SMC0024</td><td>Stormwater</td><td>Manhole Cover</td></tr> </table>		A	B	C	DSD.SMC.ID Mark	DSD.SMC.Drainage System Type	DSD.SMC.Feature Type	SMC0024	Stormwater	Manhole Cover	SCHEDULE IN DRAWING
A	B	C									
DSD.SMC.ID Mark	DSD.SMC.Drainage System Type	DSD.SMC.Feature Type									
SMC0024	Stormwater	Manhole Cover									

BIM OBJECT SHEET

QR CODE For AM	SOFTWARE VERSION Revit 2018	REFERENCE NUMBER  DSD-OS-0024
	DATE 11-2018	
	REVISION 0	

INPUT


Object Name <b>SMC-DT_-DSD-CI-B0</b>	CATEGORY <b>Generic Models</b>	LOD-G <b>400</b>
		
<b>PLAN</b>	<b>3D</b>	
		
<b>FRONT ELEVATION / SECTION</b>	<b>FAMILY VIEW : PARAMETER</b>	
		
<b>SIDE ELEVATION / SECTION</b>		

3D GEOMETRY

2D Symbol Name	2D Tag / Label / Annotation Name
N.A.	N.A.
2D SYMBOL	2D TAG / LABEL / ANNOTATION

PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES

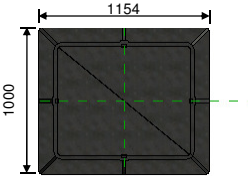
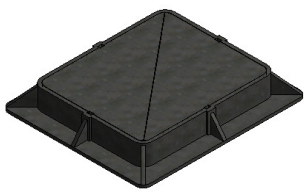

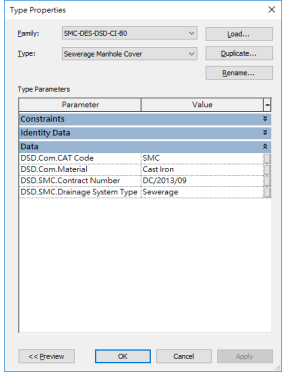

OUTPUT

SHEET VIEW : PLAN	SHEET VIEW : ELEVATION										
N.A.		PRESENTATION DRAWING									
N.A.	N.A.	STATUTORY / AUTHORITIES SUBMISSION DRAWING									
Project Specific	Refer to DSD Standard Drawing (DS1033)	TENDER / CONSTRUCTION DRAWING									
<p>&lt;Manhole Cover Schedule&gt;</p> <table> <tr> <th>A</th><th>B</th><th>C</th></tr> <tr> <th>DSD.SMC.ID Mark</th><th>DSD.SMC.Drainage System Type</th><th>DSD.SMC.Feature Type</th></tr> <tr> <td>SMC0024</td><td>Stormwater</td><td>Manhole Cover</td></tr> </table>		A	B	C	DSD.SMC.ID Mark	DSD.SMC.Drainage System Type	DSD.SMC.Feature Type	SMC0024	Stormwater	Manhole Cover	SCHEDULE IN DRAWING
A	B	C									
DSD.SMC.ID Mark	DSD.SMC.Drainage System Type	DSD.SMC.Feature Type									
SMC0024	Stormwater	Manhole Cover									

BIM OBJECT SHEET

QR CODE For AM	SOFTWARE VERSION Revit 2018	REFERENCE NUMBER  DSD-OS-0025
	DATE 11-2018	
	REVISION 0	


INPUT

Object Name <b>SMC-DES-DSD-CI-B0</b>	CATEGORY <b>Generic Models</b>	LOD-G <b>300</b>
		3D GEOMETRY
<b>PLAN</b>	<b>3D</b>	
		
<b>FRONT ELEVATION / SECTION</b>	<b>FAMILY VIEW : PARAMETER</b>	
		
<b>SIDE ELEVATION / SECTION</b>		

2D Symbol Name	2D Tag / Label / Annotation Name
N.A.	N.A.
2D SYMBOL	2D TAG / LABEL / ANNOTATION

PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES

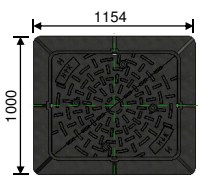


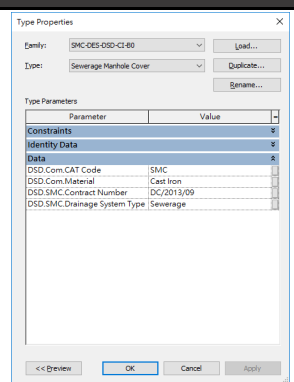

OUTPUT

SHEET VIEW : PLAN	SHEET VIEW : ELEVATION										
N.A.		PRESENTATION DRAWING									
N.A.	N.A.	STATUTORY / AUTHORITIES SUBMISSION DRAWING									
Project Specific	Refer to DSD standard drawing (DS1034)	TENDER / CONSTRUCTION DRAWING									
<p>&lt;Manhole Cover Schedule&gt;</p> <table> <tr> <th>A</th><th>B</th><th>C</th></tr> <tr> <td>DSD.SMC.ID Mark</td><td>DSD.SMC.Drainage System Type</td><td>DSD.SMC.Feature Type</td></tr> <tr> <td>SMC0025</td><td>Stormwater</td><td>Manhole Cover</td></tr> </table>		A	B	C	DSD.SMC.ID Mark	DSD.SMC.Drainage System Type	DSD.SMC.Feature Type	SMC0025	Stormwater	Manhole Cover	SCHEDULE IN DRAWING
A	B	C									
DSD.SMC.ID Mark	DSD.SMC.Drainage System Type	DSD.SMC.Feature Type									
SMC0025	Stormwater	Manhole Cover									

BIM OBJECT SHEET

QR CODE For AM	SOFTWARE VERSION Revit 2018	REFERENCE NUMBER  DSD-OS-0025
	DATE 11-2018	
	REVISION 0	


INPUT

Object Name <b>SMC-DES-DSD-CI-B0</b>	CATEGORY <b>Generic Models</b>	LOD-G <b>400</b>
		
<b>PLAN</b>	<b>3D</b>	
		
<b>FRONT ELEVATION / SECTION</b>	<b>FAMILY VIEW : PARAMETER</b>	
		
<b>SIDE ELEVATION / SECTION</b>		

2D Symbol Name	2D Tag / Label / Annotation Name
N.A.	N.A.

PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES

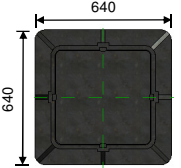

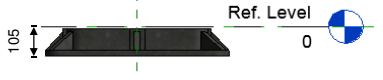
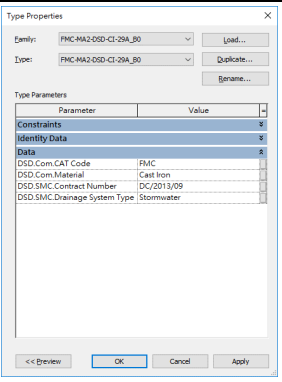
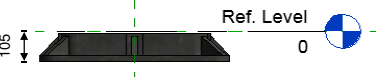
OUTPUT

SHEET VIEW : PLAN		SHEET VIEW : ELEVATION		PRESENTATION DRAWING									
N.A.													
N.A.		N.A.		STATUTORY / AUTHORITIES SUBMISSION DRAWING									
Project Specific		Refer to DSD standard drawing DS1034											
<div>&lt;Manhole Cover Schedule&gt;</div> <table><thead><tr><th>A</th><th>B</th><th>C</th></tr></thead><tbody><tr><td>DSD.SMC.ID Mark</td><td>DSD.SMC.Drainage System Type</td><td>DSD.SMC.Feature Type</td></tr><tr><td>SMC0025</td><td>Stormwater</td><td>Manhole Cover</td></tr></tbody></table>				A	B	C	DSD.SMC.ID Mark	DSD.SMC.Drainage System Type	DSD.SMC.Feature Type	SMC0025	Stormwater	Manhole Cover	SCHEDULE IN DRAWING
A	B	C											
DSD.SMC.ID Mark	DSD.SMC.Drainage System Type	DSD.SMC.Feature Type											
SMC0025	Stormwater	Manhole Cover											

BIM OBJECT SHEET

QR CODE For AM	SOFTWARE VERSION Revit 2018	REFERENCE NUMBER  DSD-OS-0026
	DATE 11-2018	
	REVISION 0	


INPUT

Object Name <b>FMC-MA2-DSD-CI-29A_B0</b>	CATEGORY <b>Generic Models</b>	LOD-G <b>300</b>
		
<b>PLAN</b>	<b>3D</b>	
		
<b>FRONT ELEVATION / SECTION</b>		
		
<b>SIDE ELEVATION / SECTION</b>	<b>FAMILY VIEW : PARAMETER</b>	

2D Symbol Name	2D Tag / Label / Annotation Name
N.A.	N.A.
2D SYMBOL	2D TAG / LABEL / ANNOTATION

PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES

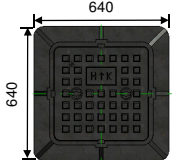

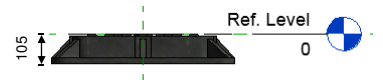
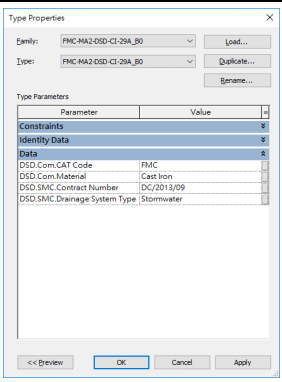
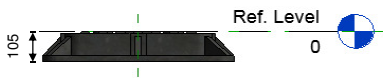
OUTPUT

SHEET VIEW : PLAN	SHEET VIEW : ELEVATION										
N.A.		PRESENTATION DRAWING									
N.A.	N.A.	STATUTORY / AUTHORITIES SUBMISSION DRAWING									
Project Specific	Refer to DSD standard drawing (DS1035)	TENDER / CONSTRUCTION DRAWING									
<p>&lt;Manhole Cover Schedule&gt;</p> <table border="1"> <thead> <tr> <th>A</th> <th>B</th> <th>C</th> </tr> </thead> <tbody> <tr> <td>DSD.FMC.ID Mark</td> <td>DSD.FMC.Drainage System Type</td> <td>DSD.FMC.Feature Type</td> </tr> <tr> <td>FMC0026</td> <td>Sewerage</td> <td>Manhole Cover</td> </tr> </tbody> </table>		A	B	C	DSD.FMC.ID Mark	DSD.FMC.Drainage System Type	DSD.FMC.Feature Type	FMC0026	Sewerage	Manhole Cover	SCHEDULE IN DRAWING
A	B	C									
DSD.FMC.ID Mark	DSD.FMC.Drainage System Type	DSD.FMC.Feature Type									
FMC0026	Sewerage	Manhole Cover									

**BIM OBJECT SHEET**

QR CODE For AM	SOFTWARE VERSION <b>Revit 2018</b>	REFERENCE NUMBER  <b>DSD-OS-0026</b>
	DATE <b>11-2018</b>	
	REVISION <b>0</b>	


**INPUT**

Object Name <b>FMC-MA2-DSD-CI-29A_B0</b>	CATEGORY <b>Generic Models</b>	LOD-G <b>400</b>
		
<b>PLAN</b>	<b>3D</b>	
		
<b>FRONT ELEVATION / SECTION</b>	<b>FAMILY VIEW : PARAMETER</b>	
		
<b>SIDE ELEVATION / SECTION</b>		

2D Symbol Name	2D Tag / Label / Annotation Name
N.A.	N.A.

**PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES**

**OUTPUT**

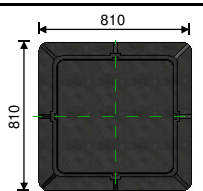


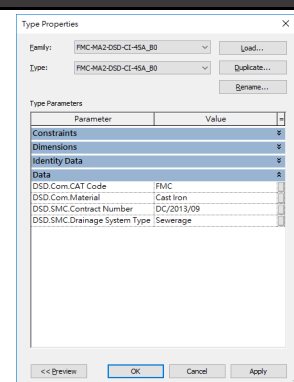

SHEET VIEW : PLAN	SHEET VIEW : ELEVATION										
N.A.		PRESENTATION DRAWING									
N.A.	N.A.	STATUTORY / AUTHORITIES SUBMISSION DRAWING									
Project Specific	Refer to DSD standard drawing (DS1035)	TENDER / CONSTRUCTION DRAWING									
<p>&lt;Manhole Cover Schedule&gt;</p> <table> <tr> <th>A</th><th>B</th><th>C</th></tr> <tr> <th>DSD.FMC.ID Mark</th><th>DSD.FMC.Drainage System Type</th><th>DSD.FMC.Feature Type</th></tr> <tr> <td>FMC0026</td><td>Sewerage</td><td>Manhole Cover</td></tr> </table>		A	B	C	DSD.FMC.ID Mark	DSD.FMC.Drainage System Type	DSD.FMC.Feature Type	FMC0026	Sewerage	Manhole Cover	SCHEDULE IN DRAWING
A	B	C									
DSD.FMC.ID Mark	DSD.FMC.Drainage System Type	DSD.FMC.Feature Type									
FMC0026	Sewerage	Manhole Cover									



BIM OBJECT SHEET

QR CODE For AM	SOFTWARE VERSION Revit 2018	REFERENCE NUMBER  DSD-OS-0027
	DATE 11-2018	
	REVISION 0	


INPUT

Object Name <b>FMC-MA2-DSD-CI-45A_B0</b>	CATEGORY <b>Generic Models</b>	LOD-G <b>300</b>
		
<b>PLAN</b>	<b>3D</b>	
		
<b>FRONT ELEVATION / SECTION</b>	<b>FAMILY VIEW : PARAMETER</b>	
		
<b>SIDE ELEVATION / SECTION</b>		

2D Symbol Name	2D Tag / Label / Annotation Name
N.A.	N.A.

PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES

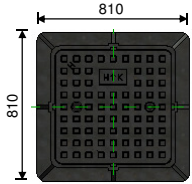


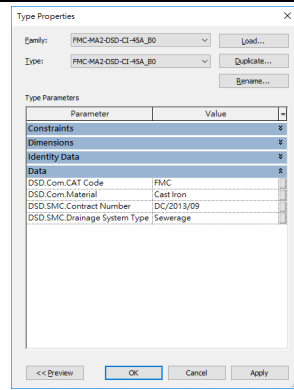
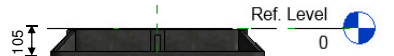
OUTPUT

SHEET VIEW : PLAN		SHEET VIEW : ELEVATION		PRESENTATION DRAWING												
N.A.																
N.A.		N.A.		STATUTORY / AUTHORITIES SUBMISSION DRAWING												
Project Specific		Refer to DSD standard drawing (DS1036)			TENDER / CONSTRUCTION DRAWING											
<table><tr><th colspan="3">&lt;Manhole Cover Schedule&gt;</th></tr><tr><th>A</th><th>B</th><th>C</th></tr><tr><td>DSD.FMC.ID Mark</td><td>DSD.FMC.Drainage System Type</td><td>DSD.FMC.Feature Type</td></tr><tr><td>FMC0027</td><td>Sewerage</td><td>Manhole Cover</td></tr></table>						<Manhole Cover Schedule>			A	B	C	DSD.FMC.ID Mark	DSD.FMC.Drainage System Type	DSD.FMC.Feature Type	FMC0027	Sewerage
<Manhole Cover Schedule>																
A	B	C														
DSD.FMC.ID Mark	DSD.FMC.Drainage System Type	DSD.FMC.Feature Type														
FMC0027	Sewerage	Manhole Cover														
SCHEDULE IN DRAWING																

BIM OBJECT SHEET

QR CODE For AM	SOFTWARE VERSION Revit 2018	REFERENCE NUMBER  DSD-OS-0027
	DATE 11-2018	
	REVISION 0	


INPUT

Object Name <b>FMC-MA2-DSD-CI-45A_B0</b>	CATEGORY <b>Generic Models</b>	LOD-G <b>400</b>
		3D GEOMETRY
<b>PLAN</b>	<b>3D</b>	
		
<b>FRONT ELEVATION / SECTION</b>	<b>FAMILY VIEW : PARAMETER</b>	
		
<b>SIDE ELEVATION / SECTION</b>		

2D Symbol Name	2D Tag / Label / Annotation Name
N.A.	N.A.
2D SYMBOL	2D TAG / LABEL / ANNOTATION

PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES

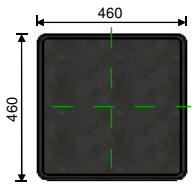

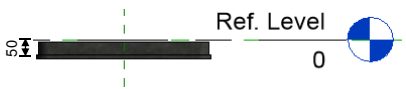
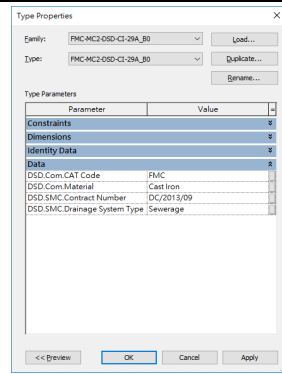

OUTPUT

SHEET VIEW : PLAN	SHEET VIEW : ELEVATION										
N.A.		PRESENTATION DRAWING									
N.A.	N.A.	STATUTORY / AUTHORITIES SUBMISSION DRAWING									
Project Specific	Refer to DSD standard drawing (DS1036)	TENDER / CONSTRUCTION DRAWING									
<p>&lt;Manhole Cover Schedule&gt;</p> <table> <tr> <th>A</th><th>B</th><th>C</th></tr> <tr> <th>DSD.FMC.ID Mark</th><th>DSD.FMC.Drainage System Type</th><th>DSD.FMC.Feature Type</th></tr> <tr> <td>FMC0027</td><td>Sewerage</td><td>Manhole Cover</td></tr> </table>		A	B	C	DSD.FMC.ID Mark	DSD.FMC.Drainage System Type	DSD.FMC.Feature Type	FMC0027	Sewerage	Manhole Cover	SCHEDULE IN DRAWING
A	B	C									
DSD.FMC.ID Mark	DSD.FMC.Drainage System Type	DSD.FMC.Feature Type									
FMC0027	Sewerage	Manhole Cover									

BIM OBJECT SHEET

QR CODE For AM	SOFTWARE VERSION Revit 2018	REFERENCE NUMBER  DSD-OS-0028
	DATE 11-2018	
	REVISION 0	


INPUT

Object Name <b>FMC-MC2-DSD-CI-29A_B0</b>	CATEGORY <b>Generic Models</b>	LOD-G <b>300</b>
		
<b>PLAN</b>	<b>3D</b>	
		
<b>FRONT ELEVATION / SECTION</b>		
		
<b>SIDE ELEVATION / SECTION</b>	<b>FAMILY VIEW : PARAMETER</b>	

2D Symbol Name	2D Tag / Label / Annotation Name
N.A.	N.A.

PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES

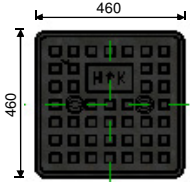


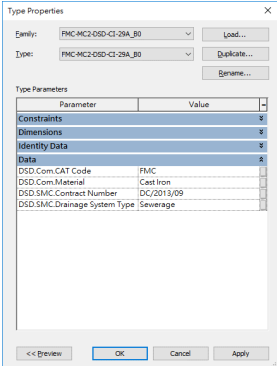

OUTPUT

SHEET VIEW : PLAN	SHEET VIEW : ELEVATION										
N.A.		PRESENTATION DRAWING									
N.A.	N.A.	STATUTORY / AUTHORITIES SUBMISSION DRAWING									
Project Specific	Refer to DSD standard drawing (DS1037)	TENDER / CONSTRUCTION DRAWING									
<p>&lt;Manhole Cover Schedule&gt;</p> <table border="1"> <thead> <tr> <th>A</th> <th>B</th> <th>C</th> </tr> </thead> <tbody> <tr> <td>DSD.FMC.ID Mark</td> <td>DSD.FMC.Drainage System Type</td> <td>DSD.FMC.Feature Type</td> </tr> <tr> <td>FMC0028</td> <td>Sewerage</td> <td>Manhole Cover</td> </tr> </tbody> </table>		A	B	C	DSD.FMC.ID Mark	DSD.FMC.Drainage System Type	DSD.FMC.Feature Type	FMC0028	Sewerage	Manhole Cover	SCHEDULE IN DRAWING
A	B	C									
DSD.FMC.ID Mark	DSD.FMC.Drainage System Type	DSD.FMC.Feature Type									
FMC0028	Sewerage	Manhole Cover									

BIM OBJECT SHEET

QR CODE For AM	SOFTWARE VERSION Revit 2018	REFERENCE NUMBER  DSD-OS-0028
	DATE 11-2018	
	REVISION 0	


INPUT

Object Name <b>FMC-MC2-DSD-CI-29A_B0</b>	CATEGORY <b>Generic Models</b>	LOD-G <b>400</b>
		3D GEOMETRY
PLAN	3D	
		
FRONT ELEVATION / SECTION		
		FAMILY VIEW : PARAMETER
SIDE ELEVATION / SECTION		

2D Symbol Name	2D Tag / Label / Annotation Name
N.A.	N.A.
2D SYMBOL	2D TAG / LABEL / ANNOTATION

PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES

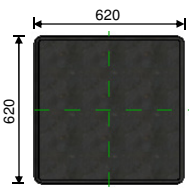


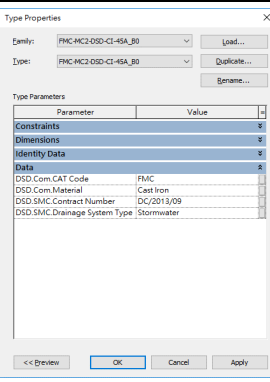
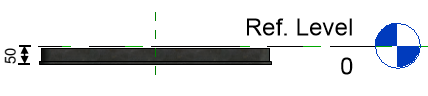
OUTPUT

SHEET VIEW : PLAN	SHEET VIEW : ELEVATION										
N.A.		PRESENTATION DRAWING									
N.A.	N.A.	STATUTORY / AUTHORITIES SUBMISSION DRAWING									
Project Specific	Refer to DSD standard drawing (DS1037)	TENDER / CONSTRUCTION DRAWING									
<p>&lt;Manhole Cover Schedule&gt;</p> <table> <tr> <th>A</th><th>B</th><th>C</th></tr> <tr> <th>DSD.FMC.ID Mark</th><th>DSD.FMC.Drainage System Type</th><th>DSD.FMC.Feature Type</th></tr> <tr> <td>FMC0028</td><td>Sewerage</td><td>Manhole Cover</td></tr> </table>		A	B	C	DSD.FMC.ID Mark	DSD.FMC.Drainage System Type	DSD.FMC.Feature Type	FMC0028	Sewerage	Manhole Cover	SCHEDULE IN DRAWING
A	B	C									
DSD.FMC.ID Mark	DSD.FMC.Drainage System Type	DSD.FMC.Feature Type									
FMC0028	Sewerage	Manhole Cover									

BIM OBJECT SHEET

QR CODE For AM	SOFTWARE VERSION Revit 2018	REFERENCE NUMBER  DSD-OS-0029
	DATE 11-2018	
	REVISION 0	

INPUT



Object Name <b>FMC-MC2-DSD-CI-45A_B0</b>	CATEGORY <b>Generic Models</b>	LOD-G <b>300</b>
		
<b>PLAN</b>	<b>3D</b>	
		
<b>FRONT ELEVATION / SECTION</b>		
		
<b>SIDE ELEVATION / SECTION</b>	<b>FAMILY VIEW : PARAMETER</b>	

3D GEOMETRY

2D Symbol Name	2D Tag / Label / Annotation Name
N.A.	N.A.
2D SYMBOL	2D TAG / LABEL / ANNOTATION

PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES

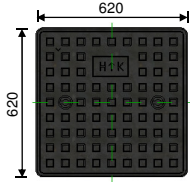


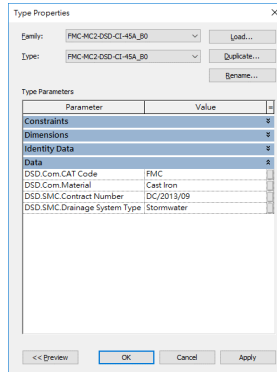

OUTPUT

SHEET VIEW : PLAN		SHEET VIEW : ELEVATION		PRESENTATION DRAWING												
																
N.A.		N.A.		STATUTORY / AUTHORITIES SUBMISSION DRAWING												
Project Specific		Refer to DSD Standard Drawing (DS1038)		TENDER / CONSTRUCTION DRAWING												
<table><tr><th colspan="3">&lt;Manhole Cover Schedule&gt;</th></tr><tr><th>A</th><th>B</th><th>C</th></tr><tr><td>DSD.FMC.ID Mark</td><td>DSD.FMC.Drainage System Type</td><td>DSD.FMC.Feature Type</td></tr><tr><td>FMC0029</td><td>Sewerage</td><td>Manhole Cover</td></tr></table>					<Manhole Cover Schedule>			A	B	C	DSD.FMC.ID Mark	DSD.FMC.Drainage System Type	DSD.FMC.Feature Type	FMC0029	Sewerage	Manhole Cover
<Manhole Cover Schedule>																
A	B	C														
DSD.FMC.ID Mark	DSD.FMC.Drainage System Type	DSD.FMC.Feature Type														
FMC0029	Sewerage	Manhole Cover														
SCHEDULE IN DRAWING																

BIM OBJECT SHEET

QR CODE For AM	SOFTWARE VERSION Revit 2018	REFERENCE NUMBER  DSD-OS-0029
	DATE 11-2018	
	REVISION 0	

INPUT



Object Name <b>FMC-MC2-DSD-CI-45A_B0</b>	CATEGORY <b>Generic Models</b>	LOD-G <b>400</b>
		
<b>PLAN</b>	<b>3D</b>	
		
<b>FRONT ELEVATION / SECTION</b>		
		
<b>SIDE ELEVATION / SECTION</b>	<b>FAMILY VIEW : PARAMETER</b>	

3D GEOMETRY

2D Symbol Name	2D Tag / Label / Annotation Name
N.A.	N.A.
2D SYMBOL	2D TAG / LABEL / ANNOTATION

PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES

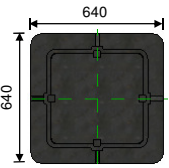


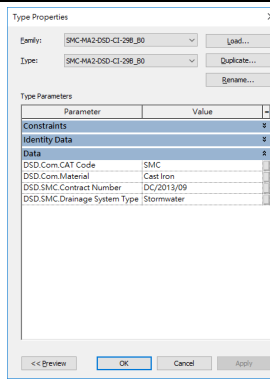

OUTPUT

SHEET VIEW : PLAN	SHEET VIEW : ELEVATION										
		PRESENTATION DRAWING									
N.A.	N.A.	STATUTORY / AUTHORITIES SUBMISSION DRAWING									
Project Specific	Refer to DSD Standard Drawing (DS1038)	TENDER / CONSTRUCTION DRAWING									
<p>&lt;Manhole Cover Schedule&gt;</p> <table border="1"> <thead> <tr> <th>A</th><th>B</th><th>C</th></tr> </thead> <tbody> <tr> <td>DSD.FMC.ID Mark</td><td>DSD.FMC.Drainage System Type</td><td>DSD.FMC.Feature Type</td></tr> <tr> <td>FMC0029</td><td>Sewerage</td><td>Manhole Cover</td></tr> </tbody> </table>		A	B	C	DSD.FMC.ID Mark	DSD.FMC.Drainage System Type	DSD.FMC.Feature Type	FMC0029	Sewerage	Manhole Cover	SCHEDULE IN DRAWING
A	B	C									
DSD.FMC.ID Mark	DSD.FMC.Drainage System Type	DSD.FMC.Feature Type									
FMC0029	Sewerage	Manhole Cover									

BIM OBJECT SHEET

QR CODE For AM	SOFTWARE VERSION Revit 2018	REFERENCE NUMBER  DSD-OS-0030
	DATE 11-2018	
	REVISION 0	



INPUT

Object Name <b>SMC-MA2-DSD-CI-29B_B0</b>	CATEGORY <b>Generic Models</b>	LOD-G <b>300</b>
		
PLAN	3D	
		
FRONT ELEVATION / SECTION	FAMILY VIEW : PARAMETER	
		
SIDE ELEVATION / SECTION		

2D Symbol Name	2D Tag / Label / Annotation Name
N.A.	N.A.
2D SYMBOL	2D TAG / LABEL / ANNOTATION

PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES

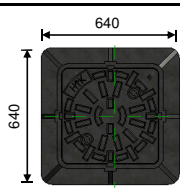


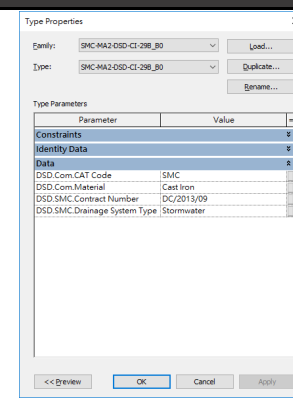

OUTPUT

SHEET VIEW : PLAN	SHEET VIEW : ELEVATION										
		PRESENTATION DRAWING									
N.A.	N.A.	STATUTORY / AUTHORITIES SUBMISSION DRAWING									
Project Specific	Refer to DSD Standard Drawing (DS1039)	TENDER / CONSTRUCTION DRAWING									
<p>&lt;Manhole Cover Schedule&gt;</p> <table> <tr> <th>A</th><th>B</th><th>C</th></tr> <tr> <td>DSD.SMC.ID Mark</td><td>DSD.SMC.Drainage System Type</td><td>DSD.SMC.Feature Type</td></tr> <tr> <td>SMC0030</td><td>Stormwater</td><td>Manhole Cover</td></tr> </table>		A	B	C	DSD.SMC.ID Mark	DSD.SMC.Drainage System Type	DSD.SMC.Feature Type	SMC0030	Stormwater	Manhole Cover	SCHEDULE IN DRAWING
A	B	C									
DSD.SMC.ID Mark	DSD.SMC.Drainage System Type	DSD.SMC.Feature Type									
SMC0030	Stormwater	Manhole Cover									

BIM OBJECT SHEET

QR CODE For AM	SOFTWARE VERSION Revit 2018	REFERENCE NUMBER  DSD-OS-0030
	DATE 11-2018	
	REVISION 0	

INPUT



Object Name <b>SMC-MA2-DSD-CI-29B_B0</b>	CATEGORY <b>Generic Models</b>	LOD-G <b>400</b>
		
<b>PLAN</b>	<b>3D</b>	
		
<b>FRONT ELEVATION / SECTION</b>	<b>FAMILY VIEW : PARAMETER</b>	
		
<b>SIDE ELEVATION / SECTION</b>		

3D GEOMETRY

2D Symbol Name	2D Tag / Label / Annotation Name
N.A.	N.A.
2D SYMBOL	2D TAG / LABEL / ANNOTATION

PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES

OUTPUT

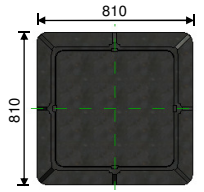


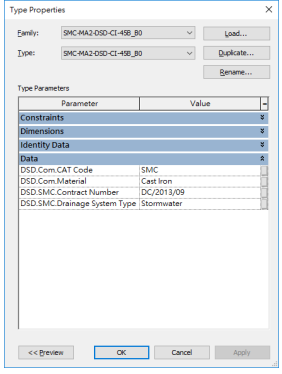

SHEET VIEW : PLAN	SHEET VIEW : ELEVATION										
		PRESENTATION DRAWING									
N.A.	N.A.	STATUTORY / AUTHORITIES SUBMISSION DRAWING									
Project Specific	Refer to DSD Standard Drawing (DS1039)	TENDER / CONSTRUCTION DRAWING									
<p>&lt;Manhole Cover Schedule&gt;</p> <table> <tr> <th>A</th><th>B</th><th>C</th></tr> <tr> <td>DSD.SMC.ID Mark</td><td>DSD.SMC.Drainage System Type</td><td>DSD.SMC.Feature Type</td></tr> <tr> <td>SMC0030</td><td>Stormwater</td><td>Manhole Cover</td></tr> </table>		A	B	C	DSD.SMC.ID Mark	DSD.SMC.Drainage System Type	DSD.SMC.Feature Type	SMC0030	Stormwater	Manhole Cover	SCHEDULE IN DRAWING
A	B	C									
DSD.SMC.ID Mark	DSD.SMC.Drainage System Type	DSD.SMC.Feature Type									
SMC0030	Stormwater	Manhole Cover									



BIM OBJECT SHEET

QR CODE For AM	SOFTWARE VERSION Revit 2018	REFERENCE NUMBER  DSD-OS-0031
	DATE 11-2018	
	REVISION 0	



INPUT

Object Name <b>SMC-MA2-DSD-CI-45B_B0</b>	CATEGORY <b>Generic Models</b>	LOD-G <b>300</b>
		
<b>PLAN</b>	<b>3D</b>	
		
<b>FRONT ELEVATION / SECTION</b>		
		
<b>SIDE ELEVATION / SECTION</b>	<b>FAMILY VIEW : PARAMETER</b>	

2D Symbol Name	2D Tag / Label / Annotation Name
N.A.	N.A.

PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES

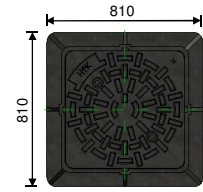


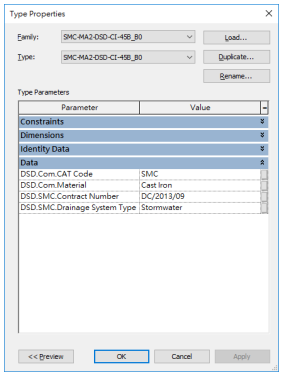

OUTPUT

SHEET VIEW : PLAN		SHEET VIEW : ELEVATION		PRESENTATION DRAWING											
															
N.A.		N.A.		STATUTORY / AUTHORITIES SUBMISSION DRAWING											
Project Specific		Refer to DSD Standard Drawing (DS1040)													
				TENDER / CONSTRUCTION DRAWING											
<table border="1"><thead><tr><th colspan="3">&lt;Manhole Cover Schedule&gt;</th></tr><tr><th>A</th><th>B</th><th>C</th></tr></thead><tbody><tr><td>DSD.SMC.ID Mark</td><td>DSD.SMC.Drainage System Type</td><td>DSD.SMC.Feature Type</td></tr><tr><td>SMC0031</td><td>Stormwater</td><td>Manhole Cover</td></tr></tbody></table>					<Manhole Cover Schedule>			A	B	C	DSD.SMC.ID Mark	DSD.SMC.Drainage System Type	DSD.SMC.Feature Type	SMC0031	Stormwater
<Manhole Cover Schedule>															
A	B	C													
DSD.SMC.ID Mark	DSD.SMC.Drainage System Type	DSD.SMC.Feature Type													
SMC0031	Stormwater	Manhole Cover													
				SCHEDULE IN DRAWING											

BIM OBJECT SHEET

QR CODE For AM	SOFTWARE VERSION Revit 2018	REFERENCE NUMBER  DSD-OS-0031
	DATE 11-2018	
	REVISION 0	



INPUT

Object Name <b>SMC-MA2-DSD-CI-45B_B0</b>	CATEGORY <b>Generic Models</b>	LOD-G <b>400</b>
		3D GEOMETRY
PLAN	3D	
		
FRONT ELEVATION / SECTION	FAMILY VIEW : PARAMETER	
		
SIDE ELEVATION / SECTION		

2D Symbol Name	2D Tag / Label / Annotation Name
N.A.	N.A.
2D SYMBOL	2D TAG / LABEL / ANNOTATION

PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES

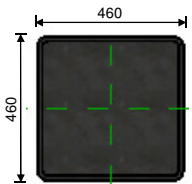


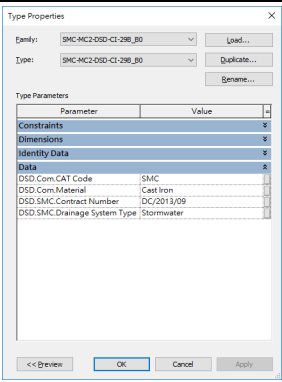
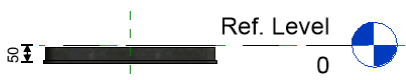
OUTPUT

SHEET VIEW : PLAN	SHEET VIEW : ELEVATION										
		PRESENTATION DRAWING									
N.A.	N.A.	STATUTORY / AUTHORITIES SUBMISSION DRAWING									
Project Specific	Refer to DSD Standard Drawing (DS1040)	TENDER / CONSTRUCTION DRAWING									
<p>&lt;Manhole Cover Schedule&gt;</p> <table> <tr> <th>A</th><th>B</th><th>C</th></tr> <tr> <td>DSD.SMC.ID Mark</td><td>DSD.SMC.Drainage System Type</td><td>DSD.SMC.Feature Type</td></tr> <tr> <td>SMC0031</td><td>Stormwater</td><td>Manhole Cover</td></tr> </table>		A	B	C	DSD.SMC.ID Mark	DSD.SMC.Drainage System Type	DSD.SMC.Feature Type	SMC0031	Stormwater	Manhole Cover	SCHEDULE IN DRAWING
A	B	C									
DSD.SMC.ID Mark	DSD.SMC.Drainage System Type	DSD.SMC.Feature Type									
SMC0031	Stormwater	Manhole Cover									

BIM OBJECT SHEET

QR CODE For AM	SOFTWARE VERSION Revit 2018	REFERENCE NUMBER  DSD-OS-0032
	DATE 11-2018	
	REVISION 0	



INPUT

Object Name <b>SMC-MC2-DSD-CI-29B_B0</b>	CATEGORY <b>Generic Models</b>	LOD-G <b>300</b>
		
<b>PLAN</b>	<b>3D</b>	
		
<b>FRONT ELEVATION / SECTION</b>		
		
<b>SIDE ELEVATION / SECTION</b>	<b>FAMILY VIEW : PARAMETER</b>	

2D Symbol Name	2D Tag / Label / Annotation Name
N.A.	N.A.
2D SYMBOL	2D TAG / LABEL / ANNOTATION

PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES

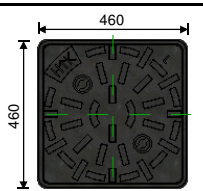


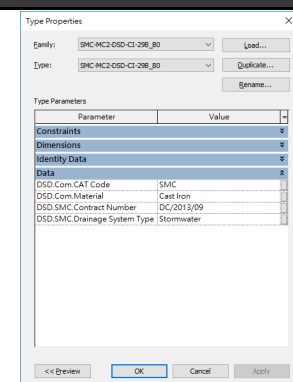
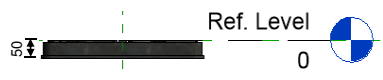
OUTPUT

SHEET VIEW : PLAN		SHEET VIEW : ELEVATION		PRESENTATION DRAWING													
																	
N.A.		N.A.		STATUTORY / AUTHORITIES SUBMISSION DRAWING													
Project Specific		Refer to DSD Standard Drawing (DS1041)			TENDER / CONSTRUCTION DRAWING												
<table border="1"><thead><tr><th colspan="3">&lt;Manhole Cover Schedule&gt;</th></tr><tr><th>A</th><th>B</th><th>C</th></tr></thead><tbody><tr><td>DSD.SMC.ID Mark</td><td>DSD.SMC.Drainage System Type</td><td>DSD.SMC.Feature Type</td></tr><tr><td>SMC0032</td><td>Stormwater</td><td>Manhole Cover</td></tr></tbody></table>						<Manhole Cover Schedule>			A	B	C	DSD.SMC.ID Mark	DSD.SMC.Drainage System Type	DSD.SMC.Feature Type	SMC0032	Stormwater	Manhole Cover
<Manhole Cover Schedule>																	
A	B	C															
DSD.SMC.ID Mark	DSD.SMC.Drainage System Type	DSD.SMC.Feature Type															
SMC0032	Stormwater	Manhole Cover															

BIM OBJECT SHEET

QR CODE For AM	SOFTWARE VERSION Revit 2018	REFERENCE NUMBER  DSD-OS-0032
	DATE 11-2018	
	REVISION 0	



INPUT

Object Name <b>SMC-MC2-DSD-CI-29B_B0</b>	CATEGORY <b>Generic Models</b>	LOD-G <b>400</b>
		
<b>PLAN</b>	<b>3D</b>	
		
<b>FRONT ELEVATION / SECTION</b>		
		
<b>SIDE ELEVATION / SECTION</b>	<b>FAMILY VIEW : PARAMETER</b>	

2D Symbol Name	2D Tag / Label / Annotation Name
N.A.	N.A.

PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES

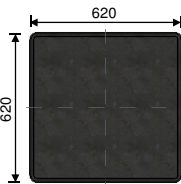


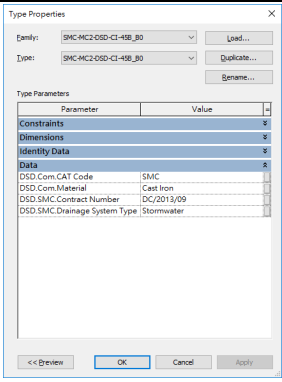

OUTPUT

SHEET VIEW : PLAN	SHEET VIEW : ELEVATION													
		PRESENTATION DRAWING												
N.A.	N.A.	STATUTORY / AUTHORITIES SUBMISSION DRAWING												
Project Specific	Refer to DSD Standard Drawing (DS1041)	TENDER / CONSTRUCTION DRAWING												
<table border="1"> <tr> <th colspan="3">&lt;Manhole Cover Schedule&gt;</th></tr> <tr> <th>A</th><th>B</th><th>C</th></tr> <tr> <td>DSD.SMC.ID Mark</td><td>DSD.SMC.Drainage System Type</td><td>DSD.SMC.Feature Type</td></tr> <tr> <td>SMC0032</td><td>Stormwater</td><td>Manhole Cover</td></tr> </table>		<Manhole Cover Schedule>			A	B	C	DSD.SMC.ID Mark	DSD.SMC.Drainage System Type	DSD.SMC.Feature Type	SMC0032	Stormwater	Manhole Cover	SCHEDULE IN DRAWING
<Manhole Cover Schedule>														
A	B	C												
DSD.SMC.ID Mark	DSD.SMC.Drainage System Type	DSD.SMC.Feature Type												
SMC0032	Stormwater	Manhole Cover												

**BIM OBJECT SHEET**

QR CODE For AM	SOFTWARE VERSION <b>Revit 2018</b>	REFERENCE NUMBER  <b>DSD-OS-0033</b>
	DATE <b>11-2018</b>	
	REVISION <b>0</b>	



**INPUT**

Object Name <b>SMC-MC2-DSD-CI-45B_B0</b>	CATEGORY <b>Generic Models</b>	LOD-G <b>300</b>
		
<b>PLAN</b>	<b>3D</b>	
		
<b>FRONT ELEVATION / SECTION</b>	<b>FAMILY VIEW : PARAMETER</b>	
		
<b>SIDE ELEVATION / SECTION</b>		

2D Symbol Name	2D Tag / Label / Annotation Name
N.A.	N.A.

**PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES**

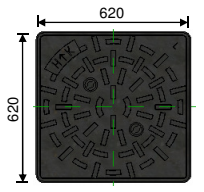


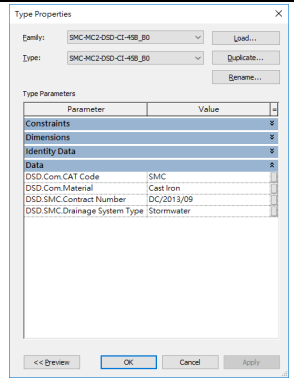

**OUTPUT**

SHEET VIEW : PLAN	SHEET VIEW : ELEVATION													
		PRESENTATION DRAWING												
N.A.	N.A.	STATUTORY / AUTHORITIES SUBMISSION DRAWING												
Project Specific	Refer to DSD standard drawing (DS1042)	TENDER / CONSTRUCTION DRAWING												
<table border="1"> <thead> <tr> <th colspan="3">&lt;Manhole Schedule&gt;</th></tr> <tr> <th>A</th><th>B</th><th>C</th></tr> </thead> <tbody> <tr> <td>DSD.SMC.ID Mark</td><td>DSD.SMC.Drainage System Type</td><td>DSD.SMC.Feature Type</td></tr> <tr> <td>SMC0033</td><td>Stormwater</td><td>Manhole Cover</td></tr> </tbody> </table>		<Manhole Schedule>			A	B	C	DSD.SMC.ID Mark	DSD.SMC.Drainage System Type	DSD.SMC.Feature Type	SMC0033	Stormwater	Manhole Cover	SCHEDULE IN DRAWING
<Manhole Schedule>														
A	B	C												
DSD.SMC.ID Mark	DSD.SMC.Drainage System Type	DSD.SMC.Feature Type												
SMC0033	Stormwater	Manhole Cover												

BIM OBJECT SHEET

QR CODE For AM	SOFTWARE VERSION Revit 2018	REFERENCE NUMBER  DSD-OS-0033
	DATE 11-2018	
	REVISION 0	



INPUT

Object Name <b>SMC-MC2-DSD-CI-45B_B0</b>	CATEGORY <b>Generic Models</b>	LOD-G <b>400</b>
		
<b>PLAN</b>	<b>3D</b>	
		
<b>FRONT ELEVATION / SECTION</b>		
		
<b>SIDE ELEVATION / SECTION</b>	<b>FAMILY VIEW : PARAMETER</b>	

2D Symbol Name	2D Tag / Label / Annotation Name
N.A.	N.A.

PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES

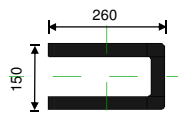
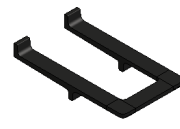
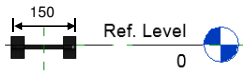
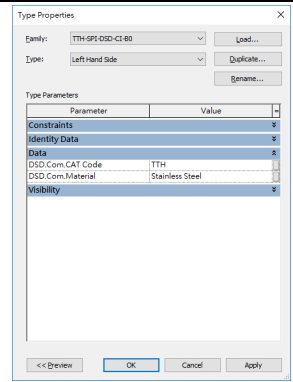

OUTPUT

SHEET VIEW : PLAN	SHEET VIEW : ELEVATION										
		PRESENTATION DRAWING									
N.A.	N.A.	STATUTORY / AUTHORITIES SUBMISSION DRAWING									
Project Specific	Refer to DSD standard drawing (DS1042)	TENDER / CONSTRUCTION DRAWING									
<div>&lt;Manhole Schedule&gt;</div> <table border="1"> <thead> <tr> <th>A</th><th>B</th><th>C</th></tr> </thead> <tbody> <tr> <td>DSD.SMC.ID Mark</td><td>DSD.SMC.Drainage System Type</td><td>DSD.SMC.Feature Type</td></tr> <tr> <td>SMC0033</td><td>Stormwater</td><td>Manhole Cover</td></tr> </tbody> </table>		A	B	C	DSD.SMC.ID Mark	DSD.SMC.Drainage System Type	DSD.SMC.Feature Type	SMC0033	Stormwater	Manhole Cover	SCHEDULE IN DRAWING
A	B	C									
DSD.SMC.ID Mark	DSD.SMC.Drainage System Type	DSD.SMC.Feature Type									
SMC0033	Stormwater	Manhole Cover									

**BIM OBJECT SHEET**

QR CODE For AM	SOFTWARE VERSION <b>Revit 2018</b>	REFERENCE NUMBER  <b>DSD-OS-0034</b>
	DATE <b>11-2018</b>	
	REVISION <b>0</b>	



**INPUT**

Object Name <b>TTH-SPI-DSD-CI-B0</b>	CATEGORY <b>Generic Models</b>	LOD-G <b>300</b>
		
<b>PLAN</b>	<b>3D</b>	
		
<b>FRONT ELEVATION / SECTION</b>	<b>FAMILY VIEW : PARAMETER</b>	
		
<b>SIDE ELEVATION / SECTION</b>		

2D Symbol Name	2D Tag / Label / Annotation Name
N.A.	N.A.

**PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES**

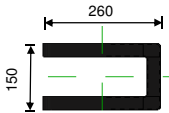
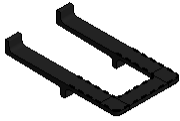

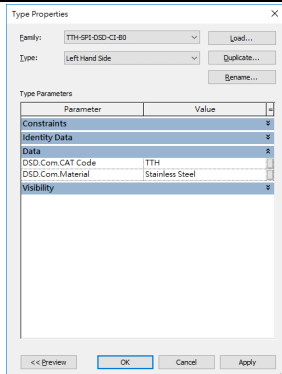

**OUTPUT**

SHEET VIEW : PLAN		SHEET VIEW : ELEVATION	
			PRESENTATION DRAWING
N.A.		N.A.	STATUTORY / AUTHORITIES SUBMISSION DRAWING
Project Specific		Refer to DSD Standard Drawing (DS1043)	TENDER / CONSTRUCTION DRAWING
N.A.			
			SCHEDULE IN DRAWING

**BIM OBJECT SHEET**

QR CODE For AM	SOFTWARE VERSION <b>Revit 2018</b>	REFERENCE NUMBER  <b>DSD-OS-0034</b>
	DATE <b>11-2018</b>	
	REVISION <b>0</b>	



**INPUT**

Object Name <b>TTH-SPI-DSD-CI-B0</b>	CATEGORY <b>Generic Models</b>	LOD-G <b>400</b>
		
<b>PLAN</b>	<b>3D</b>	
		
<b>FRONT ELEVATION / SECTION</b>	<b>FAMILY VIEW : PARAMETER</b>	
		
<b>SIDE ELEVATION / SECTION</b>		

2D Symbol Name	2D Tag / Label / Annotation Name
N.A.	N.A.

**PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES**

**OUTPUT**

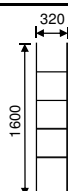

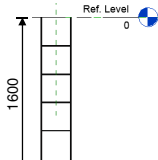
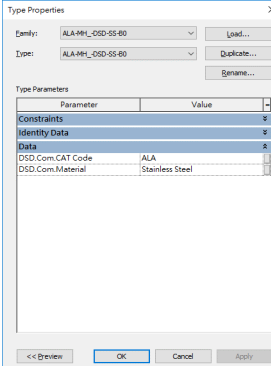
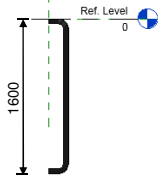
SHEET VIEW : PLAN	SHEET VIEW : ELEVATION	
		PRESENTATION DRAWING
N.A.	N.A.	STATUTORY / AUTHORITIES SUBMISSION DRAWING
Project Specific	Refer to DSD Standard Drawing (DS1043)	TENDER / CONSTRUCTION DRAWING
N.A.		SCHEDULE IN DRAWING



**BIM OBJECT SHEET**

QR CODE For AM	SOFTWARE VERSION Revit 2018	REFERENCE NUMBER  DSD-OS-0035
	DATE 11-2018	
	REVISION 0	



**INPUT**

Object Name <b>ALA-MH_-DSD-SS-B0</b>	CATEGORY <b>Generic Models</b>	LOD-G <b>300</b>
		<b>3D GEOMETRY</b>
<b>PLAN</b>	<b>3D</b>	
		
<b>FRONT ELEVATION / SECTION</b>	<b>FAMILY VIEW : PARAMETER</b>	
		
<b>SIDE ELEVATION / SECTION</b>		

2D Symbol Name	2D Tag / Label / Annotation Name
N.A.	N.A.
<b>2D SYMBOL</b>	<b>2D TAG / LABEL / ANNOTATION</b>

**PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES**

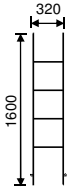

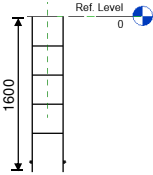
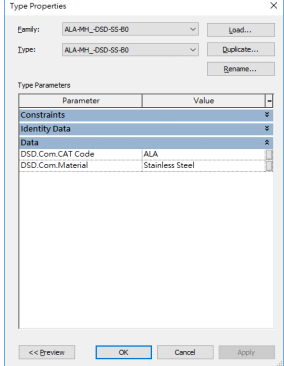
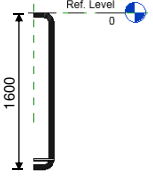
**OUTPUT**

SHEET VIEW : PLAN	SHEET VIEW : ELEVATION	
		<b>PRESENTATION DRAWING</b>
N.A.	N.A.	<b>STATUTORY / AUTHORITIES SUBMISSION DRAWING</b>
Project Specific	Refer to DSD Standard Drawing (DS1044)	<b>TENDER / CONSTRUCTION DRAWING</b>
N.A.		<b>SCHEDULE IN DRAWING</b>

**BIM OBJECT SHEET**

QR CODE For AM	SOFTWARE VERSION Revit 2018	REFERENCE NUMBER  DSD-OS-0035
	DATE 11-2018	
	REVISION 0	



**INPUT**

Object Name <b>ALA-MH_-DSD-SS-B0</b>	CATEGORY <b>Generic Models</b>	LOD-G <b>400</b>
		<b>3D GEOMETRY</b>
<b>PLAN</b>	<b>3D</b>	
		
<b>FRONT ELEVATION / SECTION</b>		
	<b>FAMILY VIEW : PARAMETER</b>	
<b>SIDE ELEVATION / SECTION</b>		

2D Symbol Name	2D Tag / Label / Annotation Name
N.A.	N.A.
<b>2D SYMBOL</b>	<b>2D TAG / LABEL / ANNOTATION</b>

**PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES**

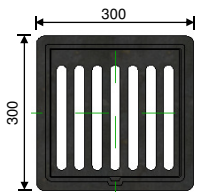

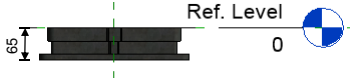
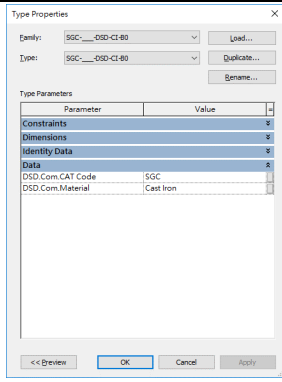

**OUTPUT**

SHEET VIEW : PLAN	SHEET VIEW : ELEVATION	
		<b>PRESENTATION DRAWING</b>
N.A.	N.A.	<b>STATUTORY / AUTHORITIES SUBMISSION DRAWING</b>
Project Specific	Refer to DSD Standard Drawing (DS1044)	<b>TENDER / CONSTRUCTION DRAWING</b>
N.A.		<b>SCHEDULE IN DRAWING</b>

**BIM OBJECT SHEET**

QR CODE For AM	SOFTWARE VERSION <b>Revit 2018</b>	REFERENCE NUMBER  <b>DSD-OS-0036</b>
	DATE <b>11-2018</b>	
	REVISION <b>0</b>	



**INPUT**

Object Name <b>SGC-_-DSD-CI-B0</b>	CATEGORY <b>Generic Models</b>	LOD-G <b>300</b>
		
<b>PLAN</b>	<b>3D</b>	
		
<b>FRONT ELEVATION / SECTION</b>	<b>FAMILY VIEW : PARAMETER</b>	
		
<b>SIDE ELEVATION / SECTION</b>		

2D Symbol Name	2D Tag / Label / Annotation Name
N.A.	N.A.

**PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES**

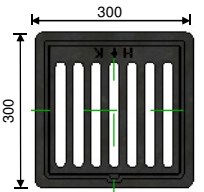

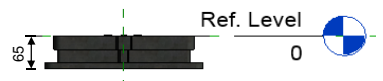
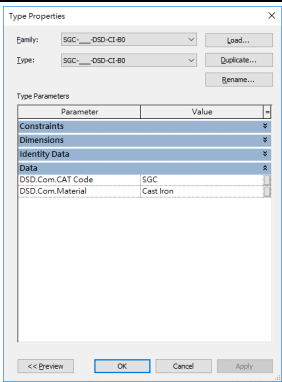
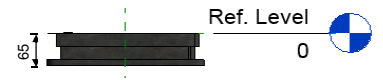
**OUTPUT**

SHEET VIEW : PLAN	SHEET VIEW : ELEVATION	
		PRESENTATION DRAWING
N.A.	N.A.	STATUTORY / AUTHORITIES SUBMISSION DRAWING
Project Specific	Refer to DSD Standard Drawing (DS1045)	TENDER / CONSTRUCTION DRAWING
N.A.		SCHEDULE IN DRAWING

**BIM OBJECT SHEET**

QR CODE For AM	SOFTWARE VERSION <b>Revit 2018</b>	REFERENCE NUMBER  <b>DSD-OS-0036</b>
	DATE <b>11-2018</b>	
	REVISION <b>0</b>	



**INPUT**

Object Name <b>SGC-_-DSD-CI-B0</b>	CATEGORY <b>Generic Models</b>	LOD-G <b>400</b>
		
<b>PLAN</b>	<b>3D</b>	
		
<b>FRONT ELEVATION / SECTION</b>	<b>FAMILY VIEW : PARAMETER</b>	
		
<b>SIDE ELEVATION / SECTION</b>		

2D Symbol Name	2D Tag / Label / Annotation Name
N.A.	N.A.

**PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES**

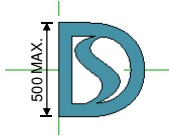

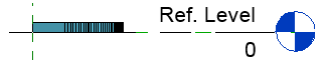
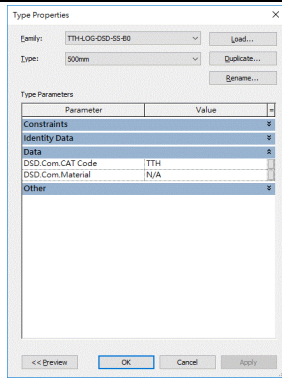

**OUTPUT**

SHEET VIEW : PLAN	SHEET VIEW : ELEVATION	
		PRESENTATION DRAWING
N.A.	N.A.	STATUTORY / AUTHORITIES SUBMISSION DRAWING
Project Specific	Refer to DSD Standard Drawing (DS1045)	TENDER / CONSTRUCTION DRAWING
N.A.		SCHEDULE IN DRAWING

**BIM OBJECT SHEET**

QR CODE For AM	SOFTWARE VERSION <b>Revit 2018</b>	REFERENCE NUMBER  <b>DSD-OS-0038</b>
	DATE <b>11-2018</b>	
	REVISION <b>0</b>	


**INPUT**

Object Name <b>TTH-LOG-DSD-SS-DSD_B0</b>	CATEGORY <b>Generic Models</b>	LOD-G <b>300</b>
		
<b>PLAN</b>	<b>3D</b>	
		
<b>FRONT ELEVATION / SECTION</b>	<b>FAMILY VIEW : PARAMETER</b>	
		
<b>SIDE ELEVATION / SECTION</b>		

2D Symbol Name	2D Tag / Label / Annotation Name
N.A.	N.A.

**PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES**

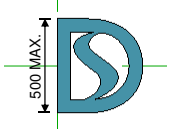

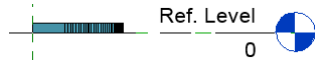
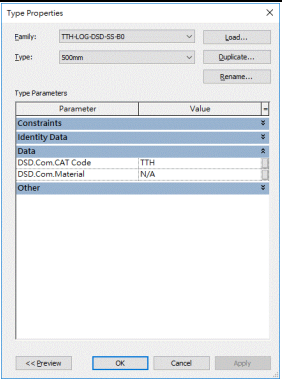

**OUTPUT**

SHEET VIEW : PLAN		SHEET VIEW : ELEVATION	
		N.A.	PRESENTATION DRAWING
N.A.		N.A.	STATUTORY / AUTHORITIES SUBMISSION DRAWING
Project Specific		Refer to DSD Standard Drawing (DS1057)	TENDER / CONSTRUCTION DRAWING
			SCHEDULE IN DRAWING

**BIM OBJECT SHEET**

QR CODE For AM	SOFTWARE VERSION <b>Revit 2018</b>	REFERENCE NUMBER  <b>DSD-OS-0038</b>
	DATE <b>11-2018</b>	
	REVISION <b>0</b>	


**INPUT**

Object Name <b>TTH-LOG-DSD-SS-DSD_B0</b>	CATEGORY <b>Generic Models</b>	LOD-G <b>400</b>
		
<b>PLAN</b>	<b>3D</b>	
		
<b>FRONT ELEVATION / SECTION</b>	<b>FAMILY VIEW : PARAMETER</b>	
		
<b>SIDE ELEVATION / SECTION</b>		

2D Symbol Name	2D Tag / Label / Annotation Name
N.A.	N.A.

**PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES**

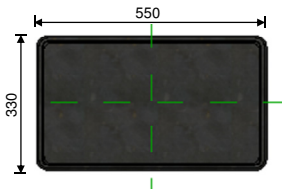


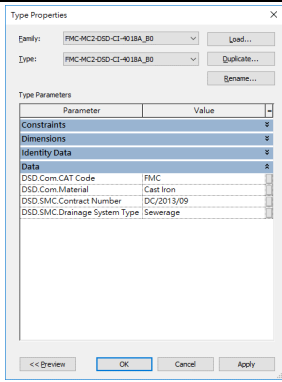

**OUTPUT**

SHEET VIEW : PLAN	SHEET VIEW : ELEVATION	
	N.A.	PRESENTATION DRAWING
N.A.	N.A.	STATUTORY / AUTHORITIES SUBMISSION DRAWING
Project Specific	Refer to DSD Standard Drawing (DS1057)	TENDER / CONSTRUCTION DRAWING
N.A.		SCHEDULE IN DRAWING

BIM OBJECT SHEET

QR CODE For AM	SOFTWARE VERSION Revit 2018	REFERENCE NUMBER  DSD-OS-0039
	DATE 11-2018	
	REVISION 0	



INPUT

Object Name <b>FMC-MC2-DSD-CI-4018A_B0</b>	CATEGORY <b>Generic Models</b>	LOD-G <b>300</b>
		
<b>PLAN</b>	<b>3D</b>	
		
<b>FRONT ELEVATION / SECTION</b>	<b>FAMILY VIEW : PARAMETER</b>	
		
<b>SIDE ELEVATION / SECTION</b>		

2D Symbol Name	2D Tag / Label / Annotation Name
N.A.	N.A.

PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES




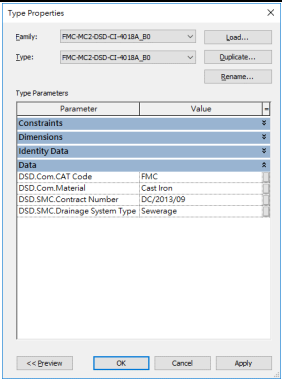

OUTPUT

SHEET VIEW : PLAN	SHEET VIEW : ELEVATION													
		PRESENTATION DRAWING												
N.A.	N.A.	STATUTORY / AUTHORITIES SUBMISSION DRAWING												
Project Specific	Refer to DSD Standard Drawing (DS1059)	TENDER / CONSTRUCTION DRAWING												
<table border="1"> <thead> <tr> <th colspan="3">&lt;Manhole Cover Schedule&gt;</th></tr> <tr> <th>A</th><th>B</th><th>C</th></tr> </thead> <tbody> <tr> <td>DSD.SMC.ID Mark</td><td>DSD.SMC.Drainage System Type</td><td>DSD.SMC.Feature Type</td></tr> <tr> <td>SMC0039</td><td>Sewerage</td><td>Manhole Cover</td></tr> </tbody> </table>		<Manhole Cover Schedule>			A	B	C	DSD.SMC.ID Mark	DSD.SMC.Drainage System Type	DSD.SMC.Feature Type	SMC0039	Sewerage	Manhole Cover	SCHEDULE IN DRAWING
<Manhole Cover Schedule>														
A	B	C												
DSD.SMC.ID Mark	DSD.SMC.Drainage System Type	DSD.SMC.Feature Type												
SMC0039	Sewerage	Manhole Cover												

BIM OBJECT SHEET

QR CODE For AM	SOFTWARE VERSION Revit 2018	REFERENCE NUMBER  DSD-OS-0039
	DATE 11-2018	
	REVISION 0	



INPUT

Object Name <b>FMC-MC2-DSD-CI-4018A_B0</b>	CATEGORY <b>Generic Models</b>	LOD-G <b>400</b>
		
<b>PLAN</b>	<b>3D</b>	
		
<b>FRONT ELEVATION / SECTION</b>	<b>FAMILY VIEW : PARAMETER</b>	
		
<b>SIDE ELEVATION / SECTION</b>		

2D Symbol Name	2D Tag / Label / Annotation Name
N.A.	N.A.

PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES

OUTPUT

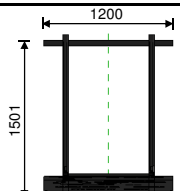

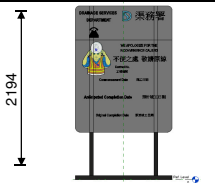
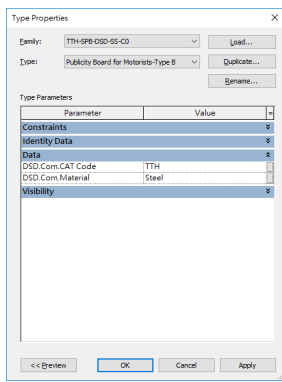
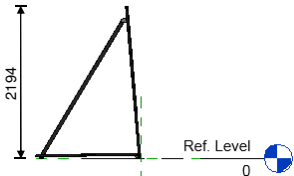
SHEET VIEW : PLAN	SHEET VIEW : ELEVATION													
		PRESENTATION DRAWING												
N.A.	N.A.	STATUTORY / AUTHORITIES SUBMISSION DRAWING												
Project Specific	Refer to DSD Standard Drawing (DS1059)	TENDER / CONSTRUCTION DRAWING												
<table border="1"> <thead> <tr> <th colspan="3">&lt;Manhole Cover Schedule&gt;</th></tr> <tr> <th>A</th><th>B</th><th>C</th></tr> </thead> <tbody> <tr> <td>DSD.SMC.ID Mark</td><td>DSD.SMC.Drainage System Type</td><td>DSD.SMC.Feature Type</td></tr> <tr> <td>SMC0039</td><td>Sewerage</td><td>Manhole Cover</td></tr> </tbody> </table>		<Manhole Cover Schedule>			A	B	C	DSD.SMC.ID Mark	DSD.SMC.Drainage System Type	DSD.SMC.Feature Type	SMC0039	Sewerage	Manhole Cover	SCHEDULE IN DRAWING
<Manhole Cover Schedule>														
A	B	C												
DSD.SMC.ID Mark	DSD.SMC.Drainage System Type	DSD.SMC.Feature Type												
SMC0039	Sewerage	Manhole Cover												



BIM OBJECT SHEET

QR CODE For AM	SOFTWARE VERSION Revit 2018	REFERENCE NUMBER  DSD-OS-0040
	DATE 11-2018	
	REVISION 0	

INPUT



Object Name TTH-SPB-DSD-SS-C0	CATEGORY Generic Models	LOD-G 300
		
PLAN	3D	
		
FRONT ELEVATION / SECTION	FAMILY VIEW : PARAMETER	
		
SIDE ELEVATION / SECTION		

3D GEOMETRY

2D Symbol Name	2D Tag / Label / Annotation Name
N.A.	N.A.
2D SYMBOL	2D TAG / LABEL / ANNOTATION

PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES

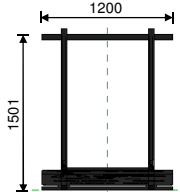


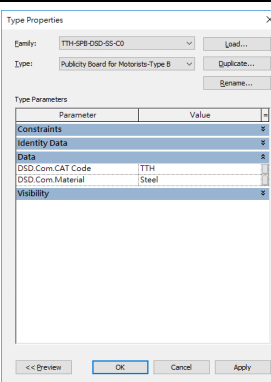
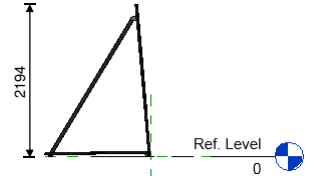
OUTPUT

SHEET VIEW : PLAN	SHEET VIEW : ELEVATION	
		PRESENTATION DRAWING
N.A.	N.A.	STATUTORY / AUTHORITIES SUBMISSION DRAWING
Project Specific	Refer to DSD Standard Drawing (DS1060)	TENDER / CONSTRUCTION DRAWING
N.A.		SCHEDULE IN DRAWING

**BIM OBJECT SHEET**

QR CODE For AM	SOFTWARE VERSION <b>Revit 2018</b>	REFERENCE NUMBER  <b>DSD-OS-0040</b>
	DATE <b>11-2018</b>	
	REVISION <b>0</b>	

**INPUT**

Object Name <b>TTH-SPB-DSD-SS-C0</b>	CATEGORY <b>Generic Models</b>	LOD-G <b>400</b>
		
<b>PLAN</b>	<b>3D</b>	
		
<b>FRONT ELEVATION / SECTION</b>	<b>FAMILY VIEW : PARAMETER</b>	
		
<b>SIDE ELEVATION / SECTION</b>		

3D GEOMETRY



2D Symbol Name	2D Tag / Label / Annotation Name
N.A.	N.A.

