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RLB 5D BIM STANDARDS FOR USE IN HONG KONG

RLB 利比 Rider Levett Bucknall

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CONTENTS

PREFACE

Rider Levett Bucknall (RLB) is an independent, global property and construction practice with over 4,000 people in more than 120 offices across Asia, Africa, the Americas, Europe, Middle East and Oceania. Services provided include Cost Management and Quantity Surveying, Project Management and Advisory Services.

RLB fully embraces Building Information Modelling (BIM) and has the capability to work within a BIM environment across all of our service areas. BIM represents a huge opportunity for our industry to improve the effectiveness and efficiency in various aspects of design, construction, operation and maintenance. We fully support collaborative working environments, to enhance transparency and rising standards within the built environment.

5D BIM includes the addition of cost data to the information model. Cost-related information may include capital costs or construction costs, the related running costs as well as the replacement costs. 5D BIM is often adopted in value engineering exercises to evaluate the cost impact of different design options and to allow designers in identifying the optimal design solutions effectively and efficiently. It also facilitates change management and provides visibility of changes before any decision is made.

Promoting the implementation of 5D BIM, this document is compiled to outline the information suggested to be included in BIM models for the purpose of Quantity Take-off (QTO) from detailed design stage to the completion of the project. The Standards shall be regarded as a communication bridge between the quantity surveyor's measurement rules and the BIM naming convention.

GUIDANCE NOTES FOR DESIGN CONSULTANTS

1. The 5D BIM Standards (hereinafter called "Standards") will provide a basis for discussion between the quantity surveyor (QS) and each design discipline to work out a practical approach amongst the stakeholders to develop a model that can serve different purposes including QTO and cost management. Deviations from the Standards can be agreed based on the result of collaborative discussions to suit the requirements of a particular project.

2. The modelling approach and graphical details are not mentioned in the Standards.

3. All columns in the ten Sections of the Standards under the heading "General BQ/SOR" highlighted blue are related to items in the Bills of Quantities (BQ)/ Schedules of Quantities and Rates (SOR) prepared by QS, whereas all columns under the heading "Naming Convention" highlighted green are related to the corresponding naming convention suggested to be adopted by design consultants in models.

4. The sub-columns under the heading "General BQ/SOR" highlighted blue are described as follows:-

Sections for Architectural and Structural Works

(a) Element (By Bill): These are in general identical to the sections in Hong Kong Standard Method of Measurement of Building Works – Fourth Edition Revised 2018. These are also commonly used for the naming of individual BQ.

(b) Sub-element (By Heading): These are the headings usually adopted in individual BQ.

Sections for Building Services Installation

(c) System Name: These are commonly used for the naming of individual BQ.

(d) Sub-System Name: These are the headings usually adopted in individual BQ.

Sections for both Architectural, Structural Works and Building Services Installation

(e) BQ/SOR Item: These are the bill items in individual BQ. Keyword search may help to identify the target object and the corresponding suggested "Naming Convention".

5. All columns in the ten Sections of the Standards under the heading "Naming Convention" highlighted green are related to the suggested naming convention in ensuring the BIM objects are named systematically, logically and consistently for better understanding by model users and for easy BIM object management and information exchange. The suggestions may be varied to suit specific project needs and the practice of design consultants.

6. The Naming Convention in the Standards focuses on the functional/ informational requirements instead of the naming format.

7. For the "Dimension Attribute" under the "Naming Convention", it is suggested to adopt "Label Dimension" and parametric modelling such that the shape of the model geometry will be changed accordingly upon the dimension value under this column is modified. This could avoid inconsistency between geometry and non-geometrical information.

8. For the "Additional Attribute" under the "Naming Convention", it is suggested to adopt "Shared Parameter" and "Instance Parameter" instead of "Project Parameter" and "Type Parameter" in order that the information input in models can be extracted for QTO purpose.

9. For void/ opening, it is suggested to use regular opening family (i.e. Generic Model) available in Revit Libraries with dimensional information provided. "Edit Profile" mode is not suggested to be used, unless unavoidable.

10. It is suggested not to have void/ opening for "extra over" items listed in the Standards. Otherwise, it is recommended to have an "Instance Parameter" for "Opening" with Boolean (Yes/ No) option to be added under "Additional Attribute" for indication.

11. It is suggested to modify the "Constraints" and "Offsets" parameters in "Properties dialog" in controlling the top and base of the Wall. "Edit Profile" mode is not suggested to be used, unless unavoidable.

12. Unless otherwise stated, the location line of all model objects under “Wall" category shall be “Wall Centerline”.

13. It is suggested to have “Coding/ Equipment ID” for finishing, door, window, furniture, equipment etc., which are highlighted in red in the Standards for identification.

Special Notes for Section 1: Concrete Works & Brickwork and Blockwork

1.1 The top level of structural columns and walls is attached to the structural floor level instead of the bottom of structural floor slabs.

The geometry of structural columns and walls shall be joined with horizontal elements where the structural columns and walls take priority order.

1.2 The top level of non-structural walls is attached to the bottom of structural beams/ floor slabs.

The geometry of non-structural walls shall be joined with the horizontal elements where the horizontal elements take priority order.

1.3 The geometry of structural beams shall be joined with the structural floor slabs where the structural floor slabs take priority order.

Special Notes for Section 2: Wood Works

Nil

Special Notes for Section 3: Steel and Metal Works & Glazing

Nil

Special Notes for Section 4: Floor Finishes and Skirting

4.1 Sloping surface may be drawn in models either under the Category of “Floors”/ “Ramps”. It is suggested to have sloping surface drawn under the Category of “Floors”. However, if Category of “Ramps” is used, “Size on plan” is suggested to be added as the additional information.

4.2 Substrate to receive floor finishes, except in the case of painting, is not required as a separate model object according to the Standards. Nevertheless, it is suggested to have an instance parameter, “Screeding”, to be added to floor finishes for the indication of screeding type.

4.3 In the case of pavings with paint finishes, it is suggested to have an instance parameter under “Other” to be added to pavings for the indication of painting type.

4.4 It is suggested to have waterproofing as a separate model object. Otherwise, an instance parameter, “Waterproofing”, is recommended to be added to floor finishes for the indication of waterproofing type.

4.5 It is suggested to have insulation as a separate model object. Otherwise, an instance parameter, “Insulation”, is recommended to be added to floor finishes for the indication of insulation type.

Special Notes for Section 5: Wall Finishes

5.1 Substrate to receive wall finishes, except in the case of painting and wall paper, is not required as a separate model object according to the Standards. Nevertheless, it is suggested to have an instance parameter, “Screeding”, to be added to wall finishes for the indication of screeding type.

5.2 In the case of plastering/ rendering on wall/ column with paint/ wall paper finishes, it is suggested to have an instance parameter under “Other” to be added to plastering/ rendering for the indication of painting/ wall paper type.

5.3 In the case of plasterboard on wall and column with paint/ wall paper finishes, it is suggested to have an instance parameter under “Other” to be added to plasterboard for the indication of painting/ wall paper type.

5.4 It is suggested to have waterproofing as a separate model object. Otherwise, an instance parameter, “Waterproofing”, is recommended to be added to wall finishes for the indication of waterproofing type and height.

5.5 It is suggested to have acoustic lining as a separate model object. Otherwise, an instance parameter, “Acoustic lining”, is recommended to be added to wall finishes for the indication of the acoustic lining type.

Special Notes for Section 6: Ceiling Finishes

6.1 In the case of plasterboard lining/ plasterboard suspended ceiling/ vertical bulkhead with finishes (e.g. painting), it is suggested to have an instance parameter under “Other” to be added to plasterboard lining/ plasterboard suspended ceiling/ vertical bulkhead for the indication of finishes type.

6.2 In the case of rendering/ plastering on soffit of slab/ beam with finishes (e.g. painting), it is suggested to have an instance parameter under “Other” to be added to rendering/ plastering for the indication of finishes type.

Special Notes for Section 7: Mechanical Ventilation and Air Conditioning Installation

7.1 Pipe/ duct insulation is not required as a separate model object according to the Standards. Nevertheless, it is suggested to have an instance parameter, “Insulation”, to be added to pipework for the indication of insulation type and thickness.

7.2 Protective covering & finishing to pipe/ duct is not required as a separate model object according to the Standards. Nevertheless, it is suggested to have an instance parameter, “Protective covering & finishing”, to be added to pipework/ ductwork for the indication of protective covering & finishing type and thickness.

Special Notes for Section 8: Fire Services Installation

Nil

Special Notes for Section 9: Above Ground Plumbing and Drainage & Underground Drainage

9.1. Pipe insulation is not required as a separate model object according to the Standards. Nevertheless, it is suggested to have an instance parameter, “Insulation”, to be added to pipework for the indication of insulation type and thickness.

9.2. Protective covering & finishing to pipework is not required as a separate model object according to the Standards. Nevertheless, it is suggested to have an instance parameter, “Protective covering & finishing”, to be added to pipework for the indication of protective covering & finishing type and thickness.

Special Notes for Section 10: Electrical & ELV Installation

10.1. It is suggested to have the following items in the model due to Single Source Of Truth (SSOT):-
- i. Panel Schedules (i.e. MCCB/ MCB Schedules)
- ii. Circuit Diagram with size the type of cable specified

GUIDANCE NOTES FOR QUANTITY SURVEYORS

1. The 5D BIM Standards (hereinafter called "Standards") will provide a basis for discussion between the quantity surveyor (QS) and each design discipline to work out a practical approach amongst the stakeholders to develop a model that can serve different purposes including QTO and cost management. Deviations from the Standards can be agreed based on the result of collaborative discussions to suit the requirements of a particular project.

2. The modelling approach and graphical details are not mentioned in the Standards.

3. The measurement rules cited in the Standards are not exhaustive and are for information only. In any event the Hong Kong Standard Method of Measurement of Building Works – Fourth Edition Revised 2018 and the Preambles of each particular project should be referred to for all measurement rules.

4. Non-model based items are not mentioned in the Standards and the QS needs to bill those non-model based items by referencing specifications, detail drawings, installation details etc.

5. All columns in the ten Sections of the Standards under the heading "General BQ/SOR" highlighted blue are related to items in the Bills of Quantities (BQ) or Schedules of Quantities and Rates (SOR) prepared by QS, whereas all columns under the heading "Naming Convention" highlighted green are related to the corresponding naming convention suggested to be adopted by design consultants in models.

6. The sub-columns under the heading "General BQ/SOR" highlighted blue are described as follows:-

Sections for Architectural and Structural Works

(a) Element (By Bill): These are in general identical to the sections in Hong Kong Standard Method of Measurement of Building Works – Fourth Edition Revised 2018. These are also commonly used for the naming of individual BQ.

(b) Sub-element (By Heading): These are the headings usually adopted in individual BQ.

Sections for Building Services Installation

(c) System Name: These are commonly used for the naming of individual BQ.

(d) Sub-System Name: These are the headings usually adopted in individual BQ.

Sections for Architectural, Structural Works and Building Services Installation

(e) BQ/SOR Item: These are the bill items in individual BQ.

(f) Required Information: The information required by QS for billing the description of bill items. The item with wording in black is the information expected to be provided in models according to the Standards, i.e. the information can be found from the suggested naming convention, while the information with wording in blue will be found from the specification, detail drawings, installation details etc. by QS.

(g) Unit: The unit of measurement in BQ.

(h) HKSMM4R Section: The corresponding clause reference number used in Hong Kong Standard Method of Measurement of Building Works – Fourth Edition Revised 2018.

(i) RLB Preambles (Jun 2020) Clause: The corresponding clause reference number used in RLB's standard set of Preambles (Revision: June 2020).

7. All columns in the ten Sections of the Standards under the heading "Naming Convention" highlighted green are related to the suggested naming convention in ensuring the BIM objects are named systematically, logically and consistently for better understanding by model users and for easy BIM object management and information exchange. The suggestions may be varied to suit specific project needs and the practice of design consultants.

8. For the Additional Attribute under the Naming Convention, QS should request the design consultants to adopt "Shared Parameter" and "Instance Parameter" instead of "Project Parameter" and "Type Parameter" in order that the information input in models can be extracted for QTO purpose.

9. For void/ opening, QS should request the design consultants to use regular opening family (i.e. Generic Model) available in Revit Libraries with dimensional information provided. "Edit Profile" mode is not suggested to be used, unless unavoidable.

10. QS may propose to the design consultants that no void/ opening is to be created for all "extra over" items listed in the Standards. Otherwise, QS should request for an "Instance Parameter" for "Opening" with Boolean (Yes/ No) option to be added under "Additional Attribute" for indication of necessity of adding back of "extra over" quantities.

11. QS should request the design consultants to provide Coding/ Equipment ID for finishing, door, window, furniture, equipment etc., which are highlighted in red in the Standards for identification.

12. "Additional preambles (optional)" under "Remarks" are recommended for the QS's consideration to adopt for QTO purpose.

Special Notes for Section 1: Concrete Works & Brickwork and Blockwork

1.1 "Cut Length" should be referred for measurement of Beam instead of "Length".

1.2 "Area" and "Volume" should be referred for measurement of Wall instead of using "Length" and "Height" in calculation of wall area and wall volume.

1.3 Unless otherwise stated, the length of all model objects under "Wall" category shall be the length of centerline of the model object.

1.4 "Additional preambles (optional)" under "Remarks":-

Structural columns and walls are measured from the top surface of lower floor slabs to the top surface of upper floor slabs. Non-structural walls are measured from the top surface of lower floor slabs to the soffits of structural beams/ slabs.

Special Notes for Section 2: Wood Works

2.1 Unless otherwise stated, the length of all model objects under "Wall" category shall be the length of centerline of the model object.

2.2 Size of doors described in BQ may vary between private and government jobs. For government jobs, size may be referred to the size of structural opening. Whereas for private jobs, size may be referred to the size of door leaf.

Size of structural opening (Rough Width/ Rough Length) and door leaf (Width/ Length) are available according to the Standards. QS should retrieve the appropriate data according to the particular project requirements.

Special Notes for Section 3: Steel and Metal Works & Glazing

3.1 "Area" should be referred for measurement of Wall instead of using "Length" and "Height" in calculation of wall area.

3.2 Unless otherwise stated, the length of all model objects under "Wall" category shall be the length of centerline of the model object.

3.3 Size of doors described in BQ may vary between private and government jobs. For government jobs, size may be referred to the size of structural opening. Whereas for private jobs, size may be referred to the size of door leaf.

Size of structural opening (Rough Width/ Rough Length) and door leaf (Width/ Length) are available according to the Standards. QS should retrieve the appropriate data according to the particular project requirements.

Special Notes for Section 4: Floor Finishes and Skirting

4.1 Unless otherwise stated, the length of all model objects under "Wall" category shall be the length of centerline of the model object.

4.2 Sloping surface may be drawn in models either under the Category of "Floors"/ "Ramps". If Category of "Ramps" is used, no "Area" information under "Dimension Attribute" would be available in models. QS may propose to the design consultants to provide "Size on plan" for the calculation. However, if Category of "Floors" is used, "Area" under "Dimension Attribute" shall mean the actual area of that sloping surface.

4.3 Substrate to receive floor finishes, except in the case of painting, is not required as a separate model object according to the Standards. Nevertheless, QS should request for an instance parameter, “Screeding”, to be added to floor finishes for the indication of screeding type.

4.4 In the case of pavings with paint finishes, QS should request for an instance parameter under “Other” to be added to pavings for the indication of painting type.

4.5 QS may propose to the design consultants to have waterproofing as a separate model object. Otherwise, QS should request for an instance parameter, “Waterproofing”, to be added to floor finishes for the indication of waterproofing type.

4.6 QS may propose to the design consultants to have insulation as a separate model object. Otherwise, QS should request for an instance parameter, “Insulation”, to be added in floor finishes for the indication of insulation type.

4.7 “Additional preambles (optional)” under “Remarks”:-

Floors have not been given separately to slopes ≤ 15 degrees from horizontal and to slopes > 15 degrees from horizontal but given to slopes from horizontal without separation according to the degree of sloping.

Special Notes for Section 5: Wall Finishes

5.1 “Area” should be referred for measurement of Wall instead of using “Length” and “Height” in calculation of wall area.

5.2 Unless otherwise stated, the length of all model objects under “Wall” category shall be the length of centerline of the model object.

5.3 Substrate to receive wall finishes, except in the case of painting and wall paper, is not required as a separate model object according to the Standards. Nevertheless, QS should request for an instance parameter, “Screeding”, to be added to wall finishes for the indication of screeding type.

5.4 In the case of plastering/ rendering on wall/ column with paint/ wall paper finishes, QS should request for an instance parameter under “Other” to be added to plastering/ rendering for the indication of painting/ wall paper type.

5.5 In the case of plasterboard on wall and column with paint/ wall paper finishes, QS should request for an instance parameter under “Other” to be added to plasterboard for the indication of painting/ wall paper type.

5.6 QS may propose to the design consultants to have waterproofing as a separate model object. Otherwise, QS should request for an instance parameter, “Waterproofing”, to be added in wall finishes for the indication of waterproofing type and height.

5.7 QS may propose to the design consultants to have acoustic lining as a separate model object. Otherwise, QS should request for an instance parameter, “Acoustic lining”, to be added to wall finishes for the indication of the acoustic lining type.

5.8 “Additional preambles (optional)” under “Remarks”:-

Work to walls and the like is measured to the area of the base from the finished floor level.

Special Notes for Section 6: Ceiling Finishes

6.1 “Area” should be referred for measurement of Wall instead of using “Length” and “Height” in calculation of wall area.

6.2 Unless otherwise stated, the length of all model objects under “Wall” category shall be the length of centerline of the model object.

6.3 In the case of plasterboard lining/ plasterboard suspended ceiling/ vertical bulkhead with finishes (e.g. painting), QS should request for an instance parameter under “Other” to be added to plasterboard lining/ plasterboard suspended ceiling/ vertical bulkhead for the indication of finishes type.

6.4 In the case of rendering/ plastering on soffit of slab/ beam with finishes (e.g. painting), QS should request for an instance parameter under "Other" to be added to rendering/ plastering for the indication of finishes type.

6.5 "Additional preambles (optional)" under "Remarks":-

Work to ceilings is measured to the area between finished walls, deductions for columns and the like are measured the finished size. Hence, the floor area may not be equal to the ceiling area.

Special Notes for Section 7: Mechanical Ventilation and Air Conditioning Installation

7.1 Pipe/ duct insulation is not required as a separate model object according to the Standards. Nevertheless, QS should request for an instance parameter, "Insulation", to be added to pipework for the indication of insulation type and thickness.

7.2 Protective covering & finishing to pipe/ duct is not required as a separate model object according to the Standards. Nevertheless, QS should request for an instance parameter, "Protective covering & finishing", to be added to pipework/ ductwork for the indication of protective covering & finishing type and thickness.

7.3 "Additional preambles (optional)" under "Remarks":-

The pipework is measured over short running lengths, but not through items of all in-line fittings, ancillaries, headings and trapping sets. All pipe fittings/ circular or oval ductwork fittings are all enumerated as individual units.

Special Notes for Section 8: Fire Services Installation

8.1 "Additional preambles (optional)" under "Remarks":-

The pipework is measured over short running lengths, but not through items of all in-line fittings, ancillaries, headings and trapping sets. All pipe fittings are all enumerated as individual units.

Special Notes for Section 9: Above Ground Plumbing and Drainage & Underground Drainage

9.1. Pipe insulation is not required as a separate model object according to the Standards. Nevertheless, QS should request for an instance parameter, "Insulation", to be added to pipework for the indication of insulation type and thickness.

9.2. Protective covering & finishing to pipework is not required as a separate model object according to the Standards. Nevertheless, QS should request for an instance parameter, "Protective covering & finishing", to be added to pipework for the indication of protective covering & finishing type and thickness.

9.3. "Additional preambles (optional)" under "Remarks":-

The pipework is measured over short running lengths, but not through items of all in-line fittings, ancillaries, headings and trapping sets. All pipe fittings are all enumerated as individual units.

Special Notes for Section 10: Electrical & ELV Installation

10.1. QS may propose to the design consultants to have the following items in the model due to Single Source Of Truth (SSOT):-

i. Panel Schedules (i.e. MCCB/ MCB Schedules)
ii. Circuit Diagram with size and type of cable specified

SECTION 1: CONCRETE WORKS & BRICKWORK AND BLOCKWORK

Version 1.0

5D BIM STANDARDS																	
General BQ/SOR									Naming Convention								
									Standard Attribute (Naming)			Dimension Attribute	Materials and Finishes	Additional Attribute (Shared & Instance Parameter)		
Item	Element (By Bill)	Sub-element (By Heading)	BQ/ SOR Item	Required Information	Unit	HKSMM4R Section	RLB Preambles (Jun 2020) Clause		Category	General Heading (Family Name)	Item (Type Name)	Size	Material	Concrete Grade	Structural Usage	Other
Generally																	
All Openings should be modelled with "Generic Models" category. Also refer to Revit Libraries.									Generic Models	Openings	Size	Width & Height & Diameter	-	-	-	-
Concrete																	
1	Structural	Concrete Works	Columns	Columns	Type of concrete (e.g. reinforced concrete, waterproof reinforced concrete), Concrete grade	m^3	VII (a) 23	-	Structural Columns (Note: If the width of a column exceeds four times its thickness, it is classified as a wall)	Type of concrete (e.g. Reinforced concrete, Waterproof reinforced concrete) _Rectangular / Circular	Column size (b x h / diameter)	b & h & Diameter	Concrete	Concrete grade	-	-
2	Structural	Concrete Works	Structural Walls	Structural Walls	Wall type (e.g. wall, parapet wall, retaining wall), Type of concrete (e.g. reinforced concrete, waterproof reinforced concrete), Concrete grade, Wall thickness	m^3	VII (a) 22	-	Walls: Structural (Note: If the width of a column exceeds four times its thickness, it is classified as a wall)	System Family: Basic Wall	Structural wall _Type of concrete (e.g. Reinforced concrete, Waterproof reinforced concrete) _Thickness	Width (Thickness)	Concrete	Concrete grade	Wall type (e.g. Structural wall, Parapet wall, Retaining wall)	Special shape (e.g. Curved, stepped, irregular)
3	Structural	Concrete Works	Ground Beam	Ground Beam	Type of concrete (e.g. reinforced concrete, waterproof reinforced concrete), Concrete grade, Beam type (e.g. attached beams, isolated and upstand beams), Sloping ≤15° or >15°	m^3	VII (a) 19, 20, 20a	5.1.1 (a)	Structural Framing	Type of concrete (e.g. Reinforced concrete, Waterproof reinforced concrete)	Beam size (width x depth) (Note: Depth of beam includes the thickness of slabs)	b (Width) & h (Depth) & Reference Level & Start Level Offset & End Level Offset	Concrete	Concrete grade	Beam type (e.g. Ground beam, Attached beam, Isolated beam, Upstand Beam)	Special shape (e.g. Curved, Inclined, Tapered, Cranked)

SECTION 1: CONCRETE WORKS & BRICKWORK AND BLOCKWORK CONTINUED

Version 1.0

5D BIM STANDARDS																		
General BQ/SOR									Naming Convention									
									Standard Attribute (Naming)			Dimension Attribute	Materials and Finishes	Additional Attribute (Shared & Instance Parameter)				
Item	Element (By Bill)	Sub-element (By Heading)	BQ/ SOR Item	Required Information	Unit	HKSMM4R Section	RLB Preambles (Jun 2020) Clause		Category	General Heading (Family Name)	Item (Type Name)	Size	Material	Concrete Grade	Structural Usage	Other		
Concrete																		
4	Structural	Concrete Works	Beam	Beam / Transfer Beam / Attached Beam / Isolated Beam / Upstand Beam	Type of concrete (e.g. reinforced concrete, waterproof reinforced concrete), Concrete grade, Sloping ≤15° or >15°	m^3	VII (a) 19, 20, 20a	5.1.1 (a)	Structural Framing	Type of concrete (e.g. Reinforced concrete, Waterproof reinforced concrete)	Beam size (width x depth) (Note: Depth of beam includes the thickness of slabs)	b (Width) & h (Depth) & Reference Level & Start Level Offset & End Level Offset	Concrete	Concrete grade	Beam type (e.g. Beam, Transfer beam, Attached beam, Isolated beam, Upstand Beam)	Special shape (e.g. Curved, Inclined, Tapered, Cranked)	
5	Structural	Concrete Works	Transfer Plate	Transfer Plate	Type of concrete (e.g. reinforced concrete, waterproof reinforced concrete), Concrete grade, Transfer plate thickness, Sloping ≤15° or >15°	m^3	VII (a) 18a	-	Floor: Structural	System Family: Floor (Default)	Transfer Plate _Type of concrete (e.g. Reinforced concrete, Waterproof reinforced concrete) _Thickness	Thickness & Level & Slope	Concrete	Concrete grade	-	-		
6	Structural	Concrete Works	Ground Slab	Ground Slab	Type of concrete (e.g. reinforced concrete, waterproof reinforced concrete), Concrete grade, Slab thickness, Sloping ≤15° or >15°	m^3	VII (a) 17	-	Floor: Structural	System Family: Floor (Default)	Slab _Type of concrete (e.g. Reinforced concrete, Waterproof reinforced concrete) _Thickness	Thickness & Level & Slope	Concrete	Concrete grade	-	-		
7	Structural	Concrete Works	Suspended Slab	Suspended Slab	Type of concrete (e.g. reinforced concrete, waterproof reinforced concrete), Concrete grade, Slab thickness, Sloping ≤15° or >15°	m^3	VII (a) 17	-	Floor: Structural	System Family: Floor (Default)	Slab _Type of concrete (e.g. Reinforced concrete, Waterproof reinforced concrete) _Thickness	Thickness & Level & Slope	Concrete	Concrete grade	-	-		

SECTION 1: CONCRETE WORKS & BRICKWORK AND BLOCKWORK CONTINUED

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5D BIM STANDARDS																		
General BQ/SOR									Naming Convention									
									Standard Attribute (Naming)			Dimension Attribute	Materials and Finishes	Additional Attribute (Shared & Instance Parameter)				
Item	Element (By Bill)		Sub-element (By Heading)	BQ/ SOR Item	Required Information	Unit	HKSMM4R Section	RLB Preambles (Jun 2020) Clause	Category	General Heading (Family Name)	Item (Type Name)	Size	Material	Concrete Grade	Structural Usage	Other		
Concrete																		
8	Structural	Concrete Works	Coffered and Troughed Slabs	Coffered and Troughed Slabs	Type of concrete (e.g. reinforced concrete, waterproof reinforced concrete), Concrete grade, Slab thickness, Sloping ≤15° or >15°, Size of mould, Profile topping and ribs, Centres of moulds	m^3	VII (a) 18	-	Floor: Structural	System Family: Floor (Default)	Coffered and Troughed Slabs _Type of concrete (e.g. Reinforced concrete, Waterproof reinforced concrete) _Thickness	Thickness & Level & Slope	Concrete	Concrete grade	-	-			
9	Structural	Concrete Works	Staircases	Stairs	Type of concrete (e.g. reinforced concrete, waterproof reinforced concrete), Concrete grade	m^3	VII (a) 24	-	Stairs	Type of concrete (e.g. Reinforced concrete, Waterproof reinforced concrete)	Finishes code _Tread Depth x Riser Height	Desired Stair Height & Number of Risers & Riser Height & Tread Depth	-	Concrete grade	-	Staircase No.		
10	Structural	Concrete Works	Watertank	Suspended Slab	Type of concrete (e.g. reinforced concrete, waterproof reinforced concrete), Slab type (e.g. top slab, bottom slab), Concrete grade, Slab thickness	m^3	VII (a) 17	-	Floor: Structural	System Family: Floor (Default)	Watertank _Type of concrete (e.g. Reinforced concrete, Waterproof reinforced concrete) _Thickness	Thickness & Level	Concrete	Concrete grade	-	-		
11	Structural	Concrete Works	Watertank	Beam	Type of concrete (e.g. reinforced concrete, waterproof reinforced concrete), Concrete grade	m^3	VII (a) 19, 20, 20a	5.1.1 (a)	Structural Framing	Watertank _Type of concrete (e.g. Reinforced concrete, Waterproof reinforced concrete)	Beam size (width x depth) (Note: Depth of beam includes the thickness of slabs)	b (Width) & h (Depth)	Concrete	Concrete grade	-	-		

SECTION 1: CONCRETE WORKS & BRICKWORK AND BLOCKWORK CONTINUED

Version 1.0

5D BIM STANDARDS																	
General BQ/SOR								Naming Convention									
								Standard Attribute (Naming)			Dimension Attribute	Materials and Finishes	Additional Attribute (Shared & Instance Parameter)				
Item	Element (By Bill)	Sub-element (By Heading)	BQ/ SOR Item	Required Information	Unit	HKSMM4R Section	RLB Preambles (Jun 2020) Clause	Category	General Heading (Family Name)	Item (Type Name)	Size	Material	Concrete Grade	Structural Usage	Other		
Concrete																	
12	Structural	Concrete Works	Watertank	Walls	Type of concrete (e.g. reinforced concrete, waterproof reinforced concrete), Concrete grade, Wall thickness	m^3	VII (a) 22	-	Walls: Structural	System Family: Basic Wall	Watertank _Type of concrete (e.g. Reinforced concrete, Waterproof reinforced concrete) _Thickness	Width (Thickness)	Concrete	Concrete grade	-	-	
13	Architectural	Concrete Works	Internal Walls and Partitions	Walls	Wall type (e.g. wall, hanger wall), Type of concrete (e.g. reinforced concrete, waterproof reinforced concrete), Concrete grade, Wall thickness	m^3	VII (a) 22, (b) 2	5.1.1 (a), 5.2 (1), (2), (3)	Walls	System Family: Basic Wall	Internal wall _Type of concrete (e.g. Reinforced concrete, Waterproof reinforced concrete) _Thickness	Width (Thickness)	Concrete	Concrete grade	Wall type (e.g. Wall, Hanger wall)	Special shape (e.g. Curved, stepped, irregular)	
14	Architectural	Concrete Works	External Walls	Walls	Wall type (e.g. wall, parapet wall), Type of concrete (e.g. reinforced concrete, waterproof reinforced concrete), Concrete grade, Wall thickness	m^3	VII (a) 22, (b) 2	5.1.1 (a), 5.2 (1), (2), (3)	Walls	System Family: Basic Wall	External wall _Type of concrete (e.g. Reinforced concrete, Waterproof reinforced concrete) _Thickness	Width (Thickness)	Concrete	Concrete grade	Wall type (e.g. Wall, Parapet wall)	Special shape (e.g. Curved, stepped, irregular)	