2D SYMBOL

2D TAG / LABEL / ANNOTATION

**PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES**

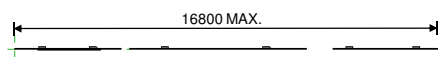
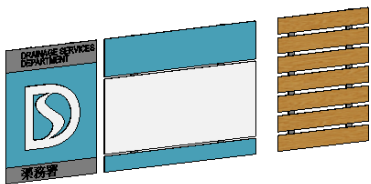

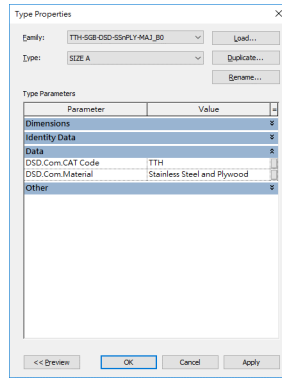
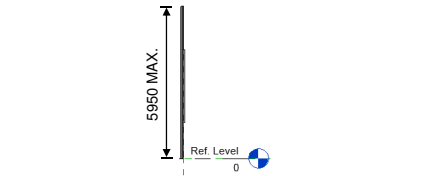
**OUTPUT**

SHEET VIEW : PLAN	SHEET VIEW : ELEVATION	
		<b>PRESENTATION DRAWING</b>
N.A.	N.A.	<b>STATUTORY / AUTHORITIES SUBMISSION DRAWING</b>
Project Specific	Refer to DSD Standard Drawing (DS1060)	<b>TENDER / CONSTRUCTION DRAWING</b>
N.A.		<b>SCHEDULE IN DRAWING</b>

**BIM OBJECT SHEET**

QR CODE For AM	SOFTWARE VERSION <b>Revit 2018</b>	REFERENCE NUMBER  <b>DSD-OS-0041</b>
	DATE <b>11-2018</b>	
	REVISION <b>0</b>	

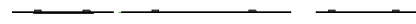

**INPUT**

Object Name <b>TTH-SGB-DSD-SSnPLY-MAJ_B0</b>	CATEGORY <b>Generic Models</b>	LOD-G <b>300</b>
		
<b>PLAN</b>	<b>3D</b>	
		
<b>FRONT ELEVATION / SECTION</b>	<b>FAMILY VIEW : PARAMETER</b>	
		
<b>SIDE ELEVATION / SECTION</b>		

2D Symbol Name	2D Tag / Label / Annotation Name
N.A.	N.A.

**PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES**

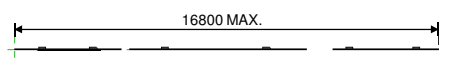
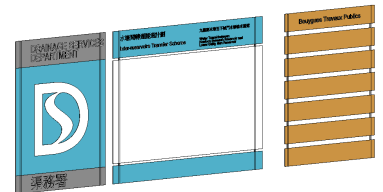

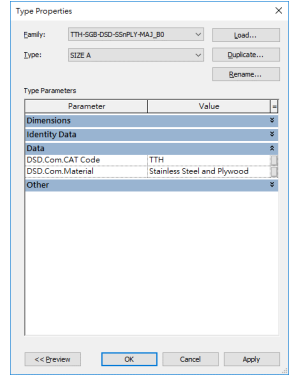
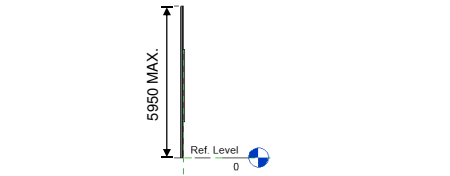
**OUTPUT**

SHEET VIEW : PLAN	SHEET VIEW : ELEVATION	
		PRESENTATION DRAWING
N.A.	N.A.	STATUTORY / AUTHORITIES SUBMISSION DRAWING
Project Specific	Refer to DSD Standard Drawing (DS1063)	TENDER / CONSTRUCTION DRAWING
N.A.		SCHEDULE IN DRAWING

BIM OBJECT SHEET

QR CODE For AM	SOFTWARE VERSION Revit 2018	REFERENCE NUMBER  DSD-OS-0041
	DATE 11-2018	
	REVISION 0	



INPUT

Object Name TTH-SGB-DSD-SSnPLY-MAJ_B0		CATEGORY Generic Models	LOD-G 400
			
PLAN		3D	
			
FRONT ELEVATION / SECTION		FAMILY VIEW : PARAMETER	
			
SIDE ELEVATION / SECTION			

2D Symbol Name	2D Tag / Label / Annotation Name
N.A.	N.A.

PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES

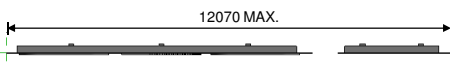
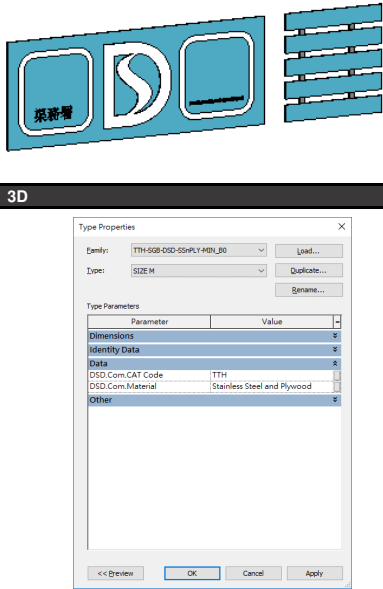
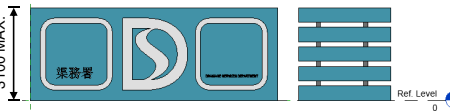
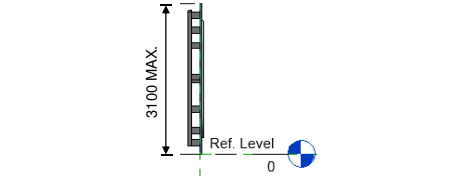
OUTPUT

SHEET VIEW : PLAN	SHEET VIEW : ELEVATION	
		PRESENTATION DRAWING
N.A.	N.A.	STATUTORY / AUTHORITIES SUBMISSION DRAWING
Project Specific	Refer to DSD Standard Drawing (DS1063)	TENDER / CONSTRUCTION DRAWING
N.A.	N.A.	SCHEDULE IN DRAWING

BIM OBJECT SHEET

QR CODE For AM	SOFTWARE VERSION Revit 2018	REFERENCE NUMBER  DSD-OS-0042
	DATE 11-2018	
	REVISION 0	

INPUT



Object Name TTH-SGB-DSD-SSnPLY-MIN_B0	CATEGORY Generic Models	LOD-G 300
		
PLAN	3D	
		
FRONT ELEVATION / SECTION		
		
SIDE ELEVATION / SECTION	FAMILY VIEW : PARAMETER	

3D GEOMETRY

2D Symbol Name	2D Tag / Label / Annotation Name
N.A.	N.A.
2D SYMBOL	2D TAG / LABEL / ANNOTATION

PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES

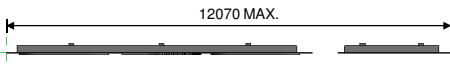
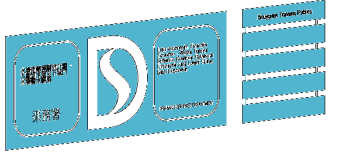
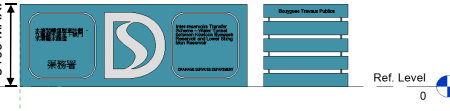
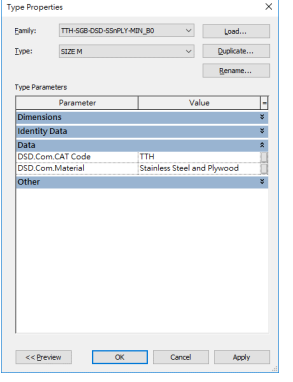
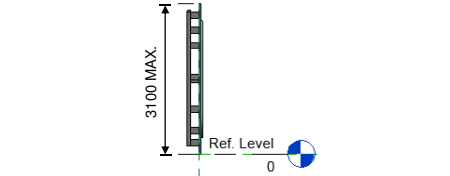
OUTPUT

SHEET VIEW : PLAN	SHEET VIEW : ELEVATION	
		PRESENTATION DRAWING
N.A.	N.A.	STATUTORY / AUTHORITIES SUBMISSION DRAWING
Project Specific	Refer to DSD Standard Drawing (DS1064)	TENDER / CONSTRUCTION DRAWING
N.A.		SCHEDULE IN DRAWING

BIM OBJECT SHEET

QR CODE For AM	SOFTWARE VERSION Revit 2018	REFERENCE NUMBER  DSD-OS-0042
	DATE 11-2018	
	REVISION 0	

INPUT



Object Name TTH-SGB-DSD-SSnPLY-MIN_B0	CATEGORY Generic Models	LOD-G 400
		
PLAN	3D	
		
FRONT ELEVATION / SECTION	FAMILY VIEW : PARAMETER	
		
SIDE ELEVATION / SECTION		

3D GEOMETRY

2D Symbol Name	2D Tag / Label / Annotation Name
N.A.	N.A.
2D SYMBOL	2D TAG / LABEL / ANNOTATION

PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES

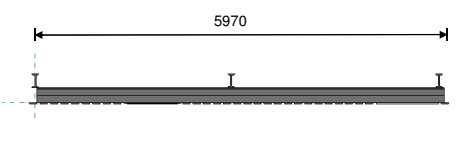
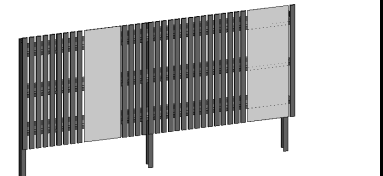
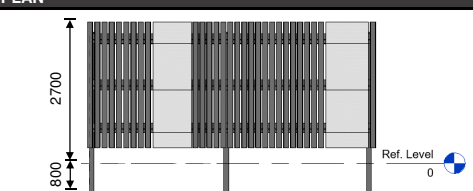
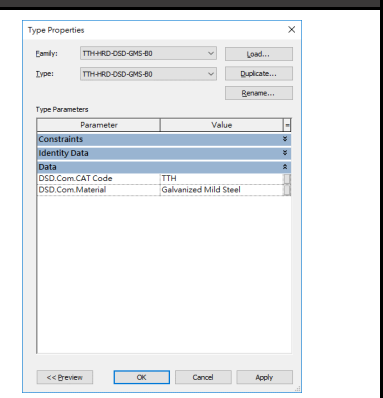
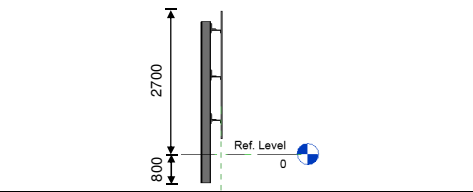
OUTPUT

SHEET VIEW : PLAN	SHEET VIEW : ELEVATION	
		PRESENTATION DRAWING
N.A.	N.A.	STATUTORY / AUTHORITIES SUBMISSION DRAWING
Project Specific	Refer to DSD Standard Drawing (DS1064)	TENDER / CONSTRUCTION DRAWING
N.A.		SCHEDULE IN DRAWING

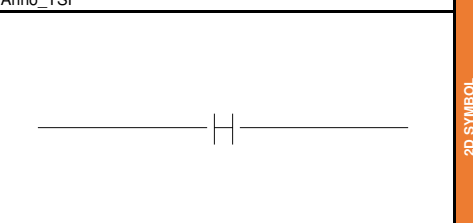
**BIM OBJECT SHEET**

QR CODE For AM	SOFTWARE VERSION Revit 2018	REFERENCE NUMBER  DSD-OS-0043
	DATE 11-2018	
	REVISION 0	

**INPUT**

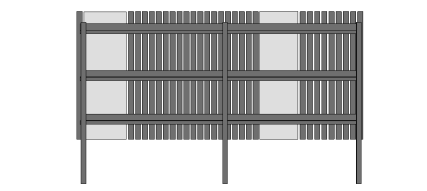
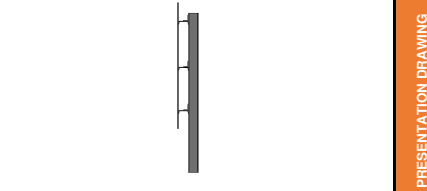
Object Name <b>TTH-HRD-DSD-GMS-B0</b>	CATEGORY <b>Generic Models</b>	LOD-G <b>300</b>
		
<b>PLAN</b>	<b>3D</b>	
		
<b>FRONT ELEVATION / SECTION</b>	<b>FAMILY VIEW : PARAMETER</b>	
		
<b>SIDE ELEVATION / SECTION</b>		

3D GEOMETRY

Anno_TSF	2D Tag / Label / Annotation Name
	N.A.
<b>2D SYMBOL</b>	<b>2D TAG / LABEL / ANNOTATION</b>

**PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES**

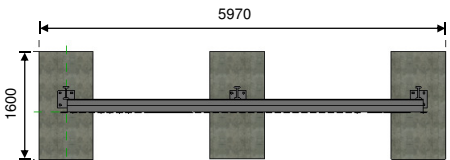
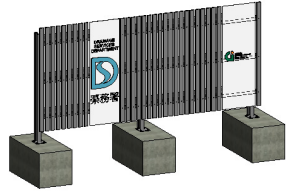
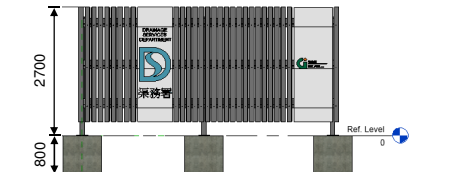
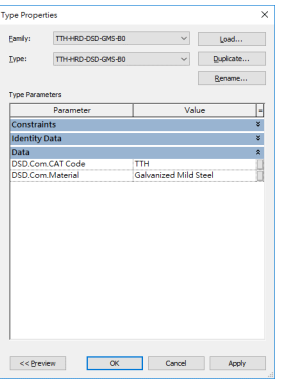
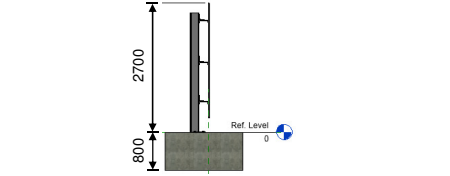
**OUTPUT**

SHEET VIEW : PLAN	SHEET VIEW : ELEVATION	
		<b>PRESENTATION DRAWING</b>
N.A.	N.A.	<b>STATUTORY / AUTHORITIES SUBMISSION DRAWING</b>
Project Specific	Refer to DSD Standard Drawing (DS1065)	<b>TENDER / CONSTRUCTION DRAWING</b>
N.A.		<b>SCHEDULE IN DRAWING</b>


BIM OBJECT SHEET

QR CODE For AM	SOFTWARE VERSION Revit 2018	REFERENCE NUMBER  DSD-OS-0043
	DATE 11-2018	
	REVISION 0	

INPUT

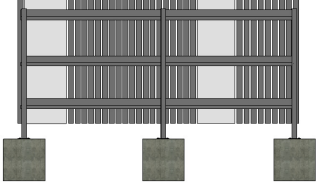
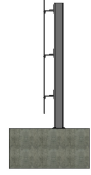
Object Name TTH-HRD-DSD-GMS-B0	CATEGORY Generic Models	LOD-G 400
		
PLAN	3D	
		
FRONT ELEVATION / SECTION	FAMILY VIEW : PARAMETER	
		
SIDE ELEVATION / SECTION		

3D GEOMETRY

Anno_TSF	2D Tag / Label / Annotation Name
	N.A.
2D SYMBOL	2D TAG / LABEL / ANNOTATION

PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES

OUTPUT

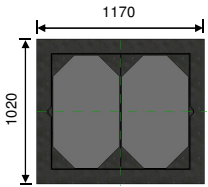
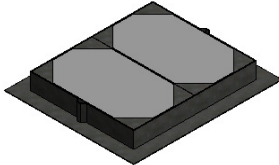

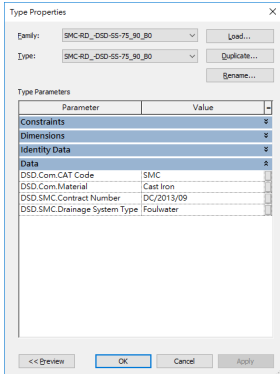

SHEET VIEW : PLAN	SHEET VIEW : ELEVATION	
		PRESENTATION DRAWING
N.A.	N.A.	STATUTORY / AUTHORITIES SUBMISSION DRAWING
Project Specific	Refer to DSD Standard Drawing (DS1065)	TENDER / CONSTRUCTION DRAWING
N.A.		SCHEDULE IN DRAWING



BIM OBJECT SHEET

QR CODE For AM	SOFTWARE VERSION Revit 2018	REFERENCE NUMBER  DSD-OS-0044
	DATE 11-2018	
	REVISION 0	

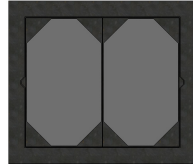

INPUT

Object Name <b>SMC-RD_-DSD-SS-75_90_B0</b>	CATEGORY <b>Generic Models</b>	LOD-G <b>300</b>
		3D GEOMETRY
<b>PLAN</b>	<b>3D</b>	
		
<b>FRONT ELEVATION / SECTION</b>	<b>FAMILY VIEW : PARAMETER</b>	
		
<b>SIDE ELEVATION / SECTION</b>		

Anno_SMC	Tag_SMC
N.A.	N.A.
2D SYMBOL	2D TAG / LABEL / ANNOTATION

PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES

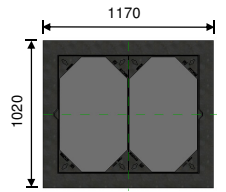
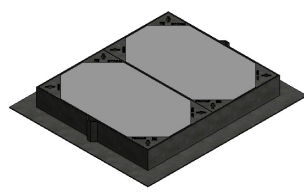
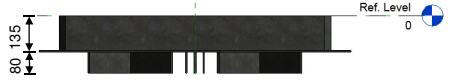
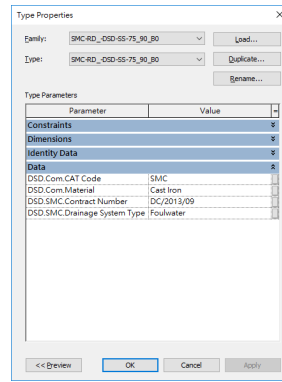
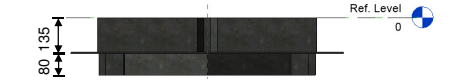
OUTPUT

SHEET VIEW : PLAN	SHEET VIEW : ELEVATION										
		PRESENTATION DRAWING									
N.A.	N.A.	STATUTORY / AUTHORITIES SUBMISSION DRAWING									
Project Specific	Refer to DSD Standard Drawing (DS1071)	TENDER / CONSTRUCTION DRAWING									
<p>&lt;Manhole Schedule&gt;</p> <table border="1"> <thead> <tr> <th>A</th><th>B</th><th>C</th></tr> </thead> <tbody> <tr> <td>DSD.SMC.ID Mark</td><td>DSD.SMC.Drainage System Type</td><td>DSD.SMC.Feature Type</td></tr> <tr> <td>SMC0044</td><td>Stormwater</td><td>Manhole Cover</td></tr> </tbody> </table>		A	B	C	DSD.SMC.ID Mark	DSD.SMC.Drainage System Type	DSD.SMC.Feature Type	SMC0044	Stormwater	Manhole Cover	SCHEDULE IN DRAWING
A	B	C									
DSD.SMC.ID Mark	DSD.SMC.Drainage System Type	DSD.SMC.Feature Type									
SMC0044	Stormwater	Manhole Cover									

BIM OBJECT SHEET

QR CODE For AM	SOFTWARE VERSION Revit 2018	REFERENCE NUMBER  DSD-OS-0044
	DATE 11-2018	
	REVISION 0	

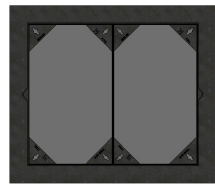

INPUT

Object Name <b>SMC-RD_-DSD-SS-75_90_B0</b>	CATEGORY <b>Generic Models</b>	LOD-G <b>400</b>
		<b>3D GEOMETRY</b>
<b>PLAN</b>	<b>3D</b>	
		
<b>FRONT ELEVATION / SECTION</b>	<b>FAMILY VIEW : PARAMETER</b>	
		
<b>SIDE ELEVATION / SECTION</b>		

Anno_SMC	Tag_SMC
N.A.	N.A.
<b>2D SYMBOL</b>	<b>2D TAG / LABEL / ANNOTATION</b>

PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES

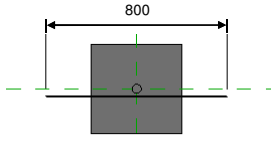

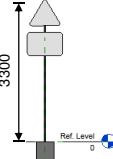
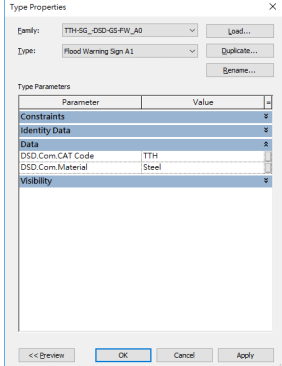

OUTPUT

SHEET VIEW : PLAN	SHEET VIEW : ELEVATION	<b>PRESENTATION DRAWING</b>									
											
N.A.	N.A.	<b>STATUTORY / AUTHORITIES SUBMISSION DRAWING</b>									
Project Specific	Refer to DSD Standard Drawing (DS1071)										
		<b>TENDER / CONSTRUCTION DRAWING</b>									
<p>&lt;Manhole Schedule&gt;</p> <table> <tr> <th>A</th><th>B</th><th>C</th></tr> <tr> <th>DSD.SMC.ID Mark</th><th>DSD.SMC.Drainage System Type</th><th>DSD.SMC.Feature Type</th></tr> <tr> <td>SMC0044</td><td>Stormwater</td><td>Manhole Cover</td></tr> </table>		A	B	C	DSD.SMC.ID Mark	DSD.SMC.Drainage System Type	DSD.SMC.Feature Type	SMC0044	Stormwater	Manhole Cover	<b>SCHEDULE IN DRAWING</b>
A	B	C									
DSD.SMC.ID Mark	DSD.SMC.Drainage System Type	DSD.SMC.Feature Type									
SMC0044	Stormwater	Manhole Cover									

**BIM OBJECT SHEET**

QR CODE For AM	SOFTWARE VERSION <b>Revit 2018</b>	REFERENCE NUMBER  <b>DSD-OS-0045</b>
	DATE <b>11-2018</b>	
	REVISION <b>0</b>	

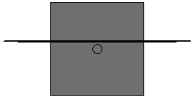

**INPUT**

Object Name <b>TTH-SG_-DSD-GS-FW_A0</b>	CATEGORY <b>Generic Models</b>	LOD-G <b>300</b>
		<b>3D GEOMETRY</b>
<b>PLAN</b>	<b>3D</b>	
		
<b>FRONT ELEVATION / SECTION</b>	<b>FAMILY VIEW : PARAMETER</b>	
		
<b>SIDE ELEVATION / SECTION</b>		

2D Symbol Name	2D Tag / Label / Annotation Name
<b>N.A.</b>	<b>N.A.</b>
<b>2D SYMBOL</b>	<b>2D TAG / LABEL / ANNOTATION</b>

**PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES**

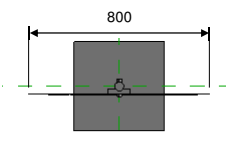

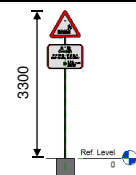
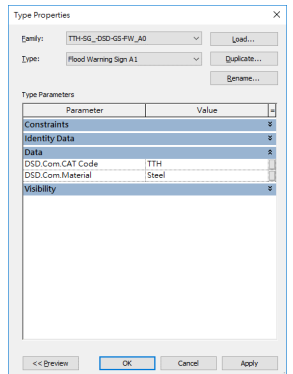
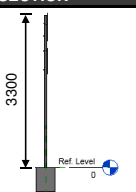
**OUTPUT**

SHEET VIEW : PLAN	SHEET VIEW : ELEVATION	
		<b>PRESENTATION DRAWING</b>
<b>N.A.</b>	<b>N.A.</b>	<b>STATUTORY / AUTHORITIES SUBMISSION DRAWING</b>
Project Specific	Refer to DSD Standard Drawing (DS1072)	<b>TENDER / CONSTRUCTION DRAWING</b>
<b>N.A.</b>		<b>SCHEDULE IN DRAWING</b>

**BIM OBJECT SHEET**

QR CODE For AM	SOFTWARE VERSION <b>Revit 2018</b>	REFERENCE NUMBER  <b>DSD-OS-0045</b>
	DATE <b>11-2018</b>	
	REVISION <b>0</b>	

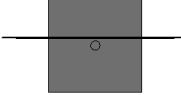

**INPUT**

Object Name <b>TTH-SG_-DSD-GS-FW_A0</b>	CATEGORY <b>Generic Models</b>	LOD-G <b>400</b>
		<b>3D GEOMETRY</b>
<b>PLAN</b>	<b>3D</b>	
		
<b>FRONT ELEVATION / SECTION</b>	<b>FAMILY VIEW : PARAMETER</b>	
		
<b>SIDE ELEVATION / SECTION</b>		

2D Symbol Name	2D Tag / Label / Annotation Name
<b>N.A.</b>	<b>N.A.</b>
<b>2D SYMBOL</b>	<b>2D TAG / LABEL / ANNOTATION</b>

**PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES**

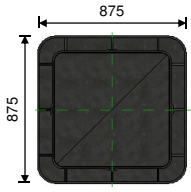


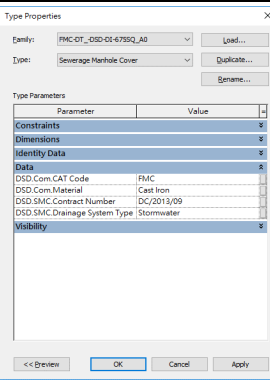

**OUTPUT**

SHEET VIEW : PLAN	SHEET VIEW : ELEVATION	
		<b>PRESENTATION DRAWING</b>
<b>N.A.</b>	<b>N.A.</b>	<b>STATUTORY / AUTHORITIES SUBMISSION DRAWING</b>
Project Specific	Refer to DSD Standard Drawing (DS1072)	<b>TENDER / CONSTRUCTION DRAWING</b>
<b>N.A.</b>		<b>SCHEDULE IN DRAWING</b>

**BIM OBJECT SHEET**

QR CODE For AM	SOFTWARE VERSION <b>Revit 2018</b>	REFERENCE NUMBER  <b>DSD-OS-0046</b>
	DATE <b>11-2018</b>	
	REVISION <b>0</b>	



**INPUT**

Object Name <b>FMC-DT_-DSD-DI-675SQ_A0</b>	CATEGORY <b>Generic Models</b>	LOD-G <b>300</b>
		
<b>PLAN</b>	<b>3D</b>	
		
<b>FRONT ELEVATION / SECTION</b>	<b>FAMILY VIEW : PARAMETER</b>	
		
<b>SIDE ELEVATION / SECTION</b>		

2D Symbol Name	2D Tag / Label / Annotation Name
N.A.	N.A.

**PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES**

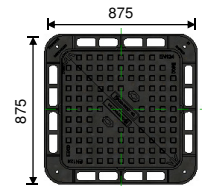


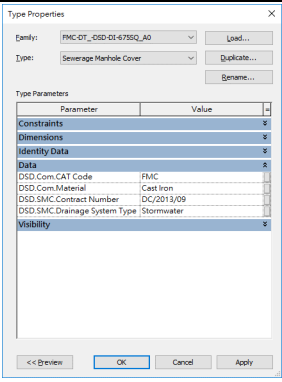

**OUTPUT**

SHEET VIEW : PLAN	SHEET VIEW : ELEVATION										
		PRESENTATION DRAWING									
N.A.	N.A.	STATUTORY / AUTHORITIES SUBMISSION DRAWING									
Project Specific	Refer to DSD Standard Drawing (DS1077)	TENDER / CONSTRUCTION DRAWING									
<p>&lt;Manhole Cover Schedule&gt;</p> <table> <tr> <th>A</th><th>B</th><th>C</th></tr> <tr> <th>DSD.FMC.ID Mark</th><th>DSD.FMC.Drainage System Type</th><th>DSD.FMC.Feature Type</th></tr> <tr> <td>FMC0046</td><td>Sewerage</td><td>Manhole Cover</td></tr> </table>		A	B	C	DSD.FMC.ID Mark	DSD.FMC.Drainage System Type	DSD.FMC.Feature Type	FMC0046	Sewerage	Manhole Cover	SCHEDULE IN DRAWING
A	B	C									
DSD.FMC.ID Mark	DSD.FMC.Drainage System Type	DSD.FMC.Feature Type									
FMC0046	Sewerage	Manhole Cover									

BIM OBJECT SHEET

QR CODE For AM	SOFTWARE VERSION Revit 2018	REFERENCE NUMBER  DSD-OS-0046
	DATE 11-2018	
	REVISION 0	



INPUT

Object Name <b>FMC-DT_-DSD-DI-675SQ_A0</b>	CATEGORY <b>Generic Models</b>	LOD-G <b>400</b>
		
<b>PLAN</b>	<b>3D</b>	
		
<b>FRONT ELEVATION / SECTION</b>	<b>FAMILY VIEW : PARAMETER</b>	
		
<b>SIDE ELEVATION / SECTION</b>		

2D Symbol Name	2D Tag / Label / Annotation Name
N.A.	N.A.

PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES

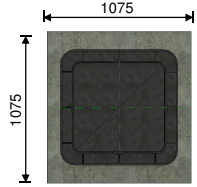
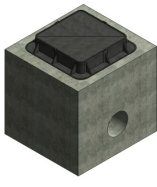
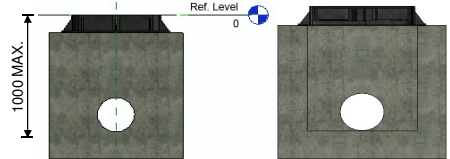
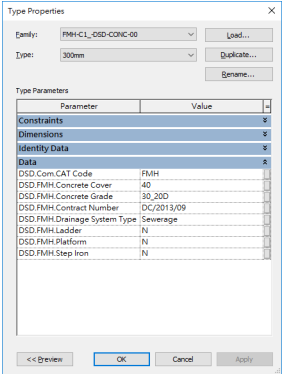
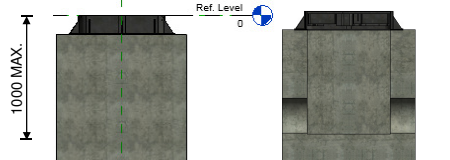
OUTPUT

SHEET VIEW : PLAN	SHEET VIEW : ELEVATION										
		PRESENTATION DRAWING									
N.A.	N.A.	STATUTORY / AUTHORITIES SUBMISSION DRAWING									
Project Specific	Refer to DSD Standard Drawing (DS1077)	TENDER / CONSTRUCTION DRAWING									
<p>&lt;Manhole Cover Schedule&gt;</p> <table> <tr> <th>A</th><th>B</th><th>C</th></tr> <tr> <th>DSD.FMC.ID Mark</th><th>DSD.FMC.Drainage System Type</th><th>DSD.FMC.Feature Type</th></tr> <tr> <td>FMC0046</td><td>Sewerage</td><td>Manhole Cover</td></tr> </table>		A	B	C	DSD.FMC.ID Mark	DSD.FMC.Drainage System Type	DSD.FMC.Feature Type	FMC0046	Sewerage	Manhole Cover	SCHEDULE IN DRAWING
A	B	C									
DSD.FMC.ID Mark	DSD.FMC.Drainage System Type	DSD.FMC.Feature Type									
FMC0046	Sewerage	Manhole Cover									


BIM OBJECT SHEET

QR CODE For AM	SOFTWARE VERSION Revit 2018	REFERENCE NUMBER  DSD-OS-0047
	DATE 11-2018	
	REVISION 0	

INPUT



Object Name <b>FMH-C1_-DSD-CONC-00</b>	CATEGORY <b>Generic Models</b>	LOD-G <b>300</b>
		
<b>PLAN</b>	<b>3D</b>	
		
<b>FRONT ELEVATION / SECTION</b>		
		
<b>SIDE ELEVATION / SECTION</b>	<b>FAMILY VIEW : PARAMETER</b>	

3D GEOMETRY

Anno_FMH	Tag_FMH
	<b>FMH0047</b> Type C1
<b>2D SYMBOL</b>	<b>2D TAG / LABEL / ANNOTATION</b>

PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES

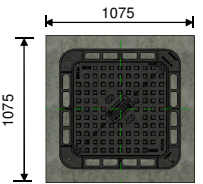
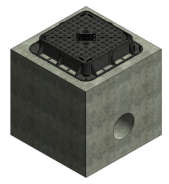
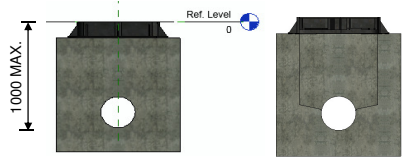
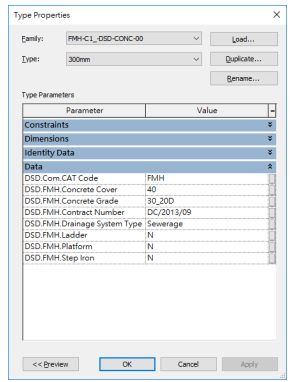
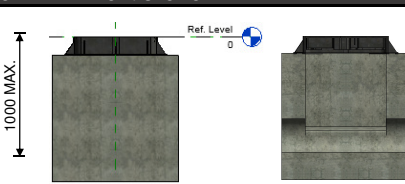
OUTPUT


SHEET VIEW : PLAN		SHEET VIEW : ELEVATION		PRESENTATION DRAWING																
																				
N.A.		N.A.																		
Project Specific		Refer to DSD Standard Drawing (DS1078)		TENDER / CONSTRUCTION DRAWING																
<table border="1"><thead><tr><th colspan="4">&lt;Manhole Schedule&gt;</th></tr><tr><th>A</th><th>B</th><th>C</th><th>D</th></tr></thead><tbody><tr><td>DSD.FMH.ID Mark</td><td>DSD.FMH.Manhole Type</td><td>DSD.FMH.Invert Level A1</td><td>DSD.FMH.Cover Level</td></tr><tr><td>FMH0047</td><td>Type C1</td><td>-1.000</td><td>0.000</td></tr></tbody></table>				<Manhole Schedule>				A	B	C	D	DSD.FMH.ID Mark	DSD.FMH.Manhole Type	DSD.FMH.Invert Level A1	DSD.FMH.Cover Level	FMH0047	Type C1	-1.000	0.000	SCHEDULE IN DRAWING
<Manhole Schedule>																				
A	B	C	D																	
DSD.FMH.ID Mark	DSD.FMH.Manhole Type	DSD.FMH.Invert Level A1	DSD.FMH.Cover Level																	
FMH0047	Type C1	-1.000	0.000																	

BIM OBJECT SHEET

QR CODE For AM	SOFTWARE VERSION Revit 2018	REFERENCE NUMBER  DSD-OS-0047
	DATE 11-2018	
	REVISION 0	



INPUT

Object Name <b>FMH-C1_-DSD-CONC-00</b>	CATEGORY <b>Generic Models</b>	LOD-G <b>400</b>
		
<b>PLAN</b>	<b>3D</b>	
		
<b>FRONT ELEVATION / SECTION</b>	<b>FAMILY VIEW : PARAMETER</b>	
		
<b>SIDE ELEVATION / SECTION</b>		

Anno_FMH	Tag_FMH
	FMH0047 Type C1
2D SYMBOL	2D TAG / LABEL / ANNOTATION

PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES

OUTPUT

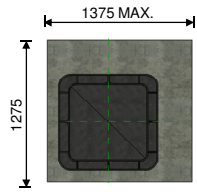
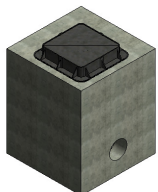
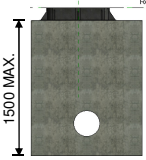
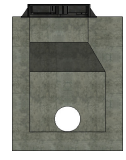
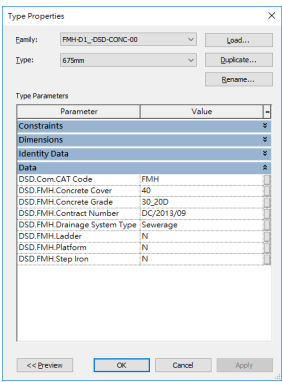
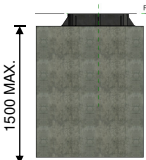
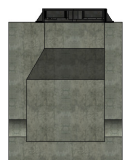
SHEET VIEW : PLAN		SHEET VIEW : ELEVATION		PRESENTATION DRAWING																	
																					
N.A.		N.A.																			
Project Specific		Refer to DSD Standard Drawing (DS1078)		TENDER / CONSTRUCTION DRAWING																	
<table><tr><th colspan="4">&lt;Manhole Schedule&gt;</th></tr><tr><th>A</th><th>B</th><th>C</th><th>D</th></tr><tr><td>DSD.FMH.ID Mark</td><td>DSD.FMH.Manhole Type</td><td>DSD.FMH.Invert Level A1</td><td>DSD.FMH.Cover Level</td></tr><tr><td>FMH0047</td><td>Type C1</td><td>-1.000</td><td>0.000</td></tr></table>					<Manhole Schedule>				A	B	C	D	DSD.FMH.ID Mark	DSD.FMH.Manhole Type	DSD.FMH.Invert Level A1	DSD.FMH.Cover Level	FMH0047	Type C1	-1.000	0.000	SCHEDULE IN DRAWING
<Manhole Schedule>																					
A	B	C	D																		
DSD.FMH.ID Mark	DSD.FMH.Manhole Type	DSD.FMH.Invert Level A1	DSD.FMH.Cover Level																		
FMH0047	Type C1	-1.000	0.000																		




BIM OBJECT SHEET

QR CODE For AM	SOFTWARE VERSION Revit 2018	REFERENCE NUMBER  DSD-OS-0048
	DATE 11-2018	
	REVISION 0	

INPUT


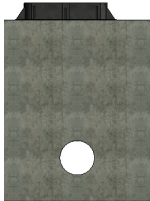
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<b>PLAN</b>	<b>3D</b>	
 		
<b>FRONT ELEVATION / SECTION</b>		
 		
<b>SIDE ELEVATION / SECTION</b>	<b>FAMILY VIEW : PARAMETER</b>	

3D GEOMETRY

Anno_FMH	Tag_FMH
	<b>FMH0048</b> Type D1
2D SYMBOL	2D TAG / LABEL / ANNOTATION

PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES

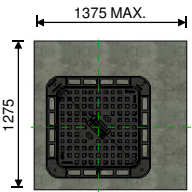
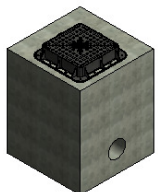
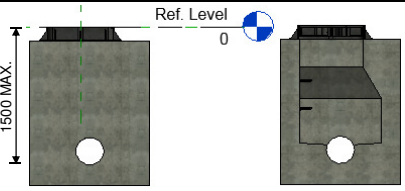
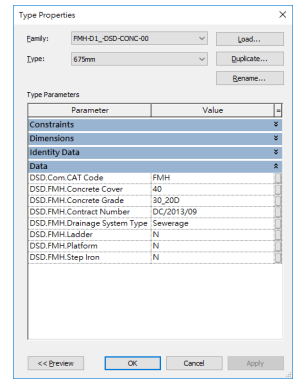
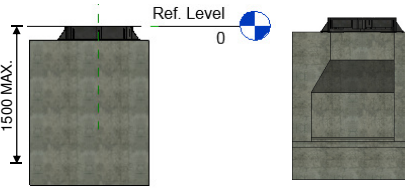
OUTPUT

SHEET VIEW : PLAN	SHEET VIEW : ELEVATION	PRESENTATION DRAWING																
																		
N.A.	N.A.	STATUTORY / AUTHORITIES SUBMISSION DRAWING																
Project Specific	Refer to DSD Standard Drawing (DS1079)	TENDER / CONSTRUCTION DRAWING																
<table border="1"><thead><tr><th colspan="4">&lt;Manhole Schedule&gt;</th></tr><tr><th>A</th><th>B</th><th>C</th><th>D</th></tr></thead><tbody><tr><td>DSD.FMH.ID Mark</td><td>DSD.FMH.Manhole Type</td><td>DSD.FMH.Invert Level A1</td><td>DSD.FMH.Cover Level</td></tr><tr><td>FMH0048</td><td>Type D1</td><td>-1.500</td><td>0.000</td></tr></tbody></table>		<Manhole Schedule>				A	B	C	D	DSD.FMH.ID Mark	DSD.FMH.Manhole Type	DSD.FMH.Invert Level A1	DSD.FMH.Cover Level	FMH0048	Type D1	-1.500	0.000	SCHEDULE IN DRAWING
<Manhole Schedule>																		
A	B	C	D															
DSD.FMH.ID Mark	DSD.FMH.Manhole Type	DSD.FMH.Invert Level A1	DSD.FMH.Cover Level															
FMH0048	Type D1	-1.500	0.000															


BIM OBJECT SHEET

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	DATE 11-2018	
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INPUT


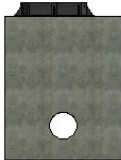
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PLAN	3D	
		
FRONT ELEVATION / SECTION		
		
SIDE ELEVATION / SECTION	FAMILY VIEW : PARAMETER	

3D GEOMETRY

Anno_FMH	Tag_FMH
	<p>FMH0048 Type D1</p>
2D SYMBOL	2D TAG / LABEL / ANNOTATION

PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES

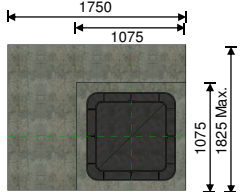
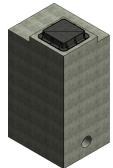
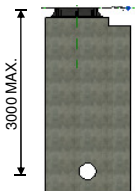
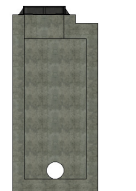
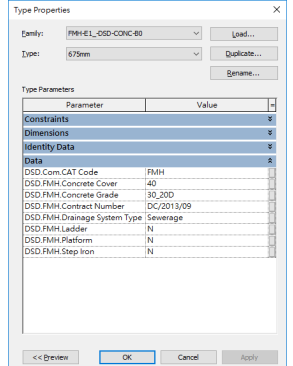
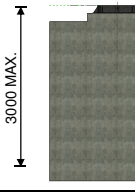
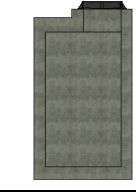
OUTPUT

SHEET VIEW : PLAN	SHEET VIEW : ELEVATION	PRESENTATION DRAWING																
																		
N.A.	N.A.	STATUTORY / AUTHORITIES SUBMISSION DRAWING																
Project Specific	Refer to DSD Standard Drawing (DS1079)	TENDER / CONSTRUCTION DRAWING																
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<Manhole Schedule>																		
A	B	C	D															
DSD.FMH.ID Mark	DSD.FMH.Manhole Type	DSD.FMH.Invert Level A1	DSD.FMH.Cover Level															
FMH0048	Type D1	-1.500	0.000															


BIM OBJECT SHEET

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	DATE 11-2018	
	REVISION 0	

INPUT



Object Name <b>FMH-E1_-DSD-CONC-B0</b>	CATEGORY <b>Generic Models</b>	LOD-G <b>300</b>
		
<b>PLAN</b>	<b>3D</b>	
 		
<b>FRONT ELEVATION / SECTION</b>	<b>FAMILY VIEW : PARAMETER</b>	
 		
<b>SIDE ELEVATION / SECTION</b>		

3D GEOMETRY

Anno_FMH	Tag_FMH
	<b>FMH0049</b> Type E1
2D SYMBOL	2D TAG / LABEL / ANNOTATION

PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES

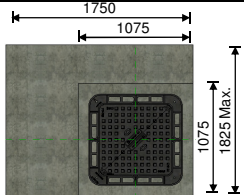
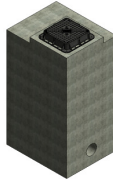
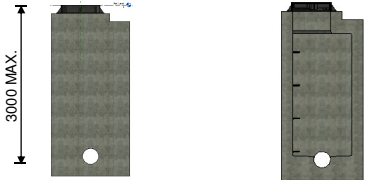
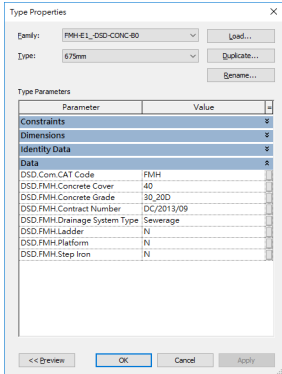
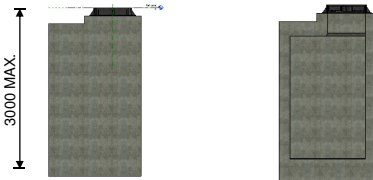
OUTPUT

SHEET VIEW : PLAN	SHEET VIEW : ELEVATION																	
		PRESENTATION DRAWING																
N.A.	N.A.	STATUTORY / AUTHORITIES SUBMISSION DRAWING																
Project Specific	Refer to DSD Standard Drawing (DS1049)	TENDER / CONSTRUCTION DRAWING																
<table border="1"><thead><tr><th colspan="4">&lt;Manhole Schedule&gt;</th></tr><tr><th>A</th><th>B</th><th>C</th><th>D</th></tr></thead><tbody><tr><td>DSD.FMH.ID Mark</td><td>DSD.FMH.Manhole Type</td><td>DSD.FMH.Invert Level A1</td><td>DSD.FMH.Cover Level</td></tr><tr><td>FMH0049</td><td>Type E1</td><td>-3.000</td><td>0.000</td></tr></tbody></table>		<Manhole Schedule>				A	B	C	D	DSD.FMH.ID Mark	DSD.FMH.Manhole Type	DSD.FMH.Invert Level A1	DSD.FMH.Cover Level	FMH0049	Type E1	-3.000	0.000	SCHEDULE IN DRAWING
<Manhole Schedule>																		
A	B	C	D															
DSD.FMH.ID Mark	DSD.FMH.Manhole Type	DSD.FMH.Invert Level A1	DSD.FMH.Cover Level															
FMH0049	Type E1	-3.000	0.000															


BIM OBJECT SHEET

QR CODE For AM	SOFTWARE VERSION Revit 2018	REFERENCE NUMBER  DSD-OS-0049
	DATE 11-2018	
	REVISION 0	

INPUT



Object Name <b>FMH-E1_-DSD-CONC-B0</b>	CATEGORY <b>Generic Models</b>	LOD-G <b>400</b>
		
<b>PLAN</b>	<b>3D</b>	
		
<b>FRONT ELEVATION / SECTION</b>		
		
<b>SIDE ELEVATION / SECTION</b>	<b>FAMILY VIEW : PARAMETER</b>	

3D GEOMETRY

Anno_FMH	Tag_FMH
	<b>FMH0049</b> Type E1
2D SYMBOL	2D TAG / LABEL / ANNOTATION

PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES

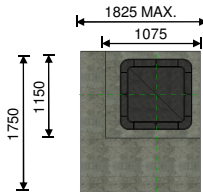
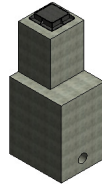
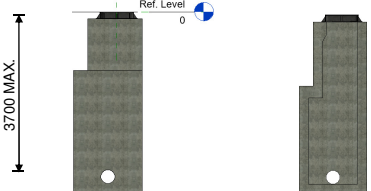
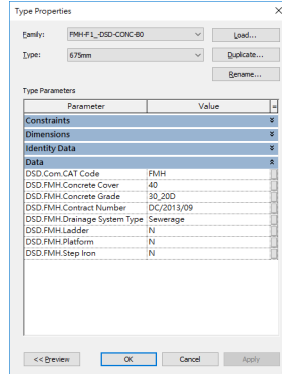
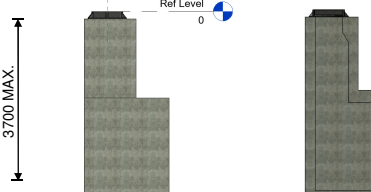
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
SHEET VIEW : PLAN	SHEET VIEW : ELEVATION																	
		PRESENTATION DRAWING																
N.A.	N.A.	STATUTORY / AUTHORITIES SUBMISSION DRAWING																
Project Specific	Refer to DSD Standard Drawing (DS1049)	TENDER / CONSTRUCTION DRAWING																
<table border="1"><thead><tr><th colspan="4">&lt;Manhole Schedule&gt;</th></tr><tr><th>A</th><th>B</th><th>C</th><th>D</th></tr></thead><tbody><tr><td>DSD.FMH.ID Mark</td><td>DSD.FMH.Manhole Type</td><td>DSD.FMH.Invert Level A1</td><td>DSD.FMH.Cover Level</td></tr><tr><td>FMH0049</td><td>Type E1</td><td>-3.000</td><td>0.000</td></tr></tbody></table>		<Manhole Schedule>				A	B	C	D	DSD.FMH.ID Mark	DSD.FMH.Manhole Type	DSD.FMH.Invert Level A1	DSD.FMH.Cover Level	FMH0049	Type E1	-3.000	0.000	SCHEDULE IN DRAWING
<Manhole Schedule>																		
A	B	C	D															
DSD.FMH.ID Mark	DSD.FMH.Manhole Type	DSD.FMH.Invert Level A1	DSD.FMH.Cover Level															
FMH0049	Type E1	-3.000	0.000															

BIM OBJECT SHEET

QR CODE For AM	SOFTWARE VERSION Revit 2018	REFERENCE NUMBER  DSD-OS-0050
	DATE 11-2018	
	REVISION 0	



INPUT

Object Name <b>FMH-F1_-DSD-CONC-B0</b>	CATEGORY <b>Generic Models</b>	LOD-G <b>300</b>
		3D GEOMETRY
PLAN	3D	
		
FRONT ELEVATION / SECTION	FAMILY VIEW : PARAMETER	
		
SIDE ELEVATION / SECTION		

Anno_FMH	Tag_FMH
	<p>FMH0050 Type F1</p>
2D SYMBOL	2D TAG / LABEL / ANNOTATION

PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES

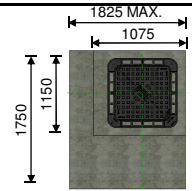
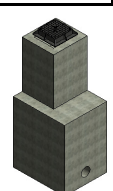
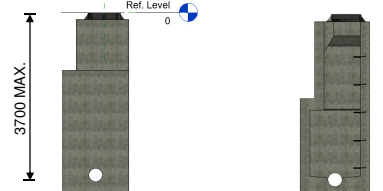
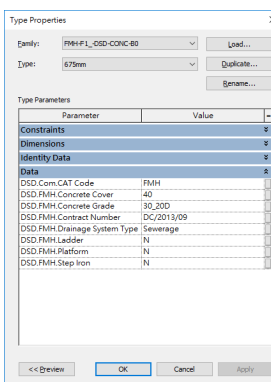
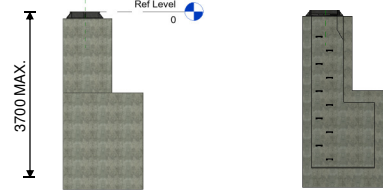
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
SHEET VIEW : PLAN		SHEET VIEW : ELEVATION		PRESENTATION DRAWING																
																				
N.A.		N.A.																		
Project Specific		Refer to DSD Standard Drawing (DS1081)		TENDER / CONSTRUCTION DRAWING																
<table border="1"><thead><tr><th colspan="4">&lt;Manhole Schedule&gt;</th></tr><tr><th>A</th><th>B</th><th>C</th><th>D</th></tr><tr><th>DSD.FMH.ID Mark</th><th>DSD.FMH.Manhole Type</th><th>DSD.FMH.Invert Level A1</th><th>DSD.FMH.Cover Level</th></tr></thead><tbody><tr><td>FMH0050</td><td>Type F1</td><td>-3.700</td><td>0.000</td></tr></tbody></table>				<Manhole Schedule>				A	B	C	D	DSD.FMH.ID Mark	DSD.FMH.Manhole Type	DSD.FMH.Invert Level A1	DSD.FMH.Cover Level	FMH0050	Type F1	-3.700	0.000	SCHEDULE IN DRAWING
<Manhole Schedule>																				
A	B	C	D																	
DSD.FMH.ID Mark	DSD.FMH.Manhole Type	DSD.FMH.Invert Level A1	DSD.FMH.Cover Level																	
FMH0050	Type F1	-3.700	0.000																	

BIM OBJECT SHEET

QR CODE For AM	SOFTWARE VERSION Revit 2018	REFERENCE NUMBER  DSD-OS-0050
	DATE 11-2018	
	REVISION 0	



INPUT

Object Name <b>FMH-F1_-DSD-CONC-B0</b>	CATEGORY <b>Generic Models</b>	LOD-G <b>400</b>
		3D GEOMETRY
PLAN	3D	
		
FRONT ELEVATION / SECTION		
		
SIDE ELEVATION / SECTION	FAMILY VIEW : PARAMETER	

Anno_FMH	Tag_FMH
	<p>FMH0050 Type F1</p>
2D SYMBOL	2D TAG / LABEL / ANNOTATION

PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES

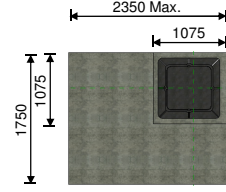
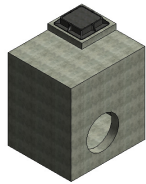
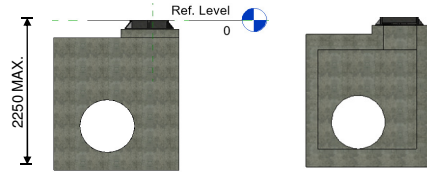
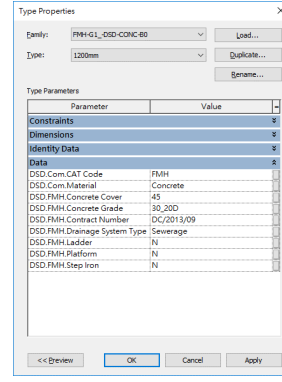
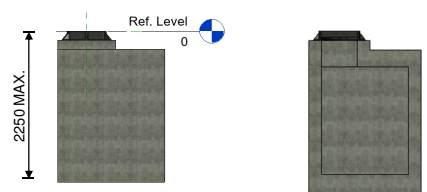
OUTPUT

SHEET VIEW : PLAN	SHEET VIEW : ELEVATION	PRESENTATION DRAWING																
																		
N.A.	N.A.	STATUTORY / AUTHORITIES SUBMISSION DRAWING																
Project Specific	Refer to DSD Standard Drawing (DS1081)	TENDER / CONSTRUCTION DRAWING																
<table border="1"><thead><tr><th colspan="4">&lt;Manhole Schedule&gt;</th></tr><tr><th>A</th><th>B</th><th>C</th><th>D</th></tr></thead><tbody><tr><td>DSD.FMH.ID Mark</td><td>DSD.FMH.Manhole Type</td><td>DSD.FMH.Invert Level A1</td><td>DSD.FMH.Cover Level</td></tr><tr><td>FMH0050</td><td>Type F1</td><td>-3.700</td><td>0.000</td></tr></tbody></table>		<Manhole Schedule>				A	B	C	D	DSD.FMH.ID Mark	DSD.FMH.Manhole Type	DSD.FMH.Invert Level A1	DSD.FMH.Cover Level	FMH0050	Type F1	-3.700	0.000	SCHEDULE IN DRAWING
<Manhole Schedule>																		
A	B	C	D															
DSD.FMH.ID Mark	DSD.FMH.Manhole Type	DSD.FMH.Invert Level A1	DSD.FMH.Cover Level															
FMH0050	Type F1	-3.700	0.000															


BIM OBJECT SHEET

QR CODE For AM	SOFTWARE VERSION Revit 2018	REFERENCE NUMBER  DSD-OS-0051
	DATE 11-2018	
	REVISION 0	

INPUT


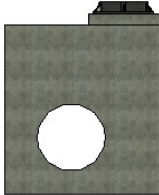
Object Name <b>FMH-G1_-DSD-CONC-B0</b>	CATEGORY <b>Generic Models</b>	LOD-G <b>300</b>
		
<b>PLAN</b>	<b>3D</b>	
		
<b>FRONT ELEVATION / SECTION</b>		
		
<b>SIDE ELEVATION / SECTION</b>	<b>FAMILY VIEW : PARAMETER</b>	

3D GEOMETRY

Anno_FMH	Tag_FMH
	<b>FMH0051</b> Type G1
<b>2D SYMBOL</b>	<b>2D TAG / LABEL / ANNOTATION</b>

PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES

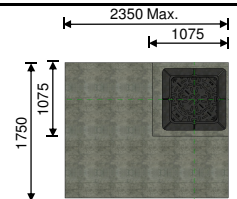
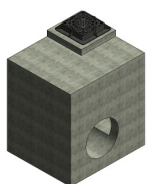

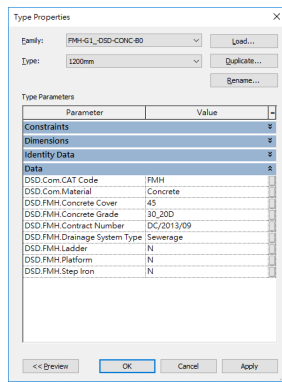
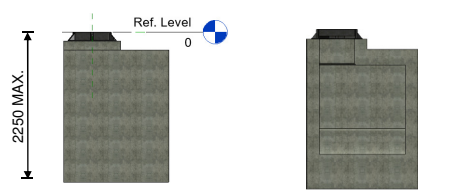
OUTPUT


SHEET VIEW : PLAN	SHEET VIEW : ELEVATION	PRESENTATION DRAWING																
																		
N.A.	N.A.	STATUTORY / AUTHORITIES SUBMISSION DRAWING																
Project Specific	Refer to DSD Standard Drawing (DS1082)	TENDER / CONSTRUCTION DRAWING																
<table border="1"><thead><tr><th colspan="4">&lt;Manhole Schedule&gt;</th></tr><tr><th>A</th><th>B</th><th>C</th><th>D</th></tr></thead><tbody><tr><td>DSD.FMH.ID Mark</td><td>DSD.FMH.Manhole Type</td><td>DSD.FMH.Invert Level A1</td><td>DSD.FMH.Cover Level</td></tr><tr><td>FMH0051</td><td>Type G1</td><td>-2.250</td><td>0.000</td></tr></tbody></table>		<Manhole Schedule>				A	B	C	D	DSD.FMH.ID Mark	DSD.FMH.Manhole Type	DSD.FMH.Invert Level A1	DSD.FMH.Cover Level	FMH0051	Type G1	-2.250	0.000	SCHEDULE IN DRAWING
<Manhole Schedule>																		
A	B	C	D															
DSD.FMH.ID Mark	DSD.FMH.Manhole Type	DSD.FMH.Invert Level A1	DSD.FMH.Cover Level															
FMH0051	Type G1	-2.250	0.000															

BIM OBJECT SHEET

QR CODE For AM	SOFTWARE VERSION Revit 2018	REFERENCE NUMBER  DSD-OS-0051
	DATE 11-2018	
	REVISION 0	


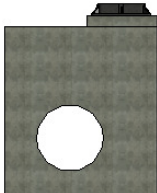
INPUT

Object Name <b>FMH-G1_-DSD-CONC-B0</b>	CATEGORY <b>Generic Models</b>	LOD-G <b>400</b>
		3D GEOMETRY
PLAN	3D	
		
FRONT ELEVATION / SECTION	FAMILY VIEW : PARAMETER	
		
SIDE ELEVATION / SECTION		

Anno_FMH	Tag_FMH
	<p>FMH0051 Type G1</p>
2D SYMBOL	2D TAG / LABEL / ANNOTATION

PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES

OUTPUT

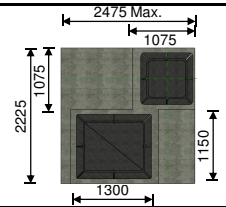
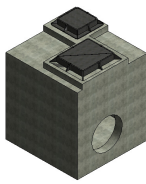
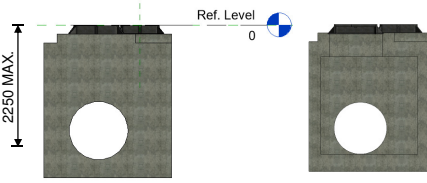
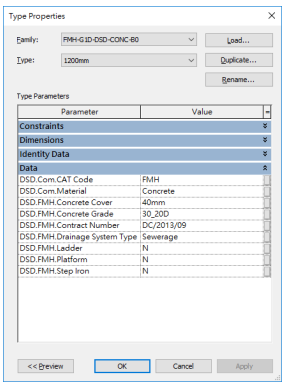
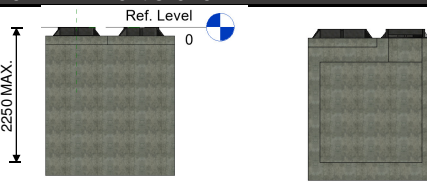
SHEET VIEW : PLAN	SHEET VIEW : ELEVATION	PRESENTATION DRAWING																
																		
N.A.	N.A.	STATUTORY / AUTHORITIES SUBMISSION DRAWING																
Project Specific	Refer to DSD Standard Drawing (DS1082)	TENDER / CONSTRUCTION DRAWING																
<table border="1"><thead><tr><th colspan="4">&lt;Manhole Schedule&gt;</th></tr><tr><th>A</th><th>B</th><th>C</th><th>D</th></tr></thead><tbody><tr><td>DSD.FMH.ID Mark</td><td>DSD.FMH.Manhole Type</td><td>DSD.FMH.Invert Level A1</td><td>DSD.FMH.Cover Level</td></tr><tr><td>FMH0051</td><td>Type G1</td><td>-2.250</td><td>0.000</td></tr></tbody></table>		<Manhole Schedule>				A	B	C	D	DSD.FMH.ID Mark	DSD.FMH.Manhole Type	DSD.FMH.Invert Level A1	DSD.FMH.Cover Level	FMH0051	Type G1	-2.250	0.000	SCHEDULE IN DRAWING
<Manhole Schedule>																		
A	B	C	D															
DSD.FMH.ID Mark	DSD.FMH.Manhole Type	DSD.FMH.Invert Level A1	DSD.FMH.Cover Level															
FMH0051	Type G1	-2.250	0.000															



BIM OBJECT SHEET

QR CODE For AM	SOFTWARE VERSION Revit 2018	REFERENCE NUMBER  DSD-OS-0052
	DATE 11-2018	
	REVISION 0	


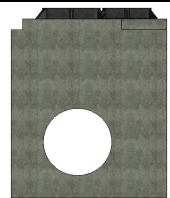
INPUT


Object Name <b>FMH-G1D-DSD-CONC-B0</b>	CATEGORY <b>Generic Models</b>	LOD-G <b>300</b>
		
<b>PLAN</b>	<b>3D</b>	
		
<b>FRONT ELEVATION / SECTION</b>		
		
<b>SIDE ELEVATION / SECTION</b>	<b>FAMILY VIEW : PARAMETER</b>	

3D GEOMETRY

PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES

OUTPUT

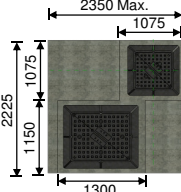
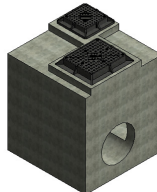

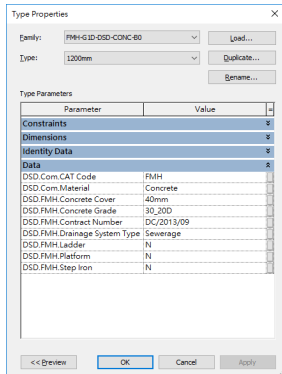
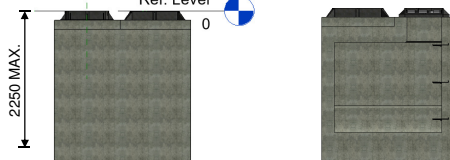
SHEET VIEW : PLAN	SHEET VIEW : ELEVATION	PRESENTATION DRAWING																
																		
N.A.	N.A.	STATUTORY / AUTHORITIES SUBMISSION DRAWING																
Project Specific	Refer to DSD Standard Drawing (DS1083)	TENDER / CONSTRUCTION DRAWING																
<table><tr><th colspan="4">&lt;Manhole Schedule&gt;</th></tr><tr><th>A</th><th>B</th><th>C</th><th>D</th></tr><tr><td>DSD.FMH.ID Mark</td><td>DSD.FMH.Manhole Type</td><td>DSD.FMH.Invert Level A1</td><td>DSD.FMH.Cover Level</td></tr><tr><td>FMH0052</td><td>Type G1/D</td><td>-2.250</td><td>0.000</td></tr></table>		<Manhole Schedule>				A	B	C	D	DSD.FMH.ID Mark	DSD.FMH.Manhole Type	DSD.FMH.Invert Level A1	DSD.FMH.Cover Level	FMH0052	Type G1/D	-2.250	0.000	SCHEDULE IN DRAWING
<Manhole Schedule>																		
A	B	C	D															
DSD.FMH.ID Mark	DSD.FMH.Manhole Type	DSD.FMH.Invert Level A1	DSD.FMH.Cover Level															
FMH0052	Type G1/D	-2.250	0.000															

Anno_FMH	Tag_FMH
	<b>FMH0052</b> Type G1/D
2D SYMBOL	2D TAG / LABEL / ANNOTATION


BIM OBJECT SHEET

QR CODE For AM	SOFTWARE VERSION Revit 2018	REFERENCE NUMBER  DSD-OS-0052
	DATE 11-2018	
	REVISION 0	

INPUT


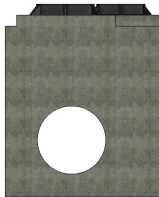
Object Name <b>FMH-G1D-DSD-CONC-B0</b>	CATEGORY <b>Generic Models</b>	LOD-G <b>400</b>
		
PLAN	3D	
		
FRONT ELEVATION / SECTION		
		
SIDE ELEVATION / SECTION	FAMILY VIEW : PARAMETER	

3D GEOMETRY

Anno_FMH	Tag_FMH
	<p>FMH0052 Type G1/D</p>
2D SYMBOL	2D TAG / LABEL / ANNOTATION

PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES

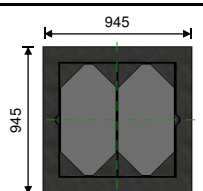
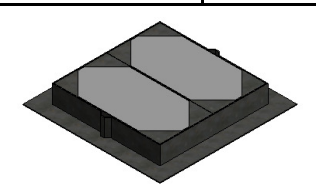

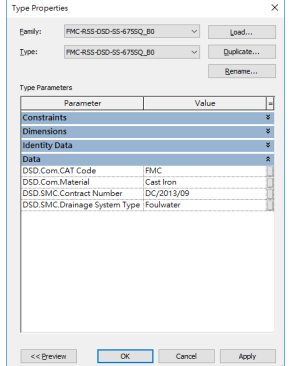
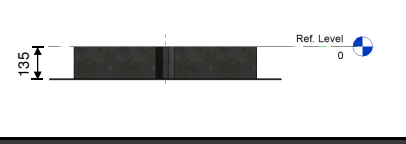
OUTPUT

SHEET VIEW : PLAN	SHEET VIEW : ELEVATION																	
		PRESENTATION DRAWING																
N.A.	N.A.	STATUTORY / AUTHORITIES SUBMISSION DRAWING																
Project Specific	Refer to DSD Standard Drawing (DS1083)	TENDER / CONSTRUCTION DRAWING																
<table border="1"><thead><tr><th colspan="4">&lt;Manhole Schedule&gt;</th></tr><tr><th>A</th><th>B</th><th>C</th><th>D</th></tr></thead><tbody><tr><td>DSD.FMH.ID Mark</td><td>DSD.FMH.Manhole Type</td><td>DSD.FMH.Invert Level A1</td><td>DSD.FMH.Cover Level</td></tr><tr><td>FMH0052</td><td>Type G1/D</td><td>-2.250</td><td>0.000</td></tr></tbody></table>		<Manhole Schedule>				A	B	C	D	DSD.FMH.ID Mark	DSD.FMH.Manhole Type	DSD.FMH.Invert Level A1	DSD.FMH.Cover Level	FMH0052	Type G1/D	-2.250	0.000	SCHEDULE IN DRAWING
<Manhole Schedule>																		
A	B	C	D															
DSD.FMH.ID Mark	DSD.FMH.Manhole Type	DSD.FMH.Invert Level A1	DSD.FMH.Cover Level															
FMH0052	Type G1/D	-2.250	0.000															

**BIM OBJECT SHEET**

QR CODE For AM	SOFTWARE VERSION <b>Revit 2018</b>	REFERENCE NUMBER  <b>DSD-OS-0053</b>
	DATE <b>11-2018</b>	
	REVISION <b>0</b>	

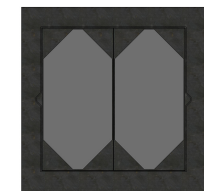

**INPUT**

Object Name <b>FMC-RSS-DSD-SS-675SQ_B0</b>	CATEGORY <b>Generic Models</b>	LOD-G <b>300</b>
		
<b>PLAN</b>	<b>3D</b>	
		
<b>FRONT ELEVATION / SECTION</b>	<b>FAMILY VIEW : PARAMETER</b>	
		
<b>SIDE ELEVATION / SECTION</b>		

2D Symbol Name	2D Tag / Label / Annotation Name
<b>N.A.</b>	<b>N.A.</b>

**PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES**

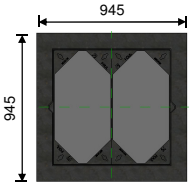
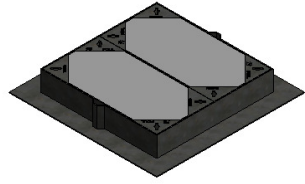
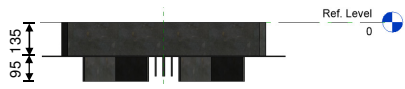
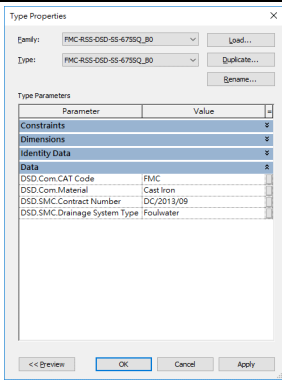

**OUTPUT**

SHEET VIEW : PLAN	SHEET VIEW : ELEVATION													
		<b>PRESENTATION DRAWING</b>												
<b>N.A.</b>	<b>N.A.</b>	<b>STATUTORY / AUTHORITIES SUBMISSION DRAWING</b>												
<b>Project Specific</b>	<b>Refer to DSD Standard Drawing (DS1084)</b>	<b>TENDER / CONSTRUCTION DRAWING</b>												
<table border="1"> <thead> <tr> <th colspan="3">&lt;Manhole Cover Schedule&gt;</th></tr> <tr> <th>A</th><th>B</th><th>C</th></tr> </thead> <tbody> <tr> <td>DSD.FMC.ID Mark</td><td>DSD.FMC.Drainage System Type</td><td>DSD.FMC.Feature Type</td></tr> <tr> <td>FMC0053</td><td>Sewerage</td><td>Manhole Cover</td></tr> </tbody> </table>		<Manhole Cover Schedule>			A	B	C	DSD.FMC.ID Mark	DSD.FMC.Drainage System Type	DSD.FMC.Feature Type	FMC0053	Sewerage	Manhole Cover	<b>SCHEDULE IN DRAWING</b>
<Manhole Cover Schedule>														
A	B	C												
DSD.FMC.ID Mark	DSD.FMC.Drainage System Type	DSD.FMC.Feature Type												
FMC0053	Sewerage	Manhole Cover												

BIM OBJECT SHEET

QR CODE For AM	SOFTWARE VERSION Revit 2018	REFERENCE NUMBER  DSD-OS-0053
	DATE 11-2018	
	REVISION 0	

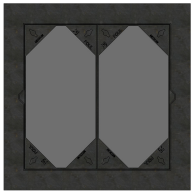

INPUT

Object Name <b>FMC-RSS-DSD-SS-675SQ_B0</b>	CATEGORY <b>Generic Models</b>	LOD-G <b>400</b>
		
<b>PLAN</b>	<b>3D</b>	
		
<b>FRONT ELEVATION / SECTION</b>	<b>FAMILY VIEW : PARAMETER</b>	
		
<b>SIDE ELEVATION / SECTION</b>		

2D Symbol Name	2D Tag / Label / Annotation Name
N.A.	N.A.
2D SYMBOL	2D TAG / LABEL / ANNOTATION

PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES

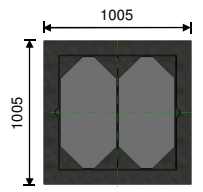
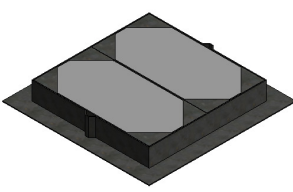

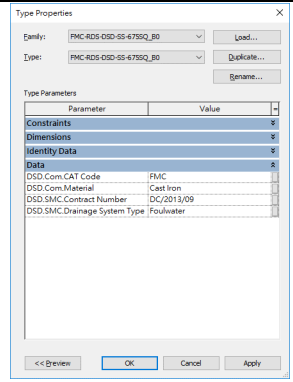

OUTPUT

SHEET VIEW : PLAN	SHEET VIEW : ELEVATION										
		PRESENTATION DRAWING									
N.A.	N.A.	STATUTORY / AUTHORITIES SUBMISSION DRAWING									
Project Specific	Refer to DSD Standard Drawing (DS1084)	TENDER / CONSTRUCTION DRAWING									
<p>&lt;Manhole Cover Schedule&gt;</p> <table> <tr> <th>A</th><th>B</th><th>C</th></tr> <tr> <td>DSD.FMC.ID Mark</td><td>DSD.FMC.Drainage System Type</td><td>DSD.FMC.Feature Type</td></tr> <tr> <td>FMC0053</td><td>Sewerage</td><td>Manhole Cover</td></tr> </table>		A	B	C	DSD.FMC.ID Mark	DSD.FMC.Drainage System Type	DSD.FMC.Feature Type	FMC0053	Sewerage	Manhole Cover	SCHEDULE IN DRAWING
A	B	C									
DSD.FMC.ID Mark	DSD.FMC.Drainage System Type	DSD.FMC.Feature Type									
FMC0053	Sewerage	Manhole Cover									

**BIM OBJECT SHEET**

QR CODE For AM	SOFTWARE VERSION <b>Revit 2018</b>	REFERENCE NUMBER  <b>DSD-OS-0054</b>
	DATE <b>11-2018</b>	
	REVISION <b>0</b>	

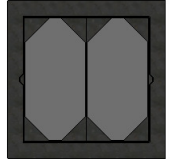

**INPUT**

Object Name <b>FMC-RDS-DSD-SS-675SQ_B0</b>	CATEGORY <b>Generic Models</b>	LOD-G <b>300</b>
		
<b>PLAN</b>	<b>3D</b>	
		
<b>FRONT ELEVATION / SECTION</b>	<b>FAMILY VIEW : PARAMETER</b>	
		
<b>SIDE ELEVATION / SECTION</b>		

2D Symbol Name	2D Tag / Label / Annotation Name
N.A.	N.A.

**PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES**

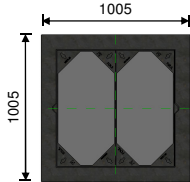
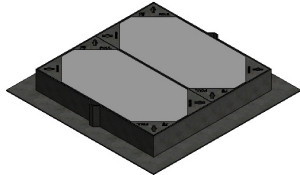

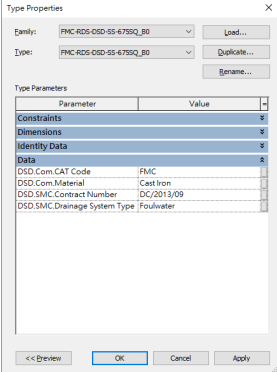

**OUTPUT**

SHEET VIEW : PLAN	SHEET VIEW : ELEVATION													
		PRESENTATION DRAWING												
N.A.	N.A.	STATUTORY / AUTHORITIES SUBMISSION DRAWING												
Project Specific	Refer to DSD Standard Drawing (DS1085)	TENDER / CONSTRUCTION DRAWING												
<table border="1"> <thead> <tr> <th colspan="3">&lt;Manhole Cover Schedule&gt;</th> </tr> <tr> <th>A</th><th>B</th><th>C</th> </tr> </thead> <tbody> <tr> <td>DSD.FMC.ID Mark</td><td>DSD.FMC.Drainage System Type</td><td>DSD.FMC.Feature Type</td> </tr> <tr> <td>FMC0054</td><td>Sewerage</td><td>Manhole Cover</td> </tr> </tbody> </table>		<Manhole Cover Schedule>			A	B	C	DSD.FMC.ID Mark	DSD.FMC.Drainage System Type	DSD.FMC.Feature Type	FMC0054	Sewerage	Manhole Cover	SCHEDULE IN DRAWING
<Manhole Cover Schedule>														
A	B	C												
DSD.FMC.ID Mark	DSD.FMC.Drainage System Type	DSD.FMC.Feature Type												
FMC0054	Sewerage	Manhole Cover												

BIM OBJECT SHEET

QR CODE For AM	SOFTWARE VERSION Revit 2018	REFERENCE NUMBER  DSD-OS-0054
	DATE 11-2018	
	REVISION 0	

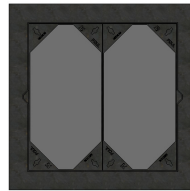

INPUT

Object Name <b>FMC-RDS-DSD-SS-675SQ_B0</b>	CATEGORY <b>Generic Models</b>	LOD-G <b>400</b>
		
<b>PLAN</b>	<b>3D</b>	
		
<b>FRONT ELEVATION / SECTION</b>	<b>FAMILY VIEW : PARAMETER</b>	
		
<b>SIDE ELEVATION / SECTION</b>		

2D Symbol Name	2D Tag / Label / Annotation Name
N.A.	N.A.

PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES

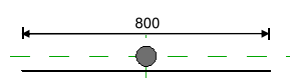

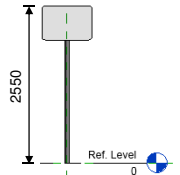
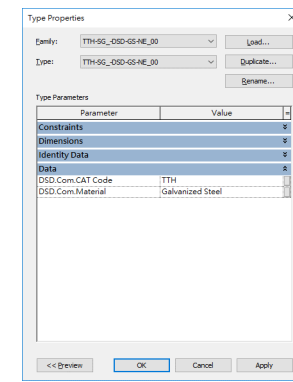
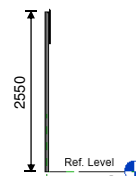
OUTPUT

SHEET VIEW : PLAN	SHEET VIEW : ELEVATION													
		PRESENTATION DRAWING												
N.A.	N.A.	STATUTORY / AUTHORITIES SUBMISSION DRAWING												
Project Specific	Refer to DSD Standard Drawing (DS1085)	TENDER / CONSTRUCTION DRAWING												
<table border="1"> <thead> <tr> <th colspan="3">&lt;Manhole Cover Schedule&gt;</th></tr> <tr> <th>A</th><th>B</th><th>C</th></tr> </thead> <tbody> <tr> <td>DSD.FMC.ID Mark</td><td>DSD.FMC.Drainage System Type</td><td>DSD.FMC.Feature Type</td></tr> <tr> <td>FMC0054</td><td>Sewerage</td><td>Manhole Cover</td></tr> </tbody> </table>		<Manhole Cover Schedule>			A	B	C	DSD.FMC.ID Mark	DSD.FMC.Drainage System Type	DSD.FMC.Feature Type	FMC0054	Sewerage	Manhole Cover	SCHEDULE IN DRAWING
<Manhole Cover Schedule>														
A	B	C												
DSD.FMC.ID Mark	DSD.FMC.Drainage System Type	DSD.FMC.Feature Type												
FMC0054	Sewerage	Manhole Cover												

**BIM OBJECT SHEET**

QR CODE For AM	SOFTWARE VERSION <b>Revit 2018</b>	REFERENCE NUMBER  <b>DSD-OS-0055</b>
	DATE <b>11-2018</b>	
	REVISION <b>0</b>	



**INPUT**

Object Name <b>TTH-SG_-DSD-GS-NE_00</b>	CATEGORY <b>Generic Models</b>	LOD-G <b>300</b>
		<b>3D GEOMETRY</b>
<b>PLAN</b>	<b>3D</b>	
		
<b>FRONT ELEVATION / SECTION</b>	<b>FAMILY VIEW : PARAMETER</b>	
		
<b>SIDE ELEVATION / SECTION</b>		

2D Symbol Name	2D Tag / Label / Annotation Name
<b>N.A.</b>	<b>N.A.</b>
<b>2D SYMBOL</b>	<b>2D TAG / LABEL / ANNOTATION</b>

**PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES**

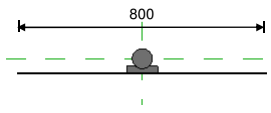

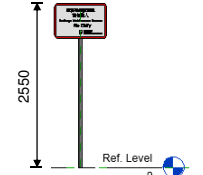
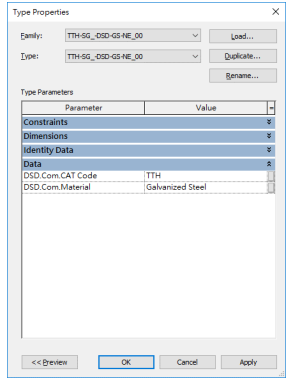
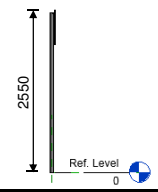
**OUTPUT**

SHEET VIEW : PLAN	SHEET VIEW : ELEVATION	
		<b>PRESENTATION DRAWING</b>
<b>N.A.</b>	<b>N.A.</b>	<b>STATUTORY / AUTHORITIES SUBMISSION DRAWING</b>
Project Specific	Refer to DSD Standard Drawing (DS1087)	<b>TENDER / CONSTRUCTION DRAWING</b>
<b>N.A.</b>		<b>SCHEDULE IN DRAWING</b>

**BIM OBJECT SHEET**

QR CODE For AM	SOFTWARE VERSION Revit 2018	REFERENCE NUMBER  DSD-OS-0055
	DATE 11-2018	
	REVISION 0	



**INPUT**

Object Name TTH-SG_-DSD-GS-NE_00	CATEGORY Generic Models	LOD-G 400
		3D GEOMETRY
PLAN	3D	
		
FRONT ELEVATION / SECTION	FAMILY VIEW : PARAMETER	
		
SIDE ELEVATION / SECTION		

2D Symbol Name	2D Tag / Label / Annotation Name
N.A.	N.A.
2D SYMBOL	2D TAG / LABEL / ANNOTATION

**PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES**

**OUTPUT**

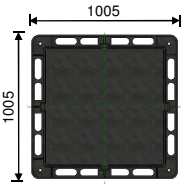
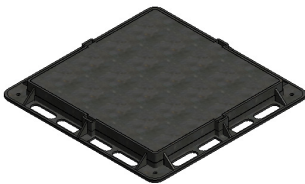

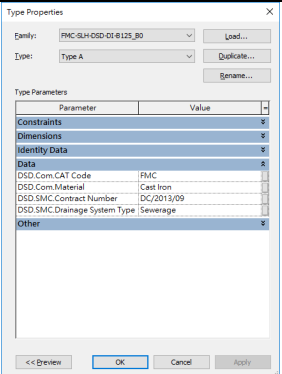

SHEET VIEW : PLAN	SHEET VIEW : ELEVATION	
		PRESENTATION DRAWING
N.A.	N.A.	STATUTORY / AUTHORITIES SUBMISSION DRAWING
Project Specific	Refer to DSD Standard Drawing (DS1087)	TENDER / CONSTRUCTION DRAWING
N.A.	N.A.	SCHEDULE IN DRAWING



BIM OBJECT SHEET

QR CODE For AM	SOFTWARE VERSION Revit 2018	REFERENCE NUMBER  DSD-OS-0056
	DATE 11-2018	
	REVISION 0	

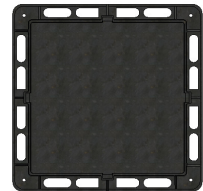

INPUT

Object Name <b>FMC-SLH-DSD-DI-B125_B0</b>	CATEGORY <b>Generic Models</b>	LOD-G <b>300</b>
		
<b>PLAN</b>	<b>3D</b>	
		
<b>FRONT ELEVATION / SECTION</b>		
		
<b>SIDE ELEVATION / SECTION</b>	<b>FAMILY VIEW : PARAMETER</b>	

2D Symbol Name	2D Tag / Label / Annotation Name
N.A.	N.A.
2D SYMBOL	2D TAG / LABEL / ANNOTATION

PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES

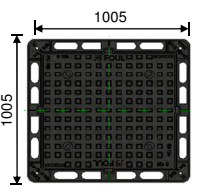


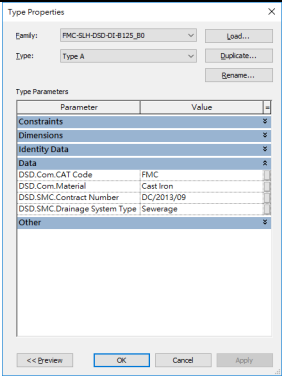

OUTPUT

SHEET VIEW : PLAN	SHEET VIEW : ELEVATION													
		PRESENTATION DRAWING												
N.A.	N.A.	STATUTORY / AUTHORITIES SUBMISSION DRAWING												
Project Specific	Refer to DSD standard drawing (DS1088)	TENDER / CONSTRUCTION DRAWING												
<table border="1"> <tr> <th colspan="3">&lt;Manhole Cover Schedule&gt;</th></tr> <tr> <th>A</th><th>B</th><th>C</th></tr> <tr> <td>DSD.FMC.ID Mark</td><td>DSD.FMC.Drainage System Type</td><td>DSD.FMC.Feature Type</td></tr> <tr> <td>FMC0056</td><td>Sewerage</td><td>Manhole Cover</td></tr> </table>		<Manhole Cover Schedule>			A	B	C	DSD.FMC.ID Mark	DSD.FMC.Drainage System Type	DSD.FMC.Feature Type	FMC0056	Sewerage	Manhole Cover	SCHEDULE IN DRAWING
<Manhole Cover Schedule>														
A	B	C												
DSD.FMC.ID Mark	DSD.FMC.Drainage System Type	DSD.FMC.Feature Type												
FMC0056	Sewerage	Manhole Cover												

BIM OBJECT SHEET

QR CODE For AM	SOFTWARE VERSION Revit 2018	REFERENCE NUMBER  DSD-OS-0056
	DATE 11-2018	
	REVISION 0	

INPUT

Object Name <b>FMC-SLH-DSD-DI-B125_B0</b>	CATEGORY <b>Generic Models</b>	LOD-G <b>400</b>
		
<b>PLAN</b>	<b>3D</b>	
		
<b>FRONT ELEVATION / SECTION</b>		
		
<b>SIDE ELEVATION / SECTION</b>	<b>FAMILY VIEW : PARAMETER</b>	

3D GEOMETRY



2D Symbol Name	2D Tag / Label / Annotation Name
N.A.	N.A.

2D SYMBOL

2D TAG / LABEL / ANNOTATION

PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES

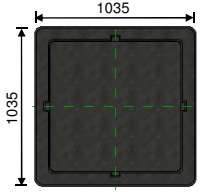
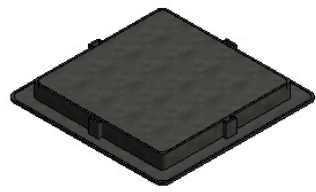

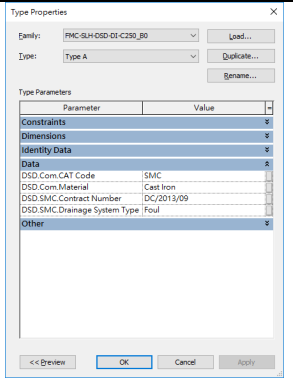

OUTPUT

SHEET VIEW : PLAN	SHEET VIEW : ELEVATION													
		PRESENTATION DRAWING												
N.A.	N.A.	STATUTORY / AUTHORITIES SUBMISSION DRAWING												
Project Specific	Refer to DSD standard drawing (DS1088)	TENDER / CONSTRUCTION DRAWING												
<table border="1"> <thead> <tr> <th colspan="3">&lt;Manhole Cover Schedule&gt;</th> </tr> <tr> <th>A</th> <th>B</th> <th>C</th> </tr> </thead> <tbody> <tr> <td>DSD.FMC.ID Mark</td> <td>DSD.FMC.Drainage System Type</td> <td>DSD.FMC.Feature Type</td> </tr> <tr> <td>FMC0056</td> <td>Sewerage</td> <td>Manhole Cover</td> </tr> </tbody> </table>		<Manhole Cover Schedule>			A	B	C	DSD.FMC.ID Mark	DSD.FMC.Drainage System Type	DSD.FMC.Feature Type	FMC0056	Sewerage	Manhole Cover	SCHEDULE IN DRAWING
<Manhole Cover Schedule>														
A	B	C												
DSD.FMC.ID Mark	DSD.FMC.Drainage System Type	DSD.FMC.Feature Type												
FMC0056	Sewerage	Manhole Cover												

**BIM OBJECT SHEET**

QR CODE For AM	SOFTWARE VERSION Revit 2018	REFERENCE NUMBER  DSD-OS-0057
	DATE 11-2018	
	REVISION 0	

**INPUT**

Object Name <b>FMC-SLH-DSD-DI-C250_B0</b>	CATEGORY <b>Generic Models</b>	LOD-G <b>300</b>
		
<b>PLAN</b>	<b>3D</b>	
		
<b>FRONT ELEVATION / SECTION</b>		
		
<b>SIDE ELEVATION / SECTION</b>	<b>FAMILY VIEW : PARAMETER</b>	

3D GEOMETRY



2D Symbol Name	2D Tag / Label / Annotation Name
N.A.	N.A.

2D SYMBOL

2D TAG / LABEL / ANNOTATION

**PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES**

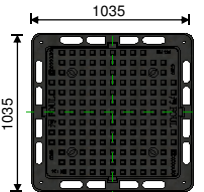
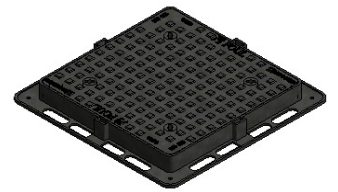

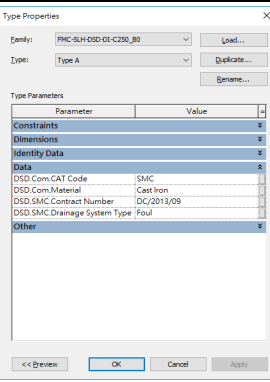

**OUTPUT**

SHEET VIEW : PLAN	SHEET VIEW : ELEVATION													
		PRESENTATION DRAWING												
N.A.	N.A.	STATUTORY / AUTHORITIES SUBMISSION DRAWING												
Project Specific	Refer to DSD Standard Drawing (DS1089)	TENDER / CONSTRUCTION DRAWING												
<table border="1"> <tr> <th colspan="3">&lt;Manhole Cover Schedule&gt;</th></tr> <tr> <th>A</th><th>B</th><th>C</th></tr> <tr> <td>DSD.FMC.ID Mark</td><td>DSD.FMC.Drainage System Type</td><td>DSD.FMC.Feature Type</td></tr> <tr> <td>FMC0057</td><td>Sewerage</td><td>Manhole Cover</td></tr> </table>		<Manhole Cover Schedule>			A	B	C	DSD.FMC.ID Mark	DSD.FMC.Drainage System Type	DSD.FMC.Feature Type	FMC0057	Sewerage	Manhole Cover	SCHEDULE IN DRAWING
<Manhole Cover Schedule>														
A	B	C												
DSD.FMC.ID Mark	DSD.FMC.Drainage System Type	DSD.FMC.Feature Type												
FMC0057	Sewerage	Manhole Cover												

BIM OBJECT SHEET

QR CODE For AM	SOFTWARE VERSION Revit 2018	REFERENCE NUMBER  DSD-OS-0057
	DATE 11-2018	
	REVISION 0	

INPUT



Object Name <b>FMC-SLH-DSD-DI-C250_B0</b>	CATEGORY <b>Generic Models</b>	LOD-G <b>400</b>
		
<b>PLAN</b>	<b>3D</b>	
		
<b>FRONT ELEVATION / SECTION</b>		
		
<b>SIDE ELEVATION / SECTION</b>	<b>FAMILY VIEW : PARAMETER</b>	

3D GEOMETRY

2D Symbol Name	2D Tag / Label / Annotation Name
N.A.	N.A.
2D SYMBOL	2D TAG / LABEL / ANNOTATION

PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES

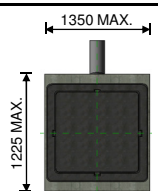
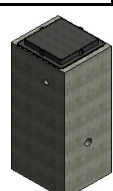
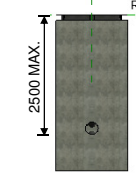
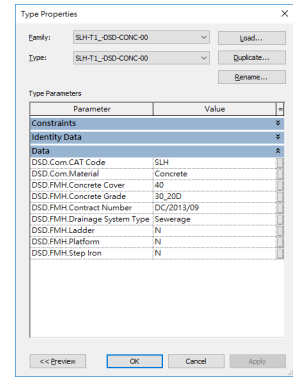
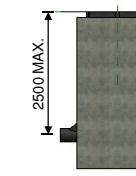
OUTPUT


SHEET VIEW : PLAN	SHEET VIEW : ELEVATION													
		PRESENTATION DRAWING												
N.A.	N.A.	STATUTORY / AUTHORITIES SUBMISSION DRAWING												
Project Specific	Refer to DSD Standard Drawing (DS1089)	TENDER / CONSTRUCTION DRAWING												
<table border="1"> <tr> <th colspan="3">&lt;Manhole Cover Schedule&gt;</th></tr> <tr> <th>A</th><th>B</th><th>C</th></tr> <tr> <td>DSD.FMC.ID Mark</td><td>DSD.FMC.Drainage System Type</td><td>DSD.FMC.Feature Type</td></tr> <tr> <td>FMC0057</td><td>Sewerage</td><td>Manhole Cover</td></tr> </table>		<Manhole Cover Schedule>			A	B	C	DSD.FMC.ID Mark	DSD.FMC.Drainage System Type	DSD.FMC.Feature Type	FMC0057	Sewerage	Manhole Cover	SCHEDULE IN DRAWING
<Manhole Cover Schedule>														
A	B	C												
DSD.FMC.ID Mark	DSD.FMC.Drainage System Type	DSD.FMC.Feature Type												
FMC0057	Sewerage	Manhole Cover												

BIM OBJECT SHEET

QR CODE For AM	SOFTWARE VERSION Revit 2018	REFERENCE NUMBER  DSD-OS-0058
	DATE 11-2018	
	REVISION 0	



INPUT

Object Name <b>SLH-T1_-DSD-CONC-00</b>	CATEGORY <b>Generic Models</b>	LOD-G <b>300</b>
		<b>3D GEOMETRY</b>
<b>PLAN</b>	<b>3D</b>	
		
<b>FRONT ELEVATION / SECTION</b>	<b>FAMILY VIEW : PARAMETER</b>	
		
<b>SIDE ELEVATION / SECTION</b>		

Anno_SLH	Tag_SLH
	SLH0058 Type T1_1
<b>2D SYMBOL</b>	<b>2D TAG / LABEL / ANNOTATION</b>

PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES

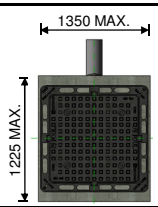

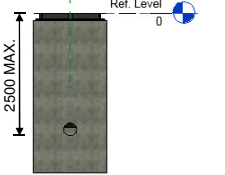
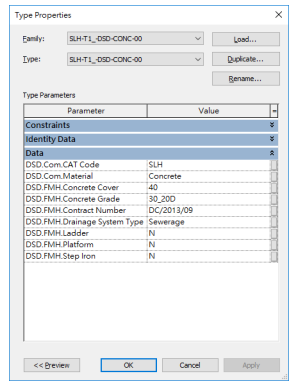
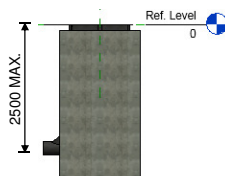
OUTPUT

SHEET VIEW : PLAN	SHEET VIEW : ELEVATION																	
		PRESENTATION DRAWING																
N.A.	N.A.	STATUTORY / AUTHORITIES SUBMISSION DRAWING																
Project Specific	Refer to DSD Standard Dawing (DS1090)	TENDER / CONSTRUCTION DRAWING																
<table border="1"><thead><tr><th colspan="4">&lt;Manhole Schedule&gt;</th></tr><tr><th>A</th><th>B</th><th>C</th><th>D</th></tr></thead><tbody><tr><td>DSD.FMH.ID Mark</td><td>DSD.FMH.Manhole Type</td><td>DSD.FMH.Invert Level A1</td><td>DSD.FMH.Cover Level</td></tr><tr><td>SLH0058</td><td>Type T1_1</td><td>-2.500</td><td>0.000</td></tr></tbody></table>		<Manhole Schedule>				A	B	C	D	DSD.FMH.ID Mark	DSD.FMH.Manhole Type	DSD.FMH.Invert Level A1	DSD.FMH.Cover Level	SLH0058	Type T1_1	-2.500	0.000	SCHEDULE IN DRAWING
<Manhole Schedule>																		
A	B	C	D															
DSD.FMH.ID Mark	DSD.FMH.Manhole Type	DSD.FMH.Invert Level A1	DSD.FMH.Cover Level															
SLH0058	Type T1_1	-2.500	0.000															


BIM OBJECT SHEET

QR CODE For AM	SOFTWARE VERSION Revit 2018	REFERENCE NUMBER  DSD-OS-0058
	DATE 11-2018	
	REVISION 0	

INPUT



Object Name SLH-T1_-DSD-CONC-00	CATEGORY Generic Models	LOD-G 400
		
PLAN	3D	
		
FRONT ELEVATION / SECTION	FAMILY VIEW : PARAMETER	
		
SIDE ELEVATION / SECTION		

3D GEOMETRY

Anno_SLH	Tag_SLH
	SLH0058 Type T1_1
2D SYMBOL	2D TAG / LABEL / ANNOTATION

PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES

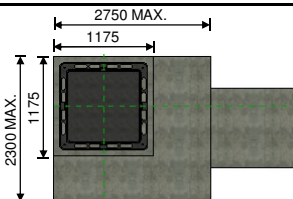
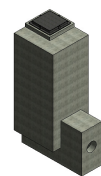
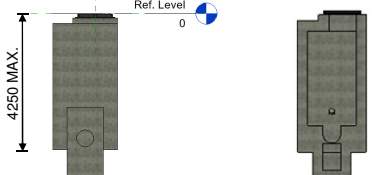
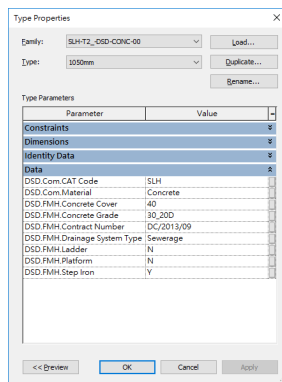
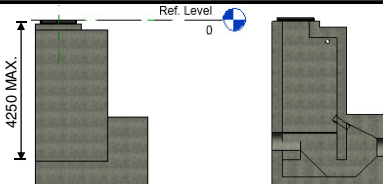
OUTPUT


SHEET VIEW : PLAN	SHEET VIEW : ELEVATION																		
		PRESENTATION DRAWING																	
N.A.	N.A.	STATUTORY / AUTHORITIES SUBMISSION DRAWING																	
Project Specific	Refer to DSD Standard Dawing (DS1090)	TENDER / CONSTRUCTION DRAWING																	
<table><tr><th colspan="4">&lt;Manhole Schedule&gt;</th></tr><tr><th>A</th><th>B</th><th>C</th><th>D</th></tr><tr><th>DSD.FMH.ID Mark</th><th>DSD.FMH.Manhole Type</th><th>DSD.FMH.Invert Level A1</th><th>DSD.FMH.Cover Level</th></tr><tr><td>SLH0058</td><td>Type T1_1</td><td>-2.500</td><td>0.000</td></tr></table>			<Manhole Schedule>				A	B	C	D	DSD.FMH.ID Mark	DSD.FMH.Manhole Type	DSD.FMH.Invert Level A1	DSD.FMH.Cover Level	SLH0058	Type T1_1	-2.500	0.000	SCHEDULE IN DRAWING
<Manhole Schedule>																			
A	B	C	D																
DSD.FMH.ID Mark	DSD.FMH.Manhole Type	DSD.FMH.Invert Level A1	DSD.FMH.Cover Level																
SLH0058	Type T1_1	-2.500	0.000																

**BIM OBJECT SHEET**

QR CODE For AM	SOFTWARE VERSION Revit 2018	REFERENCE NUMBER  DSD-OS-0059
	DATE 11-2018	
	REVISION 0	



**INPUT**

Object Name <b>SLH-T2_DSD-CONC-00</b>	CATEGORY <b>Generic Models</b>	LOD-G <b>300</b>
		
<b>PLAN</b>	<b>3D</b>	
		
<b>FRONT ELEVATION / SECTION</b>	<b>FAMILY VIEW : PARAMETER</b>	
		
<b>SIDE ELEVATION / SECTION</b>		

Anno_SLH	Tag_SLH
	SLH0059 Type T2_1
<b>2D SYMBOL</b>	<b>2D TAG / LABEL / ANNOTATION</b>

**PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES**

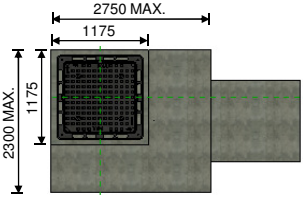
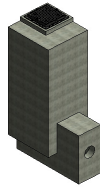
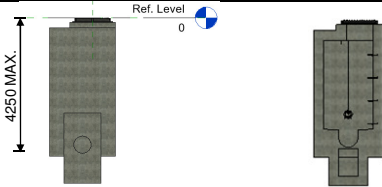
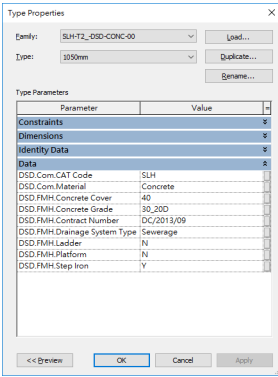
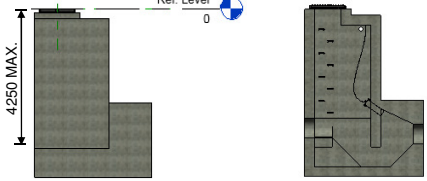
**OUTPUT**


SHEET VIEW : PLAN		SHEET VIEW : ELEVATION		PRESENTATION DRAWING																	
																					
N.A.		N.A.		STATUTORY / AUTHORITIES SUBMISSION DRAWING																	
Project Specific		Refer to DSD Standard Drawing (DS1091)		TENDER / CONSTRUCTION DRAWING																	
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<Manhole Schedule>																					
A	B	C	D																		
DSD.FMH.ID Mark	DSD.FMH.Manhole Type	DSD.FMH.Invert Level A1	DSD.FMH.Cover Level																		
SLH0059	Type T2_1	-4.250	0.000																		

BIM OBJECT SHEET

QR CODE For AM	SOFTWARE VERSION Revit 2018	REFERENCE NUMBER  DSD-OS-0059
	DATE 11-2018	
	REVISION 0	


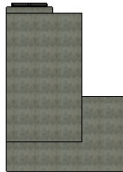
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Object Name <b>SLH-T2_DSD-CONC-00</b>	CATEGORY <b>Generic Models</b>	LOD-G <b>400</b>
		3D GEOMETRY
<b>PLAN</b>	<b>3D</b>	
		
<b>FRONT ELEVATION / SECTION</b>	<b>FAMILY VIEW : PARAMETER</b>	
		
<b>SIDE ELEVATION / SECTION</b>		

Anno_SLH	Tag_SLH
	SLH0059 Type T2_1
2D SYMBOL	2D TAG / LABEL / ANNOTATION

PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES

OUTPUT

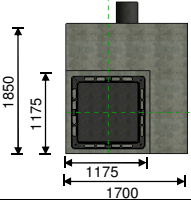
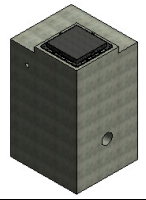
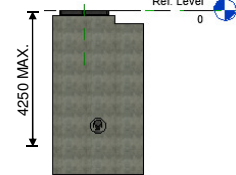
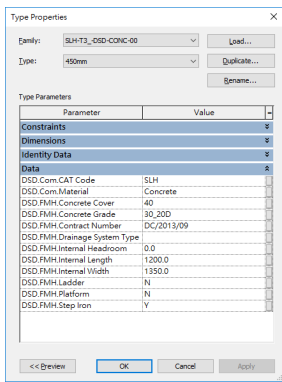
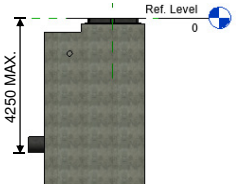
SHEET VIEW : PLAN	SHEET VIEW : ELEVATION	PRESENTATION DRAWING																
																		
N.A.	N.A.	STATUTORY / AUTHORITIES SUBMISSION DRAWING																
Project Specific	Refer to DSD Standard Drawing (DS1091)	TENDER / CONSTRUCTION DRAWING																
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<Manhole Schedule>																		
A	B	C	D															
DSD.FMH.ID Mark	DSD.FMH.Manhole Type	DSD.FMH.Invert Level A1	DSD.FMH.Cover Level															
SLH0059	Type T2_1	-4.250	0.000															




BIM OBJECT SHEET

QR CODE For AM	SOFTWARE VERSION Revit 2018	REFERENCE NUMBER  DSD-OS-0060
	DATE 11-2018	
	REVISION 0	


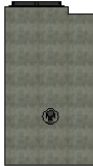
INPUT

Object Name <b>SLH-T3_-DSD-CONC-00</b>	CATEGORY <b>Generic Models</b>	LOD-G <b>300</b>
		
<b>PLAN</b>	<b>3D</b>	
		
<b>FRONT ELEVATION / SECTION</b>	<b>FAMILY VIEW : PARAMETER</b>	
		
<b>SIDE ELEVATION / SECTION</b>		

Anno_SLH	Tag_SLH
	SLH0060 Type T3_1
2D SYMBOL	2D TAG / LABEL / ANNOTATION

PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES

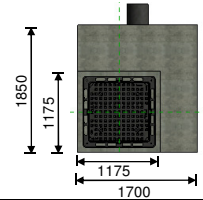

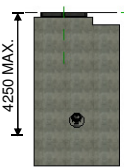
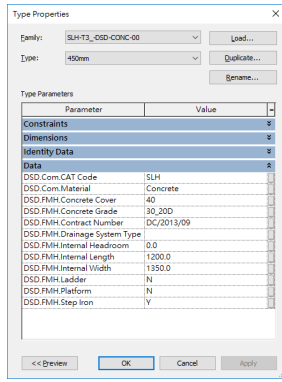
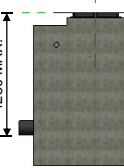
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
SHEET VIEW : PLAN		SHEET VIEW : ELEVATION		PRESENTATION DRAWING																	
																					
N.A.		N.A.		STATUTORY / AUTHORITIES SUBMISSION DRAWING																	
Project Specific		Refer to DSD Standard Drawing (DS1092)		TENDER / CONSTRUCTION DRAWING																	
<table border="1"><thead><tr><th colspan="4">&lt;Manhole Schedule&gt;</th></tr><tr><th>A</th><th>B</th><th>C</th><th>D</th></tr><tr><th>DSD.FMH.ID Mark</th><th>DSD.FMH.Manhole Type</th><th>DSD.FMH.Invert Level A1</th><th>DSD.FMH.Cover Level</th></tr></thead><tbody><tr><td>SLH0060</td><td>Type T3_1</td><td>-4.250</td><td>0.000</td></tr></tbody></table>					<Manhole Schedule>				A	B	C	D	DSD.FMH.ID Mark	DSD.FMH.Manhole Type	DSD.FMH.Invert Level A1	DSD.FMH.Cover Level	SLH0060	Type T3_1	-4.250	0.000	SCHEDULE IN DRAWING
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SLH0060	Type T3_1	-4.250	0.000																		

BIM OBJECT SHEET

QR CODE For AM	SOFTWARE VERSION Revit 2018	REFERENCE NUMBER  DSD-OS-0060
	DATE 11-2018	
	REVISION 0	



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Object Name <b>SLH-T3_-DSD-CONC-00</b>	CATEGORY <b>Generic Models</b>	LOD-G <b>400</b>
		
<b>PLAN</b>	<b>3D</b>	
		
<b>FRONT ELEVATION / SECTION</b>	<b>FAMILY VIEW : PARAMETER</b>	
		
<b>SIDE ELEVATION / SECTION</b>		

Anno_SLH	Tag_SLH
	SLH0060 Type T3_1
2D SYMBOL	2D TAG / LABEL / ANNOTATION

PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES

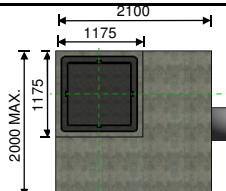
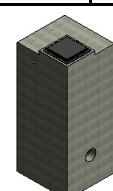
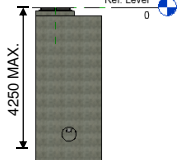
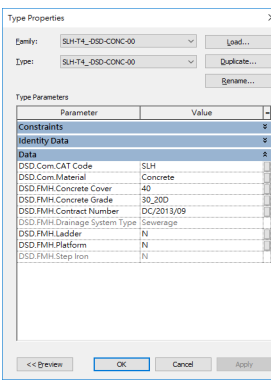
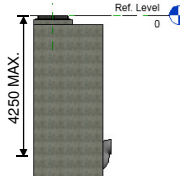
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SHEET VIEW : PLAN		SHEET VIEW : ELEVATION		PRESENTATION DRAWING																	
																					
N.A.		N.A.		STATUTORY / AUTHORITIES SUBMISSION DRAWING																	
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DSD.FMH.ID Mark	DSD.FMH.Manhole Type	DSD.FMH.Invert Level A1	DSD.FMH.Cover Level																		
SLH0060	Type T3_1	-4.250	0.000																		

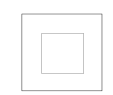
BIM OBJECT SHEET

QR CODE For AM	SOFTWARE VERSION Revit 2018	REFERENCE NUMBER  DSD-OS-0061
	DATE 11-2018	
	REVISION 0	

INPUT



Object Name <b>SLH-T4_-DSD-CONC-00</b>	CATEGORY <b>Generic Models</b>	LOD-G <b>300</b>
		
PLAN	3D	
		
FRONT ELEVATION / SECTION		
		
SIDE ELEVATION / SECTION	FAMILY VIEW : PARAMETER	

3D GEOMETRY

Anno_SLH	Tag_SLH
	<p>SLH0061 Type T4_1</p>
2D SYMBOL	2D TAG / LABEL / ANNOTATION

PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES

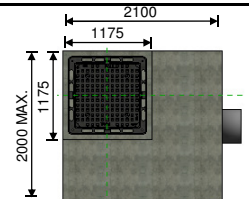

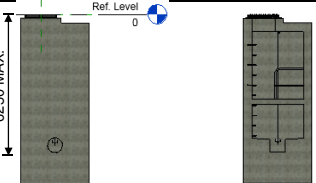
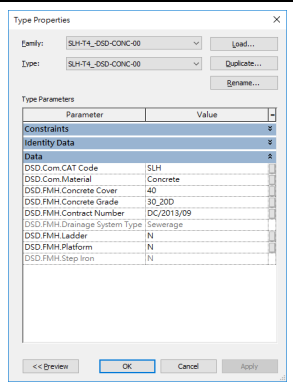
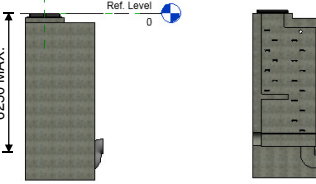
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
SHEET VIEW : PLAN		SHEET VIEW : ELEVATION		PRESENTATION DRAWING																	
																					
N.A.		N.A.		STATUTORY / AUTHORITIES SUBMISSION DRAWING																	
Project Specific		Refer to DSD Standard Drawing (DS1093)			TENDER / CONSTRUCTION DRAWING																
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DSD.FMH.ID Mark	DSD.FMH.Manhole Type	DSD.FMH.Invert Level A1	DSD.FMH.Cover Level																		
SLH0061	Type T4_1	-6.250	0.000																		

BIM OBJECT SHEET

QR CODE For AM	SOFTWARE VERSION Revit 2018	REFERENCE NUMBER  DSD-OS-0061
	DATE 11-2018	
	REVISION 0	



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Object Name <b>SLH-T4_-DSD-CONC-00</b>	CATEGORY <b>Generic Models</b>	LOD-G <b>400</b>
		<b>3D GEOMETRY</b>
<b>PLAN</b>	<b>3D</b>	
		
<b>FRONT ELEVATION / SECTION</b>		
	<b>FAMILY VIEW : PARAMETER</b>	
<b>SIDE ELEVATION / SECTION</b>		

Anno_SLH	Tag_SLH
	SLH0061 Type T4_1
<b>2D SYMBOL</b>	<b>2D TAG / LABEL / ANNOTATION</b>

PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES

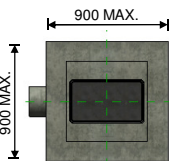
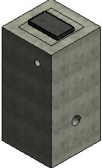
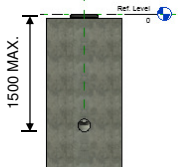
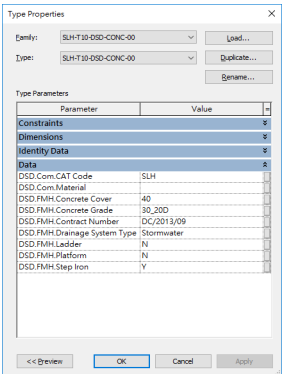
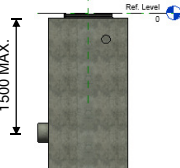
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
SHEET VIEW : PLAN		SHEET VIEW : ELEVATION		PRESENTATION DRAWING																
																				
N.A.		N.A.			STATUTORY / AUTHORITIES SUBMISSION DRAWING															
Project Specific		Refer to DSD Standard Drawing (DS1093)				TENDER / CONSTRUCTION DRAWING														
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<Manhole Schedule>																				
A	B	C	D																	
DSD.FMH.ID Mark	DSD.FMH.Manhole Type	DSD.FMH.Invert Level A1	DSD.FMH.Cover Level																	
SLH0061	Type T4_1	-6.250	0.000																	

BIM OBJECT SHEET

QR CODE For AM	SOFTWARE VERSION Revit 2018	REFERENCE NUMBER  DSD-OS-0062
	DATE 11-2018	
	REVISION 0	



INPUT

Object Name <b>SLH-T10-DSD-CONC-00</b>	CATEGORY <b>Generic Models</b>	LOD-G <b>300</b>
		
<b>PLAN</b>	<b>3D</b>	
		
<b>FRONT ELEVATION / SECTION</b>	<b>FAMILY VIEW : PARAMETER</b>	
		
<b>SIDE ELEVATION / SECTION</b>		

Anno_SLH	Tag_SLH
	SLH0062 Type T10_1
2D SYMBOL	2D TAG / LABEL / ANNOTATION

PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES

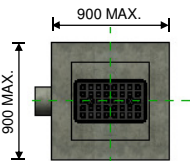

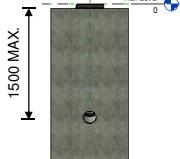
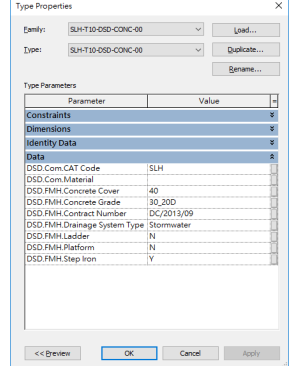
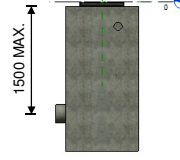
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
SHEET VIEW : PLAN		SHEET VIEW : ELEVATION		PRESENTATION DRAWING																	
																					
N.A.		N.A.		STATUTORY / AUTHORITIES SUBMISSION DRAWING																	
Project Specific		Refer to DSD Standard Drawing (DS1094)		TENDER / CONSTRUCTION DRAWING																	
<table border="1"><thead><tr><th colspan="4">&lt;Manhole Schedule&gt;</th></tr><tr><th>A</th><th>B</th><th>C</th><th>D</th></tr><tr><th>DSD.FMH.ID Mark</th><th>DSD.FMH.Manhole Type</th><th>DSD.FMH.Invert Level A1</th><th>DSD.FMH.Cover Level</th></tr></thead><tbody><tr><td>SLH0062</td><td>Type 10_1</td><td>-1.500</td><td>0.000</td></tr></tbody></table>					<Manhole Schedule>				A	B	C	D	DSD.FMH.ID Mark	DSD.FMH.Manhole Type	DSD.FMH.Invert Level A1	DSD.FMH.Cover Level	SLH0062	Type 10_1	-1.500	0.000	SCHEDULE IN DRAWING
<Manhole Schedule>																					
A	B	C	D																		
DSD.FMH.ID Mark	DSD.FMH.Manhole Type	DSD.FMH.Invert Level A1	DSD.FMH.Cover Level																		
SLH0062	Type 10_1	-1.500	0.000																		

**BIM OBJECT SHEET**

QR CODE For AM	SOFTWARE VERSION <b>Revit 2018</b>	REFERENCE NUMBER  <b>DSD-OS-0062</b>
	DATE <b>11-2018</b>	
	REVISION <b>0</b>	



**INPUT**

Object Name <b>SLH-T10-DSD-CONC-00</b>	CATEGORY <b>Generic Models</b>	LOD-G <b>400</b>
		
<b>PLAN</b>	<b>3D</b>	
		
<b>FRONT ELEVATION / SECTION</b>	<b>FAMILY VIEW : PARAMETER</b>	
		
<b>SIDE ELEVATION / SECTION</b>		

Anno_SLH	Tag_SLH
	<b>SLH0062</b> <b>Type T10_1</b>
<b>2D SYMBOL</b>	<b>2D TAG / LABEL / ANNOTATION</b>

**PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES**



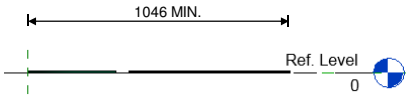
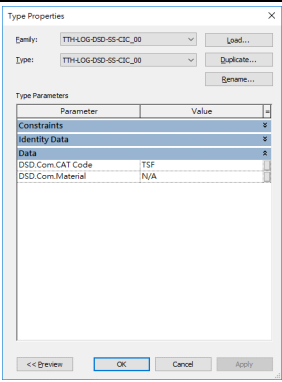
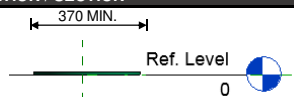
**OUTPUT**

SHEET VIEW : PLAN		SHEET VIEW : ELEVATION		PRESENTATION DRAWING																	
																					
N.A.		N.A.		STATUTORY / AUTHORITIES SUBMISSION DRAWING																	
Project Specific		Refer to DSD Standard Drawing (DS1094)		TENDER / CONSTRUCTION DRAWING																	
<table><tr><th colspan="4">&lt;Manhole Schedule&gt;</th></tr><tr><th>A</th><th>B</th><th>C</th><th>D</th></tr><tr><td>DSD.FMH.ID Mark</td><td>DSD.FMH.Manhole Type</td><td>DSD.FMH.Invert Level A1</td><td>DSD.FMH.Cover Level</td></tr><tr><td>SLH0062</td><td>Type 10_1</td><td>-1.500</td><td>0.000</td></tr></table>					<Manhole Schedule>				A	B	C	D	DSD.FMH.ID Mark	DSD.FMH.Manhole Type	DSD.FMH.Invert Level A1	DSD.FMH.Cover Level	SLH0062	Type 10_1	-1.500	0.000	SCHEDULE IN DRAWING
<Manhole Schedule>																					
A	B	C	D																		
DSD.FMH.ID Mark	DSD.FMH.Manhole Type	DSD.FMH.Invert Level A1	DSD.FMH.Cover Level																		
SLH0062	Type 10_1	-1.500	0.000																		

BIM OBJECT SHEET

QR CODE For AM	SOFTWARE VERSION Revit 2018	REFERENCE NUMBER  DSD-OS-0063
	DATE 11-2018	
	REVISION 0	

INPUT

Object Name TTH-LOG-DSD-SS-CIC_00	CATEGORY Generic Models	LOD-G 300
		
PLAN 	3D 	
FRONT ELEVATION / SECTION 	FAMILY VIEW : PARAMETER	
SIDE ELEVATION / SECTION		

3D GEOMETRY


2D Symbol Name	2D Tag / Label / Annotation Name
N.A.	N.A.

2D SYMBOL

2D TAG / LABEL / ANNOTATION

PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES



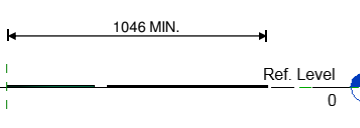
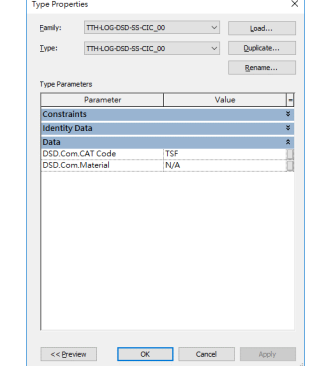
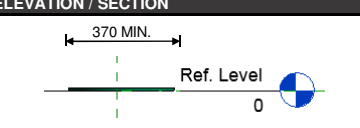
OUTPUT

SHEET VIEW : PLAN	SHEET VIEW : ELEVATION	
	N.A.	PRESENTATION DRAWING
N.A.	N.A.	STATUTORY / AUTHORITIES SUBMISSION DRAWING
Project Specific	Refer to DSD Standard Drawing (DS1095)	TENDER / CONSTRUCTION DRAWING
N.A.		SCHEDULE IN DRAWING

BIM OBJECT SHEET

QR CODE For AM	SOFTWARE VERSION Revit 2018	REFERENCE NUMBER  DSD-OS-0063
	DATE 11-2018	
	REVISION 0	


INPUT

Object Name TTH-LOG-DSD-SS-CIC_00	CATEGORY Generic Models	LOD-G 400
		
PLAN	3D	
		
FRONT ELEVATION / SECTION	FAMILY VIEW : PARAMETER	
		
SIDE ELEVATION / SECTION		

2D Symbol Name	2D Tag / Label / Annotation Name
N.A.	N.A.

PURPOSE / VALUE DRIVEN BIM OBJECT DELIVERABLES

OUTPUT

SHEET VIEW : PLAN	SHEET VIEW : ELEVATION	
	N.A.	PRESENTATION DRAWING
N.A.	N.A.	STATUTORY / AUTHORITIES SUBMISSION DRAWING
Project Specific	Refer to DSD Standard Drawing (DS1095)	TENDER / CONSTRUCTION DRAWING
N.A.		SCHEDULE IN DRAWING



# **Appendix G**

## **DSD CAT CODE**

### **and DSD SUB-CAT CODE**

### F1a - Stormwater

[illegible]

### F1b - Sewerage

[illegible]

## 2a - Mechanical

Model Element List	Required (Y/N)	Quantity Take Off (QTO)	DSD CAT Code	Concept, Feasibility, Planning			Preliminary Scheme			Detailed Design			Submission to approval authority			Construction			As-Built			Remarks
				AUT	LOD G	LOD I	AUT	LOD G	LOD I	AUT	LOD G	LOD I	AUT	LOD G	LOD I	AUT	LOD G	LOD I	AUT	LOD G	LOD I	
Air Blower		No.	MAB																			
Air Compressor		No.	MAC																			
Air Receiver		No.	MAR																			
Biogas Burner		No.	MBB																			
Boiler		No.	MBO																			
Centrifuge		No.	MCT																			
Conveyor		No.	MCO																			
Dehumidifier		No.	MDH																			
Deodorizer		No.	MDE																			
Eliminator		No.	MEL																			
Flame Arrester Unit		No.	MFA																			
Heat Exchanger		No.	MHE																			
Heater		No.	MHA																			
Lifting Appliance		No.	MLA																			
Membrane Filter Press		No.	MMF																			
Mixer		No.	MMI																			
Penstock		No.	MPE																			
Pipe		m	MPI																			
Pipe Accessory		No.	MPA																			
Pipe Fitting		No.	MPF																			
Pressure Vessel		No.	MPV																			
Pump		No.	MPU																			
Scraper		No.	MSR																			
Screen		No.	MSC																			
Scrubber		No.	MSU																			
Scum Collector		No.	MSO																			
Skip		No.	MSK																			
Sludge Grinder		No.	MSG																			
Stirrer		No.	MST																			

## 2a - Mechanical

[illegible]

## 2b - Electrical

Model Element List	Required (Y/N)	Quantity Take Off (QTO)	DSD CAT Code	Concept, Feasibility, Planning			Preliminary Scheme			Detailed Design			Submission to approval authority			Construction			As-Built			Remarks
				AUT	LOD G	LOD I	AUT	LOD G	LOD I	AUT	LOD G	LOD I	AUT	LOD G	LOD I	AUT	LOD G	LOD I	AUT	LOD G	LOD I	
Actuator		No.	EAC																			
Auto Voltage Regulator		No.	EAV																			
Battery & Charger		No.	EBC																			
Cable Draw Pit		No.	ECD																			
Control Panel		No.	ECP																			
Copper Tape		No.	ECT																			
Distribution Board		No.	EDB																			
Down Conductor		No.	EDC																			
Earth Pit		No.	EEP																			
Earthing Conductor		No.	EEC																			
Earthing Electrode		No.	EEE																			
Earthing Terminal		No.	EER																			
Electric Hot Water Boiler		No.	EEB																			
Fuse Connection Unit		No.	EFC																			
Generator Set		No.	EGE																			
Harmonic Filter		No.	EHF																			
Isolator		No.	EIS																			
Lightning Pit		No.	ELP																			
Lightning Stroke Counter		No.	ELS																			
Lightning Terminal		No.	ELT																			
Photovoltaic Panel		No.	EPP																			
Power Factor Correction Capacitors and Controller		No.	EPC																			
Ring Main Unit		No.	ERM																			
Socket Outlet		No.	ESO																			
Switch		No.	ESW																			
Switchboard		No.	ESB																			
Transformer		No.	ETR																			
Uninterrupted Power Supply		No.	EUP																			
Variable Speed Drive		No.	EVS																			

## 2c - Building Services

Model Element List	Required (Y/N)	Quantity Take Off (QTO)	DSD CAT Code	Concept, Feasibility, Planning			Preliminary Scheme			Detailed Design			Submission to approval authority			Construction			As-Built			Remarks
				AUT	LOD G	LOD I	AUT	LOD G	LOD I	AUT	LOD G	LOD I	AUT	LOD G	LOD I	AUT	LOD G	LOD I	AUT	LOD G	LOD I	
Air Conditioner		No.	BAC																			
Breakglass Unit		No.	BFB																			
Burglar Alarm Bell		No.	BAB																			
Burglar Alarm Panel		No.	BAP																			
Burglar Flashing Light		No.	BFL																			
Burglar Sensor		No.	BSE																			
Camera		No.	BCA																			
Card Reader		No.	BCR																			
Damper		No.	BDA																			
Diffuser		No.	BDI																			
Digital Video Recoder		No.	BDV																			
Door Lock		No.	BDL																			
Duct		m	BDU																			
Duct Fitting		No.	BDF																			
Exit Sign		No.	BFX																			
Fan		No.	BFA																			
Fan Coil Unit		No.	BFC																			
Filter		No.	BFI																			
Fire Alarm Audio / Visual		No.	BFS																			
Fire Alarm Panel		No.	BFP																			
Fire Detector		No.	BFD																			
Fire Extinguisher		No.	BFE																			
Fire Hydrant		No.	BFH																			
Grille		No.	BGR																			
Hose Reel		No.	BHR																			
Intercom		No.	BIN																			
Lighting Fitting		No.	BLF																			
Override Keyswitch		No.	BOK																			

## 2c - Building Services

[illegible]



## 2d - Control and Instrumentation

[illegible]

### F3a - Architectural

[illegible]

### F3b - Structural

[illegible]

Classification	Model Element	DSD CAT Code	DSD Sub CAT Code	Type
1a - Stormwater	Manhole	SMH	A__	Type A
			B__	Type B
			C__	Type C
			C1__	Type C1
			D__	Type D
			D1__	Type D1
			E__	Type E
			E1__	Type E1
			F__	Type F
			F1__	Type F1
			G__	Type G (without desilting opening)
			G1__	Type G1 (without desilting opening)
			G1D	Type G1D (with desilting opening)
			GD__	Type G/D (with desilting opening)
			H__	Type H (without desilting opening)
			HD__	Type H/D (with desilting opening)
			I__	Type I (without desilting opening)
			ID__	Type I/D (with desilting opening)
			J__	Type J (without desilting opening)
			JD__	Type J/D (with desilting opening)
			K__	Type K (without desilting opening)
			KD__	Type K/D (with desilting opening)
			L__	Type L (with desilting opening)
			PCA	Type A (Precast)
			PCB	Type B (Precast)
	Manhole Cover	SLH	T1__	Type T1
			T2__	Type T2
			T3__	Type T3
			T4__	Type T4
			T10	Type T5
		SSH	T1__	Type 1
			T2__	Type 2
			T3__	Type 3
	Manhole Cover	SMC	DT__	Double Triangular
			DES	Standard Desilting
			MA2	Type MA2 Double Seal Terminal
			MC2	Type MC2 Double Seal Terminal
			RD__	Recessed Desilting
	Chamber	SBH	AIV	Air Valve Chamber
			FLM	Flow Meter Chamber
			INL	Inlet Chamber
			ISP	Inspection Chamber
			INT	Intake Chamber
			OUT	Outlet Chamber
			OVF	Overflow Chamber
			SCN	Screen Chamber
			WSH	Washout Chamber

Classification	Model Element	DSD CAT Code	DSD Sub CAT Code	Type
1b - Sewerage	Manhole	FMH	A__	Type A
			B__	Type B
			C__	Type C
			C1__	Type C1
			D__	Type D
			D1__	Type D1
			E__	Type E
			E1__	Type E1
			F__	Type F
			F1__	Type F1
			G__	Type G (without desilting opening)
			G1__	Type G1 (without desilting opening)
			G1D	Type G1D (with desilting opening)
			GD__	Type G/D (with desilting opening)
			H__	Type H (without desilting opening)
			HD__	Type H/D (with desilting opening)
			I__	Type I (without desilting opening)
			ID__	Type I/D (with desilting opening)
			J__	Type J (without desilting opening)
			JD__	Type J/D (with desilting opening)
			K__	Type K (without desilting opening)
			KD__	Type K/D (with desilting opening)
			L__	Type L (with desilting opening)
			PCA	Type A (Precast)
			PCB	Type B (Precast)
		FLH	T1__	Type T1
			T2__	Type T2
			T3__	Type T3
			T4__	Type T4
			T10	Type T5
		FSH	T1__	Type 1
			T2__	Type 2
			T3__	Type 3
	Manhole Cover	FMC	MA2	Type MA2 Double Seal Terminal
			MC2	Type MC2 Double Seal Terminal
			DT	Double Triangular
			RSS	Recessed Single Seal
			RDS	Recessed Double Seal
			SLH	Double Seal Terminal Manhole

Classification	Model Element	DSD CAT Code	DSD Sub CAT Code	Type
2a - Mechanical	Conveyor	MCO	BEL	Belt Conveyor
			SHF	Shafted Conveyor
			SHL	Shaftless Conveyor
	Deodorizer	MDE	ATC	Activated Carbon Filter
			BIO	Biotrickling Filter
	Lifting Appliance	MLA	CHT	Chain Hoist
			DAV	Davit
			ECH	Electric Chain Hoist
			OTC	Crane
			GAN	Gantry
			UIB	Universal I-Beam
	Mixer	MMI	BMV	Bridge-mounted Vertical Mixer
			SUB	Submersible Mixer
	Penstock	MPE	HOD	Hand-Operated Penstock
			MOT	Motorized Penstock
			WEI	Weir Penstock
	Pipe Accessory	MPA	FLA	Flange Adaptor
			PUF	Puddle Flange
			STR	Strainer
	Pipe Fitting	MPF	CRO	Cross
			ELB	Elbow
			FLA	Flange
			RED	Reducer
			TEE	Tee
	Pump	MPU	CEN	Centrifugal Pump
			LOB	Lobe Pump
			PRC	Progressive Cavity Pump
			RAM	Ram Pump
			SCR	Screw Pump
			SEW	Sewage Pump
	Screen	MSC	MEB	Mechanised Bar Screen
			ROD	Rotary Drum Screen
	Tank	MTA	FUO	Fuel Oil Tank
			MIX	Mixing Tank
			STO	Storage Tank
	Valve	MVA	ADT	Adjustable Telescopic Valve
			AIR	Air Release Valve
			BAL	Ball Valve
			BUT	Butterfly Valve
			CHK	Check Valve
			ECP	Eccentric Plug Valve
			FLP	Flap Valve
			GAT	Gate Valve
			KNG	Knife Gate Valve
			MOT	Motorized Gate Valve
			PRR	Pressure Regulating Valve
			PRE	Pressure Relief Valve

Classification	Model Element	DSD CAT Code	DSD Sub CAT Code	Type
2b - Electrical	Distribution Board	EDB	MCC	TPN MCCB Board
			SMC	SPN MCB Board
			TMC	TPN MCB Board
	Generator Set	EGE	CHP	Combined Heat and Power Generator
			DIE	Diesel Generator Set
	Isolator	EIS	3PH	Three Phase Isolator
			SIN	Single Phase Isolator
	Socket Outlet	ESO	3PH	16A 3 Phase 5 Pin Switched Socket Outlet
			SIN	13A 3 Pin Switched Socket Outlet
	Switch	ESW	DOP	Double Pole Switch
			LTG	Lighting Switch
	Switchboard	ESB	HV_	HV Switchboard
			LV_	LV Switchboard
	Transformer	ETR	HV_	HV Transformer
			LV_	LV Transformer