SECTION 1: CONCRETE WORKS & BRICKWORK AND BLOCKWORK CONTINUED

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5D BIM STANDARDS																		
General BQ/SOR									Naming Convention									
									Standard Attribute (Naming)			Dimension Attribute	Materials and Finishes	Additional Attribute (Shared & Instance Parameter)				
Item	Element (By Bill)	Sub-element (By Heading)	BQ/ SOR Item	Required Information	Unit	HKSMM4R Section	RLB Preambles (Jun 2020) Clause		Category	General Heading (Family Name)	Item (Type Name)	Size	Material	Concrete Grade	Structural Usage	Other		
Concrete																		
15	Architectural	Concrete Works	Architectural Features	Concrete (Type of feature (e.g. projecting cills, coping))	Type (e.g. reinforced concrete, waterproof reinforced concrete), Concrete grade, Thickness	m^3	VII (a) 12, 13, 14, 15, 16	5.2 (1), (2), (3)	Walls	System Family: Basic Wall	Projecting cills / Coping _Type of concrete (e.g. Reinforced concrete, Watertight reinforced concrete) _Thickness	Width (Thickness)	Concrete	Concrete grade	-	-		
									Floors	System Family: Floor (Default)	Projecting cills / Coping _Type of concrete (e.g. Reinforced concrete, Watertight reinforced concrete) _Thickness	Thickness	-	-	-	-		
16	Architectural	Concrete Works	Sundry Concrete	Concrete (e.g. Lightweight Concrete/ Filling/ Plinth/ Machine base/ Curbs or similar Items)	Type of concrete (e.g. lightweight concrete, reinforced concrete, watertight reinforced concrete), Concrete grade	m^3	VII (a) 12, 13, 14, 15, 16	-	Floor	System Family: Floor (Default)	Lightweight Concrete / Filling / Plinth / Machine base / Curbs _Type of concrete (e.g. Lightweight concrete, Reinforced concrete, Watertight reinforced concrete) _Thickness	Thickness	Concrete	Concrete grade	-	-		
17	Structural	Concrete Works	Bridge Bearing Pads	Bridge Bearing Pads for Concrete Bridges, and the Like	Dimension (length, width, thickness), No. and size of holding down bolts	no.	VII (a) 32	-	Generic Models	Bridge Bearing Pads	Dimension (e.g. length x width x thickness)	-	-	-	-	-		

SECTION 1: CONCRETE WORKS & BRICKWORK AND BLOCKWORK CONTINUED

Version 1.0

5D BIM STANDARDS																	
General BQ/SOR									Naming Convention								
									Standard Attribute (Naming)			Dimension Attribute	Materials and Finishes	Additional Attribute (Shared & Instance Parameter)		
Item	Element (By Bill)	Sub-element (By Heading)	BQ/ SOR Item	Required Information	Unit	HKSMM4R Section	RLB Preambles (Jun 2020) Clause		Category	General Heading (Family Name)	Item (Type Name)	Size	Material	Concrete Grade	Structural Usage	Other
Concrete																
18	Structural	Concrete Works	Structural Movement Joints	In wall	Wall thinkness, Width of joint, Size and spacing of dowels, Joint filler material, Size of foam backer rod	m	VII (a) 27.1	5.1.1 (a), 5.2.4	Walls: Structural	System Family: Basic Wall	Structural movement joints _Width of joints	Length (Width of joint) & Width (Wall thickness) & Unconnected Height	-	-	-	-
19	Structural	Concrete Works	Structural Movement Joints	In suspended slab	Slab thinkness, Width of joint, Size and spacing of dowels, Joint filler material, Size of foam backer rod	m	VII (a) 27.3	5.1.1 (a), 5.2.4	Floor: Structural	System Family: Floor (Default)	Structural movement joints _Width of joints	Thickness	-	-	-	-
20	Structural	Concrete Works	Structural Movement Joints	Across Beams, Across Curbs, Similar Items	Dimension (length, width, height), Size and spacing of dowels, Joint filler material, Size of foam backer rod	no.	VII (a) 27.7-9	5.1.1 (a), 5.2.4	Structural Framing (For Beam case)	Structural movement joints	Width of joints	Cut Length (Width of joint) & b & h	-	-	-	-
									Floors (For Curb case)	System Family: Floor (Default)	Structural movement joints _Width of joints	Thickness	-	-	-	-
21	Structural	Concrete Works	Structural Movement Joints	Cover Strips, Cover Plates, Fire Stops	Width and/or thickness, Kind of material (e.g. aluminium, GMS etc.), Curved	m	VII (a) 29	-	Using the quantities of Stuctural Movement Joints: In wall, In suspended slab and Across Beams, Across Curbs, Similar Items							
22	Architectural	Concrete Works	Accessories and Sundry Items Cast Into In-Situ Concrete	Steel Angle Column Guard	Material (e.g. PVC, metal etc.), Overall dimension (length, width, height or diameter), Shape (if any)	no.	VII (a) 31	-	Generic Models	Column Guard _Type of material (e.g. PVC, Metal)	Overall dimension	-	-	-	-	-

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5D BIM STANDARDS																		
General BQ/SOR									Naming Convention									
									Standard Attribute (Naming)			Dimension Attribute	Materials and Finishes	Additional Attribute (Shared & Instance Parameter)				
Item	Element (By Bill)	Sub-element (By Heading)	BQ/ SOR Item	Required Information	Unit	HKSMM4R Section	RLB Preambles (Jun 2020) Clause		Category	General Heading (Family Name)	Item (Type Name)	Size	Material	Concrete Grade	Structural Usage	Other		
Precast Concrete Work (All Precast Concrete Works should be labelled with "Precast Concrete" under "Materials")																		
23	Architectural	Concrete Works	Precast Concrete Work	Refuse Chutes	Precast spun concrete - Internal diameter, Type (e.g. reinforced concrete, waterproof reinforced concrete), Concrete grade, Extreme sizes, Length, Shape, Size of walls, Joints, Internal surface, Finishing, Position	no.	-	-		Generic Models	Refuse chutes _Type of concrete (e.g. Reinforced concrete, Waterproof reinforced concrete)	Height	Chute diameter & Length (Extreme size) & Width (Extreme size)	Precast concrete	Concrete grade	-	-	
24	Architectural	Concrete Works	Precast Concrete Work	Bench	Overall Dimension (length, width, thickness), Type (e.g. reinforced concrete, watertight reinforced concrete), Concrete grade Reinforcement details, Shape, Finish, Cast-in accessories	no.	VII (e) 2	-		Furniture	Bench _Type of concrete (e.g. Reinforced concrete, Watertight reinforced concrete)	Overall dimension	-	Precast concrete	Concrete grade	-	-	
25	Structural / Architectural	Concrete Works	Precast Concrete Work	Slabs, Façade Panels, Partition, Planters	Overall Dimension (length, width, thickness), Type (e.g. reinforced concrete, watertight reinforced concrete), Concrete grade Reinforcement details, Shape, Finish, Cast-in accessories	no.	VII (e) 2	-		Follow the naming convention of respective objects: Slabs → Suspended Slab Façade Panels → External Walls Partition → Internal Walls Planters → External Walls				Precast concrete	Concrete grade	-	-	

SECTION 1: CONCRETE WORKS & BRICKWORK AND BLOCKWORK CONTINUED

Version 1.0

5D BIM STANDARDS																		
General BQ/SOR									Naming Convention									
									Standard Attribute (Naming)			Dimension Attribute	Materials and Finishes	Additional Attribute (Shared & Instance Parameter)			
Item	Element (By Bill)	Sub-element (By Heading)	BQ/ SOR Item	Required Information	Unit	HKSMM4R Section	RLB Preambles (Jun 2020) Clause		Category	General Heading (Family Name)	Item (Type Name)	Size	Material	Concrete Grade	Structural Usage	Other
Precast Concrete Work (All Precast Concrete Works should be labelled with "Precast Concrete" under "Materials")																		
26	Architectural	Concrete Works	Precast Concrete Work	Bollards, Posts	Overall Dimension (length, width, thickness), Type (e.g. reinforced concrete, watertight reinforced concrete), Concrete grade, Reinforcement details, Shape, Finish, Cast-in accessories	no.	VII (e) 2	-		Columns	Bollards / Posts _Type of concrete (e.g. Reinforced concrete, Watertight reinforced concrete)	Column size (b x h / diameter)	b & h & Diameter	Precast concrete	Concrete grade	-	-	
27	Structural / Architectural	Concrete Works	Precast Concrete Work	Steps and Landings	Overall Dimension (length, width, height), Type (e.g. reinforced concrete, watertight reinforced concrete), Concrete grade, Reinforcement details, Sloping, curved, No. of risers, Waist thickness, Open string with curb, Finish	no.	VII (e) 5	-		Stairs	Type of concrete (e.g. Reinforced concrete, Watertight reinforced concrete)	Finishes code _Tread Depth x Riser Height	Desired Stair Height & Number of Risers & Riser Height & Tread Depth	Precast concrete	Concrete grade	-	Staircase No.	
28	Architectural	Concrete Works	Precast Concrete Work	Channel Covers	Overall Dimension (width), Type (e.g. reinforced concrete, watertight reinforced concrete), Concrete grade, Reinforcement, Shape (e.g. curved)	m	VII (e) 7	-		Using the quantities of Section 9: Surface channels (Additional Attributes: Others)								
29	Architectural	Concrete Works	Precast Concrete Work	Path Edgings, Road Kerbs, Dropper Kerbs	Overall Dimension (length, width, height), Type (e.g. reinforced concrete, watertight reinforced concrete), Concrete grade, Reinforcement, Shape (e.g. straight, curved, straight laid to curve)	m / no.	VII (e) 8	-		Floors	System Family: Floor (Default)	Path edgings / Road kerbs / Dropper kerbs _Type (e.g. Reinforced concrete, Watertight reinforced concrete) _Thickness	Thickness (Height)	Precast concrete	Concrete grade	-	Curved	

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5D BIM STANDARDS																		
General BQ/SOR									Naming Convention									
									Standard Attribute (Naming)			Dimension Attribute	Materials and Finishes	Additional Attribute (Shared & Instance Parameter)			
Item	Element (By Bill)	Sub-element (By Heading)	BQ/ SOR Item	Required Information	Unit	HKSMM4R Section	RLB Preambles (Jun 2020) Clause		Category	General Heading (Family Name)	Item (Type Name)	Size	Material	Concrete Grade	Structural Usage	Other	
Precast Concrete Work (All Precast Concrete Works should be labelled with "Precast Concrete" under "Materials")																		
30	Architectural	Concrete Works	Precast Concrete Work	Protective Cover Slabs to Building Services Pipes, Cables etc.	Overall Dimension (width, thickness), Type (e.g. reinforced concrete, watertight reinforced concrete), Concrete grade, Required marking	m	VII (e) 9	-	Floors	System Family: Floor (Default)	Protective cover slabs _Type (e.g. Reinforced concrete, Watertight reinforced concrete) _Thickness	Thickness	Precast concrete	Concrete grade	-	-		
Precast Prestressed Concrete Work																		
31	Structural	Concrete Works	Precast Prestressed Concrete Work	Precast Units	Size, Length stated, Concrete grade, Surface finish (e.g. fair on exposed surface), Prestressed method (e.g. post-tensioned in the mould, post-tensioned on the ground after casting, cast in sections for assembly in-situ and post-tensioned after erection, post-tensioned after hoisting etc.)	no.	VII (g) 2	-	Generic Models	Precast units _Precast type	Overall dimension	-	Precast prestressed concrete	Concrete grade	-	-		
Brickwork And Blockwork																		
32	Architectural	Brickwork and Blockwork	Brick Walls	Brick Wall	Wall thickness (e.g. one and a half brick thick, not a multiple of brick thick), Type (e.g. internal, external), Tapering walls with battering (e.g. one face, both faces), Size of brick (e.g. common brickwork), Bond (e.g. stretcher bond), Type of pointing, Special layout (e.g. circular on plan)	m^2	VIII (a) 2	6.2 (1), (2), (3), (5), (8), (9)	Walls	System Family: Basic Wall	Internal / External _Brick Wall _Thickness	Width (Thickness)	-	-	-	Curved		

SECTION 1: CONCRETE WORKS & BRICKWORK AND BLOCKWORK CONTINUED

Version 1.0

5D BIM STANDARDS																	
General BQ/SOR								Naming Convention									
								Standard Attribute (Naming)			Dimension Attribute	Materials and Finishes	Additional Attribute (Shared & Instance Parameter)				
Item	Element (By Bill)	Sub-element (By Heading)	BQ/ SOR Item	Required Information	Unit	HKSMM4R Section	RLB Preambles (Jun 2020) Clause	Category	General Heading (Family Name)	Item (Type Name)	Size	Material	Concrete Grade	Structural Usage	Other		
Brickwork And Blockwork																	
33	Architectural	Brickwork and Blockwork	Brick Walls	Extra over brickwork for fair face	Type of face (e.g. general, built overhand, specified type (e.g. brand, colour))	m^2	VIII (a) 6	6.2 (1), (2), (3), (4)	Using the quantities of Brick Wall								
34	Architectural	Brickwork and Blockwork	Block Walls and Partitions	Concrete block, Hollow block, Patent block, Gypsum block	Wall thickness, Type (e.g. internal, external), Type of block, Size of block (e.g. length x width x height), Finish, Bond, Type of pointing, Curved	m^2	VIII (a) 12	6.1.1, 6.2 (1), (2), (5), (6), (7)	Walls	System Family: Basic Wall	Internal / External _Type of block (e.g. Concrete block, Hollow block, Patent block, Gypsum block) _Thickness	Width (Thickness)	-	-	-	Curved	
35	Architectural	Brickwork and Blockwork	Block Walls and Partitions	Glass block walls and panels	Wall thickness, Type (e.g. internal, external), Size of block (e.g. length x width x height), Bond, Type of pointing, Curved	m^2	VIII (a) 13	6.2 (1), (2), (5), (6), (7)	Walls	System Family: Basic Wall	Internal / External _Glass block wall _Thickness	Width (Thickness) & Unconnected Height	-	-	-	Curved	
36	Architectural	Brickwork and Blockwork	Block Walls and Partitions	Special bedding at the perimeter and reinforcement to joints to glass blocks	Bedding at perimeter, Reinforcement described	m	VIII (a) 13, 14	6.2 (1), (5)	Using the quantities of Glass block walls and panels								

Remarks
* Additional preambles (optional):
  - Section VII, Sub-section (a), Clause M.12 - Structural columns and walls are measured from the top surface of lower floor slabs to the top surface of upper floor slabs.
  - Section VII, Sub-section (a), Clause M.16 - Concrete walls are measured between columns or projections. Non-structural walls are measured from the top surface of lower floor slabs to the soffits of structural beams or slabs.

SECTION 2: WOOD WORKS

Version 1.0

5D BIM STANDARDS																		
General BQ/SOR									Naming Convention									
									Standard Attribute (Naming)			Dimension Attribute	Additional Attribute (Shared & Instance Parameter)				
Item	Element (By Bill)	Sub-element (By Heading)	BQ/ SOR Item	Required Information	Unit	HKSMM4R Section	RLB Preambles (Jun 2020) Clause		Category	General Heading (Family Name)	Item (Type Name)	Size	Fire Resistance Rating (FRR)	Acoustic Requirement	Insulation	Opening (e.g. access panel)[1]	Other
Structural Timber																		
Notwithstanding the requirements of the SMM the following departure has been made: Timbers exceeding 5 m in one continuous length have been given separately but the lengths have not been stated.							XIII (a) 2-11	11.1.1.1										
1	Structural	Wood Works	Structural Timber	Joists / beams / plates / purlins / rafters / ridge boards / posts / struts	Type of timber (e.g. sawn softwood, softwood, sawn hardwood, hardwood), Member size, Length in one continuous length (for over 5m)	m	XIII (a) 2-11	11.1	Structural Framing	Joists / Beams / Plates / Purlins / Rafters / Ridge boards / Posts / Struts _Type of timber (e.g. Sawn softwood, Softwood, Sawn hardwood, Hardwood, etc.)	Member size	-	-	-	-	-	-
Profiled Sheet Roof Coverings																		
Curved work has been measured separately but the radius / radii have not been stated.							XIII (f) M.2	11.5										
Raking and curved cutting has not been measured.							XIII (f) M.2	11.5										
2	Architectural	Wood Works	Profiled Sheet Roof Coverings	Roof coverings	Type, quality, size and thickness of materials for coverings (e.g. fibre cement profiled sheets, plastic profiled sheets, bitumen and fibre profiled sheets, thermoplastic sheet coverings, glass reinforced plastic claddings, etc.), Height of the work above ground, Thickness and spacing of structural supports, Minimum side and end laps, Required sloping, Corrugated and curved	m^2	XIII (f) 2-3	11.5	Roofs	System Family: Basic Roof	Type of coverings (e.g. Fibre cement profiled sheets, Plastic profiled sheets, Bitumen and fibre profiled sheets, Thermoplastic sheet coverings, Glass reinforced plastic claddings, etc.) _Size and thickness	Reference Level & Level Offset & Slope	-	-	-	Y/N	Corrugated and curved

SECTION 2: WOOD WORKS CONTINUED

Version 1.0

5D BIM STANDARDS																		
General BQ/SOR								Naming Convention										
								Standard Attribute (Naming)			Dimension Attribute	Additional Attribute (Shared & Instance Parameter)					
Item	Element (By Bill)	Sub-element (By Heading)	BQ/ SOR Item	Required Information	Unit	HKSMM4R Section	RLB Preambles (Jun 2020) Clause	Category	General Heading (Family Name)	Item (Type Name)	Size	Fire Resistance Rating (FRR)	Acoustic Requirement	Insulation	Opening (e.g. access panel)[1]	Other		
Profiled Sheet Roof Coverings																		
3	Architectural	Wood Works	Profiled Sheet Roof Coverings	Items measured extra over for roof coverings	Dimensioned description, Type (e.g. translucent sheets, sheets with soaker flanges, roof light units, sheets with louvre blades, ventilators, junctions)	no.	XIII (f) 20-21	11.5	Windows	Type (e.g. Roof light unit)	Type of coverings (e.g. Fibre cement profiled sheets, Plastic profiled sheets, Bitumen and fibre profiled sheets, Thermoplastic sheet coverings, Glass reinforced plastic claddings, etc.) _Dimension of roof light unit	-	-	-	-	-	-		
4	Architectural	Wood Works	Profiled Sheet Roof Coverings	Accessories (e.g. abutments, eaves, verges, ridges, hips, vertical angles, valleys, expansion joints, barge boards, skirtings, flashings, aprons and sills, gutters and linings, jambs, filler pieces, etc.)	Dimensioned cross-section description, Type of material (e.g. fibrous reinforced cement, glass fibre, wood brackets, laminated timber, plywood, etc.), Raking or required curved	m	XIII (f) 4-18, 23	11.5	Roofs	System Family: Basic Roof / Soffit / Fascia / Gutter	Accessories (e.g. Abutments, eaves, Verges, Ridges, Hips, Vertical angles, Valleys, Expansion joints, Barge boards, Skirtings, Flashings, Aprons and sills, Gutters and linings, Jambs, Filler pieces, etc.) _Type of material (e.g. Fibrous reinforced cement, Glass fibre, Wood brackets, Laminated timber, Plywood, etc.)	-	-	-	-	-	Raking / Curved		

SECTION 2: WOOD WORKS CONTINUED

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5D BIM STANDARDS																		
General BQ/SOR									Naming Convention									
									Standard Attribute (Naming)			Dimension Attribute	Additional Attribute (Shared & Instance Parameter)				
Item	Element (By Bill)	Sub-element (By Heading)	BQ/ SOR Item	Required Information	Unit	HKSMM4R Section	RLB Preambles (Jun 2020) Clause	Category	General Heading (Family Name)	Item (Type Name)	Size	Fire Resistance Rating (FRR)	Acoustic Requirement	Insulation	Opening (e.g. access panel)[1]	Other
Profiled Sheet Roof Coverings																		
5	Architectural	Wood Works	Profiled Sheet Roof Coverings	Accessories (e.g. flashings)	Dimensioned description, Type of material (e.g. fibrous reinforced cement, glass fibre, wood brackets, laminated timber, plywood, etc.), Method of fixing (e.g. to holes for pipes or others)	no.	XIII (f) 19	11.5	Roofs	System Family: Basic Roof / Soffit / Fascia / Gutter	Accessories (e.g. Flashing) _Type of material (e.g. Fibrous reinforced cement, Glass fibre, Wood brackets, Laminated timber, Plywood, etc.)	-	-	-	-	-	-
Partitions																		
6	Architectural	Wood Works	Partitions	Fixed partitions / Demountable partitions	Type of material (e.g. dry wall with single / double layer gypsum board / plasterboard / plywood / chipboard panel, fully glazed dry wall, semi-glazed partition, security partition with steel plate), Quality (e.g. manufacturer and specific product reference for proprietary product, level of security), Overall height including open framing or unfinished partitioning above ceilings being stated, Thickness, Type of framings, infill and coverings (e.g. glazing, laminated plastic sheeting, timber veneer, fabric sheeting, wall paper, hardwood / steel framing, durasteel sheeting, fibreglass insulation, rock wool infill, painting, factory or site applied), Required curve, FRR requirements, Insulation and acoustic requirements	m	XIII (g) 1-2	11.6	Walls	System Family: Basic Wall	Partition _Fixed / Demountable _Type of material (e.g. Dry wall with single/ double layer gypsum board/ plasterboard/ plywood/ chipboard panel, Fully glazed dry wall, Semi-glazed partition, Security partition with steel plate) _Thickness	Base Constraint & Unconnected Height (False Ceiling Height)	FRR Requirement (e.g. -/60/60)	Acoustic Requirement (e.g. STC35)	Insulation requirements (e.g. Fibreglass insulation, Rock wool infill)	Y/N	Curved

SECTION 2: WOOD WORKS CONTINUED

Version 1.0

5D BIM STANDARDS																		
General BQ/SOR									Naming Convention									
									Standard Attribute (Naming)			Dimension Attribute	Additional Attribute (Shared & Instance Parameter)				
Item	Element (By Bill)	Sub-element (By Heading)	BQ/ SOR Item	Required Information	Unit	HKSMM4R Section	RLB Preambles (Jun 2020) Clause		Category	General Heading (Family Name)	Item (Type Name)	Size	Fire Resistance Rating (FRR)	Acoustic Requirement	Insulation	Opening (e.g. access panel)[1]	Other
Partitions																		
7	Architectural	Wood Works	Partitions	Toilet cubicle partitions	Type of materials of partitions and framings (e.g. solid compact laminated panels, aluminium framing), Quality (e.g. manufacturer and specific product reference for proprietary product), Overall size on plan and height of partitions, No. of cubicles, Door and division panels, Required recessed / corner unit, Details of ironmongery	sets / no.	XIII (h) 2	11.7	Plumbing Fixtures	Toilet cubicle partition _Type of material (e.g. Solid compact laminated panels, Aluminium framing)	Overall size of cubicle partition (e.g. length x depth x height)	Overall Length & Overall Depth & Overall Height & No. of compartment	-	-	-	-	-
8	Architectural	Wood Works	Partitions	Proprietary office partitions	Type of materials, Quality (e.g. manufacturer and specific product reference) for proprietary office partitions and framings, Overall length, height and thickness of partitions, No. and size of doors and glazed panels, FRR requirement, Insulation and acoustic requirements, Details of integral metalwork, ducting and ironmongery	sets / no.	XIII (h) 3	11.7	Furniture	Proprietary office partition _Type of material	Overall size of partition (e.g. length x height x thickness)	Overall Length & Overall Height & Overall Thickness	FRR Requirement (e.g. -/60/60)	Acoustic Requirement (e.g. STC35)	Insulation requirements (e.g. Fibreglass insulation, Rock wool infill)	-	-

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5D BIM STANDARDS																		
General BQ/SOR								Naming Convention										
								Standard Attribute (Naming)			Dimension Attribute	Additional Attribute (Shared & Instance Parameter)					
Item	Element (By Bill)	Sub-element (By Heading)	BQ/ SOR Item	Required Information	Unit	HKSMM4R Section	RLB Preambles (Jun 2020) Clause	Category	General Heading (Family Name)	Item (Type Name)	Size	Fire Resistance Rating (FRR)	Acoustic Requirement	Insulation	Opening (e.g. access panel)[1]	Other
Partitions																
9	Architectural	Wood Works	Partitions	Sliding and folding partitions	Type of material (e.g. plywood / boarding, hollow / solid core, hardwood / aluminium / steel framing), Quality (e.g. manufacturer and specific product reference for proprietary products), No. of panel, Extreme width of each panel, Overall height including open framing or unfinished partitioning above ceilings being stated, Thickness, Required lipping / infill, Finishes (e.g. vinyl clothing, laminated plastic sheeting, timber veneer, fabric sheeting, wall paper, steel / aluminium facing panel, painting), Suspension system and top / middle / bottom rails, Required Curved, FRR requirement, Insulation and acoustic requirements, Details of ironmongery	sets / no.	XIII (g) 6	11.6	Walls	System Family: Basic Wall	Partition _Sliding / Folding _Type of material (e.g. Plywood / Boarding, Hollow / Solid core, Hardwood / Aluminium / Steel framing) _Thickness	Base Constraint & Unconnected Height (False Ceiling Height)	FRR Requirement (e.g. -/60/60)	Acoustic Requirement (e.g. STC35)	Insulation requirements (e.g. Fibreglass insulation, Rock wool infill)	Y/N	Curved
10	Architectural	Wood Works	Partitions	Trims and architraves for partitions (fixed on site at junctions of cubicles and partitions)	Type of material (e.g. sawn softwood, softwood, sawn hardwood, hardwood and teak), Member size	m	XIII (g) 3, (h) 5	11.6, 11.7	Walls	System Family: Wall Sweep	Trims / Architraves _Type of material (e.g. Sawn softwood, Softwood, Sawn hardwood, Hardwood, Teak)	Member size	-	-	-	-	-

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5D BIM STANDARDS																	
General BQ/SOR								Naming Convention									
								Standard Attribute (Naming)			Dimension Attribute	Additional Attribute (Shared & Instance Parameter)					
Item	Element (By Bill)	Sub-element (By Heading)	BQ/ SOR Item	Required Information	Unit	HKSMM4R Section	RLB Preambles (Jun 2020) Clause	Category	General Heading (Family Name)	Item (Type Name)	Size	Fire Resistance Rating (FRR)	Acoustic Requirement	Insulation	Opening (e.g. access panel)[1]	Other
Partitions																	
11	Architectural	Wood Works	Partitions	Items and openings measured extra over	Type and overall size of openings (e.g. blank openings), Size of hardwood solid / hollow core flush doors, steel / aluminium / glazed doors, windows, access panels, etc.)	no.	XIII (g) 4-5, (h) 4	11.6, 11.7	Generic Models / Doors / Windows	Opening / Door / Window / Access panel _Type of material	Partition _Fixed / Demountable / Sliding and folding partition _Door / Window / Access panel Code _Size of opening / door / window / access panel	Width & Height	-	-	-	-	-
Doors, Hatches, Ventilators and the like and Frames and Linings																	
The extreme width of each leaf of folding doors has not been stated but the overall size and the number of leaves in each door has been stated.							XIII (i) M.1	11.8.1.1									
All non-fire rated doors are complete with door trims and architraves. Door trims and architraves have not been measured separately but deemed to be included in the rates of doors.							XIII (i) 1-3, 7	11.8.1.1									
The number of leaves in a door will be described. Therefore one single-leaf door has been billed as "1 Set" and so has one double-leaf door. The same principle equally applies to door of other types.							XIII (i) 1-3	11.8.1.1									
The number of panels have been given but not their individual sizes. The numbers and sizes of glazed and/or louvred panels have been given. Sizes given are that for sizes of structural openings.							XIII (i) 1-3	11.8.1.1									

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5D BIM STANDARDS																		
General BQ/SOR									Naming Convention									
									Standard Attribute (Naming)			Dimension Attribute	Additional Attribute (Shared & Instance Parameter)				
Item	Element (By Bill)	Sub-element (By Heading)	BQ/ SOR Item	Required Information	Unit	HKSMM4R Section	RLB Preambles (Jun 2020) Clause		Category	General Heading (Family Name)	Item (Type Name)	Size	Fire Resistance Rating (FRR)	Acoustic Requirement	Insulation	Opening (e.g. access panel)[1]	Other
Doors, Hatches, Ventilators and the like and Frames and Linings																		
12	Architectural	Wood Works	Doors, Hatches, Ventilators and the like and Frames and Linings	Doors and frames (e.g. flush, framed and panelled and fire rated doors and frames, service hatches / duct access doors / panels and trapdoors and frames, etc.)	Type of material (e.g. wrot hardwood solid door, hollow / solid core flush door, plastic) of doors and frames, Size[2] and thickness of door leaves, No. of leaves, Glazing details, Opening type (e.g. swing, sliding etc.), FRR and acoustic requirement, Finishes (e.g. boarding, laminated plastic, plywood) for the faces of door, Size and numbers of louvre, Smoke seals and intumescent strips, Tested to BS stated	sets / no.	XIII (i) 1-3	11.8.1		Doors	Door _Type of material (e.g. Wrot hardwood solid door, Hollow / Solid core flush door, Plastic) _No. of leave _Opening type (e.g. Swing, Sliding)	Door Code _Size[2]	Rough Width (Structural Opening Width) & Rough Height (Structural Opening Height) & Width (Door Leaf Width) & Height (Door Leaf Height) & Thickness	FRR Requirement (e.g. -/60/60)	Acoustic Requirement (e.g. STC35)	-	-	Glazing Louvre
13	Architectural	Wood Works	Doors, Hatches, Ventilators and the like and Frames and Linings	Louvres	Type of material (e.g. wrot hardwood, softwood and teak) of louvres, blades and frames, Overall size of louvres including frame, Spacing, thickness and width of blades and sectional size of frames, FRR requirement	no.	XIII (i) 4	11.8.1		Windows	Louvre _Type of material (e.g. Wrot hardwood, Softwood and teak)	Louvre Code _Overall size (e.g. width x height)	Width & Height	FRR Requirement (e.g. -/60/60)	-	-	-	-

SECTION 2: WOOD WORKS CONTINUED

Version 1.0

5D BIM STANDARDS																		
General BQ/SOR									Naming Convention									
									Standard Attribute (Naming)			Dimension Attribute	Additional Attribute (Shared & Instance Parameter)					
Item	Element (By Bill)		Sub-element (By Heading)	BQ/ SOR Item	Required Information	Unit	HKSMM4R Section	RLB Preambles (Jun 2020) Clause	Category	General Heading (Family Name)	Item (Type Name)	Size	Fire Resistance Rating (FRR)	Acoustic Requirement	Insulation	Opening (e.g. access panel)[1]	Other
Furniture, Fittings, Shelving, Racks, Playground Equipment etc.																		
14	Architectural	Wood Works	Furniture, Fittings, Shelving, Racks, Playground Equipment etc.	Furniture / fittings / shelving / racks / Cabinet, etc.	Type of material (e.g. plywood, plasterboard, boarding, compact laminate panels, recycled plastic, glass fibre, metal framing), Quality (e.g. manufacturer and specific product reference for proprietary products), Overall size of furniture and fittings, No. and thickness of components (e.g. doors, drawers, trays, glass panels), Size of openings, Details of ironmongery, finishes and surface treatments (e.g. screen fabric, synthetic leather, laminated plastic, solid surfacing materials, granite, painting)	no.	XVIII (k) 1-6, 8	11.9.1	Furniture (Note: Sanitary Fitting should be a separate object)	Furniture / Fittings / Shelving / Racks, etc. _Type of material (e.g. Plywood, Plasterboard, boarding, Compact laminate panels, Recycled plastic, Glass fibre, Metal framing)	Furniture Code _Overall size (e.g. length x width x height)	-	-	-	-	-	-
15	Architectural	Wood Works	Furniture, Fittings, Shelving, Racks, Playground Equipment etc.	Playground equipment	Type of material Quality (e.g. manufacturer and specific product reference for proprietary playground equipment), Overall size of playground equipment, No. and size of components	no.	XVIII (k) 7	11.9.1	Furniture	Playground equipment _Type of material	Furniture Code _Overall size (e.g. length x width x height)	-	-	-	-	-	-

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5D BIM STANDARDS																		
General BQ/SOR									Naming Convention									
									Standard Attribute (Naming)			Dimension Attribute	Additional Attribute (Shared & Instance Parameter)				
Item	Element (By Bill)	Sub-element (By Heading)	BQ/ SOR Item	Required Information	Unit	HKSMM4R Section	RLB Preambles (Jun 2020) Clause		Category	General Heading (Family Name)	Item (Type Name)	Size	Fire Resistance Rating (FRR)	Acoustic Requirement	Insulation	Opening (e.g. access panel)[1]	Other
Ironmongery																		
Locks which are included in a master keying suites have not been so described but locks which are in a master keying suites have been given as an 'Item' with the number of locks stated in the 'Item'. Dowels have not been measured but have been included with the items where they are used for fixing.						XIV 2 & 7	12.1.1											
16	Architectural	Ironmongery	Ironmongery	Hinges / bolts / door and drawer handles / locks and latches including furniture / door fittings / cupboard fittings / door closers / panic exit devices / hat and coat hooks / shelf fitting / curtain tracks / sliding / folding door gear / toilet fittings etc.	Material type and details of ironmongery (e.g. manufacturer and specific product reference)	no. / sets	XIV 2-3	12.1	Using the quantity of Ironmongery Schedule or Hyperlink to Database etc.									