Classification	Model Element	DSD CAT Code	DSD Sub CAT Code	Type
2c - Building Services	Burglar Sensor	BSE	ELM	Burglar Infra Red Sensor
			INR	Burglar Electromagnetic Sensor
	Camera	BCA	DOM	Dome Type Camera
			GUN	Gun Type Camera
	Damper	BDA	BAL	Balancing Damper
			FIR	Fire Damper
			SMO	Smoke Damper
			VOC	Volume Control Damper
	Diffuser	BDI	EXH	Exhaust Diffuser
			REA	Return Air Diffuser
			SUA	Supply Air Diffuser
	Duct Fitting	BDF	CAP	Cap
			CRO	Cross
			ELB	Elbow
			FLA	Reducer
			RTR	Rectangular to Round Reducer
			TEE	Tee
	Exit Sign	BFX	DIR	Directional Exit Sign
			EXT	Exit Sign
	Fan	BFA	AXI	Axial Fan
			CEN	Centrifugal Fan
			ROE	Roof Extract Fan
	Fire Alarm Audio / Visual	BFS	BEL	Alarm Bell
			LAM	Indication Lamp
	Fire Alarm Panel	BFP	LOC	Local Fire Alarm and Indication Panel
			MAI	Main Fire Alarm and Indication Panel
			WPL	Weatherproof Local Fire Alarm and Indication Panel
	Fire Detector	BFD	FLA	Flame Detector
			HEA	Heat Detector
			INR	Infra Red Detector
			LIH	Linear Heat Detector
			SMO	Smoke Detector
	Fire Extinguisher	BFE	CO2	CO2 Fire Extinguisher
			H2O	H2O Fire Extinguisher
	Grille	BGR	EXH	Exhaust Grille
			REA	Return Air Grille
			SUA	Supply Air Grille
	Lighting Fitting	BLF	BUL	Bulkhead Light
			EME	Emergency Light
			FLO	Floodlight
			FLU	Fluorescent Light
			HIB	High Bay Light
			PER	Perimeter Light



Classification	Model Element	DSD CAT Code	DSD Sub CAT Code	Type
2d - Control and Instrumentation	Analyzer	CAN	AMM	Ammonia Analyzer
			CHL	Chloride Analyzer
			MOI	Moisture Analyzer
			NIT	Nitrate Analyzer
	Detector	CDE	H2S	H2S Gas Detector
			MET	Methane Gas Detector
			OXY	Oxygen Detector
			POG	Portable Gas Detector
			SUS	Suspended Solids Detector
	Flowmeter	CFL	ELM	Electromagnetic Flowmeter
			GAS	Gas Flowmeter
			ORP	Orifice Plate Flowmeter
	Monitor	CMO	GAS	Gas Monitor
			TEM	Temperature Monitor
	Sensor	CSE	AMN	Ammonium Nitrogen Sensor
			DIO	Dissolved Oxygen Sensor
			FLS	Float Switch
			HYL	Hydrostatic Level Sensor
			LEE	Level Electrode
			MIL	Microwave Level Sensor
			NIN	Nitrate Nitrogen Sensor
			PH_	pH Sensor
			PRE	Pressure Sensor
			SUS	Suspended Solids Sensor
			TEM	Temperature Sensor
			TUR	Turbidity Sensor
			ULL	Ultrasonic Level Sensor
			VIB	Vibration Sensor
	Transmitter	CTR	AMN	Ammonium Nitrogen Transmitter
			DIO	Dissolved Oxygen Transmitter
			FLO	Flowmeter Transmitter
			HYL	Hydrostatic Level Transmitter
			MIL	Microwave Level Transmitter
			NIN	Nitrate Nitrogen Transmitter
			PH_	pH Transmitter
			PRE	Pressure Transmitter
			SUS	Suspended Solids Transmitter
			TEM	Temperature Transmitter
			TUR	Turbidity Transmitter
			ULL	Ultrasonic Level Transmitter
			VIB	Vibration Transmitter

Classification	Model Element	DSD CAT Code	DSD Sub CAT Code	Type
3a - Architectural	Access Ladder	ALA	CAT	Cat Ladder
	Door	ADO	DF1	Type 1 Double Leaf
			DF2	Type 2 Double Leaf
			SF1	Type 1 Single Leaf
			SF2	Type 2 Single Leaf
			FD_	Folding Door
			RS1	Type 1 Roller Shutter
	Handrailing, Fencing	ABA	FCL	Chain Link Fence
			FHD	Mild Steel Fence
			FPB	Primary Boundary Fence
			H2A	Type 2A Railing
			HRD	Handrailing
	Gate	AGT	ACC	Access Gate
			CLF	Chain Link Fence Gate
			FPA	Flood Protection Gate
			LOC	Lockable Gate at Handrailing
			PED	Pedestrian Gate
			SSE	Stainless Steel Entrance Gate
			VEH	Vehicular Gate on Boundary Fence
	Window	AWD	LOU	Louver

Classification	Model Element	DSD CAT Code	DSD Sub CAT Code	Type
3b - Structural	Wall	TWL	IFC	Internal Wall Finishing Fair Faced Concrete
			IFP	Internal Wall Finishing Painting
			IFT	Internal Wall Finishing Ceramic Tile
			IWL	Internal Wall
			PWL	Parapet Wall
			TFC	External Wall Finishing Fair Faced Concrete
	Slab	TLA	SFC	Slab Finishing Fair Faced Concrete
			SFO	Foundation Slab / Pile Cap
			SFP	Slab Finishing Painting
			SFT	Slab Finishing Ceramic Tile
	Beam	TBS	GBS	Ground Beam
			TIE	Tie Beam
	Other	TTH	COV	Cover and frame
			FLP	Flower Pot
			HRD	Hoarding
			INS	Instrumentation
			LOG	Logo
			SG_	Sign
			SGB	Signboard
			SPB	Publicity Board Support
			SPI	Manhole Step Iron
			WMB	Water Meter Box

# **Appendix H**

## **Attribute Table and DSD Asset Code Naming**

**1a - Stormwater**

## Box Culvert

<b>LOD-I</b>	<b>Proposed Attribute Name</b>	<b>Example</b>	<b>Unit</b>
100	CAT Code	SBP	NA
100	ID Mark	SBP0001	NA
100	Feature Type	Box Culvert	NA
100	Drainage System Type	Stormwater	NA
200-300	Asset Code	-	NA
200-300	Material	Concrete <sup>(1)</sup>	NA
200-300	Maintenance Agent	MSD	NA
200-300	Link to Standard Drawing	-	NA
200-300	Link to Other Drawing	<u>40001.dgn</u>	NA
200-300	Concrete Grade	30/20D	NA
200-300	Shape	Rectangular <sup>(2)</sup>	NA
200-300	Length	10000	mm
200-300	Width W1	3000	mm
200-300	Height H1	3000	mm
200-300	Height H2	2400	mm
200-300	Thickness T1	300	mm
200-300	Thickness T2	300	mm
200-300	Thickness T3	300	mm
200-300	Thickness T4	300	mm
200-300	Upstream IL	1.100	mPD
200-300	Downstream IL	1.000	mPD
200-300	Dry Weather Flow Channel	Y	Y/N

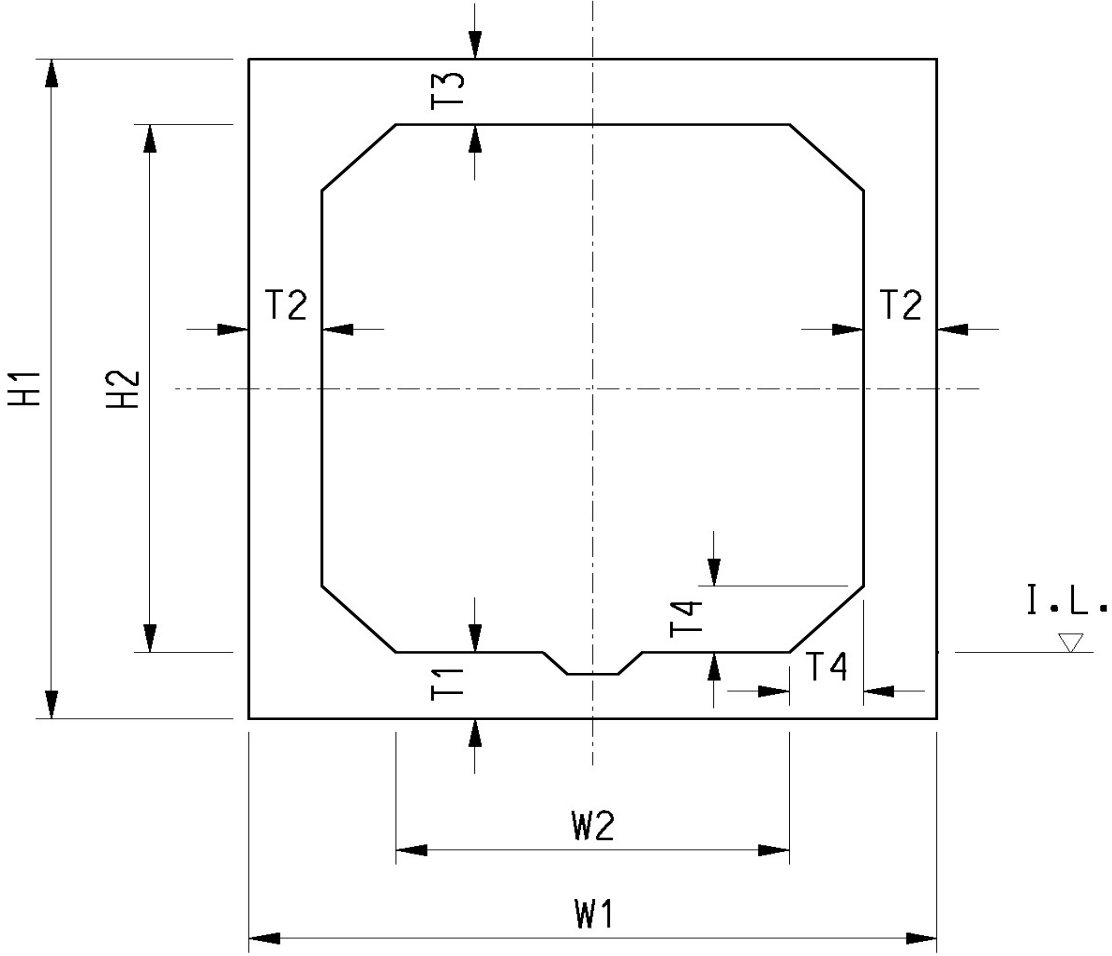
## 1a - Stormwater

## Box Culvert

[illegible]

1a - Stormwater

Box Culvert

LOD-I	Proposed Attribute Name	Example	Unit
<div>Example Image:</div> <div><p>Typical Section</p></div>			
<div>Remarks:</div> <div>(1): Material = [Concrete], [Brick], [Masonry], [Rock], [Stone], [Precast Concrete Lining], [Cast-in-situ Concrete], [Cast-in-situ Concrete with HDPE liner]</div> <div>(2): Shape = [Circular], [Rectangular], [Square], [Barrel], [Trapezoidal], [Irregular]</div>			

**1a - Stormwater**

## Catchpit

<b>LOD-I</b>	<b>Proposed Attribute Name</b>	<b>Example</b>	<b>Unit</b>
100	CAT Code	SCH	NA
100	ID Mark	SCH0009	NA
100	Feature Type	Catchpit	NA
100	Drainage System Type	Stormwater	NA
200-300	Asset Code	-	NA
200-300	Material	Concrete <sup>(1)</sup>	NA
200-300	Maintenance Agent	MSD	NA
200-300	Link to Standard Drawing	<u>DS1011</u>	NA
200-300	Link to Other Drawing	<u>40002.dgn</u>	NA
200-300	Concrete Grade	30/20D	NA
200-300	Nominal Size	450 <sup>(2)</sup>	mm
200-300	Length	950 <sup>(2)</sup>	mm
200-300	Width	725 <sup>(2)</sup>	mm
200-300	Internal Length	450	mm
200-300	Internal Width	225	mm
200-300	Internal Headroom	850	mm
200-300	Height	1000	mm
200-300	Cover Level	4.000	mPD
200-300	Invert Level A1 Inlet	3.300	mPD
200-300	Invert Level A2 Inlet	3.3	mPD
200-300	Invert Level A3 Inlet	Nil	mPD
200-300	Invert Level A4 Inlet	Nil	mPD



## 1a - Stormwater

## Catchpit

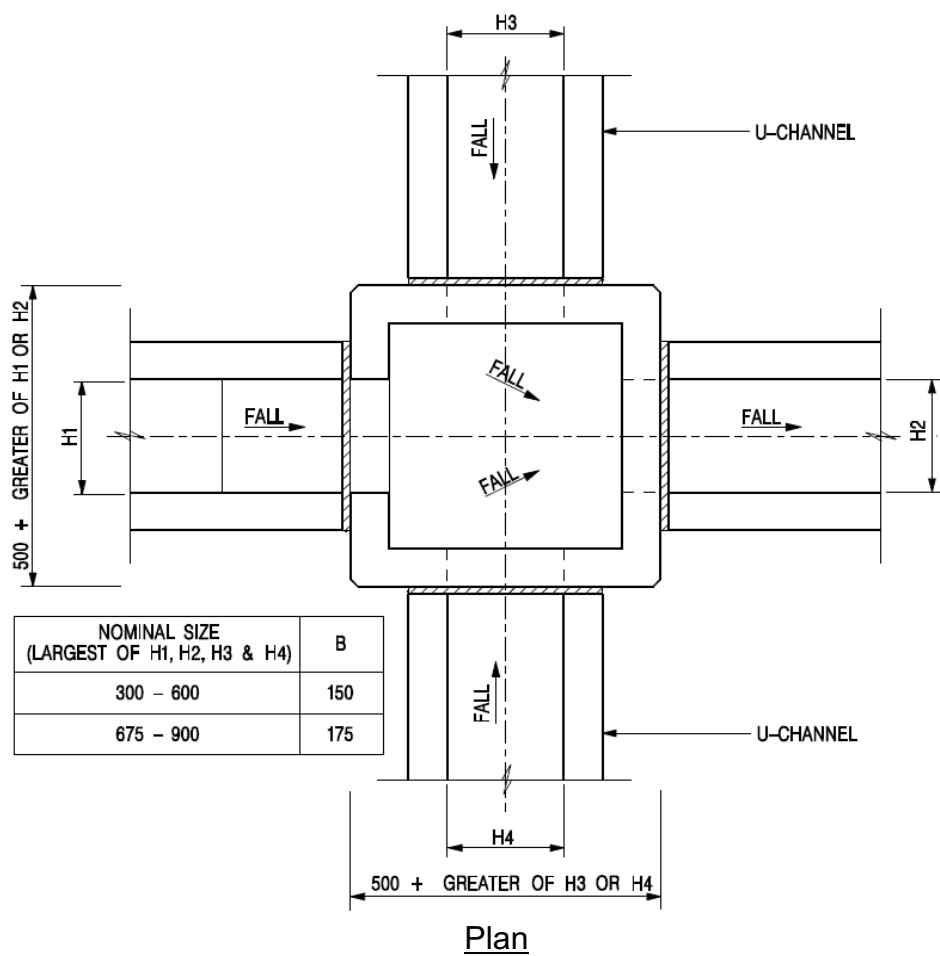
[illegible]

1a - Stormwater

Catchpit

LOD-I	Proposed Attribute Name	Example	Unit

Example Image:



Remarks:

- (1): Material = [Concrete], [Brick]
- (2): Please refer to CEDD Standard Drawing No. C2405 for definition of Nominal Size, Length and Width

**1a - Stormwater**

## U-channel

<b>LOD-I</b>	<b>Proposed Attribute Name</b>	<b>Example</b>	<b>Unit</b>
100	CAT Code	SUP	NA
100	ID Mark	SUP0006	NA
100	Feature Type	U Channel	NA
100	Drainage System Type	Stormwater	NA
200-300	Asset Code	-	NA
200-300	Material	Concrete <sup>(1)</sup>	NA
200-300	Maintenance Agent	MSD	NA
200-300	Link to Standard Drawing	<u>DS1011</u>	NA
200-300	Link to Other Drawing	<u>40002.dgn</u>	NA
200-300	Concrete Grade	30/20D	NA
200-300	Shape	U Shape <sup>(2)</sup>	NA
200-300	Nominal Size	450 <sup>(3)</sup>	mm
200-300	Height	1050	mm
200-300	Length	10000	mm
200-300	Width	650 <sup>(3)</sup>	mm
200-300	Upstream IL	3.900	mPD
200-300	Downstream IL	3.800	mPD
200-300	Gradient	1 in 100	NA
400	Installed Date	01/05/2018	DD/MM/YYYY
400	Commission Date	01/01/2019	DD/MM/YYYY
400	Completion Date	30/12/2018	DD/MM/YYYY
400	Handover Date	01/02/2019	DD/MM/YYYY

1a - Stormwater

U-channel

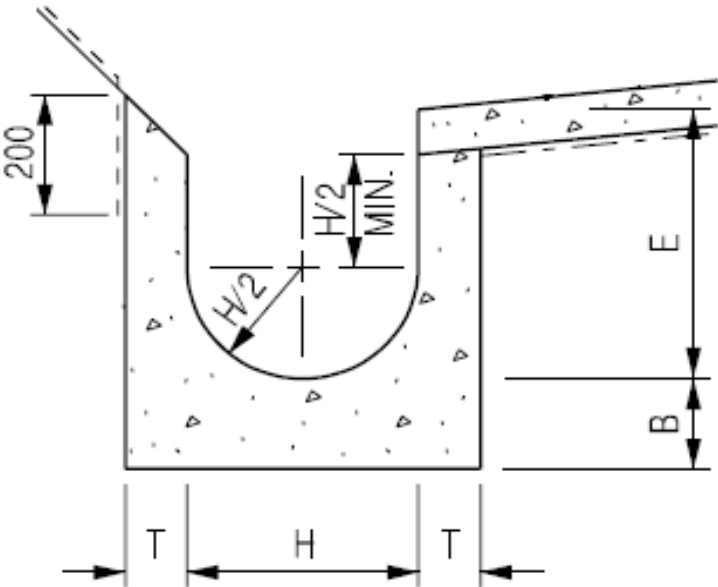
LOD-I	Proposed Attribute Name	Example	Unit
400	Feature No	SUP1000061	NA
400	Upstream Feature No	SCH1000491	NA
400	Downstream Feature No	SCH1000487	NA
400	Contract Number	DC/2018/01	NA

1a - Stormwater

U-channel

LOD-I	Proposed Attribute Name	Example	Unit

Example Image:



Typical Section

- Remarks:
- (1): Material = [Concrete], [Brick], [Earth], [Gabion], [Reno Mattress], [Grasscrete], [Masonry], [Rock], [Stone]
  - (2): Shape = [Rectangular], [Square], [Barrel], [Trapezoidal], [Irregular], [U Shape]
  - (3): Please refer to CEDD Standard Drawing No. C2409 for definition of Nominal Size and Width

**1a - Stormwater**

## Manhole Cover

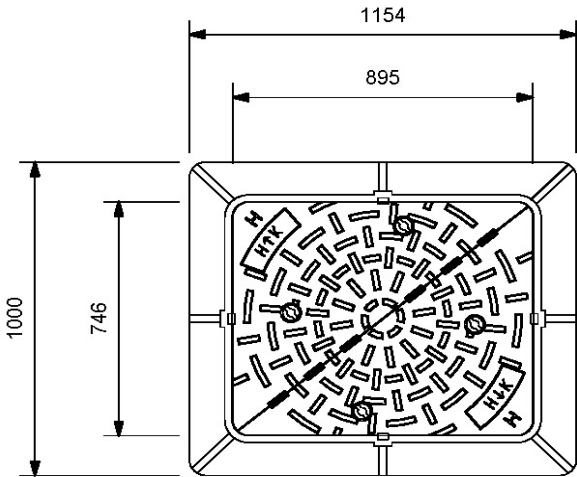
<b>LOD-I</b>	<b>Proposed Attribute Name</b>	<b>Example</b>	<b>Unit</b>
100	CAT Code	SMC	NA
100	ID Mark	SMC0003	NA
100	Feature Type	Manhole Cover	NA
100	Drainage System Type	Stormwater	NA
200-300	Asset Code	-	NA
200-300	Material	Cast Iron	NA
200-300	Maintenance Agent	MSD	NA
200-300	Link to Standard Drawing	<u>DS1034B</u>	NA
200-300	Link to Other Drawing	<u>40002.dgn</u>	NA
200-300	Shape	Rectangular	NA
200-300	Northing of Centroid	816467.520	m
200-300	Easting of Centroid	832815.420	m
200-300	Length	895 <sup>(1)</sup>	mm
200-300	Width	745 <sup>(1)</sup>	mm
400	Installed Date	01/05/2018	DD/MM/YYYY
400	Commission Date	01/01/2019	DD/MM/YYYY
400	Contract Number	DC/2013/09	NA
400	Completion Date	30/12/2018	DD/MM/YYYY
400	Handover Date	01/02/2019	DD/MM/YYYY

1a - Stormwater

Manhole Cover

LOD-I	Proposed Attribute Name	Example	Unit

Example Image:



Plan

Remarks:

(1): For more types of cover, please refer to [http://www.dsd.gov.hk/EN/Technical\\_Documents/Standard\\_Drawings/index.html](http://www.dsd.gov.hk/EN/Technical_Documents/Standard_Drawings/index.html)

**1a - Stormwater**

## Manhole

<b>LOD-I</b>	<b>Proposed Attribute Name</b>	<b>Example</b>	<b>Unit</b>
100	CAT Code	SMH	NA
100	ID Mark	SMH0003	NA
100	Feature Type	Manhole	NA
100	Drainage System Type	Stormwater	NA
200-300	Asset Code	-	NA
200-300	Material	Concrete <sup>(1)</sup>	NA
200-300	Maintenance Agent	MSD	NA
200-300	Link to Standard Drawing	<u>DS1005</u>	NA
200-300	Link to Other Drawing	<u>40002.dgn</u>	NA
200-300	Manhole Type	Type E <sup>(2)</sup>	NA
200-300	Northing of Centroid	831828.999	m
200-300	Easting of Centroid	842268.000	m
200-300	Depth	3000	mm
200-300	Internal Length	1425	mm
200-300	Internal Width	1350	mm
200-300	Internal Headroom	1750	mm
200-300	Cover Level	8.650	mPD
200-300	No of Covers	1	NA
200-300	Max Design Water Level	8.150	mPD
200-300	Invert Level A1	5.250	mpD
200-300	Invert Level A2	Nil	mPD
200-300	Invert Level A3	Nil	mPD



**1a - Stormwater**

## Manhole

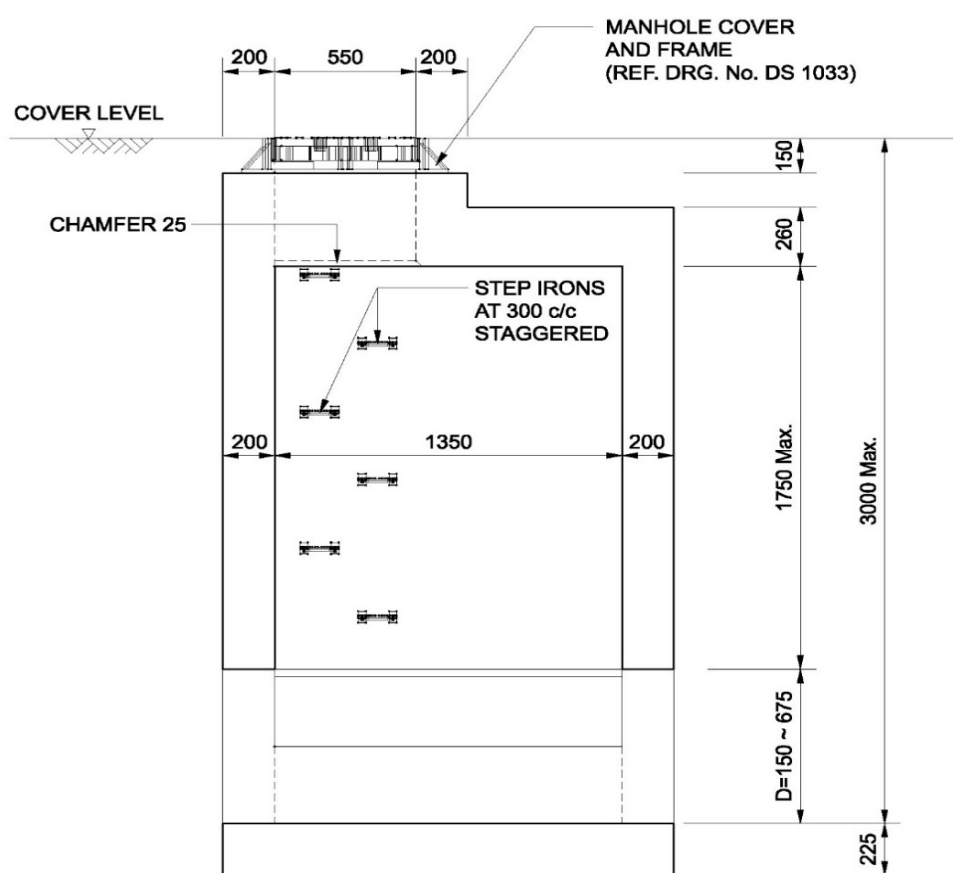
<b>LOD-I</b>	<b>Proposed Attribute Name</b>	<b>Example</b>	<b>Unit</b>
200-300	Invert Level A4	Nil	mPD
200-300	Invert Level X1	5.150	mPD
200-300	Bottom Level	5.150	mPD
200-300	Concrete Cover	40	mm
200-300	Concrete Grade	30_20D	NA
200-300	Reinforcement	T20_200	NA
200-300	Platform	N	Y/N
200-300	Step Iron	Y	Y/N
200-300	Ladder	N	Y/N
400	Installed Date	01/05/2018	DD/MM/YYYY
400	Commission Date	01/01/2019	DD/MM/YYYY
400	Contract Number	DC/2013/09	NA
400	Completion Date	30/12/2018	DD/MM/YYYY
400	Handover Date	01/02/2019	DD/MM/YYYY

**1a - Stormwater**

## Manhole

LOD-I	Proposed Attribute Name	Example	Unit

Example Image:

Typical Section

Remarks:

(1): Material = [Concrete], [Brick]

(2): Manhole Type = [Type A], [Type B], [Type C], [Type D], [Type E], [Type F], [Type G], [Type H], [Type I], [Type J], [Type K], [Type L], [Backdrop (Type 1)], [Backdrop (Type 2)], [Backdrop (Type 3)], [Type G/D], [Type H/D], [Type I/D], [Type J/D], [Type K/D], [Type C1], [Type D1], [Type E1], [Type F1], [Type G1], [Type G1D]

**1a - Stormwater**

## Rising Main

<b>LOD-I</b>	<b>Proposed Attribute Name</b>	<b>Example</b>	<b>Unit</b>
100	CAT Code	SRM	NA
100	ID Mark	SRM0001	NA
100	Feature Type	Rising Main	NA
100	Drainage System Type	Stormwater	NA
200-300	Asset Code	-	NA
200-300	Material	Ductile Iron	NA
200-300	Maintenance Agent	MSD	NA
200-300	Link to Standard Drawing	-	NA
200-300	Link to Other Drawing	-	NA
200-300	Shape	Circular	NA
200-300	Nominal Size	200	mm
200-300	Length	10000	mm
200-300	Design Pressure	20	bar
200-300	Design Flow Rate	3.000	m <sup>3</sup> /s
200-300	Lining Material	-	NA
200-300	Lining Thickness	-	mm
200-300	Upstream IL	2	mPD
200-300	Downstream IL	4	mPD
200-300	Gradient	1 in 50	NA
400	Installed Date	01/05/2018	DD/MM/YYYY
400	Commission Date	01/01/2019	DD/MM/YYYY
400	Contract Number	DC/2013/09	NA

## 1a - Stormwater

## Rising Main

[illegible]

1a - Stormwater

Rising Main

LOD-I	Proposed Attribute Name	Example	Unit

Example Image:

BLANK

Remarks:

- (1): Material = [Ductile Iron], [Glass Reinforced Polyester], [High Density Polyethylene],  
[Mild Steel], [P.E.], [Stainless Steel], [Steel]
- (2): Shape = [Circular]

**1a - Stormwater**

## Pipe

<b>LOD-I</b>	<b>Proposed Attribute Name</b>	<b>Example</b>	<b>Unit</b>
100	CAT Code	SWD	NA
100	ID Mark	SWD0001	NA
100	Feature Type	Pipe	NA
100	Drainage System Type	Stormwater	NA
200-300	Asset Code	-	NA
200-300	Material	Concrete	NA
200-300	Maintenance Agent	MSD	NA
200-300	Link to Standard Drawing	-	NA
200-300	Link to Other Drawing	-	NA
200-300	Shape	Circular	NA
200-300	Nominal Size	1050	mm
200-300	Length	5000	mm
200-300	Design Pressure	0	bar
200-300	Design Flow Rate	20	m <sup>3</sup> /s
200-300	Lining Material	Spay Lining	NA
200-300	Lining Thickness	10	mm
200-300	Upstream IL	1.1	mPD
200-300	Downstream IL	1	mPD
200-300	Gradient	1 in 100	NA
400	Installed Date	01/05/2018	DD/MM/YYYY
400	Commission Date	01/01/2019	DD/MM/YYYY
400	Contract Number	DC/2013/09	NA

## 1a - Stormwater

## Pipe

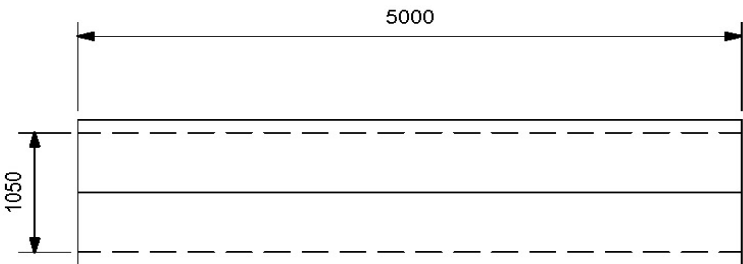
[illegible]

1a - Stormwater

Pipe

LOD-I	Proposed Attribute Name	Example	Unit

Example Image:



Plan

Remarks:

(1): Material = [Brick], [Cast Iron], [Clay], [Concrete], [Ductile Iron], [Glass Reinforced Polyester], [High Density Polyethylene], [Masonry], [Medium Density Polyethylene], [Polyethylene], [PVC], [Rock], [Steel], [Stone], [uPVC], [Vitrified Clay]

(2): Shape = [Barrel], [Circular], [Irregular], [Oval], [Rectangular], [Square], [Trapezoidal]



**1b - Sewerage**

## Box Culvert (Twin Cell)

<b>LOD-I</b>	<b>Proposed Attribute Name</b>	<b>Example</b>	<b>Unit</b>
100	CAT Code	FBP	NA
100	ID Mark	FBP0001	NA
100	Feature Type	Box Culvert	NA
100	Drainage System Type	Sewerage	NA
200-300	Asset Code	-	NA
200-300	Material	Concrete <sup>(1)</sup>	NA
200-300	Maintenance Agent	MSD	NA
200-300	Link to Standard Drawing	-	NA
200-300	Link to Other Drawing	<u>40001.dgn</u>	NA
200-300	Concrete Grade	30/20D	NA
200-300	Shape	Rectangular <sup>(2)</sup>	NA
200-300	Length	10000	mm
200-300	Width W1	5300	mm
200-300	Height H1	2100	mm
200-300	Height H2	1500	mm
200-300	Thickness T1	300	mm
200-300	Thickness T2	300	mm
200-300	Thickness T3	300	mm
200-300	Thickness T4	300	mm
200-300	Upstream IL	1.100	mPD
200-300	Downstream IL	1.000	mPD
200-300	Dry Weather Flow Channel	Y	Y/N

## 1b - Sewerage

### Box Culvert (Twin Cell)

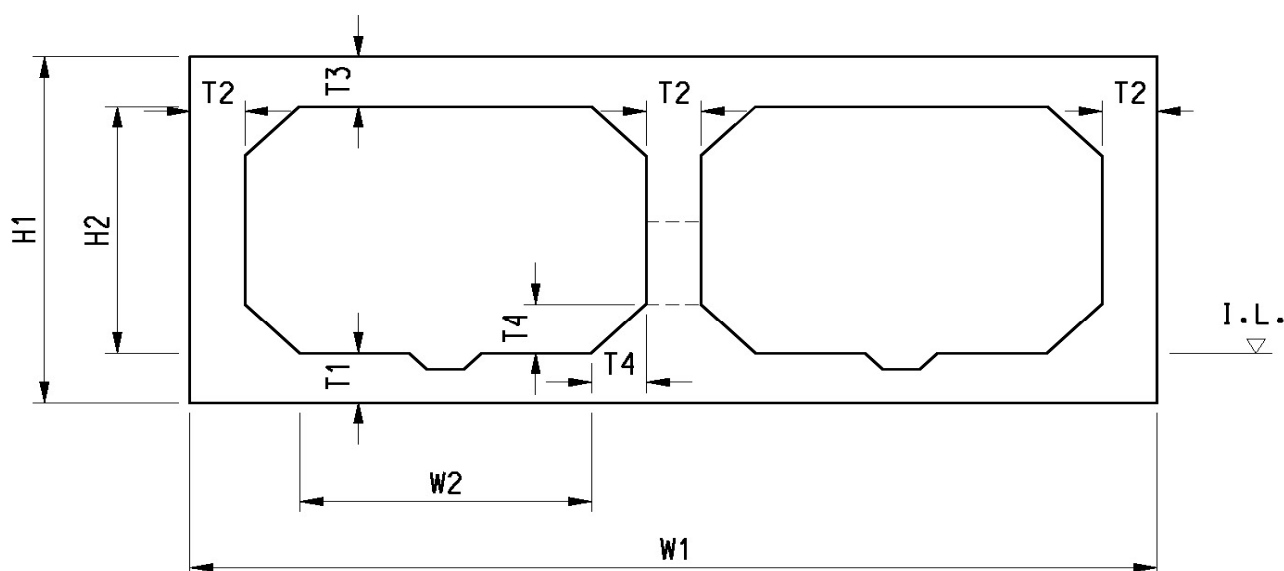
[illegible]

**1b - Sewerage**

## Box Culvert (Twin Cell)

LOD-I	Proposed Attribute Name	Example	Unit

Example Image:

Typical Section

Remarks:

- (1): Material = [Concrete], [Brick], [Masonry], [Rock], [Stone], [Precast Concrete Lining],  
 [Cast-in-situ Concrete], [Cast-in-situ Concrete with HDPE liner]
- (2): Shape = [Circular], [Rectangular], [Square], [Barrel], [Trapezoidal], [Irregular]

**1b - Sewerage**

## Manhole Cover

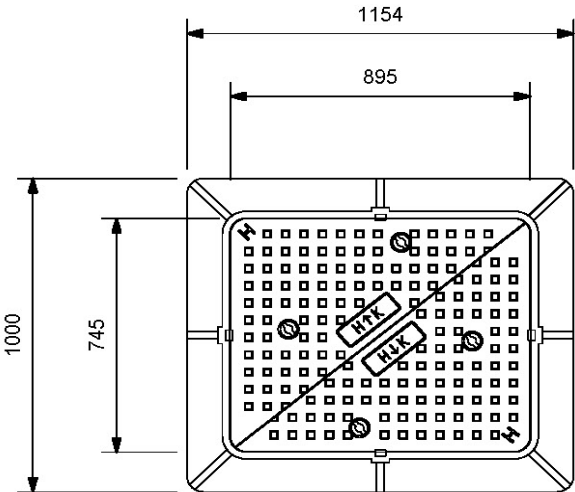
<b>LOD-I</b>	<b>Proposed Attribute Name</b>	<b>Example</b>	<b>Unit</b>
100	CAT Code	FMC	NA
100	ID Mark	FMC0003	NA
100	Feature Type	Manhole Cover	NA
100	Drainage System Type	Sewerage	NA
200-300	Asset Code	-	NA
200-300	Material	Cast Iron	NA
200-300	Maintenance Agent	MSD	NA
200-300	Link to Standard Drawing	<u>DS1034B</u>	NA
200-300	Link to Other Drawing	<u>40002.dgn</u>	NA
200-300	Shape	Rectangular	NA
200-300	Northing of Centroid	816467.520	m
200-300	Easting of Centroid	832815.420	m
200-300	Length	895 <sup>(1)</sup>	mm
200-300	Width	745 <sup>(1)</sup>	mm
400	Installed Date	01/05/2018	DD/MM/YYYY
400	Commission Date	01/01/2019	DD/MM/YYYY
400	Contract Number	DC/2013/09	NA
400	Completion Date	30/12/2018	DD/MM/YYYY
400	Handover Date	01/02/2019	DD/MM/YYYY

1b - Sewerage

Manhole Cover

LOD-I	Proposed Attribute Name	Example	Unit

Example Image:



Plan

Remarks:

(1): For more types of cover, please refer to [http://www.dsd.gov.hk/EN/Technical\\_Documents/Standard\\_Drawings/index.html](http://www.dsd.gov.hk/EN/Technical_Documents/Standard_Drawings/index.html)

**1b - Sewerage**

## Manhole

<b>LOD-I</b>	<b>Proposed Attribute Name</b>	<b>Example</b>	<b>Unit</b>
100	CAT Code	FMH	NA
100	ID Mark	FMH0003	NA
100	Feature Type	Manhole	NA
100	Drainage System Type	Sewerage	NA
200-300	Asset Code	-	NA
200-300	Material	Concrete <sup>(1)</sup>	NA
200-300	Maintenance Agent	MSD	NA
200-300	Link to Standard Drawing	<u>DS1005</u>	NA
200-300	Link to Other Drawing	<u>40002.dgn</u>	NA
200-300	Manhole Type	Type E <sup>(2)</sup>	NA
200-300	Northing of Centroid	831828.999	m
200-300	Easting of Centroid	842268.000	m
200-300	Depth	3000	mm
200-300	Internal Length	1425	mm
200-300	Internal Width	1350	mm
200-300	Internal Headroom	1750	mm
200-300	Cover Level	8.650	mPD
200-300	No of Covers	1	NA
200-300	Max Design Water Level	8.150	mPD
200-300	Invert Level A1	5.250	mpD
200-300	Invert Level A2	Nil	mPD
200-300	Invert Level A3	Nil	mPD

**1b - Sewerage**

## Manhole

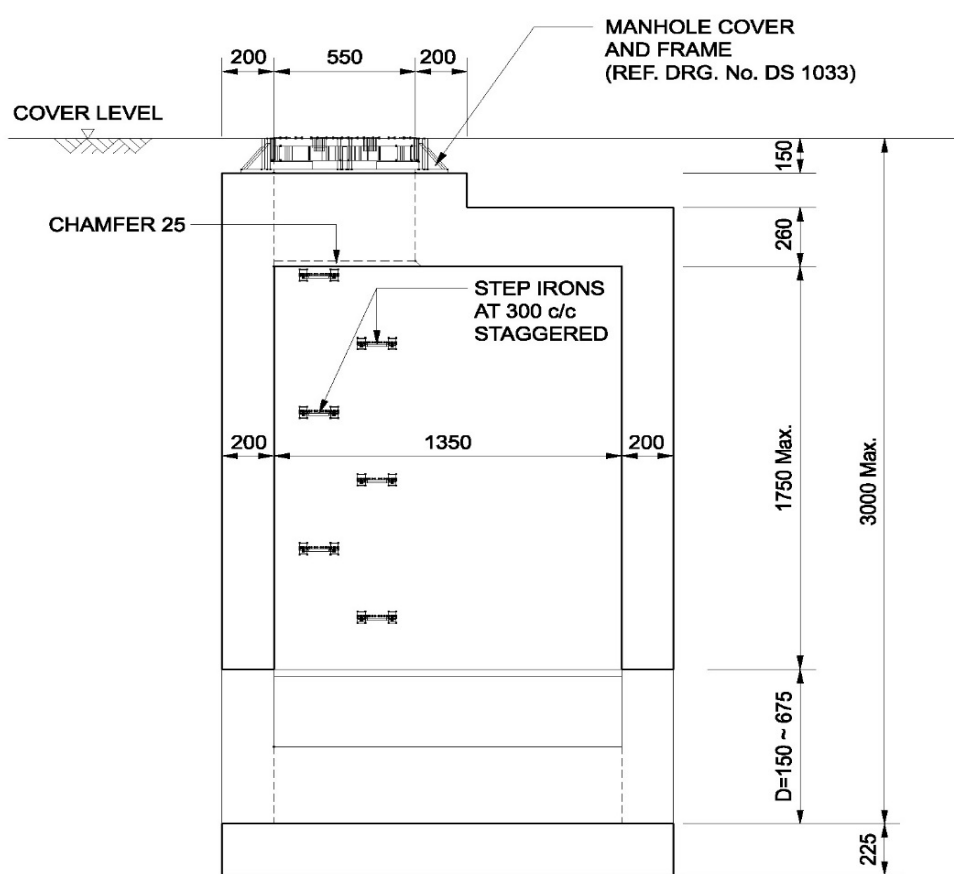
<b>LOD-I</b>	<b>Proposed Attribute Name</b>	<b>Example</b>	<b>Unit</b>
200-300	Invert Level A4	Nil	mPD
200-300	Invert Level X1	5.150	mPD
200-300	Bottom Level	5.150	mPD
200-300	Concrete Cover	40	mm
200-300	Concrete Grade	30_20D	NA
200-300	Reinforcement	T20_200	NA
200-300	Platform	N	Y/N
200-300	Step Iron	Y	Y/N
200-300	Ladder	N	Y/N
400	Installed Date	01/05/2018	DD/MM/YYYY
400	Commission Date	01/01/2019	DD/MM/YYYY
400	Contract Number	DC/2013/09	NA
400	Completion Date	30/12/2018	DD/MM/YYYY
400	Handover Date	01/02/2019	DD/MM/YYYY

**1b - Sewerage**

## Manhole

LOD-I	Proposed Attribute Name	Example	Unit

Example Image:

Typical Section

Remarks:

(1): Material = [Concrete], [Brick]

(2): Manhole Type = [Type A], [Type B], [Type C], [Type D], [Type E], [Type F], [Type G], [Type H], [Type I], [Type J], [Type K], [Type L], [Backdrop (Type 1)], [Backdrop (Type 2)], [Backdrop (Type 3)], [Type G/D], [Type H/D], [Type I/D], [Type J/D], [Type K/D], [Type C1], [Type D1], [Type E1], [Type F1], [Type G1], [Type G1D]



**1b - Sewerage**

## Pipe

<b>LOD-I</b>	<b>Proposed Attribute Name</b>	<b>Example</b>	<b>Unit</b>
100	CAT Code	FWD	NA
100	ID Mark	FWD0001	NA
100	Feature Type	Pipe	NA
100	Drainage System Type	Sewerage	NA
200-300	Asset Code	-	NA
200-300	Material	Vitrified Clay Pipe	NA
200-300	Maintenance Agent	MSD	NA
200-300	Link to Standard Drawing	-	NA
200-300	Link to Other Drawing	-	NA
200-300	Shape	Circular	NA
200-300	Nominal Size	225	mm
200-300	Length	500	mm
200-300	Design Pressure	0.000	bar
200-300	Design Flow Rate	20.000	m <sup>3</sup> /s
200-300	Lining Material	Spay Lining	NA
200-300	Lining Thickness	10	mm
200-300	Upstream IL	1.100	mPD
200-300	Downstream IL	1.000	mPD
200-300	Gradient	1 in 100	NA
400	Installed Date	01/05/2018	DD/MM/YYYY
400	Commission Date	01/01/2019	DD/MM/YYYY
400	Contract Number	DC/2013/09	NA

1b - Sewerage

Pipe

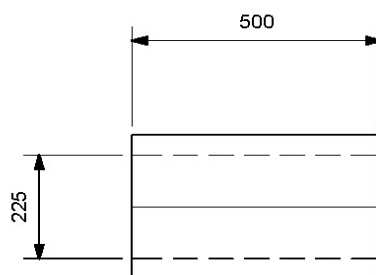
LOD-I	Proposed Attribute Name	Example	Unit
400	Completion Date	30/12/2018	DD/MM/YYYY
400	Handover Date	01/02/2019	DD/MM/YYYY
400	Feature No	FWD7093504	NA
400	Upstream Feature No	FMH7076221	NA
400	Downstream Feature No	FSH7003680	NA

**1b - Sewerage**

Pipe

LOD-I	Proposed Attribute Name	Example	Unit

Example Image:

Plan

Remarks:

- (1): Material = [Brick], [Cast Iron], [Clay], [Concrete], [Ductile Iron], [Glass Reinforced Polyester], [High Density Polyethylene], [Masonry], [Medium Density Polyethylene], [Polyethylene], [PVC], [Rock], [Steel], [Stone], [uPVC], [Vitrified Clay]
- (2): Shape = [Barrel], [Circular], [Irregular], [Oval], [Rectangular], [Square], [Trapezoidal]

**2a - Mechanical**

## Penstock

<b>LOD-I</b>	<b>Proposed Attribute Name</b>	<b>Example</b>	<b>Unit</b>
100	Address	Shan On Street, Ma On Shan	NA
100	Site ID	MOS108SPS	NA
100	District Code	ST	NA
100	CAT Code	MPE	NA
200-300	Equipment Name Chinese	機動閘掣	NA
200-300	Equipment Name English	Motorised Penstock	NA
200-300	Equipment Type	Penstock	NA
200-300	Asset Code	MOS108SPS-SPS-B2-WWL-PPS- MPE-MOT001	NA
200-300	System Code	PPS	NA
200-300	Is Parent Entity	N <sup>(1)</sup>	NA
200-300	Material	Cast Iron Grade 250	NA
200-300	Remark	NA	NA
200-300	Unit Number	001	NA
200-300	Elevation	+1.20	mPD
200-300	Elevation Type	mPD	NA
200-300	Height	1462	mm
200-300	Length	825	mm
200-300	Width	238	mm
400	Weight	268	kg
400	Brand Name	XYZ Brand	NA
400	Manufacturer Contact	1234 5678	NA

**2a - Mechanical**

## Penstock

<b>LOD-I</b>	<b>Proposed Attribute Name</b>	<b>Example</b>	<b>Unit</b>
400	Manufacturer Name	Jash Engineering Ltd	NA
400	Model	SUS 304	NA
400	Original Price Amount	60000	NA
400	Original Price Amount Currency	HKD	NA
400	Place of Origin	India	NA
400	Serial Number	304-00021	NA
400	Supplier Contact	1234 5678	NA
400	Supplier Name	ABC Company	NA
400	Commission Date	12/06/2009	NA
400	DLP End Date	12/06/2010	NA
400	Expected Life Time	15	year
400	Installed Date	01/05/2008	NA
400	Manufactured Date	01/01/2008	NA
400	Equipment Number	150121	NA
400	File Number	259758	NA
400	Maintenance Usage Threshold	200 <sup>(2)</sup>	NA
400	Usage Unit	No. of Count <sup>(3)</sup>	NA
400	Wireless_Optical Tag ID	29873112	NA
400	Wireless_Optical Zone Tag ID	29873568	NA
400	Criticality	Critical-no spare <sup>(4)</sup>	NA
400	Priority	High <sup>(5)</sup>	NA
200-300	Dimension of Opening	600 x 600	mm

**2a - Mechanical**

## Penstock

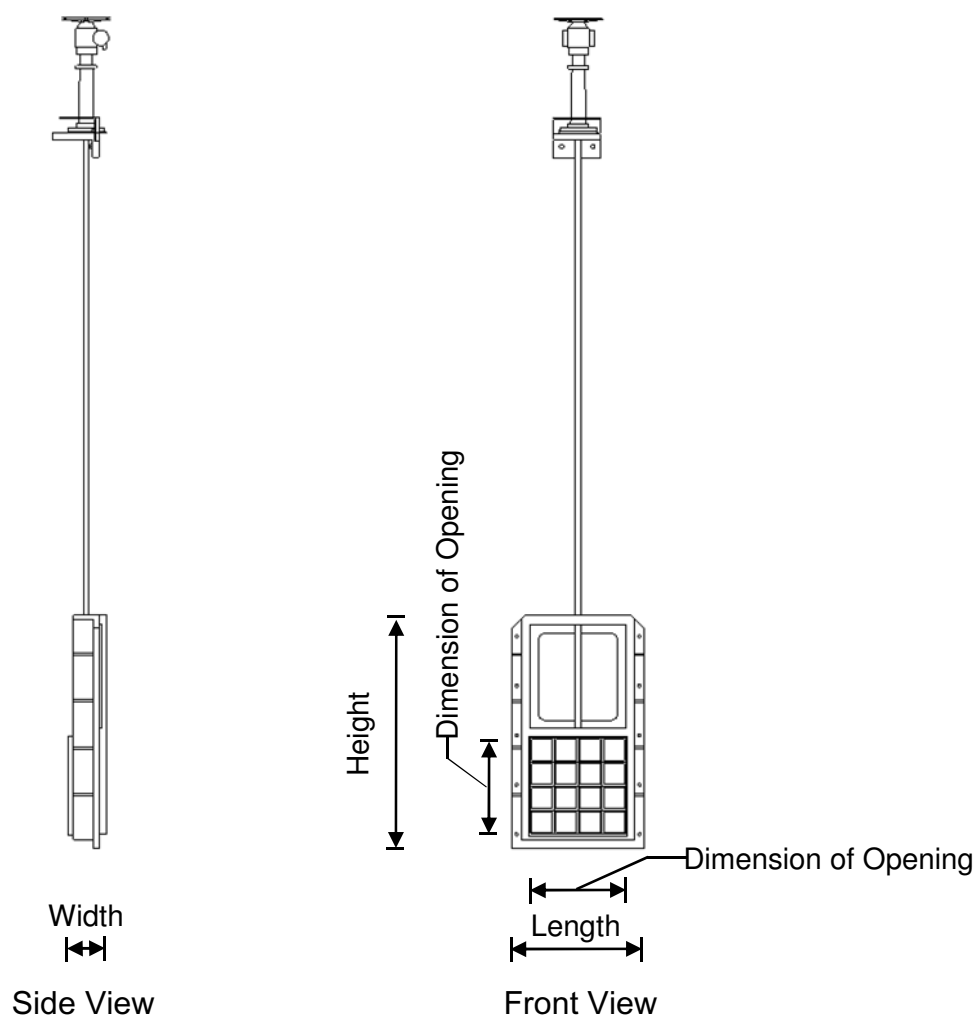
<b>LOD-I</b>	<b>Proposed Attribute Name</b>	<b>Example</b>	<b>Unit</b>
400	Additional Spare Part Name	NA	NA
400	Door Nuts Material	Phosphor Bronze	NA
400	Fastners_Foundation Bolts and Nuts Material	Phosphor Bronze	NA
400	Flush Invert Retaining Bar Material	Cast Iron Grade 250	NA
400	Flush Invert Seal Material	Cast Iron Grade 250	NA
400	Frames_Doors_Guides_Stem Guides_Floor Pillar and Handwheels Material	Cast Iron Grade 250	NA
400	On and Off Seat Head	5.29 / 5.29	m
400	Rising Stem Drive Sleeve Material	Stainless Steel Grade 316	NA
400	SCADA Tag Name	MP0001	NA
400	Seating Faces and Wedge Faces Material	Phosphor Bronze / Cast Iron Lined with Phosphor Bronze Faces	NA
400	Stems_Extension Stems Material	Stainless Steel Grade 316	NA

**2a - Mechanical**

## Penstock

LOD-I	Proposed Attribute Name	Example	Unit

Example Image:



Remarks:

- (1): Y or N (5): Low, Medium, High or Critical  
 (2): Ceiling Running Hour or No. of Count (6): Date should be in the format of dd/mm/yyyy  
 (3): Hour or No. of Count  
 (4): Critical-no spare, Primary, Critical-w/spare in store, Critical-w/spare installed, Non critical or Secondary

**2a - Mechanical**

## Pump

<b>LOD-I</b>	<b>Proposed Attribute Name</b>	<b>Example</b>	<b>Unit</b>
100	Address	Shan On Street, Ma On Shan	NA
100	Site ID	MOS108SPS	NA
100	District Code	ST	NA
100	CAT Code	MPU	NA
200-300	Equipment Name Chinese	污水泵	NA
200-300	Equipment Name English	Sewage Pump	NA
200-300	Equipment Type	Pump	NA
200-300	Asset Code	MOS108SPS-SPS-B2-WWL-PPS- MPU-SEW001	NA
200-300	System Code	PPS	NA
200-300	Is Parent Entity	N <sup>(1)</sup>	NA
200-300	Material	Cast Iron Grade 260	NA
200-300	Remark	NA	NA
200-300	Unit Number	001	NA
200-300	Elevation	+1.20	mPD
200-300	Elevation Type	mPD	NA
200-300	Height	1040	mm
200-300	Length	1398	mm
200-300	Width	550	mm
400	Weight	580	kg
400	Brand Name	XYZ Brand	NA
400	Manufacturer Contact	1234 5678	NA



**2a - Mechanical**

## Pump

<b>LOD-I</b>	<b>Proposed Attribute Name</b>	<b>Example</b>	<b>Unit</b>
400	Manufacturer Name	Hidrostal	NA
400	Model	H08K-H03R	NA
400	Original Price Amount	150000	NA
400	Original Price Amount Currency	HKD	NA
400	Place of Origin	Switzerland	NA
400	Serial Number	176937	NA
400	Supplier Contact	1234 5678	NA
400	Supplier Name	ABC Company	NA
400	Commission Date	12/06/2009	NA
400	DLP End Date	12/06/2010	NA
400	Expected Life Time	20	year
400	Installed Date	01/05/2008	NA
400	Manufactured Date	01/01/2008	NA
400	Equipment Number	14273	NA
400	File Number	123456	NA
400	Maintenance Usage Threshold	4500 <sup>(2)</sup>	NA
400	Usage Unit	Hour <sup>(3)</sup>	NA
400	Wireless_Optical Tag ID	36971256	NA
400	Wireless_Optical Zone Tag ID	36971258	NA
400	Criticality	Critical-no spare <sup>(4)</sup>	NA
400	Priority	High <sup>(5)</sup>	NA
200-300	Construction Type	Vertical <sup>(6)</sup>	NA

**2a - Mechanical**

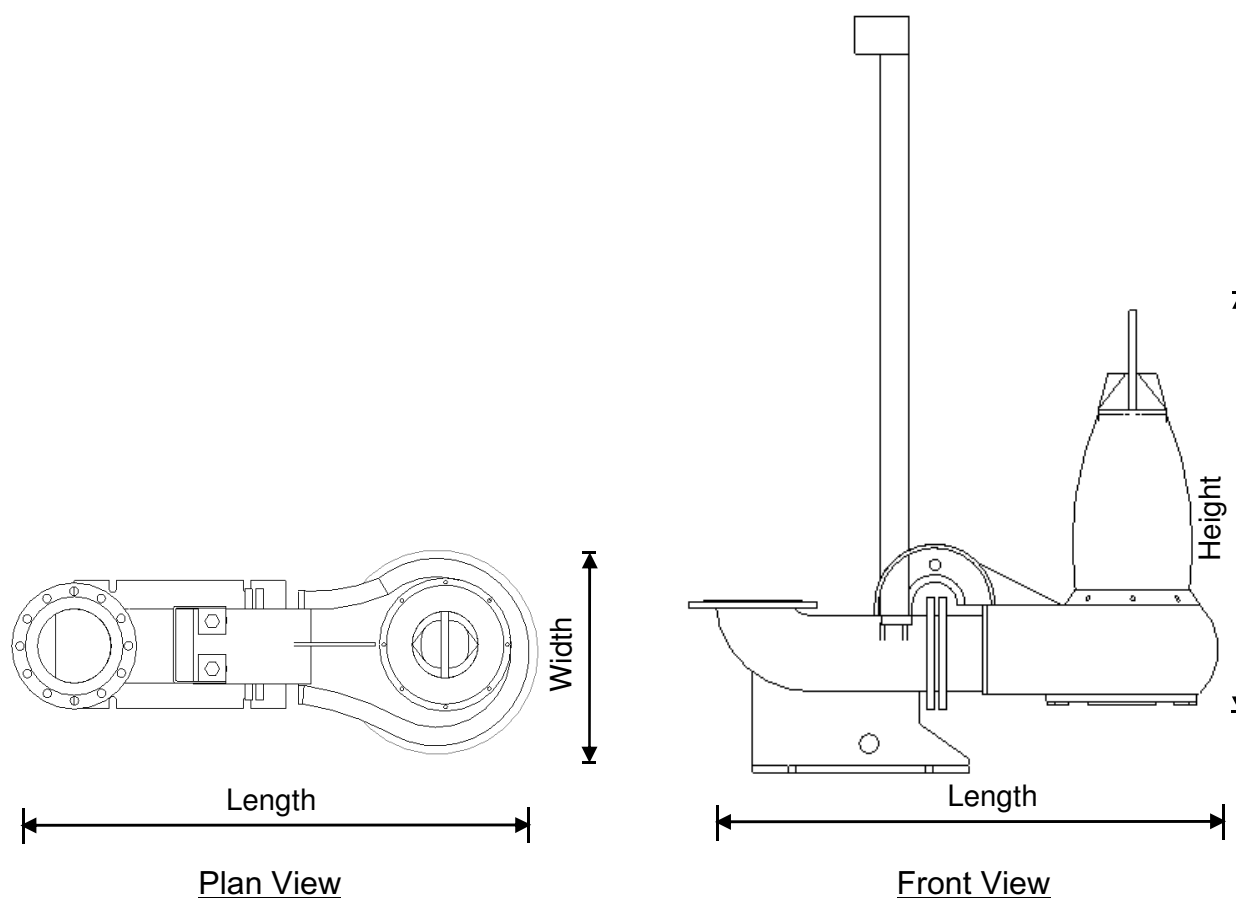
## Pump

LOD-I	Proposed Attribute Name	Example	Unit
200-300	Application Media_Solid Handling Capacity	Sewage / 145 mm	NA
200-300	Dual Speed	High <sup>(7)</sup>	NA
200-300	Flow Rate	162	l/s
200-300	Head	33.7	m
200-300	No. of Stage	Single <sup>(8)</sup>	NA
200-300	Pump Casing Material	Cast Iron Grade 260	NA
200-300	Pump Impeller Material	Stainless Steel Grade 420	NA
200-300	Size	Medium <sup>(9)</sup>	NA
400	Additional Spare Part Name	Impeller Wear Ring	NA
400	Diameter	Impeller : 410 Inlet : 250 Discharge : 200	mm
400	Drive_Coupling Type	Direct Coupling <sup>(10)</sup>	NA
400	Engine Power	NA <sup>(11)</sup>	kW
400	Motor Rating	110	kW
400	Pump Speed	1485	RPM
400	SCADA Tag Name	SP0001	NA
400	Pump Curve	\\ServerName\O&M Manual\Pump\Hidrosta\H08K- H03R\PumpCurve.pdf	NA

**2a - Mechanical****Pump**

LOD-I	Proposed Attribute Name	Example	Unit

Example Image:



Remarks:

- |   |  |
|---|--|
| (1): Y or N   | (6): Vertical or Horizontal                      |
| (2): Ceiling Running Hour or No. of Count   | (7): High or Low                                 |
| (3): Hour or No. of Count   | (8): Single or Multi Stage                       |
| (4): Critical-no spare, Primary, Critical-w/spare in store, Critical-w/spare installed, Non critical or Secondary | (9): Small, Medium or Large                      |
| (5): Low, Medium, High or Critical  | (10): Direct Coupling or Universal Shaft         |
|   | (11): Equipped with Diesel Engine Only           |
|   | (12): Date should be in the format of dd/mm/yyyy |

**2a - Mechanical**

## Screen

<b>LOD-I</b>	<b>Proposed Attribute Name</b>	<b>Example</b>	<b>Unit</b>
100	Address	Shan On Street, Ma On Shan	NA
100	Site ID	MOS108SPS	NA
100	District Code	ST	NA
100	CAT Code	MSC	NA
200-300	Equipment Name Chinese	機械化柵篩	NA
200-300	Equipment Name English	Mechanised Bar Screen	NA
200-300	Equipment Type	Screen	NA
200-300	Asset Code	MOS108SPS-SPS-B1-ICB-SCS- MSC-MEB001	NA
200-300	System Code	SCS	NA
200-300	Is Parent Entity	Y <sup>(1)</sup>	NA
200-300	Material	Stainless Steel Grade 316	NA
200-300	Remark	NA	NA
200-300	Unit Number	001	NA
200-300	Elevation	+1.20	mPD
200-300	Elevation Type	mPD	NA
200-300	Height	9485	mm
200-300	Length	800	mm
200-300	Width	800	mm
400	Weight	1544	kg
400	Brand Name	XYZ Brand	NA
400	Manufacturer Contact	1234 5678	NA

**2a - Mechanical**

## Screen

<b>LOD-I</b>	<b>Proposed Attribute Name</b>	<b>Example</b>	<b>Unit</b>
400	Manufacturer Name	Engineering & Manufacturing Ltd	NA
400	Model	E&M IBS	NA
400	Original Price Amount	150000	NA
400	Original Price Amount Currency	HKD	NA
400	Place of Origin	Germany	NA
400	Serial Number	E&M IBS 794/3090/5400/50	NA
400	Supplier Contact	1234 5678	NA
400	Supplier Name	ABC Company	NA
400	Commission Date	12/06/2009	NA
400	DLP End Date	12/06/2010	NA
400	Expected Life Time	20	year
400	Installed Date	01/05/2008	NA
400	Manufactured Date	01/01/2008	NA
400	Equipment Number	170121	NA
400	File Number	697421	NA
400	Maintenance Usage Threshold	200 <sup>(2)</sup>	NA
400	Usage Unit	Hour <sup>(3)</sup>	NA
400	Wireless_Optical Tag ID	45219877	NA
400	Wireless_Optical Zone Tag ID	45215679	NA
400	Criticality	Critical-no spare <sup>(4)</sup>	NA
400	Priority	High <sup>(5)</sup>	NA
400	Additional Spare Part Name	Chain Set, Chain Link	NA

**2a - Mechanical**

## Screen

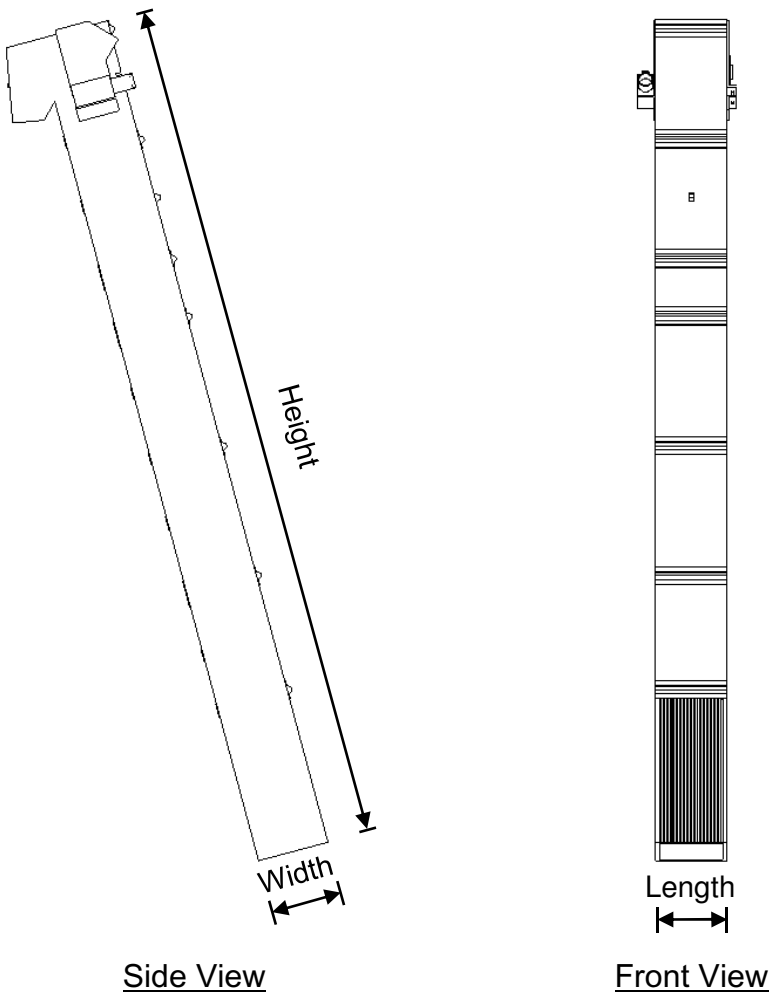
<b>LOD-I</b>	<b>Proposed Attribute Name</b>	<b>Example</b>	<b>Unit</b>
400	Bar Spacing	50	mm
400	Bar Thickness	12	mm
400	Head Loss Across Screen	0.32	mm
400	Inclination	75	degree
400	Material of Discharge Chute	Stainless Steel Grade 316	NA
400	Material of Rake	Stainless Steel Grade 316	NA
400	Material of Roller Chain	Stainless Steel Grade 316	NA
400	Material of Screen Bar	Stainless Steel Grade 316	NA
400	Material of Screen Framework	Stainless Steel Grade 316	NA
400	Material of Sprocket	Stainless Steel Grade 316	NA
400	Max. Capacity	0.5	l/s
400	Raking Frequency	Min. 5 times / minutes	NA
400	SCADA Tag Name	CS0001	NA
400	Screen Bar Cross-Sectional Dimension	6 x 50	mm
400	Thickness of the Plate for Chain	25	mm
400	Thickness of the Tooth for Rakes	70	mm
400	Velocity Across Screen	0.21	m/s

2a - Mechanical

Screen

LOD-I	Proposed Attribute Name	Example	Unit

Example Image:



Remarks:

- (1): Y or N

(2): Ceiling Running Hour or No. of Count

(3): Hour or No. of Count
- (4): Critical-no spare, Primary, Critical-w/spare in store, Critical-w/spare installed, Non critical or Secondary

(5): Low, Medium, High or Critical

(6): Date should be in the format of dd/mm/yyyy

**2a - Mechanical**

## Valve

<b>LOD-I</b>	<b>Proposed Attribute Name</b>	<b>Example</b>	<b>Unit</b>
100	Address	Shan On Street, Ma On Shan	NA
100	Site ID	MOS108SPS	NA
100	District Code	ST	NA
100	CAT Code	MVA	NA
200-300	Equipment Name Chinese	閘門閥	NA
200-300	Equipment Name English	Gate Valve	NA
200-300	Equipment Type	Valve	NA
200-300	Asset Code	MOS108SPS-SPS-B01-VCB-PPS-MVA-MOT001	NA
200-300	System Code	PPS	NA
200-300	Is Parent Entity	N <sup>(1)</sup>	NA
200-300	Material	Cast Iron Grade 220	NA
200-300	Remark	NA	NA
200-300	Unit Number	001	NA
200-300	Elevation	+1.20	mPD
200-300	Elevation Type	mPD	NA
200-300	Height	1130	mm
200-300	Length	400	mm
200-300	Width	340	mm
400	Weight	154	kg
400	Brand Name	XYZ Brand	NA
400	Manufacturer Contact	1234 5678	NA



**2a - Mechanical**

## Valve

<b>LOD-I</b>	<b>Proposed Attribute Name</b>	<b>Example</b>	<b>Unit</b>
400	Manufacturer Name	AEP	NA
400	Model	Rising Stem Type B	NA
400	Original Price Amount	5000	NA
400	Original Price Amount Currency	HKD	NA
400	Place of Origin	Malaysia	NA
400	Serial Number	RS1025-200B	NA
400	Supplier Contact	1234 5678	NA
400	Supplier Name	ABC Company	NA
400	Commission Date	12/06/2009	NA
400	DLP End Date	12/06/2010	NA
400	Expected Life Time	15	year
400	Installed Date	01/05/2008	NA
400	Manufactured Date	01/01/2008	NA
400	Equipment Number	18013	NA
400	File Number	123456	NA
400	Maintenance Usage Threshold	200 <sup>(2)</sup>	NA
400	Usage Unit	No. of count <sup>(3)</sup>	NA
400	Wireless_Optical Tag ID	22261256	NA
400	Wireless_Optical Zone Tag ID	22612589	NA
400	Criticality	Critical-no spare <sup>(4)</sup>	NA
400	Priority	High <sup>(5)</sup>	NA
200-300	Body Material	Cast Iron Grade 220	NA

**2a - Mechanical**

## Valve

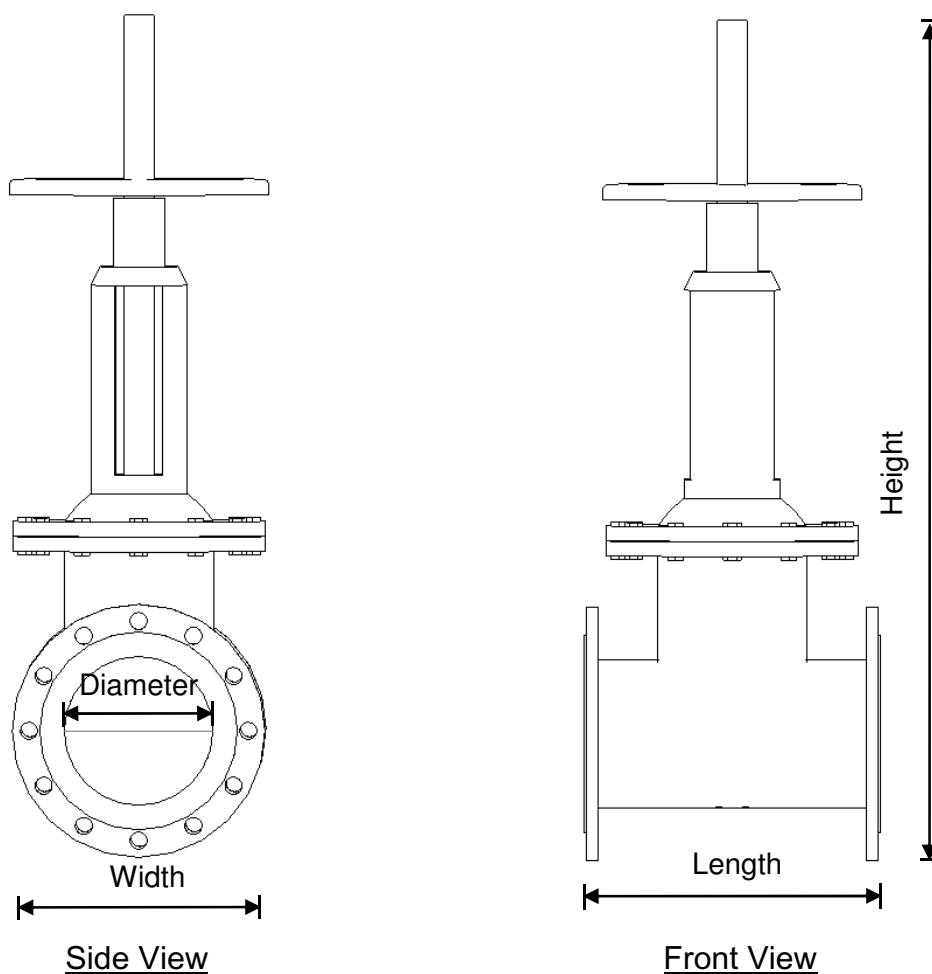
<b>LOD-I</b>	<b>Proposed Attribute Name</b>	<b>Example</b>	<b>Unit</b>
200-300	Connection Type	Bolt <sup>(6)</sup>	NA
200-300	Diameter	200	mm
200-300	Drive Style	NA	NA
200-300	Medium	NA	NA
200-300	Size	Medium <sup>(7)</sup>	NA
200-300	Standard	BS 5150 : 1990	NA
200-300	Stem Material	Stainless Steel Grade 431	NA
400	Additional Spare Part Name	NA	NA
400	Anticorrosive Type	NA	NA
400	Body Rubberlined	N <sup>(1)</sup>	NA
400	Class or Thickness	3	mm
400	Disc Wedge Rubberlined	Y <sup>(1)</sup>	NA
400	Operation Mode	Active <sup>(8)</sup>	NA
400	Pressure Rating	10	bar
400	Protect Layer Material	NA	NA
400	Protect Thickness	3	mm
400	Test Pressure	15	bar
400	Valve Position Indicator	NA	NA
400	Working Pressure	6	bar
400	SCADA Tag Name	GV0001	NA

**2a - Mechanical**

## Valve

LOD-I	Proposed Attribute Name	Example	Unit

Example Image:



Remarks:

- |   |   |
|---|---|
| (1): Y or N   | (5): Low, Medium, High or Critical              |
| (2): Ceiling Running Hour or No. of Count   | (6): Weld or Bolt                               |
| (3): Hour or No. of Count   | (7): Small, Medium or Large                     |
| (4): Critical-no spare, Primary, Critical-w/spare in store, Critical-w/spare installed, Non critical or Secondary | (8): Active or Inactive                         |
|   | (9): Date should be in the format of dd/mm/yyyy |

**2a - Mechanical**

## Air Blower

<b>LOD-I</b>	<b>Proposed Attribute Name</b>	<b>Example</b>	<b>Unit</b>
100	Address	Shan On Street, Ma On Shan	NA
100	Site ID	MOS108SPS	NA
100	District Code	ST	NA
100	CAT Code	MAB	NA
200-300	Equipment Name Chinese	吹風機	NA
200-300	Equipment Name English	Air Blower	NA
200-300	Equipment Type	Air Blower	NA
200-300	Asset Code	MOS108SPS-SPS-B1-ABR-ABS- MAB-___001	NA
200-300	System Code	ABS	NA
200-300	Is Parent Entity	N <sup>(1)</sup>	NA
200-300	Material	Steel	NA
200-300	Remark	NA	NA
200-300	Unit Number	001	NA
200-300	Elevation	+1.4	mPD
200-300	Elevation Type	mPD	NA
200-300	Height	1207	mm
200-300	Length	1150	mm
200-300	Width	1155	mm
400	Weight	500	kg
400	Brand Name	XAZ Brand	NA
400	Manufacturer Contact	2134 5678	NA

**2a - Mechanical**

## Air Blower

<b>LOD-I</b>	<b>Proposed Attribute Name</b>	<b>Example</b>	<b>Unit</b>
400	Manufacturer Name	DDF	NA
400	Model	Type A	NA
400	Original Price Amount	2000	NA
400	Original Price Amount Currency	HKD	NA
400	Place of Origin	China	NA
400	Serial Number	AB1115-200A	NA
400	Supplier Contact	1224 5678	NA
400	Supplier Name	ABC Company	NA
400	Commission Date	12/06/2009	NA
400	DLP End Date	12/06/2010	NA
400	Expected Life Time	10	year
400	Installed Date	01/05/2008	NA
400	Manufactured Date	01/01/2008	NA
400	Equipment Number	17951	NA
400	File Number	24689	NA
400	Maintenance Usage Threshold	200 <sup>(2)</sup>	NA
400	Usage Unit	Hour <sup>(3)</sup>	NA
400	Wireless_Optical Tag ID	24568041	NA
400	Wireless_Optical Zone Tag ID	24568043	NA
400	Criticality	Critical-no spare <sup>(4)</sup>	NA
400	Priority	High <sup>(5)</sup>	NA
400	Additional Spare Part Name	NA	NA

## 2a - Mechanical

## Air Blower

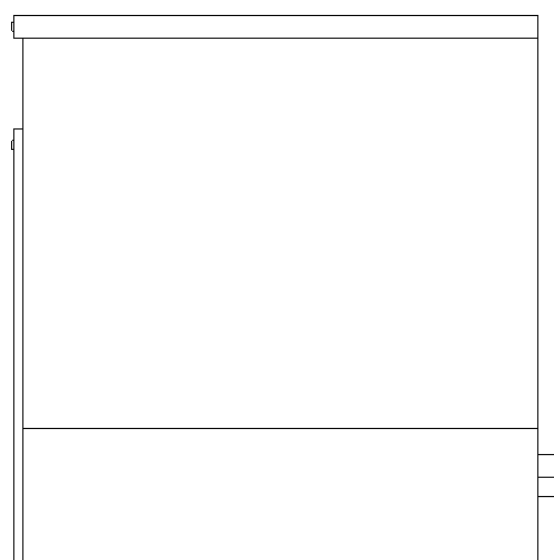
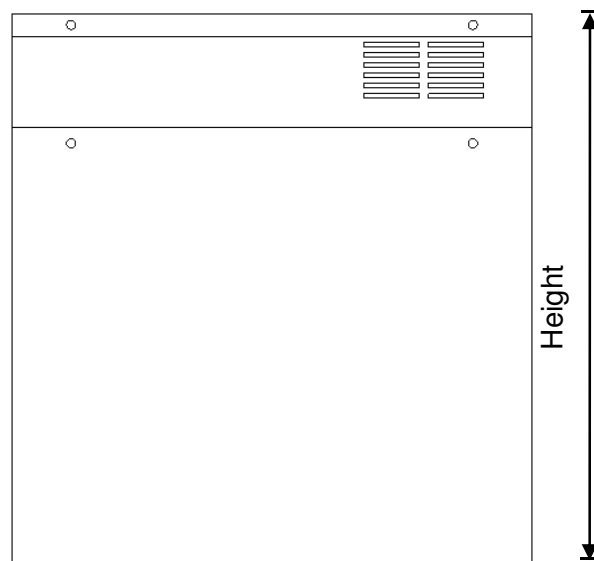
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**2a - Mechanical**

## Air Blower

LOD-I	Proposed Attribute Name	Example	Unit

Example Image:

Side ViewFront View

Remarks:

(1): Y or N

(5): Low, Medium, High or Critical

(2): Ceiling Running Hour or No. of Count

(3): Hour or No. of Count

(4): Critical-no spare, Primary, Critical-  
w/spare in store, Critical-w/spare installed,  
Non critical or Secondary

**2a - Mechanical**

## Air Compressor

<b>LOD-I</b>	<b>Proposed Attribute Name</b>	<b>Example</b>	<b>Unit</b>
100	Address	Shan On Street, Ma On Shan	NA
100	Site ID	MOS108SPS	NA
100	District Code	ST	NA
100	CAT Code	MAC	NA
200-300	Equipment Name Chinese	空氣壓縮機	NA
200-300	Equipment Name English	Air Compressor	NA
200-300	Equipment Type	Air Compressor	NA
200-300	Asset Code	MOS108SPS-SPS-B1-ABR-CAS- MAC-__001	NA
200-300	System Code	CAS	NA
200-300	Is Parent Entity	N <sup>(1)</sup>	NA
200-300	Material	Steel	NA
200-300	Remark	NA	NA
200-300	Unit Number	001	NA
200-300	Elevation	+1.20	mPD
200-300	Elevation Type	mPD	NA
200-300	Height	800	mm
200-300	Length	540	mm
200-300	Width	600	mm
400	Weight	110	kg
400	Brand Name	XYZ Brand	NA
400	Manufacturer Contact	1234 5678	NA



**2a - Mechanical**

## Air Compressor

<b>LOD-I</b>	<b>Proposed Attribute Name</b>	<b>Example</b>	<b>Unit</b>
400	Manufacturer Name	DEF	NA
400	Model	Type B	NA
400	Original Price Amount	7000	NA
400	Original Price Amount Currency	HKD	NA
400	Place of Origin	Malaysia	NA
400	Serial Number	AC1015-300A	NA
400	Supplier Contact	1234 5678	NA
400	Supplier Name	ABC Company	NA
400	Commission Date	12/06/2009	NA
400	DLP End Date	12/06/2010	NA
400	Expected Life Time	10	year
400	Installed Date	01/05/2008	NA
400	Manufactured Date	01/01/2008	NA
400	Equipment Number	17860	NA
400	File Number	24689	NA
400	Maintenance Usage Threshold	2000 <sup>(2)</sup>	NA
400	Usage Unit	Hour <sup>(3)</sup>	NA
400	Wireless_Optical Tag ID	22821234	NA
400	Wireless_Optical Zone Tag ID	22821236	NA
400	Criticality	Critical-no spare <sup>(4)</sup>	NA
400	Priority	High <sup>(5)</sup>	NA
400	Additional Spare Part Name	NA	NA

## 2a - Mechanical

## Air Compressor

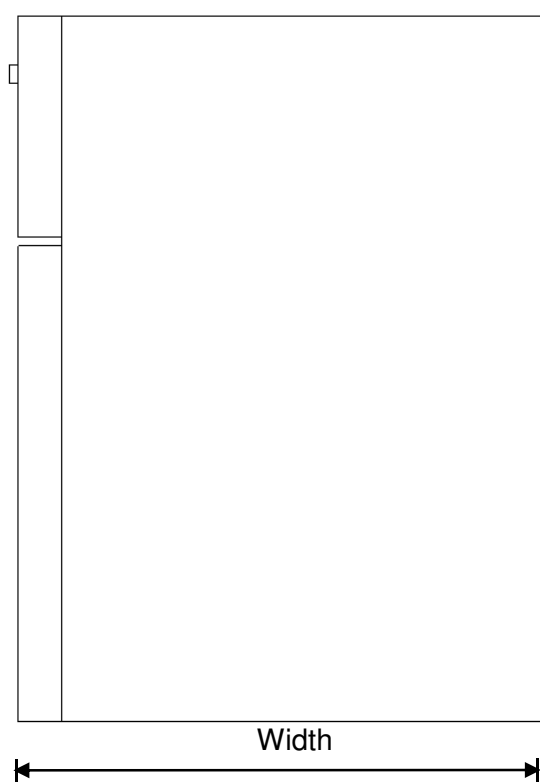
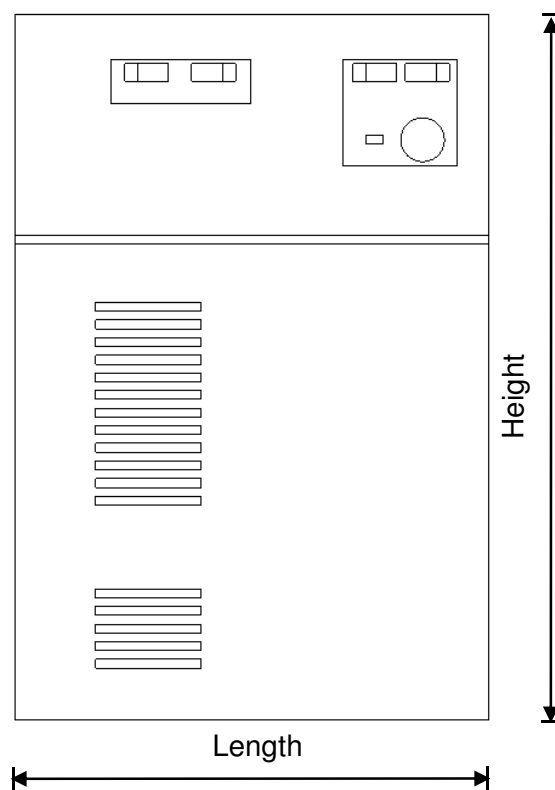
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**2a - Mechanical**

## Air Compressor

LOD-I	Proposed Attribute Name	Example	Unit

Example Image:

Side ViewFront View

Remarks:

(1): Y or N

(5): Low, Medium, High or Critical

(2): Ceiling Running Hour or No. of Count

(3): Hour or No. of Count

(4): Critical-no spare, Primary, Critical-w/spare in store, Critical-w/spare installed, Non critical or Secondary

**2a - Mechanical**

## Boiler

<b>LOD-I</b>	<b>Proposed Attribute Name</b>	<b>Example</b>	<b>Unit</b>
100	Address	Shan On Street, Ma On Shan	NA
100	Site ID	MOS108SPS	NA
100	District Code	ST	NA
100	CAT Code	MBO	NA
200-300	Equipment Name Chinese	鍋爐	NA
200-300	Equipment Name English	Boiler	NA
200-300	Equipment Type	Boiler	NA
200-300	Asset Code	MOS108SPS-SPS-B1-PUR-BLS-MBO-__001	NA
200-300	System Code	BLS	NA
200-300	Is Parent Entity	N <sup>(1)</sup>	NA
200-300	Material	Steel	NA
200-300	Remark	NA	NA
200-300	Unit Number	001	NA
200-300	Elevation	+2.2	mPD
200-300	Elevation Type	mPD	NA
200-300	Height	1016	mm
200-300	Length	1854	mm
200-300	Width	914	mm
400	Weight	200	kg
400	Brand Name	XYZ Brand	NA
400	Manufacturer Contact	1234 5678	NA

**2a - Mechanical**

## Boiler

<b>LOD-I</b>	<b>Proposed Attribute Name</b>	<b>Example</b>	<b>Unit</b>
400	Manufacturer Name	FAD	NA
400	Model	Type X	NA
400	Original Price Amount	20000	NA
400	Original Price Amount Currency	HKD	NA
400	Place of Origin	Malaysia	NA
400	Serial Number	BO1015-300A	NA
400	Supplier Contact	1234 5678	NA
400	Supplier Name	ABC Company	NA
400	Commission Date	12/06/2009	NA
400	DLP End Date	12/06/2010	NA
400	Expected Life Time	10	year
400	Installed Date	01/05/2008	NA
400	Manufactured Date	01/01/2008	NA
400	Equipment Number	45860	NA
400	File Number	24899	NA
400	Maintenance Usage Threshold	2000 <sup>(2)</sup>	NA
400	Usage Unit	Hour <sup>(3)</sup>	NA
400	Wireless_Optical Tag ID	24621248	NA
400	Wireless_Optical Zone Tag ID	24621246	NA
400	Criticality	Critical-no spare <sup>(4)</sup>	NA
400	Priority	High <sup>(5)</sup>	NA
400	Additional Spare Part Name	NA	NA

## Boiler

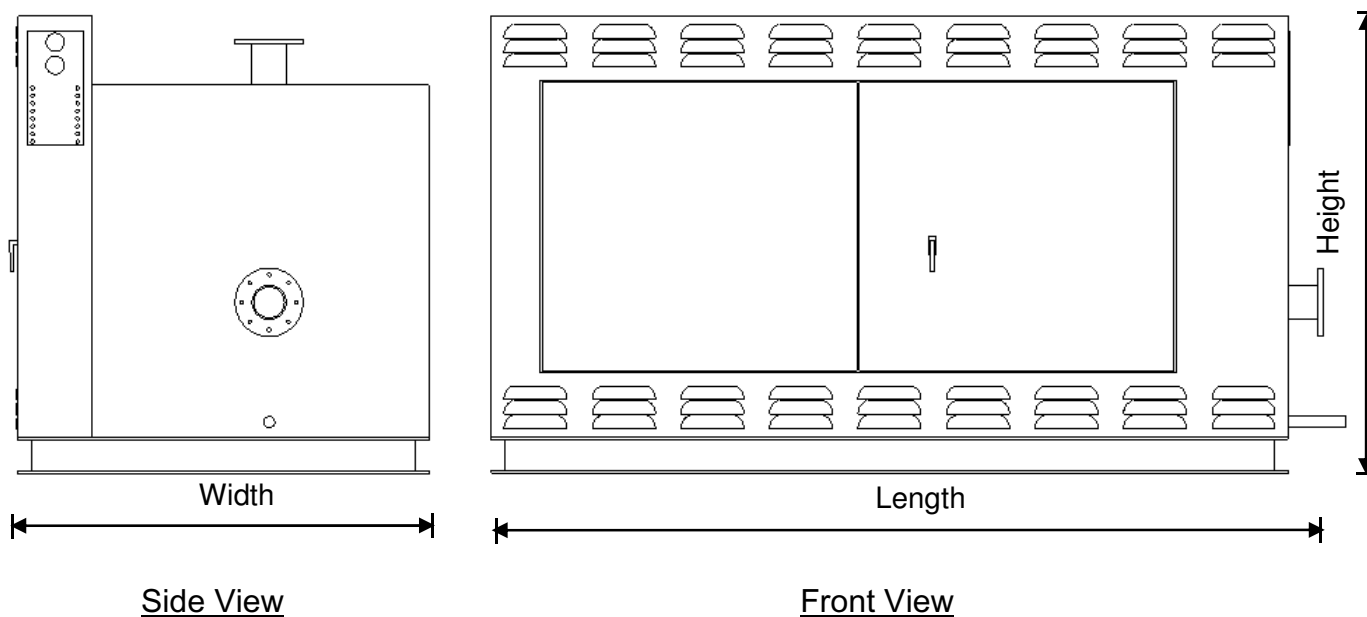
DSD Appendix H - 58 May 2019

**2a - Mechanical**

## Boiler

LOD-I	Proposed Attribute Name	Example	Unit

Example Image:



Remarks:

- (1): Y or N (5): Low, Medium, High or Critical  
 (2): Ceiling Running Hour or No. of Count  
 (3): Hour or No. of Count  
 (4): Critical-no spare, Primary, Critical-w/spare in store, Critical-w/spare installed, Non critical or Secondary

**2a - Mechanical**

## Lifting Appliance

<b>LOD-I</b>	<b>Proposed Attribute Name</b>	<b>Example</b>	<b>Unit</b>
100	Address	Shan On Street, Ma On Shan	NA
100	Site ID	MOS108SPS	NA
100	District Code	ST	NA
100	CAT Code	MLA	NA
200-300	Equipment Name Chinese	電動起重吊鏈	NA
200-300	Equipment Name English	Electric Chain Hoist	NA
200-300	Equipment Type	Lifting Appliance	NA
200-300	Asset Code	MOS108SPS-SPS-00F-SCR-LSS- MLA-ECH001	NA
200-300	System Code	LSS	NA
200-300	Is Parent Entity	N <sup>(1)</sup>	NA
200-300	Material	Stainless Steel Grade 316	NA
200-300	Remark	NA	NA
200-300	Unit Number	001	NA
200-300	Elevation	+3.3	mPD
200-300	Elevation Type	mPD	NA
200-300	Height	633	mm
200-300	Length	500	mm
200-300	Width	400	mm
400	Weight	10	kg
400	Brand Name	XYZ Brand	NA
400	Manufacturer Contact	1234 5678	NA



**2a - Mechanical**

## Lifting Appliance

<b>LOD-I</b>	<b>Proposed Attribute Name</b>	<b>Example</b>	<b>Unit</b>
400	Manufacturer Name	Hitachi	NA
400	Model	S series	NA
400	Original Price Amount	20000	NA
400	Original Price Amount Currency	HKD	NA
400	Place of Origin	Japan	NA
400	Serial Number	2SH-513	NA
400	Supplier Contact	1234 5678	NA
400	Supplier Name	ABC Company	NA
400	Commission Date	12/06/2009	NA
400	DLP End Date	12/06/2010	NA
400	Expected Life Time	10	year
400	Installed Date	01/05/2008	NA
400	Manufactured Date	01/01/2008	NA
400	Equipment Number	45540	`
400	File Number	44564	NA
400	Maintenance Usage Threshold	2000 <sup>(2)</sup>	NA
400	Usage Unit	Hour <sup>(3)</sup>	NA
400	Wireless_Optical Tag ID	28460610	NA
400	Wireless_Optical Zone Tag ID	28460612	NA
400	Criticality	Critical-no spare <sup>(4)</sup>	NA
400	Priority	High <sup>(5)</sup>	NA
400	Additional Spare Part Name	NA	NA

2a - Mechanical

Lifting Appliance

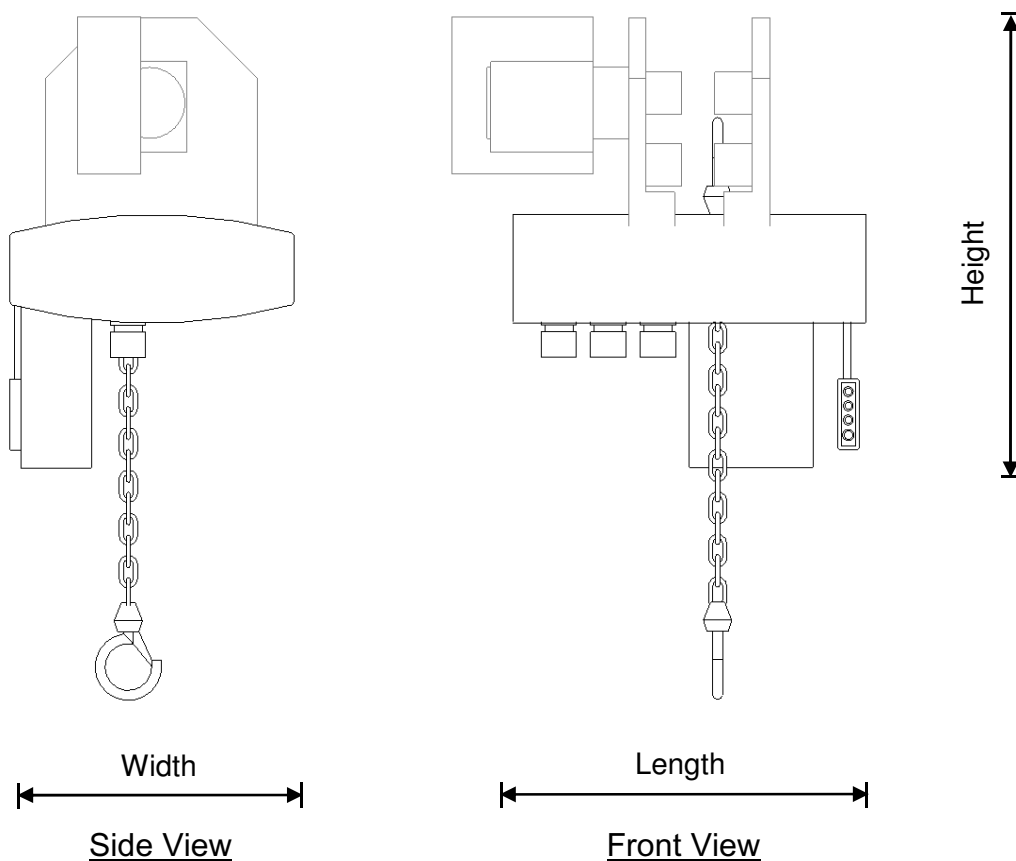
LOD-I	Proposed Attribute Name	Example	Unit
400	Motor Rating	10	kW
400	Safe Working Load	500	Kg
400	SCADA Tag Name	LA0001	NA
400	Total Lift for Hoist	10	m
400	Traveling Speed	7.2	m/min

**2a - Mechanical**

## Lifting Appliance

LOD-I	Proposed Attribute Name	Example	Unit

Example Image:



Remarks:

(1): Y or N

(5): Low, Medium, High or Critical

(2): Ceiling Running Hour or No. of Count

(3): Hour or No. of Count

(4): Critical-no spare, Primary, Critical-w/spare in store, Critical-w/spare installed, Non critical or Secondary

**2b - Electrical**

## Actuator

<b>LOD-I</b>	<b>Proposed Attribute Name</b>	<b>Example</b>	<b>Unit</b>
100	Address	Shan On Street, Ma On Shan	NA
100	Site ID	MOS108SPS	NA
100	District Code	ST	NA
100	CAT Code	EAC	NA
200-300	Equipment Name Chinese	電動致動器	NA
200-300	Equipment Name English	Electric Actuator	NA
200-300	Equipment Type	Actuator	NA
200-300	Asset Code	MOS108SPS-SPS-00F-SCR-PPS-EAC-__001	NA
200-300	System Code	PPS	NA
200-300	Is Parent Entity	N <sup>(1)</sup>	NA
200-300	Material	Cast Aluminium	NA
200-300	Remark	NA	NA
200-300	Unit Number	001	NA
200-300	Elevation	+2.30	mPD
200-300	Elevation Type	mPD	NA
200-300	Height	350	mm
200-300	Length	420	mm
200-300	Width	550	mm
400	Weight	120	kg
400	Brand Name	XYZ Brand	NA
400	Manufacturer Contact	1234 5678	NA

**2b - Electrical**

## Actuator

<b>LOD-I</b>	<b>Proposed Attribute Name</b>	<b>Example</b>	<b>Unit</b>
400	Manufacturer Name	Rotork	NA
400	Model	IQ12	NA
400	Original Price Amount	12000	NA
400	Original Price Amount Currency	HKD	NA
400	Place of Origin	UK	NA
400	Serial Number	IQ12-253-012	NA
400	Supplier Contact	1234 5678	NA
400	Supplier Name	ABC Company	NA
400	Commission Date	12/06/2009	NA
400	DLP End Date	12/06/2010	NA
400	Expected Life Time	5	year
400	Installed Date	01/05/2008	NA
400	Manufactured Date	01/01/2008	NA
400	Equipment Number	160121	NA
400	File Number	156785	NA
400	Maintenance Usage Threshold	4500 <sup>(2)</sup>	NA
400	Usage Unit	Hour <sup>(3)</sup>	NA
400	Wireless_Optical Tag ID	23654123	NA
400	Wireless_Optical Zone Tag ID	23654268	NA
400	Criticality	Critical-no spare <sup>(4)</sup>	NA
400	Priority	High <sup>(5)</sup>	NA
400	Additional Spare Part Name	NA	NA

**2b - Electrical**

## Actuator

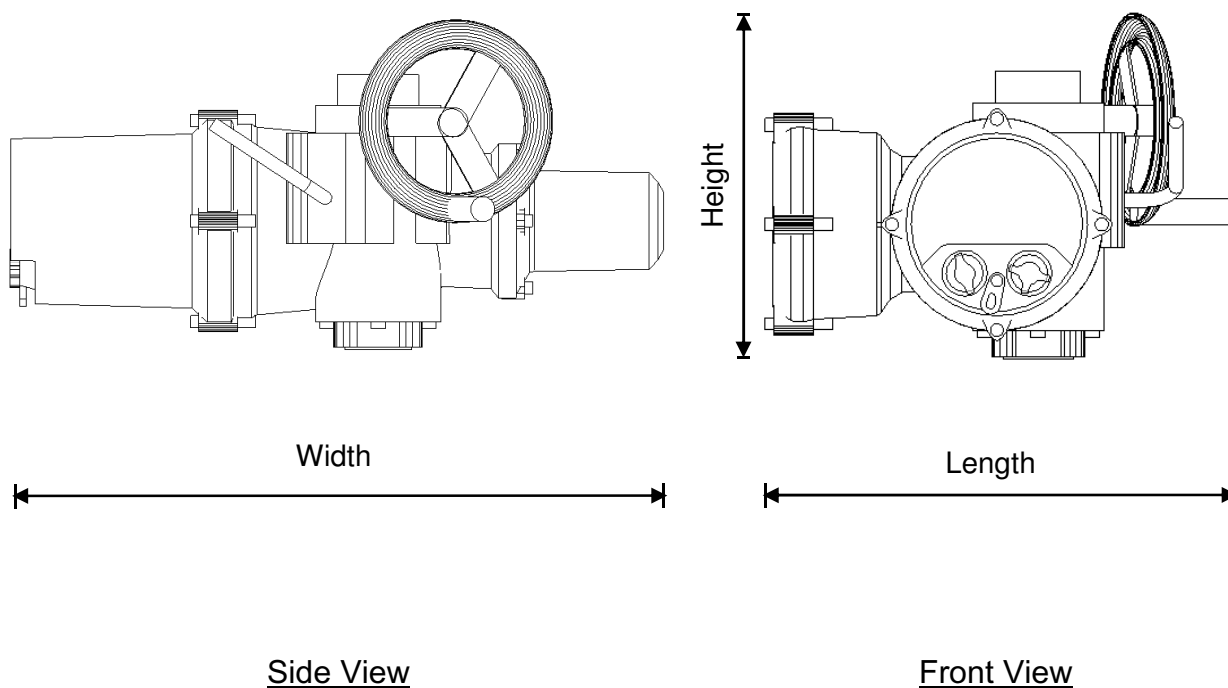
<b>LOD-I</b>	<b>Proposed Attribute Name</b>	<b>Example</b>	<b>Unit</b>
400	Direct On Line Current	1.2	A
400	Duty Cycle	NA	NA
400	Full Load Current	0.3	A
400	IP Rating	IP65	NA
400	Motor Power	0.21	kW
400	Network Interface Type	Profibus DP	NA
400	SCADA Tag Name	EA0001	NA
400	Stalled Torque	163	Nm
400	Three Phase AC or Single Phase AC or Direct Current	Single Phase AC	NA
400	Time To Fully Close or Open Penstock	141 / 141	NA
400	Torque Range	0 - 68	Nm

**2b - Electrical**

## Actuator

LOD-I	Proposed Attribute Name	Example	Unit

Example Image:



Remarks:

- (1): Y or N (5): Low, Medium, High or Critical  
 (2): Ceiling Running Hour or No. of Count (6): Date should be in the format of dd/mm/yyyy  
 (3): Hour or No. of Count  
 (4): Critical-no spare, Primary, Critical-w/spare in store, Critical-w/spare installed, Non critical or Secondary

**2b - Electrical**

## Generator

<b>LOD-I</b>	<b>Proposed Attribute Name</b>	<b>Example</b>	<b>Unit</b>
100	Address	Shan On Street, Ma On Shan	NA
100	Site ID	MOS108SPS	NA
100	District Code	ST	NA
100	CAT Code	EGE	NA
200-300	Equipment Name Chinese	柴油發電機	NA
200-300	Equipment Name English	Diesel Generator	NA
200-300	Equipment Type	Generator	NA
200-300	Asset Code	MOS108SPS-SPS-00F-GER-PGS-EGE-DIE001	NA
200-300	System Code	PGS	NA
200-300	Is Parent Entity	N <sup>(1)</sup>	NA
200-300	Material	Metal	NA
200-300	Remark	NA	NA
200-300	Unit Number	001	NA
200-300	Elevation	+3.20	mPD
200-300	Elevation Type	mPD	NA
200-300	Height	2230	mm
200-300	Length	5100	mm
200-300	Width	2000	mm
400	Weight	9100	kg
400	Brand Name	XYZ Brand	NA
400	Manufacturer Contact	1234 5678	NA



**2b - Electrical**

## Generator

<b>LOD-I</b>	<b>Proposed Attribute Name</b>	<b>Example</b>	<b>Unit</b>
400	Manufacturer Name	Cummins	NA
400	Model	6CT8.362	NA
400	Original Price Amount	300000	NA
400	Original Price Amount Currency	HKD	NA
400	Place of Origin	China	NA
400	Serial Number	6CT8-123-45-001	NA
400	Supplier Contact	1234 5678	NA
400	Supplier Name	ABC Company	NA
400	Commission Date	12/06/2009	NA
400	DLP End Date	12/06/2010	NA
400	Expected Life Time	25	year
400	Installed Date	01/05/2008	NA
400	Manufactured Date	01/01/2008	NA
400	Equipment Number	160256	NA
400	File Number	1523475	NA
400	Maintenance Usage Threshold	4500 <sup>(2)</sup>	NA
400	Usage Unit	Hour <sup>(3)</sup>	NA
400	Wireless_Optical Tag ID	36971423	NA
400	Wireless_Optical Zone Tag ID	36973647	NA
400	Criticality	Critical-no spare <sup>(4)</sup>	NA
400	Priority	High <sup>(5)</sup>	NA
400	Additional Spare Part Name	NA	NA

**2b - Electrical**

## Generator

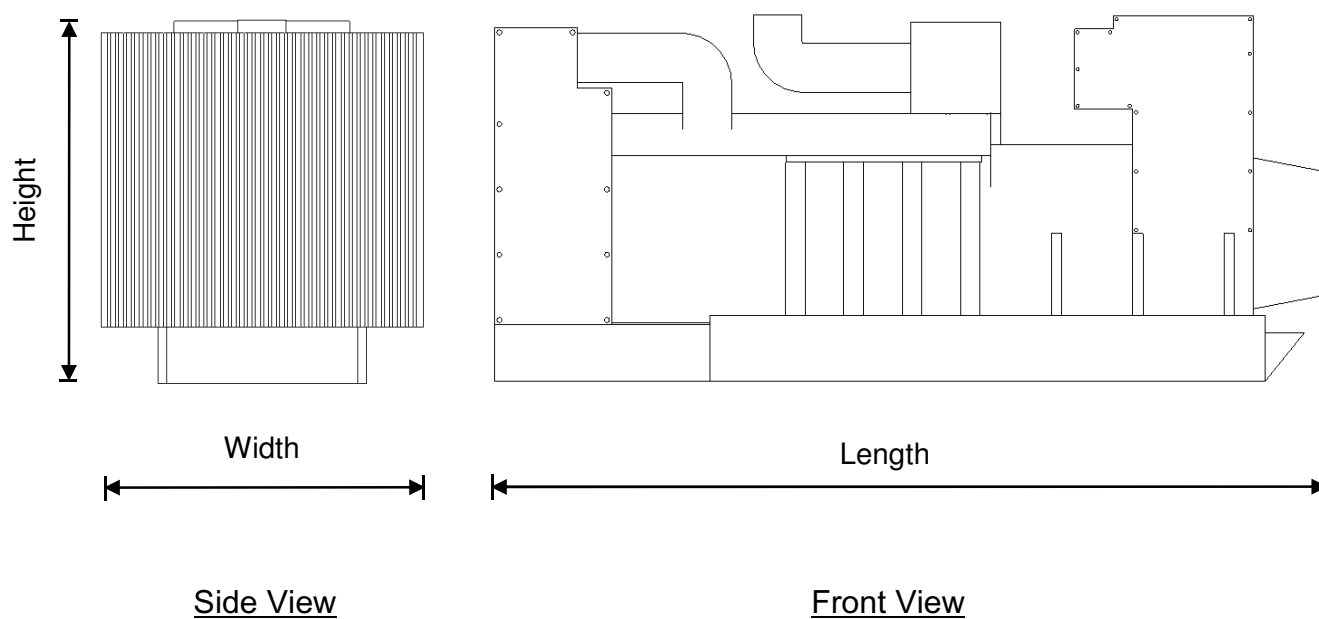
<b>LOD-I</b>	<b>Proposed Attribute Name</b>	<b>Example</b>	<b>Unit</b>
400	Alternator Efficiency	95	%
400	Alternator Rating	140	kVA
400	Battery Starting Voltage	12	V
400	Engine Fuel Consumption at Full Load	32	l/h
400	Engine Continuous Brake Power Rating	125	kW
400	Engine Efficiency	95	%
400	Frequency	50	Hz
400	Maximum Voltage Dip	4	V
400	Net Continuous Rating	156	kVA
400	Noise Level at 1m from Source	65	dBA
400	Rated Voltage	380	V
400	SCADA Tag Name	DG0001	NA
400	Type of Cooling System	Air	NA
400	Type of Noise Attenuation System	NA	NA
400	Volume of Fuel Service Tank	150	l

**2b - Electrical**

## Generator

LOD-I	Proposed Attribute Name	Example	Unit

Example Image:



Remarks:

(1): Y or N

(2): Ceiling Running Hour or No. of Count

(3): Hour or No. of Count

(4): Critical-no spare, Primary, Critical-w/spare in store, Critical-w/spare installed, Non critical or Secondary

(5): Low, Medium, High or Critical

(6): Date should be in the format of dd/mm/yyyy

**2b - Electrical**

## Switchboard

<b>LOD-I</b>	<b>Proposed Attribute Name</b>	<b>Example</b>	<b>Unit</b>
100	Address	Shan On Street, Ma On Shan	NA
100	Site ID	MOS108SPS	NA
100	District Code	ST	NA
100	CAT Code	ESB	NA
200-300	Equipment Name Chinese	低壓掣櫃	NA
200-300	Equipment Name English	LV Switchboard	NA
200-300	Equipment Type	Switchboard	NA
200-300	Asset Code	MOS108SPS-SPS-00F-SWR- PDS-ESB-LV_001	NA
200-300	System Code	PDS	NA
200-300	Is Parent Entity	Y <sup>(1)</sup>	NA
200-300	Material	Galvanized Steel	NA
200-300	Remark	NA	NA
200-300	Unit Number	001	NA
200-300	Elevation	+3.20	mPD
200-300	Elevation Type	mPD	NA
200-300	Height	2400	mm
200-300	Length	3730	mm
200-300	Width	1100	mm
400	Weight	4500	kg
400	Brand Name	XYZ Brand	NA
400	Manufacturer Contact	1234 5678	NA

**2b - Electrical**

## Switchboard

<b>LOD-I</b>	<b>Proposed Attribute Name</b>	<b>Example</b>	<b>Unit</b>
400	Manufacturer Name	Viking & Ellison Ltd	NA
400	Model	NW25HA	NA
400	Original Price Amount	90000	NA
400	Original Price Amount Currency	HKD	NA
400	Place of Origin	HK	NA
400	Serial Number	NW25HA-2500-001	NA
400	Supplier Contact	1234 5678	NA
400	Supplier Name	ABC Company	NA
400	Commission Date	12/06/2009	NA
400	DLP End Date	12/06/2010	NA
400	Expected Life Time	25	year
400	Installed Date	01/05/2008	NA
400	Manufactured Date	01/01/2008	NA
400	Equipment Number	12387	NA
400	File Number	123864	NA
400	Maintenance Usage Threshold	10000 <sup>(2)</sup>	NA
400	Usage Unit	Hour <sup>(3)</sup>	NA
400	Wireless_Optical Tag ID	35638402	NA
400	Wireless_Optical Zone Tag ID	35638879	NA
400	Criticality	Critical-no spare <sup>(4)</sup>	NA
400	Priority	High <sup>(5)</sup>	NA
200-300	Application	Indoor	NA

**2b - Electrical**

## Switchboard

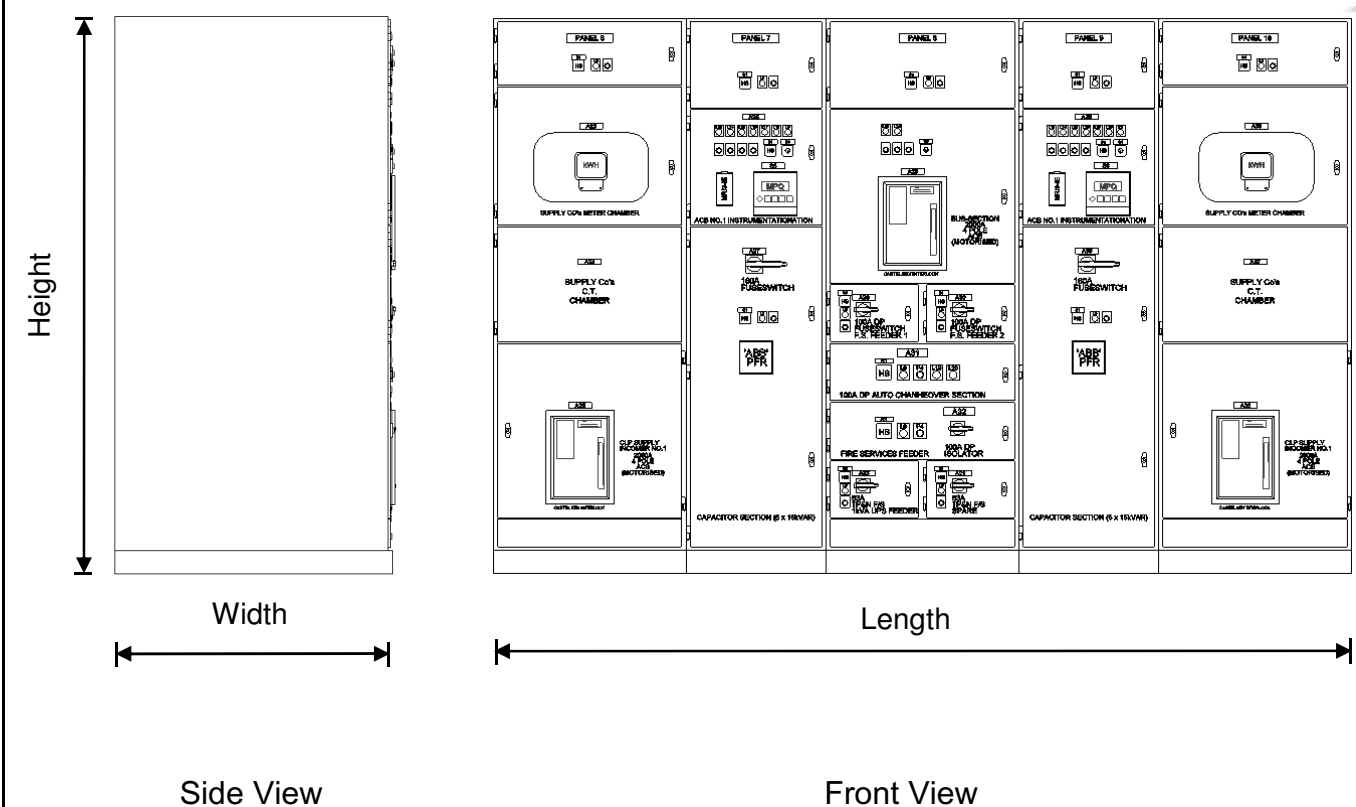
<b>LOD-I</b>	<b>Proposed Attribute Name</b>	<b>Example</b>	<b>Unit</b>
200-300	Arrangement of Incoming Supply	Dual Feed <sup>(6)</sup>	NA
200-300	Bottom Level	+3.20	mPD
200-300	Construction Form	Form 4	NA
200-300	HV or LV Type	LV <sup>(7)</sup>	NA
200-300	IP Rating	IP44	NA
200-300	Mounting Method	Floor Mounted	NA
200-300	No. of Poles	4	NA
200-300	Power Rating	2500	A
200-300	Rated Current	1600 <sup>(8)</sup>	A
200-300	Rated Insulation Voltage	1000	V
200-300	Rated Voltage	660	V
200-300	Short Circuit Making Current	50	kA/s
200-300	Short Time Current - 1 sec.	50	kA/s
200-300	Test Standard	BSEN60439-1999	NA
400	Busbar Cross-Section Area	101.6 x 6.35	mm <sup>2</sup>
400	Date of Last Periodic Inspection_Testing and Certification	01/12/2012	NA
400	Distribution Number	123546	NA
400	Distribution Signal	NA	NA
400	Interface Dimension	540	mm
400	Lay Type	NA	NA
400	Loop Number	NA	NA

**2b - Electrical**

## Switchboard

LOD-I	Proposed Attribute Name	Example	Unit
400	Operation Mode	Active <sup>(9)</sup>	NA
400	Utilization Category	AC-23	NA
400	SCADA Tag Name	SB0001	NA

Example Image:



Remarks:

- |   |  |
|---|--|
| (1): Y or N   | (5): Low, Medium, High or Critical               |
| (2): Ceiling Running Hour or No. of Count   | (6): Single or Dual Feed                         |
| (3): Hour or No. of Count   | (7): HV or LV                                    |
| (4): Critical-no spare, Primary, Critical-w/spare in store, Critical-w/spare installed, Non critical or Secondary | (8): Busbar Current                              |
|   | (9): Active or Inactive                          |
|   | (10): Date should be in the format of dd/mm/yyyy |

**2b - Electrical**

## Transformer

<b>LOD-I</b>	<b>Proposed Attribute Name</b>	<b>Example</b>	<b>Unit</b>
100	Address	Shan On Street, Ma On Shan	NA
100	Site ID	MOS108SPS	NA
100	District Code	ST	NA
100	CAT Code	ETR	NA
200-300	Equipment Name Chinese	低壓變壓器	NA
200-300	Equipment Name English	LV Transformer	NA
200-300	Equipment Type	Transformer	NA
200-300	Asset Code	MOS108SPS-SPS-00F-TFR-PDS- ETR-LV_001	NA
200-300	System Code	PDS	NA
200-300	Is Parent Entity	N <sup>(1)</sup>	NA
200-300	Material	Copper	NA
200-300	Remark	NA	NA
200-300	Unit Number	001	NA
200-300	Elevation	+3.20	mPD
200-300	Elevation Type	mPD	NA
200-300	Height	510	mm
200-300	Length	580	mm
200-300	Width	450	mm
400	Weight	260	kg
400	Brand Name	YXX Brand	NA
400	Manufacturer Contact	1234 5678	NA



**2b - Electrical**

## Transformer

<b>LOD-I</b>	<b>Proposed Attribute Name</b>	<b>Example</b>	<b>Unit</b>
400	Manufacturer Name	Schneider Electric	NA
400	Model	TX4501	NA
400	Original Price Amount	100000	NA
400	Original Price Amount Currency	HKD	NA
400	Place of Origin	HK	NA
400	Serial Number	TX25HA-2500-001	NA
400	Supplier Contact	1234 5678	NA
400	Supplier Name	ABC Company	NA
400	Commission Date	12/06/2009	NA
400	DLP End Date	12/06/2010	NA
400	Expected Life Time	30	year
400	Installed Date	01/05/2008	NA
400	Manufactured Date	01/01/2008	NA
400	Equipment Number	52387	NA
400	File Number	321864	NA
400	Maintenance Usage Threshold	10000 <sup>(2)</sup>	NA
400	Usage Unit	Hour <sup>(3)</sup>	NA
400	Wireless_Optical Tag ID	35645690	NA
400	Wireless_Optical Zone Tag ID	356456954	NA
400	Criticality	Critical-no spare <sup>(4)</sup>	NA
400	Priority	High <sup>(5)</sup>	NA
200-300	IP Rating	IP44	NA

**2b - Electrical**

## Transformer

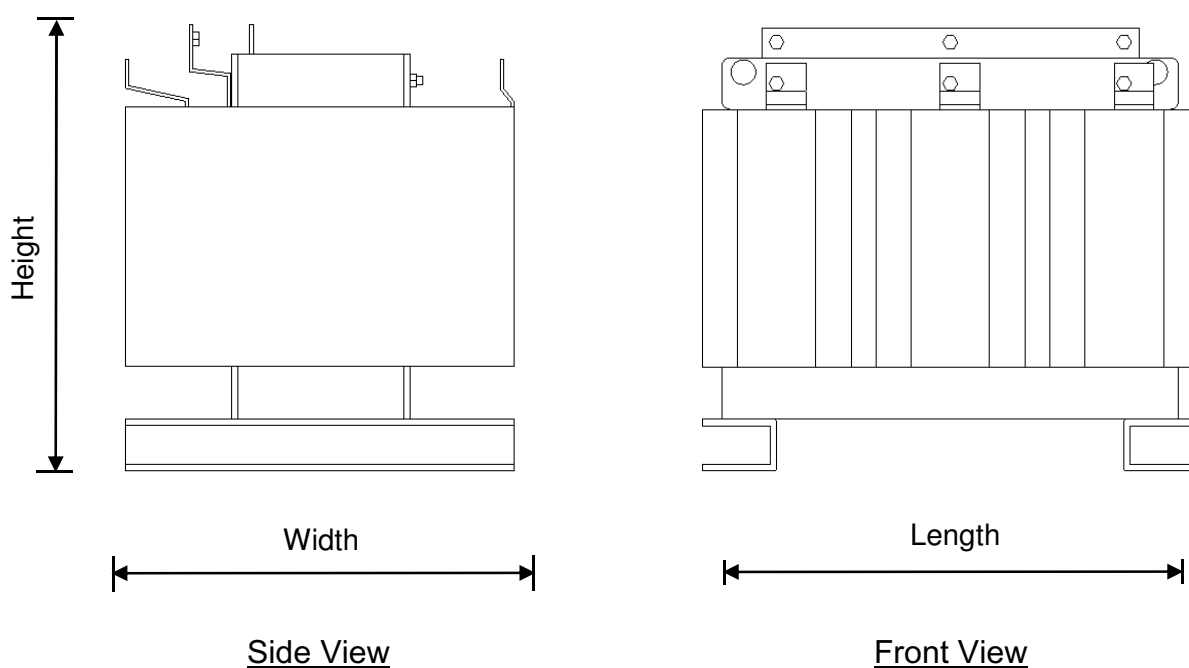
<b>LOD-I</b>	<b>Proposed Attribute Name</b>	<b>Example</b>	<b>Unit</b>
400	Additional Spare Part Name	NA	NA
400	Efficiency	95	%
400	Insulation Class	Class 150	NA
400	Noise Level	40	dBA
400	Number of Phases	3	NA
400	Number of Steps	2	NA
400	Rated Frequency	50	Hz
400	Rated Power	1000	kVA
400	Rated Primary Voltage	11000	V
400	Rated Secondary Voltage	380	V
400	SCADA Tag Name	TX0001	NA
400	Type of Cooling	Natural Ventilation	NA
400	Vector Grouping	NA	NA

**2b - Electrical**

## Transformer

LOD-I	Proposed Attribute Name	Example	Unit

Example Image:



Remarks:

(1): Y or N

(5): Low, Medium, High or Critical

(2): Ceiling Running Hour or No. of Count

(3): Hour or No. of Count

(4): Critical-no spare, Primary, Critical-w/spare in store, Critical-w/spare installed, Non critical or Secondary

**2b - Electrical**

## Variable Speed Drive

<b>LOD-I</b>	<b>Proposed Attribute Name</b>	<b>Example</b>	<b>Unit</b>
100	Address	Shan On Street, Ma On Shan	NA
100	Site ID	MOS108SPS	NA
100	District Code	ST	NA
100	CAT Code	EVS	NA
200-300	Equipment Name Chinese	變速驅動器	NA
200-300	Equipment Name English	Variable Speed Drive	NA
200-300	Equipment Type	Variable Speed Drive	NA
200-300	Asset Code	MOS108SPS-SPS-00F-SWR- PDS-EVS-__001	NA
200-300	System Code	___	NA
200-300	Is Parent Entity	N <sup>(1)</sup>	NA
200-300	Material	Stainless Steel	NA
200-300	Remark	NA	NA
200-300	Unit Number	001	NA
200-300	Elevation	+3.20	mPD
200-300	Elevation Type	mPD	NA
200-300	Height	2237	mm
200-300	Length	1200	mm
200-300	Width	627	mm
400	Weight	810	kg
400	Brand Name	YXX Brand	NA
400	Manufacturer Contact	1234 5678	NA

**2b - Electrical**

## Variable Speed Drive

<b>LOD-I</b>	<b>Proposed Attribute Name</b>	<b>Example</b>	<b>Unit</b>
400	Manufacturer Name	Schneider Electric	NA
400	Model	ATV71HC16N4	NA
400	Original Price Amount	15000	NA
400	Original Price Amount Currency	HKD	NA
400	Place of Origin	HK	NA
400	Serial Number	ATV71EXC5C16N4H-0012	NA
400	Supplier Contact	1234 5678	NA
400	Supplier Name	ABC Company	NA
400	Commission Date	12/06/2009	NA
400	DLP End Date	12/06/2010	NA
400	Expected Life Time	10	year
400	Installed Date	01/05/2008	NA
400	Manufactured Date	01/01/2008	NA
400	Equipment Number	52387	NA
400	File Number	321864	NA
400	Maintenance Usage Threshold	10000 <sup>(2)</sup>	NA
400	Usage Unit	Hour <sup>(3)</sup>	NA
400	Wireless_Optical Tag ID	35645690	NA
400	Wireless_Optical Zone Tag ID	356456954	NA
400	Criticality	Critical-no spare <sup>(4)</sup>	NA
400	Priority	High <sup>(5)</sup>	NA
400	Additional Spare Part Name	NA	NA

## 2b - Electrical

## Variable Speed Drive

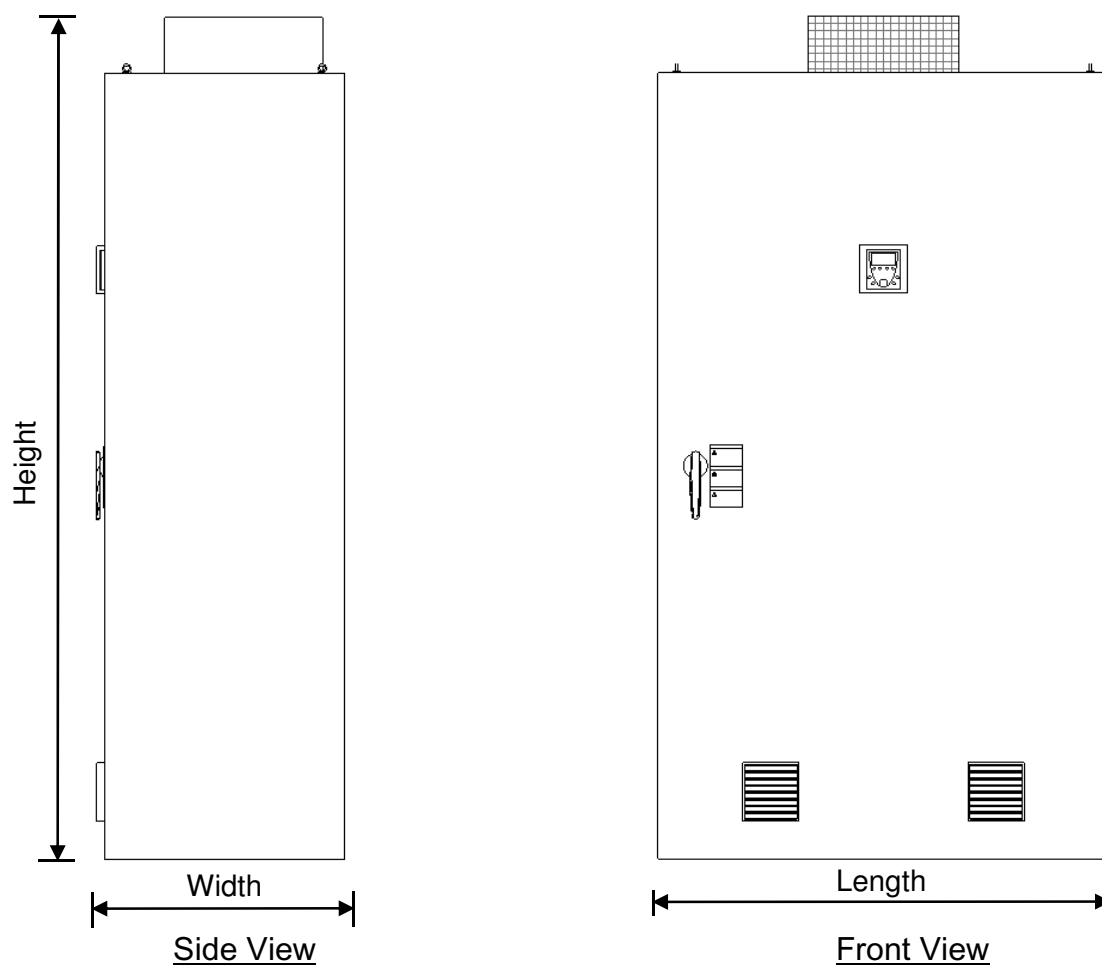
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**2b - Electrical**

## Variable Speed Drive

LOD-I	Proposed Attribute Name	Example	Unit

Example Image:



Remarks:

(1): Y or N

(5): Low, Medium, High or Critical

(2): Ceiling Running Hour or No. of Count

(3): Hour or No. of Count

(4): Critical-no spare, Primary, Critical-w/spare in store, Critical-w/spare installed, Non critical or Secondary

**2c - Building Services**

## Fan

<b>LOD-I</b>	<b>Proposed Attribute Name</b>	<b>Example</b>	<b>Unit</b>
100	Address	Shan On Street, Ma On Shan	NA
100	Site ID	MOS108SPS	NA
100	District Code	ST	NA
100	CAT Code	BFA	NA
200-300	Equipment Name Chinese	抽氣扇	NA
200-300	Equipment Name English	Axial Fan	NA
200-300	Equipment Type	Fan	NA
200-300	Asset Code	MOS108SPS-SPS-00F-SWR- EAS-BFA-AXI001	NA
200-300	System Code	EAS	NA
200-300	Is Parent Entity	N <sup>(1)</sup>	NA
200-300	Material	Steel	NA
200-300	Remark	NA	NA
200-300	Unit Number	001	NA
200-300	Elevation	+5.20	mPD
200-300	Elevation Type	mPD	NA
200-300	Height	585	mm
200-300	Length	585	mm
200-300	Width	237	mm
400	Weight	25	kg
400	Brand Name	XYZ Brand	NA
400	Manufacturer Contact	1234 5678	NA



**2c - Building Services**

Fan

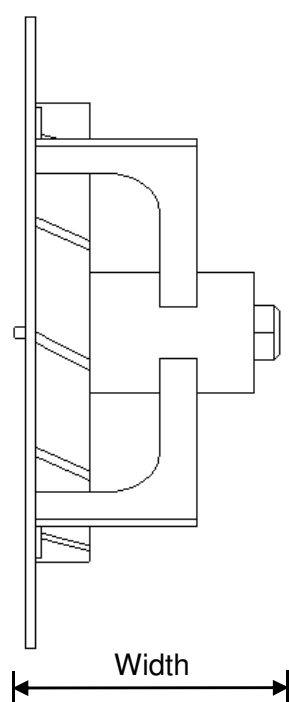
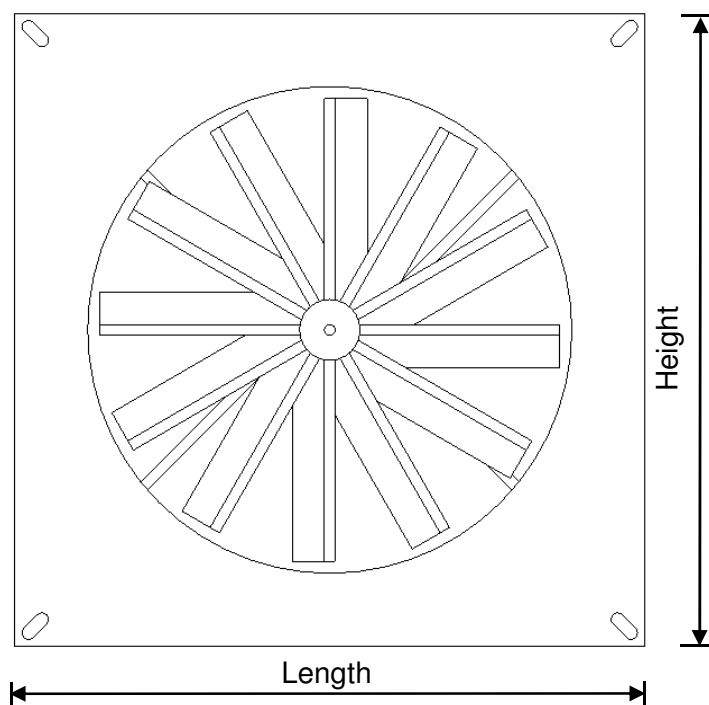
<b>LOD-I</b>	<b>Proposed Attribute Name</b>	<b>Example</b>	<b>Unit</b>
400	Manufacturer Name	Flaktwoods	NA
400	Model	2101 GP315	NA
400	Original Price Amount	2500	NA
400	Original Price Amount Currency	HKD	NA
400	Place of Origin	UK	NA
400	Serial Number	1563-111-001	NA
400	Supplier Contact	1234 5678	NA
400	Supplier Name	ABC Company	NA
400	Commission Date	12/06/2009	NA
400	DLP End Date	12/06/2010	NA
400	Expected Life Time	8	year
400	Installed Date	01/05/2008	NA
400	Manufactured Date	01/01/2008	NA
400	Equipment Number	12051	NA
400	File Number	123523	NA
400	Maintenance Usage Threshold	4500 <sup>(2)</sup>	NA
400	Usage Unit	Hour <sup>(3)</sup>	NA
400	Wireless_Optical Tag ID	33251125	NA
400	Wireless_Optical Zone Tag ID	33251458	NA
400	Criticality	Critical-no spare <sup>(4)</sup>	NA
400	Priority	High <sup>(5)</sup>	NA

**2c - Building Services**

Fan

LOD-I	Proposed Attribute Name	Example	Unit

Example Image:

Side ViewFront View

Remarks:

(1): Y or N

(2): Ceiling Running Hour or No. of Count

(3): Hour or No. of Count

(4): Critical-no spare, Primary, Critical-w/spare in store, Critical-w/spare installed, Non critical or Secondary

(5): Low, Medium, High or Critical

(6): Date should be in the format of dd/mm/yyyy

**2c - Building Services**

## Fire Extinguisher

<b>LOD-I</b>	<b>Proposed Attribute Name</b>	<b>Example</b>	<b>Unit</b>
100	Address	Shan On Street, Ma On Shan	NA
100	Site ID	MOS108SPS	NA
100	District Code	ST	NA
100	CAT Code	BFE	NA
200-300	Equipment Name Chinese	二氧化碳滅火器	NA
200-300	Equipment Name English	CO2 Fire Extinguisher	NA
200-300	Equipment Type	Fire Extinguisher	NA
200-300	Asset Code	MOS108SPS-SPS-00F-SWR- FSS-BFE-CO2001	NA
200-300	System Code	FSS	NA
200-300	Is Parent Entity	N <sup>(1)</sup>	NA
200-300	Material	Aluminium	NA
200-300	Remark	NA	NA
200-300	Unit Number	001	NA
200-300	Elevation	+4.20	mPD
200-300	Elevation Type	mPD	NA
200-300	Height	720	mm
200-300	Length	240	mm
200-300	Width	240	mm
400	Weight	15.2	kg
400	Brand Name	XYZ Brand	NA
400	Manufacturer Contact	1234 5678	NA

**2c - Building Services**

## Fire Extinguisher

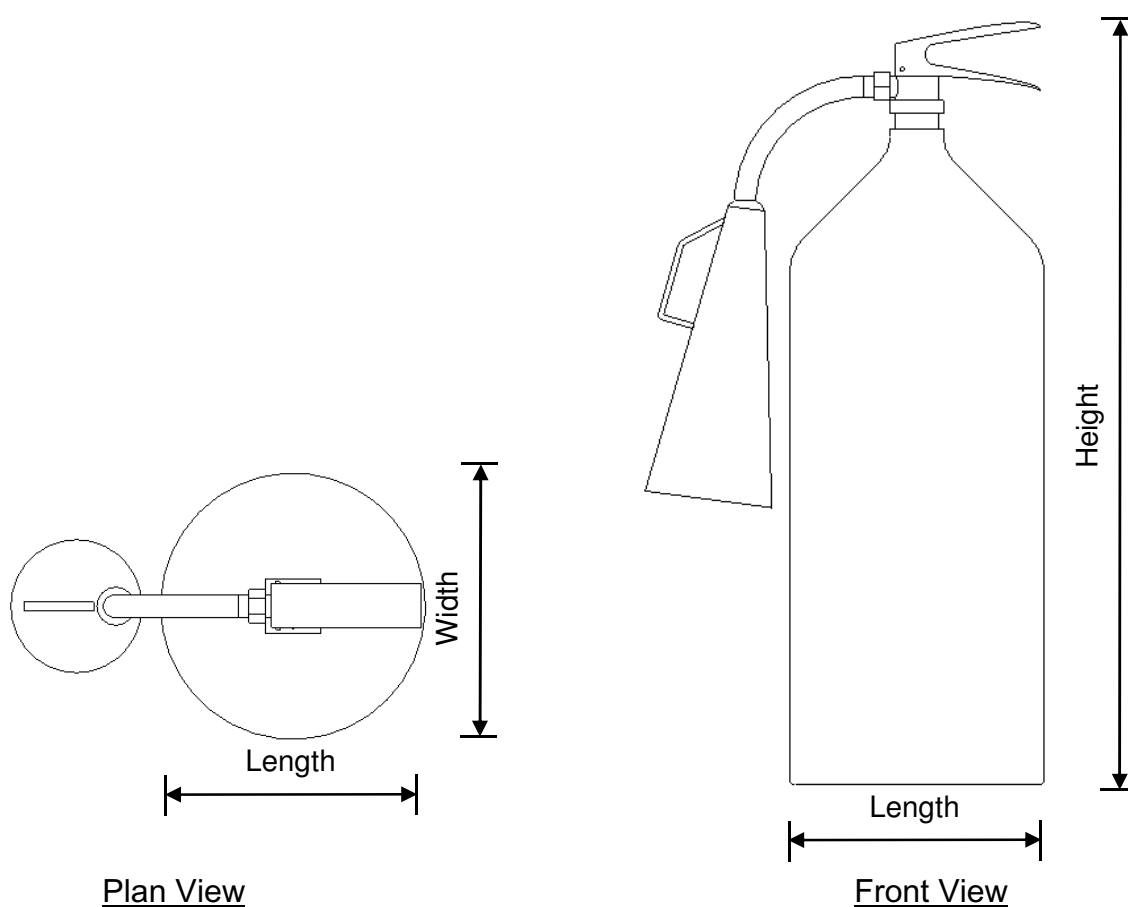
<b>LOD-I</b>	<b>Proposed Attribute Name</b>	<b>Example</b>	<b>Unit</b>
400	Manufacturer Name	Sri	NA
400	Model	FEX 181	NA
400	Original Price Amount	800	NA
400	Original Price Amount Currency	HKD	NA
400	Place of Origin	Malaysia	NA
400	Serial Number	NA	NA
400	Supplier Contact	1234 5678	NA
400	Supplier Name	ABC Company	NA
400	Commission Date	12/06/2009	NA
400	DLP End Date	12/06/2010	NA
400	Expected Life Time	5	year
400	Installed Date	01/05/2008	NA
400	Manufactured Date	01/01/2008	NA
400	Equipment Number	11019	NA
400	File Number	123561	NA
400	Maintenance Usage Threshold	1 <sup>(2)</sup>	NA
400	Usage Unit	No. of Count <sup>(3)</sup>	NA
400	Wireless_Optical Tag ID	52311253	NA
400	Wireless_Optical Zone Tag ID	52311897	NA
400	Criticality	Critical-no spare <sup>(4)</sup>	NA
400	Priority	High <sup>(5)</sup>	NA