Remarks
1 Size of the opening should be referred to the properties of the model object (e.g. access panel, extra over items).
2 For Government jobs, Size may be referred to the size of structural opening. For private jobs, Size may be referred to the size of door leaf.

SECTION 3: STEEL AND METAL WORKS & GLAZING

Version 1.0

5D BIM STANDARDS																		
General BQ/SOR								Naming Convention										
								Standard Attribute (Naming)			Dimension Attribute	Additional Attribute (Shared & Instance Parameter)						
Item	Element (By Bill)	Sub-element (By Heading)	BQ/ SOR Item	Required Information	Unit	HKSMM4R Section	RLB Preambles (Jun 2020) Clause	Category	General Heading (Family Name)	Item (Type Name)	Size	Fire Resistance Rating (FRR)	Acoustic Requirement	Insulation	Opening	Other		
Structural Steel																		
1	Structural	Steel and Metal Works	Structural Steel	Columns, beams, bracings, purlins and cladding rails, grillages, built-up columns, tresties and towers, built-up trusses and girders, overhead crane rails, fittings (e.g. joists, channels, angles, tees, tubular sections, plates, wires, cables, rods, bars etc.)	Type of steel (e.g. hot rolled steel), Grade of steel (e.g. S235, S275, S355), Member size (e.g. 356 x 406 x 634 kg/m)	kg	XV (a) 2 - 9, 11	13.2.1, 13.2.2	Structural Framing	Beams _Type of steel (e.g. Hot rolled steel) _Grade of steel (e.g. S235, S275, S355	Member size (e.g. 356 x 406)	Length	-	-	-	-	Surface treatment (e.g. Sprayed metal coating, Protective painting)		
2	Structural	Steel and Metal Works	Structural Steel	Holding down bolts or assemblies, special bolts or fasteners	Type, Size of bolts (e.g. M25 bolt 800 mm long)	no.	XV (a) 14 - 15	13.2.1.1	Structural Connections	Holding down bolts or assemblies / Special bolts or fasteners	-	Grade & Number of Bolts & Bolt Size & Bolt Length	-	-	-	-	-	
3	Structural	Steel and Metal Works	Structural Steel	Surface treatment - sprayed metal coating, protective painting	Surface preparation (e.g. intumescent fire resistance mastic coating), Number of coats, Thickness of coats, FRR requirement (e.g. -/60/60), Finishes	m^2	XV (a) 17	13.2.2 (4)	Using the quantities of Structural Steel									

SECTION 3: STEEL AND METAL WORKS & GLAZING CONTINUED

Version 1.0

5D BIM STANDARDS																		
General BQ/SOR								Naming Convention										
								Standard Attribute (Naming)			Dimension Attribute	Additional Attribute (Shared & Instance Parameter)						
Item	Element (By Bill)	Sub-element (By Heading)	BQ/ SOR Item	Required Information	Unit	HKSMM4R Section	RLB Preambles (Jun 2020) Clause	Category	General Heading (Family Name)	Item (Type Name)	Size	Fire Resistance Rating (FRR)	Acoustic Requirement	Insulation	Opening	Other		
Roofing and Flashings																		
4	Architectural	Steel and Metal Works	Roofing and Flashings etc.	Roof coverings, Gutters, valleys and coverings to hips and ridges, Aprons and flashings, Stepped flashings, Soakers, Weatherings to cornices, Gutters or damp proof courses to hollow walls, Linings to doors, walls and the like, Isolated strips at edges of asphalt felts	Material types (e.g. sheet lead / sheet copper), Thickness, Gauge, Underlays, Spacing, Lapping, On surface (e.g. flat, sloping, vertical), Fixing method, Curved	m^2	XV (c) 2 - 10	13.4.2 (1)	Roofs	System Family: Basic Roof / Soffit / Fascia / Gutter	Type of material (e.g. Sheet lead / Sheet copper) _Thickness / Gauge	Reference Level & Level Offset & Slope	-	-	-	Y/N	Curved		

SECTION 3: STEEL AND METAL WORKS & GLAZING CONTINUED

Version 1.0

5D BIM STANDARDS																		
General BQ/SOR								Naming Convention										
								Standard Attribute (Naming)			Dimension Attribute	Additional Attribute (Shared & Instance Parameter)						
Item	Element (By Bill)	Sub-element (By Heading)	BQ/ SOR Item	Required Information	Unit	HKSMM4R Section	RLB Preambles (Jun 2020) Clause	Category	General Heading (Family Name)	Item (Type Name)	Size	Fire Resistance Rating (FRR)	Acoustic Requirement	Insulation	Opening	Other		
Doors, Gates, Shutters, Grilles and Hatches																		
5	Architectural	Steel and Metal Works	Doors, Gates, Shutters, Grilles and Hatches	Doors, hatches	Material type of doors and frames (e.g. stainless steel grade 304 / 316, galvanised mild steel), Size[1] and thickness of door leaf, No. of leaves, Glazing type (e.g. single glazed, thickness of glazing, etc.) and details, Opening type (e.g. swing / sliding / folding), FRR and acoustic requirement, Finishes for the faces of door, Size and numbers of louvre, Smoke seals and intumescent strips, Tested to BS stated	no.	XV (d) 1, 3	-	Doors	Door _Type of material (e.g. Stainless steel grade 304 / 316, Galvanised mild steel) _No. of leave _Opening type (e.g. Swing, Sliding, Folding)	Door Code _Size[1]	Rough Width (Structural Opening Width) & Rough Height (Structural Opening Height) & Width (Door Leaf Width) & Height (Door Leaf Height) & Thickness	FRR requirement (e.g. -/60/60)	Acoustic requirement (e.g. STC35)	-	-	Glazing Louvre		

SECTION 3: STEEL AND METAL WORKS & GLAZING CONTINUED

Version 1.0

5D BIM STANDARDS																		
General BQ/SOR								Naming Convention										
								Standard Attribute (Naming)			Dimension Attribute	Additional Attribute (Shared & Instance Parameter)						
Item	Element (By Bill)	Sub-element (By Heading)	BQ/ SOR Item	Required Information	Unit	HKSMM4R Section	RLB Preambles (Jun 2020) Clause	Category	General Heading (Family Name)	Item (Type Name)	Size	Fire Resistance Rating (FRR)	Acoustic Requirement	Insulation	Opening	Other		
Doors, Gates, Shutters, Grilles and Hatches																		
6	Architectural	Steel and Metal Works	Doors, Gates, Shutters, Grilles and Hatches	Sliding folding partitions	Type of material (e.g. stainless steel grade 304 / 316, galvanised mild steel), Quality (e.g. manufacturer and specific product reference for proprietary products), No. of panel, Extreme width of each panel, Overall height including open framing or unfinished partitioning above ceilings being stated, Thickness, Required lipping / infill, Finishes (e.g. vinyl clothing, laminated plastic sheeting, timber veneer, fabric sheeting, wall paper, steel / aluminium facing panel, painting), Suspension system and top / middle / bottom rails, Required Curved, FRR requirement, Insulation and acoustic requirements, Details of ironmongery	no.	XV (d) 2	-	Walls	System Family: Basic Wall	Partition _Sliding / Folding _Type of material (e.g. Stainless steel grade 304 / 316, Galvanised mild steel) _Thickness	Base Constraint & Unconnected Height (False Ceiling Height)	FRR Requirement (e.g. -/60/60)	Acoustic Requirement (e.g. STC35)	Insulation requirements (e.g. Fibreglass insulation, Rock wool infill)	-	Curved		
7	Architectural	Steel and Metal Works	Doors, Gates, Shutters, Grilles and Hatches	Grilles, screens and louvres	Material types and frame (e.g. stainless steel grade 304 / 316, galvanised mild steel), Surface treatment (e.g. satin), Overall size including frame, FRR requirement	no.	XV (d) 5	-	Windows	Grilles / Screens / Louvres _Type of material (e.g. Stainless steel, Galvanised mild steel)	Window Code _Overall size (e.g. width x height)	Width & Height	FRR requirement (e.g. -/60/60)	-	-	-	-	

SECTION 3: STEEL AND METAL WORKS & GLAZING CONTINUED

Version 1.0

5D BIM STANDARDS																		
General BQ/SOR									Naming Convention									
									Standard Attribute (Naming)			Dimension Attribute	Additional Attribute (Shared & Instance Parameter)				
Item	Element (By Bill)	Sub-element (By Heading)	BQ/ SOR Item	Required Information	Unit	HKSMM4R Section	RLB Preambles (Jun 2020) Clause		Category	General Heading (Family Name)	Item (Type Name)	Size	Fire Resistance Rating (FRR)	Acoustic Requirement	Insulation	Opening	Other
Doors, Gates, Shutters, Grilles and Hatches																		
8	Architectural	Steel and Metal Works	Doors, Gates, Shutters, Grilles and Hatches	Gates	Material types of gates and frame (e.g. stainless steel grade 304 / 316, galvanised mild steel), Size, Operating type (e.g. automatic/ manual), No. of leaves, Opening type (e.g. swing / sliding), FRR requirement, Detail of ironmongery	no.	XV (d) 6	-		Doors	Gate _Type of material (e.g. Stainless steel grade 304 / 316, Galvanised mild steel) _No. of leaves _Opening type (e.g. Swing, Sliding)	Door Code _Size	Width & Height	FRR requirement (e.g. -/60/60)	-	-	-	Operating type (e.g. Automatic / Manual)
9	Architectural	Steel and Metal Works	Doors, Gates, Shutters, Grilles and Hatches	Rolling grilles, rolling shutters, folding shutters	Material types of shutters and frame (e.g. stainless steel grade 304 / 316, galvanised mild steel), Surface treatment (e.g. satin), Clear opening size, Operating type (e.g. automatic / manual), Shutter / grille hood, FRR requirement	no.	XV (d) 7, 8, 10	-		Doors	Rolling grilles / Rolling shutters / Folding shutters _Type of material (e.g. Stainless steel grade 304 / 316, Galvanised mild steel)	Door Code _Clear opening size	Width & Height	FRR requirement (e.g. -/60/60)	-	-	-	Operating type (e.g. Automatic / Manual)
10	Architectural	Steel and Metal Works	Doors, Gates, Shutters, Grilles and Hatches	Folding doors, collapsible gates	Material types of door and frame (e.g. stainless steel grade 304 / 316, galvanised mild steel), Surface treatment (e.g. satin), Clear opening size, Thickness of door leaf, FRR requirement	no.	XV (d) 9, 11	-		Doors	Door / Gate _Type of material (e.g. Stainless steel grade 304 / 316, Galvanised mild steel) _Opening type (e.g. Folding, Collapsible)	Door Code _Clear opening size	Width & Height & Thickness	FRR requirement (e.g. -/60/60)	-	-	-	-

SECTION 3: STEEL AND METAL WORKS & GLAZING CONTINUED

Version 1.0

5D BIM STANDARDS																		
General BQ/SOR									Naming Convention									
									Standard Attribute (Naming)			Dimension Attribute	Additional Attribute (Shared & Instance Parameter)				
Item	Element (By Bill)	Sub-element (By Heading)	BQ/ SOR Item	Required Information	Unit	HKSMM4R Section	RLB Preambles (Jun 2020) Clause		Category	General Heading (Family Name)	Item (Type Name)	Size	Fire Resistance Rating (FRR)	Acoustic Requirement	Insulation	Opening	Other
Framed Work, Stairs, Handrails and Balustrades																		
11	Architectural	Steel and Metal Works	Framed Work, Stairs, Handrails and Balustrades	Framed work - cat ladders	Material types and grade of frame (e.g. stainless steel grade 304 / 316, galvanised mild steel (welded and hot-dip galvanised), aluminium), External diameter of tubular member, Ladder rungs spacing, Fixing method, Surface treatment applied, Cage	m	XV (e) 2.3	13.5.1, 13.5.2 (1) (2)		Specialty Equipment	Cat ladders	Type of material (e.g. Stainless steel grade 304 / 316, Galvanised mild steel, Aluminium)	Height & Spacing (Ladder rungs spacing)	-	-	-	-	-
12	Architectural	Steel and Metal Works	Framed Work, Stairs, Handrails and Balustrades	Framed work - balustrades, railings, core-rails, handrails and tubular handrails	Material types and grade of frame (e.g. stainless steel grade 304 / 316, galvanised mild steel (welded and hot-dip galvanised), aluminium), External diameter of tubular member, Fixing method, Surface treatment applied, Height above ground, Shape of the balustrade / railings (straight / sloping / curved)	m	XV (e) 2.4, 2.5	13.5.1, 13.5.2 (1) (2) (3)		Railings	System Family: Railing	Balustrades / Railings / Core-rails / Handrails / Tubular Handrails _Railing type _Type of material (e.g. Stainless steel grade 304 / 316, Galvanised mild steel, Aluminium) _Height above ground	Railing Height (Height above ground) & Length	-	-	-	-	Sloping / Curved
13	Architectural	Steel and Metal Works	Framed Work, Stairs, Handrails and Balustrades	Brackets to framed work, Mat frames	Material types and grades (e.g. stainless steel grade 304 / 316, galvanised mild steel (welded and hot-dip galvanised), aluminium), Thickness	no.	XV (e) 3, 5, 6	13.5.1, 13.5.2 (1)		Using the quantities of Framed work - gratings / cat ladders / balustrades, railings, core-rails, handrails and tubular handrails and Mat								

SECTION 3: STEEL AND METAL WORKS & GLAZING CONTINUED

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5D BIM STANDARDS																		
General BQ/SOR									Naming Convention									
									Standard Attribute (Naming)			Dimension Attribute	Additional Attribute (Shared & Instance Parameter)				
Item	Element (By Bill)	Sub-element (By Heading)	BQ/ SOR Item	Required Information	Unit	HKSMM4R Section	RLB Preambles (Jun 2020) Clause		Category	General Heading (Family Name)	Item (Type Name)	Size	Fire Resistance Rating (FRR)	Acoustic Requirement	Insulation	Opening	Other
Framed Work, Stairs, Handrails and Balustrades																	
14	Architectural	Steel and Metal Works	Framed Work, Stairs, Handrails and Balustrades	Items measured extra over framed work	Type (e.g. braille plate, caps), Dimension, Material types and grade (e.g. stainless steel grade 304 / 316, galvanised mild steel (welded and hot-dip galvanised), aluminium)	no.	XV (e) 4	13.5.1, 13.5.2 (1)	Using the quantities of Framed work - gratings / cat ladders / balustrades, railings, core-rails, handrails and tubular handrails								
15	Architectural	Steel and Metal Works	Framed Work, Stairs, Handrails and Balustrades	Glazed metal balustrades	Material types and grade of frame (e.g. stainless steel grade 304 / 316, galvanised mild steel (welded and hot-dip galvanised), aluminium), Type of infill glass (e.g. laminated glass, tempered glass), Size and thickness of infill glass panel, Size of each member, External diameter of tubular member, Height above ground, Shape of the balustrade (straight / sloping / curved)	m	XV (e) 7	13.5.1, 13.5.2 (1) (2) (3)	Railings	System Family: Railing	Glazed metal balustrade _Railing type _Type of material (e.g. Stainless steel grade 304 / 316, Galvanised mild steel, Aluminium) _Height above ground	Railing Height (Height above ground) & Length	-	-	-	-	Sloping / Curved
Fencing and Gates																	
16	Architectural	Steel and Metal Works	Fencing and Gates	Post and wire fencing	Material types and grade (e.g. stainless steel grade 304 / 316, galvanised mild steel (welded and hot-dip galvanised), aluminium), Surface treatment, Fixing method, Height of fencing, Spacing, Height and depth of supports, Sloping	m	XV (f) 2	-	Railings	System Family: Railing	Fencing _Fencing type _Type of material (e.g. Stainless steel grade 304 / 316, Galvanised mild steel, Aluminium) _Height of fencing	Height of fencing & Spacing & Overall length	-	-	-	-	Sloping

SECTION 3: STEEL AND METAL WORKS & GLAZING CONTINUED

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5D BIM STANDARDS																		
General BQ/SOR									Naming Convention									
									Standard Attribute (Naming)			Dimension Attribute	Additional Attribute (Shared & Instance Parameter)				
Item	Element (By Bill)	Sub-element (By Heading)	BQ/ SOR Item	Required Information	Unit	HKSMM4R Section	RLB Preambles (Jun 2020) Clause		Category	General Heading (Family Name)	Item (Type Name)	Size	Fire Resistance Rating (FRR)	Acoustic Requirement	Insulation	Opening	Other
Sundries																		
17	Architectural	Steel and Metal Works	Sundries	Gratings to floor channels, surface water channels, angle frames to gratings for floor or surface water channels, gratings or grilles to openings, ventilators	Material types (e.g. cast iron, galvanised mild steel (welded and hot-dip galvanised), Width, Thickness and general length of sections, Construction method, Surface finishes and treatments	m	XV (h) 2 - 4	13.6.1	Using the quantities of Section 9: Surface channels (Additional Attributes: Others)									
18	Architectural	Steel and Metal Works	Sundries	Manhole covers and frames	Material types and grade (e.g. ductile iron, cast iron, galvanised mild steel (welded and hot-dip galvanised)) (e.g. class E600), Dimension and approximate weight, Opening size, Shape of cover and frame (rectangular/ circular/ double triangular), Duty (light/ medium/ heavy), Seal (single/ double), Pattern (e.g. recessed), Surface finishes and treatment	no.	XV (h) 5	13.6.1	Using the quantities of Section 9: Manhole and Manhole Schedule									

SECTION 3: STEEL AND METAL WORKS & GLAZING CONTINUED

Version 1.0

5D BIM STANDARDS																		
General BQ/SOR									Naming Convention									
									Standard Attribute (Naming)			Dimension Attribute	Additional Attribute (Shared & Instance Parameter)				
Item	Element (By Bill)	Sub-element (By Heading)	BQ/ SOR Item	Required Information	Unit	HKSMM4R Section	RLB Preambles (Jun 2020) Clause		Category	General Heading (Family Name)	Item (Type Name)	Size	Fire Resistance Rating (FRR)	Acoustic Requirement	Insulation	Opening	Other
Framed Work, Stairs, Handrails and Balustrades																		
19	Architectural	Steel and Metal Works	Sundries	Hinged covers to water tanks, step irons	Material types (e.g. ductile iron, cast iron, galvanised mild steel (welded and hot-dip galvanised)), Dimension, Opening type (e.g. sliding, swing), Fixing method, Lock plate and padlock, Setting and sealing compounds, Surface finishes and treatment	no.	XV (h) 6 - 7	13.6.1		Using the quantities of Water tanks									
20	Architectural	Steel and Metal Works	Sundries	Pressed, folded or extruded metal rails	Material types (e.g. stainless steel grade 304 / 316, galvanised mild steel (welded and hot-dip galvanised), aluminium), Dimension, Fixing method and background for fixing, Catalogue number (for proprietary items), Shape (straight / sloping / curved)	m	XV (h) 9	-	Railings	System Family: Railing	Railings _Railing type _Type of material (e.g. Stainless steel grade 304 / 316, Galvanised mild steel, Aluminium) _Height above ground	Railing Height (Height above ground) & Length	-	-	-	-	Sloping / Curved
Metal Profiled Sheet Roof Coverings and Wall Claddings																		
21	Architectural	Steel and Metal Works	Metal Profiled Sheet Roof Coverings and Wall Claddings	Roof coverings	Material type (e.g. aluminum, stainless steel grade 304 / 316, mild steel, etc.), Thickness, Curved, Pitch stated	m^2	XV (j) 2	13.8.1.1, 13.8.2(1) & (2)	Roofs	System Family: Basic Roof	Roof coverings _Finishes Code _Type of material (e.g. Aluminum, Stainless steel grade 304 / 316, Mild steel, etc.) _Thickness	Reference Level & Level Offset & Slope	-	-	-	Y/N	Sloping / Curved / Pitch

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5D BIM STANDARDS																		
General BQ/SOR								Naming Convention										
								Standard Attribute (Naming)			Dimension Attribute	Additional Attribute (Shared & Instance Parameter)					
Item	Element (By Bill)	Sub-element (By Heading)	BQ/ SOR Item	Required Information	Unit	HKSMM4R Section	RLB Preambles (Jun 2020) Clause	Category	General Heading (Family Name)	Item (Type Name)	Size	Fire Resistance Rating (FRR)	Acoustic Requirement	Insulation	Opening	Other
Metal Profiled Sheet Roof Coverings and Wall Claddings																
22	Architectural	Steel and Metal Works	Metal Profiled Sheet Roof Coverings and Wall Claddings	Wall claddings	Material type (e.g. aluminum, stainless steel grade 304 / 316, mild steel, etc.), Thickness, Shape of cladding (straight / sloping / curved), Pitch stated	m^2	XV (j) 3	13.8.1.1, 13.8.2(1) & (2)	Walls	System Family: Basic Wall	Wall claddings _Finishes Code _Type of material (e.g. Aluminum, Stainless steel grade 304 / 316, Mild steel, etc.) _Thickness	Base Constraint	-	-	-	Y/N	Sloping / Curved / Pitch
23	Architectural	Steel and Metal Works	Metal Profiled Sheet Roof Coverings and Wall Claddings	Accessories (e.g. abutments, eaves, verges, ridges, hips, vertical angles, valleys, expansion joints, barge boards, skirtings, flashings, aprons and sills, gutters and linings, jambs, filler pieces)	Material type (e.g. aluminum, stainless steel grade 304 / 316, mild steel, etc.), Thickness, Dimension, Curved / raked	m	XV (j) 4 - 18	13.8.1.1, 13.8.2(1) & (2)	Roofs	System Family: Basic Roof / Soffit / Fascia / Gutter	Accessories (e.g. Abutments, eaves, Verges, Ridges, Hips, Vertical angles, Valleys, Expansion joints, Barge boards, Skirtings, Flashings, Aprons and sills, Gutters and linings, Jambs, Filler pieces, etc.) _Type of material (e.g. Aluminum, Stainless steel, Mild steel, etc.)	-	-	-	-	-	Curved / Raked
24	Architectural	Steel and Metal Works	Metal Profiled Sheet Roof Coverings and Wall Claddings	Extra over roof coverings for forming e.g. translucent sheets, roof light, ventilators, etc.	Material type (e.g. aluminum, stainless steel grade 304 / 316, mild steel, etc.), Thickness, Dimension	no.	XV (j) 20	-	Windows	Type (e.g. Roof light) _Type of material (e.g. Aluminum, Stainless steel grade 304 / 316, Mild steel, etc.)	Roof coverings _Finishes Code _Overall size of roof light	Width & Height & Thickness	-	-	-	-	-

SECTION 3: STEEL AND METAL WORKS & GLAZING CONTINUED

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5D BIM STANDARDS																		
General BQ/SOR								Naming Convention										
								Standard Attribute (Naming)			Dimension Attribute	Additional Attribute (Shared & Instance Parameter)						
Item	Element (By Bill)	Sub-element (By Heading)	BQ/ SOR Item	Required Information	Unit	HKSMM4R Section	RLB Preambles (Jun 2020) Clause	Category	General Heading (Family Name)	Item (Type Name)	Size	Fire Resistance Rating (FRR)	Acoustic Requirement	Insulation	Opening	Other
Metal Profiled Sheet Roof Coverings and Wall Claddings																		
25	Architectural	Steel and Metal Works	Metal Profiled Sheet Roof Coverings and Wall Claddings	Extra over wall cladding for forming e.g. translucent sheets, sheets with louvre blades, etc.	Material type (e.g. aluminum, stainless steel grade 304 / 316, mild steel, etc.), Thickness, Dimension	no.	XV (j) 21	-	Windows	Type (e.g. Louvre) _Type of material (e.g. Aluminum, Stainless steel grade 304 / 316, Mild steel, etc.)	Wall claddings _Finishes Code _Overall size of louvre	Width & Height & Thickness	-	-	-	-	-
Partitions																		
26	Architectural	Steel and Metal Works	Partitions	Fixed partitions / Demountable partitions	Type of material (e.g. glazed screen, glazing), Quality (e.g. manufacturer and specific product reference for proprietary product, level of security), Overall height including open framing or unfinished partitioning above ceilings being stated, Thickness, Type of framings, infill and coverings (e.g. glazing, laminated plastic sheeting, timber veneer, fabric sheeting, wall paper, hardwood / steel framing, durasteel sheeting, fibreglass insulation, rock wool infill, painting, factory or site applied), Required curve, FRR requirements, Insulation and acoustic requirements	m	XV(k) 2-3	13.9.1(1)	Walls	System Family: Basic Wall	Partition _Fixed / Demountable _Type of material (e.g. Glazed screen, Glazing) _Thickness	Base Constraint & Unconnected Height (False Ceiling Height)	FRR Requirement (e.g. -/60/60)	Acoustic Requirement (e.g. STC35)	Insulation requirements (e.g. Fibreglass insulation, Rock wool infill)	Y/N	Curved

SECTION 3: STEEL AND METAL WORKS & GLAZING CONTINUED

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5D BIM STANDARDS																		
General BQ/SOR									Naming Convention									
									Standard Attribute (Naming)			Dimension Attribute	Additional Attribute (Shared & Instance Parameter)				
Item	Element (By Bill)	Sub-element (By Heading)	BQ/ SOR Item	Required Information	Unit	HKSMM4R Section	RLB Preambles (Jun 2020) Clause		Category	General Heading (Family Name)	Item (Type Name)	Size	Fire Resistance Rating (FRR)	Acoustic Requirement	Insulation	Opening	Other
Partitions																		
27	Architectural	Steel and Metal Works	Partitions	Toilet cubicle partitions	Type of materials of partitions and framings (e.g. solid compact laminated panels, aluminium framing), Quality (e.g. manufacturer and specific product reference for proprietary product), Overall size on plan and height of partitions, No. of cubicles, Door and division panels, Required recessed / corner unit, Details of ironmongery	sets / no.	XV(I) 2	13.10.1 (1) - (2)		Plumbing Fixtures	Toilet cubicle partition _Type of material (e.g. Solid compact laminated panels, Aluminium framing)	Overall size of cubicle partition (e.g. length x depth x height)	Overall Length & Overall Depth & Overall Height & No. of compartment	-	-	-	-	-
28	Architectural	Steel and Metal Works	Partitions	Proprietary office partitions	Type of materials, Quality (e.g. manufacturer and specific product reference) for proprietary office partitions and framings, Overall length, height and thickness of partitions, No. and size of doors and glazed panels, FRR requirement, Insulation and acoustic requirements, Details of integral metalwork, ducting and ironmongery	sets / no.	XV(I) 3	13.10.1 (1) - (2)		Furniture	Proprietary office partition _Type of material	Overall size of partition (e.g. length x height x thickness)	Overall Length & Overall Height & Overall Thickness	FRR Requirement (e.g. -/60/60)	Acoustic Requirement (e.g. STC35)	Insulation requirements (e.g. Fibreglass insulation, Rock wool infill)	-	-

SECTION 3: STEEL AND METAL WORKS & GLAZING CONTINUED

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5D BIM STANDARDS																		
General BQ/SOR									Naming Convention									
									Standard Attribute (Naming)			Dimension Attribute	Additional Attribute (Shared & Instance Parameter)				
Item	Element (By Bill)	Sub-element (By Heading)	BQ/ SOR Item	Required Information	Unit	HKSMM4R Section	RLB Preambles (Jun 2020) Clause		Category	General Heading (Family Name)	Item (Type Name)	Size	Fire Resistance Rating (FRR)	Acoustic Requirement	Insulation	Opening	Other
Partitions																		
29	Architectural	Steel and Metal Works	Partitions	Items and openings measured extra over	Type and overall size of openings (e.g. blank openings), Size of steel / aluminium / glazed doors, windows, access panels, etc.	no.	XV(k) 6, (l) 4	13.10.1 (1) & (2)	Generic Models / Doors / Windows	Opening / Door / Window / Access panel _Type of material (e.g. Steel, Aluminium, Glazed)	Partition _Fixed / Demountable partition _Door / Window / Access panel Code _Size of opening / door / window / access panel	Width & Height	-	-	-	-	-
Windows and Glazed Doors																		
30	Architectural	Steel and Metal Works	Windows and Glazed Doors	Windows	Material type (e.g. aluminum window, etc.), Window frame size, FRR requirement (e.g. -/60/60), Glazing type (e.g. single glazed, thickness of glazing, etc.) and details, No. of opening light	no.	XV (n) 2	13.12	Windows	Window _Type of material (e.g. Aluminium, etc.)	Window Code _Overall size (e.g. width x height)	Width & Height	FRR requirement (e.g. -/60/60)	-	-	-	-
31	Architectural	Steel and Metal Works	Windows and Glazed Doors	Glazed doors	Material type (e.g. aluminum framed glass door, etc.), Door leaf size[1], No. of leaves, FRR requirement (e.g. -/60/60), Glazing type (e.g. single glazed, thickness of glazing, etc.) and details, Operating type (e.g. automatic / manual)	no.	XV (n) 3	13.12	Doors	Door _Type of material (e.g. Aluminium framed glass door) _No. of leave	Door Code _Size[1]	Rough Width (Structural Opening Width) & Rough Height (Structural Opening Height) & Width (Door Leaf Width) & Height (Door Leaf Height)	FRR requirement (e.g. -/60/60)	-	-	-	Operating type (e.g. Automatic / Manual)

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5D BIM STANDARDS																		
General BQ/SOR								Naming Convention										
								Standard Attribute (Naming)			Dimension Attribute	Additional Attribute (Shared & Instance Parameter)						
Item	Element (By Bill)	Sub-element (By Heading)	BQ/ SOR Item	Required Information	Unit	HKSMM4R Section	RLB Preambles (Jun 2020) Clause	Category	General Heading (Family Name)	Item (Type Name)	Size	Fire Resistance Rating (FRR)	Acoustic Requirement	Insulation	Opening	Other		
Windows and Glazed Doors																		
32	Architectural	Steel and Metal Works	Windows and Glazed Doors	Composite metal windows and doors	Material type (e.g. aluminum composite window, and doors, etc.), Window / Door frame size, Door: opening type; Window: no. of opening light, FRR requirement (e.g. -/60/60), Glazing type (e.g. single glazed, thickness of glazing, etc.) and details	no.	XV (n) 4, 5, 6	13.12	Windows	Window _Type of material (e.g. Aluminium Composite, etc.)	Window Code _Overall size (e.g. width x height)	Width & Height	FRR requirement (e.g. -/60/60)	-	-	-	-		
33	Architectural	Steel and Metal Works	Windows and Glazed Doors	Metal louvres	Material type (e.g. aluminum, stainless steel grade 304 / 316, mild steel etc.), Louvre frame size, FRR requirement (e.g. -/60/60), Fixing method, Material finish	no.	-	13.12	Windows	Louvres _Type of material (e.g. Aluminum, Stainless steel, Mild steel etc.)	Louvre Code _Overall size (e.g. width x height)	Width & Height	FRR requirement (e.g. -/60/60)	-	-	-	-		
Shop Fronts																		
34	Architectural	Steel and Metal Works	Shop Fronts	Shop fronts (Linear measurement)	Material type (e.g. tempered glass, etc.), Overall height including open framing or unfinished partitioning above ceilings being stated, Profile of the shop front (straight / sloping / curved)	m	XV (o) 3	13.13.1(1)	Walls	System Family: Curtain Wall / Basic Wall	Shop front _Type of material (e.g. Tempered glass, etc.)	Base Constraint & Unconnected Height (False Ceiling Height)	-	-	-	Y/N	Sloping / Curved	
35	Architectural	Steel and Metal Works	Shop Fronts	Extra over shop fronts (e.g. door openings, other openings, etc.)	Material type (e.g. tempered glass, etc.), Opening size	no.	XV (o) 6	13.13.1(2)	Doors	Door _Type of material (e.g. Tempered glass, etc.)	Shop front _Door Code _Size of door	Width & Height	-	-	-	-	-	

SECTION 3: STEEL AND METAL WORKS & GLAZING CONTINUED

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5D BIM STANDARDS																	
General BQ/SOR								Naming Convention									
								Standard Attribute (Naming)			Dimension Attribute	Additional Attribute (Shared & Instance Parameter)					
Item	Element (By Bill)	Sub-element (By Heading)	BQ/ SOR Item	Required Information	Unit	HKSMM4R Section	RLB Preambles (Jun 2020) Clause	Category	General Heading (Family Name)	Item (Type Name)	Size	Fire Resistance Rating (FRR)	Acoustic Requirement	Insulation	Opening	Other
Curtain Walling																
36	Architectural	Steel and Metal Works	Curtain Walling	Curtain walling	Curtain wall type (e.g. flat, sloping, curved), Glazing type (e.g. single glazed, thickness of glazing, etc.) and details	m^2	XV (p) 2	13.14.1, 13.14.2(1) & (2)	Walls	System Family: Curtain Wall	Curtain wall _Wall Type	-	FRR requirement (e.g. -/60/60)	-	-	Y/N	Sloping / Curved
37	Architectural	Steel and Metal Works	Curtain Walling	Fins	Fins type, Material type (e.g. aluminum, glazed, etc.), Dimension, Profile	m	-	-	Curtain Panels	Fins _Type of material (e.g. Aluminium, Glazed, etc.)	Fins Type	Length	-	-	-	-	-
38	Architectural	Steel and Metal Works	Curtain Walling	Extra over curtain walling (opening lights, doors, etc.)	Type (e.g. opening lights, doors), Material type (e.g. aluminum, stainless steel grade 304 / 316, mild steel etc.), Glazing type, Dimension	no.	XV (p) 3	-	Windows / Doors	Window / Door _Type of material (e.g. Aluminum, Stainless steel, Mild steel etc.)	Curtain wall _Window Code / Door Code _Size of Window / Door	Width & Height	-	-	-	-	-
Furniture, Fittings, Shelving, Racks, Playground Equipment etc.																	
39	Architectural	Steel and Metal Works	Furniture, Fittings, Shelving, Racks, Playground Equipment etc.	Furniture, fittings, shelving, racks, etc.	Material type, Size, Background for fixing, Fixing method, Please specify furniture and equipment if using in external area	no.	XV (q) 2 - 6, 9	-	Furniture (Note: Sanitary Fitting should be a separate object)	Furniture / Fittings / Shelving / Racks _Type of material	Furniture Code _Overall size (e.g. length x width x height)	-	-	-	-	-	-
40	Architectural	Steel and Metal Works	Furniture, Fittings, Shelving, Racks, Playground Equipment etc.	Playground equipment	Material type, Overall size of playground equipment, No. and size of components	no.	XV (q) 7	-	Furniture	Playground equipment _Type of material	Furniture Code _Overall size (e.g. length x width x height)	-	-	-	-	-	-

SECTION 3: STEEL AND METAL WORKS & GLAZING CONTINUED

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5D BIM STANDARDS																		
General BQ/SOR									Naming Convention									
									Standard Attribute (Naming)			Dimension Attribute	Additional Attribute (Shared & Instance Parameter)				
Item	Element (By Bill)	Sub-element (By Heading)	BQ/ SOR Item	Required Information	Unit	HKSMM4R Section	RLB Preambles (Jun 2020) Clause		Category	General Heading (Family Name)	Item (Type Name)	Size	Fire Resistance Rating (FRR)	Acoustic Requirement	Insulation	Opening	Other
Furniture, Fittings, Shelving, Racks, Playground Equipment etc.																		
41	Architectural	Steel and Metal Works	Furniture, Fittings, Shelving, Racks, Playground Equipment etc.	Sign boards and signage	Material type, Dimension (e.g. length x height x thickness), Background for fixing, Fixing method (e.g. ceiling/ wall/ floor-mount)	no.	XV (q) 8	-		Specialty Equipment	Sign Board / Signage _Type of material	Signage Code _Dimension (e.g. length x height x thickness)	-	-	-	-	-	-
General Glazing (including Acrylic and Polycarbonate Sheets)																		
42	Architectural	Glazing	Glass Louvre	Glass Louvre	Material type (e.g. laminated glass, heat strengthened glass, etc.), Overall size, Dimension (i.e. width of louvre blades), Details of louvre blades, Nature of frame, Treatment on glazing is required or not (e.g. grinding / sandblasting / embossing / engraving), number of louvres blades stated	m	XX(a)3	-		Windows	Louvre _Material type (e.g. Laminated glass, Heat strengthened glass, etc.)	Louvre code _Overall size (e.g. width x height)	Width & Height	-	-	-	-	-
Glass Wall Linings, Floors, Balustrades and Parapets																		
43	Architectural	Glazing	Glass Wall Linings, Floors, Balustrades and Parapets	Glass balustrades and railings	Material type (e.g. laminated tempered glass, etc.), Height above ground, Shape of balustrade (straight / sloping / curved)	m	XX(b)4	18.2.1(2)		Railings	System Family: Railing	Glass balustrades / railings _Railing type _Type of material (e.g. Laminated tempered glass, etc.) _Height above ground	Railing Height (Height above ground) & Length	-	-	-	-	Sloping / Curved

SECTION 3: STEEL AND METAL WORKS & GLAZING CONTINUED

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5D BIM STANDARDS																	
General BQ/SOR									Naming Convention								
									Standard Attribute (Naming)			Dimension Attribute	Additional Attribute (Shared & Instance Parameter)				
Item	Element (By Bill)	Sub-element (By Heading)	BQ/ SOR Item	Required Information	Unit	HKSMM4R Section	RLB Preambles (Jun 2020) Clause		Category	General Heading (Family Name)	Item (Type Name)	Size	Fire Resistance Rating (FRR)	Acoustic Requirement	Insulation	Opening	Other
Mirrors, Glass Shelves and Sundry Glazing Works																	
44	Architectural	Glazing	Mirrors, Glass Shelves and Sundry Glazing Works	Mirrors	Material type (e.g. tempered glass, etc.), Thickness, Size, Type of edge (polished / bevelled edge)	no.	XX(c)2	18.3.1.1, 18.3.2(2)	Specialty Equipment	Mirror _Material type (e.g. Tempered Glass, etc.)	Dimension (e.g. width x height x thickness)	-	-	-	-	-	-
45	Architectural	Glazing	Mirrors, Glass Shelves and Sundry Glazing Works	Glass shelves	Material type (e.g. tempered glass, etc.), Thickness, Size, Type of edge (polished / bevelled edge), number of shelve stated	m	XX(c)3	18.3.1.1, 18.3.2(2)	Furniture	Shelves _Material type (e.g. Tempered glass, etc.)	Furniture Code _Dimension (e.g. width x height x thickness)	-	-	-	-	-	-
Ironmongery																	
46	Architectural	Ironmongery	Ironmongery	Pivot, Track, Spring, Hinge, Door closers, Handles, Door lock and latch, Flush bolts, Stops, Escutcheon, EM locks, etc.	Material type and details of ironmongery (e.g. manufacturer and specific product reference)	no. / sets	XV (d), XV (f) 6	12	Using the quantity of Ironmongery Schedule or Hyperlink to Database etc.								

Remarks
1 For Government jobs, Size may be referred to the size of structural opening. For private jobs, Size may be referred to the size of door leaf.

SECTION 4: FLOOR FINISHES AND SKIRTING

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5D BIM STANDARDS																	
General BQ/SOR								Naming Convention									
								Standard Attribute (Naming)				Dimension Attribute	Additional Attribute (Shared & Instance Parameter)				
Item	Element (By Bill)	Sub-element (By Heading)	BQ/ SOR Item	Required Information	Unit	HKSMM4R Section	RLB Preambles (Jun 2020) Clause	Category	General Heading (Family Name)	Item (Type Name)		Size	Screeding	Waterproofing[1]	Opening (e.g. floor drain)[2]		Other
Generally																	
	Architectural			Sloping surface	To Ramp[3b]	m^2			Floors[3a]	(Same naming convention as horizontal surface)							Sloping
	Architectural			Sloping surface	To Ramp[3b]	m^2			Floors[3a]	Ramp	Size on plan (length x width) = Additional information need to added		-	(Same naming convention as horizontal surface)			
Finishes																	
1	Architectural	Concrete Works	Surface Finishes	Flooring	Type of finish (e.g. tamped finish, trowelled finish, power float finish, expose aggregate finish, steel trowelled finish with surface hardner, etc.), To Slab/ To Ramp	m^2	-	-	Floors	System Family: Floor (Default)	Finishes _Finishes code _Type of finish (e.g. Tamped finish, Trowelled finish, Power float finish, Expose aggregate finish, Steel trowelled finish with surface hardner, etc.)		Level	-	-	Y/N	-
2	Architectural	Waterproofing[1]	Asphalt / Liquid Membrane / Felt Roofing / Sheet Membrane	Horizontal surface / Sloping surface / Roofing	Material (e.g.asphalt, bitumen coating, cementitious waterproof coating, liquid applied elastomeric waterproof membrane, polyurethane waterproof membrane, bitumen felt, PVC and TPO sheet membrane, etc.), Thickness, Nos. of coats, Laid on concrete surfaces or screed	m^2	X (a) - (d) 2.1 - 2.2	-	Floors[3]	System Family: Floor (Default)	Waterproofing _Material (e.g. Asphalt, Bitumen coating, Cementitious waterproof coating, Liquid applied elastomeric waterproof membrane, Polyurethane waterproof membrane, Bitumen felt, PVC and TPO sheet membrane, etc.) _Thickness		Level	-	-	Y/N	-

SECTION 4: FLOOR FINISHES AND SKIRTING CONTINUED

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5D BIM STANDARDS																
General BQ/SOR								Naming Convention								
								Standard Attribute (Naming)			Dimension Attribute	Additional Attribute (Shared & Instance Parameter)				
Item	Element (By Bill)	Sub-element (By Heading)	BQ/ SOR Item	Required Information	Unit	HKSMM4R Section	RLB Preambles (Jun 2020) Clause	Category	General Heading (Family Name)	Item (Type Name)	Size	Screeding	Waterproofing[1]	Opening (e.g. floor drain)[2]	Other
Finishes															
3	Architectural	Waterproofing[1]	Asphalt / Liquid Membrane	Skirting	Height, Stepped / Raking / Curved, Material (e.g.asphalt, bitumen coating, cementitious waterproof coating, liquid applied elastomeric waterproof membrane, polyurethane waterproof membrane, etc.), Thickness, Nos. of coats, Laid on concrete surfaces or screed	m	X (a) 5, (b) 5	-	Walls	System Family: Basic Wall	Waterproofing _Skirting _Material (e.g. Asphalt, Bitumen coating, Cementitious waterproof coating, Liquid applied elastomeric waterproof membrane, Polyurethane waterproof membrane, etc.) _Thickness	Base Constraint & Unconnected Height	-	-	-	Curved
4	Architectural	Waterproofing[1]	Felt Roofing / Sheet Membrane	Skirting and turn-ups	Height, Curved, Material (e.g.bitumen felt, PVC and TPO sheet membrane, etc.), Thickness, Nos. of coats, Laid on concrete surfaces or screed	m	X (c) 5, (d) 5	-	Walls	System Family: Basic Wall	Waterproofing _Skirting _Material (e.g. Bitumen felt, PVC and TPO sheet, etc.) _Thickness	Base Constraint & Unconnected Height	-	-	-	Curved
5	Architectural	Stone Works	Internal Floor Finishes and Skirting / External Floor Finishes and Skirting / Roof Finishes	Flooring	Size and thickness of each tile/ slab, Type of stone (e.g. marble, granite, etc.), Brand or PC rate, Bedded in / on / fixing method, Finishing (e.g. honed finish, natural finish, etc.), Laid in pattern, Horizontal / Sloping ≤ 15 degrees from horizontal / Sloping > 15 degrees from horizontal[4]	m^2	XI (b) 4 - 6	9.1	Floors[3]	System Family: Floor (Default)	Internal / External / Roof _Finishes _Finishes code _Type of stone (e.g. Marble, Granite, etc.) _Size and thickness of each tile / slab	Level & Thickness (i.e. Overall finishes thickness)	Type of screeds (e.g. Cement sand screed, Self-levelling screed, Waterproofed screed, etc.) _Laid to fall	Material (e.g. Asphalt, Bitumen coating, Cementitious waterproof coating, Liquid applied elastomeric waterproof membrane, Polyurethane waterproof membrane, Bitumen felt, PVC and TPO sheet membrane, etc.)	Y/N	-

SECTION 4: FLOOR FINISHES AND SKIRTING CONTINUED

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5D BIM STANDARDS																
General BQ/SOR								Naming Convention								
								Standard Attribute (Naming)			Dimension Attribute	Additional Attribute (Shared & Instance Parameter)				
Item	Element (By Bill)	Sub-element (By Heading)	BQ/ SOR Item	Required Information	Unit	HKSMM4R Section	RLB Preambles (Jun 2020) Clause	Category	General Heading (Family Name)	Item (Type Name)	Size	Screeding	Waterproofing[1]	Opening (e.g. floor drain)[2]	Other
Finishes																
6	Architectural	Stone Works	Internal Floor Finishes and Skirting / External Floor Finishes and Skirting / Roof Finishes	Skirting	Thickness of each tile/ slab, Height, Curved, Type of stone (e.g. marble, granite, etc.), Brand or PC rate, Bedded in / on / fixing method, Finishing (e.g. honed finish, natural finish, etc.)	m	XI (b) 11	9.1	Walls	System Family: Basic Wall	Internal / External / Roof _Skirting _Finishes code _Type of stone (e.g. Marble, Granite, etc.) _Thickness of each tile / slab	Base Constraint & Unconnected Height & Width (i.e. Overall finishes thickness)	Type of screeds (e.g. Cement sand screed, Self-levelling screed, Waterproofed screed, etc.) _Laid to fall	Material (e.g. Asphalt, Bitumen coating, Cementitious waterproof coating, Liquid applied elastomeric waterproof membrane, Polyurethane waterproof membrane, Bitumen felt, PVC and TPO sheet membrane, etc.)	-	Curved
7	Architectural	Wood Works	Internal Floor Finishes and Skirting / External Floor Finishes and Skirting / Roof Finishes	Timber flooring	Size and thickness, Type of wood (e.g. hardwood, maple, teakwood, etc.), Brand or PC rate, Bedded in / on / fixing method, Laid in pattern, Horizontal / Sloping, Polishing and other finishing	m^2	XIII (c) 1 - 4	19.1.1.3, 19.3	Floors[3]	System Family: Floor (Default)	Internal / External / Roof _Finishes _Finishes code _Type of wood (e.g. Hardwood, Maple, Teakwood, etc.) _Size and thickness	Level	-	-	Y/N	-
8	Architectural	Wood Works	Internal Floor Finishes and Skirting / External Floor Finishes and Skirting / Roof Finishes	Skirting	Thickness, Height, Curved, Type of wood (e.g. hardwood, maple, teakwood, etc.), Brand or PC rate, Bedded in / on / fixing method	m	XIII (c) 5	-	Walls	System Family: Basic Wall	Internal / External / Roof _Skirting _Finishes code _Type of wood (e.g. Hardwood, Maple, Teakwood, etc.) _Thickness	Base Constraint & Unconnected Height	-	-	-	Curved

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General BQ/SOR								Naming Convention								
								Standard Attribute (Naming)			Dimension Attribute	Additional Attribute (Shared & Instance Parameter)				
Item	Element (By Bill)	Sub-element (By Heading)	BQ/ SOR Item	Required Information	Unit	HKSMM4R Section	RLB Preambles (Jun 2020) Clause	Category	General Heading (Family Name)	Item (Type Name)	Size	Screeding	Waterproofing[1]	Opening (e.g. floor drain)[2]	Other	
Finishes																
9	Architectural	Wood Works	Internal Floor Finishes and Skirting / External Floor Finishes and Skirting	Access traps / Mat wells	Size, Thickness	no.	XIII (c) 8 - 9	-	Specialty Equipment	Access traps / Mat wells	Size and thickness	-	-	Material (e.g. Asphalt, Bitumen coating, Cementitious waterproof coating, Liquid applied elastomeric waterproof membrane, Polyurethane waterproof membrane, Bitumen felt, PVC and TPO sheet membrane, etc.)	-	-
10	Architectural	Wood Works	Internal Floor Finishes and Skirting / External Floor Finishes and Skirting	Raised access floors	Height of cavity, Size and thickness of panel, Type of wood (e.g. hardwood, maple, teakwood, etc.), Pattern, Supporting systems, Frames to panels, Method of fixing, Brand or PC rate, Horizontal / sloping	m^2	XIII (d) 1	-	Floors[3]	System Family: Floor (Default)	Internal / External _Raised access floors _Finishes code _Type of wood (e.g. Hardwood, Maple, Teakwood, etc.) _Size and thickness of panel	Level & Height Offset From Level	-	Material (e.g. Asphalt, Bitumen coating, Cementitious waterproof coating, Liquid applied elastomeric waterproof membrane, Polyurethane waterproof membrane, Bitumen felt, PVC and TPO sheet membrane, etc.)	Y/N	-	

SECTION 4: FLOOR FINISHES AND SKIRTING CONTINUED

Version 1.0

5D BIM STANDARDS																	
General BQ/SOR								Naming Convention									
								Standard Attribute (Naming)			Dimension Attribute	Additional Attribute (Shared & Instance Parameter)					
Item	Element (By Bill)	Sub-element (By Heading)	BQ/ SOR Item	Required Information	Unit	HKSMM4R Section	RLB Preambles (Jun 2020) Clause	Category	General Heading (Family Name)	Item (Type Name)	Size	Screeding	Waterproofing[1]	Opening (e.g. floor drain)[2]	Other		
Finishes																	
11	Architectural	Wood Works	Internal Floor Finishes and Skirting / External Floor Finishes and Skirting	Extra over the raised access floors for electrical and data panels, air grilles, diffusers, perforated panels and other special panels	Dimension	no.	XIII (d) 3	-	Generic Models	Finishes code _Electrical and data panels / Air grilles / Diffusers / Perforated panels / Other special panels	Internal / External _Raised access floors _Finishes code _Dimension	Level	-	-	-	-		
12	Architectural	Wood Works	Internal Floor Finishes and Skirting / External Floor Finishes and Skirting	Skirting and perimeter edge trim	Thickness, Height, Curved, Type of wood (e.g. hardwood, maple, teakwood, etc.), Brand or PC rate, Finishing	m	XIII (d) 4 - 5	-	Walls	System Family: Basic Wall	Internal / External _Raised access floors _Skirting _Finishes code _Type of wood (e.g. Hardwood, maple, Teakwood, etc.) _Thickness	Base Constraint & Unconnected Height	-	-	-	Curved		
13	Architectural	Steel and Metal Works	Internal Floor Finishes and Skirting / External Floor Finishes and Skirting	Access traps / Mat wells	Size, Thickness	no.	-	-	Specialty Equipment	Access traps / Mat wells	Size and thickness	-	-	Material (e.g. Asphalt, Bitumen coating, Cementitious waterproof coating, Liquid applied elastomeric waterproof membrane, Polyurethane waterproof membrane, Bitumen felt, PVC and TPO sheet membrane, etc.)	-	-		

SECTION 4: FLOOR FINISHES AND SKIRTING CONTINUED

Version 1.0

5D BIM STANDARDS																
General BQ/SOR								Naming Convention								
								Standard Attribute (Naming)			Dimension Attribute	Additional Attribute (Shared & Instance Parameter)				
Item	Element (By Bill)	Sub-element (By Heading)	BQ/ SOR Item	Required Information	Unit	HKSMM4R Section	RLB Preambles (Jun 2020) Clause	Category	General Heading (Family Name)	Item (Type Name)	Size	Screeding	Waterproofing[1]	Opening (e.g. floor drain)[2]	Other
Finishes																
14	Architectural	Steel and Metal Works	Internal Floor Finishes and Skirting / External Floor Finishes and Skirting	Raised access floors	Height of cavity, Size and thickness of panel, Type of metal (e.g. galvanised mild steel, stainless steel, aluminium, etc.), Brand or PC rate, Pattern, Supporting systems, Frames to panels, Method of fixing, Horizontal / sloping	m^2	XV (i) 2 - 3	-	Floors[3]	System Family: Floor (Default)	Internal / External _Raised access floors _Finishes code _Type of metal (e.g. Galvanised mild steel, Stainless steel, Aluminium, etc.) _Size and thickness of panel	Level & Height Offset From Level	-	-	Y/N	-
15	Architectural	Steel and Metal Works	Internal Floor Finishes and Skirting / External Floor Finishes and Skirting	Extra over the raised access floors for electrical and data panels, air grilles, diffusers, perforated panels and other special panels	Dimension	no.	XV (i) 4	-	Generic Models	Finishes code _Electrical and data panels / Air grilles / Diffusers / Perforated panels / Other special panels	Internal / External _Raised access floors _Finishes code _Dimension	Level	-	-	-	-
16	Architectural	Steel and Metal Works	Internal Floor Finishes and Skirting / External Floor Finishes and Skirting	Skirting and perimeter edge trim	Thickness, Height, Curved, Type of metal (e.g. galvanised mild steel, stainless steel, aluminium, etc.), Brand or PC rate, Finishing (e.g. hairline finish, mirror finish, etc.)	m	XV (i) 5 - 6	-	Walls	System Family: Basic Wall	Internal / External _Raised access floors _Skirting _Finishes code _Type of metal (e.g. Galvanised mild steel, Stainless steel, Aluminium, etc.) _Thickness	Base Constraint & Unconnected Height & Width (i.e. Overall finishes thickness)	Type of screeds (e.g. Cement sand screed, Self-levelling screed, Waterproofed screed, etc.)	-	-	Curved

SECTION 4: FLOOR FINISHES AND SKIRTING CONTINUED

Version 1.0

5D BIM STANDARDS																
General BQ/SOR								Naming Convention								
								Standard Attribute (Naming)			Dimension Attribute	Additional Attribute (Shared & Instance Parameter)				
Item	Element (By Bill)	Sub-element (By Heading)	BQ/ SOR Item	Required Information	Unit	HKSMM4R Section	RLB Preambles (Jun 2020) Clause	Category	General Heading (Family Name)	Item (Type Name)	Size	Screeding	Waterproofing[1]	Opening (e.g. floor drain)[2]	Other
Finishes																
17	Architectural	Steel and Metal Works	Sundries	Pressed, folded or extruded metal skirting	Material types (e.g. galvanised mild steel, stainless steel, aluminium, etc.), Thickness, Height, Curved, Fixing method and background for fixing	m	XV (h) 8	-	Walls	System Family: Basic Wall	Internal / External _Skirting _Finishes code _Type of metal (e.g. Galvanised mild steel, Stainless steel, Aluminium, etc.) _Thickness	Base Constraint & Unconnected Height & Width (i.e. Overall finishes thickness)	Type of screeds (e.g. Cement sand screed, Self-levelling screed, Waterproofed screed, etc.)	-	-	Curved
18	Architectural	Steel and Metal Works	Sundries	Tactile studs / Tactile strips	Tactile types (e.g. warning, directional, turning, etc.), Material (e.g. aluminium, stainless steel, etc.), Fixing method and background for fixing, Dimension	m^2 / m / no.	XV (h) 11	-	Floors	System Family: Floor (Default)	Tactile types (e.g. Warning tactiles, Directional tactiles, Turning tactiles, etc.) _Material (e.g. Aluminium, Stainless steel, etc.) _Dimension	-	-	-	-	-
19	Architectural	Plastering and Paving	Internal Floor Finishes and Skirting / External Floor Finishes and Skirting / Roof Finishes	Floor screed	Type of screeds (e.g. cement sand screed, self-levelling screed, waterproofed screed, etc.), Thickness, On location: slab / top and sides of curb, To falls and crossfalls, To receive finishing (e.g. receive ceramic tile, receive granite tile, receive stone tile, etc.)	m^2	XVI (d) 6	14.4	Using the quantities of Floor Finishes (Additional Attributes: Screeding)								
20	Architectural	Plastering and Paving	Internal Floor Finishes and Skirting / External Floor Finishes and Skirting / Roof Finishes	Skirting Screed	Type of screeds (e.g. cement sand screed, waterproofed screed, etc.), Thickness, Height, To receive finishing (e.g. receive ceramic tile, receive granite tile, receive stone tile, metal skirting, etc.)	m^2	XVI (d) 13	-	Using the quantities of Skirting (Additional Attributes: Screeding)								

SECTION 4: FLOOR FINISHES AND SKIRTING CONTINUED

Version 1.0

5D BIM STANDARDS																
General BQ/SOR								Naming Convention								
								Standard Attribute (Naming)			Dimension Attribute	Additional Attribute (Shared & Instance Parameter)				
Item	Element (By Bill)	Sub-element (By Heading)	BQ/ SOR Item	Required Information	Unit	HKSMM4R Section	RLB Preambles (Jun 2020) Clause	Category	General Heading (Family Name)	Item (Type Name)	Size	Screeding	Waterproofing[1]	Opening (e.g. floor drain)[2]	Other
Finishes																
21	Architectural	Plastering and Paving	Internal Floor Finishes and Skirting / External Floor Finishes and Skirting / Roof Finishes	Pavings	Type of paving with finishes (e.g. cement sand paving), Thickness, On location: slab, Horizontal / sloping, Fixing method	m^2	XVI (d) 10	14.4	Floors[3]	System Family: Floor (Default)	Internal / External / Roof _Paving _Finishes code _Type of paving with finishes (e.g. Cement sand paving) _Thickness	Level & Thickness	-	Material (e.g. Asphalt, Bitumen coating, Cementitious waterproof coating, Liquid applied elastomeric waterproof membrane, Polyurethane waterproof membrane, Bitumen felt, PVC and TPO sheet membrane, etc.)	Y/N	Floor coating system _Type of paint (e.g. epoxy floor coating, polyurethane coating, etc.)
22	Architectural	Plastering and Paving	Internal Floor Finishes and Skirting / External Floor Finishes and Skirting / Roof Finishes	Ceramic / Rubber / Granite / Marble / Mosaic tile	Type of tile (e.g. ceramic tile, rubber tile, granite tile, marble tile, etc.), Size and thickness of each tile, Brand or PC rate, Thickness of bedding, Bedded and joint on: slab, Laid in pattern, Horizontal / sloping, Fixing method	m^2	XVI (e) 2 - 4	14.5 - 14.6	Floors[3]	System Family: Floor (Default)	Internal / External / Roof _Finishes _Finishes code _Type of tile (e.g. Ceramic tile, Rubber tile, Granite tile, Marble tile, etc.) _Size and thickness of each tile	Level & Thickness (i.e. Overall finishes thickness)	Type of screeds (e.g. Cement sand screed, Self-levelling screed, Waterproofed screed, etc.) _Laid to fall	Material (e.g. Asphalt, Bitumen coating, Cementitious waterproof coating, Liquid applied elastomeric waterproof membrane, Polyurethane waterproof membrane, Bitumen felt, PVC and TPO sheet membrane, etc.)	Y/N	-

SECTION 4: FLOOR FINISHES AND SKIRTING CONTINUED

Version 1.0

5D BIM STANDARDS																
General BQ/SOR								Naming Convention								
								Standard Attribute (Naming)			Dimension Attribute	Additional Attribute (Shared & Instance Parameter)				
Item	Element (By Bill)	Sub-element (By Heading)	BQ/ SOR Item	Required Information	Unit	HKSMM4R Section	RLB Preambles (Jun 2020) Clause	Category	General Heading (Family Name)	Item (Type Name)	Size	Screeding	Waterproofing[1]	Opening (e.g. floor drain)[2]	Other
Finishes																
23	Architectural	Plastering and Paving	Internal Floor Finishes and Skirting / External Floor Finishes and Skirting	Tile skirting / Rubber skirting	Type of tile / rubber (e.g. ceramic tile, homogenous tile, etc.), Thickness, Height, Curved, Brand or PC rate, Thickness of bedding, Bedded and joint on: slab, Laid in pattern, Fixing method	m	XVI (e) 9, (f) 8	14.5 - 14.6	Walls	System Family: Basic Wall	Internal / External _Skirting _Finishes code _Type of tile (e.g. Ceramic tile, Homogenous tile, etc.) _Thickness	Base Constraint & Unconnected Height & Width (i.e. Overall finishes thickness)	Type of screeds (e.g. Cement sand screed, Self-levelling screed, Waterproofed screed, etc.)	Material (e.g. Asphalt, Bitumen coating, Cementitious waterproof coating, Liquid applied elastomeric waterproof membrane, Polyurethane waterproof membrane, Bitumen felt, PVC and TPO sheet membrane, etc.)	-	Curved
24	Architectural	Plastering and Paving	Internal Floor Finishes and Skirting / External Floor Finishes and Skirting	Rubber / Plastic / Vinyl / Linoleum sheet	Type of sheet (e.g. rubber sheeting, vinyl sheeting, etc.), Thickness of sheet, Brand or PC rate, Thickness of bedding, Bedded and joint on: slab, Laid in pattern, Horizontal / sloping, Fixing method	m^2	XVI (f) 2 - 4	14.5 - 14.6	Floors[3]	System Family: Floor (Default)	Internal / External _Finishes _Finishes code _Type of sheet (e.g. Rubber sheeting, Vinyl sheeting, etc.) _Thickness	Level & Thickness (i.e. Overall finishes thickness)	Type of screeds (e.g. Cement sand screed, Self-levelling screed, Waterproofed screed, etc.) _Laid to fall	Material (e.g. Asphalt, Bitumen coating, Cementitious waterproof coating, Liquid applied elastomeric waterproof membrane, Polyurethane waterproof membrane, Bitumen felt, PVC and TPO sheet membrane, etc.)	Y/N	-