**2c - Building Services**

## Fire Extinguisher

LOD-I	Proposed Attribute Name	Example	Unit

Example Image:



Remarks:

- (1): Y or N  
 (2): Ceiling Running Hour or No. of Count  
 (3): Hour or No. of Count  
 (4): Critical-no spare, Primary, Critical-w/spare in store, Critical-w/spare installed, Non critical or Secondary  
 (5): Low, Medium, High or Critical  
 (6): Date should be in the format of dd/mm/yyyy

**2c - Building Services**

## Lighting Fitting

<b>LOD-I</b>	<b>Proposed Attribute Name</b>	<b>Example</b>	<b>Unit</b>
100	Address	Shan On Street, Ma On Shan	NA
100	Site ID	MOS108SPS	NA
100	District Code	ST	NA
100	CAT Code	BLF	NA
200-300	Equipment Name Chinese	光管	NA
200-300	Equipment Name English	Fluorescent Lamp	NA
200-300	Equipment Type	Lighting Fitting	NA
200-300	Asset Code	MOS108SPS-SPS-00F-SWR- LTS-BLF-FLU001	NA
200-300	System Code	LTS	NA
200-300	Is Parent Entity	N <sup>(1)</sup>	NA
200-300	Material	Sheet Steel	NA
200-300	Remark	NA	NA
200-300	Unit Number	001	NA
200-300	Elevation	+6.20	mPD
200-300	Elevation Type	mPD	NA
200-300	Height	110	mm
200-300	Length	1570	mm
200-300	Width	100	mm
400	Weight	3.6	kg
400	Brand Name	XYZ Brand	NA
400	Manufacturer Contact	1234 5678	NA

**2c - Building Services**

## Lighting Fitting

<b>LOD-I</b>	<b>Proposed Attribute Name</b>	<b>Example</b>	<b>Unit</b>
400	Manufacturer Name	Thorn	NA
400	Model	LUZP	NA
400	Original Price Amount	500	NA
400	Original Price Amount Currency	HKD	NA
400	Place of Origin	China	NA
400	Serial Number	LUZP149C	NA
400	Supplier Contact	1234 5678	NA
400	Supplier Name	ABC Company	NA
400	Commission Date	12/06/2009	NA
400	DLP End Date	12/06/2010	NA
400	Expected Life Time	2	year
400	Installed Date	01/05/2008	NA
400	Manufactured Date	01/01/2008	NA
400	Equipment Number	13797	NA
400	File Number	125536	NA
400	Maintenance Usage Threshold	6000 <sup>(2)</sup>	NA
400	Usage Unit	Hour <sup>(3)</sup>	NA
400	Wireless_Optical Tag ID	22893571	NA
400	Wireless_Optical Zone Tag ID	22893548	NA
400	Criticality	Critical-no spare <sup>(4)</sup>	NA
400	Priority	High <sup>(5)</sup>	NA
200-300	Application	Indoor	NA

## 2c - Building Services

## Lighting Fitting

[illegible]

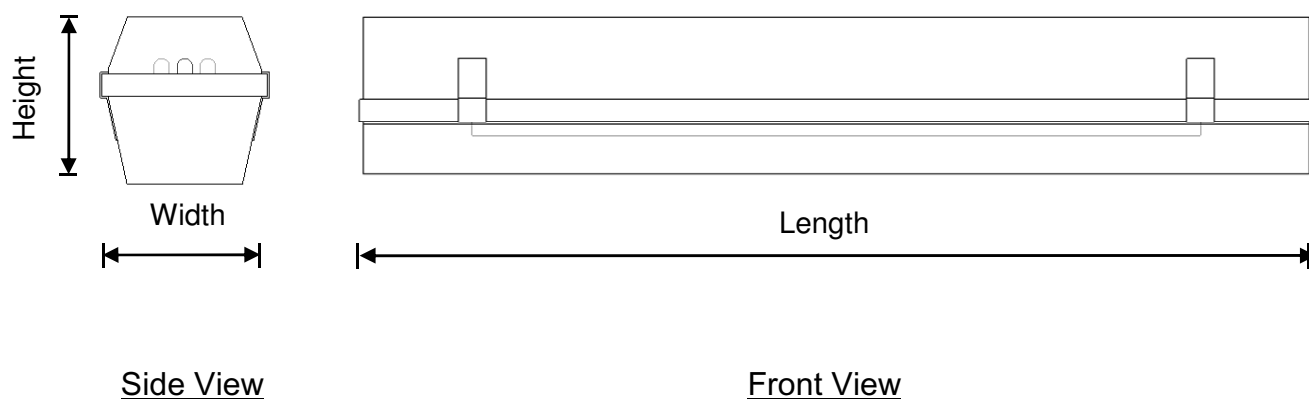


**2c - Building Services**

## Lighting Fitting

LOD-I	Proposed Attribute Name	Example	Unit

Example Image:



Remarks:

- (1): Y or N (5): Low, Medium, High or Critical  
 (2): Ceiling Running Hour or No. of Count (6): Date should be in the format of dd/mm/yyyy  
 (3): Hour or No. of Count  
 (4): Critical-no spare, Primary, Critical-w/spare in store, Critical-w/spare installed, Non critical or Secondary

**2d - Control and Instrumentation**

## Flowmeter

<b>LOD-I</b>	<b>Proposed Attribute Name</b>	<b>Example</b>	<b>Unit</b>
100	Address	Shan On Street, Ma On Shan	NA
100	Site ID	MOS108SPS	NA
100	District Code	ST	NA
100	CAT Code	CFM	NA
200-300	Equipment Name Chinese	電磁流量計	NA
200-300	Equipment Name English	Electromagnetic Flowmeter	NA
200-300	Equipment Type	Flowmeter	NA
200-300	Asset Code	MOS108SPS-SPS-B1-VCB-PPS-CFL-ELM001	NA
200-300	System Code	—	NA
200-300	Is Parent Entity	N <sup>(1)</sup>	NA
200-300	Material	Cast Aluminium	NA
200-300	Remark	NA	NA
200-300	Unit Number	001	NA
200-300	Elevation	+2.20	mPD
200-300	Elevation Type	mPD	NA
200-300	Height	527	mm
200-300	Length	350	mm
200-300	Width	324	mm
400	Weight	225	kg
400	Brand Name	XYZ Brand	NA
400	Manufacturer Contact	1234 5678	NA

**2d - Control and Instrumentation**

## Flowmeter

<b>LOD-I</b>	<b>Proposed Attribute Name</b>	<b>Example</b>	<b>Unit</b>
400	Manufacturer Name	Welltech	NA
400	Model	MAG-XE	NA
400	Original Price Amount	90000	NA
400	Original Price Amount Currency	HKD	NA
400	Place of Origin	Shanghai	NA
400	Serial Number	DE14F	NA
400	Supplier Contact	1234 5678	NA
400	Supplier Name	ABC Company	NA
400	Commission Date	12/06/2009	NA
400	DLP End Date	12/06/2010	NA
400	Expected Life Time	8	year
400	Installed Date	01/05/2008	NA
400	Manufactured Date	01/01/2008	NA
400	Equipment Number	17201	NA
400	File Number	125321	NA
400	Maintenance Usage Threshold	4500 <sup>(2)</sup>	NA
400	Usage Unit	Hour <sup>(3)</sup>	NA
400	Wireless_Optical Tag ID	54713222	NA
400	Wireless_Optical Zone Tag ID	54713289	NA
400	Criticality	Critical-no spare <sup>(4)</sup>	NA
400	Priority	High <sup>(5)</sup>	NA
200-300	Insulation class	IP65	NA

## 2d - Control and Instrumentation

## Flowmeter

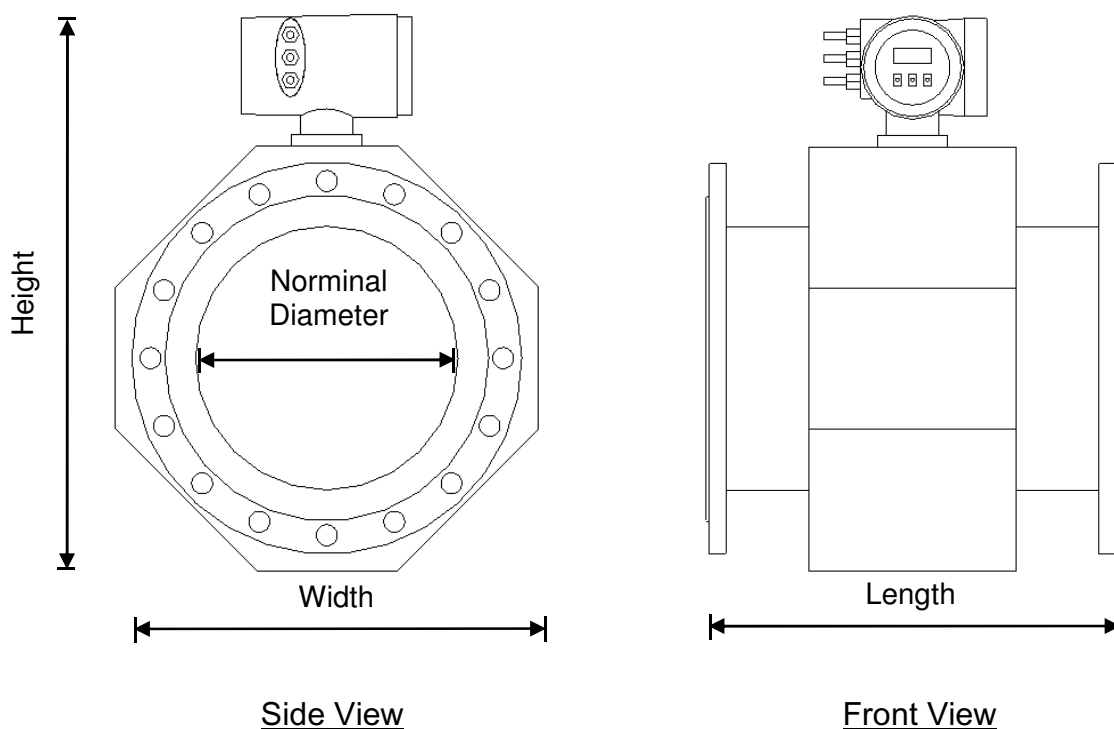
[illegible]

**2d - Control and Instrumentation**

## Flowmeter

LOD-I	Proposed Attribute Name	Example	Unit

Example Image:



Remarks:

(1): Y or N

(2): Ceiling Running Hour or No. of Count

(3): Hour or No. of Count

(4): Critical-no spare, Primary, Critical-w/spare in store, Critical-w/spare installed, Non critical or Secondary

(5): Low, Medium, High or Critical

(6): Date should be in the format of dd/mm/yyyy

**2d - Control and Instrumentation**

## Sensor

<b>LOD-I</b>	<b>Proposed Attribute Name</b>	<b>Example</b>	<b>Unit</b>
100	Address	Shan On Street, Ma On Shan	NA
100	Site ID	MOS108SPS	NA
100	District Code	ST	NA
100	CAT Code	CSE	NA
200-300	Equipment Name Chinese	超聲波水位傳感器	NA
200-300	Equipment Name English	Ultrasonic Level Sensor	NA
200-300	Equipment Type	Sensor	NA
200-300	Asset Code	MOS108SPS-SPS-B2-WWL-PPS-CSE-ULL001	NA
200-300	System Code	—	NA
200-300	Is Parent Entity	N <sup>(1)</sup>	NA
200-300	Material	Aluminium	NA
200-300	Remark	NA	NA
200-300	Unit Number	001	NA
200-300	Elevation	+2.20	mPD
200-300	Elevation Type	mPD	NA
200-300	Height	248	mm
200-300	Length	230	mm
200-300	Width	230	mm
400	Weight	1.5	kg
400	Brand Name	XYZ Brand	NA
400	Manufacturer Contact	1234 5678	NA

**2d - Control and Instrumentation**

## Sensor

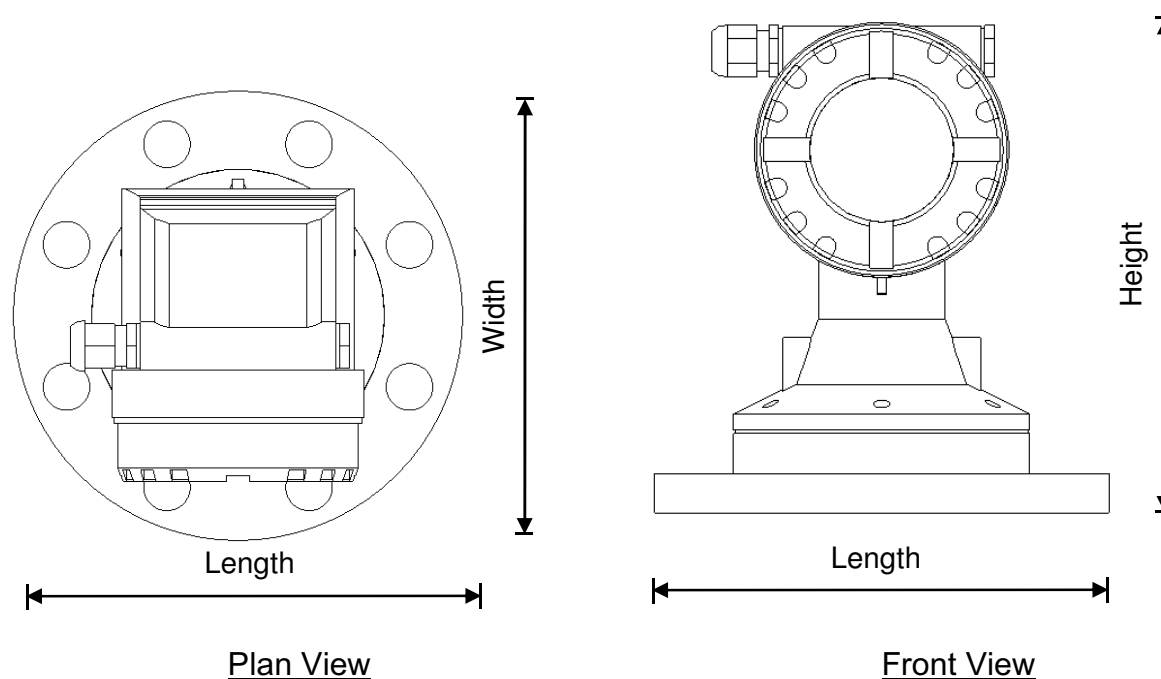
<b>LOD-I</b>	<b>Proposed Attribute Name</b>	<b>Example</b>	<b>Unit</b>
400	Manufacturer Name	Endress+Hauser	NA
400	Model	Prosonic M FMU 44	NA
400	Original Price Amount	5000	NA
400	Original Price Amount Currency	HKD	NA
400	Place of Origin	Switzerland	NA
400	Serial Number	FMU44-230-155	NA
400	Supplier Contact	1234 5678	NA
400	Supplier Name	ABC Company	NA
400	Commission Date	12/06/2009	NA
400	DLP End Date	12/06/2010	NA
400	Expected Life Time	5	year
400	Installed Date	01/05/2008	NA
400	Manufactured Date	01/01/2008	NA
400	Equipment Number	13336	NA
400	File Number	132111	NA
400	Maintenance Usage Threshold	2500 <sup>(2)</sup>	NA
400	Usage Unit	Hour <sup>(3)</sup>	NA
400	Wireless_Optical Tag ID	32012368	NA
400	Wireless_Optical Zone Tag ID	32012891	NA
400	Criticality	Critical-no spare <sup>(4)</sup>	NA
400	Priority	High <sup>(5)</sup>	NA

**2d - Control and Instrumentation**

## Sensor

LOD-I	Proposed Attribute Name	Example	Unit

Example Image:



Remarks:

(1): Y or N

(2): Ceiling Running Hour or No. of Count

(3): Hour or No. of Count

(4): Critical-no spare, Primary, Critical-w/spare in store, Critical-w/spare installed, Non critical or Secondary

(5): Low, Medium, High or Critical

(6): Date should be in the format of dd/mm/yyyy



**3c - Architectural**

## Door

<b>LOD-I</b>	<b>Proposed Attribute Name</b>	<b>Example</b>	<b>Unit</b>
100	CAT Code	ADO	NA
100	Door Mark	D1	NA
200-300	Asset Code	MOS108SPS-SPS-00A-TFR-____ - ADO-DF2001	NA
200-300	Material	Stainless Steel	NA
200-300	Maintenance Agent	BCM	NA
200-300	Link to Other Drawing	<u>40002.dgn</u>	NA
200-300	Level	9.800	mPD
200-300	Frame Material	Stainless Steel	NA
200-300	Sill Height	150	mm
200-300	Head Height	3030	mm
200-300	Space Room	Transformer Room	NA
200-300	Door Panel Width	900	mm
200-300	Door Panel Height	2807	mm
200-300	Fire Rating	1.5	Hours
200-300	Door Type	Double Leaf	NA
400	Installed Date	01/05/2018	DD/MM/YYYY
400	Commission Date	02/05/2018	DD/MM/YYYY
400	Contract Number	DC/2006/16	NA
400	Completion Date	30/12/2018	DD/MM/YYYY
400	Handover Date	31/12/2018	DD/MM/YYYY

3c - Architectural

Door

LOD-I	Proposed Attribute Name	Example	Unit
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Example Image:

The image shows an architectural elevation of a double door. The door is divided into two equal panels, each 900 units wide. The total height of the door opening is 2807 units. The door is set within a frame that is 3030 units high. The door is positioned 150 units above a base line. To the left of the door, there is a circular symbol with a crosshair, followed by the text '05\_00A\_(9.80mPD)' and '9800.0'. Below the door, the word 'Elevation' is written and underlined.

**3c - Architectural**

## Louver

<b>LOD-I</b>	<b>Proposed Attribute Name</b>	<b>Example</b>	<b>Unit</b>
100	CAT Code	AWD	NA
100	Mark	L1	NA
200-300	Asset Code	MOS108SPS-SPS-00A-TFR- AWD-ALO-T1001	NA
200-300	Material	Aluminium	NA
200-300	Maintenance Agent	BCM	NA
200-300	Link to Other Drawing	<u>40002.dgn</u>	NA
200-300	Level	9.800	mPD
200-300	Frame Material	Aluminium	NA
200-300	Sill Height	2700	mm
200-300	Head Height	3700	mm
200-300	Space Room	Transformer Room	mPD
200-300	Width	1000	mm
200-300	Height	1000	mm
400	Installed Date	01/05/2018	DD/MM/YYYY
400	Commission Date	01/05/2018	DD/MM/YYYY
400	Contract Number	DC/2006/16	NA
400	Completion Date	30/12/2018	DD/MM/YYYY
400	Handover Date	01/02/2019	DD/MM/YYYY

3c - Architectural

Louver

LOD-I	Proposed Attribute Name	Example	Unit
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Example Image:

1000

1000

2700

05\_00A\_(9.80mPD)

9800.0

Elevation

**3c - Architectural**

## Window

<b>LOD-I</b>	<b>Proposed Attribute Name</b>	<b>Example</b>	<b>Unit</b>
100	CAT Code	AWD	NA
100	Mark	W1	NA
200-300	Asset Code	MOS108SPS-SPS-00A-TFR-___ - AWD-___001	NA
200-300	Material	Glass	NA
200-300	Maintenance Agent	BCM	NA
200-300	Link to Other Drawing	<u>40002.dgn</u>	NA
200-300	Level	9.800	mPD
200-300	Frame Material	Aluminium	NA
200-300	Sill Height	2000	mm
200-300	Head Height	2800	mm
200-300	Space Room	Transformer Room	mPD
200-300	Width	2000	mm
200-300	Height	800	mm
400	Installed Date	01/05/2018	DD/MM/YYYY
400	Commission Date	01/05/2018	DD/MM/YYYY
400	Contract Number	DC/2006/16	NA
400	Completion Date	30/12/2018	DD/MM/YYYY
400	Handover Date	01/02/2019	DD/MM/YYYY

3c - Architectural

Window

LOD-I	Proposed Attribute Name	Example	Unit
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Example Image:

The image is an architectural elevation drawing of a window. It features a rectangular window with a double frame, divided into two equal panes. The width of the window is dimensioned as 2000 units, and its height is dimensioned as 800 units. A vertical dimension line on the right side indicates a depth or height of 2000 units from a horizontal baseline. To the left of the window, there is a north arrow pointing towards the top-left, accompanied by the text '05\_00A\_(9.80mPD)' and '9800.0'. The entire drawing is labeled 'Elevation' at the bottom center.

**3c - Architectural**

## Handrailing

<b>LOD-I</b>	<b>Proposed Attribute Name</b>	<b>Example</b>	<b>Unit</b>
100	CAT Code	ABA	NA
200-300	Asset Code	MOS108SPS-SPS-00A-____-A01- ABA-HRD001	NA
200-300	Material	Fibre Reinforced Plastic	NA
200-300	Maintenance Agent	BCM	NA
200-300	Link to Other Drawing	<u>40002.dgn</u>	NA
200-300	Base Level	12.800	mPD
200-300	Base Offset	300	mm
200-300	Length	3000	mm
200-300	Height	1100	mm
200-300	Weight	1.27	Kg/m
400	Installed Date	01/05/2018	DD/MM/YYYY
400	Commission Date	01/05/2018	DD/MM/YYYY
400	Contract Number	DC/2006/16	NA
400	Completion Date	30/12/2018	DD/MM/YYYY
400	Handover Date	01/02/2019	DD/MM/YYYY

3c - Architectural

Handrailing

LOD-I	Proposed Attribute Name	Example	Unit
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Example Image:

The image contains two architectural drawings of a handrailing. The top drawing is an elevation view showing a railing with a width of 3000 and a height of 1100, mounted on a base of 300. The bottom drawing is a section view showing the railing's profile with a height of 1100 and a base of 300. Both views include a north arrow and a level marker: 06\_00B\_(12.80mPD) 12800.0.

Elevation

Section



**3d - Structural**

## Column

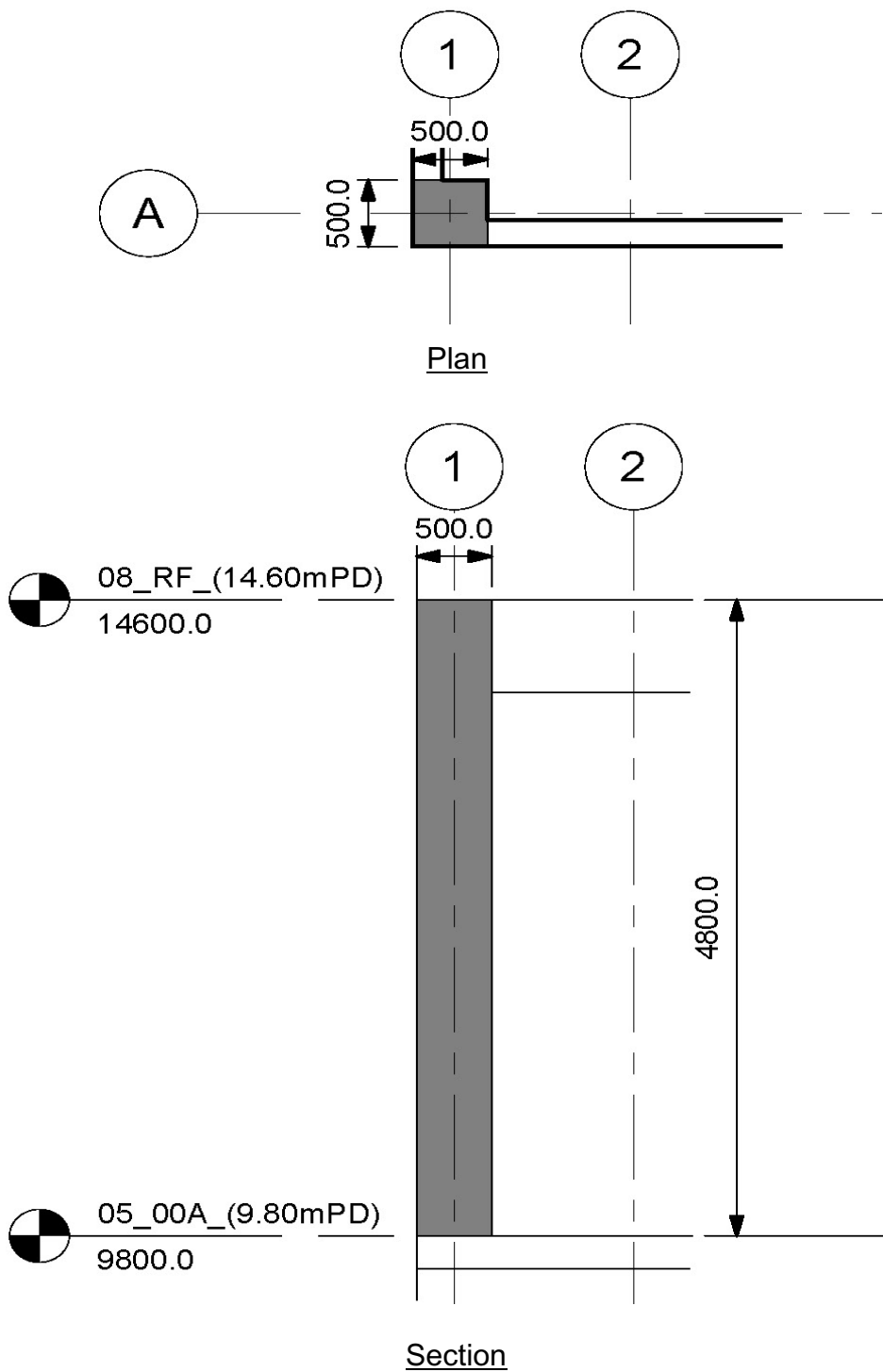
<b>LOD-I</b>	<b>Proposed Attribute Name</b>	<b>Example</b>	<b>Unit</b>
100	CAT Code	TCO	NA
200-300	Asset Code	MOS108SPS-SPS-00A-____-A01-TCO-_____	NA
200-300	Material	Concrete	NA
200-300	Base Level	9.800	mPD
200-300	Base Offset	0	mm
200-300	Width	500	mm
200-300	Concrete Cover	40	mm
200-300	Concrete Grade	30_20D	NA
200-300	Depth	4800	mm
200-300	Diameter	-	mm
200-300	Link to Other Drawing	<u>40002.dgn</u>	NA
200-300	Maintenance Agent	BCM	NA
200-300	Reinforcement	T32	NA
200-300	Top Level	14.600	mPD
200-300	Top Offset	0	mm
200-300	Volume	1.200	m <sup>3</sup>
200-300	Length	500	mm
400	Commission Date	01/05/2011	DD/MM/YYYY
400	Installed Date	22/01/2007	DD/MM/YYYY
400	Completion Date	01/05/2011	DD/MM/YYYY
400	Contract Number	DC/2006/16	NA

3d - Structural

Column

LOD-I	Proposed Attribute Name	Example	Unit
400	Handover Date	01/05/2011	DD/MM/YYYY

Example Image:



**3d - Structural**

## Beam

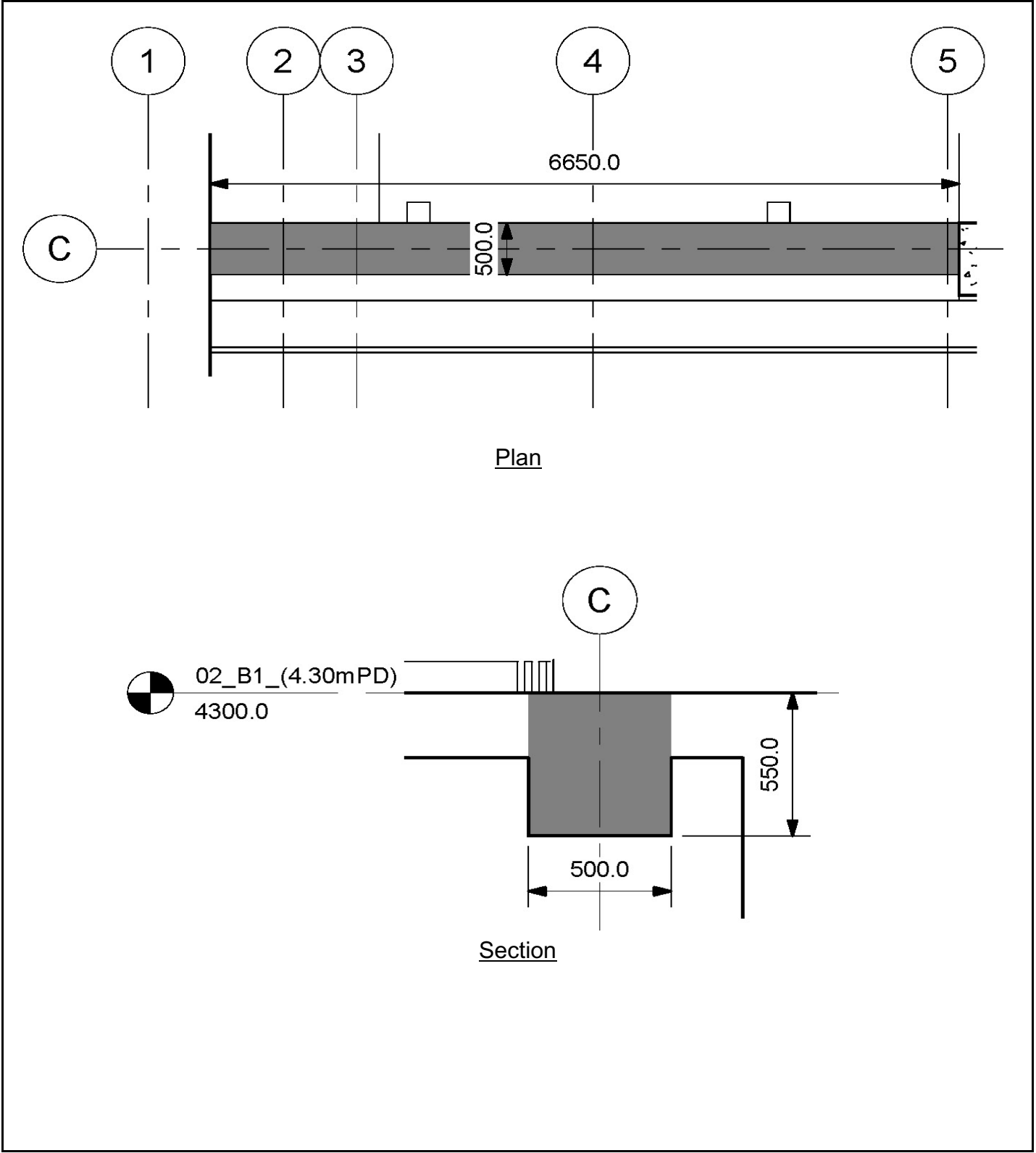
<b>LOD-I</b>	<b>Proposed Attribute Name</b>	<b>Example</b>	<b>Unit</b>
100	Cat Code	TBS	NA
200-300	Asset Code	MOS108SPS-SPS-B1-____- C01C05-TBS-____001	NA
200-300	Material	Concrete	NA
200-300	Concrete Cover	40	mm
200-300	Concrete Grade	30_20D	NA
200-300	Depth	550	mm
200-300	End Level Offset	0	mm
200-300	Length	6650	mm
200-300	Level	4.300	mPD
200-300	Link to Other Drawing	<u>40002.dgn</u>	NA
200-300	Maintenance Agent	BCM	NA
200-300	Reinforcement	T32_150	NA
200-300	Start Level Offset	0	mm
200-300	Volume	1.829	m <sup>3</sup>
200-300	Width	500	mm
400	Commission Date	01/05/2011	DD/MM/YYYY
400	Installed Date	22/01/2007	DD/MM/YYYY
400	Completion Date	01/05/2011	DD/MM/YYYY
400	Contract Number	DC/2006/16	NA
400	Handover Date	01/05/2011	DD/MM/YYYY

3d - Structural

Beam

LOD-I	Proposed Attribute Name	Example	Unit
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Example Image:



**3d - Structural**

## Slab

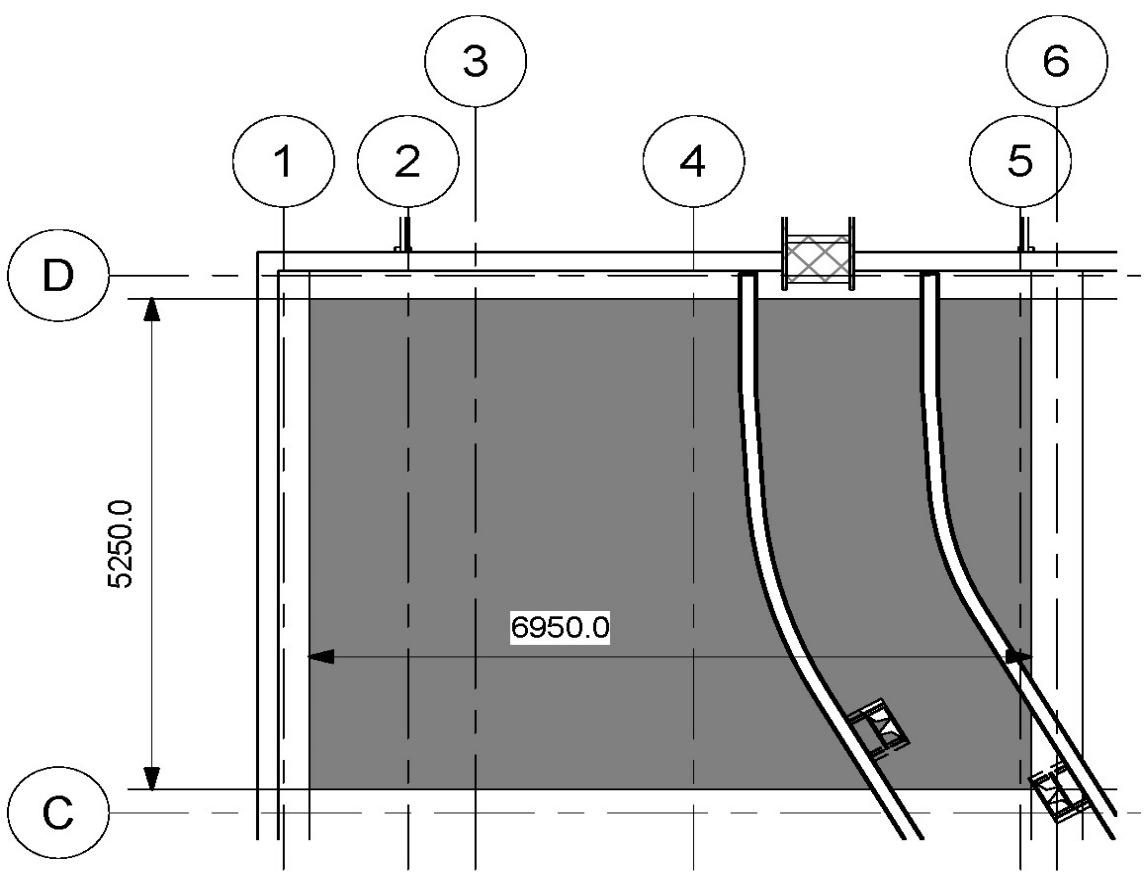
<b>LOD-I</b>	<b>Proposed Attribute Name</b>	<b>Example</b>	<b>Unit</b>
100	Cat Code	TLA	NA
200-300	Asset Code	MOS108SPS-SPS-RF-____- C01C06-TLA-____-____	NA
200-300	Material	Concrete	NA
200-300	Area	36.488	m <sup>2</sup>
200-300	Color	-	NA
200-300	Concrete Cover	40	mm
200-300	Concrete Grade	30_20D	NA
200-300	Height Offset From Level	0	mm
200-300	Length	6950	mm
200-300	Level	14.600	mPD
200-300	Link to Other Drawing	<u>40002.dgn</u>	NA
200-300	Maintenance Agent	BCM	NA
200-300	Reinforcement	T20_200_T20_200	NA
200-300	Space Room	-	NA
200-300	Thickness	250	mm
200-300	Volume	9.122	m <sup>3</sup>
200-300	Width	5250	mm
400	Commission Date	01/05/2011	DD/MM/YYYY
400	Installed Date	22/01/2007	DD/MM/YYYY
400	Completion Date	01/05/2011	DD/MM/YYYY
400	Contract Number	DC/2006/16	NA

3d - Structural

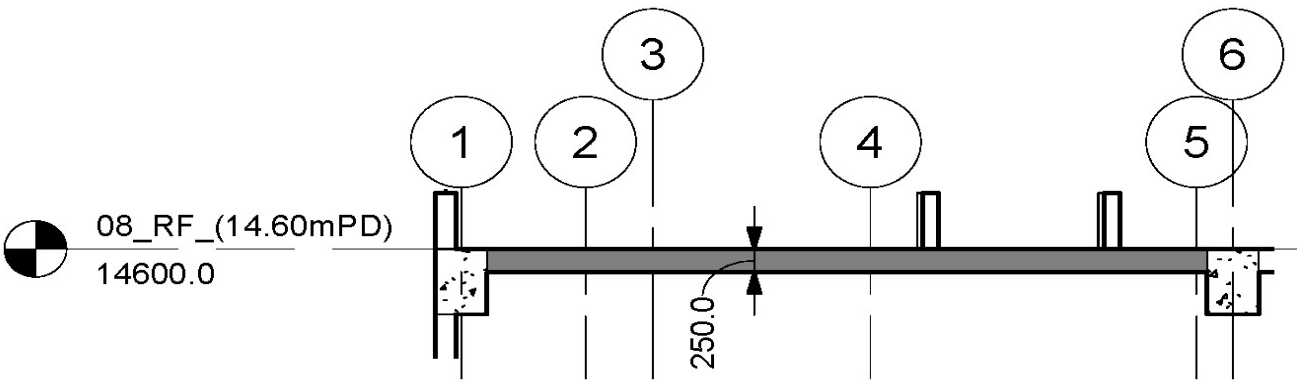
Slab

LOD-I	Proposed Attribute Name	Example	Unit
400	Handover Date	01/05/2011	DD/MM/YYYY

Example Image:



Plan



Section

**3d - Structural**

## Wall

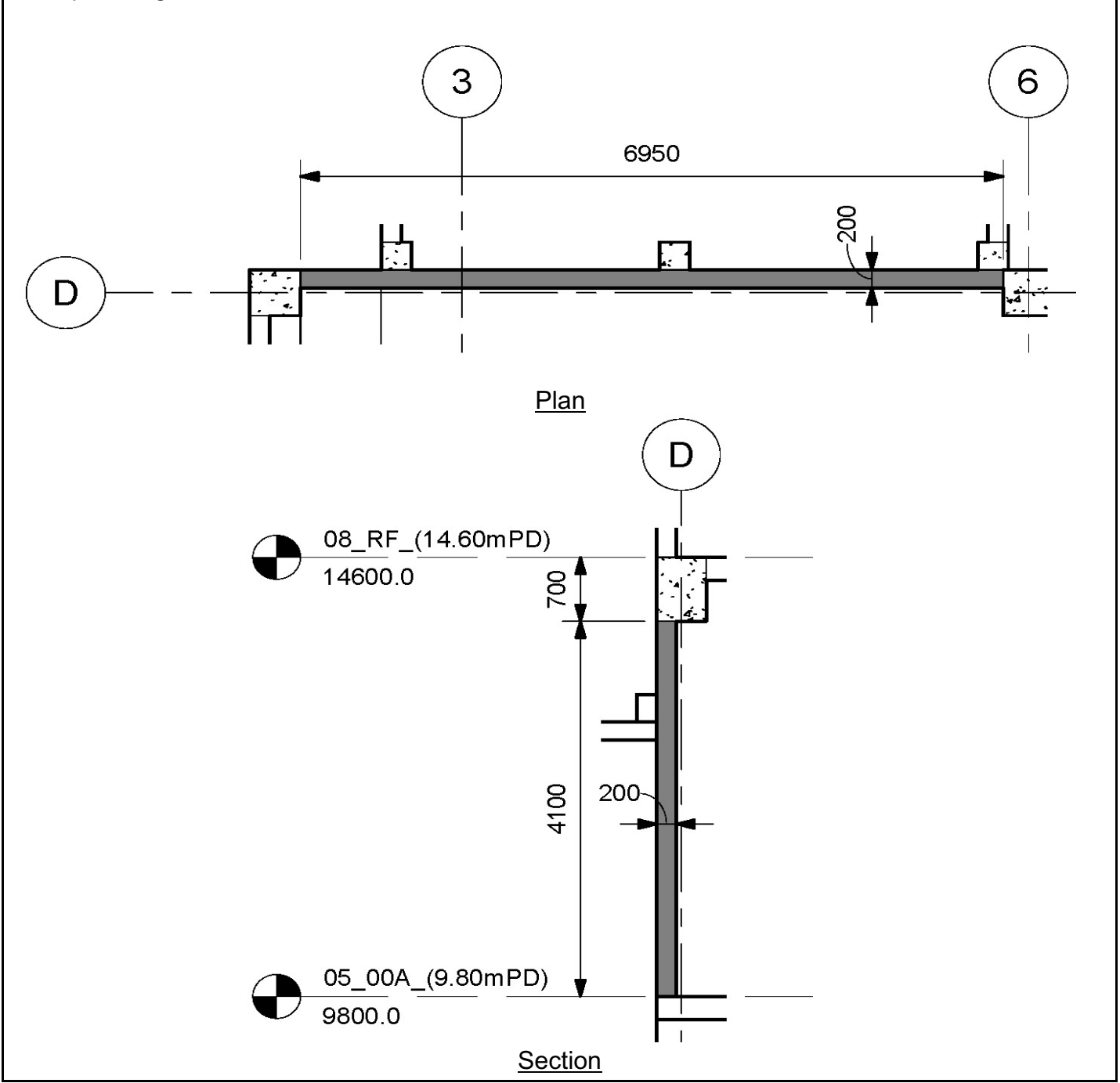
<b>LOD-I</b>	<b>Proposed Attribute Name</b>	<b>Example</b>	<b>Unit</b>
100	Cat Code	TWL	NA
200-300	Asset Code	MOS108SPS-SPS-00A-____- C01C09-TWL-_____	NA
200-300	Material	Concrete	NA
200-300	Area	56.990	m <sup>2</sup>
200-300	Base Level	9.800	mPD
200-300	Base Offset	0.000	mPD
200-300	Color	-	NA
200-300	Concrete Cover	40	mm
200-300	Concrete Grade	30_20D	NA
200-300	Height	4100	mm
200-300	Length	6950	mm
200-300	Link to Other Drawing	<u>40002.dgn</u>	NA
200-300	Maintenance Agent	BCM	NA
200-300	Reinforcement	T20_200_T20_200	NA
200-300	Space Room	-	NA
200-300	Thickness	200	mm
200-300	Top Level	14.600	mPD
200-300	Top Offset	-700	mm
200-300	Volume	11.398	m <sup>3</sup>
400	Commission Date	01/05/2011	DD/MM/YYYY
400	Installed Date	22/01/2007	DD/MM/YYYY

3d - Structural

Wall

LOD-I	Proposed Attribute Name	Example	Unit
400	Completion Date	01/05/2011	DD/MM/YYYY
400	Contract Number	DC/2006/16	NA
400	Handover Date	01/05/2011	DD/MM/YYYY

Example Image:





**3d - Structural**

## Stair

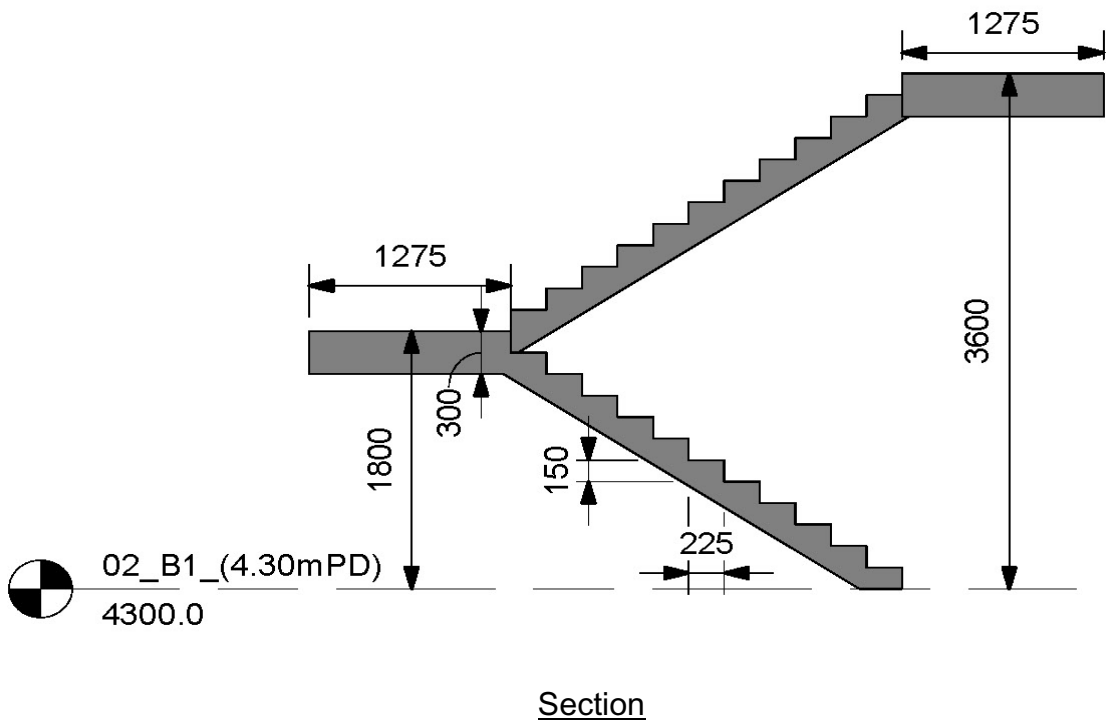
<b>LOD-I</b>	<b>Proposed Attribute Name</b>	<b>Example</b>	<b>Unit</b>
100	Cat Code	TTE	NA
200-300	Asset Code	MOS108SPS-SPS-B1-___-___- TTE-___001	NA
200-300	Material	Concrete	NA
200-300	Base Level	4.300	mPD
200-300	Base Offset	0	mm
200-300	Concrete Cover	40	mm
200-300	Concrete Grade	30_20D	NA
200-300	Landing Length	1275	mm
200-300	Landing Level	7.90	mPD
200-300	Landing Thickness	300	mm
200-300	Link to Other Drawing	<u>40002.dgn</u>	NA
200-300	Maintenance Agent	BCM	NA
200-300	No of Risers	12	NA
200-300	Reinforcement	T20_200	NA
200-300	Riser Height	150	mm
200-300	Tread Depth	225	mm
200-300	Run Width	1000	mm
200-300	Space Room	-	NA
200-300	Top Level	7.900	mPD
200-300	Top Offset	0	mm
400	Commission Date	01/01/2019	DD/MM/YYYY

3d - Structural

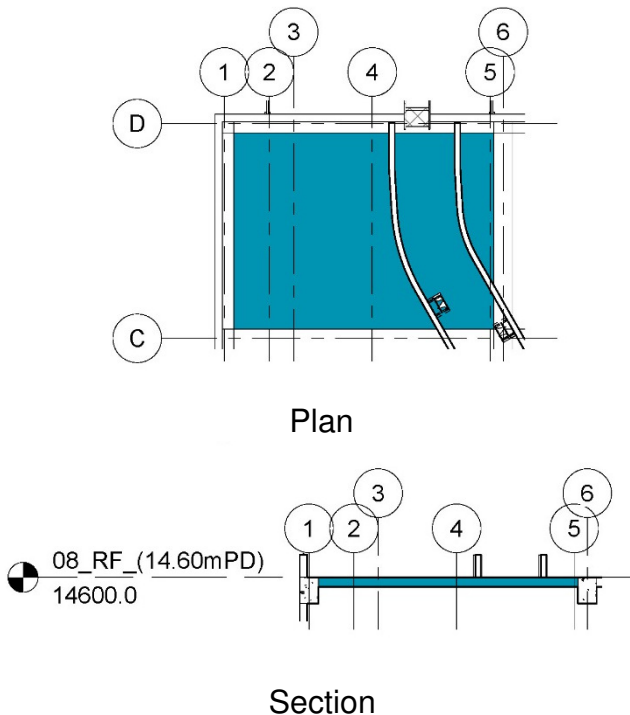
Stair

LOD-I	Proposed Attribute Name	Example	Unit
400	Installed Date	01/05/2018	DD/MM/YYYY
400	Completion Date	30/12/2018	DD/MM/YYYY
400	Contract Number	DC/2006/09	NA
400	Handover Date	01/02/2019	DD/MM/YYYY

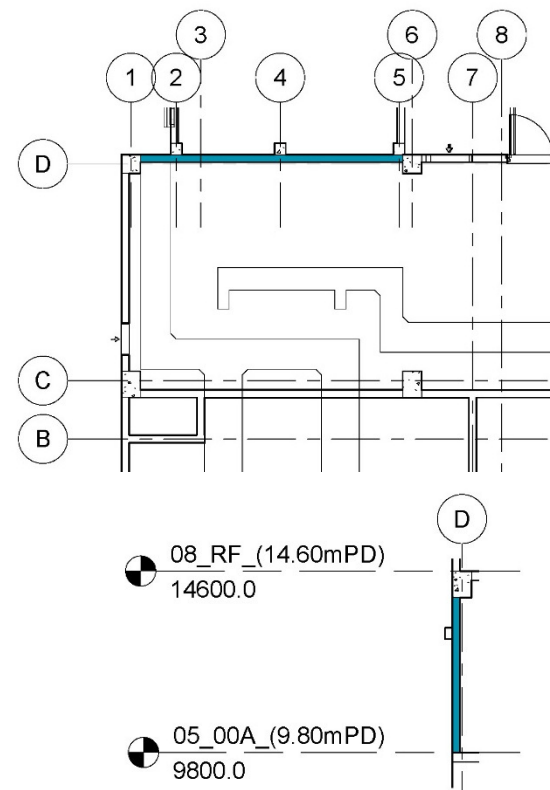
Example Image:



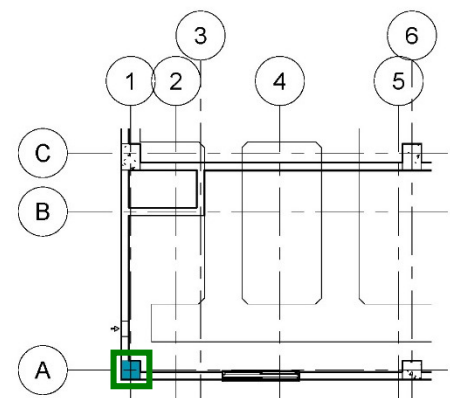
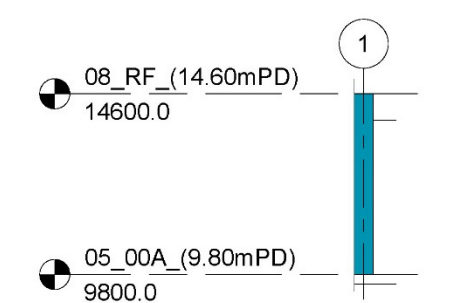
## Example 1 (Structural Slab)

Station Name	Feature Code	Level Code	Space / Room Code	E&M System / Grid Code	DSD CAT Code	DSD Sub-CAT Code	Unit Number
MOS108SPS	SPS	RF	___	C01D06	TLA	___	___
Asset Code -	MOS108SPS-SPS-RF-___-C01D06-TLA-_____				<div>Image of Model File</div> <div></div>		
MOS108SPS –	Ma On Shan 108 Sewage Pumping Station						
SPS -	Sewage Pumping Station						
RF-	Roof						
___-	Not applicable						
C01D06-	From grid line C01 to grid line D06						
TLA-	Structural Slab						
___	Not applicable						
___	Not applicable						

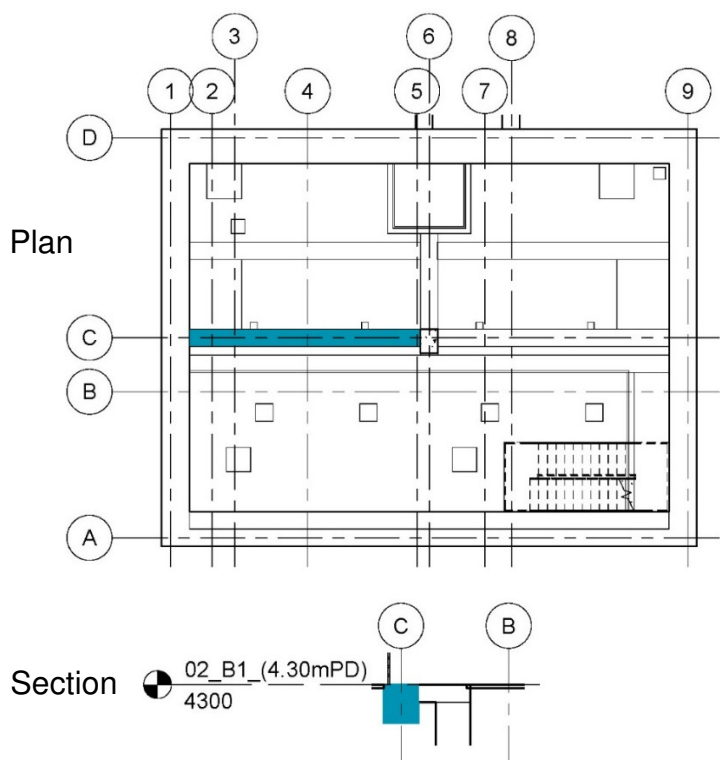
## Example 2 (Structural Wall)

Station Name	Feature Code	Level Code	Space / Room Code	E&M System / Grid Code	DSD CAT Code	DSD Sub-CAT Code	Unit Number
MOS108SPS	SPS	00A	___	D01D06	TWL	___	___
Asset Code -	MOS108SPS-SPS-00A-___-D01D06-TWL-_____				Image of Model File		
MOS108SPS –	Ma On Shan 108 Sewage Pumping Station						
SPS -	Sewage Pumping Station						
00A-	The 1st intermediate level above Ground Floor						
___-	Not applicable						
D01D06-	From grid line D01 to grid line D06						
TWL-	Structural Wall						
___	Not applicable						
___	Not applicable						

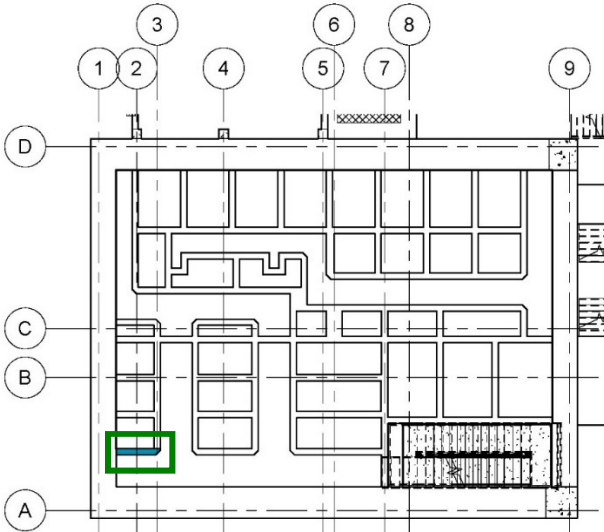
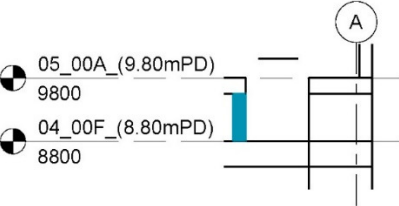
## Example 3 (Structural Column)

Station Name	Feature Code	Level Code	Space / Room Code	E&M System / Grid Code	DSD CAT Code	DSD Sub-CAT Code	Unit Number
MOS108SPS	SPS	00A	___	A01	TCO	___	___
Asset Code -	MOS108SPS-SPS-00A-___-A01-TCO-_____				Image of Model File		
MOS108SPS –	Ma On Shan 108 Sewage Pumping Station				<div>Plan</div>  <div>Section</div> 		
SPS -	Sewage Pumping Station						
00A-	The 1st intermediate level above Ground Floor						
___ -	Not applicable						
A01 -	At grid A01						
TCO-	Structural Column						
___ -	Not applicable						
___	Not applicable						

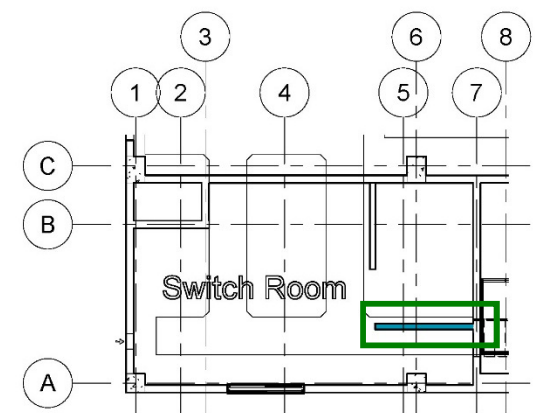
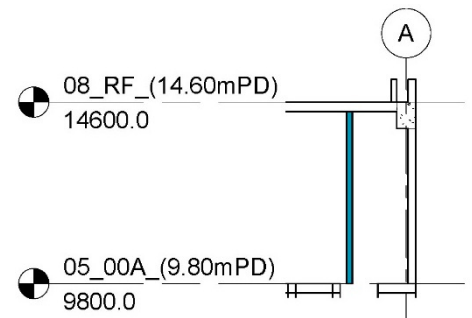
## Example 4 (Structural Beam)

Station Name	Feature Code	Level Code	Space / Room Code	E&M System / Grid Code	DSD CAT Code	DSD Sub-CAT Code	Unit Number
MOS108SPS	SPS	B1	—	C01C06	TBS	—	001
Asset Code -	MOS108SPS-SPS-B1-___-C01C06-TBS-___001						
MOS108SPS -	Ma On Shan 108 Sewage Pumping Station						
SPS -	Sewage Pumping Station						
B1-	Basement 1						
___-	Not applicable						
C01C06-	From grid line C01 to grid line C06						
TBS-	Structural Beam						
___-	Not applicable						
001	Beam number 1						
					Image of Model File		
							

## Example 5 (Structural Wall)

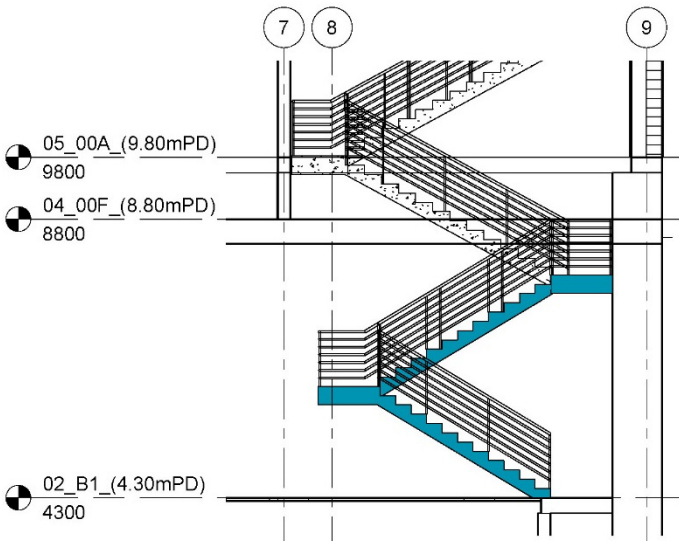
Station Name	Feature Code	Level Code	Space / Room Code	E&M System / Grid Code	DSD CAT Code	DSD Sub-CAT Code	Unit Number
MOS108SPS	SPS	00F	___	A01D09	TWL	___	001
Asset Code -	MOS108SPS-SPS-00F-___-A01D09-TWL-___001			<div>Image of Model File</div> <div><div>Plan</div><div>Section</div></div>			
MOS108SPS –	Ma On Shan 108 Sewage Pumping Station						
SPS -	Sewage Pumping Station						
00F-	Ground Floor						
___ -	Not applicable						
A01D09 -	From grid line A01 to grid line D09						
TWL-	Structural Wall						
___ -	Not applicable						
001	The 1st trench wall						

Example 6 (Internal Wall)

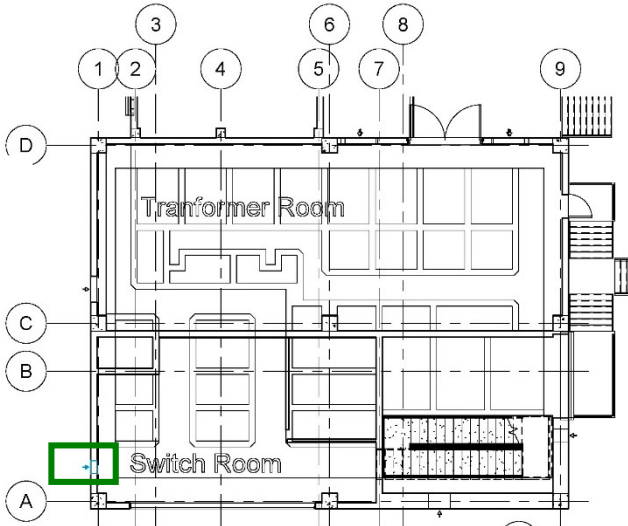
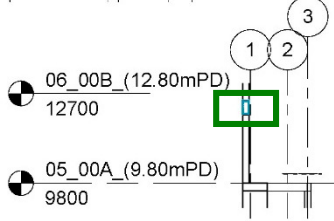
Station Name	Feature Code	Level Code	Space / Room Code	E&M System / Grid Code	DSD CAT Code	DSD Sub-CAT Code	Unit Number
MOS108SPS	SPS	00A	SWR	___	TWL	IWL	001
Asset Code -	MOS108SPS-SPS-00A-SWR-___-TWL-IWL001				<div>Image of Model File</div> <div><div>Plan</div></div> <div><div>Section</div></div>		
MOS108SPS –	Ma On Shan 108 Sewage Pumping Station						
SPS -	Sewage Pumping Station						
00A-	The 1st intermediate level above Ground Floor						
SWR -	Switch Room						
___ -	Not applicable						
TWL-	Structural Wall						
IWL-	Internal Wall						
001	The 1st internal wall						



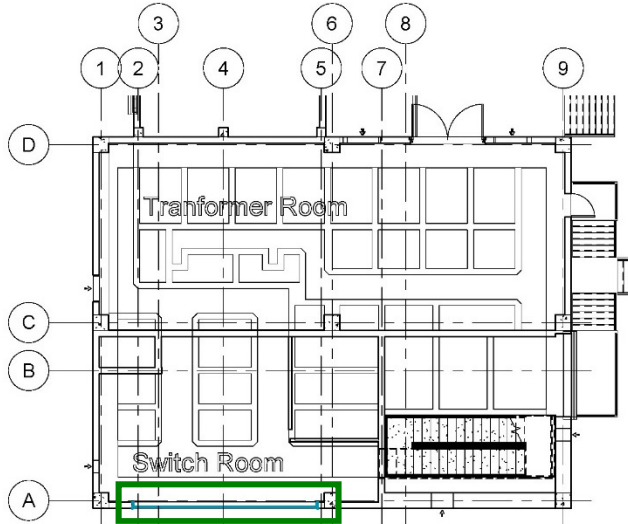
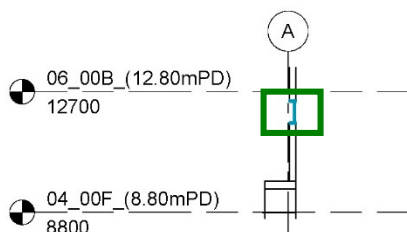
Example 7 (Staircase)

Station Name	Feature Code	Level Code	Space / Room Code	E&M System / Grid Code	DSD CAT Code	DSD Sub-CAT Code	Unit Number
MOS108SPS	SPS	B1	___	___	TTE	___	001
Asset Code -	MOS108SPS-SPS-B1-___-___-TTE-___001				<div>Image of Model File</div>  <div>Section</div>		
MOS108SPS –	Ma On Shan 108 Sewage Pumping Station						
SPS -	Sewage Pumping Station						
B1-	Basement 1 Level						
___ -	Not applicable						
___ -	Not applicable						
TTE-	Staircase						
___	Not applicable						
001	Staircase No.1						

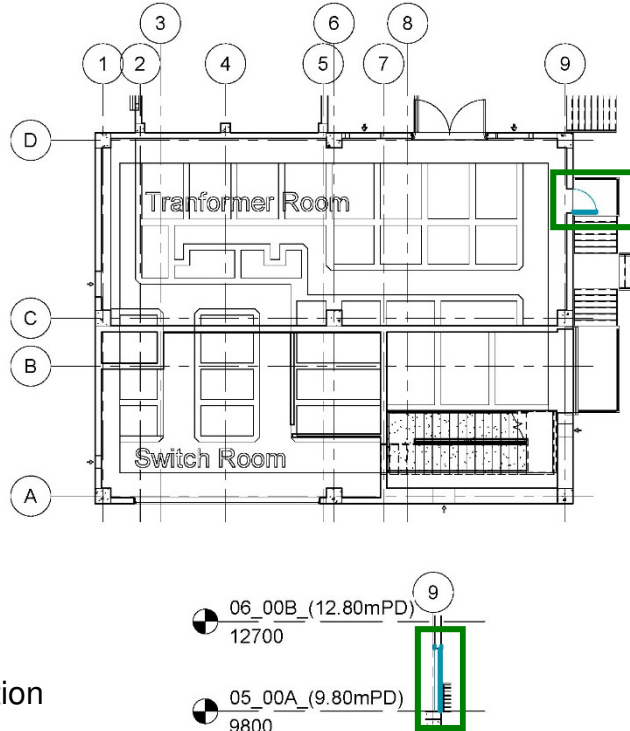
Example 8 (Louver)