SECTION 4: FLOOR FINISHES AND SKIRTING CONTINUED

Version 1.0

5D BIM STANDARDS																	
General BQ/SOR								Naming Convention									
								Standard Attribute (Naming)			Dimension Attribute	Additional Attribute (Shared & Instance Parameter)					
Item	Element (By Bill)	Sub-element (By Heading)	BQ/ SOR Item	Required Information	Unit	HKSMM4R Section	RLB Preambles (Jun 2020) Clause	Category	General Heading (Family Name)	Item (Type Name)	Size	Screeding	Waterproofing[1]	Opening (e.g. floor drain)[2]	Other		
Finishes																	
25	Architectural	Plastering and Paving	Internal Floor Finishes and Skirting / External Floor Finishes and Skirting	Carpet sheet / tile	Type of carpet (e.g. carpet sheeting, carpet tile, etc.), Size and thickness, Brand or PC rate, Thickness of bedding, Bedded and joint on: slab, Laid in pattern, Horizontal / sloping, Fixing method	m^2	XVI (f) 2 - 4	14.5 - 14.6	Floors[3]	System Family: Floor (Default)	Internal / External _Finishes _Finishes code _Type of carpet (e.g. Carpet sheeting, Carpet tile, etc.) _Size and thickness	Level & Thickness (i.e. Overall finishes thickness)	Type of screeds (e.g. Cement sand screed, Self-levelling screed, Waterproofed screed, etc.) _Laid to fall	Material (e.g. Asphalt, Bitumen coating, Cementitious waterproof coating, Liquid applied elastomeric waterproof membrane, Polyurethane waterproof membrane, Bitumen felt, PVC and TPO sheet membrane, etc.)	Y/N	-		
26	Architectural	Painting	Internal Painting / External Painting	Floor coating system	No. of coat, Type of paint (e.g. epoxy floor coating, polyurethane coating, etc.), Brand or PC rate, Horizontal / sloping	m^2	XXI (b) 1, (c)1	-	Using the quantities of Paving (Additional Attributes: Other)									
27	Architectural	Painting	Lettering	Lines	Width of lines, No. of coat, Type of paint (e.g. synthetic paint)	m	XXI (d) 1 - 7	-	Car Park	Lines	Width of lines _Type of paint (e.g. Synthetic paint)	-	-	-	-	-	
28	Architectural	Painting	Lettering	Arrow / Letters / Numerals / Stops & Punctuation Marks / Chinese Characters / English Characters / Symbols / Logos	Size, No. of coat, Type of paint (e.g. synthetic paint)	no.	XXI (d) 1 - 7	-	Car Park	Arrow / Letters / Numerals / Stops & Punctuation Marks / Chinese Characters / English Characters / Symbols / Logos	Size _Type of paint (e.g. Synthetic paint)	-	-	-	-	-	

SECTION 4: FLOOR FINISHES AND SKIRTING CONTINUED

Version 1.0

5D BIM STANDARDS																
General BQ/SOR								Naming Convention								
								Standard Attribute (Naming)			Dimension Attribute	Additional Attribute (Shared & Instance Parameter)				
Item	Element (By Bill)	Sub-element (By Heading)	BQ/ SOR Item	Required Information	Unit	HKSMM4R Section	RLB Preambles (Jun 2020) Clause	Category	General Heading (Family Name)	Item (Type Name)	Size	Screeding	Waterproofing[1]	Opening (e.g. floor drain)[2]	Other
Finishes																
29	Architectural	Plastering and Paving	Roof Finishes	Insulations[5]	Material (e.g. rockwool, polystyrene, etc.), Thickness, Laid on concrete surfaces or screed	m^2	-	-	Floors	System Family: Floor (Default)	Roof _Insulation _Material (e.g. Rockwool, Polystyrene, etc.) _Thickness	Level	-	-	-	-
30	Architectural	Stone Works	Internal Floor Finishes and Skirting / External Floor Finishes and Skirting	Stairs: Tread / Sills	Width, Size and thickness of each tile/ slab, Type of stone (e.g. marble, granite, etc.), Bedded in / on / fixing method (e.g. wet fix / dry fix), Finishing (e.g. honed finish, natural finish, etc.), Laid in pattern, Curved	m	XI (b) 5 - 6	-	Stairs	Material of Staircase (e.g. Concrete)	Finishes code _Tread depth x Riser height	Desired Stair Height & Number of Risers & Riser Height & Tread Depth	-	-	-	Staircase No.
31	Architectural	Stone Works	Internal Floor Finishes and Skirting / External Floor Finishes and Skirting	Stairs: Riser	Height, Size and thickness of each tile/ slab, Type of stone (e.g. marble, granite, etc.), Bedded in / on / fixing method (e.g. wet fix/ dry fix), Finishing (e.g. honed finish, natural finish, etc.), Laid in pattern, Curved	m	XI (b) 7	-								

SECTION 4: FLOOR FINISHES AND SKIRTING CONTINUED

Version 1.0

5D BIM STANDARDS																
General BQ/SOR								Naming Convention								
								Standard Attribute (Naming)			Dimension Attribute	Additional Attribute (Shared & Instance Parameter)				
Item	Element (By Bill)	Sub-element (By Heading)	BQ/ SOR Item	Required Information	Unit	HKSMM4R Section	RLB Preambles (Jun 2020) Clause	Category	General Heading (Family Name)	Item (Type Name)	Size	Screeding	Waterproofing[1]	Opening (e.g. floor drain)[2]	Other
Finishes																
32	Architectural	Plastering and Paving	Internal Floor Finishes and Skirting / External Floor Finishes and Skirting	Stairs: In-situ screed / plaster / render / tile and slab finishes, rubber/ plastic/ carpet sheet/ tile to treads and risers	Type of screeds (e.g. cement sand screed, waterproofed screed etc.), Type of plaster / render (e.g. cement plaster, cement sand rendering, internal/ external lime plaster, etc.), Type of tile (e.g. ceramic tile, rubber tile, granite tile, etc.), Type (e.g. rubber sheeting, vinyl sheeting, etc.), Brand or PC rate, Thickness, To receive finishes (e.g. receive ceramic tile, receive granite tile, receive stone tile, etc.	m^2	XVI (d) 8, (e) 3-4, (f) 3-4	14.4	Stairs	Material of Staircase (e.g. Concrete)	Finishes code _Tread depth x Riser height	Desired Stair Height & Number of Risers & Riser Height & Tread Depth	-	-	-	Staircase No.
33	Architectural	Plastering and Paving	Internal Floor Finishes and Skirting / External Floor Finishes and Skirting	Stairs: In-situ screed / plaster / render to wall strings / open strings / curb strings	Type of screeds (e.g. cement sand screed, waterproofed screed etc.), Type of screeds / plaster (e.g. cement sand screed, waterproofed screed, cement plaster etc.), Thickness, Average height / width, To receive finishes (e.g. receive ceramic tile, receive granite tile, receive stone tile, etc.)	m	XVI (d) 14-15,17	14.4.								
34	Architectural	Plastering and Paving	Internal Floor Finishes and Skirting / External Floor Finishes and Skirting	Stairs: Tile to wall strings/ open strings / curb strings / aprons	Type of tile (e.g. ceramic tile, rubber tile, granite tile, etc.), Size & thickness, Average height / width, Brand or PC rate, Thickness of bedding mortar, Coloured grouting or not, Fixing method (adhesive or bedding mortar + cement slurry, etc.)	m	XVI (e) 10-13	14.5.1.2 & 3, 14.5.2								

SECTION 4: FLOOR FINISHES AND SKIRTING CONTINUED

Version 1.0

5D BIM STANDARDS															
General BQ/SOR								Naming Convention							
								Standard Attribute (Naming)			Dimension Attribute	Additional Attribute (Shared & Instance Parameter)			
Item	Element (By Bill)	Sub-element (By Heading)	BQ/ SOR Item	Required Information	Unit	HKSMM4R Section	RLB Preambles (Jun 2020) Clause	Category	General Heading (Family Name)	Item (Type Name)	Size	Screeding	Waterproofing[1]	Opening (e.g. floor drain)[2]	Other
Finishes															
35	Architectural	Plastering and Paving	Internal Floor Finishes and Skirting / External Floor Finishes and Skirting	Stairs: Rubber / Plastic / Carpet Sheet / Tile to strings	Type (e.g. rubber sheeting, vinyl sheeting, etc.), Thickness, Brand or PC rate	m^2	XVI (f) 5	14.6	Stairs	Material of Staircase (e.g. Concrete)	Finishes code _Tread depth x Riser height	Desired Stair Height & Number of Risers & Riser Height & Tread Depth	-	-	-	Staircase No.

Remarks
1 If Waterproofing is not a separate object, Additional Attribute: Waterproofing shall be added in the corresponding floor finishes.
2 Size of the opening should be referred to the properties of the model object (e.g. floor drain, extra over items).
3 (a) Option to use Category "Floors" or "Ramps" ; (b) The size provided are measured on plan only.
4 Additional preambles (optional):
- Section XI, Sub-section (b), 4.1.0.0 and 4.2.0.0 – Floors have not been given separately to slopes ≤ 15 degrees from horizontal and to slopes > 15 degrees from horizontal but given to slopes from horizontal without separation according to the degree of sloping.

5 If Insulation is not a separate object, Additional Attribute: Other (Insulation_Material) shall be added in the corresponding floor/ roof finishes.

SECTION 5: WALL FINISHES

Version 1.0

5D BIM STANDARDS																		
General BQ/SOR								Naming Convention										
								Standard Attribute (Naming)			Dimension Attribute	Additional Attribute (Shared & Instance Parameter)					
Item	Element (By Bill)		Sub-element (By Heading)	BQ/ SOR Item	Required Information	Unit	HKSMM4R Section	RLB Preambles (Jun 2020) Clause	Category	General Heading (Family Name)	Item (Type Name)	Size	Fire Resistance Rating (FRR)	Screeding	Waterproofing[1]	Acoustic Lining	Other
Finishes																		
1	Architectural	Waterproofing[1]	Asphalt / Liquid Membrane	Vertical surface / Roof covering	Stepped / Raking / Curved, Material (e.g. asphalt, cementitious waterproof coating, etc.), Thickness, Nos. of coats, Laid on concrete surfaces or screed	m^2	X (a) 2.4, (b) 2.4	-	Walls	System Family: Basic Wall	Waterproofing _Material (e.g. Asphalt, Cementitious waterproof coating, etc.) _Thickness	Base Constraint	-	-	-	-	Curved
2	Architectural	Waterproofing[1]	Asphalt / Liquid Membrane	Fascias / Aprons	Girth, Stepped / Raking / Curved, Material (e.g. asphalt, cementitious waterproof coating, etc.), Thickness, Nos. of coats, Laid on concrete surfaces or screed	m	X (a) 6 - 7, (b) 6 - 7	-	Walls	System Family: Basic Wall	Waterproofing _Material (e.g. Asphalt, Cementitious waterproof coating, etc.) _Thickness	Base Constraint & Unconnected Height	-	-	-	-	Curved
3	Architectural	Waterproofing[1]	Felt Roofing / Sheet Membrane	Vertical surface / Roof covering (> 300mm high)	Stepped / Raking / Curved, Material (e.g. elastomeric waterproof membrane, polyurethane waterproof membrane, etc.), Thickness, Nos. of coats, Laid on concrete surfaces or screed	m^2	X (c) 2.3, (d) 2.3	-	Walls	System Family: Basic Wall	Waterproofing _Material (e.g. Elastomeric waterproof membrane, Polyurethane waterproof membrane, etc.) _Thickness	Base Constraint	-	-	-	-	Curved
4	Architectural	Waterproofing[1]	Felt Roofing / Sheet Membrane	Aprons and turn-downs	Height, Stepped / Raking / Curved, Material (e.g. elastomeric waterproof membrane, polyurethane waterproof membrane, etc.), Thickness, Nos. of coats, Laid on concrete surfaces or screed	m	X (c) 4, (d) 4	-	Walls	System Family: Basic Wall	Waterproofing _Material (e.g. Elastomeric waterproof membrane, Polyurethane waterproof membrane, etc.), _Thickness	Base Constraint & Unconnected Height	-	-	-	-	Curved

SECTION 5: WALL FINISHES CONTINUED

Version 1.0

5D BIM STANDARDS																		
General BQ/SOR									Naming Convention									
									Standard Attribute (Naming)			Dimension Attribute	Additional Attribute (Shared & Instance Parameter)					
Item	Element (By Bill)	Sub-element (By Heading)	BQ/ SOR Item	Required Information	Unit	HKSMM4R Section	RLB Preambles (Jun 2020) Clause		Category	General Heading (Family Name)	Item (Type Name)	Size	Fire Resistance Rating (FRR)	Screeding	Waterproofing[1]	Acoustic Lining	Other
Finishes																		
5	Architectural	Stone Works	Internal Wall Finishes / External Wall Finishes	Wall and Column Finishes	Size and thickness of each tile/ slab, Type of stone (e.g. marble, granite, etc.), Bedded in / on / fixing method (e.g. wet fix/ dry fix), Finishing (e.g. honed finish, natural finish, etc.), Laid in pattern, Curved	m^2	XI (b) 2	-		Walls	System Family: Basic Wall	Internal / External _Finishes _Finishes Code _Type of Stone (e.g. Marble, Granite, etc.) _Size and thickness of each tile / slab	Base Constraint & Width (i.e. Overall finishes thickness)	-	Type of screeds / plaster (e.g. Cement sand screed, Waterproofed screed, Cement plaster etc.)	Material (e.g. Asphalt, Cementitious waterproof coating, Elastometric waterproof membrane, Polyurethane waterproof membrane, etc.) _Height	-	Curved & Dry fix
6	Architectural	Stone Works	Internal Wall Finishes / External Wall Finishes	Strings / Aprons	Size and thickness of each tile / slab, Height / Width, Type of stone (e.g. marble, granite, etc.), Bedded in / on / fixing method (e.g. wet fix/ dry fix), Finishing (e.g. honed finish, natural finish, etc.), Laid in pattern, Curved	m	XI (b) 8 - 9	-		Walls	System Family: Basic Wall	Internal / External _String / Apron _Finishes Code _Type of stone (e.g. Marble, Granite, Other) _Size and thickness of each tile / slab	Base Constraint & Unconnected Height & Width (i.e. Overall finishes thickness)	-	Type of screeds / plaster (e.g. Cement sand screed, Waterproofed screed, Cement plaster etc.)	Material (e.g. Asphalt, Cementitious waterproof coating, Elastometric waterproof membrane, Polyurethane waterproof membrane, etc.) _Height	-	Curved & Dry fix
7	Architectural	Wood Works	Internal Wall Finishes / External Wall Finishes	Sheet Lining / Cladding	Thickness and size of each panel, Type of wood (e.g. Maple, Teakwood, etc.), Laid in pattern, Curved, Required fire ratings, Required acoustic lining	m^2	XIII (e) 2 - 3	-		Walls	System Family: Basic Wall	Internal / External _Sheet Lining / Cladding _Finishes Code _Type of Wood (e.g. Maple, Teakwood, etc.) _Size and thickness of each panel	Base Constraint & Width (i.e. Overall finishes thickness)	FRR requirement (e.g. -/60/60)	Type of screeds / plaster (e.g. Cement sand screed, Waterproofed screed, Cement plaster etc.)	-	Material (e.g. Fibreglass, Rockwool, Foam, etc.) _Type of lining (Sheet, Quilts, Boards, Loose fill)	Curved

SECTION 5: WALL FINISHES CONTINUED

Version 1.0

5D BIM STANDARDS																		
General BQ/SOR									Naming Convention									
									Standard Attribute (Naming)			Dimension Attribute	Additional Attribute (Shared & Instance Parameter)					
Item	Element (By Bill)		Sub-element (By Heading)	BQ/ SOR Item	Required Information	Unit	HKSMM4R Section	RLB Preambles (Jun 2020) Clause	Category	General Heading (Family Name)	Item (Type Name)	Size	Fire Resistance Rating (FRR)	Screeding	Waterproofing[1]	Acoustic Lining	Other
Finishes																		
8	Architectural	Wood Works	Internal Wall Finishes / External Wall Finishes	Laminated plastic sheeting	Thickness, Backing and adhesive, Curved, Required fire ratings, Required acoustic lining	m^2	XIII (e) 4	-	Walls	System Family: Basic Wall	Internal / External _Finishes _Finishes Code _Laminated plastic sheeting _Thickness	Base Constraint & Width (i.e. Overall finishes thickness)	FRR requirement (e.g. -/60/60)	Type of screeds / plaster (e.g. Cement sand screed, Waterproofed screed, Cement plaster etc.)	-	Material (e.g. Fibreglass, Rockwool, Foam, etc.) _Type of lining (Sheet, Quilts, Boards, Loose fill)	Curved
9	Architectural	Wood Works	Internal Wall Finishes / External Wall Finishes	Fabric lining	Thickness, Type of fabric (e.g. silk, wool), Curved, Required fire ratings, Required acoustic lining	m^2	XIII (e) 5	11.4.2 (2)	Walls	System Family: Basic Wall	Internal / External _Fabric lining _Finishes Code _Type of fabric (e.g. silk, wool) _Thickness	Base Constraint & Width (i.e. Overall finishes thickness)	FRR requirement (e.g. -/60/60)	Type of screeds / plaster (e.g. Cement sand screed, Waterproofed screed, Cement plaster etc.)	-	Material (e.g. Fibreglass, Rockwool, Foam, etc.) _Type of lining (Sheet, Quilts, Boards, Loose fill)	Curved
10	Architectural	Wood Works	Internal Wall Finishes / External Wall Finishes	Acoustic lining, insulation lining, proofing lining, firestop, etc.[2]	Thickness, Material (e.g. Fibreglass, rockwool, foam, etc.), Type of lining (e.g. Sheet, quilts, boards, loose fill), Required fire rating, Curved	m^2	XIII (e) 9 - 12	-	Walls	System Family: Basic Wall	Internal / External _Material (e.g. Fibreglass, Rockwool, Foam, etc.) _Type of lining (Sheet, Quilts, Boards, Loose fill) _Thickness	Base Constraint & Width	FRR requirement (e.g. -/60/60)	-	-	-	Curved
11	Architectural	Wood Works	Internal Wall Finishes / External Wall Finishes	Architraves (except architraves to door) / Picture rail / Dado / Cills / fins	Material (e.g. plywood, teak, etc), Size	m	XIII (e) 14-17, 19	-	Walls	System Family: Wall Sweep / Wall Reveal	Architraves / Picture rail / Dado / Cills / Fins _Material (e.g. Plywood, Teak, etc.)	-	-	Type of screeds / plaster (e.g. Cement sand screed, Waterproofed screed, Cement plaster etc.)	-	-	-

SECTION 5: WALL FINISHES CONTINUED

Version 1.0

5D BIM STANDARDS																		
General BQ/SOR								Naming Convention										
								Standard Attribute (Naming)			Dimension Attribute	Additional Attribute (Shared & Instance Parameter)						
Item	Element (By Bill)	Sub-element (By Heading)	BQ/ SOR Item	Required Information	Unit	HKSMM4R Section	RLB Preambles (Jun 2020) Clause	Category	General Heading (Family Name)	Item (Type Name)	Size	Fire Resistance Rating (FRR)	Screeding	Waterproofing[1]	Acoustic Lining	Other		
Finishes																		
12	Architectural	Wood Works	Internal Wall Finishes / External Wall Finishes	Profiled sheet wall cladding	Thickness, Material (e.g. fibre cement, plastic, glass reinforced plastic etc.), Curved, Required fire ratings, Required acoustic lining	m^2	XIII (f) 3	11.5	Walls	System Family: Basic Wall	Internal / External _Wall cladding _Finishes Code _Material (e.g. Fibre cement, Plastic, Glass reinforced plastic, etc.) _Thickness	Base Constraint & Width (i.e. Overall finishes thickness)	FRR requirement (e.g. -/60/60)	Type of screeds / plaster (e.g. Cement sand screed, Waterproofed screed, Cement plaster etc.)	-	Material (e.g. Fibreglass, Rockwool, Foam, etc.) _Type of lining (Sheet, Quilts, Boards, Loose fill)	Curved		
13	Architectural	Steel and Metal Works	Internal Wall Finishes	Sheet linings / Wall cladding	Thickness, Material (e.g. aluminium, stainless steel, etc), Type of finish (e.g. powder coated, hairline, etc), Backing, support, Curved, Required fire ratings, Required acoustic lining	m^2	XV (b) 2	-	Walls	System Family: Basic Wall	Internal _Sheet lining / Wall cladding _Material (e.g. Aluminium, Stainless steel, etc.) _Thickness	Base Constraint & Width (i.e. Overall finishes thickness)	FRR requirement (e.g. -/60/60)	Type of screeds / plaster (e.g. Cement sand screed, Waterproofed screed, Cement plaster etc.)	Material (e.g. Asphalt, Cementitious waterproof coating, Elastometric waterproof membrane, Polyurethane waterproof membrane, etc.) _Height	Material (e.g. Fibreglass, Rockwool, Foam, etc.) _Type of lining (Sheet, Quilts, Boards, Loose fill)	Curved		
14	Architectural	Plastering and Paving	Internal Wall Finishes / External Wall Finishes	Plasterboard to wall	Type (e.g. cement board / gypsum plasterboard, etc.), Thickness, Curved, Required fire ratings, Required acoustic lining	m^2	XVI (b) 2	14.2.2 (3)	Walls	System Family: Basic Wall	Internal / External _Finishes _Finishes Code _Type (e.g. Cement board, Gypsum plasterboard, etc.) _Thickness	Base Constraint & Width (i.e. Overall finishes thickness)	FRR requirement (e.g. -/60/60)	Type of screeds / plaster (e.g. Cement sand screed, Waterproofed screed, Cement plaster etc.)	Material (e.g. Asphalt, Cementitious waterproof coating, Elastometric waterproof membrane, Polyurethane waterproof membrane, etc.) _Height	Material (e.g. Fibreglass, Rockwool, Foam, etc.) _Type of lining (Sheet, Quilts, Boards, Loose fill)	Curved & Type of paint / wall paper (e.g. epoxy paint)		

SECTION 5: WALL FINISHES CONTINUED

Version 1.0

5D BIM STANDARDS																		
General BQ/SOR									Naming Convention									
									Standard Attribute (Naming)			Dimension Attribute	Additional Attribute (Shared & Instance Parameter)					
Item	Element (By Bill)		Sub-element (By Heading)	BQ/ SOR Item	Required Information	Unit	HKSMM4R Section	RLB Preambles (Jun 2020) Clause	Category	General Heading (Family Name)	Item (Type Name)	Size	Fire Resistance Rating (FRR)	Screeding	Waterproofing[1]	Acoustic Lining	Other
Finishes																		
15	Architectural	Plastering and Paving	Internal Wall Finishes / External Wall Finishes	Fire rated enclosure	Material (e.g. promat board, etc.), Fire resisting period (integrity and/or insulation), Fixing method, Curved	m^2	XVI (b) 3	-	Walls	System Family: Basic Wall	Internal / External _Fire rated enclosure _Finishes code _Material (e.g. Promat board, etc.)	Base Constraint	FRR requirement (e.g. -/60/60)	-	-	-	Curved
16	Architectural	Plastering and Paving	Internal Wall Finishes / External Wall Finishes	In-situ screed to wall and column	Type of screeds (e.g. cement sand screed, waterproofed screed etc.), Thickness, Require metal lathing / wire mesh, To receive finishes (e.g. receive ceramic tile, receive granite tile, receive stone tile, etc.)	m^2	XVI (d) 1	14.4	Using the quantities of Wall Finishes (Additional Attributes: Screeding)									
17	Architectural	Plastering and Paving	Internal Wall Finishes / External Wall Finishes	Plaster / Render to wall and column	Type of plaster / render (e.g. cement plaster, cement sand rendering, internal/ external lime plaster, etc.), Thickness, Require metal lathing / wire mesh	m^2	XVI (d) 1	14.4	Walls	System Family: Basic Wall	Internal / External _Plaster / Render _Finishes code _Type of plaster / render (e.g. Cement plaster, Cement sand rendering, Lime plaster, etc.) _Thickness	Base Constraint & Width	-	-	Material (e.g. Asphalt, Cementitious waterproof coating, Elastometric waterproof membrane, Polyurethane waterproof membrane, etc.) _Height	-	Type of paint / wall paper (e.g. epoxy paint)
18	Architectural	Plastering and Paving	Internal Wall Finishes / External Wall Finishes	Wall Tiles / Slab	Type of tile (e.g. ceramic tile, rubber tile, granite, marble, etc.), Size & thickness, Thickness of bedding mortar, Coloured grouting, Laid in pattern, Fixing method (e.g. adhesive or bedding mortar+ cement slurry, etc.), Curved	m^2	XVI (e) 5	14.5.1.2, 14.5.1.3, 14.5.2	Walls	System Family: Basic Wall	Internal / External _Finishes _Finishes Code _Type of tile (e.g. Ceramic tile, Rubber tile, Granite, Marble, etc.) _Size and thickness of tile	Base Constraint & Width (i.e. Overall finishes thickness)	-	Type of screeds / plaster (e.g. Cement sand screed, Waterproofed screed, Cement plaster etc.)	Material (e.g. Asphalt, Cementitious waterproof coating, Elastometric waterproof membrane, Polyurethane waterproof membrane, etc.) _Height	-	Curved

SECTION 5: WALL FINISHES CONTINUED

Version 1.0

5D BIM STANDARDS																		
General BQ/SOR									Naming Convention									
									Standard Attribute (Naming)			Dimension Attribute	Additional Attribute (Shared & Instance Parameter)				
Item	Element (By Bill)		Sub-element (By Heading)	BQ/ SOR Item	Required Information	Unit	HKSMM4R Section	RLB Preambles (Jun 2020) Clause	Category	General Heading (Family Name)	Item (Type Name)	Size	Fire Resistance Rating (FRR)	Screeding	Waterproofing[1]	Acoustic Lining	Other
Finishes																		
19	Architectural	Plastering and Paving	Internal Wall Finishes / External Wall Finishes	Rubber / Plastic / Carpet Sheet / Tile to wall and column	Type (e.g. rubber sheeting, vinyl sheeting, etc.), Thickness, Thickness of bedding mortar, Coloured grouting, Laid in pattern, Fixing method (e.g. adhesive or bedding mortar+ cement slurry, etc.), Curved	m^2	XVI (f) 7	-	Walls	System Family: Basic Wall	Internal / External _Finishes _Finishes Code _Type (e.g. Rubber sheeting, Vinyl sheeting, etc.), _Thickness	Base Constraint & Width (i.e. Overall finishes thickness)	-	Type of screeds / plaster (e.g. Cement sand screed, Waterproofed screed, Cement plaster etc.)	Material (e.g. Asphalt, Cementitious waterproof coating, Elastometric waterproof membrane, Polyurethane waterproof membrane, etc.) _Height	-	Curved
20	Architectural	Painting	Internal Painting / External Painting	Paint to concrete wall and column	No. of coat, Type of paint (e.g. epoxy paint), To apply on off-form concrete	m^2	XXI (b) 1	19.2.3.1	Walls	System Family: Basic Wall	Internal / External _Finishes _Finishes Code _Type of paint (e.g. Epoxy paint)	Base Constraint	-	-	-	-	-
21	Architectural	Painting	Internal Painting / External Painting	Paint to plastered wall and column	No. of coat, Type of paint (e.g. epoxy paint), To apply on plastered surface	m^2	XXI (b) 1	19.2.3.1	Using the quantities of Plaster / Render to wall and column (Additional Attributes: Other)								
22	Architectural	Painting	Internal Painting / External Painting	Paint to plasterboard	No. of coat, Type of paint (e.g. epoxy paint)	m^2	XXI (b) 1	19.2.3.1	Using the quantities of Plasterboard to wall (Additional Attributes: Other)								
23	Architectural	Painting	Internal Painting / External Painting	Wall paper, fabric lining	Manufacturer's reference, Backing and adhesive	m^2	XXI (e) 1, 4	19.5	Using the quantities of Plasterboard to wall and Plaster / Render to wall and column (Additional Attributes: Other)								

Remarks
1 If Waterproofing is not a separate object, Additional Attribute: Waterproofing shall be added in the corresponding wall finishes.
2 If Acoustic lining is not a separate object, Additional Attribute: Acoustic Lining shall be added in the corresponding wall finishes.
3 Additional preambles (optional):
- Section XVI, Sub-section (c), Clause M.3 - Work to walls and the like is measured to the area of the base from the finished floor level.

SECTION 6: CEILING FINISHES

Version 1.0

5D BIM STANDARDS																	
General BQ/SOR									Naming Convention								
									Standard Attribute (Naming)			Dimension Attribute	Additional Attribute (Shared & Instance Parameter)				
Item	Element (By Bill)		Sub-element (By Heading)	BQ/ SOR Item	Required Information	Unit	HKSMM4R Section	RLB Preambles (Jun 2020) Clause	Category	General Heading (Family Name)	Item (Type Name)	Size	Fire Resistance Rating (FRR)	Acoustic Requirement	Opening (e.g. light fitting)[1]	Other
Finishes																	
1	Architectural	Wood Works	Timber Suspended Ceilings	Suspended ceiling	Material (e.g. plywood, teak, etc), Size and thickness of ceiling panel, Polishing or clear finishing, Brand name, Suspension system, Height of ceiling above floor, Depth of suspension from soffit, Required fire ratings, Required acoustic ratings	m^2	XIII (e) 1, 6, 8	11.4.1.1, 19.1.1.3, 19.3	Ceilings	System Family: Compound Ceiling	Suspended ceiling _Finishes code _Material (e.g. Plywood, Teak, etc.) _Size and thickness of ceiling panel	Level & Height Offset From Level	FRR requirement (e.g. -/60/60)	Acoustic requirement (e.g. STC35)	Y/N	-
2	Architectural	Wood Works	Timber Suspended Ceilings	Extra over for forming access panel in suspended ceiling	Size, Fixing method	no.	-	-	Doors	Finishes code _Access Panel	Suspended ceiling _Finishes code _Size of access panel	Level	-	-	-	-
3	Architectural	Wood Works	Timber Suspended Ceilings	Vertical bulkhead	Material (e.g. plywood, teak, etc), Size and thickness of ceiling panel, Polishing or clear finishing, Brand name, Suspension system, Height of ceiling above floor, Depth of suspension from soffit, Required fire ratings, Required acoustic ratings	m^2	XIII (e) 1, 7, 8	11.4.1.1, 19.1.1.13, 19.3	Walls	System Family: Basic Wall	Suspended ceiling _Vertical Bulkhead _Finishes code _Material (e.g. Plywood, Teak, etc.) _Size and thickness of ceiling panel	Base Constraint & Base Offset & Unconnected Height	FRR requirement (e.g. -/60/60)	Acoustic requirement (e.g. STC35)	Y/N	-
4	Architectural	Wood Works	Unframed Trims	Cornice	Material (e.g. plywood, teak, etc), Size, Painting, polishing or clear finishing, Fixing method	m	XIII (e) 1, 17	19.1.1.3, 19.3	Walls	System Family: Wall Sweep	Cornice _Finishes code _Material (e.g. Plywood, Teak, etc.) _Size	-	-	-	-	-

SECTION 6: CEILING FINISHES CONTINUED

Version 1.0

5D BIM STANDARDS																	
General BQ/SOR								Naming Convention									
								Standard Attribute (Naming)			Dimension Attribute	Additional Attribute (Shared & Instance Parameter)					
Item	Element (By Bill)	Sub-element (By Heading)	BQ/ SOR Item	Required Information	Unit	HKSMM4R Section	RLB Preambles (Jun 2020) Clause	Category	General Heading (Family Name)	Item (Type Name)	Size	Fire Resistance Rating (FRR)	Acoustic Requirement	Opening (e.g. light fitting)[1]	Other
Finishes																	
5	Architectural	Steel and Metal Works	Linings, Coverings and Claddings	Sheet linings - ceilings, and sides and soffits of beams	Material (e.g. aluminium, stainless steel, etc), Type of finish (e.g. powder coated, hairline, etc), Fixing location (internally / externally, ceilings and sides and soffits of beams), Thickness, Fixing method, Backing, support, Height of ceiling above floor, Required fire ratings, Required acoustic ratings	m^2	XV (b) 1, 2	13.3.1.1	Ceilings	System Family: Compound Ceiling	Internal / External _Sheet linings _Finishes Code _Material (e.g. Aluminium, Stainess steel, etc.) _Thickness	Level & Height Offset From Level	FRR requirement (e.g. -/60/60)	Acoustic requirement (e.g. STC35)	Y/N	-
								Walls	System Family: Basic Wall	Internal / External _Sheet linings _Finishes Code _Material (e.g. Aluminium, Stainess steel, etc.) _Thickness	Base Constraint & Base Offset & Unconnected Height				
6	Architectural	Steel and Metal Works	Suspended Ceilings	Suspended ceiling	Material (e.g. aluminium, stainless steel, etc.), Type of finish (e.g. powder coated, hairline, etc), Fixing location (internally / externally), Size and thickness of ceiling panel, Brand name, Suspension system, Height of ceiling above floor, Depth of suspension from soffit, Required fire ratings, Required acoustic ratings	m^2	XV (m) 1 - 3	13.11.1.1	Ceilings	System Family: Compound Ceiling	Internal / External _Suspended ceiling _Finishes code _Material (e.g. Aluminium, Stainless steel, etc.) _Size and thickness of ceiling panel	Level & Height Offset From Level	FRR requirement (e.g. -/60/60)	Acoustic requirement (e.g. STC35)	Y/N	-
7	Architectural	Steel and Metal Works	Suspended Ceilings	Extra over for forming access panel in suspended ceiling	Size, Fixing method	no.	XV (m) 1, 4	-	Doors	Finishes code _Access Panel	Internal / External _Suspended ceiling _Finishes code _Size of access panel	Level	-	-	-	-	-

SECTION 6: CEILING FINISHES CONTINUED

Version 1.0

5D BIM STANDARDS																	
General BQ/SOR									Naming Convention								
									Standard Attribute (Naming)			Dimension Attribute	Additional Attribute (Shared & Instance Parameter)				
Item	Element (By Bill)	Sub-element (By Heading)	BQ/ SOR Item	Required Information	Unit	HKSMM4R Section	RLB Preambles (Jun 2020) Clause		Category	General Heading (Family Name)	Item (Type Name)	Size	Fire Resistance Rating (FRR)	Acoustic Requirement	Opening (e.g. light fitting)[1]	Other
Finishes																	
8	Architectural	Steel and Metal Works	Suspended Ceilings	Vertical bulkhead	Material (e.g. aluminium, stainless steel, etc.), Type of finish (e.g. powder coated, hairline, etc), Fixing location (internally / externally), Size and thickness of ceiling panel, Brand name, Suspension system, Height of ceiling above floor, Depth of suspension from soffit, Required fire ratings, Required acoustic rating	m^2	XV (m) 1, 5	13.11.1.1		Walls	System Family: Basic Wall	Internal / External _Vertical Bulkhead _Finishes code _Material (e.g. Aluminium, Stainless steel, etc.) _Size and thickness of ceiling panel	Base Constraint & Base Offset & Unconnected Height	FRR requirement (e.g. -/60/60)	Acoustic requirement (e.g. STC35)	Y/N	-
9	Architectural	Plastering and Paving	Internal Ceiling Finishes / External Ceiling Finishes	Plasterboard lining	Material (e.g. gypsum plasterboard, etc.), Thickness, Height of ceiling above floor, Fixing method	m^2	XVI (b) 2	14.2.1.1		Ceilings	System Family: Compound Ceiling	Internal / External _Plasterboard lining _Finishes code _Material (e.g. Gypsum plasterboard, etc.) _Thickness	Level & Height Offset From Level	-	-	Y/N	Type of paint (e.g. Emulsion paint) / Other finishes
										Walls	System Family: Basic Wall	Internal / External _Plasterboard lining _Finishes code _Material (e.g. Gypsum plasterboard, etc.) _Thickness	Base Constraint & Base Offset & Unconnected Height				
10	Architectural	Plastering and Paving	Internal Ceiling Finishes / External Ceiling Finishes	Fire rated enclosure	Material (e.g. Promat board, etc.), Fixing method, Height of ceiling above floor, Depth of suspension from soffit, Required fire ratings	m^2	XVI (b) 3	14.2.1.1		Ceilings	System Family: Compound Ceiling	Internal / External _Fire rated enclosure _Finishes code _Material (e.g. Promat board, etc.)	Level & Height Offset From Level	FRR requirement (e.g. -/60/60)	-	-	-
										Walls	System Family: Basic Wall	Internal / External _Fire rated enclosure _Finishes code _Material (e.g. Promat board, etc.)	Base Constraint & Base Offset & Unconnected Height	FRR requirement (e.g. -/60/60)			

SECTION 6: CEILING FINISHES CONTINUED

Version 1.0

5D BIM STANDARDS																	
General BQ/SOR									Naming Convention								
									Standard Attribute (Naming)				Dimension Attribute	Additional Attribute (Shared & Instance Parameter)			
Item	Element (By Bill)		Sub-element (By Heading)	BQ/ SOR Item	Required Information	Unit	HKSMM4R Section	RLB Preambles (Jun 2020) Clause	Category	General Heading (Family Name)	Item (Type Name)		Size	Fire Resistance Rating (FRR)	Acoustic Requirement	Opening (e.g. light fitting)[1]	Other
Finishes																	
11	Architectural	Plastering and Paving	Internal Ceiling Finishes / External Ceiling Finishes	Rendering / Plastering	Material (e.g. cement sand rendering, internal / external lime plaster, etc.), Thickness, No. of coats, Finish (e.g. steel trowel smooth finish, etc.), Height of ceiling above floor	m^2	XVI ©, (d) 2-4	14.3.1.1	Ceilings	System Family: Compound Ceiling	Internal / External _Rendering / Plastering _Finishes code _Material (e.g. Cement sand rendering, Internal/ External lime plaster, etc.), _Thickness		Level & Height Offset From Level	-	-	Y/N	Type of paint (e.g. Emulsion paint) / Other finishes
									Walls	System Family: Basic Wall	Internal / External _Rendering / Plastering _Finishes code _Material (e.g. Cement sand rendering, Internal/ External lime plaster, etc.), _Thickness		Base Constraint & Base Offset & Unconnected Height				
12	Architectural	Plastering and Paving	Internal Ceiling Finishes / External Ceiling Finishes	Plasterboard suspended ceiling	Material (e.g. gypsum plasterboard, etc.), Thickness of ceiling panel, Suspension system, Height of ceiling above floor, Depth of suspension from soffit, Required fire ratings, Required acoustic ratings	m^2	XVI (b) 2	14.2.1.1	Ceilings	System Family: Compound Ceiling	Internal / External _Plasterboard suspended ceiling _Finishes code _Material (e.g. Gypsum plasterboard, etc.) _Thickness of ceiling panel		Level & Height Offset From Level	FRR requirement (e.g. -/60/60)	Acoustic requirement (e.g. STC35)	Y/N	Type of paint (e.g. Emulsion paint) / Other finishes
13	Architectural	Plastering and Paving	Internal Ceiling Finishes / External Ceiling Finishes	Extra over for forming access panel in suspended ceiling	Size, Fixing method	no.	-	-	Doors	Finishes code _Access Panel	Internal / External _Plasterboard suspended ceiling _Finishes code _Size of access panel		Level	-	-	-	Type of paint (e.g. Emulsion paint) / Other finishes

SECTION 6: CEILING FINISHES CONTINUED

Version 1.0

5D BIM STANDARDS																	
General BQ/SOR									Naming Convention								
									Standard Attribute (Naming)			Dimension Attribute	Additional Attribute (Shared & Instance Parameter)				
Item	Element (By Bill)		Sub-element (By Heading)	BQ/ SOR Item	Required Information	Unit	HKSMM4R Section	RLB Preambles (Jun 2020) Clause	Category	General Heading (Family Name)	Item (Type Name)	Size	Fire Resistance Rating (FRR)	Acoustic Requirement	Opening (e.g. light fitting)[1]	Other
Finishes																	
14	Architectural	Plastering and Paving	Internal Ceiling Finishes / External Ceiling Finishes	Vertical bulkhead	Material (e.g. gypsum plasterboard, etc.), Thickness of ceiling panel, Suspension system, Height of ceiling above floor, Depth of suspension from soffit, Required fire ratings, Required acoustic ratings	m^2	XVI (b) 2	14.2.1.1	Walls	System Family: Basic Wall	Internal / External _Vertical bulkhead _Finishes code _Material (e.g. Gypsum plasterboard, etc.) _Thickness of ceiling panel	Base Constraint & Base Offset & Unconnected Height	FRR requirement (e.g. -/60/60)	Acoustic requirement (e.g. STC35)	Y/N	Type of paint (e.g. Emulsion paint) / Other finishes
15	Architectural	Plastering and Paving	Internal Ceiling Finishes / External Ceiling Finishes	Light trough	Material (e.g. gypsum plasterboard, etc.), Size, Fixing method	m	-	-	Generic Model	Light trough _Material (e.g. Gypsum plasterboard, etc.)	Internal / External _Size	Length	-	-	-	-
16	Architectural	Painting	Internal Painting / External Painting	Painting on concrete soffits and beams	No. of coat, Type (e.g. emulsion paint, etc.), Off-form or fairfaced concrete given separately, Height of ceiling above floor	m^2	XXI (a), (b) 3	19.1.1.1	Ceilings	System Family: Compound Ceiling	Internal / External _Finishes Code _Type (e.g. Emulsion paint, etc.)	Level & Height Offset From Level	-	-	-	-
									Walls	System Family: Basic Wall	Internal / External _Finishes Code _Type (e.g. Emulsion paint, etc.)	Base Constraint & Base Offset & Unconnected Height				
17	Architectural	Painting	Internal Painting / External Painting	Painting on rendered / plastered soffits and beams	No. of coat, Type (e.g. emulsion paint, etc.)	m^2	XXI (a), (b) 3	-	Using the quantities of Rendering / Plastering (Additional Attributes: Other)								
18	Architectural	Painting	Internal Painting / External Painting	Painting on plasterboard suspended ceilings / Plasterboard lining	No. of coat, Type (e.g. emulsion paint, etc.)	m^2	XXI (a), (b) 3	-	Using the quantities of Plasterboard suspended ceiling and Plasterboard lining (Additional Attributes: Other)								

SECTION 6: CEILING FINISHES CONTINUED

Version 1.0

5D BIM STANDARDS																
General BQ/SOR								Naming Convention								
								Standard Attribute (Naming)			Dimension Attribute	Additional Attribute (Shared & Instance Parameter)				
Item	Element (By Bill)	Sub-element (By Heading)	BQ/ SOR Item	Required Information	Unit	HKSMM4R Section	RLB Preambles (Jun 2020) Clause	Category	General Heading (Family Name)	Item (Type Name)	Size	Fire Resistance Rating (FRR)	Acoustic Requirement	Opening (e.g. light fitting)[1]	Other
Finishes																
19	Architectural	Plastering and Paving	Internal Ceiling Finishes / External Ceiling Finishes	Stairs: Plasterboard to sloping soffits / flewing soffits of stairs	Material (e.g. cement board / gypsum plasterboard, etc.), Size & thickness	m^2	XVI (b) 2	-	Stairs	Material of Staircase (e.g. Concrete)	Finishes code _Tread depth x Riser height	Desired Stair Height & Number of Risers & Riser Height & Tread Depth	-	-	-	Staircase No.
20	Architectural	Plastering and Paving	Internal Ceiling Finishes / External Ceiling Finishes	Stairs: Rendering / Plastering to sloping soffits / flewing soffits of stairs	Type of plaster / render (e.g. cement plaster, cement sand rendering, internal/ external lime plaster, etc.), Thickness, Require metal lathing/ wire mesh	m^2	XVI (d) 3-4	14.4								

Remarks
1 Size of the opening should be referred to the properties of the model object (e.g. light fitting, extra over items).
2 Additional preambles (optional):
- Section XVI, Sub-section (b), Clause M.1 – Work to ceilings is measured to the area between finished walls, deductions for columns and the like are measured the finished size.
- Section XVI, Sub-section (c), Clause M.2 – Work to floors is measured to the area between structural walls, deductions for columns and the like are measured the structural size. Work to ceilings is measured to the area between finished walls, deductions for columns and the like are measured the finished size.

SECTION 7: MECHANICAL VENTILATION AND AIR CONDITIONING INSTALLATION

Version 1.0

5D BIM STANDARDS																		
General BQ/SOR									Naming Convention									
									System Attribute (System Type)		Standard Attribute (Naming)			Dimension Attribute	Additional Attribute (Shared & Instance Parameter)			
Item	System Name	Sub-System Name	BQ / SOR Item	Required Information	Unit	HKSMM4R Section	RLB Preambles (Jun 2020) Clause		System Name (Discipline Code)	Sub-System Name	Category	General Heading (Family Name)	Item (Type Name)	Size	Capacity	Insulation	Protective Covering & Finishing	Other
Generally																		
Notwithstanding the requirement of the SMM the following departure has been made. Section XVII, Sub-section (a), Clause M.2 – Work is measured irrespective of location and fixing background.						M.2	15.1.2											
	Building Services Installation			Insulation to pipework / Protective coverings & finishings to insulated pipework	Material, Diameter, Thickness	m	XVII (g) 1 - 2, (h) 1 - 2	15.7.1, 15.8.1	Using the quantity of Pipework (Additional Attributes: Insulation and Protective Covering & Finishing)									
	Building Services Installation			Extra over pipework insulation for fittings / protective coverings & finishings to insulated pipework for fittings (e.g. bends, elbows, branches, reducers, tees, reducing bends, reducing tees, caps, flanged ends, others)	Material, Diameter, Thickness	no.	XVII (a), (d) 3 - 5, (g) 1, 3, 4, (h) 1, 3, 4	15.4.1*, 15.7.1*, 15.8.1*	Using the quantity of Pipe Fittings (Additional Attributes: Insulation and Protective Covering & Finishing)									
	Building Services Installation			Insulation to pipework ancillaries / Protective coverings & finishings to insulated pipework ancillaries (e.g. valves, flow meter, flow switches, air vents, strainers, others)	Material, Diameter, Thickness	no.	XVII (g) 1, 5, (h) 1, 5	15.7.1, 15.8.1	Using the quantity of Ancillaries (Additional Attributes: Insulation and Protective Covering & Finishing)									
	Building Services Installation			Insulation to rectangular air ductwork / Protective coverings & finishings to insulated rectangular air ductwork	Material, Gauge or thickness	m^2	XVII (g) 1, 6, (h) 1, 6	-	Using the quantity of Ductwork (Additional Attributes: Insulation and Protective Covering & Finishing)									

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General BQ/SOR								Naming Convention										
								System Attribute (System Type)		Standard Attribute (Naming)			Dimension Attribute	Additional Attribute (Shared & Instance Parameter)				
Item	System Name	Sub-System Name	BQ / SOR Item	Required Information	Unit	HKSMM4R Section	RLB Preambles (Jun 2020) Clause	System Name (Discipline Code)	Sub-System Name	Category	General Heading (Family Name)	Item (Type Name)	Size	Capacity	Insulation	Protective Covering & Finishing	Other
Generally																		
	Building Services Installation			Insulation to circular or oval air ductwork / Protective coverings & finishings to insulated circular or oval air ductwork	Material, Diameter, Gauge or thickness	m	XVII (g) 1, 7, (h) 1, 7	-	Using the quantity of Ductwork (Additional Attributes: Insulation and Protective Covering & Finishing)									
	Building Services Installation			Extra over insulation for duct fittings to circular or oval ducts / protective coverings & finishings for duct fittings to insulated circular or oval ducts (e.g. bends, branches, elbows, tees, reducers, reducing branches, reducing tees, transformation pieces, tapers, offsets, outlets, others)	Material, Diameter, Gauge or thickness	no.	XVII (a), (f) 1, 4, (g) 1, 8, (h) 1, 8	15.6.1*, 15.7.1*, 15.8.1*	Using the quantity of Duct Fittings (Additional Attributes: Insulation and Protective Covering & Finishing)									
Cooling Water System (CLW)																		
1	Building Services Installation	Mechanical Ventilation and Air Conditioning Installation	Cooling Water System	Pipework	Material, Diameter, Method of jointing	m	XVII (a), (d) 1, 2	15.4.1*, 15.4.2	AC	CLW	Pipes	Pipe Type (Default)	Material	From List (Diameter)	-	Type _Thickness	Type _Thickness	-
2	Building Services Installation	Mechanical Ventilation and Air Conditioning Installation	Cooling Water System	Extra over Pipe Fittings (e.g. bends, elbows, branches, reducers, tees, reducing bends, reducing tees, caps, flanged ends, others)	Material, Diameter	no.	XVII (a), (d) 3 - 5	15.4.1*, 15.4.2	AC	CLW	Pipe Fittings	Type (Elbow / Junction / Cross / Transition / Union / Flange / Cap)	Material	From List (Diameter)	-	Type _Thickness	Type _Thickness	-

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5D BIM STANDARDS																			
General BQ/SOR									Naming Convention										
									System Attribute (System Type)		Standard Attribute (Naming)			Dimension Attribute	Additional Attribute (Shared & Instance Parameter)				
Item	System Name		Sub-System Name	BQ / SOR Item	Required Information	Unit	HKSMM4R Section	RLB Preambles (Jun 2020) Clause	System Name (Discipline Code)	Sub-System Name	Category	General Heading (Family Name)	Item (Type Name)	Size	Capacity	Insulation	Protective Covering & Finishing	Other
Cooling Water System (CLW)																			
3	Building Services Installation	Mechanical Ventilation and Air Conditioning Installation	Cooling Water System	Ancillaries (e.g. valves, flow meter, flow switches, air vents, strainers, others)	Type (e.g. gate valves, singal type strainer, automatic air vent, others), Material, Size (? diameter/ to suit ? diameter pipes)	no.	XVII (a), (d) 7	15.4.2 (11)	AC	CLW	Pipe Accessories	Type (e.g. Gate valve, Singal type strainer, Automatic air vent, Other)	Size (? diameter/ to suit ? diameter pipes)	Size (? diameter/ to suit ? diameter pipes)	-	Type _Thickness	Type _Thickness	-
4	Building Services Installation	Mechanical Ventilation and Air Conditioning Installation	Cooling Water System	Flow and return header pipes	Length, Number and size of each branch, Insulation and protective coverings & finishings	no.	XVII (a), (d) 10	-	AC	CLW	Pipes	Pipe Type (Default)	Flow and return header pipe _Material	From List (Diameter) & Length	-	Type _Thickness	Type _Thickness	-
5	Building Services Installation	Mechanical Ventilation and Air Conditioning Installation	Cooling Water System	Instrumentation (e.g. pressure gauges)	Size (to suit ? diameter pipes)	no.	XVII (a), (d) 16	15.4.2 (12)	AC	CLW	Pipe Accessories	Type (e.g. Pressure gauge)	Diameter (to suit ? diameter pipes)	Diameter (to suit ? diameter pipes)	-	-	-	-
6	Building Services Installation	Mechanical Ventilation and Air Conditioning Installation	Cooling Water System	Cooling Towers	Type (e.g. centrifugal type, others), Heat rejection capacity (kW), Equipment ID	no.	XVII (a), (b)	-	AC	CLW	Specialty Equipment	Cooling Tower _Type (e.g. Centrifugal type, Other)	Equipment ID	-	Heat rejection capacity (kW)	-	-	-
7	Building Services Installation	Mechanical Ventilation and Air Conditioning Installation	Cooling Water System	Heat Exchangers	Type, Heat transfer capacity (kW), Primary and secondary water flow rate (L/s), Equipment ID	no.	XVII (a), (b)	-	AC	CLW	Specialty Equipment	Heat Exchanger	Equipment ID	-	Heat transfer capacity (kW) _Primary and secondary water flow rate (L/s)	-	-	-
8	Building Services Installation	Mechanical Ventilation and Air Conditioning Installation	Cooling Water System	Tanks (excluding R.C. tank)	Material, Capacity (L)	no.	XVII (a), (b)	15.2.1	AC	CLW	Specialty Equipment	Tank	Material	-	Capacity (L)	-	-	-

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5D BIM STANDARDS																			
General BQ/SOR								Naming Convention											
								System Attribute (System Type)		Standard Attribute (Naming)			Dimension Attribute	Additional Attribute (Shared & Instance Parameter)					
Item	System Name		Sub-System Name	BQ / SOR Item	Required Information	Unit	HKSMM4R Section	RLB Preambles (Jun 2020) Clause	System Name (Discipline Code)	Sub-System Name	Category	General Heading (Family Name)	Item (Type Name)	Size	Capacity	Insulation	Protective Covering & Finishing	Other
Cooling Water System (CLW)																			
9	Building Services Installation	Mechanical Ventilation and Air Conditioning Installation	Cooling Water System	Pumps	Type (e.g. end suction, horizontal/ vertical spindle type centrifugal, others), Water flow rate (L/ s), Head of water (m), Equipment ID	no.	XVII (a), (b)	15.2.1	AC	CLW	Mechanical Equipment	Pump _Type (e.g. End suction / Horizontal/ Vertical spindle type centrifugal, Others)	Equipment ID	-	Water flow rate (L/s) _Head of water (m)	-	-	-
Chilled Water System (CHW)																			
10	Building Services Installation	Mechanical Ventilation and Air Conditioning Installation	Chilled Water System	Pipework	Material, Diameter, Method of jointing	m	XVII (a), (d) 1, 2	15.4.1*, 15.4.2	AC	CHW	Pipes	Pipe Type (Default)	Material	From List (Diameter)	-	Type _Thickness	Type _Thickness	-
11	Building Services Installation	Mechanical Ventilation and Air Conditioning Installation	Chilled Water System	Extra over Pipe Fittings (e.g. bends, elbows, branches, reducers, tees, reducing bends, reducing tees, caps, flanged ends, others)	Material, Diameter	no	"XVII (a), (d) 3 - 5	15.4.1*, 15.4.2	AC	CHW	Pipe Fittings	Type (Elbow / Junction / Cross / Transition / Union / Flange / Cap)	Material	From List (Diameter)	-	Type _Thickness	Type _Thickness	-
12	Building Services Installation	Mechanical Ventilation and Air Conditioning Installation	Chilled Water System	Ancillaries (e.g. valves, flow meter, flow switches, air vents, strainers, others)	Type (e.g. gate valves, singal type strainer, automatic air vent, others), Material, Size (? diameter/ to suit ? diameter pipes)	no	XVII (a), (d) 7	15.4.2 (11)	AC	CHW	Pipe Accessories	Type (e.g. Gate valve, Singal type strainer, Automatic air vent, Other)	Size (? diameter/ to suit ? diameter pipes)	Size (? diameter/ to suit ? diameter pipes)	-	Type _Thickness	Type _Thickness	-
13	Building Services Installation	Mechanical Ventilation and Air Conditioning Installation	Chilled Water System	Flow and return header pipes	Length, Number and size of each branch, Insulation and protective coverings & finishings	no.	XVII (a), (d) 10	-	AC	CHW	Pipes	Pipe Type (Default)	Flow and return header pipe _Material	From List (Diameter) & Length	-	Type _Thickness	Type _Thickness	-

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5D BIM STANDARDS																			
General BQ/SOR									Naming Convention										
									System Attribute (System Type)		Standard Attribute (Naming)			Dimension Attribute	Additional Attribute (Shared & Instance Parameter)				
Item	System Name		Sub-System Name	BQ / SOR Item	Required Information	Unit	HKSMM4R Section	RLB Preambles (Jun 2020) Clause	System Name (Discipline Code)	Sub-System Name	Category	General Heading (Family Name)	Item (Type Name)	Size	Capacity	Insulation	Protective Covering & Finishing	Other
Chilled Water System (CHW)																			
14	Building Services Installation	Mechanical Ventilation and Air Conditioning Installation	Chilled Water System	Instrumentation (e.g. pressure gauges)	Size (to suit ? diameter pipes)	no.	XVII (a), (d) 16	15.4.2 (12)	AC	CHW	Pipe Accessories	Type (e.g. Pressure gauge)	Diameter (to suit ? diameter pipes)	Diameter (to suit ? diameter pipes)	-	-	-	-
15	Building Services Installation	Mechanical Ventilation and Air Conditioning Installation	Chilled Water System	Chillers	Type (e.g. sea-water cooled, fresh water cooled, others), Cooling capacity (kW), Equipment ID	no.	XVII (a), (b)	-	AC	CHW	Specialty Equipment	Chiller _Type (e.g. Sea-water cooled, Fresh water cooled, Other)	Equipment ID	-	Cooling capacity (kW)	-	-	-
16	Building Services Installation	Mechanical Ventilation and Air Conditioning Installation	Chilled Water System	Tanks (excluding R.C. tank)	Material, Capacity (L)	no.	XVII (a), (b)	15.2.1	AC	CHW	Specialty Equipment	Tank	Material	-	Capacity (L)	-	-	-
17	Building Services Installation	Mechanical Ventilation and Air Conditioning Installation	Chilled Water System	Pumps	Type (e.g. end suction, horizontal/ vertical spindle type centrifugal, others), Water flow rate (L/s), Head of water (m), Equipment ID	no.	XVII (a), (b)	15.2.1	AC	CHW	Mechanical Equipment	Pump _Type (e.g. End suction / Horizontal/ Vertical spindle type centrifugal, Others)	Equipment ID	-	Water flow rate (L/s) _Head of water (m)	-	-	-
Condensate Drainage System (CDP)																			
18	Building Services Installation	Mechanical Ventilation and Air Conditioning Installation	Condensate Drainage System	Pipework	Material, Diameter, Method of jointing	m	XVII (a), (d) 1, 2	15.4.1*, 15.4.2	AC	CDP	Pipes	Pipe Type (Default)	Material	From List (Diameter)	-	Type _Thickness	Type _Thickness	-
19	Building Services Installation	Mechanical Ventilation and Air Conditioning Installation	Condensate Drainage System	Extra over Pipe Fittings (e.g. bends, elbows, branches, reducers, tees, reducing bends, reducing tees, caps, flanged ends, others)	Material, Diameter	no.	XVII (a), (d) 3 - 5	15.4.1*, 15.4.2	AC	CDP	Pipe Fittings	Type (Elbow / Junction / Cross / Transition / Union / Flange / Cap)	Material	From List (Diameter)	-	Type _Thickness	Type _Thickness	-

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5D BIM STANDARDS																				
General BQ/SOR									Naming Convention											
									System Attribute (System Type)		Standard Attribute (Naming)			Dimension Attribute	Additional Attribute (Shared & Instance Parameter)				
Item	System Name	Sub-System Name	BQ / SOR Item	Required Information	Unit	HKSMM4R Section	RLB Preambles (Jun 2020) Clause		System Name (Discipline Code)	Sub-System Name	Category	General Heading (Family Name)	Item (Type Name)	Size	Capacity	Insulation	Protective Covering & Finishing	Other	
Air-Conditioning System (ACS)																				
20	Building Services Installation	Mechanical Ventilation and Air Conditioning Installation	Air-Conditioning System	Rectangular Air Ductwork	Material, Gauge or thickness	m^2	XVII (a), (f) 1, 2	-	AC	ACS	Ducts	Type (Rectangular Duct)	Material	From List (Width & Height)	-	Type _Thickness	Type _Thickness	-	
									AC	ACS	Duct Fittings	Type (Elbow / Junction / Cross / Transition / Union / Flange / Cap)	Material	From List (Width & Height) Centerline	-	Type _Thickness	Type _Thickness	-	
21	Building Services Installation	Mechanical Ventilation and Air Conditioning Installation	Air-Conditioning System	Circular Air Ductwork	Material, Diameter	m	XVII (a), (f) 1, 3	15.6.1*	AC	ACS	Ducts	Type (Round Duct)	Material	From List (Diameter)	-	Type _Thickness	Type _Thickness	-	
22	Building Services Installation	Mechanical Ventilation and Air Conditioning Installation	Air-Conditioning System	Oval Air Ductwork	Material, Diameter	m	XVII (a), (f) 1, 3	15.6.1*	AC	ACS	Ducts	Type (Oval Duct)	Material	From List (Width & Height)	-	Type _Thickness	Type _Thickness	-	
23	Building Services Installation	Mechanical Ventilation and Air Conditioning Installation	Air-Conditioning System	Extra over Duct Fittings to Circular or Oval Ducts (e.g. bends, branches, elbows, tees, reducers, reducing branches, reducing tees, transformation pieces, tapers, offsets, outlets, others)	Material, Size	no.	XVII (a), (f) 1, 4	15.6.1*	AC	ACS	Duct Fittings	Type (Elbow / Junction / Cross / Transition / Union / Flange / Cap)	Material	From List (Width & Height)	-	Type _Thickness	Type _Thickness	-	
24	Building Services Installation	Mechanical Ventilation and Air Conditioning Installation	Air-Conditioning System	Pipework (Refrigerant Pipes)	Material, Diameter, Method of jointing	m	XVII (a), (d) 1, 2	15.4.1*	AC	ACS	Pipes	Pipe Type (Default)	Material	From List (Diameter)	-	Type _Thickness	Type _Thickness	-	

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General BQ/SOR								Naming Convention										
								System Attribute (System Type)		Standard Attribute (Naming)			Dimension Attribute	Additional Attribute (Shared & Instance Parameter)				
Item	System Name	Sub-System Name	BQ / SOR Item	Required Information	Unit	HKSMM4R Section	RLB Preambles (Jun 2020) Clause	System Name (Discipline Code)	Sub-System Name	Category	General Heading (Family Name)	Item (Type Name)	Size	Capacity	Insulation	Protective Covering & Finishing	Other
Air-Conditioning System (ACS)																		
25	Building Services Installation	Mechanical Ventilation and Air Conditioning Installation	Air-Conditioning System	Extra over Pipe Fittings (Refrigerant Pipes) (e.g. bends, elbows, branches, reducers, tees, reducing bends, reducing tees, caps, flanged ends, others)	Material, Diameter	no.	XVII (a), (d) 3 - 5	15.4.1*, 15.4.2	AC	ACS	Pipe Fittings	Type (Elbow / Junction / Cross / Transition / Union / Flange / Cap)	Material	From List (Diameter)	-	Type _Thickness	Type _Thickness	-
26	Building Services Installation	Mechanical Ventilation and Air Conditioning Installation	Air-Conditioning System	Silencers	Material, Size	no.	XVII (a), (f) 1, 5	15.6.1, 15.6.2	AC	ACS	Duct Accessories	Silencer _Material	Size (e.g. width x height)	Duct Width & Duct Height & Length	-	-	-	-
27	Building Services Installation	Mechanical Ventilation and Air Conditioning Installation	Air-Conditioning System	Plenums	Material, Size	no.	XVII (a), (f) 1, 5	15.6.1, 15.6.2	AC	ACS	Duct Accessories	Plenum _Material	Size (e.g. width x length x depth)	Width & Length & Depth	-	-	-	-
28	Building Services Installation	Mechanical Ventilation and Air Conditioning Installation	Air-Conditioning System	Dampers	Type (e.g. volume control dampers, fire dampers, smoke dampers, motorized fire dampers, others), Size, Material	no.	XVII (a), (f) 1, 5	15.6.1, 15.6.2	AC	ACS	Duct Accessories	Type (e.g. Volume control damper, Fire damper, Smoke damper, Motorized fire damper, Others) _Material	Size (e.g. width x height)	Duct Width & Duct Height	-	-	-	-
29	Building Services Installation	Mechanical Ventilation and Air Conditioning Installation	Air-Conditioning System	Diffusers, Louvres, Grilles	Type (e.g. supply air diffuser, exhaust air diffuser, transfer air diffuser, others), Material, Size, Specification (e.g. double blade, with VCD)	no.	XVII (a), (f) 1, 5	15.6.1, 15.6.2	AC	ACS	Air Terminals	Type (e.g. Supply air diffuser, Exhaust air diffuser, Transfer air diffuser, Others) _Material	Size	Diffuser Width & Diffuser Height	-	-	-	Specification (e.g. double blade, with VCD)