Station Name	Feature Code	Level Code	Space / Room Code	E&M System / Grid Code	DSD CAT Code	DSD Sub-CAT Code	Unit Number
MOS108SPS	SPS	00A	TFR	___	AWD	LOU	001
Asset Code -	MOS108SPS-SPS-00A-TFR-___-AWD-LOU001				<div>Image of Model File</div> <div><div>Plan</div></div> <div><div>Level Section</div></div>		
MOS108SPS –	Ma On Shan 108 Sewage Pumping Station						
SPS -	Sewage Pumping Station						
00A-	The 1st intermediate level above Ground Floor						
TFR -	Transformer Room						
___ -	Not applicable						
AWD -	Window						
LOU -	Louver						
001	The 1st louver						

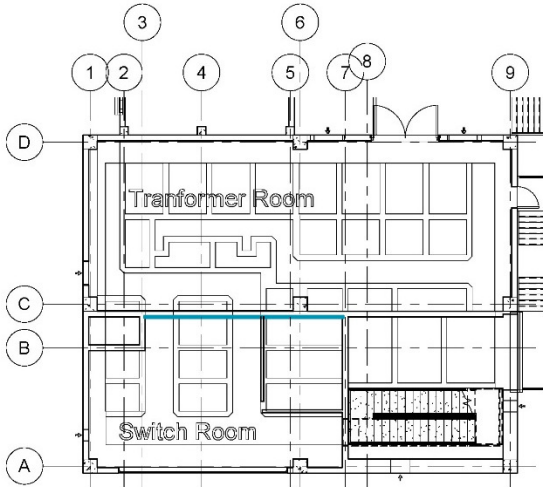
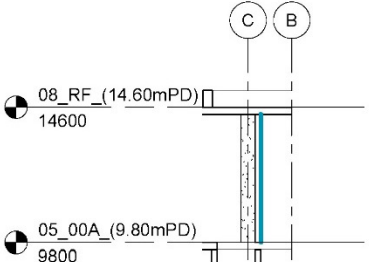
Example 9 (Window)

Station Name	Feature Code	Level Code	Space / Room Code	E&M System / Grid Code	DSD CAT Code	DSD Sub-CAT Code	Unit Number
MOS108SPS	SPS	00A	SWR	___	AWD	___	001
Asset Code -	MOS108SPS-SPS-00A-TFR-___-AWD-___001				<div>Image of Model File</div> <div><div>Plan</div></div> <div><div>Section</div></div>		
MOS108SPS –	Ma On Shan 108 Sewage Pumping Station						
SPS-	Sewage Pumping Station						
00A-	The 1st intermediate level above Ground Floor						
SWR-	Switch Room						
___ -	Not applicable						
AWD -	Window						
___ -	Not applicable						
001	The 1st window						

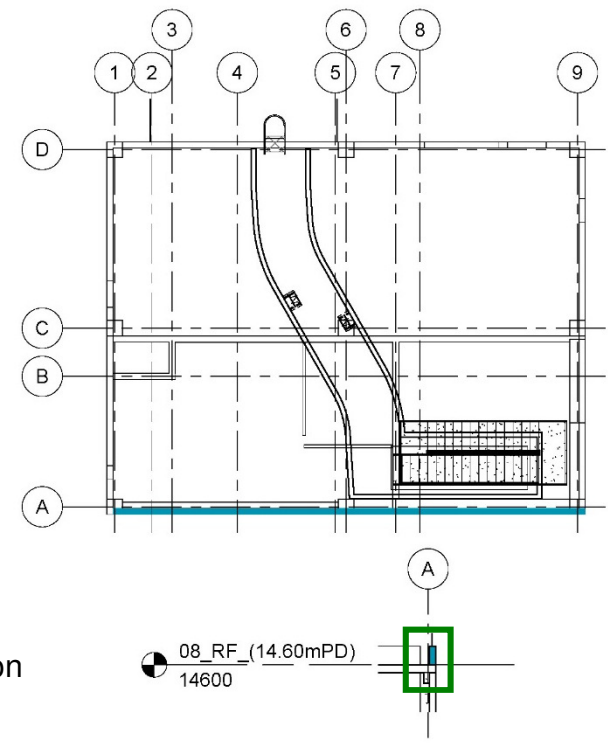
Example 10 (Door)

Station Name	Feature Code	Level Code	Space / Room Code	E&M System / Grid Code	DSD CAT Code	DSD Sub-CAT Code	Unit Number
MOS108SPS	SPS	00A	TFR	___	ADO	SF1	001
Asset Code -	MOS108SPS-SPS-00A-TFR-___-ADO-SF1001				Image of Model File		
MOS108SPS –	Ma On Shan 108 Sewage Pumping Station						
SPS -	Sewage Pumping Station						
00A-	The 1st intermediate level above Ground Floor						
TFR-	Transformer Room						
___ -	Not applicable						
ADO-	Door						
SF1-	Type 1 Single Leaf						
001	The 1st door						

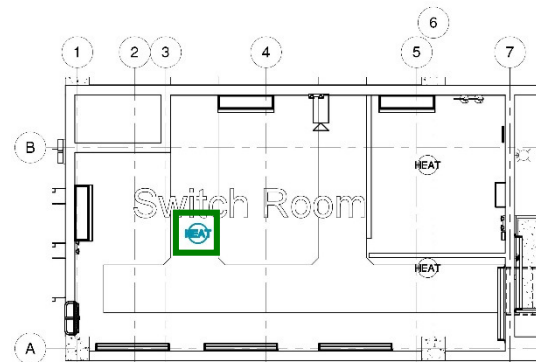
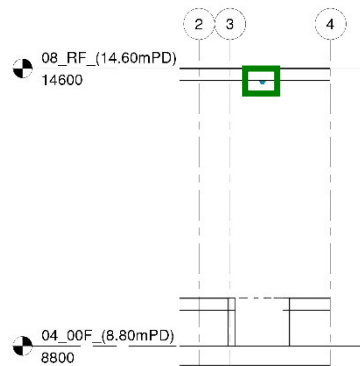
## Example 11 (Finishing)

Station Name	Feature Code	Level Code	Space / Room Code	E&M System / Grid Code	DSD CAT Code	DSD Sub-CAT Code	Unit Number
MOS108SPS	SPS	00A	SWR	C03C07	TWL	IFT	___
Asset Code -	MOS108SPS-SPS-00A-SWR-C03C07-TWL-IFT___				Image of Model File		
MOS108SPS –	Ma On Shan 108 Sewage Pumping Station				<div>Plan</div>  <div>Section</div> 		
SPS -	Sewage Pumping Station						
00A-	The 1st intermediate level above Ground Floor						
SWR -	Switch Room						
C03C07 -	From grid line C03 to grid line C07						
TWL-	Structural Wall						
IFT-	Internal Wall Finishing Ceramic Tile						
___	Not applicable						

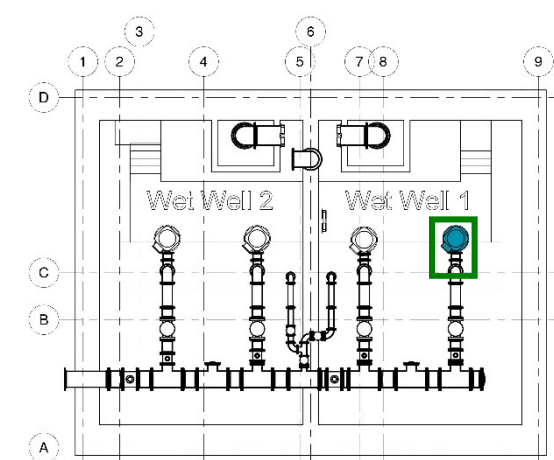
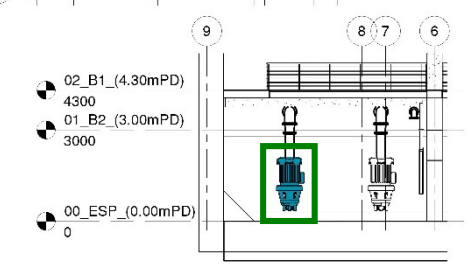
Example 12 (Parapet Wall)

Station Name	Feature Code	Level Code	Space / Room Code	E&M System / Grid Code	DSD CAT Code	DSD Sub-CAT Code	Unit Number
MOS108SPS	SPS	RF	___	A01A09	TWL	PWL	___
Asset Code -	MOS108SPS-SPS-RF-___-A01A09-TWL-PWL___			Image of Model File			
MOS108SPS –	Ma On Shan 108 Sewage Pumping Station						
SPS -	Sewage Pumping Station						
RF-	Roof						
___ -	Not applicable						
A01A09 -	From grid line A01 to grid line A09						
TWL -	Structural Wall						
PWL-	Parapet Wall						
___	Not applicable						

Example 13 (Fire Detector)

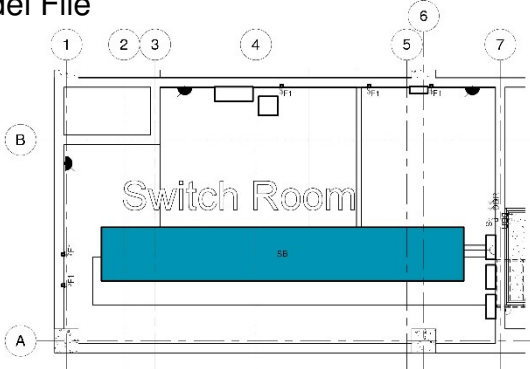
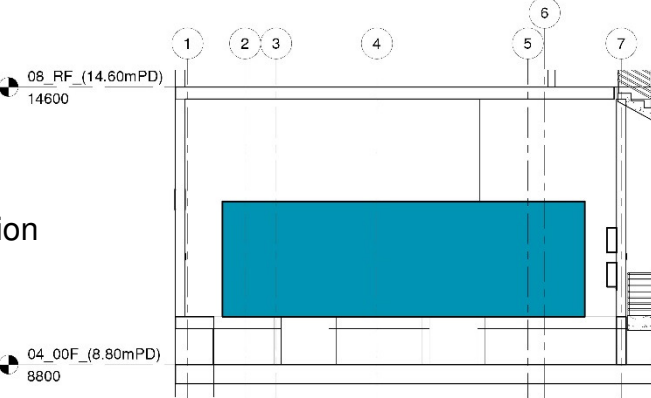
Station Name	Feature Code	Level Code	Space / Room Code	E&M System / Grid Code	DSD CAT Code	DSD Sub-CAT Code	Unit Number
MOS108SPS	SPS	00F	SWR	FSS	BFD	HEA	002
Asset Code –	MOS108SPS-SPS-00F-SWR-FSS-BFD-HEA002				<div>Image of Model File</div> <div><div>Plan</div></div> <div><div>Section</div></div>		
MOS108SPS –	Ma On Shan Sewage Pumping Station						
SPS –	Sewage Pumping Station						
00F –	Ground Floor						
SWR –	Switch Room						
FSS –	Fire Services System						
BFD –	Fire Detector						
HEA	Heat Detector						
002	No. 2						

Example 14 (Pump)

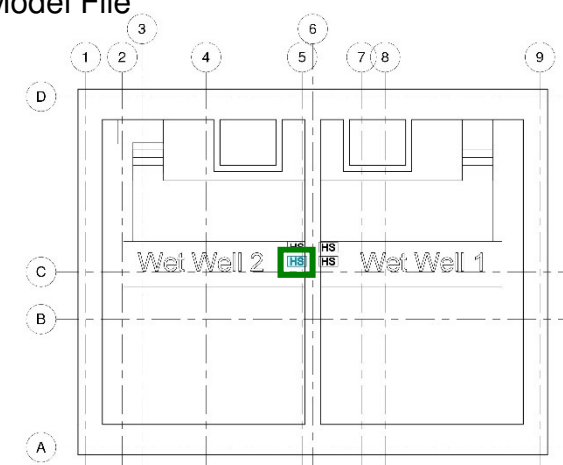
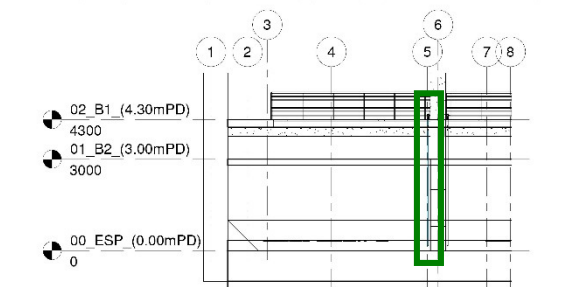
Station Name	Feature Code	Level Code	Space / Room Code	E&M System / Grid Code	DSD CAT Code	DSD Sub-CAT Code	Unit Number
MOS108SPS	SPS	ESP	WWL1	PPS	MPU	SUB	002
Asset Code –	MOS108SPS-SPS-ESP-WWL1-PPS-MPU-SUB002				Image of Model File		
MOS108SPS –	Ma On Shan Sewage Pumping Station				Plan		
SPS –	Sewage Pumping Station						
ESP –	Referenced Level from Engineering Survey						
WWL1 –	Wet Well 1						
PPS –	Pumping System						
MPU –	Pump						
SUB	Submersible Pump						
002	No. 2				Section		



Example 15 (Switchboard)

Station Name	Feature Code	Level Code	Space / Room Code	E&M System / Grid Code	DSD CAT Code	DSD Sub-CAT Code	Unit Number
MOS108SPS	SPS	00F	SWR	PDS	ESB	LV_	001
Asset Code –	MOS108SPS-SPS-00F-SWR-PDS-ESB-LV_001				<div>Image of Model File</div> <div><div>Plan</div></div> <div><div>Section</div></div>		
MOS108SPS –	Ma On Shan Sewage Pumping Station						
SPS –	Sewage Pumping Station						
00F –	Ground Floor						
SWR –	Switch Room						
PDS –	Power Distribution System						
ESB –	Switchboard						
LV_	LV Switchboard						
001	No. 1						

Example 16 (Hydrostatic Level Sensor)

Station Name	Feature Code	Level Code	Space / Room Code	E&M System / Grid Code	DSD CAT Code	DSD Sub-CAT Code	Unit Number
MOS108SPS	SPS	ESP	WWL2	PPS	CSE	HYL	001
Asset Code –	MOS108SPS-SPS-ESP-WWL2-PPS-CSE-HYL001				<div>Image of Model File</div> <div><div>Plan</div></div> <div><div>Section</div></div>		
MOS108SPS –	Ma On Shan Sewage Pumping Station						
SPS –	Sewage Pumping Station						
ESP –	Referenced Level from Engineering Survey						
WWL2 –	Wet Well 2						
PPS –	Pumping System						
CSE –	Sensor						
HYL	Hydrostatic Level Sensor						
001	No. 1						

# **Appendix I**

## **Space / Room Code and E&M System / Grid Code**

**Space / Room Code**

<b>Space / Room</b>	<b>Code</b>
Air Blower Room	ABR
Conference Room	CFR
Control Room	CTR
Corridor	COR
Deodorizer Room	DOR
Dry Well	DWL
Generator Room	GER
Entrance	ENT
Fire Services Control Room	FSCR
Fuel Tank Room	FTR
HV Switch Room	HVSR
Indoor	IND
Inlet Chamber	ICB
Laboratory	LAB
Lobby	LBY
LV Switch Room	LVSR
No Space / Room	—
Office	OFF
Outdoor	ODU
Pantry	PAN
Pump Room	PUR
Roof	ROF
Screen Room	SCR
Security Control Room	STCR
Stair	STA
Store Room	STER
Switch Room	SWR
Toilet	TLT
Transformer Room	TFR
Valve Chamber	VCB
Wet Well	WWL

**E&M System Code**

<b>E&amp;M System</b>	<b>Code</b>
Access Control System	ACS
Activated Sludge System	ASS
Air Blower System	ABS
Boiler System	BLS
Burglar Alarm System	BAS
CCTV Security Monitoring System	CSMS
Compressed Air System	CAS
Conveyor System	CVS
Deodorization System	DOS
Disinfection System	DFS
Dosing System	DSS
Earthing System	ETS
Exhaust Air System	EAS
Fire Services System	FSS
Gas Burner System	GBS
Gas Detection System	GDS
Gas Holder System	GHS
Grit Removal System	GRS
Irrigation System	IGS
Lifting & Swiveling System	LSS
Lighting System	LTS
Lightning Protection System	LPS
Membrane Bioreactor System	MBS
No System	—
Power Distribution System	PDS
Power Generating System	PGS
Power Quality Energy Management System	PQEMS
Pumping System	PPS
Reclaimed Water System	RWS
SCADA System	SCADAS
Screen System	SCS
Sludge Dewatering System	SDS
Sludge Feed System	SFS
Sludge Thickening System	STS
Solar Photovoltaic System	SPVS

<b>E&amp;M System</b>	<b>Code</b>
Solar Water Heating System	SWHS
Supply Air System	SAS
Uninterrupted Power System	UPS
Washpactor System	WPS

**Grid Code**

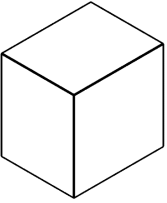
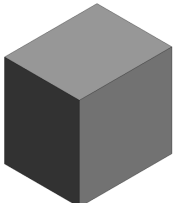
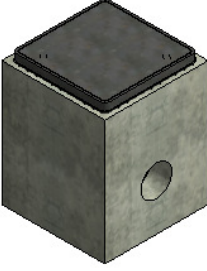

Item	Structural	Grid Code	Remark
1	Column	A01	A01 is the intersection point between Grid line A and Grid line 1, the column's centroid is located at the intersection of the grid
2	Wall/ Beam	A01A02	The Structural Wall / Beam is from grid point A01 (the first intersection point) to A02 (the last intersection point) in Floor Plan
3	Wall/ Beam	A01B01	The Structural Wall / Beam is from grid point A01 (the first intersection point) to B01 (the last intersection point) in Floor Plan
4	Slab	A01B06	The Structural Slab is from grid point A01 (the first intersection point at lower left corner) to B06 (the last intersection point at upper right corner) in Floor Plan

# **Appendix J**

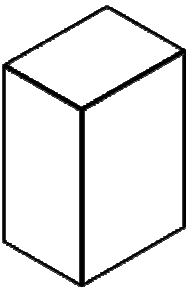
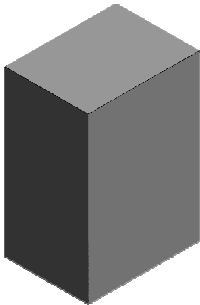
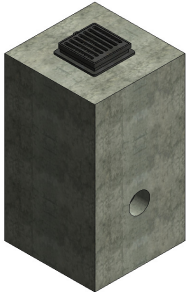
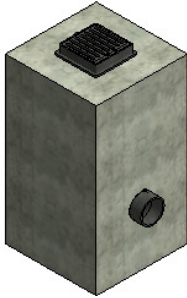
## **LOD Specification**



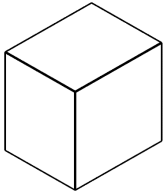
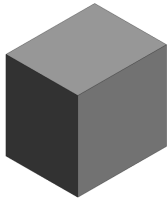
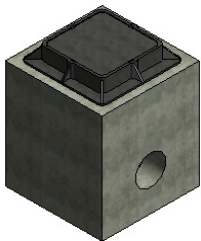
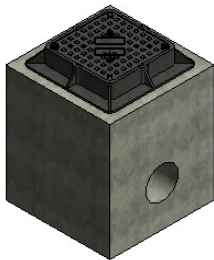
## Sewerage Network (Manhole Type A)

LOD-G	Description	LOD-I	Example Images
100	Model element may be graphically represented in model with symbol or other generic representation.	- Drainage System Type	 <p><b>schematic</b></p>
200	Model element is graphically represented within the model as a generic system, object or assembly with approximate quantities, size, shape, location and orientation. Non-graphic information may also be attached to the model element.	- Cover Level	 <p><b>generic</b></p>
300	Model element is graphically represented within model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation. Non-graphic information may also be attached to the model element. The model element should include: <ul style="list-style-type: none"> <li>- Slab</li> <li>- Wall</li> <li>- Pipe connector</li> <li>- Cover and frame</li> </ul>	- Concrete Grade	 <p><b>specific</b></p>
400	Model element is graphically represented within the model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation with detailing fabrication, assembly and installation information. Non-graphic information may also be attached to the model element. The model element should include: <ul style="list-style-type: none"> <li>- Slab</li> <li>- Wall</li> <li>- Pipe connector</li> <li>- Detailed cover and frame</li> <li>- Benching</li> </ul>	- Handover Date	 <p><b>as-built</b></p>

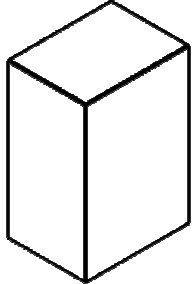
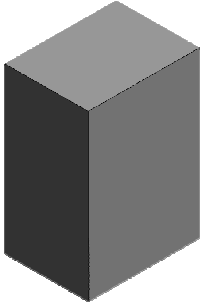
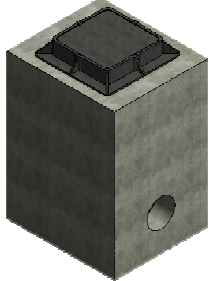
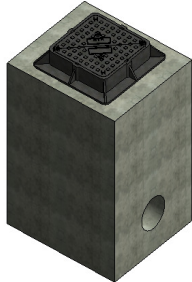
## Sewerage Network (Manhole Type B)

LOD-G	Description	LOD-I	Example Images
100	Model element may be graphically represented in model with symbol or other generic representation.	- Drainage System Type	 <p><b>schematic</b></p>
200	Model element is graphically represented within the model as a generic system, object or assembly with approximate quantities, size, shape, location and orientation. Non-graphic information may also be attached to the model element.	- Cover Level	 <p><b>generic</b></p>
300	Model element is graphically represented within model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation. Non-graphic information may also be attached to the model element. The model element should include: - Slab - Wall - Pipe connector - Cover and frame	- Concrete Grade	 <p><b>specific</b></p>
400	Model element is graphically represented within the model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation with detailing fabrication, assembly and installation information. Non-graphic information may also be attached to the model element. The model element should include: - Slab - Wall - Pipe connector - Detailed cover and frame - Benching - Trap	- Handover Date	 <p><b>as-built</b></p>

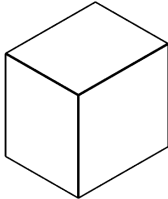
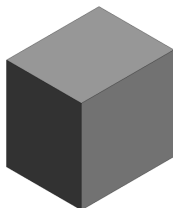
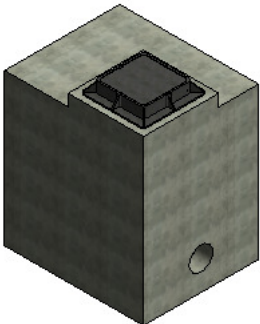
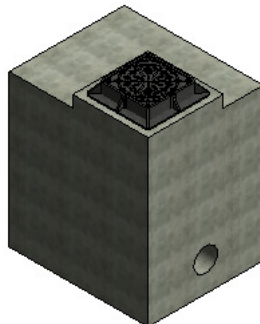
## Sewerage Network (Manhole Type C)

LOD-G	Description	LOD-I	Example Images
100	Model element may be graphically represented in model with symbol or other generic representation.	- Drainage System Type	 <p><b>schematic</b></p>
200	Model element is graphically represented within the model as a generic system, object or assembly with approximate quantities, size, shape, location and orientation. Non-graphic information may also be attached to the model element.	- Cover Level	 <p><b>generic</b></p>
300	Model element is graphically represented within model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation. Non-graphic information may also be attached to the model element. The model element should include: - Slab - Wall - Pipe connector - Cover and frame	- Concrete Grade	 <p><b>specific</b></p>
400	Model element is graphically represented within the model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation with detailing fabrication, assembly and installation information. Non-graphic information may also be attached to the model element. The model element should include: - Slab - Wall - Pipe connector - Detailed cover and frame - Benching	- Handover Date	 <p><b>as-built</b></p>

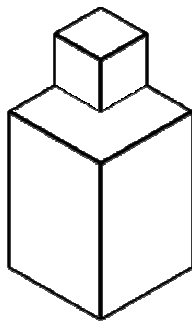
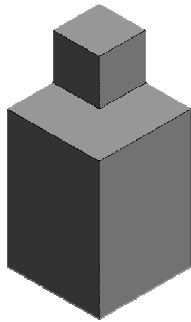
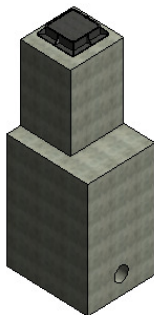
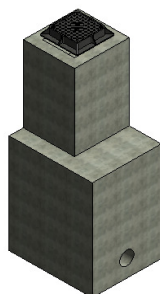
## Sewerage Network (Manhole Type D)

LOD-G	Description	LOD-I	Example Images
100	Model element may be graphically represented in model with symbol or other generic representation.	- Drainage System Type	 <p><b>schematic</b></p>
200	Model element is graphically represented within the model as a generic system, object or assembly with approximate quantities, size, shape, location and orientation. Non-graphic information may also be attached to the model element.	- Cover Level	 <p><b>generic</b></p>
300	Model element is graphically represented within model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation. Non-graphic information may also be attached to the model element. The model element shall include: - Slab - Wall - Pipe connector - Cover and frame	- Concrete Grade	 <p><b>specific</b></p>
400	Model element is graphically represented within the model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation with detailing fabrication, assembly and installation information. Non-graphic information may also be attached to the model element. The model element to be included: - Slab - Wall - Pipe connector - Detailed cover and frame - Benching - Step iron	- Handover Date	 <p><b>as-built</b></p>

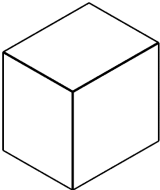
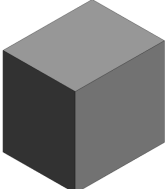
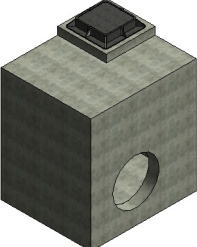
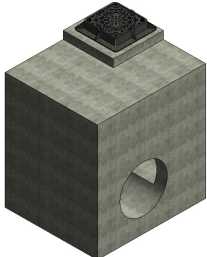
## Sewerage Network (Manhole Type E)

LOD-G	Description	LOD-I	Example Images
100	Model element may be graphically represented in model with symbol or other generic representation.	- Drainage System Type	 <p><b>schematic</b></p>
200	Model element is graphically represented within the model as a generic system, object or assembly with approximate quantities, size, shape, location and orientation. Non-graphic information may also be attached to the model element.	- Cover Level	 <p><b>generic</b></p>
300	Model element is graphically represented within model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation. Non-graphic information may also be attached to the model element. The model element should include: <ul style="list-style-type: none"> <li>- Slab</li> <li>- Wall</li> <li>- Pipe connector</li> <li>- Cover and frame</li> </ul>	- Concrete Grade	 <p><b>specific</b></p>
400	Model element is graphically represented within the model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation with detailing fabrication, assembly and installation information. Non-graphic information may also be attached to the model element. The model element should include: <ul style="list-style-type: none"> <li>- Slab</li> <li>- Wall</li> <li>- Pipe connector</li> <li>- Detailed cover and frame</li> <li>- Benching</li> <li>- Step iron</li> </ul>	- Handover Date	 <p><b>as-built</b></p>

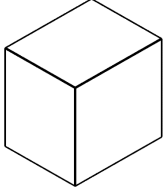
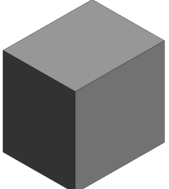
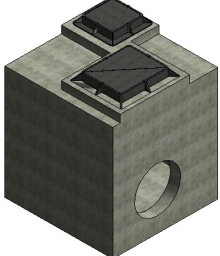
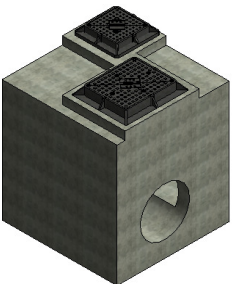
## Sewerage Network (Manhole Type F)

LOD-G	Description	LOD-I	Example Images
100	Model element may be graphically represented in model with symbol or other generic representation.	- Drainage System Type	 <p><b>schematic</b></p>
200	Model element is graphically represented within the model as a generic system, object or assembly with approximate quantities, size, shape, location and orientation. Non-graphic information may also be attached to the model element.	- Cover Level	 <p><b>generic</b></p>
300	Model element is graphically represented within model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation. Non-graphic information may also be attached to the model element. The model element should include: <ul style="list-style-type: none"> <li>- Slab</li> <li>- Wall</li> <li>- Pipe connector</li> <li>- Cover and frame</li> </ul>	- Concrete Grade	 <p><b>specific</b></p>
400	Model element is graphically represented within the model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation with detailing fabrication, assembly and installation information. Non-graphic information may also be attached to the model element. The model element should include: <ul style="list-style-type: none"> <li>- Slab</li> <li>- Wall</li> <li>- Pipe connector</li> <li>- Detailed cover and frame</li> <li>- Benching</li> <li>- Step iron</li> </ul>	- Handover Date	 <p><b>as-built</b></p>

## Sewerage Network (Manhole Type G)

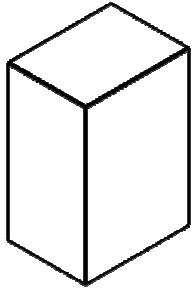
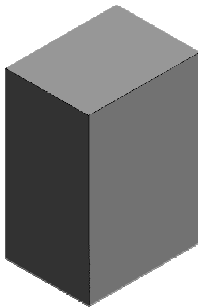
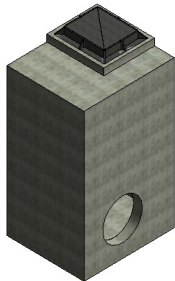
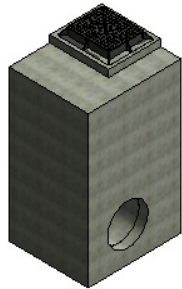
LOD-G	Description	LOD-I	Example Images
100	Model element may be graphically represented in model with symbol or other generic representation.	- Drainage System Type	 <p><b>schematic</b></p>
200	Model element is graphically represented within the model as a generic system, object or assembly with approximate quantities, size, shape, location and orientation. Non-graphic information may also be attached to the model element.	- Cover Level	 <p><b>generic</b></p>
300	Model element is graphically represented within model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation. Non-graphic information may also be attached to the model element. The model element should include: - Slab - Wall - Pipe connector - Cover and frame	- Concrete Grade	 <p><b>specific</b></p>
400	Model element is graphically represented within the model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation with detailing fabrication, assembly and installation information. Non-graphic information may also be attached to the model element. The model element should include: - Slab - Wall - Pipe connector - Detailed cover and frame - Benching - Step iron	- Handover Date	 <p><b>as-built</b></p>

## Sewerage Network (Manhole Type G/D)

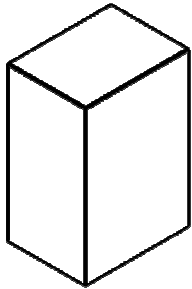
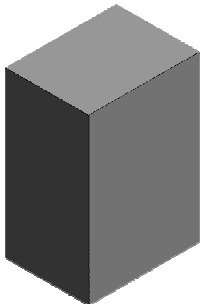
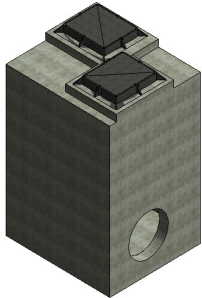
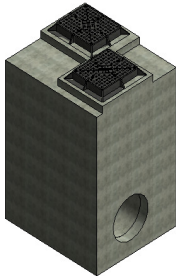
LOD-G	Description	LOD-I	Example Images
100	Model element may be graphically represented in model with symbol or other generic representation.	- Drainage System Type	 <b>schematic</b>
200	Model element is graphically represented within the model as a generic system, object or assembly with approximate quantities, size, shape, location and orientation. Non-graphic information may also be attached to the model element.	- Cover Level	 <b>generic</b>
300	<p>Model element is graphically represented within model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation. Non-graphic information may also be attached to the model element.</p> <p>The model element should include:</p> <ul style="list-style-type: none"> <li>- Slab</li> <li>- Wall</li> <li>- Pipe connector</li> <li>- Cover and frame</li> <li>- Desilting cover and frame</li> </ul>	- Concrete Grade	 <b>specific</b>
400	<p>Model element is graphically represented within the model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation with detailing fabrication, assembly and installation information. Non-graphic information may also be attached to the model element.</p> <p>The model element shall include:</p> <ul style="list-style-type: none"> <li>- Slab</li> <li>- Wall</li> <li>- Pipe connector</li> <li>- Detailed cover and frame</li> <li>- Detailed desilting cover and frame</li> <li>- Benching</li> <li>- Step iron</li> </ul>	- Handover Date	 <b>as-built</b>



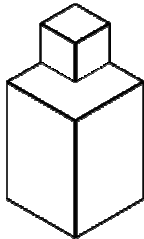
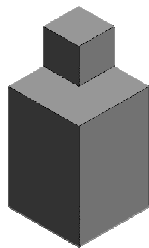
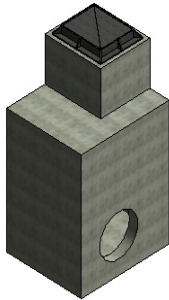
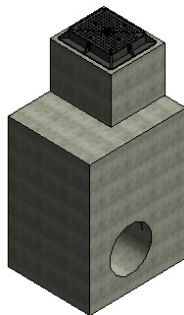
## Sewerage Network (Manhole Type H)

LOD-G	Description	LOD-I	Example Images
100	Model element may be graphically represented in model with symbol or other generic representation.	- Drainage System Type	 <p><b>schematic</b></p>
200	Model element is graphically represented within the model as a generic system, object or assembly with approximate quantities, size, shape, location and orientation. Non-graphic information may also be attached to the model element.	- Cover Level	 <p><b>generic</b></p>
300	Model element is graphically represented within model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation. Non-graphic information may also be attached to the model element. The model element should include: <ul style="list-style-type: none"> <li>- Slab</li> <li>- Wall</li> <li>- Pipe connector</li> <li>- Cover and frame</li> </ul>	- Concrete Grade	 <p><b>specific</b></p>
400	Model element is graphically represented within the model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation with detailing fabrication, assembly and installation information. Non-graphic information may also be attached to the model element. The model element should include: <ul style="list-style-type: none"> <li>- Slab</li> <li>- Wall</li> <li>- Pipe connector</li> <li>- Detailed cover and frame</li> <li>- Benching</li> <li>- Step iron</li> <li>- Stainless steel hook</li> <li>- Foot hole</li> </ul>	- Handover Date	 <p><b>as-built</b></p>

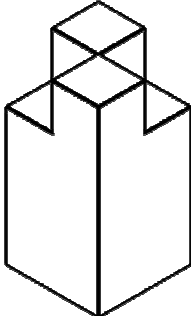
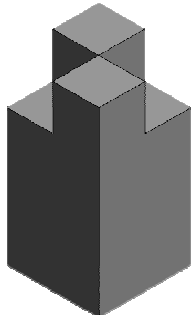
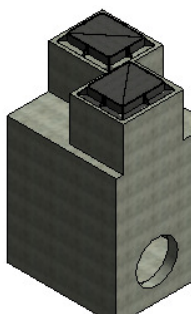
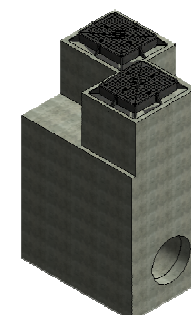
## Sewerage Network (Manhole Type H/D)

LOD-G	Description	LOD-I	Example Images
100	Model element may be graphically represented in model with symbol or other generic representation.	- Drainage System Type	 <p><b>schematic</b></p>
200	Model element is graphically represented within the model as a generic system, object or assembly with approximate quantities, size, shape, location and orientation. Non-graphic information may also be attached to the model element.	- Cover Level	 <p><b>generic</b></p>
300	Model element is graphically represented within model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation. Non-graphic information may also be attached to the model element. The model element should include: <ul style="list-style-type: none"> <li>- Slab</li> <li>- Wall</li> <li>- Pipe connector</li> <li>- Cover and frame</li> <li>- Desilting cover and frame</li> </ul>	- Concrete Grade	 <p><b>specific</b></p>
400	Model element is graphically represented within the model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation with detailing fabrication, assembly and installation information. Non-graphic information may also be attached to the model element. The model element should include: <ul style="list-style-type: none"> <li>- Slab</li> <li>- Wall</li> <li>- Pipe connector</li> <li>- Detailed cover and frame</li> <li>- Detailed desilting cover and frame</li> <li>- Benching</li> <li>- Step iron</li> <li>- Stainless steel hook</li> <li>- Foot hole</li> </ul>	- Handover Date	 <p><b>as-built</b></p>

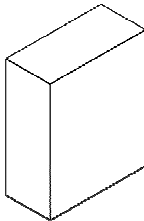
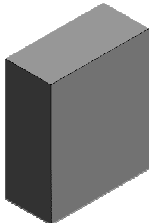
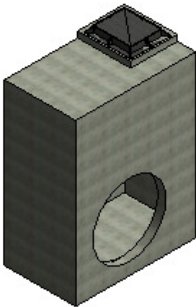
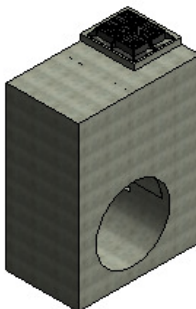
## Sewerage Network (Manhole Type I)

LOD-G	Description	LOD-I	Example Images
100	Model element may be graphically represented in model with symbol or other generic representation.	- Drainage System Type	 <p><b>schematic</b></p>
200	Model element is graphically represented within the model as a generic system, object or assembly with approximate quantities, size, shape, location and orientation. Non-graphic information may also be attached to the model element.	- Cover Level	 <p><b>generic</b></p>
300	Model element is graphically represented within model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation. Non-graphic information may also be attached to the model element. The model element should include: - Slab - Wall - Pipe connector - Cover and frame	- Concrete Grade	 <p><b>specific</b></p>
400	Model element is graphically represented within the model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation with detailing fabrication, assembly and installation information. Non-graphic information may also be attached to the model element. The model element should include: - Slab - Wall - Pipe connector - Detailed cover and frame - Benching - Multi-strand poly-propylene nylon rope - Stainless steel hook	- Handover Date	 <p><b>as-built</b></p>

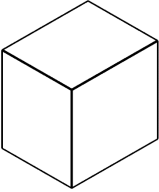
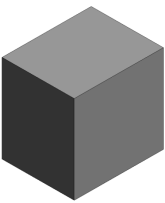
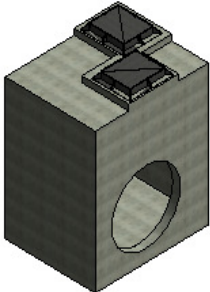
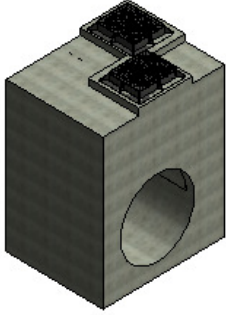
## Sewerage Network (Manhole Type I/D)

LOD-G	Description	LOD-I	Example Images
100	Model element may be graphically represented in model with symbol or other generic representation.	- Drainage System Type	 <p><b>schematic</b></p>
200	Model element is graphically represented within the model as a generic system, object or assembly with approximate quantities, size, shape, location and orientation. Non-graphic information may also be attached to the model element.	- Cover Level	 <p><b>generic</b></p>
300	Model element is graphically represented within model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation. Non-graphic information may also be attached to the model element. The model element should include: <ul style="list-style-type: none"> <li>- Slab</li> <li>- Wall</li> <li>- Pipe connector</li> <li>- Cover and frame</li> <li>- Desilting cover and frame</li> </ul>	- Concrete Grade	 <p><b>specific</b></p>
400	Model element is graphically represented within the model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation with detailing fabrication, assembly and installation information. Non-graphic information may also be attached to the model element. The model element should include: <ul style="list-style-type: none"> <li>- Slab</li> <li>- Wall</li> <li>- Pipe connector</li> <li>- Detailed cover and frame</li> <li>- Detailed desilting cover and frame</li> <li>- Benching</li> <li>- Multi-strand poly-propylene nylon rope</li> <li>- Stainless steel hook</li> </ul>	- Handover Date	 <p><b>as-built</b></p>

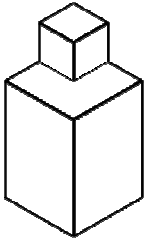
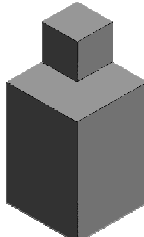
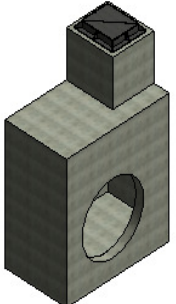
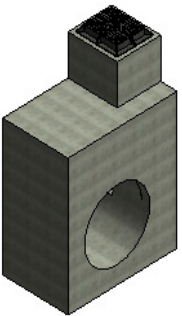
## Sewerage Network (Manhole Type J)

LOD-G	Description	LOD-I	Example Images
100	Model element may be graphically represented in model with symbol or other generic representation.	- Drainage System Type	 <p><b>schematic</b></p>
200	Model element is graphically represented within the model as a generic system, object or assembly with approximate quantities, size, shape, location and orientation. Non-graphic information may also be attached to the model element.	- Cover Level	 <p><b>generic</b></p>
300	Model element is graphically represented within model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation. Non-graphic information may also be attached to the model element. The model element should include: <ul style="list-style-type: none"> <li>- Slab</li> <li>- Wall</li> <li>- Pipe connector</li> <li>- Cover and frame</li> <li>- Desilting cover and frame</li> </ul>	- Concrete Grade	 <p><b>specific</b></p>
400	Model element is graphically represented within the model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation with detailing fabrication, assembly and installation information. Non-graphic information may also be attached to the model element. The model element should include: <ul style="list-style-type: none"> <li>- Slab</li> <li>- Wall</li> <li>- Pipe connector</li> <li>- Detailed cover and frame</li> <li>- Benching</li> <li>- Step iron</li> <li>- Stainless steel hook</li> <li>- Foot hole</li> </ul>	- Handover Date	 <p><b>as-built</b></p>

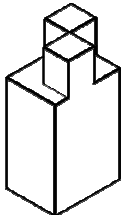
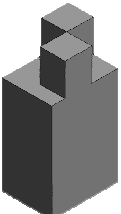
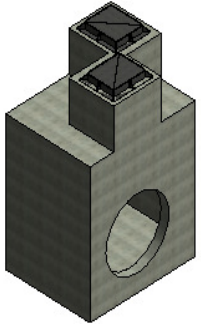
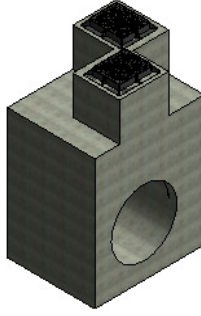
## Sewerage Network (Manhole Type J/D)

LOD-G	Description	LOD-I	Example Images
100	Model element may be graphically represented in model with symbol or other generic representation.	- Drainage System Type	 <b>schematic</b>
200	Model element is graphically represented within the model as a generic system, object or assembly with approximate quantities, size, shape, location and orientation. Non-graphic information may also be attached to the model element.	- Cover Level	 <b>generic</b>
300	Model element is graphically represented within model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation. Non-graphic information may also be attached to the model element. The model element should include: <ul style="list-style-type: none"> <li>- Slab</li> <li>- Wall</li> <li>- Pipe connector</li> <li>- Cover and frame</li> <li>- Desilting cover and frame</li> </ul>	- Concrete Grade	 <b>specific</b>
400	Model element is graphically represented within the model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation with detailing fabrication, assembly and installation information. Non-graphic information may also be attached to the model element. The model element should include: <ul style="list-style-type: none"> <li>- Slab</li> <li>- Wall</li> <li>- Pipe connector</li> <li>- Detailed cover and frame</li> <li>- Detailed desilting cover and frame</li> <li>- Benching</li> <li>- Step iron</li> <li>- Stainless steel hook</li> <li>- Foot hole</li> </ul>	- Handover Date	 <b>as-built</b>

## Sewerage Network (Manhole Type K)

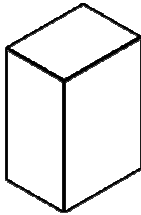
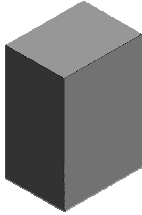
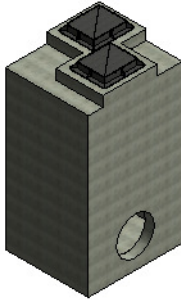
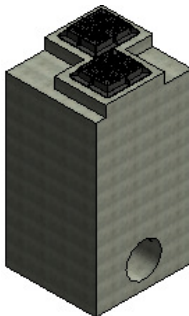
LOD-G	Description	LOD-I	Example Images
100	Model element may be graphically represented in model with symbol or other generic representation.	- Drainage System Type	 <p><b>schematic</b></p>
200	Model element is graphically represented within the model as a generic system, object or assembly with approximate quantities, size, shape, location and orientation. Non-graphic information may also be attached to the model element.	- Cover Level	 <p><b>generic</b></p>
300	Model element is graphically represented within model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation. Non-graphic information may also be attached to the model element. The model element should include: <ul style="list-style-type: none"> <li>- Slab</li> <li>- Wall</li> <li>- Pipe connector</li> <li>- Cover and frame</li> </ul>	- Concrete Grade	 <p><b>specific</b></p>
400	Model element is graphically represented within the model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation with detailing fabrication, assembly and installation information. Non-graphic information may also be attached to the model element. The model element should include: <ul style="list-style-type: none"> <li>- Slab</li> <li>- Wall</li> <li>- Pipe connector</li> <li>- Detailed cover and frame</li> <li>- Benching</li> <li>- Step iron</li> <li>- Stainless steel hook</li> <li>- Foot hole</li> </ul>	- Handover Date	 <p><b>as-built</b></p>

## Sewerage Network (Manhole Type K/D)

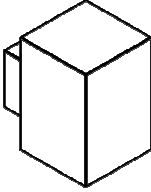
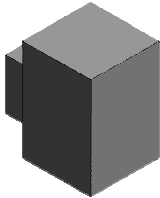
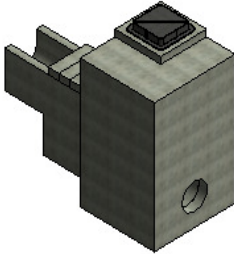
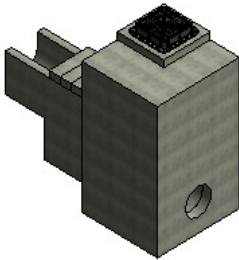
LOD-G	Description	LOD-I	Example Images
100	Model element may be graphically represented in model with symbol or other generic representation.	- Drainage System Type	 <p><b>schematic</b></p>
200	Model element is graphically represented within the model as a generic system, object or assembly with approximate quantities, size, shape, location and orientation. Non-graphic information may also be attached to the model element.	- Cover Level	 <p><b>generic</b></p>
300	Model element is graphically represented within model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation. Non-graphic information may also be attached to the model element. The model element should include: <ul style="list-style-type: none"> <li>- Slab</li> <li>- Wall</li> <li>- Pipe connector</li> <li>- Cover and frame</li> <li>- Desilting cover and frame</li> </ul>	- Concrete Grade	 <p><b>specific</b></p>
400	Model element is graphically represented within the model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation with detailing fabrication, assembly and installation information. Non-graphic information may also be attached to the model element. The model element should include: <ul style="list-style-type: none"> <li>- Slab</li> <li>- Wall</li> <li>- Pipe connector</li> <li>- Detailed cover and frame</li> <li>- Detailed desilting cover and frame</li> <li>- Benching</li> <li>- Step iron</li> <li>- Stainless steel hook</li> <li>- Foot hole</li> </ul>	- Handover Date	 <p><b>as-built</b></p>



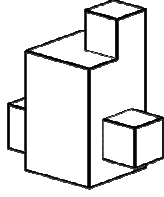
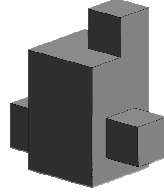
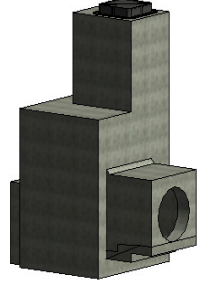
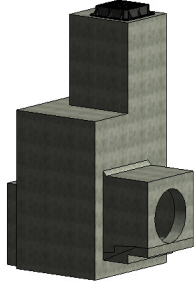
## Sewerage Network (Manhole Type L)

LOD-G	Description	LOD-I	Example Images
100	Model element may be graphically represented in model with symbol or other generic representation.	- Drainage System Type	 <p><b>schematic</b></p>
200	Model element is graphically represented within the model as a generic system, object or assembly with approximate quantities, size, shape, location and orientation. Non-graphic information may also be attached to the model element.	- Cover Level	 <p><b>generic</b></p>
300	Model element is graphically represented within model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation. Non-graphic information may also be attached to the model element. The model element should include: <ul style="list-style-type: none"> <li>- Slab</li> <li>- Wall</li> <li>- Pipe connector</li> <li>- Cover and frame</li> <li>- Desilting cover and frame</li> </ul>	- Concrete Grade	 <p><b>specific</b></p>
400	Model element is graphically represented within the model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation with detailing fabrication, assembly and installation information. Non-graphic information may also be attached to the model element. The model element should include: <ul style="list-style-type: none"> <li>- Slab</li> <li>- Wall</li> <li>- Pipe connector</li> <li>- Detailed cover and frame</li> <li>- Detailed desilting cover and frame</li> <li>- Benching</li> <li>- Step iron</li> <li>- Foot hole</li> <li>- Handrailing</li> <li>- Detachable safety chain with hook and</li> </ul>	- Handover Date	 <p><b>as-built</b></p>

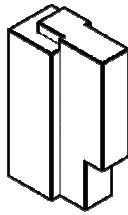
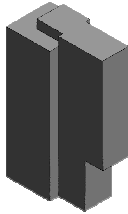
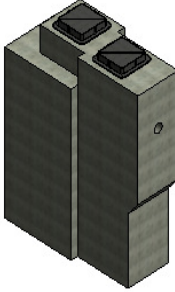
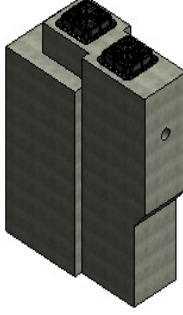
## Stormwater Network (Backdrop Manhole Type 1)

LOD-G	Description	LOD-I	Example Images
100	Model element may be graphically represented in model with symbol or other generic representation.	- Drainage System Type	 <b>schematic</b>
200	Model element is graphically represented within the model as a generic system, object or assembly with approximate quantities, size, shape, location and orientation. Non-graphic information may also be attached to the model element.	- Cover Level	 <b>generic</b>
300	Model element is graphically represented within model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation. Non-graphic information may also be attached to the model element. The model element should include: <ul style="list-style-type: none"> <li>- Slab</li> <li>- Wall</li> <li>- Pipe connector</li> <li>- Cover and frame</li> <li>- Precast slab</li> </ul>	- Concrete Grade	 <b>specific</b>
400	Model element is graphically represented within the model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation with detailing fabrication, assembly and installation information. Non-graphic information may also be attached to the model element. The model element should include: <ul style="list-style-type: none"> <li>- Slab</li> <li>- Wall</li> <li>- Pipe connector</li> <li>- Detailed cover and frame</li> <li>- Precast slab</li> <li>- Step iron</li> </ul>	- Handover Date	 <b>as-built</b>





## Stormwater Network (Backdrop Manhole Type 2)

LOD-G	Description	LOD-I	Example Images
100	Model element may be graphically represented in model with symbol or other generic representation.	- Drainage System Type	 <p><b>schematic</b></p>
200	Model element is graphically represented within the model as a generic system, object or assembly with approximate quantities, size, shape, location and orientation. Non-graphic information may also be attached to the model element.	- Cover Level	 <p><b>generic</b></p>
300	Model element is graphically represented within model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation. Non-graphic information may also be attached to the model element. The model element should include: <ul style="list-style-type: none"> <li>- Slab</li> <li>- Wall</li> <li>- Pipe connector</li> <li>- Cover and frame</li> <li>- Inlet and outlet pipe</li> <li>- Step</li> </ul>	- Concrete Grade	 <p><b>specific</b></p>
400	Model element is graphically represented within the model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation with detailing fabrication, assembly and installation information. Non-graphic information may also be attached to the model element. The model element should include: <ul style="list-style-type: none"> <li>- Slab</li> <li>- Wall</li> <li>- Pipe connector</li> <li>- Detailed cover and frame</li> <li>- Inlet and outlet pipe</li> <li>- Step</li> <li>- Step iron</li> <li>- Stainless steel hook</li> <li>- Foot hole</li> </ul>	- Handover Date	 <p><b>as-built</b></p>


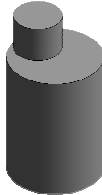


### Sewerage Network (Backdrop Manhole Type 3)

LOD-G	Description	LOD-I	Example Images
100	Model element may be graphically represented in model with symbol or other generic representation.	- Drainage System Type	 <p><b>schematic</b></p>
200	Model element is graphically represented within the model as a generic system, object or assembly with approximate quantities, size, shape, location and orientation. Non-graphic information may also be attached to the model element.	- Cover Level	 <p><b>generic</b></p>
300	Model element is graphically represented within model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation. Non-graphic information may also be attached to the model element. The model element should include: <ul style="list-style-type: none"> <li>- Slab</li> <li>- Wall</li> <li>- Pipe connector</li> <li>- Cover and frame</li> <li>- Down Pipe</li> </ul>	- Concrete Grade	 <p><b>specific</b></p>
400	Model element is graphically represented within the model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation with detailing fabrication, assembly and installation information. Non-graphic information may also be attached to the model element. The model element should include: <ul style="list-style-type: none"> <li>- Slab</li> <li>- Wall</li> <li>- Pipe connector</li> <li>- Detailed cover and frame</li> <li>- Down Pipe</li> <li>- Step iron</li> <li>- Stainless steel hook</li> <li>- Foot hole</li> <li>- Steel grille</li> </ul>	- Handover Date	 <p><b>as-built</b></p>

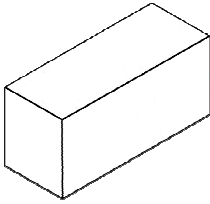
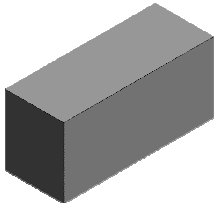
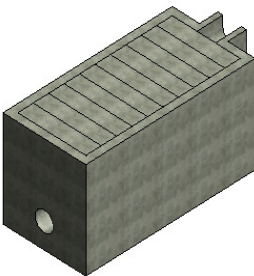
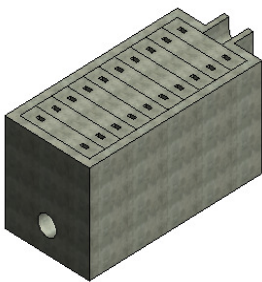
## Sewerage Network (Precast Manhole Type A)

LOD-G	Description	LOD-I	Example Images
100	Model element may be graphically represented in model with symbol or other generic representation.	- Drainage System Type	 <b>schematic</b>
200	Model element is graphically represented within the model as a generic system, object or assembly with approximate quantities, size, shape, location and orientation. Non-graphic information may also be attached to the model element.	- Cover Level	 <b>generic</b>
300	Model element is graphically represented within model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation. Non-graphic information may also be attached to the model element. The model element should include: <ul style="list-style-type: none"> <li>- Slab</li> <li>- Wall</li> <li>- Pipe connector</li> <li>- Cover and frame</li> </ul>	- Concrete Grade	 <b>specific</b>
400	Model element is graphically represented within the model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation with detailing fabrication, assembly and installation information. Non-graphic information may also be attached to the model element. The model element should include: <ul style="list-style-type: none"> <li>- Slab</li> <li>- Wall</li> <li>- Pipe connector</li> <li>- Detailed cover and frame</li> <li>- Benching</li> <li>- Step iron</li> <li>- Foot hole</li> </ul>	- Handover Date	 <b>as-built</b>

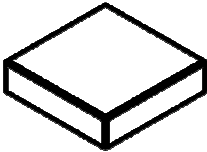
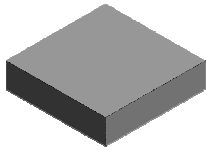


## Sewerage Network (Precast Manhole Type B)

LOD-G	Description	LOD-I	Example Images
100	Model element may be graphically represented in model with symbol or other generic representation.	- Drainage System Type	 <p><b>schematic</b></p>
200	Model element is graphically represented within the model as a generic system, object or assembly with approximate quantities, size, shape, location and orientation. Non-graphic information may also be attached to the model element.	- Cover Level	 <p><b>generic</b></p>
300	Model element is graphically represented within model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation. Non-graphic information may also be attached to the model element. The model element should include: <ul style="list-style-type: none"> <li>- Slab</li> <li>- Wall</li> <li>- Pipe connector</li> <li>- Cover and frame</li> </ul>	- Concrete Grade	 <p><b>specific</b></p>
400	Model element is graphically represented within the model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation with detailing fabrication, assembly and installation information. Non-graphic information may also be attached to the model element. The model element should include: <ul style="list-style-type: none"> <li>- Slab</li> <li>- Wall</li> <li>- Pipe connector</li> <li>- Detailed cover and frame</li> <li>- Benching</li> <li>- Step iron</li> <li>- Foot hole</li> </ul>	- Handover Date	 <p><b>as-built</b></p>

## Stormwater Network (Sand Trap)

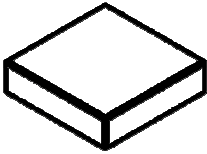
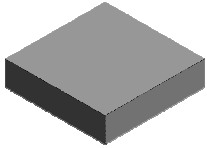
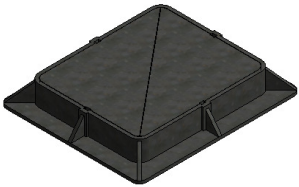

LOD-G	Description	LOD-I	Example Images
100	Model element may be graphically represented in model with symbol or other generic representation.	- Drainage System Type	 <p><b>schematic</b></p>
200	Model element is graphically represented within the model as a generic system, object or assembly with approximate quantities, size, shape, location and orientation. Non-graphic information may also be attached to the model element.	- Cover Level	 <p><b>generic</b></p>
300	Model element is graphically represented within model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation. Non-graphic information may also be attached to the model element. The model element should include: - Slab - Wall - Pipe connector - Cover slab	- Concrete Grade	 <p><b>specific</b></p>
400	Model element is graphically represented within the model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation with detailing fabrication, assembly and installation information. Non-graphic information may also be attached to the model element. The model element should include: - Slab - Wall - Pipe connector - Detailed cover - Baffle wall - Mild steel bar	- Handover Date	 <p><b>as-built</b></p>

## Sewerage Network (Standard Double Triangular Manhole Cover & Frame)

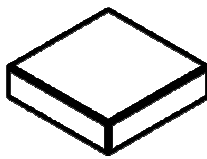
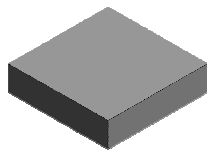

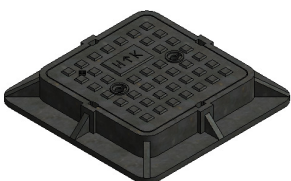
LOD-G	Description	LOD-I	Example Images
100	Model element may be graphically represented in model with symbol or other generic representation.	- Drainage System Type	 <p><b>schematic</b></p>
200	Model element is graphically represented within the model as a generic system, object or assembly with approximate quantities, size, shape, location and orientation. Non-graphic information may also be attached to the model element.	- Material	 <p><b>generic</b></p>
300	Model element is graphically represented within model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation. Non-graphic information may also be attached to the model element. The model element should include: - Cover and frame - Prising slot	- Shape	 <p><b>specific</b></p>
400	Model element is graphically represented within the model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation with detailing fabrication, assembly and installation information. Non-graphic information may also be attached to the model element. The model element should include: - Detailed cover and frame - Prising slot - Keyhole - Raised stud - Grade indication - Panel and label	- Handover Date	 <p><b>as-built</b></p>



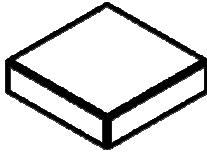
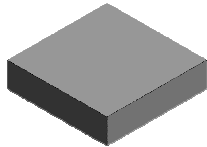

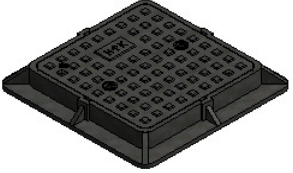
## Sewerage Network (675 Square Double Triangular DI M.H. Cover and Frame, Class E600)

LOD-G	Description	LOD-I	Example Images
100	Model element may be graphically represented in model with symbol or other generic representation.	- Drainage System Type	 <p><b>schematic</b></p>
200	Model element is graphically represented within the model as a generic system, object or assembly with approximate quantities, size, shape, location and orientation. Non-graphic information may also be attached to the model element.	- Material	 <p><b>generic</b></p>
300	Model element is graphically represented within model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation. Non-graphic information may also be attached to the model element. The model element should include: - Cover and frame - Prising slot	- Shape	 <p><b>specific</b></p>
400	Model element is graphically represented within the model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation with detailing fabrication, assembly and installation information. Non-graphic information may also be attached to the model element. The model element should include: - Detailed cover and frame - Prising slot - Keyhole - Raised stud - Grade indication - Panel and label	- Handover Date	 <p><b>as-built</b></p>

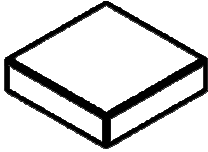
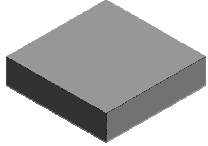


## Sewerage Network (Double Seal Terminal Sewer M.H. Cover - Type MA 2-29/29A)

LOD-G	Description	LOD-I	Example Images
100	Model element may be graphically represented in model with symbol or other generic representation.	- Drainage System Type	 <p><b>schematic</b></p>
200	Model element is graphically represented within the model as a generic system, object or assembly with approximate quantities, size, shape, location and orientation. Non-graphic information may also be attached to the model element.	- Material	 <p><b>generic</b></p>
300	Model element is graphically represented within model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation. Non-graphic information may also be attached to the model element. The model element should include: - Cover and frame - Prising slot	- Shape	 <p><b>specific</b></p>
400	Model element is graphically represented within the model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation with detailing fabrication, assembly and installation information. Non-graphic information may also be attached to the model element. The model element should include: - Detailed Cover and frame - Prising slot - Keyhole - Raised stud - Grade indication - Panel and label	- Handover Date	 <p><b>as-built</b></p>

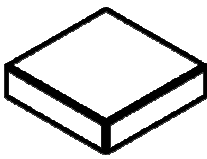
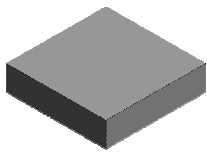
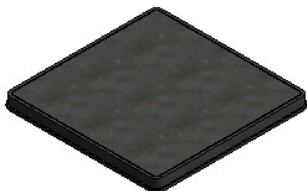

## Sewerage Network (Double Seal Terminal Sewer M.H. Cover - Type MA 2-45/45A)

LOD-G	Description	LOD-I	Example Images
100	Model element may be graphically represented in model with symbol or other generic representation.	- Drainage System Type	 <p><b>schematic</b></p>
200	Model element is graphically represented within the model as a generic system, object or assembly with approximate quantities, size, shape, location and orientation. Non-graphic information may also be attached to the model element.	- Material	 <p><b>generic</b></p>
300	Model element is graphically represented within model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation. Non-graphic information may also be attached to the model element. The model element should include: - Cover and frame - Prising slot	- Shape	 <p><b>specific</b></p>
400	Model element is graphically represented within the model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation with detailing fabrication, assembly and installation information. Non-graphic information may also be attached to the model element. The model element should include: - Detailed cover and frame - Prising slot - Keyhole - Raised stud - Grade indication - Panel and label	- Handover Date	 <p><b>as-built</b></p>

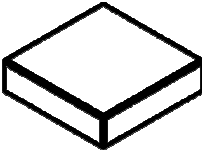
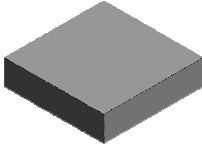


## Sewerage Network (Double Seal Terminal Sewer M.H. cover - Type MC 2-29/29A)

LOD-G	Description	LOD-I	Example Images
100	Model element may be graphically represented in model with symbol or other generic representation.	- Drainage System Type	 <p><b>schematic</b></p>
200	Model element is graphically represented within the model as a generic system, object or assembly with approximate quantities, size, shape, location and orientation. Non-graphic information may also be attached to the model element.	- Material	 <p><b>generic</b></p>
300	Model element is graphically represented within model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation. Non-graphic information may also be attached to the model element. The model element should include: - Cover and frame	- Shape	 <p><b>specific</b></p>
400	Model element is graphically represented within the model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation with detailing fabrication, assembly and installation information. Non-graphic information may also be attached to the model element. The model element should include: - Detailed cover and frame - Keyhole - Raised stud - Grade indication - Panel and label	- Handover Date	 <p><b>as-built</b></p>

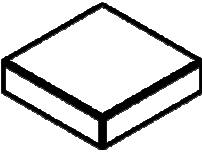
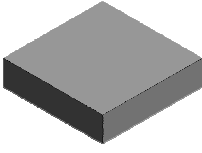


## Sewerage Network (Double Seal Terminal Sewer M.H. Cover - Type MC 2-45/45A)

LOD-G	Description	LOD-I	Example Images
100	Model element may be graphically represented in model with symbol or other generic representation.	- Drainage System Type	 <p><b>schematic</b></p>
200	Model element is graphically represented within the model as a generic system, object or assembly with approximate quantities, size, shape, location and orientation. Non-graphic information may also be attached to the model element.	- Material	 <p><b>generic</b></p>
300	Model element is graphically represented within model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation. Non-graphic information may also be attached to the model element. The model element should include: - Cover and frame	- Shape	 <p><b>specific</b></p>
400	Model element is graphically represented within the model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation with detailing fabrication, assembly and installation information. Non-graphic information may also be attached to the model element. The model element should include: - Detailed cover and frame - Keyhole - Raised stud - Grade indication - Panel and label	- Handover Date	 <p><b>as-built</b></p>

## Stormwater Network (Double Seal Terminal Stormwater M.H. Cover - Type MA 2-29/29B)

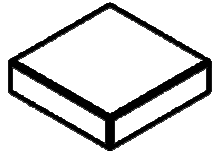
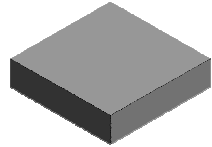
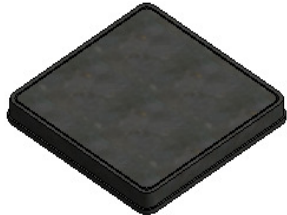

LOD-G	Description	LOD-I	Example Images
100	Model element may be graphically represented in model with symbol or other generic representation.	- Drainage System Type	 <p><b>schematic</b></p>
200	Model element is graphically represented within the model as a generic system, object or assembly with approximate quantities, size, shape, location and orientation. Non-graphic information may also be attached to the model element.	- Material	 <p><b>generic</b></p>
300	Model element is graphically represented within model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation. Non-graphic information may also be attached to the model element. The model element should include: - Cover and frame - Prising slot	- Shape	 <p><b>specific</b></p>
400	Model element is graphically represented within the model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation with detailing fabrication, assembly and installation information. Non-graphic information may also be attached to the model element. The model element should include: - Detailed cover and frame - Prising slot - Keyhole - Raised stud - Grade indication - Panel and label	- Handover Date	 <p><b>as-built</b></p>