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General BQ/SOR								Naming Convention											
								System Attribute (System Type)		Standard Attribute (Naming)			Dimension Attribute	Additional Attribute (Shared & Instance Parameter)					
Item	System Name		Sub-System Name	BQ / SOR Item	Required Information	Unit	HKSMM4R Section	RLB Preambles (Jun 2020) Clause	System Name (Discipline Code)	Sub-System Name	Category	General Heading (Family Name)	Item (Type Name)	Size	Capacity	Insulation	Protective Covering & Finishing	Other	
Air-Conditioning System (ACS)																			
30	Building Services Installation	Mechanical Ventilation and Air Conditioning Installation	Air-Conditioning System	Linear Grilles	Type (e.g. supply air linear grille, exhaust air linear grille, transfer air linear grille, others), Material, Size, Specification (e.g. double blade, with VCD), Dummy/ active	m	XVII (a), (f) 1, 5	15.6.1, 15.6.2	AC	ACS	Air Terminals	Type (e.g. Supply air linear grille, Exhaust air linear grille, Transfer air linear grille, Others) _Material	Size	Grille Width & Grille Height	-	-	-	Specification (e.g. double blade, with VCD)	
31	Building Services Installation	Mechanical Ventilation and Air Conditioning Installation	Air-Conditioning System	Flexible / Extensible Ductwork	Material, Size, Length	no.	XVII (a), (f) 1, 6, 7	15.6.1, 15.6.2	AC	ACS	Flex Duct	Type (Flex Duct Rectangular / Flex Duct Round)	Material	From List (Width & Height) (Diameter)	-	-	-	-	
32	Building Services Installation	Mechanical Ventilation and Air Conditioning Installation	Air-Conditioning System	AHU, PAU, FCU, VAV, VRV, CAV, Split Type AC Units, Window AC Units	Material, Air volume flow rate (L/s), External static pressure (Pa), Cooling capacity (kW), Equipment ID	no.	XVII (a), (b)	15.2.1	AC	ACS	Mechanical Equipment	AHU, PAU, FCU, VAV, VRV, CAV, Split Type AC Units, Window AC Units _Material	Equipment ID	-	Air volume flow rate (L/s) _External static pressure (Pa) _Cooling capacity (kW)	-	-	-	
Mechanical Ventilation System (MVS)																			
33	Building Services Installation	Mechanical Ventilation and Air Conditioning Installation	Mechanical Ventilation System	Rectangular Air Ductwork	Material, Gauge or thickness	m^2	XVII (a), (f) 1, 2	-	AC	MVS	Ducts	Type (Rectangular Duct)	Material	From List (Width & Height)	-	Type _Thickness	Type _Thickness	-	
											Duct Fittings	Type (Elbow / Junction / Cross / Transition / Union / Flange / Cap)	Material	From List (Width & Height) & Centerline					

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General BQ/SOR								Naming Convention										
								System Attribute (System Type)		Standard Attribute (Naming)			Dimension Attribute	Additional Attribute (Shared & Instance Parameter)				
Item	System Name	Sub-System Name	BQ / SOR Item	Required Information	Unit	HKSMM4R Section	RLB Preambles (Jun 2020) Clause	System Name (Discipline Code)	Sub-System Name	Category	General Heading (Family Name)	Item (Type Name)	Size	Capacity	Insulation	Protective Covering & Finishing	Other
Mechanical Ventilation System (MVS)																		
34	Building Services Installation	Mechanical Ventilation and Air Conditioning Installation	Mechanical Ventilation System	Circular Air Ductwork	Material, Diameter	m	XVII (a), (f) 1, 3	15.6.1*	AC	MVS	Ducts	Type (Round Duct)	Material	From List (Diameter)	-	Type _Thickness	Type _Thickness	-
35	Building Services Installation	Mechanical Ventilation and Air Conditioning Installation	Mechanical Ventilation System	Oval Air Ductwork	Material, Diameter	m	XVII (a), (f) 1, 3	15.6.1*	AC	MVS	Ducts	Type (Oval Duct)	Material	From List (Width & Height)	-	Type _Thickness	Type _Thickness	-
36	Building Services Installation	Mechanical Ventilation and Air Conditioning Installation	Mechanical Ventilation System	Extra over Duct Fittings to Circular or Oval Ducts (e.g. bends, branches, elbows, tees, reducers, reducing branches, reducing tees, transformation pieces, tapers, offsets, outlets, others)	Material, Size	no.	XVII (a), (f) 1, 4	15.6.1*	AC	MVS	Duct Fittings	Type (Elbow / Junction / Cross / Transition / Union / Flange / Cap)	Material	From List (Width & Height)	-	Type _Thickness	Type _Thickness	-
37	Building Services Installation	Mechanical Ventilation and Air Conditioning Installation	Mechanical Ventilation System	Silencers	Material, Size	no.	XVII (a), (f) 1, 5	15.6.1, 15.6.2	AC	MVS	Duct Accessories	Silencer _Material	Size (e.g. width x height)	Duct Width & Duct Height & Length	-	-	-	-
38	Building Services Installation	Mechanical Ventilation and Air Conditioning Installation	Mechanical Ventilation System	Plenums	Material, Size	no.	XVII (a), (f) 1, 5	15.6.1, 15.6.2	AC	MVS	Duct Accessories	Plenum _Material	Size (e.g. width x length x depth)	Width & Length & Depth	-	-	-	-

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General BQ/SOR									Naming Convention										
									System Attribute (System Type)		Standard Attribute (Naming)			Dimension Attribute	Additional Attribute (Shared & Instance Parameter)				
Item	System Name		Sub-System Name	BQ / SOR Item	Required Information	Unit	HKSMM4R Section	RLB Preambles (Jun 2020) Clause	System Name (Discipline Code)	Sub-System Name	Category	General Heading (Family Name)	Item (Type Name)	Size	Capacity	Insulation	Protective Covering & Finishing	Other
Mechanical Ventilation System (MVS)																			
39	Building Services Installation	Mechanical Ventilation and Air Conditioning Installation	Mechanical Ventilation System	Dampers	Type (e.g. volume control dampers, fire dampers, smoke dampers, motorized fire dampers, others), Size, Material	no.	XVII (a), (f) 1, 5	15.6.1, 15.6.2	AC	MVS	Duct Accessories	Type (e.g. Volume control damper, Fire damper, Smoke damper, Motorized fire damper, Others) _Material	Size (e.g. width x height)	Duct Width & Duct Height	-	-	-	-
40	Building Services Installation	Mechanical Ventilation and Air Conditioning Installation	Mechanical Ventilation System	Diffusers, Louvres, Grilles	Type (e.g. supply air diffuser, exhaust air diffuser, transfer air diffuser, others), Material, Size, Specification (e.g. double blade, with VCD)	no.	XVII (a), (f) 1, 5	15.6.1	AC	MVS	Air Terminals	Type (e.g. Supply air diffuser, Exhaust air diffuser, Transfer air diffuser, others) _Material	Size	Diffuser Width & Diffuser Height	-	-	-	Specification (e.g. double blade, with VCD)
41	Building Services Installation	Mechanical Ventilation and Air Conditioning Installation	Mechanical Ventilation System	Linear Grilles	Type (e.g. supply air linear grille, exhaust air linear grille, transfer air linear grille, others), Material, Size, Specification (e.g. double blade, with VCD)	m	XVII (a), (f) 1, 5	15.6.1	AC	MVS	Air Terminals	Type (e.g. Supply air linear grille, Exhaust air linear grille, Transfer air linear grille, Others) _Material	Size	Grille Width & Grille Height	-	-	-	Specification (e.g. double blade, with VCD)
42	Building Services Installation	Mechanical Ventilation and Air Conditioning Installation	Mechanical Ventilation System	Flexible / Extensible Ductwork	Material, Size, Length	no.	XVII (a), (f) 1, 6, 7	15.6.1	AC	MVS	Flex Duct	Type (Flex Duct Rectangular / Flex Duct Round)	Material	From List (Width & Height) (Diameter)	-	-	-	-

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5D BIM STANDARDS																		
General BQ/SOR								Naming Convention										
								System Attribute (System Type)		Standard Attribute (Naming)			Dimension Attribute	Additional Attribute (Shared & Instance Parameter)				
Item	System Name	Sub-System Name	BQ / SOR Item	Required Information	Unit	HKSMM4R Section	RLB Preambles (Jun 2020) Clause	System Name (Discipline Code)	Sub-System Name	Category	General Heading (Family Name)	Item (Type Name)	Size	Capacity	Insulation	Protective Covering & Finishing	Other
Mechanical Ventilation System (MVS)																		
43	Building Services Installation	Mechanical Ventilation and Air Conditioning Installation	Mechanical Ventilation System	Exhaust Fans, Fresh Air Fans	Type, Air volume flow rate (L/s), Static pressure (Pa), Equipment ID	no.	XVII (a), (b)	-	AC	MVS	Mechanical Equipment	Exhaust fan / Fresh air fan	Equipment ID	-	Air volume flow rate (L/s) _Static pressure (Pa)	-	-	-
Smoke Extraction System																		
44	Building Services Installation	Mechanical Ventilation and Air Conditioning Installation	Smoke Extraction System	Rectangular Air Ductwork	Material, Gauge or thickness	m^2	XVII (a), (f) 1, 2	-	AC	SED	Ducts	Type (Rectangular Duct)	Material	From List (Width & Height)	-	-	-	-
											Duct Fittings	Type (Elbow / Junction / Cross / Transition / Union / Flange / Cap)		From List (Width & Height) & Centerline				
45	Building Services Installation	Mechanical Ventilation and Air Conditioning Installation	Smoke Extraction System	Circular Air Ductwork	Material, Diameter	m	XVII (a), (f) 1, 3	15.6.1*	AC	SED	Ducts	Type (Round Duct)	Material	From List (Diameter)	-	-	-	-
46	Building Services Installation	Mechanical Ventilation and Air Conditioning Installation	Smoke Extraction System	Oval Air Ductwork	Material, Diameter	m	XVII (a), (f) 1, 3	15.6.1*	AC	SED	Ducts	Type (Oval Duct)	Material	From List (Width & Height)	-	-	-	-
47	Building Services Installation	Mechanical Ventilation and Air Conditioning Installation	Smoke Extraction System	Extra over Duct Fittings to Circular or Oval Ducts (e.g. bends, branches, elbows, tees, reducers, reducing branches, reducing tees, transformation pieces, tapers, offsets, outlets, others)	Material, Size, Gauge or thickness	no.	XVII (a), (f) 1, 4	15.6.1*	AC	SED	Duct Fittings	Type (Elbow / Junction / Cross / Transition / Union / Flange / Cap)	Material	From List (Width & Height)	-	-	-	-

SECTION 7: MECHANICAL VENTILATION AND AIR CONDITIONING INSTALLATION
CONTINUED

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5D BIM STANDARDS																		
General BQ/SOR									Naming Convention									
									System Attribute (System Type)		Standard Attribute (Naming)			Dimension Attribute	Additional Attribute (Shared & Instance Parameter)			
Item	System Name		Sub-System Name	BQ / SOR Item	Required Information	Unit	HKSMM4R Section	RLB Preambles (Jun 2020) Clause	System Name (Discipline Code)	Sub-System Name	Category	General Heading (Family Name)	Item (Type Name)	Size	Capacity	Insulation	Protective Covering & Finishing	Other
Smoke Extraction System																		
48	Building Services Installation	Mechanical Ventilation and Air Conditioning Installation	Smoke Extraction System	Discharge Nozzles	Material, Size	no.	XVII (a), (f) 1, 5	15.6.1, 15.6.2	AC	SED	Duct Accessories	Discharge nozzle _Material	Size (e.g. width x height)	Duct Width & Duct Height	-	-	-	-
49	Building Services Installation	Mechanical Ventilation and Air Conditioning Installation	Smoke Extraction System	Dampers	Type (e.g. volume control dampers, fire dampers, smoke dampers, motorized fire dampers, others), Size, Material	no.	XVII (a), (f) 1, 5	15.6.1, 15.6.2	AC	SED	Duct Accessories	Type (e.g. Volume control damper, Fire damper, Smoke damper, Motorized fire damper, Others) _Material	Size (e.g. width x height)	Duct Width & Duct Height	-	-	-	-
50	Building Services Installation	Mechanical Ventilation and Air Conditioning Installation	Smoke Extraction System	Diffusers, Louvres, Grilles	Type (e.g. supply air diffuser, exhaust air diffuser, transfer air diffuser, others), Material, Size, Specification (e.g. double blade, with VCD)	no.	XVII (a), (f) 1, 5	15.6.1	AC	SED	Air Terminals	Type (e.g. Supply air diffuser, Exhaust air diffuser, Transfer air diffuser, others) _Material	Size	Diffuser Width & Diffuser Height	-	-	-	Specification (e.g. double blade, with VCD)
51	Building Services Installation	Mechanical Ventilation and Air Conditioning Installation	Smoke Extraction System	Linear Grilles	Type (e.g. supply air linear grille, exhaust air linear grille, transfer air linear grille, others), Material, Size, Specification (e.g. double blade, with VCD)	m	XVII (a), (f) 1, 5	15.6.1	AC	SED	Air Terminals	Type (e.g. Supply air linear grille, Exhaust air linear grille, Transfer air linear grille, Others) _Material	Size	Grille Width & Grille Height	-	-	-	Specification (e.g. double blade, with VCD)
52	Building Services Installation	Mechanical Ventilation and Air Conditioning Installation	Smoke Extraction System	Smoke Extraction Fans, Air Release Fans	Type, Air volume flow rate (L/s), Static pressure (Pa), Equipment ID	no.	XVII (a), (b)	-	AC	SED	Mechanical Equipment	Smoke extraction fan / Air release fan	Equipment ID	-	Air volume flow rate (L/s) _Static pressure (Pa)	-	-	-

SECTION 7: MECHANICAL VENTILATION AND AIR CONDITIONING INSTALLATION
CONTINUED

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5D BIM STANDARDS																		
General BQ/SOR								Naming Convention										
								System Attribute (System Type)		Standard Attribute (Naming)			Dimension Attribute	Additional Attribute (Shared & Instance Parameter)				
Item	System Name	Sub-System Name	BQ / SOR Item	Required Information	Unit	HKSMM4R Section	RLB Preambles (Jun 2020) Clause	System Name (Discipline Code)	Sub-System Name	Category	General Heading (Family Name)	Item (Type Name)	Size	Capacity	Insulation	Protective Covering & Finishing	Other
Electrical and Control System (ELC)																		
53	Building Services Installation	Mechanical Ventilation and Air Conditioning Installation	Electrical and Control System	Motor Control Centre	Type (e.g. for corresponding equipment), Equipment ID	no.	XIX (a), (b) 1	17.2	AC	ELC	Electrical Equipment	Motor Control Centre	Equipment ID	-	-	-	-	Type (e.g. for corresponding equipment)
54	Building Services Installation	Mechanical Ventilation and Air Conditioning Installation	Electrical and Control System	Local Motor Control Panels for Equipment	Type (e.g. for corresponding equipment), Equipment ID	no.	XIX (a), (b) 1	17.2	AC	ELC	Electrical Equipment	Local Motor Control Panel	Equipment ID	-	-	-	-	Type (e.g. for corresponding equipment)
55	Building Services Installation	Mechanical Ventilation and Air Conditioning Installation	Electrical and Control System	Electrical power and control circuit	Size and type of cable, where appropriate the type of conduit, Means of achieving earth continuity, Stating the distribution boards	no.	XVIII (a), (g) 2 XIX (a), (d)	16.3, 17.4	AC	ELC	Using the quantity of Panel and relevant Equipment							

Remarks
* Additional preambles (optional):
  - Section XVII, Sub-Section (d), Clause M.2 – Pipework is measured over short running lengths, but not through items of all in-line fittings, ancillaries, headings and trapping sets.
  - Section XVII, Sub-section (d), Clause C.2 (a) is deleted.
  - Section XVII, Sub-section (d), 3.*.0.0 – The pipework fittings larger than 50 mm diameter for pipework other than copper have not been measured as extra over pipework but are enumerated as individual units. The pipework fittings smaller than or equal to 50 mm diameter for pipework other than copper have been enumerated as individual units.
  - Section XVII, Sub-section (d), 4.*.0.0 – The pipework fittings for copper pipes larger than 54 mm diameter have not been measured as extra over pipework but are enumerated as individual units. The pipework fittings for copper pipes smaller than or equal to 54 mm diameter have been enumerated as individual units.
  - Section XVII, Sub-section (d), 5.*.0.0 – The pipework fittings for pipes other than circular have not been measured as extra over pipework but are enumerated as individual units.
  - Section XVII, Sub-section (f), 4.*.1.0 – In-line fittings to circular or oval ducts have not been measured as extra over circular or oval ductwork in section but but are enumerated as individual units.
  - Section XVII, Sub-section (g), Clause M.2 – Insulation to pipework is measured over short running lengths, but not through items of all in-line fittings and ancillaries.
  - Section XVII, Sub-section (g), Clause C.2 (a) – Work is deemed to include insulation to joints in the running length, but not to fittings.
  - Section XVII, Sub-section (g), 3-4.*.1.1 – Insulation to pipework fittings have not been measured as extra over pipework insulation but are enumerated as individual units, or alternatively, for those pre-insulated pipework, the insulation for such fittings shall be deemed to be included in the description of the pre-insulated pipework fittings but not measured separately.
  - Section XVII, Sub-section (g), 8.*.1.1 – Working the insulation around in-line fittings for circular or oval ductwork have not been measured as extra over insulation to circular or oval ductwork but are enumerated as individual units.
  - Section XVII, Sub-section (h), Clause M.1 – Protective coverings and finishings to insulated pipework is measured over short running lengths, but not through items of all in-line fittings and ancillaries.
  - Section XVII, Sub-section (h), Clause C.2 – Work is deemed to include protective coverings and finishings to joints in the running length, but not to fittings.
  - Section XVII, Sub-section (h), 3-4.*.1.0 – Protective coverings and finishings to insulated pipework fittings have not been measured as extra over protective coverings and finishings to insulated pipework but are enumerated as individual units, or alternatively, for those pre-insulated pipework, the protective coverings and finishings for such fittings shall be deemed to be included in the description of the pre-insulated pipework fittings but not measured separately.
  - Section XVII, Sub-section (h), 8.*.0.0 – Protective covering and finishings to insulated circular or oval ductwork fittings have not been measured as extra over protective coverings and finishings to circular or oval ductwork but are enumerated as individual units.
  - The BQ/ SOR description (i.e. ~~Extra over~~ Pipe Fittings) shall be amended accordingly.

SECTION 8: FIRE SERVICES INSTALLATION

Version 1.0

5D BIM STANDARDS																			
General BQ/SOR									Naming Convention										
									System Attribute (System Type)		Standard Attribute (Naming)			Dimension Attribute	Additional Attribute (Shared & Instance Parameter)				
Item	System Name	Sub-System Name	BQ / SOR Item	Required Information	Unit	HKSMM4R Section	RLB Preambles (Jun 2020) Clause		System Name (Discipline Code)	Sub-System Name	Category	General Heading (Family Name)	Item (Type Name)	Size	Capacity	Insulation	Protective Covering & Finishing	Other
Generally																			
Notwithstanding the requirement of the SMM the following departure has been made. Section XVII, Sub-section (a), Clause M.2 – Work is measured irrespective of location and fixing background.						M.2	15.1.2												
Incoming Supply System (ISS)																			
1	Building Services Installation	Fire Services Installation	Incoming Supply System	Pipework	Material, Diameter, Method of jointing	m	XVII (a), (d) 1 - 2	15.4.1*, 15.4.2	FS	ISS	Pipes	Pipe Type (Default)	Material	From List (Diameter)	-	-	-	-
2	Building Services Installation	Fire Services Installation	Incoming Supply System	Extra over Pipe Fittings (e.g. bends, elbows, branches, reducers, tees, reducing bends, reducing tees, caps, flanged ends, others)	Material, Diameter	no.	XVII (a), (d) 3 - 5	15.4.1*, 15.4.2	FS	ISS	Pipe Fittings	Type (Elbow / Junction / Cross / Transition / Union / Flange / Cap)	Material	From List (Diameter)	-	-	-	-
3	Building Services Installation	Fire Services Installation	Incoming Supply System	Ancillaries (e.g. valves, flow meter, flow switches, air vents, strainers, orifice plates, vortex inhibitor, others)	Type (e.g. gate valve, pipeline strainer, automatic air vents, orifice plates, vortex inhibitor, others), Material, Size (? diameter / to suit ? diameter pipes)	no.	XVII (a), (d) 7	15.4.2	FS	ISS	Pipe Accessories	Type (e.g. Gate valve, Pipeline strainer, Automatic air vents, Orifice plates, Vortex inhibitor, Others)	Size (? diameter / to suit ? diameter pipes)	Size (? diameter / to suit ? diameter pipes)	-	-	-	-
Automatic Sprinkler System (SPR)																			
4	Building Services Installation	Fire Services Installation	Automatic Sprinkler System	Pipework	Material, Diameter, Method of jointing	m	XVII (a), (d) 1 - 2	15.4.1*, 15.4.2	FS	SPR	Pipes	Pipe Type (Default)	Material	From List (Diameter)	-	-	-	-
5	Building Services Installation	Fire Services Installation	Automatic Sprinkler System	Extra over Pipe Fittings (e.g. bends, elbows, branches, reducers, tees, reducing bends, reducing tees, caps, flanged ends, others)	Material, Diameter	no.	XVII (a), (d) 3 - 5	15.4.1*, 15.4.2	FS	SPR	Pipe Fittings	Type (Elbow / Junction / Cross / Transition / Union / Flange / Cap)	Material	From List (Diameter)	-	-	-	-

SECTION 8: FIRE SERVICES INSTALLATION CONTINUED

Version 1.0

5D BIM STANDARDS																			
General BQ/SOR									Naming Convention										
									System Attribute (System Type)		Standard Attribute (Naming)			Dimension Attribute	Additional Attribute (Shared & Instance Parameter)				
Item	System Name	Sub-System Name	BQ / SOR Item	Required Information	Unit	HKSMM4R Section	RLB Preambles (Jun 2020) Clause		System Name (Discipline Code)	Sub-System Name	Category	General Heading (Family Name)	Item (Type Name)	Size	Capacity	Insulation	Protective Covering & Finishing	Other	
Automatic Sprinkler System (SPR)																			
6	Building Services Installation	Fire Services Installation	Automatic Sprinkler System	Ancillaries (e.g. valves, flow meter, flow switches, air vents, strainers, orifice plates, vortex inhibitor, others)	Type (e.g. gate valve, pipeline strainer, automatic air vents, orifice plates, vortex inhibitor, others), Material, Size (? diameter/ to suit ? diameter pipes)	no.	XVII (a), (d) 7	15.4.2 (11)	FS	SPR	Pipe Accessories	Type (e.g. Gate valve, Pipeline strainer, Automatic air vents, Orifice plates, Vortex inhibitor, Others)	Size (? diameter / to suit ? diameter pipes)	Size (? diameter / to suit ? diameter pipes)	-	-	-	-	
7	Building Services Installation	Fire Services Installation	Automatic Sprinkler System	Flow and return header pipes	Length, Number and size of each branch, Insulation and protective coverings & finishings	no.	XVII (a), (d) 10	-	FS	SPR	Pipes	Pipe Type (Default)	Flow and return header pipe _Material	From List (Diameter) & Length	-	-	-	-	
8	Building Services Installation	Fire Services Installation	Automatic Sprinkler System	Instrumentation (e.g. pressure gauges, sprinkler control valve sets, others)	Size (to suit ? diameter pipes)	no.	XVII (a), (d) 16	15.4.2 (12)	FS	SPR	Pipe Accessories	Type (e.g. Pressure gauge, Sprinkler control valve set, Others)	Diameter (to suit ? diameter pipes)	Diameter (to suit ? diameter pipes)	-	-	-	-	
9	Building Services Installation	Fire Services Installation	Automatic Sprinkler System	Tanks (excluding R.C. tank)	Material, Capacity (L)	no.	XVII (a), (b)	15.2.1	FS	SPR	Specialty Equipment	Tank	Material	-	Capacity (L)	-	-	-	
10	Building Services Installation	Fire Services Installation	Automatic Sprinkler System	Pumps	Type (e.g. end suction, horizontal / vertical centrifugal, others), Water flow rate (L/s), Head of water (m), Equipment ID	no.	XVII (a), (b)	15.2.1	FS	SPR	Mechanical Equipment	Type (e.g. End suction pump, Horizontal / Vertical centrifugal pump, Others)	Equipment ID	-	Water flow rate (L/s) _Head of water (m)	-	-	-	
11	Building Services Installation	Fire Services Installation	Automatic Sprinkler System	Sprinkler Heads	Type (e.g. pendent, upright, side wall, flush pattern, others), Temperature rating, Plate finishes	no.	XVII (a), (d) 7	15.4.2 (11)	FS	SPR	Sprinkler	Type (e.g. Pendent, Upright, Side wall, Flush pattern, Others)	Tempertaure rating	-	-	-	-	Plate finishes	

SECTION 8: FIRE SERVICES INSTALLATION CONTINUED

Version 1.0

5D BIM STANDARDS																			
General BQ/SOR								Naming Convention											
								System Attribute (System Type)		Standard Attribute (Naming)			Dimension Attribute	Additional Attribute (Shared & Instance Parameter)				
Item	System Name	Sub-System Name	BQ / SOR Item	Required Information	Unit	HKSMM4R Section	RLB Preambles (Jun 2020) Clause	System Name (Discipline Code)	Sub-System Name	Category	General Heading (Family Name)	Item (Type Name)	Size	Capacity	Insulation	Protective Covering & Finishing	Other
Automatic Sprinkler System (SPR)																			
12	Building Services Installation	Fire Services Installation	Automatic Sprinkler System	Sprinkler Inlets	Type (e.g. twin, others), Material, Diameter	no.	XVII (a), (d) 7	15.4.2 (11)	FS	SPR	Specialty Equipment	Type (e.g. Twin sprinkler inlet, Others)	Diameter	-	-	-	-	-
Fire Hydrant & Hose Reel System (FHR)																			
13	Building Services Installation	Fire Services Installation	Fire Hydrant & Hose Reel System	Pipework	Material, Diameter, Method of jointing	m	XVII (a), (d) 1 - 2	15.4.1*, 15.4.2	FS	FHR	Pipes	Pipe Type (Default)	Material	From List (Diameter)	-	-	-	-
14	Building Services Installation	Fire Services Installation	Fire Hydrant & Hose Reel System	Extra over Pipe Fittings (e.g. bends, elbows, branches, reducers, tees, reducing bends, reducing tees, caps, flanged ends, others)	Material, Diameter	no.	XVII (a), (d) 3 - 5	15.4.1*, 15.4.2	FS	FHR	Pipe Fittings	Type (Elbow / Junction / Cross / Transition / Union / Flange / Cap)	Material	From List (Diameter)	-	-	-	-
15	Building Services Installation	Fire Services Installation	Fire Hydrant & Hose Reel System	Ancillaries (e.g. valves, flow meter, flow switches, air vents, strainers, orifice plates, vortex inhibitor, others)	Type (e.g. gate valve, pipeline strainer, automatic air vents, orifice plates, vortex inhibitor, others), Material, Size (? diameter / to suit ? diameter pipes)	no.	XVII (a), (d) 7	15.4.2 (11)	FS	FHR	Pipe Accessories	Type (e.g. Gate valve, Pipeline strainer, Automatic air vents, Orifice plates, Vortex inhibitor, Others)	Size (? diameter / to suit ? diameter pipes)	Size (? diameter / to suit ? diameter pipes)	-	-	-	-
16	Building Services Installation	Fire Services Installation	Fire Hydrant & Hose Reel System	Flow and return header pipes	Length, Number and size of each branch, Insulation and protective coverings & finishings	no.	XVII (a), (d) 10	-	FS	FHR	Pipes	Pipe Type (Default)	Flow and return header pipe _Material	From List (Diameter) & Length	-	-	-	-
17	Building Services Installation	Fire Services Installation	Fire Hydrant & Hose Reel System	Instrumentation (e.g. pressure gauges, pressure switches, others)	Size (to suit ? diameter pipes)	no.	XVII (a), (d) 16	15.4.2 (12)	FS	FHR	Pipe Accessories	Type (e.g. Pressure gauge, Pressure switche, Others)	Diameter (to suit ? diameter pipes)	Diameter (to suit ? diameter pipes)	-	-	-	-
18	Building Services Installation	Fire Services Installation	Fire Hydrant & Hose Reel System	Tanks (excluding R.C. tank)	Material, Capacity (L)	no.	XVII (a), (b)	15.2.1	FS	FHR	Specialty Equipment	Tank	Material	-	Capacity (L)	-	-	-