### Stormwater Network (Double Seal Terminal Stormwater M.H. Cover - Type MA 2-45/45B)

LOD-G	Description	LOD-I	Example Images
100	Model element may be graphically represented in model with symbol or other generic representation.	- Drainage System Type	 <p><b>schematic</b></p>
200	Model element is graphically represented within the model as a generic system, object or assembly with approximate quantities, size, shape, location and orientation. Non-graphic information may also be attached to the model element.	- Material	 <p><b>generic</b></p>
300	Model element is graphically represented within model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation. Non-graphic information may also be attached to the model element. The model element should include: - Cover and frame - Prising slot	- Shape	 <p><b>specific</b></p>
400	Model element is graphically represented within the model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation with detailing fabrication, assembly and installation information. Non-graphic information may also be attached to the model element. The model element should include: - Detailed cover and frame - Prising slot - Keyhole - Raised stud - Grade indication - Panel and label	- Handover Date	 <p><b>as-built</b></p>

## Stormwater Network


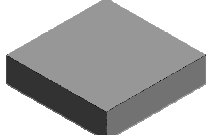


### (Double Seal Terminal Stormwater M.H. Cover - Type MC 2-29/29B)

LOD-G	Description	LOD-I	Example Images
100	Model element may be graphically represented in model with symbol or other generic representation.	- Drainage System Type	 <b>schematic</b>
200	Model element is graphically represented within the model as a generic system, object or assembly with approximate quantities, size, shape, location and orientation. Non-graphic information may also be attached to the model element.	- Material	 <b>generic</b>
300	Model element is graphically represented within model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation. Non-graphic information may also be attached to the model element. The model element should include: - Cover and frame	- Shape	 <b>specific</b>
400	Model element is graphically represented within the model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation with detailing fabrication, assembly and installation information. Non-graphic information may also be attached to the model element. The model element should include: - Detailed cover and frame - Keyhole - Raised stud - Grade indication - Panel and label	- Handover Date	 <b>as-built</b>

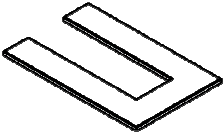
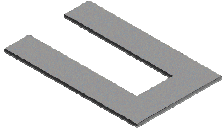

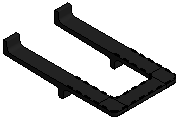


## Stormwater Network


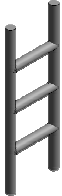


### (Double Seal Terminal Stormwater M.H. Cover - Type MC 2-45/45B)

LOD-G	Description	LOD-I	Example Images
100	Model element may be graphically represented in model with symbol or other generic representation.	- Drainage System Type	 <b>schematic</b>
200	Model element is graphically represented within the model as a generic system, object or assembly with approximate quantities, size, shape, location and orientation. Non-graphic information may also be attached to the model element.	- Material	 <b>generic</b>
300	Model element is graphically represented within model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation. Non-graphic information may also be attached to the model element. The model element should include: - Cover and frame	- Shape	 <b>specific</b>
400	Model element is graphically represented within the model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation with detailing fabrication, assembly and installation information. Non-graphic information may also be attached to the model element. The model element should include: - Detailed cover and frame - Keyhole - Raised stud - Grade indication - Panel and label	- Handover Date	 <b>as-built</b>

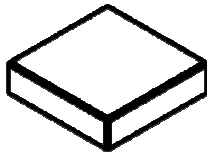
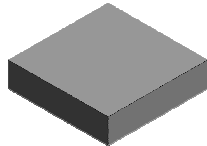


## Step Iron

LOD-G	Description	LOD-I	Example Images
100	Model element may be graphically represented in model with symbol or other generic representation.	- DSD CAT Code	 <b>schematic</b>
200	Model element is graphically represented within the model as a generic system, object or assembly with approximate quantities, size, shape, location and orientation. Non-graphic information may also be attached to the model element.	- Material	 <b>generic</b>
300	Model element is graphically represented within model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation. Non-graphic information may also be attached to the model element. The model element should include: - Step	- Length	 <b>specific</b>
400	Model element is graphically represented within the model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation with detailing fabrication, assembly and installation information. Non-graphic information may also be attached to the model element. The model element to be included: - Step - Nonslip edge	- Handover Date	 <b>as-built</b>





## Access Ladder for Manhole

LOD-G	Description	LOD-I	Example Images
100	Model element may be graphically represented in model with symbol or other generic representation.	- DSD CAT Code	 <b>schematic</b>
200	Model element is graphically represented within the model as a generic system, object or assembly with approximate quantities, size, shape, location and orientation. Non-graphic information may also be attached to the model element.	- Material	 <b>generic</b>
300	Model element is graphically represented within model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation. Non-graphic information may also be attached to the model element. The model element should include: - Step - Stainless steel bar	- Length	 <b>specific</b>
400	Model element is graphically represented within the model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation with detailing fabrication, assembly and installation information. Non-graphic information may also be attached to the model element. The model element to be included: - Step - Stainless steel bar - Additional support	- Handover Date	 <b>as-built</b>

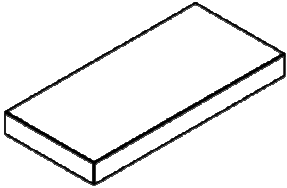
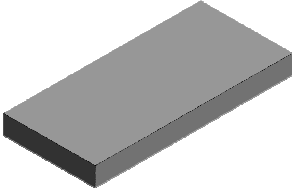


## Stormwater Network (Grated Cover and Frame)

LOD-G	Description	LOD-I	Example Images
100	Model element may be graphically represented in model with symbol or other generic representation.	- Drainage System Type	 <p><b>schematic</b></p>
200	Model element is graphically represented within the model as a generic system, object or assembly with approximate quantities, size, shape, location and orientation. Non-graphic information may also be attached to the model element.	- Material	 <p><b>generic</b></p>
300	Model element is graphically represented within model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation. Non-graphic information may also be attached to the model element. The model element should include: - Grated cover and frame - Prising slot	- Length	 <p><b>specific</b></p>
400	Model element is graphically represented within the model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation with detailing fabrication, assembly and installation information. Non-graphic information may also be attached to the model element. The model element should include: - Detailed grated cover and frame - Prising slot - Label	- Handover Date	 <p><b>as-built</b></p>

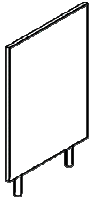

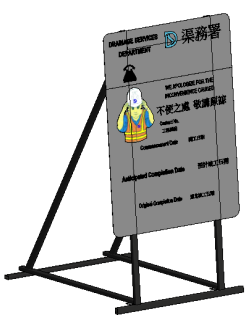
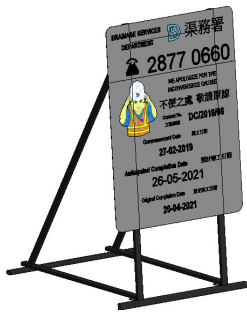
## Drainage Services Department Logo

LOD-G	Description	LOD-I	Example Images
100	Model element may be graphically represented in model with symbol or other generic representation.	N/A	 <b>schematic</b>
200	Model element is graphically represented within the model as a generic system, object or assembly with approximate quantities, size, shape, location and orientation. Non-graphic information may also be attached to the model element.	N/A	 <b>generic</b>
300	Model element is graphically represented within model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation. Non-graphic information may also be attached to the model element. The model element should include: - Logo	N/A	 <b>specific</b>
400	Model element is graphically represented within the model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation with detailing fabrication, assembly and installation information. Non-graphic information may also be attached to the model element. The model element shall include: - Logo	N/A	 <b>as-built</b>

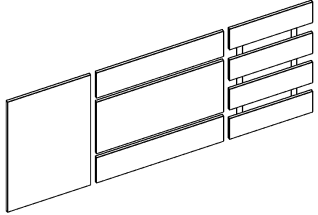
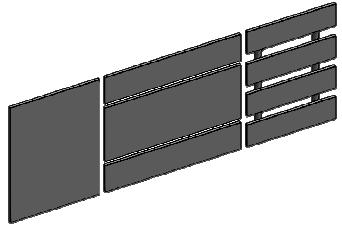
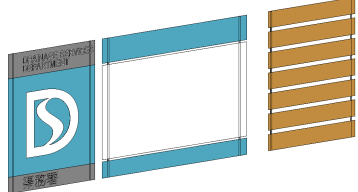
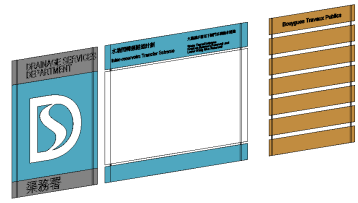
## Sewerage Network (Double Seal Terminal Sewer M.H. Cover - Type MC2 - 40/18A)

LOD-G	Description	LOD-I	Example Images
100	Model element may be graphically represented in model with symbol or other generic representation.	- Drainage System Type	 <p><b>schematic</b></p>
200	Model element is graphically represented within the model as a generic system, object or assembly with approximate quantities, size, shape, location and orientation. Non-graphic information may also be attached to the model element.	- Material	 <p><b>generic</b></p>
300	Model element is graphically represented within model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation. Non-graphic information may also be attached to the model element. The model element should include: - Cover and frame - Prising slot	- Shape	 <p><b>specific</b></p>
400	Model element is graphically represented within the model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation with detailing fabrication, assembly and installation information. Non-graphic information may also be attached to the model element. The model element should include: - Detailed cover and frame - Prising slot - Keyhole - Raised stud - Grade indication	- Handover Date	 <p><b>as-built</b></p>

## Publicity Board





LOD-G	Description	LOD-I	Example Images
100	Model element may be graphically represented in model with symbol or other generic representation.	N/A	 <p><b>schematic</b></p>
200	Model element is graphically represented within the model as a generic system, object or assembly with approximate quantities, size, shape, location and orientation. Non-graphic information may also be attached to the model element.	N/A	 <p><b>generic</b></p>
300	Model element is graphically represented within model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation. Non-graphic information may also be attached to the model element. The model element shall include: - Publicity board - Steel member	N/A	 <p><b>specific</b></p>
400	Model element is graphically represented within the model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation with detailing fabrication, assembly and installation information. Non-graphic information may also be attached to the model element. The model element to be included: - Detailed publicity board - Steel member	N/A	 <p><b>as-built</b></p>

## Major Project Signboard

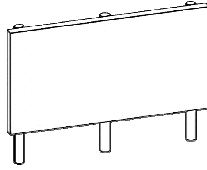
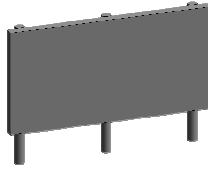
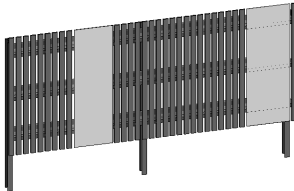
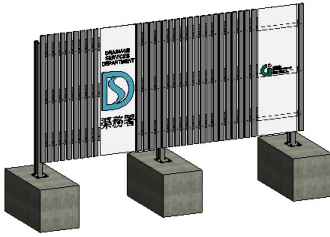
LOD-G	Description	LOD-I	Example Images
100	Model element may be graphically represented in model with symbol or other generic representation.	N/A	 <p><b>schematic</b></p>
200	Model element is graphically represented within the model as a generic system, object or assembly with approximate quantities, size, shape, location and orientation. Non-graphic information may also be attached to the model element.	N/A	 <p><b>generic</b></p>
300	Model element is graphically represented within model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation. Non-graphic information may also be attached to the model element. The model element should include: - Signboard - Steel member	N/A	 <p><b>specific</b></p>
400	Model element is graphically represented within the model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation with detailing fabrication, assembly and installation information. Non-graphic information may also be attached to the model element. The model element should include: - Detailed signboard - Steel member	N/A	 <p><b>as-built</b></p>



## Minor Project Signboard

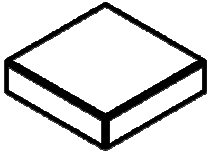
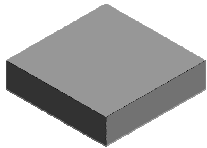
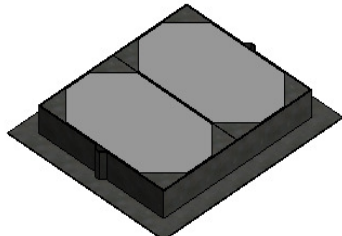
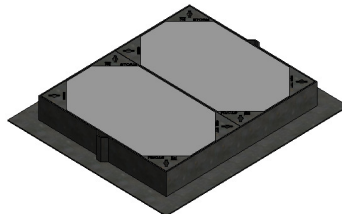
LOD-G	Description	LOD-I	Example Images
100	Model element may be graphically represented in model with symbol or other generic representation.	N/A	 <p><b>schematic</b></p>
200	Model element is graphically represented within the model as a generic system, object or assembly with approximate quantities, size, shape, location and orientation. Non-graphic information may also be attached to the model element.	N/A	 <p><b>generic</b></p>
300	Model element is graphically represented within model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation. Non-graphic information may also be attached to the model element. The model element should include: - Signboard - Steel member	N/A	 <p><b>specific</b></p>
400	Model element is graphically represented within the model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation with detailing fabrication, assembly and installation information. Non-graphic information may also be attached to the model element. The model element should include: - Detailed signboard - Steel member	N/A	 <p><b>as-built</b></p>

## Site Hoarding


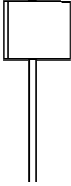


LOD-G	Description	LOD-I	Example Images
100	Model element may be graphically represented in model with symbol or other generic representation.	N/A	 <p><b>schematic</b></p>
200	Model element is graphically represented within the model as a generic system, object or assembly with approximate quantities, size, shape, location and orientation. Non-graphic information may also be attached to the model element.	N/A	 <p><b>generic</b></p>
300	Model element is graphically represented within model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation. Non-graphic information may also be attached to the model element. The model element should include: - Panel - Corrugated steel sheeting	N/A	 <p><b>specific</b></p>
400	Model element is graphically represented within the model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation with detailing fabrication, assembly and installation information. Non-graphic information may also be attached to the model element. The model element to be included: - Detailed Panel - Corrugated steel sheeting - Post footing	N/A	 <p><b>as-built</b></p>

## Stormwater Network

### (Recessed Desilting M.H. Cover and Frame for 750mm x 900mm Opening)

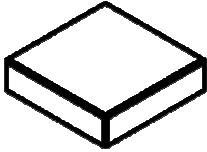
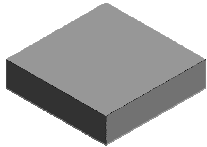
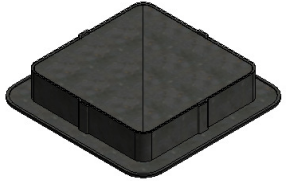

LOD-G	Description	LOD-I	Example Images
100	Model element may be graphically represented in model with symbol or other generic representation.	- Drainage System Type	 <p><b>schematic</b></p>
200	Model element is graphically represented within the model as a generic system, object or assembly with approximate quantities, size, shape, location and orientation. Non-graphic information may also be attached to the model element.	- Material	 <p><b>generic</b></p>
300	Model element is graphically represented within model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation. Non-graphic information may also be attached to the model element. The model element should include: - Cover and frame - Prising slot	- Shape	 <p><b>specific</b></p>
400	Model element is graphically represented within the model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation with detailing fabrication, assembly and installation information. Non-graphic information may also be attached to the model element. The model element should include: - Detailed cover and frame - Prising slot - Keyhole - Grade indication - Panel and label	- Handover Date	 <p><b>as-built</b></p>

## Flood Warning Sign

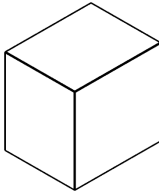
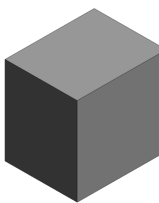
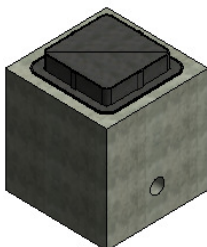
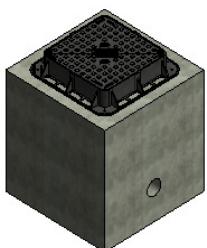
LOD-G	Description	LOD-I	Example Images
100	Model element may be graphically represented in model with symbol or other generic representation.	N/A	 <p><b>schematic</b></p>
200	Model element is graphically represented within the model as a generic system, object or assembly with approximate quantities, size, shape, location and orientation. Non-graphic information may also be attached to the model element.	N/A	 <p><b>generic</b></p>
300	Model element is graphically represented within model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation. Non-graphic information may also be attached to the model element. The model element should include: - Plate and notice board - Post and footing	N/A	 <p><b>specific</b></p>
400	Model element is graphically represented within the model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation with detailing fabrication, assembly and installation information. Non-graphic information may also be attached to the model element. The model element should include: - Detailed plate and notice board - Post and footing	N/A	 <p><b>as-built</b></p>

## Stormwater Network

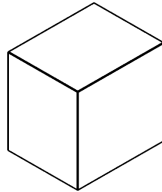
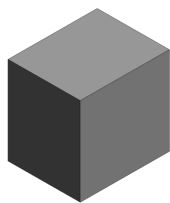
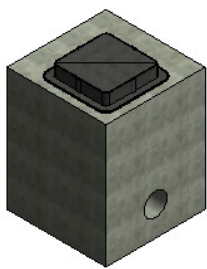
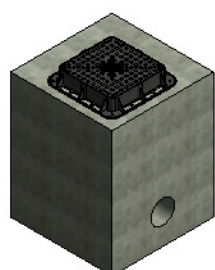
### (675 Square Double Triangular DI M.H Cover and Frame, Class E600)

LOD-G	Description	LOD-I	Example Images
100	Model element may be graphically represented in model with symbol or other generic representation.	- Drainage System Type	 <p><b>schematic</b></p>
200	Model element is graphically represented within the model as a generic system, object or assembly with approximate quantities, size, shape, location and orientation. Non-graphic information may also be attached to the model element.	- Material	 <p><b>generic</b></p>
300	Model element is graphically represented within model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation. Non-graphic information may also be attached to the model element. The model element should include: - Cover and frame - Prising slot	- Shape	 <p><b>specific</b></p>
400	Model element is graphically represented within the model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation with detailing fabrication, assembly and installation information. Non-graphic information may also be attached to the model element. The model element should include: - Detailed cover and frame - Prising slot - Keyhole - Raised stud - Grade indication - Panel and label	- Handover Date	 <p><b>as-built</b></p>

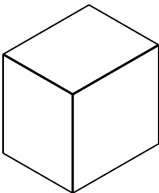
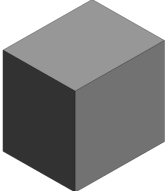
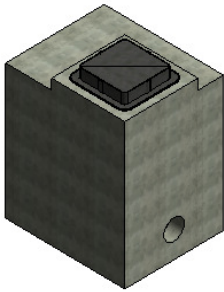
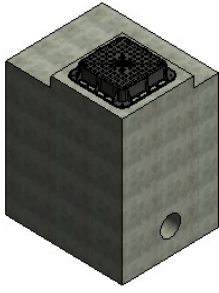
## Sewerage Network (Manhole Type C1)

LOD-G	Description	LOD-I	Example Images
100	Model element may be graphically represented in model with symbol or other generic representation.	- Drainage System Type	 <b>schematic</b>
200	Model element is graphically represented within the model as a generic system, object or assembly with approximate quantities, size, shape, location and orientation. Non-graphic information may also be attached to the model element.	- Cover Level	 <b>generic</b>
300	Model element is graphically represented within model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation. Non-graphic information may also be attached to the model element. The model element should include: - Slab - Wall - Pipe connector - Cover and frame	- Concrete Grade	 <b>specific</b>
400	Model element is graphically represented within the model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation with detailing fabrication, assembly and installation information. Non-graphic information may also be attached to the model element. The model element should include: - Slab - Wall - Pipe connector - Detailed cover and frame - Benching	- Handover Date	 <b>as-built</b>

## Sewerage Network (Manhole Type D1)

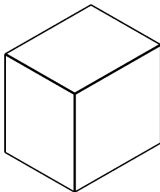
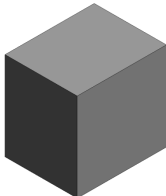
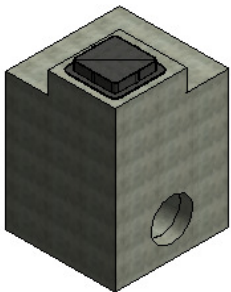
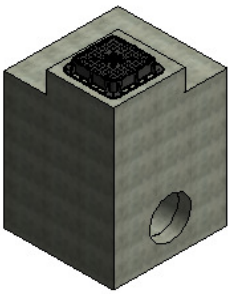
LOD-G	Description	LOD-I	Example Images
100	Model element may be graphically represented in model with symbol or other generic representation.	- Drainage System Type	 <b>schematic</b>
200	Model element is graphically represented within the model as a generic system, object or assembly with approximate quantities, size, shape, location and orientation. Non-graphic information may also be attached to the model element.	- Cover Level	 <b>generic</b>
300	Model element is graphically represented within model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation. Non-graphic information may also be attached to the model element. The model element should include: - Slab - Wall - Pipe connector - Cover and frame	- Concrete Grade	 <b>specific</b>
400	Model element is graphically represented within the model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation with detailing fabrication, assembly and installation information. Non-graphic information may also be attached to the model element. The model element should include: - Slab - Wall - Pipe connector - Detailed cover and frame - Benching - Step iron	- Handover Date	 <b>as-built</b>

## Sewerage Network (Manhole Type E1)

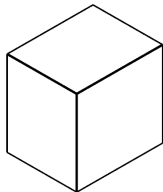
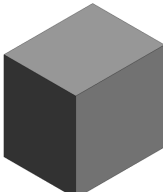
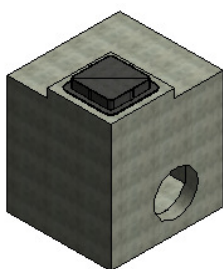
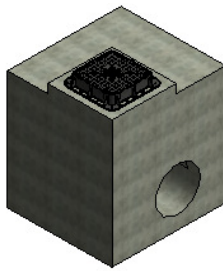
LOD-G	Description	LOD-I	Example Images
100	Model element may be graphically represented in model with symbol or other generic representation.	- Drainage System Type	 <b>schematic</b>
200	Model element is graphically represented within the model as a generic system, object or assembly with approximate quantities, size, shape, location and orientation. Non-graphic information may also be attached to the model element.	- Cover Level	 <b>generic</b>
300	Model element is graphically represented within model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation. Non-graphic information may also be attached to the model element. The model element should include: - Slab - Wall - Pipe connector - Cover and frame	- Concrete Grade	 <b>specific</b>
400	Model element is graphically represented within the model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation with detailing fabrication, assembly and installation information. Non-graphic information may also be attached to the model element. The model element should include: - Slab - Wall - Pipe connector - Detailed cover and frame - Benching - Step iron	- Handover Date	 <b>as-built</b>



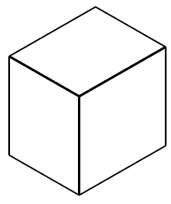
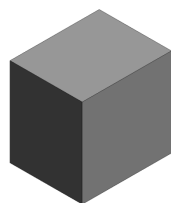
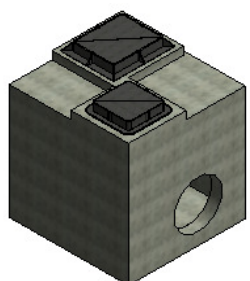
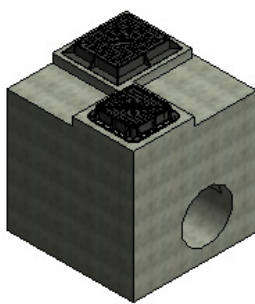
## Sewerage Network (Manhole Type F1)

LOD-G	Description	LOD-I	Example Images
100	Model element may be graphically represented in model with symbol or other generic representation.	- Drainage System Type	 <b>schematic</b>
200	Model element is graphically represented within the model as a generic system, object or assembly with approximate quantities, size, shape, location and orientation. Non-graphic information may also be attached to the model element.	- Cover Level	 <b>generic</b>
300	Model element is graphically represented within model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation. Non-graphic information may also be attached to the model element. The model element should include: - Slab - Wall - Pipe connector - Cover and frame	- Concrete Grade	 <b>specific</b>
400	Model element is graphically represented within the model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation with detailing fabrication, assembly and installation information. Non-graphic information may also be attached to the model element. The model element should include: - Slab - Wall - Pipe connector - Detailed cover and frame - Benching - Step iron	- Handover Date	 <b>as-built</b>

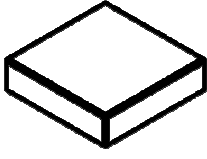
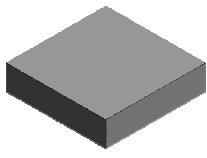
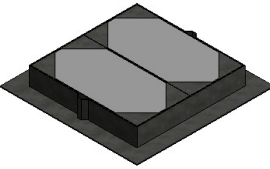
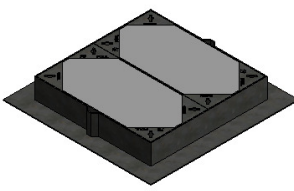
## Sewerage Network (Manhole Type G1)

LOD-G	Description	LOD-I	Example Images
100	Model element may be graphically represented in model with symbol or other generic representation.	- Drainage System Type	 <b>schematic</b>
200	Model element is graphically represented within the model as a generic system, object or assembly with approximate quantities, size, shape, location and orientation. Non-graphic information may also be attached to the model element.	- Cover Level	 <b>generic</b>
300	Model element is graphically represented within model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation. Non-graphic information may also be attached to the model element. The model element should include: - Slab - Wall - Pipe connector - Cover and frame	- Concrete Grade	 <b>specific</b>
400	Model element is graphically represented within the model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation with detailing fabrication, assembly and installation information. Non-graphic information may also be attached to the model element. The model element should include: - Slab - Wall - Pipe connector - Detailed cover and frame - Benching - Step iron	- Handover Date	 <b>as-built</b>

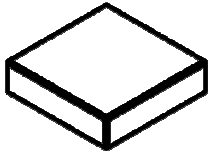
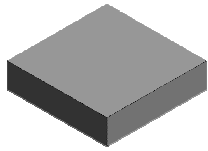
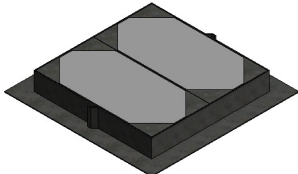
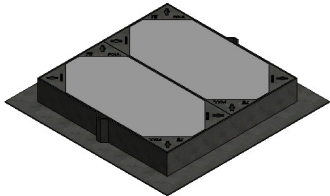
## Sewerage Network (Manhole Type G1/D)

LOD-G	Description	LOD-I	Example Images
100	Model element may be graphically represented in model with symbol or other generic representation.	- Drainage System Type	 <b>schematic</b>
200	Model element is graphically represented within the model as a generic system, object or assembly with approximate quantities, size, shape, location and orientation. Non-graphic information may also be attached to the model element.	- Cover Level	 <b>generic</b>
300	Model element is graphically represented within model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation. Non-graphic information may also be attached to the model element. The model element should include: <ul style="list-style-type: none"> <li>- Slab</li> <li>- Wall</li> <li>- Pipe connector</li> <li>- Cover and frame</li> <li>- Desilting cover and frame</li> </ul>	- Concrete Grade	 <b>specific</b>
400	Model element is graphically represented within the model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation with detailing fabrication, assembly and installation information. Non-graphic information may also be attached to the model element. The model element should include: <ul style="list-style-type: none"> <li>- Slab</li> <li>- Wall</li> <li>- Pipe connector</li> <li>- Detailed cover and frame</li> <li>- Detailed desilting cover and frame</li> <li>- Benching</li> <li>- Step iron</li> </ul>	- Handover Date	 <b>as-built</b>


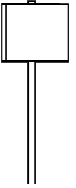


## Stormwater Network (675 Square Recessed Single Seal Manhole Cover and Frame)

LOD-G	Description	LOD-I	Example Images
100	Model element may be graphically represented in model with symbol or other generic representation.	- Drainage System Type	 <p><b>schematic</b></p>
200	Model element is graphically represented within the model as a generic system, object or assembly with approximate quantities, size, shape, location and orientation. Non-graphic information may also be attached to the model element.	- Cover Level	 <p><b>generic</b></p>
300	Model element is graphically represented within model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation. Non-graphic information may also be attached to the model element. The model element should include: - Cover and frame - Prising slot	- Concrete Grade	 <p><b>specific</b></p>
400	Model element is graphically represented within the model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation with detailing fabrication, assembly and installation information. Non-graphic information may also be attached to the model element. The model element should include: - Detailed cover and frame - Prising slot - Keyhole - Grade indication - Panel and label	- Handover Date	 <p><b>as-built</b></p>

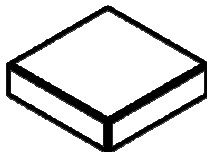
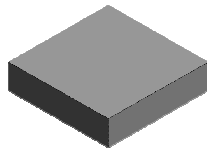


## Stormwater Network (675 Square Recessed Double Seal Manhole Cover and Frame)

LOD-G	Description	LOD-I	Example Images
100	Model element may be graphically represented in model with symbol or other generic representation.	- Drainage System Type	 <p><b>schematic</b></p>
200	Model element is graphically represented within the model as a generic system, object or assembly with approximate quantities, size, shape, location and orientation. Non-graphic information may also be attached to the model element.	- Cover Level	 <p><b>generic</b></p>
300	Model element is graphically represented within model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation. Non-graphic information may also be attached to the model element. The model element should include: - Cover and frame - Prising slot	- Concrete Grade	 <p><b>specific</b></p>
400	Model element is graphically represented within the model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation with detailing fabrication, assembly and installation information. Non-graphic information may also be attached to the model element. The model element should include: - Detailed cover and frame - Prising slot - Keyhole - Grade indication - Panel and label	- Handover Date	 <p><b>as-built</b></p>

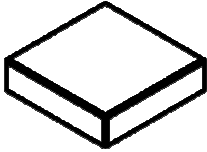
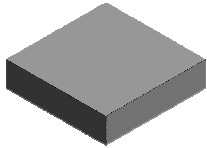
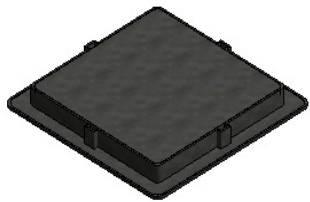
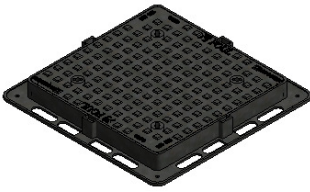
## No Entry Sign

LOD-G	Description	LOD-I	Example Images
100	Model element may be graphically represented in model with symbol or other generic representation.	- Drainage System Type	 <p><b>schematic</b></p>
200	Model element is graphically represented within the model as a generic system, object or assembly with approximate quantities, size, shape, location and orientation. Non-graphic information may also be attached to the model element.	- Cover Level	 <p><b>generic</b></p>
300	Model element is graphically represented within model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation. Non-graphic information may also be attached to the model element. The model element should include: - Plate - Post	- Concrete Grade	 <p><b>specific</b></p>
400	Model element is graphically represented within the model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation with detailing fabrication, assembly and installation information. Non-graphic information may also be attached to the model element. The model element should include: - Detailed plate - Post	- Handover Date	 <p><b>as-built</b></p>

## Sewerage Network (675 Square One-Piece DI Double Seal Terminal M.H. Cover and Frame, Class E

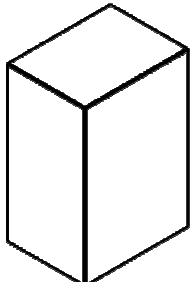
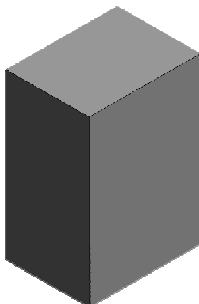
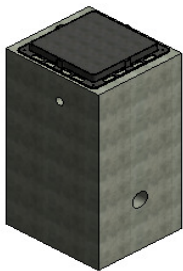
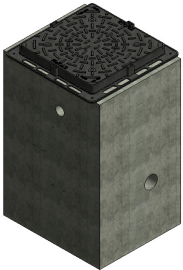
LOD-G	Description	LOD-I	Example Images
100	Model element may be graphically represented in model with symbol or other generic representation.	- Drainage System Type	 <p><b>schematic</b></p>
200	Model element is graphically represented within the model as a generic system, object or assembly with approximate quantities, size, shape, location and orientation. Non-graphic information may also be attached to the model element.	- Material	 <p><b>generic</b></p>
300	Model element is graphically represented within model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation. Non-graphic information may also be attached to the model element. The model element should include: - Cover and frame - Prising slot	- Shape	 <p><b>specific</b></p>
400	Model element is graphically represented within the model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation with detailing fabrication, assembly and installation information. Non-graphic information may also be attached to the model element. The model element should include: - Detailed cover and frame - Prising slot - Keyhole - Raised stud - Grade indication - Panel and label - Anchor hole	- Handover Date	 <p><b>as-built</b></p>

# Sewerage Network (675 Square One-Piece DI Double Seal Terminal M.H. Cover and Frame, Class C

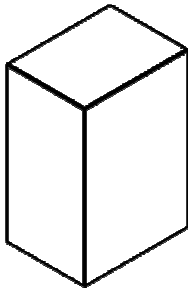
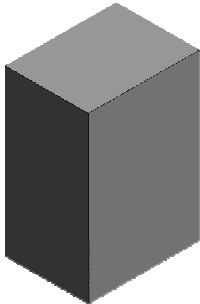
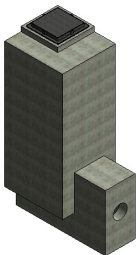
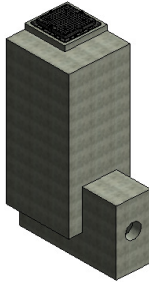
LOD-G	Description	LOD-I	Example Images
100	Model element may be graphically represented in model with symbol or other generic representation.	- Drainage System Type	 <p><b>schematic</b></p>
200	Model element is graphically represented within the model as a generic system, object or assembly with approximate quantities, size, shape, location and orientation. Non-graphic information may also be attached to the model element.	- Material	 <p><b>generic</b></p>
300	Model element is graphically represented within model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation. Non-graphic information may also be attached to the model element. The model element should include: - Cover and frame - Prising slot	- Shape	 <p><b>specific</b></p>
400	Model element is graphically represented within the model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation with detailing fabrication, assembly and installation information. Non-graphic information may also be attached to the model element. The model element should include: - Detailed cover and frame - Prising slot - Keyhole - Raised stud - Grade indication - Anchor hole	- Handover Date	 <p><b>as-built</b></p>



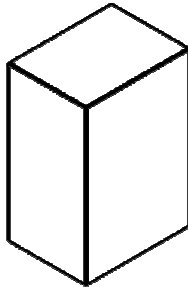
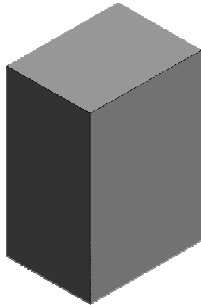
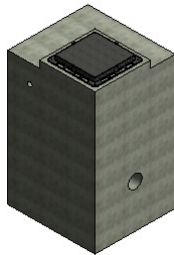
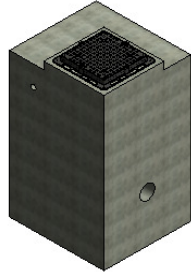
## Sewerage Network (Manhole Type T1\_1)

LOD-G	Description	LOD-I	Example Images
100	Model element may be graphically represented in model with symbol or other generic representation.	- Drainage System Type	 <p><b>schematic</b></p>
200	Model element is graphically represented within the model as a generic system, object or assembly with approximate quantities, size, shape, location and orientation. Non-graphic information may also be attached to the model element.	- Cover Level	 <p><b>generic</b></p>
300	Model element is graphically represented within model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation. Non-graphic information may also be attached to the model element. The model element should include: <ul style="list-style-type: none"> <li>- Slab</li> <li>- Wall</li> <li>- Pipe connector</li> <li>- Cover and frame</li> <li>- Trap with rodding arm</li> <li>- Opening for F.A.I.</li> </ul>	- Concrete Grade	 <p><b>specific</b></p>
400	Model element is graphically represented within the model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation with detailing fabrication, assembly and installation information. Non-graphic information may also be attached to the model element. The model element should include: <ul style="list-style-type: none"> <li>- Slab</li> <li>- Wall</li> <li>- Pipe connector</li> <li>- Detailed cover and frame</li> <li>- Trap with rodding arm</li> <li>- Opening for F.A.I.</li> <li>- Benching</li> <li>- Step iron</li> <li>- Stainless steel chain</li> </ul>	- Handover Date	 <p><b>as-built</b></p>

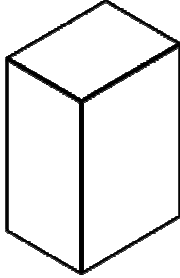
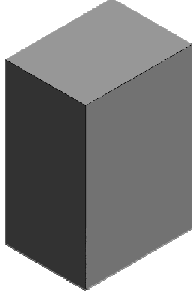
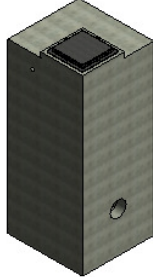
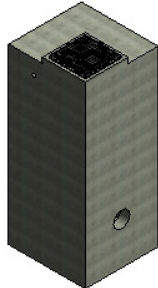
## Sewerage Network (Terminal Manhole Type T2\_1)

LOD-G	Description	LOD-I	Example Images
100	Model element may be graphically represented in model with symbol or other generic representation.	- Drainage System Type	 <p><b>schematic</b></p>
200	Model element is graphically represented within the model as a generic system, object or assembly with approximate quantities, size, shape, location and orientation. Non-graphic information may also be attached to the model element.	- Cover Level	 <p><b>generic</b></p>
300	Model element is graphically represented within model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation. Non-graphic information may also be attached to the model element. The model element should include: - Slab - Wall - Pipe connector - Cover and frame - Rodding arm - Opening for F.A.I.	- Concrete Grade	 <p><b>specific</b></p>
400	Model element is graphically represented within the model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation with detailing fabrication, assembly and installation information. Non-graphic information may also be attached to the model element. The model element should include: - Slab - Wall - Pipe connector - Detailed cover and frame - Rodding arm - Opening for F.A.I. - Benching - Step iron - Stainless steel hook - Stainless steel chain	- Handover Date	 <p><b>as-built</b></p>

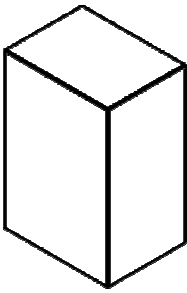
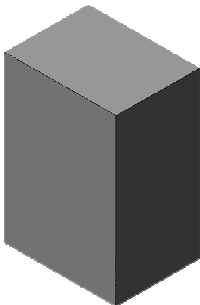
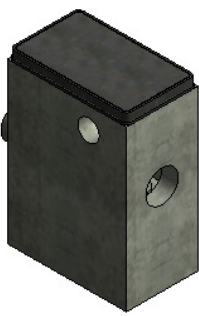
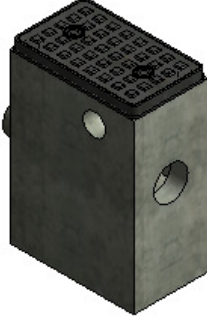
## Sewerage Network (Terminal Manhole Type T3\_1)

LOD-G	Description	LOD-I	Example Images
100	Model element may be graphically represented in model with symbol or other generic representation.	- Drainage System Type	 <p><b>schematic</b></p>
200	Model element is graphically represented within the model as a generic system, object or assembly with approximate quantities, size, shape, location and orientation. Non-graphic information may also be attached to the model element.	- Cover Level	 <p><b>generic</b></p>
300	Model element is graphically represented within model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation. Non-graphic information may also be attached to the model element. The model element should include: <ul style="list-style-type: none"> <li>- Slab</li> <li>- Wall</li> <li>- Pipe connector</li> <li>- Cover and frame</li> <li>- Trap with rodding arm</li> <li>- Opening for F.A.I.</li> </ul>	- Concrete Grade	 <p><b>specific</b></p>
400	Model element is graphically represented within the model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation with detailing fabrication, assembly and installation information. Non-graphic information may also be attached to the model element. The model element should include: <ul style="list-style-type: none"> <li>- Slab</li> <li>- Wall</li> <li>- Pipe connector</li> <li>- Detailed cover and frame</li> <li>- Trap with rodding arm</li> <li>- Opening for F.A.I.</li> <li>- Benching</li> <li>- Step iron</li> <li>- Stainless steel hook</li> <li>- Stainless steel chain</li> </ul>	- Handover Date	 <p><b>as-built</b></p>





### Sewerage Network (Terminal Manhole Type T4\_1)

LOD-G	Description	LOD-I	Example Images
100	Model element may be graphically represented in model with symbol or other generic representation.	- Drainage System Type	 <p><b>schematic</b></p>
200	Model element is graphically represented within the model as a generic system, object or assembly with approximate quantities, size, shape, location and orientation. Non-graphic information may also be attached to the model element.	- Cover Level	 <p><b>generic</b></p>
300	Model element is graphically represented within model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation. Non-graphic information may also be attached to the model element. The model element should include: <ul style="list-style-type: none"> <li>- Slab</li> <li>- Wall</li> <li>- Pipe connector</li> <li>- Cover and frame</li> <li>- Trap with rodding arm</li> <li>- Opening for F.A.I.</li> </ul>	- Concrete Grade	 <p><b>specific</b></p>
400	Model element is graphically represented within the model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation with detailing fabrication, assembly and installation information. Non-graphic information may also be attached to the model element. The model element should include: <ul style="list-style-type: none"> <li>- Slab</li> <li>- Wall</li> <li>- Pipe connector</li> <li>- Detailed cover and frame</li> <li>- Trap with rodding arm</li> <li>- Opening for F.A.I.</li> <li>- Benching</li> <li>- Rodding arm</li> <li>- Benching</li> <li>- Step iron</li> <li>- Stainless steel hook</li> <li>- Stainless steel chain</li> <li>- Handrailing</li> </ul>	- Handover Date	 <p><b>as-built</b></p>

## Sewerage Network (Terminal Manhole Type T10\_1)

LOD-G	Description	LOD-I	Example Images
100	Model element may be graphically represented in model with symbol or other generic representation.	- Drainage System Type	 <p><b>schematic</b></p>
200	Model element is graphically represented within the model as a generic system, object or assembly with approximate quantities, size, shape, location and orientation. Non-graphic information may also be attached to the model element.	- Cover Level	 <p><b>generic</b></p>
300	Model element is graphically represented within model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation. Non-graphic information may also be attached to the model element. The model element should include: <ul style="list-style-type: none"> <li>- Slab</li> <li>- Wall</li> <li>- Pipe connector</li> <li>- Cover and frame</li> <li>- Trap with rodding arm</li> <li>- Opening for F.A.I.</li> </ul>	- Concrete Grade	 <p><b>specific</b></p>
400	Model element is graphically represented within the model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation with detailing fabrication, assembly and installation information. Non-graphic information may also be attached to the model element. The model element should include: <ul style="list-style-type: none"> <li>- Slab</li> <li>- Wall</li> <li>- Pipe connector</li> <li>- Detailed cover and frame</li> <li>- Trap with rodding arm</li> <li>- Opening for F.A.I.</li> <li>- Benching</li> <li>- Step iron</li> <li>- Stainless steel chain</li> </ul>	- Handover Date	 <p><b>as-built</b></p>

## Construction Industry Logo

LOD-G	Description	LOD-I	Example Images
100	Model element may be graphically represented in model with symbol or other generic representation.	N/A	 <p><b>schematic</b></p>
200	Model element is graphically represented within the model as a generic system, object or assembly with approximate quantities, size, shape, location and orientation. Non-graphic information may also be attached to the model element.	N/A	 <p><b>generic</b></p>
300	Model element is graphically represented within model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation. Non-graphic information may also be attached to the model element. The model element shall include: - Logo and text	N/A	 <p><b>specific</b></p>
400	Model element is graphically represented within the model as a specific system, object or assembly in terms of quantity, size, shape, location and orientation with detailing fabrication, assembly and installation information. Non-graphic information may also be attached to the model element. The model element to be included: - Logo and text	N/A	 <p><b>as-built</b></p>

# **Appendix K**

## **COBie Sample Worksheets**

## **COBie Sample Worksheets**

This Appendix aims to provide users a better understanding of COBie worksheet. Users must be aware that these worksheets are for reference only.

### **1. Instruction**

Entries of “Instruction” is predefined in the COBie template. Users should not add, delete or edit any entry in this worksheet.

### **2. PickLists**

Entries of “PickLists” are similar to “Instruction” in that its content is predefined by the COBie template. Users should not add, delete or edit any entry in this worksheet. Users will frequently refer to “PickLists” to choose values for parameters.



### 3. Contacts

Entries of “Contacts” contain information regarding contributors of the current COBie file. The entries should be completed truthfully and carefully since entries from the other worksheets will make reference to entries from “Contact”.

Parameters	Example	Notes
Email	bim@dsd.gov.hk	
CreatedBy	bim@dsd.gov.hk	Reference to an entry from “Contact”
CreatedOn	2017-08-08T17:48:56	
Category	34-35 15 17 Project Engineer	Select from column M of “PickLists”
Company	Drainage Services Department	
Phone	2301 1110	
ExtSystem	Autodesk Revit 2015, Build: 20150702_1515(x64)	Automatically generated by plug-in
ExtObject	IfcPersonAndOrganization	Automatically generated by plug-in
ExtIdentifier	069a03f5-5daf-4057-82c7-8146d88562bf	Automatically generated by plug-in
Department	Drainage Services Department	
OrganizationCode	DSD	Refer to DEVB CSWP ARC V3.0.7.00
GivenName	Tai Man	
FamilyName	Chan	
Street	5 Gloucester Road	
PostalBox	PO Box 123	
Town	Wanchai	
StateRegion	Hong Kong Island	
PostalCode	00852	
Country	The Hong Kong Special Administrative Region	

#### 4. Facility

Entries of “Facility” contain information about a building. COBie files are generated on a building-by-building basis; therefore, a large-scale project such as sewage treatment plant, may have multiple COBie files representing different buildings of a sewage treatment plant.

Parameters	Example	Notes
Name	Activated Sludge Pumping Station	
CreatedBy	bim@dsd.gov.hk	Reference to an entry from “Contact”
CreatedOn	2017-08-08T17:48:56	
Category	11-43 21 11 Sewage Treatment Facility	Select from column F of “PickLists”
ProjectName	Shek Wu Hui Sewage Treatment Works Further Expansion Phase 1A	
SiteName	Shek Wu Hui Sewage Treatment Works	
LinearUnits	Millimeters	Select from column AF of “PickLists”
AreaUnits	Square Meters	Select from column AB of “PickLists”
VolumeUnits	Cubic Meters	Select from column AG of “PickLists”
CurrencyUnit	Hong Kong Dollars	Supposed to select from column AC of “PickLists,” but Hong Kong Dollars is unavailable
AreaMeasurement	Revit Default Area Calculation Method	
ExternalSystem	Autodesk Revit 2015, Build: 20150702_1515(x64)	Automatically generated by plug-in
ExternalProjectObject	IfcProject	Automatically generated by plug-in

ExternalProjectIdentifier	3eZGfqbOz95RdjNj2EOk3U	Automatically generated by plug-in
ExternalSiteObject	IfcSite	Automatically generated by plug-in
ExternalSiteIdentifier	3eZGfqbOz95RdjNj2EOk3S	Automatically generated by plug-in
ExternalFacilityObject	IfcBuilding	Automatically generated by plug-in
ExternalFacilityIdentifier	3eZGfqbOz95RdjNj2EOk3V	Automatically generated by plug-in
Description	n/a	
ProjectDescription	n/a	
SiteDescription	n/a	
Phase	Construction	

## 5. Floor

Entries of “Floor” are tied to levels in a BIM model. Users should avoid building unnecessary levels in a BIM model. Instead, users should use the offset function to reference elements to levels.

Parameters	Example	Notes
Name	01_B1_(+1.3mPD)	
CreatedBy	bim@dsd.gov.hk	Reference to an entry from “Contact”
CreatedOn	2017-08-08T17:48:56	
Category	Floor	Select from column G of “PickLists”
ExtSystem	Autodesk Revit 2015, Build: 20150702_1515(x64)	Automatically generated by plug-in
ExtObject	Levels	Automatically generated by plug-in
ExtIdentifier	79503529-d2a7-11d3-9162-0000863f27ad-0000330f	Automatically generated by plug-in
Description	n/a	
Elevation	1300	
Height	5950	

## 6. Space

Entries of “Space” are outputted from room and / or space of BIM models. Room and space have to be manually assigned by users. Normally, room and space are bounded by structural and architectural elements. Users can also define room and space by drawing boundary. Although room and space can both become entries in the COBie, users should only use space to avoid redundant entries in “Space”.

Parameters	Example	Notes
Name	Pump Room	
CreatedBy	bim@dsd.gov.hk	Reference to an entry from “Contact”
CreatedOn	2017-08-08T17:48:56	
Category	13-23 19 00 Utility Equipment Room	Select from column N of “PickLists”
FloorName	01_B1_(+1.3mPD)	
Description	n/a	
ExtSystem	Autodesk Revit 2015, Build: 20150702_1515(x64)	Automatically generated by plug-in
ExtObject	Spaces	Automatically generated by plug-in
ExtIdentifier	229666b8-944a-4cb5-a248-34534dc38c7c-005053c6	Automatically generated by plug-in
RoomTag	n/a	
UsableHeight	5400	
GrossArea	877.7417	
NetArea	877.7417	

## 7. Type

Entries of “Type” are outputted from families. Entries of “Type” refer to “Contact” and “PickLists,” and occasionally “Attribute.”

Parameters	Example	Notes
Name	MPU-PRC-DSD-CI-____	Reference to the object name
CreatedBy	bim@dsd.gov.hk	Reference to an entry from “Contact”
CreatedOn	2017-08-08T17:48:56	
Category	23-27 17 25 Progressive Cavity Pumps	Select from column K of “PickLists”
Description	Return Activated Sludge Pump	
AssetType	Fixed	Select from column AA of “PickLists”
Manufacturer	ABC company	
ModelNumber	H08K-H03R	
WarrantyGuarantorParts	company@email.com	
WarrantyDurationParts	5	
WarrantyGuarantorLabor	company@email.com	
WarrantyDurationLabor	5	
WarrantyDurationUnit	Year	Select from column AD of “PickLists”
ExtSystem	Autodesk Revit 2015, Build: 20150702_1515(x64)	Automatically generated by plug-in
ExtObject	Mechanical Equipment	Automatically generated by plug-in
ExtIdentifier	5605db87-7a61-4294-9d8e-0eabfd90b791-00169aaa	Automatically generated by plug-in
ReplacementCost	200000	Currency should refer to “Facility” worksheet

ExpectedLife	5	Expected life will differ for active and spare units and should be stored in instance.
DurationUnit	Year	Select from column AD of "PickLists"
WarrantyDescription	Onsite warranty	
NominalLength	1788	
NominalWidth	1469	
NominalHeight	2209	
ModelReference	n/a	
Shape	Cylinder	
Size	Medium	
Color	Green	
Finish	Matt	
Grade	Tough	
Material	Cast Iron	
Constituents	Remote controller	
Features	Auto-shutdown	
AccessibilityPerformance	n/a	
CodePerformance	Fused	
SustainabilityPerformance	Low-energy	
Area	2.627	
Length	1788	

## 8. Component

Entries of “Component” are from the instances of BIM models. The entries refer to entries from “Contact”, “Space” and “Type”.

Parameters	Example	Notes
Name	SWHSTW-ASPS-B1-PUR-ASS-MPU-PRC001	Reference to the “Mark” of model element
CreatedBy	bim@dsd.gov.hk	Reference to an entry from “Contact”
CreatedOn	2017-08-08T17:48:56	
TypeName	MPU-PRC-DSD-CI-____	Reference to an entry from “Type”
Space	Pump Room	Reference to an entry from “Space”
Description	Return Activated Sludge Pump	
ExtSystem	Autodesk Revit 2015, Build: 20150702_1515(x64)	Automatically generated by plug-in
ExtObject	Mechanical Equipment	Automatically generated by plug-in
ExtIdentifier	7311a19b-1a87-4d96-9313-9756de99e76d-004a5a77	Automatically generated by plug-in
SerialNumber	S4567901	
InstallationDate	2017-09-08T11:48:56	
WarrantyStartDate	2017-09-08T11:48:56	
TagNumber	247849	
BarCode	4567901	
AssetIdentifier	ac8a2a32-b185-461d-ac99	
Area	2.627	
Length	1788	



## 9. Systems

Entries of “Systems” connect various components together based on their functions. Currently, system is defined by the entity type of an equipment.

Parameters	Example	Notes
Name	Activated Sludge System	
CreatedBy	bim@dsd.gov.hk	Reference to an entry from “Contact”
CreatedOn	2017-08-08T17:48:56	
Category	23-39 39 13 21 Integrated Fixed-film Activated Sludge Equipment	Select from column E of “PickLists”
ComponentNames	SWHSTW-ASPS-B1-PUR-ASS-MPU-PRC001	Reference to an entry from “Component”
ExtSystem	Authoring Application	Automatically generated by plug-in
ExtObject	lfcSystem	Automatically generated by plug-in
ExtIdentifier	2ITs7iOoDD\$830Kgut03mv	Automatically generated by plug-in
Description	n/a	

## 10. Attributes

Entries of “Attribute” are to store asset information not included in other parts of worksheets. For example, pump speed is a parameter that should be included. Since this parameter is not presented in the “Component”, an entry named “Pump speed” is therefore created in the “Attribute”. To correlate this entry with the entry “RASP-0001” in the “Component”, “Component” and “RASP-0001” should form the data field “SheetName” and “RowName” respectively.

Parameters	Example	Notes
Name	DSD.MPU.Pump Speed	
CreatedBy	bim@dsd.gov.hk	Reference to an entry from “Contact”
CreatedOn	2017-08-08T17:48:56	
Category	Approved	Select from column Z of “PickLists”
SheetName	Component	Reference to “Component”
RowName	SWHSTW-ASPS-B1-PUR-ASS-MPU-PRC001	Reference to an entry from “Component”
Value	1485	
Unit	n/a	
ExtSystem	Autodesk Revit 2015, Build: 20150702_1515(x64)	Automatically generated by plug-in
ExtObject	Autodesk.Revit.DB.Parameter	Automatically generated by plug-in
ExtIdentifier	5223738	Automatically generated by plug-in
Description	n/a	
AllowedValues	n/a	

## 11. Job

Entries of “Job” are related to the maintenance works of an equipment such as inspection and planned maintenance. It requires an API to export the information onto this worksheet.

Parameters	Example	Notes
Name	Return Activated Sludge Pump Inspection	
CreatedBy	bim@dsd.gov.hk	Reference to an entry from “Contact”
CreatedOn	2017-08-08T17:48:56	
Category	Inspection	Select from column J of “PickLists”
Status	Not Yet Started	Select from column V of “PickLists”
TypeName	MPU-PRC-DSD-CI-____	Reference to an entry from “Type”
Description	n/a	
Duration	60	
DurationUnit	Minute	Select from column AD of “PickLists”
Start	6	
TaskStartUnit	Month	Select from column AD of “PickLists”
Frequency	2	
FrequencyUnit	Year	Select from column AD of “PickLists”
ExtSystem	Authoring Application	Automatically generated by plug-in
ExtObject	IfcSystem	Automatically generated by plug-in
ExtIdentifier	2ITs7iOoDD\$830Kgut03mv	Automatically

		generated by plug-in
TaskNumber	3754	
Priors	n/a	
ResourceNames	n/a	

## 12. Coordinate

Entries of “Coordinate” are automatically generated by the COBie Extension plug-in. Users should not edit its content.

# **Appendix L**

## **Model and Object Checklist**

# DSD BIM Model Checklist

Revision : 0

PROJECT INFORMATION	
Contract :	
PWP / Contract / Agreement Number :	

MODEL INFORMATION	
File Name :	
Discipline :	
Software Version :	
Revision :	
Linked Models :	

ITEM	CHECK	OBJETIVE	CONFORM			REMARK / COMMENT
			YES	NO	N/A	
Part 1 - BIM SOFTWARE						
1.1	AUTHORING SOFTWARE	Check the authoring software				
1.2	REVIEWING SOFTWARE	Check the reviewing software				
1.3	VERSION	Check the model file version				
1.4	FILE FORMAT	Check the model file format				
Part 2 - PROJECT MANAGEMENT						
2.1	FOLDER STRUCTURE	Check the folder structure				
2.2	MODEL HIERARCHY	Check the model hierarchy, e.g. model division, by disciplines, by features, by level, etc				
2.3	MODEL FILE NAMING	Check the model file naming				
2.4	DELIVERABLES	Check the deliverables (e.g. 2D drawings, 3D / 4D animations, clash reports, etc)				
Part 3 - MODEL SETTINGS						
3.1	PROJECT TEMPLATE FILE	Check whether the Correct Project Template (if any) is used				
3.2	PROJECT INFORMATION	Verify the correctness of the project information				
3.3	SITE LOCATION	Verify the correctness of the site location				
3.4	MODEL SCALE	Check the model scale				
3.5	MODEL UNITS	Check the model units				
3.6	PROJECT BASE POINT, SURVEY POINT AND COORDINATE	Verify the correctness of project base point, survey point and coordinate				
3.7	PROJECT NORTH	Verify the correctness of project north				
3.8	LEVEL	Verify the correctness of level				
3.9	MEP SETTINGS	Check the Mechanical and Electrical settings to conform with international standards (BSI, BS EN, etc) or local standards (DSD, EMSD, CLP or HKE, etc)				
3.10	MATERIALS	Check the materials of all E&M equipment				
3.11	FILL PATTERNS	Check the fill patterns				
3.12	OBJECT STYLES	Check the object styles				
3.13	LINE STYLES	Check the line styles				
3.14	LINE WEIGHTS	Check the line weights				
3.15	LINE PATTERNS	Check the line patterns				
3.16	COLOR SCHEME	Check the color scheme applied				
Part 4 - MODEL MANAGEMENT						
4.1	WORKSETS	Check Workset (if any) names and all contents in the correct Workset				
4.2	WARNING MESSAGES	Check all warning messages had been cleared (some warning could be accepted)				
4.3	PHASE	Check the correct phase of the elements				
4.4	LINKED-IN FILES	Check all the linked-in files, e.g. Revit, IFC, CAD, DWF and Point Cloud, etc. Unused linked-in files had been removed				
4.5	PURGE	Check all the unused views, families, groups, other styles, etc had been purged				
4.6	NON-REQUIRED ELEMENTS	Check all the non-required Views, Legends, Schedules, Sheets, Images, etc had been deleted				
Part 5 - VIEWS						
5.1	NAMING	Check the view naming				
5.2	VIEW TEMPLATES	Check the view templates applied (if any)				
5.3	VISIBILITY/GRAPHIC OVERRIDES	Check any elements had been hidden or graphic override				
5.4	FILTERS	Check any filters applied correctly				
Part 6 - SCHEDULES / PANEL SCHEDULES						

ITEM	CHECK	OBJETIVE	CONFORM			REMARK / COMMENT
			YES	NO	N/A	
6.1	NAMING	Check the schedule naming				
6.2	SCHEDULES	Verify the correctness of the contents				
<b>Part 7 - OBJECTS</b>						
7.1	NAMING	Check the object naming				
7.2	CATEGORIES	Check the objects are in correct categories				
7.3	3D GEOMETRY	Check the objects' appearance to conform with the actual appearance of the equipment				
7.4	2D SYMBOLS	Check the objects' symbols in plan view to conform with the CSWP / drawing practice				
7.5	MATERIALS	Check the objects' materials				
7.6	PARAMETERS / ATTRIBUTES FOR ASSET MANAGEMENT	Check whether the parameters / attributes are created in the object and the correctness of their contents				
<b>Part 8 - SHEETS (2D DRAWINGS)</b>						
8.1	NAMING	Check the sheet naming				
8.2	DRAWING NUMBER	Check the drawing number				
8.3	TITLEBLOCK	Check whether the correct titleblock had been used				
8.4	TITLEBLOCK INFORMATION	Check the titleblock information had been filled in correctly				
8.5	VIEWPORT SCALE	Check the scale of the drawings				
8.6	TEXT STYLES	Check the fonts and size				
8.7	DIMENSION STYLES	Check the dimension				
8.8	LINE STYLES	Check the line styles				
8.9	ANNOTATIONS	Check the annotations				
8.10	LEGEND	Check the legend (2D symbols)				
8.11	EXPORT SETUPS	Check the settings for exporting to DWG or DGN format				
<b>Part 9.1 - MODELLING - GENERAL</b>						
9.1.1	MODELLING SCOPE	Visual check the modelling scope to comply with the project scope				
9.1.2	MAJOR ELEMENTS	Visual check whether the major elements had been modelled (e.g. pumps, screens,etc)				
9.1.3	FLOOR / CEILING PLANS	Visual check the Scale, Detail Level, Visibility/Graphic Overrides, Orientation, Discipline, View Template, Phasing, etc				
9.1.4	3D VIEWS	Visual check the Scale, Detail Level, Visibility/Graphic Overrides, Orientation, Discipline, View Template, Phasing, etc				
9.1.5	ELEVATIONS	Visual check the Scale, Detail Level, Visibility/Graphic Overrides, Orientation, Discipline, View Template, Phasing, etc				
9.1.6	SECTIONS	Visual check the Scale, Detail Level, Visibility/Graphic Overrides, Orientation, Discipline, View Template, Phasing, etc				
9.1.7	LEVEL OF DEVELOPMENT (LOD)	Visual check the level of development of the model to comply with the project stages / phases				
<b>Part 9.2 - MODELLING - MAJOR ELEMENTS(SAMPLE CHECK, INSERT ROW IF NEEDED)</b>						
9.2.1	ELEMENT 1	Check the 3D geometry, installation, equipment information, electrical circuitry, documentation (if any), assets management data, e.g. COBie data (if any)				
9.2.2	ELEMENT 2	Check the 3D geometry, installation, equipment information, electrical circuitry, documentation (if any), assets management data, e.g. COBie data (if any)				
9.2.3	ELEMENT 3	Check the 3D geometry, installation, equipment information, electrical circuitry, documentation (if any), assets management data, e.g. COBie data (if any)				
9.2.4	ELEMENT 4	Check the 3D geometry, installation, equipment information, electrical circuitry, documentation (if any), assets management data, e.g. COBie data (if any)				
<b>Part 10 - CLASH</b>						
10.1	CLASH ANALYSIS	Check there are no clashes by running the clash analysis between different disciplines				
10.2	CLASH REPORT	Check and verify the clashes in the submitted clash report had been solved				
<b>Part 11 - COBIE DELIVERABLE</b>						
11.1	CONTACT	Check and verify the contents				
11.2	FACILITY	Check and verify the contents				
11.3	FLOOR	Check and verify the contents				

ITEM	CHECK	OBJETIVE	CONFORM			REMARK / COMMENT
			YES	NO	N/A	
11.4	SPACE	Check and verify the contents				
11.5	ZONE	Check and verify the contents				
11.6	TYPE	Check and verify the contents				
11.7	COMPONENT	Check and verify the contents				
11.8	SYSTEM	Check and verify the contents				
11.9	ATTRIBUTE	Check and verify the contents				
11.10	COORDINATE	Check and verify the contents				
<b>Part 12 - EXCHANGE FORMATS</b>						
12.1	2D DRAWING	Export the "Sheets" (if any) to the 2D CAD format (e.g. DGN and DWG)				
12.2	REVIEWING	Export the BIM model to the file format for reviewing purpose (e.g. PDF, DWF, DWFX, NWD)				
12.3	COLLABORATION	Export the BIM model to the file format for collaboration purpose (e.g. IFC, RVT, RFA, NWC, NWD, NWF)				

Checked By: \_\_\_\_\_  
 Name : \_\_\_\_\_  
 Company Name: \_\_\_\_\_  
 Date : \_\_\_\_\_

Verified By: \_\_\_\_\_  
 Name : \_\_\_\_\_  
 Company Name: \_\_\_\_\_  
 Date : \_\_\_\_\_



# DSD BIM Object Checklist

Revision : 0

OBJECT INFORMATION	
Object Name :	
Discipline * :	
Software Version :	
Revision :	
LOD-G / LOD-I :	
DSD Object Sheet Ref. No. :	

Remark:

\* : Architectural, Building Services, Civil,  
Control and Instrumentation, Electrical,  
Mechanical, Structural, etc

ITEM	CHECK	DESCRIPTION	CONFORM			REMARK / COMMENT
			YES	NO	N/A	
Part 1 - GENERAL						
1.1	FILE NAME	Does the file name conform to DSD BIM Modelling Manual Section 3.3?				
1.2	FILE SIZE	Architecture (200 - 300 KB), Civil (200 - 7000 KB), Structure (180 - 300 KB), MEP (200 - 7000 KB)				
Part 2 - 3D GEOMETRY						
2.1	APPEARANCE	Does the appearance of the object conform with standard drawing or as required?				
2.2	MATERIAL	Is the object material correct?				
2.3	VISIBILITY CONTROL	Is the setting suitable ? Does it hide unnecessary geometry on plan and elevation in BIM model?				
2.4	ATTACH TO ELEMENT OR STANDALONE	Can it attach to the correct element or standalone in BIM model?				
2.5	CATEGORY	Is the correct category of BIM object?				
2.6	SUB-CATEGORY	Is sub-category correct?				
2.7	INSERTION POINT	Is the insertion point appropriate in BIM model?				
2.8	REFERENCE PLAN OR LINE	Is the reference plan or line appropriate?				
2.9	UNIT	Is unit of measurements correct?				
2.10	MAINTENANCE SPACE	Does it require maintenance space? If yes, is parametric behavior provided as expected in BIM model?				
2.11	CONNECTION	Does it connect with other objects or elements? If yes, is the connection behavior provided as required in BIM model?				
2.12	PARAMETRIC PROPERTIES	Is it necessary to be parametric? If yes, is parameter behavior provided as required in BIM model?				
Part 3 - PROPERTY / PARAMETER						
3.1	MANAGEMENT	Are parameters classified in suitable grouping and naming?				
3.2	INFORMATION	Is all information necessary or exhaustive for the user?				
3.3	ASSET ATTRIBUTES	Do the attributes conform to DSD BIM Modelling Manual Appendix H? Are they shared parameters? Can user input appropriate values in BIM model? Do the parameters contain special characters (e.g. / ( ) ' ) ?				
Part 4 - 2D SYMBOLIC ITEM (SYMBOL)						
4.1	SYMBOL	Is the symbol conformed to local practices or requirement?				
4.2	SIZE DEPENDENCY	If necessary, does the symbol follow the change of the 3D geometry in BIM model?				
4.3	SCALE	If necessary, is the symbol scalable in BIM model?				
4.4	SYMBOL OFFSET	If necessary, can the symbol offset adjustable for overlapping in BIM model?				
4.5	SYMBOL ORIENTATION	Is the symbol orthogonal to the BIM object geometry? If necessary, can the symbol orientation be controlled in BIM model?				
4.6	DRAWING PRODUCTION	Is it readable when printing out?				
Part 5 - 2D SYMBOLIC ITEM (TAG / LABEL / ANNOTATION)						
5.1	TAG / LABEL / ANNOTATION	Is the tag / label / annotation conformed to local practices or requirement? Can the values of tag / label / annotation shown as required in BIM model? Are the text and arrowhead style shown as required in BIM model?				
5.2	DRAWING PRODUCTION	Is it readable when printing out in appropriate scale				

Checked By: \_\_\_\_\_  
Name : \_\_\_\_\_  
Company Name: \_\_\_\_\_  
Date : \_\_\_\_\_

Verified By: \_\_\_\_\_  
Name : \_\_\_\_\_  
Company Name: DSD  
Date : \_\_\_\_\_