SECTION 8: FIRE SERVICES INSTALLATION CONTINUED

Version 1.0

5D BIM STANDARDS																			
General BQ/SOR									Naming Convention										
									System Attribute (System Type)		Standard Attribute (Naming)			Dimension Attribute	Additional Attribute (Shared & Instance Parameter)				
Item	System Name		Sub-System Name	BQ / SOR Item	Required Information	Unit	HKSMM4R Section	RLB Preambles (Jun 2020) Clause	System Name (Discipline Code)	Sub-System Name	Category	General Heading (Family Name)	Item (Type Name)	Size	Capacity	Insulation	Protective Covering & Finishing	Other
Fire Hydrant & Hose Reel System (FHR)																			
19	Building Services Installation	Fire Services Installation	Fire Hydrant & Hose Reel System	Pumps	Type (e.g. end suction, horizontal/ vertical centrifugal, others), Water flow rate (L/s), Head of water (m), Equipment ID	no.	XVII (a), (b)	15.2.1	FS	FHR	Mechanical Equipment	Type (e.g. End suction pump, Horizontal / Vertical centrifugal pump, Others)	Equipment ID	-	Water flow rate (L/s) _Head of water (m)	-	-	-
20	Building Services Installation	Fire Services Installation	Fire Hydrant & Hose Reel System	Fire Hydrants Outlets	Type (e.g. single, double, others), Diameter	no.	XVII (a), (d) 7	15.4.2 (11)	FS	FHR	Specialty Equipment	Type (e.g. Single fire hydrants outlet, Double fire hydrants outlet, Others)	Diameter	-	-	-	-	-
21	Building Services Installation	Fire Services Installation	Fire Hydrant & Hose Reel System	Hose Reels	Type (fixed / swing-out)	no.	XVII (a), (d) 7	15.4.2 (11)	FS	FHR	Specialty Equipment	Hose Reel	Type (fixed / swing-out)	-	-	-	-	-
22	Building Services Installation	Fire Services Installation	Fire Hydrant & Hose Reel System	FS Inlets	Type (e.g. twin, others), Material, Diameter	no.	XVII (a), (d) 7	15.4.2 (11)	FS	FHR	Specialty Equipment	Type (e.g. Twin FS inlet, Others) _Material	Diameter	-	-	-	-	-
Manual and Automatic Fire Alarm System (AFA)																			
23	Building Services Installation	Fire Services Installation	Manual and Automatic Fire Alarm System	Smoke Detectors	Type (e.g. optical, ionisation, others)	no.	XVIII (a), (h) 2	-	FS	AFA	Fire Alarm Devices	Smoke Detector	Type (e.g. Optical, Ionisation, Others)	-	-	-	-	-
24	Building Services Installation	Fire Services Installation	Manual and Automatic Fire Alarm System	Heat Detectors	Type (e.g. flush mounting, surface mounting, others)	no.	XVIII (a), (h) 2	-	FS	AFA	Fire Alarm Devices	Heat Detector	Type (e.g. Flush mounting, Surface mounting, Others)	-	-	-	-	-
25	Building Services Installation	Fire Services Installation	Manual and Automatic Fire Alarm System	Break Glass Units	Type (e.g. resettable, addressable, others)	no.	XVIII (a), (h) 2	-	FS	AFA	Fire Alarm Devices	Break Glass Unit	Type (e.g. Resettable, Addressable, Others)	-	-	-	-	-

SECTION 8: FIRE SERVICES INSTALLATION CONTINUED

Version 1.0

5D BIM STANDARDS																		
General BQ/SOR									Naming Convention									
									System Attribute (System Type)		Standard Attribute (Naming)			Dimension Attribute	Additional Attribute (Shared & Instance Parameter)			
Item	System Name	Sub-System Name	BQ / SOR Item	Required Information	Unit	HKSMM4R Section	RLB Preambles (Jun 2020) Clause		System Name (Discipline Code)	Sub-System Name	Category	General Heading (Family Name)	Item (Type Name)	Size	Capacity	Insulation	Protective Covering & Finishing	Other
Manual and Automatic Fire Alarm System (AFA)																		
26	Building Services Installation	Fire Services Installation	Manual and Automatic Fire Alarm System	Remote Indicators	Type (e.g. indicator lamp, others)	no.	XVIII (a), (h) 2	-	FS	AFA	Fire Alarm Devices	Remote Indicator	Type (e.g. Indicator lamp, Others)	-	-	-	-	-
27	Building Services Installation	Fire Services Installation	Manual and Automatic Fire Alarm System	Water Alarm Gongs	Size of gongs	no.	XVIII (a), (h) 2	-	FS	AFA	Fire Alarm Devices	Water Alarm Gong	Size of gongs	-	-	-	-	-
28	Building Services Installation	Fire Services Installation	Manual and Automatic Fire Alarm System	Alarm Bells	Type (e.g. addressable, others)	no.	XVIII (a), (h) 2	-	FS	AFA	Fire Alarm Devices	Alarm Bell	Type (e.g. Addressable, Others)	-	-	-	-	-
29	Building Services Installation	Fire Services Installation	Manual and Automatic Fire Alarm System	Visual Fire Alarms	Type (e.g. semi-flush mounting, surface mounting, weatherproof, others)	no.	XVIII (a), (h) 2	-	FS	AFA	Fire Alarm Devices	Visual Fire Alarm	Type (e.g. Semi-flush mounting, Surface mounting, Weatherproof, Others)	-	-	-	-	-
30	Building Services Installation	Fire Services Installation	Manual and Automatic Fire Alarm System	Dry Contacts	-	no.	XVIII (a), (h) 2	-	FS	AFA	Fire Alarm Devices	Dry Contact	Dry Contacts	-	-	-	-	-
Portable Fire Fighting Equipment (PFE)																		
31	Building Services Installation	Fire Services Installation	Portable Fire Fighting Equipment	Fire Extinguishers	Type (e.g. carbon dioxide, others), Capacity (kg / litre)	no.	XVII (a), (b)	-	FS	PFE	Specialty Equipment	Type (e.g. Carbon dioxide gas type, others)	Type (e.g. Carbon dioxide gas type, others)	-	Capacity (kg / litre)	-	-	-
32	Building Services Installation	Fire Services Installation	Portable Fire Fighting Equipment	Fire Blankets	Fire blanket	no.	XVII (a), (b)	-	FS	PFE	Specialty Equipment	Fire Blanket	Fire Blanket	-	-	-	-	-
33	Building Services Installation	Fire Services Installation	Portable Fire Fighting Equipment	Sand Buckets	Capacity (litre)	no.	XVII (a), (b)	-	FS	PFE	Specialty Equipment	Sand Bucket	-Sand Bucket	-	Capacity (litre)	-	-	-

SECTION 8: FIRE SERVICES INSTALLATION CONTINUED

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5D BIM STANDARDS																		
General BQ/SOR									Naming Convention									
									System Attribute (System Type)		Standard Attribute (Naming)			Dimension Attribute	Additional Attribute (Shared & Instance Parameter)			
Item	System Name	Sub-System Name	BQ / SOR Item	Required Information	Unit	HKSMM4R Section	RLB Preambles (Jun 2020) Clause		System Name (Discipline Code)	Sub-System Name	Category	General Heading (Family Name)	Item (Type Name)	Size	Capacity	Insulation	Protective Covering & Finishing	Other
Electrical and Control System (ELC)																		
34	Building Services Installation	Fire Services Installation	Electrical and Control System	Control and indicating panel	Type (e.g. main fire alarm control and indicating panel, alarm repeater panel, starter panels, others), Equipment ID	no.	XIX (a), (b) 1	17.2.1	FS	ELC	Electrical Equipment	Type (e.g. Main fire alarm control and indicating panel, Alarm repeater panel, Starter panels, Others)	Equipment ID	-	-	-	-	-
35	Building Services Installation	Fire Services Installation	Electrical and Control System	Local Motor Control Panels for Equipment	Type (e.g. for correspondence pump), Equipment ID	no.	XIX (a), (b) 1	17.2.1	FS	ELC	Electrical Equipment	Local Motor Control Panel	Equipment ID	-	-	-	-	Type (e.g. for correspondence pump)
36	Building Services Installation	Fire Services Installation	Electrical and Control System	Electrical power and control circuits	Size and type of cable, where appropriate the type of conduit, Means of achieving earth continuity, Stating the distribution boards	no.	XIX (a), (d)	17.4.1	FS	ELC	Using the quantity of Panel and relevant Equipment							

Remarks
* Additional preambles (optional):
  - Section XVII, Sub-section (d), Clause M.2 – Pipework is measured over short running lengths, but not through items of all in-line fittings, ancillaries, headings and trapping sets.
  - Section XVII, Sub-section (d), Clause C.2 (a) is deleted.
  - Section XVII, Sub-section (d), 3.*.0.0 – The pipework fittings larger than 50 mm diameter for pipework other than copper have not been measured as extra over pipework but are enumerated as individual units. The pipework fittings smaller than or equal to 50 mm diameter for pipework other than copper have been enumerated as individual units.
  - Section XVII, Sub-section (d), 4.*.0.0 – The pipework fittings for copper pipes larger than 54 mm diameter have not been measured as extra over pipework but are enumerated as individual units. The pipework fittings for copper pipes smaller than or equal to 54 mm diameter have been enumerated as individual units.
  - Section XVII, Sub-section (d), 5.*.0.0 – The pipework fittings for pipes other than circular have not been measured as extra over pipework but are enumerated as individual units.
  - The BQ/ SOR description (i.e. ~~Extra over~~ Pipe Fittings) shall be amended accordingly.

SECTION 9: ABOVE GROUND PLUMBING AND DRAINAGE & UNDERGROUND DRAINAGE

Version 1.0

5D BIM STANDARDS																				
General BQ/SOR									Naming Convention											
									System Attribute (System Type)		Standard Attribute (Naming)			Dimension Attribute	Additional Attribute (Shared & Instance Parameter)				
Item	System Name	Sub-System Name	BQ / SOR Item	Required Information	Unit	HKSMM4R Section	RLB Preambles (Jun 2020) Clause		System Name (Discipline Code)	Sub-System Name	Category	General Heading (Family Name)	Item (Type Name)	Size	Capacity	Insulation	Protective Covering & Finishing	Other	
Generally																				
Notwithstanding the requirement of the SMM the following departure has been made. Section XVII, Sub-section (a), Clause M.2 – Work is measured irrespective of location and fixing background.						M.2	15.1.2													
	Building Services Installation			Insulation to pipework / Protective coverings & finishings to insulated pipework	Material, Diameter, Thickness	m	XVII (g) 1 - 2, (h) 1 - 2	15.7.1, 15.8.1	Using the quantity of Pipework (Additional Attributes: Insulation and Protective Covering & Finishing)											
	Building Services Installation			Extra over pipework insulation for fittings / protective coverings & finishings to insulated pipework for fittings (e.g. bends, elbows, branches, reducers, tees, reducing bends, reducing tees, caps, flanged ends, others)	Material, Diameter, Thickness	no.	XVII (a), (d) 3 - 5, (g) 1, 3, 4, (h) 1, 3, 4	15.4.1*, 15.7.1*, 15.8.1*	Using the quantity of Pipe Fittings (Additional Attributes: Insulation and Protective Covering & Finishing)											
	Building Services Installation			Insulation to pipework ancillaries / Protective coverings & finishings to insulated pipework ancillaries (e.g. valves, flow meter, flow switches, air vents, strainers, others)	Material, Diameter, Thickness	no.	XVII (g) 1, 5, (h) 1, 5	15.7.1, 15.8.1	Using the quantity of Ancillaries (Additional Attributes: Insulation and Protective Covering & Finishing)											
Plumbing - Incoming Water Supply System (IWS)																				
1	Building Services Installation	Above Ground Plumbing and Drainage	Incoming Water Supply System	Pipework	Material, Diameter, Method of jointing	m	XVII (a), (d) 1 - 2	15.4.1*, 15.4.2	PL	IWS	Pipes	Pipe Type (Default)	Material	From List (Diameter)	-	-	-	-		

SECTION 9: ABOVE GROUND PLUMBING AND DRAINAGE & UNDERGROUND DRAINAGE CONTINUED

Version 1.0

5D BIM STANDARDS																			
General BQ/SOR									Naming Convention										
									System Attribute (System Type)		Standard Attribute (Naming)			Dimension Attribute	Additional Attribute (Shared & Instance Parameter)			
Item	System Name	Sub-System Name	BQ / SOR Item	Required Information	Unit	HKSMM4R Section	RLB Preambles (Jun 2020) Clause		System Name (Discipline Code)	Sub-System Name	Category	General Heading (Family Name)	Item (Type Name)	Size	Capacity	Insulation	Protective Covering & Finishing	Other
Plumbing - Incoming Water Supply System (IWS)																			
2	Building Services Installation	Above Ground Plumbing and Drainage	Incoming Water Supply System	Extra over Pipe Fittings (e.g. bends, elbows, branches, reducers, tees, reducing bends, reducing tees, caps, flanged ends, others)	Material, Diameter	no.	XVII (a), (d) 3 - 5	15.4.1*, 15.4.2	PL	IWS	Pipe Fittings	Type (Elbow / Junction / Cross / Transition / Union / Flange / Cap)	Material	From List (Diameter)	-	-	-	-
Plumbing - Incoming Water Supply System (IWS)																			
3	Building Services Installation	Above Ground Plumbing and Drainage	Incoming Water Supply System	Ancillaries (e.g. valves, flow meter, flow switches, air vents, strainers, others)	Type (e.g. stop valves, in-line flow meter, automatic air vent, others), Material, Size (? diameter/ to suit ? diameter pipes)	no.	XVII (a), (d) 7	15.4.2 (11)	PL	IWS	Pipe Accessories	Type (e.g. Stop valves, In-line flow meter, Automatic air vent, Others)	Diameter (? diameter/ to suit ? diameter pipes)	Diameter (? diameter/ to suit ? diameter pipes)	-	-	-	-
Plumbing - Cold Water System (CWS) / Flushing Water System (FWS) / Irrigation System (IS) / Potable Water System (PWS) / Cleansing Water System (CLWS) / Others																			
4	Building Services Installation	Above Ground Plumbing and Drainage	Cold Water System / Flushing Water System / Irrigation System / Potable Water System / Cleansing Water System / Others	Pipework	Material, Diameter, Method of jointing	m	XVII (a), (d) 1 - 2	15.4.1*, 15.4.2	PL	CWS / FWS / IS / PWS / CLWS	Pipes	Pipe Type (Default)	Material	From List (Diameter)	-	-	-	-

SECTION 9: ABOVE GROUND PLUMBING AND DRAINAGE & UNDERGROUND DRAINAGE CONTINUED

Version 1.0

5D BIM STANDARDS																		
General BQ/SOR								Naming Convention										
								System Attribute (System Type)		Standard Attribute (Naming)			Dimension Attribute	Additional Attribute (Shared & Instance Parameter)				
Item	System Name	Sub-System Name	BQ / SOR Item	Required Information	Unit	HKSMM4R Section	RLB Preambles (Jun 2020) Clause	System Name (Discipline Code)	Sub-System Name	Category	General Heading (Family Name)	Item (Type Name)	Size	Capacity	Insulation	Protective Covering & Finishing	Other
Plumbing - Cold Water System (CWS) / Flushing Water System (FWS) / Irrigation System (IS) / Potable Water System (PWS) / Cleansing Water System (CLWS) / Others																		
5	Building Services Installation	Above Ground Plumbing and Drainage	Cold Water System / Flushing Water System / Irrigation System / Potable Water System / Cleansing Water System / Others	Extra over Pipe Fittings (e.g. bends, elbows, branches, reducers, tees, reducing bends, reducing tees, caps, flanged ends, others)	Material, Diameter	no.	XVII (a), (d) 3 - 5	15.4.1*, 15.4.2	PL	CWS / FWS / IS / PWS / CLWS	Pipe Fittings	Type (Elbow / Junction / Cross / Transition / Union / Flange / Cap)	Material	From List (Diameter)	-	-	-	-
6	Building Services Installation	Above Ground Plumbing and Drainage	Cold Water System / Flushing Water System / Irrigation System / Potable Water System / Cleansing Water System / Others	Ancillaries (e.g. valves, flow meter, flow switches, air vents, strainers, others)	Type (e.g. stop valves, in-line flow meter, automatic air vent, others), Material, Size (? diameter/ to suit ? diameter pipes)	no.	XVII (a), (d) 7	15.4.2 (11)	PL	CWS / FWS / IS / PWS / CLWS	Pipe Accessories	Type (e.g. Stop valves, In-line flow meter, Automatic air vent, Others)	Diameter (? diameter/ to suit ? diameter pipes)	Diameter (? diameter/ to suit ? diameter pipes)	-	-	-	-
7	Building Services Installation	Above Ground Plumbing and Drainage	Cold Water System / Flushing Water System / Irrigation System / Potable Water System / Cleansing Water System / Others	Instrumentation (e.g. pressure gauges, others)	Size (to suit ? diameter pipes)	no.	XVII (a), (d) 16	15.4.2 (12)	PL	CWS / FWS / IS / PWS / CLWS	Pipe Accessories	Type (e.g. Pressure gauges, Others)	Diameter (? diameter/ to suit ? diameter pipes)	Diameter (? diameter/ to suit ? diameter pipes)	-	-	-	-

SECTION 9: ABOVE GROUND PLUMBING AND DRAINAGE & UNDERGROUND DRAINAGE CONTINUED

Version 1.0

5D BIM STANDARDS																		
General BQ/SOR									Naming Convention									
									System Attribute (System Type)		Standard Attribute (Naming)			Dimension Attribute	Additional Attribute (Shared & Instance Parameter)			
Item	System Name	Sub-System Name	BQ / SOR Item	Required Information	Unit	HKSMM4R Section	RLB Preambles (Jun 2020) Clause		System Name (Discipline Code)	Sub-System Name	Category	General Heading (Family Name)	Item (Type Name)	Size	Capacity	Insulation	Protective Covering & Finishing	Other
Plumbing - Cold Water System (CWS) / Flushing Water System (FWS) / Irrigation System (IS) / Potable Water System (PWS) / Cleansing Water System (CLWS) / Others																		
8	Building Services Installation	Above Ground Plumbing and Drainage	Cold Water System / Flushing Water System / Irrigation System / Potable Water System / Cleansing Water System / Others	Tanks (excluding R.C. tank)	Material, Capacity (L)	no.	XVII (a), (b)	15.2.1	PL	CWS / FWS / IS / PWS / CLWS	Specialty Equipment	Tank	Material	-	Capacity (L)	-	-	-
9	Building Services Installation	Above Ground Plumbing and Drainage	Cold Water System / Flushing Water System / Irrigation System / Potable Water System / Cleansing Water System / Others	Pumps	Water flow rate (L/s), Head of water (m), Equipment ID	no.	XVII (a), (b)	15.2.1	PL	CWS / FWS / IS / PWS / CLWS	Mechanical Equipment	Pump _Type (e.g. End suction, Horizontal / Vertical centrifugal, Others)	Equipment ID	-	Water flow rate (L/s) _Head of water (m)	-	-	-
Plumbing - Hot Water System (HWS)																		
10	Building Services Installation	Above Ground Plumbing and Drainage	Hot Water System	Pipework	Material, Diameter, Method of jointing	m	XVII (a), (d) 1 - 2	15.4.1*, 15.4.2	PL	HWS	Pipes	Pipe Type (Default)	Material	From List (Diameter)	-	Type _Thickness	Type _Thickness	-

SECTION 9: ABOVE GROUND PLUMBING AND DRAINAGE & UNDERGROUND DRAINAGE CONTINUED

Version 1.0

5D BIM STANDARDS																			
General BQ/SOR								Naming Convention											
								System Attribute (System Type)		Standard Attribute (Naming)			Dimension Attribute	Additional Attribute (Shared & Instance Parameter)				
Item	System Name	Sub-System Name	BQ / SOR Item	Required Information	Unit	HKSMM4R Section	RLB Preambles (Jun 2020) Clause	System Name (Discipline Code)	Sub-System Name	Category	General Heading (Family Name)	Item (Type Name)	Size	Capacity	Insulation	Protective Covering & Finishing	Other
Plumbing - Hot Water System (HWS)																	
11	Building Services Installation	Above Ground Plumbing and Drainage	Hot Water System	Extra over Pipe Fittings (e.g. bends, elbows, branches, reducers, tees, reducing bends, reducing tees, caps, flanged ends, others)	Material, Diameter	no.	XVII (a), (d) 3 - 5	15.4.1*, 15.4.2	PL	HWS	Pipe Fittings	Type (Elbow / Junction / Cross / Transition / Union / Flange / Cap)	Material	From List (Diameter)	-	Type _Thickness	Type _Thickness	-
12	Building Services Installation	Above Ground Plumbing and Drainage	Hot Water System	Ancillaries (e.g. valves, flow meter, flow switches, air vents, strainers, others)	Type (e.g. stop valves, in-line flow meter, automatic air vent, others), Material, Size (? diameter/ to suit ? diameter pipes)	no.	XVII (a), (d) 7	15.4.2 (11)	PL	HWS	Pipe Accessories	Type (e.g. Stop valves, In-line flow meter, Automatic air vent, Others)	Diameter (? diameter/ to suit ? diameter pipes)	Diameter (? diameter/ to suit ? diameter pipes)	-	Type _Thickness	Type _Thickness	-
13	Building Services Installation	Above Ground Plumbing and Drainage	Hot Water System	Heaters	Type (e.g. gas, electrical, others), Capacity (litre), Equipment ID	no.	XVII (a), (b)	-	PL	HWS	Specialty Equipment	Heater _Type (e.g. Gas, Electrical, Others)	Equipment ID	-	Capacity (litre)	-	-	-
Drainage - Rainwater Disposal System (RWD) / Soil, Waste and Ventilation System (SWP)																			
14	Building Services Installation	Above Ground Plumbing and Drainage	Rainwater Disposal System / Soil, Waste and Ventilation System	Pipework	Material, Diameter, Method of jointing	m	XVII (a), (d) 1 - 2	15.4.1*, 15.4.2	DR	RWD / SWP	Pipes1	Pipe Type (Default)	Material	From List (Diameter)	-	-	-	-
15	Building Services Installation	Above Ground Plumbing and Drainage	Rainwater Disposal System / Soil, Waste and Ventilation System	Extra over Pipe Fittings (e.g. bends, elbows, branches, reducers, tees, reducing bends, reducing tees, caps, flanged ends, others)	Material, Diameter	no.	XVII (a), (d) 3 - 5	15.4.1*, 15.4.2	DR	RWD / SWP	Pipe Fittings	Type (Elbow / Junction / Cross / Transition / Union / Flange / Cap)	Material	From List (Diameter)	-	-	-	-

SECTION 9: ABOVE GROUND PLUMBING AND DRAINAGE & UNDERGROUND DRAINAGE CONTINUED

Version 1.0

5D BIM STANDARDS																			
General BQ/SOR									Naming Convention										
									System Attribute (System Type)		Standard Attribute (Naming)			Dimension Attribute	Additional Attribute (Shared & Instance Parameter)			
Item	System Name		Sub-System Name	BQ / SOR Item	Required Information	Unit	HKSMM4R Section	RLB Preambles (Jun 2020) Clause	System Name (Discipline Code)	Sub-System Name	Category	General Heading (Family Name)	Item (Type Name)	Size	Capacity	Insulation	Protective Covering & Finishing	Other
Drainage - Rainwater Disposal System (RWD) / Soil, Waste and Ventilation System (SWP)																		
16	Building Services Installation	Above Ground Plumbing and Drainage	Rainwater Disposal System / Soil, Waste and Ventilation System	Accessories (e.g. gullies, outlets, floor drain, cowls, others)	Type (e.g. trap gullies, floor outlet, vent cowls, others), Material, Size (e.g. ? mm straight outlet cast through ? mm concrete slab and connected to pipe), Grating shape & size (if any)	no.	XVII (a), (d) 6	-	DR	RWD / SWP	Pipe Accessories	Type (e.g. Trap gullies, Floor outlet, Vent cowls, Others) _Material	Diameter	Diameter	-	-	-	Grating shape & size
17	Building Services Installation	Above Ground Plumbing and Drainage	Rainwater Disposal System / Soil, Waste and Ventilation System	Ancillaries (e.g. valves, flow meter, flow switches, air vents, strainers, others)	Type (e.g. stop valves, in-line flow meter, automatic air vent, others), Material, Size (? diameter/ to suit ? diameter pipes)	no.	XVII (a), (d) 7	15.4.2 (11)	DR	RWD / SWP	Pipe Accessories	Type (e.g. Stop valves, In-line flow meter, Automatic air vent, Others)	Diameter (? diameter/ to suit ? diameter pipes)	Diameter (? diameter/ to suit ? diameter pipes)	-	-	-	-
18	Building Services Installation	Above Ground Plumbing and Drainage	Rainwater Disposal System / Soil, Waste and Ventilation System	Instrumentation (e.g. pressure gauges, others)	Size (to suit ? diameter pipes)	no.	XVII (a), (d) 16	15.4.2 (12)	DR	RWD / SWP	Pipe Accessories	Type (e.g. Pressure gauges, Others)	Diameter (to suit ? diameter pipes)	Diameter (to suit ? diameter pipes)	-	-	-	-
Sanitary Fittings (SF) (maybe built in ABWF or MEP model)																		
19	Building Services Installation	Sanitary Fittings	Sanitary Fittings	Sanitary Fittings (e.g. faucets, sinks, bathtubs, shower mixer, shower heads, water closets, urinals, cistern, others)	Size, Capacity, Sanitary fittings code, Fixing method and supports, Manufacturer's reference	no.	XVII (c)	2.2.16, 15.3	-	SF	SF	Plumbing Fixtures	Type (e.g.. Faucets, Sinks, Bathtubs, Shower mixer, Shower heads, Water closets, Urinals, Cistern, Others) _Sanitary fittings code	Size _Capacity	-	-	-	-

SECTION 9: ABOVE GROUND PLUMBING AND DRAINAGE & UNDERGROUND DRAINAGE CONTINUED

Version 1.0

5D BIM STANDARDS																			
General BQ/SOR									Naming Convention										
									System Attribute (System Type)		Standard Attribute (Naming)			Dimension Attribute	Additional Attribute (Shared & Instance Parameter)				
Item	System Name		Sub-System Name	BQ / SOR Item	Required Information	Unit	HKSMM4R Section	RLB Preambles (Jun 2020) Clause	System Name (Discipline Code)	Sub-System Name	Category	General Heading (Family Name)	Item (Type Name)	Size	Capacity	Insulation	Protective Covering & Finishing	Other
Underground Drainage - Soil, Waste and Stormwater Drainage (SWS)																			
20	-	Underground Drainage	Soil, Waste and Stormwater Drainage	Trenches	Pipe diameter, Average depth of trench	m	IX 1 - 3	7.2, 7.3	UD	SWS	Using the quantity of Pipework								
21	-	Underground Drainage	Soil, Waste and Stormwater Drainage	Concrete bed and surrounds to drain pipes	Concrete grade, Size (e.g. ? x ? under ? diameter pipes)	m	IX 4 - 6	7.3	UD	SWS	Using the quantity of Pipework								
22	-	Underground Drainage	Soil, Waste and Stormwater Drainage	Pipework laid in trenches	Material, Diameter, Method of jointing, Connecting to which manholes	m	IX 7 - 8	7.3 (2)	UD	SWS	Pipes	Pipe Type (Default)	Material	From List (Diameter) & Reference Level & Start/ End Middle Elevation	-	-	-	-
23	-	Underground Drainage	Soil, Waste and Stormwater Drainage	Extra over Pipe Fittings (e.g. bends, junctions, diminishing pipes, connectors, adapters, mechanical ball joints, puddle flanged ends, others)	Material, Diameter	no.	IX 9	7.3 (2)	UD	SWS	Pipe Fittings	Type (Elbow / Junction / Cross / Transition / Union / Flange / Cap)	Material	From List (Diameter)	-	-	-	-
24	-	Underground Drainage	Soil, Waste and Stormwater Drainage	Pipe accessories (e.g. gullies, traps, cowls, others)	Type (e.g. trap gullies, intercepting traps, vent cowls, others), Material, Size, Grating shape & size (if any), Fixing method	no.	IX 10	-	UD	SWS	Pipe Accessories	Type (e.g. Trap gullies, Intercepting traps, Vent cowls, Others) _Material	Diameter	Diameter	-	-	-	Grating shape & size (if any)

SECTION 9: ABOVE GROUND PLUMBING AND DRAINAGE & UNDERGROUND DRAINAGE CONTINUED

Version 1.0

5D BIM STANDARDS																			
General BQ/SOR								Naming Convention											
								System Attribute (System Type)		Standard Attribute (Naming)			Dimension Attribute	Additional Attribute (Shared & Instance Parameter)				
Item	System Name	Sub-System Name	BQ / SOR Item	Required Information	Unit	HKSMM4R Section	RLB Preambles (Jun 2020) Clause	System Name (Discipline Code)	Sub-System Name	Category	General Heading (Family Name)	Item (Type Name)	Size	Capacity	Insulation	Protective Covering & Finishing	Other
Underground Drainage - Soil, Waste and Stormwater Drainage (SWS)																	
25	-	Underground Drainage	Soil, Waste and Stormwater Drainage	Manholes	Concrete grade, System type, Manhole size (e.g. ? x ? x ? deep internal size), Manhole type (e.g. type A, B,C, Others), Manhole ID, Type of manhole cover (if any)	no.	IX 13	7.2, 7.3	UD	SWS	Generic Model	Manhole _Manhole Type (e.g. Type A, B,C, Others) _System type	Manhole ID _Manhole Size (e.g. ? x ? x ? deep internal size)	-	-	-	-	Type of manhole cover
26	-	Underground Drainage	Soil, Waste and Stormwater Drainage	Inspection chambers, soakaways, back inlet gully traps, cesspools, septic tanks, grease traps, petrol interceptors, others	Concrete grade, Size (e.g. ? x ? x ? deep internal size), Reference ID	no.	IX 14 - 21	7.2, 7.3	UD	SWS	Generic Model	Type (e.g. Inspection chambers, Soakaways, Back inlet gully traps, Cesspools, Septic tanks, Grease traps, Petrol interceptors, Others)	Reference ID _Size (e.g. ? x ? x ? deep internal size)	-	-	-	-	-
27	-	Underground Drainage	Soil, Waste and Stormwater Drainage	Sump pumps	Type (e.g. end suction, centrifugal, others), Capacity, Equipment ID	no.	XVII (a), (b)	15.2.1	UD	SWS	Mechanical Equipment	Sump pump _Type (e.g. End suction, Centrifugal, Others	Equipment ID	-	Capacity	-	-	-
28	-	Underground Drainage	Surface Water Drainage	Surface water channels	Material, Size, Waterway dimension, Straight/ curved	m	VII (a) 5	5.1.1	UD	SWC	Generic Models	Surface water channels _Type of material	Overall width	Overall Width & Length	-	-	-	Grating

SECTION 9: ABOVE GROUND PLUMBING AND DRAINAGE & UNDERGROUND DRAINAGE CONTINUED

Version 1.0

5D BIM STANDARDS																			
General BQ/SOR									Naming Convention										
									System Attribute (System Type)		Standard Attribute (Naming)			Dimension Attribute	Additional Attribute (Shared & Instance Parameter)				
Item	System Name	Sub-System Name	BQ / SOR Item	Required Information	Unit	HKSMM4R Section	RLB Preambles (Jun 2020) Clause		System Name (Discipline Code)	Sub-System Name	Category	General Heading (Family Name)	Item (Type Name)	Size	Capacity	Insulation	Protective Covering & Finishing	Other	
Electrical and Control System (ELC)																			
29	Building Services Installation	Above Ground Plumbing and Drainage / Underground Drainage	Electrical and Control System	Local Motor Control Panels for Equipment	Type (e.g. for correspondence pump), Equipment ID	no.	XIX (a), (b) 1	17.2	PL / DR / UD	ELC	Electrical Equipment	Local Motor Control Panel	Equipment ID	-	-	-	-	Type (e.g. for correspondence pump)	
30	Building Services Installation	Above Ground Plumbing and Drainage / Underground Drainage	Electrical and Control System	Electrical power and control circuits	Size and type of cable, where appropriate the type of conduit, Means of achieving earth continuity, Stating the distribution boards	no.	XIX (a), (d)	17.4	PL / DR / UD	ELC	Using the quantity of Panel and relevant Equipment								

Remarks

* Additional preambles (optional):

- Section XVII, Sub-section (d), Clause M.2 – Pipework is measured over short running lengths, but not through items of all in-line fittings, ancillaries, headings and trapping sets.
- Section XVII, Sub-section (d), Clause C.2 (a) is deleted.
- Section XVII, Sub-section (d), 3.*.0.0 – The pipework fittings larger than 50 mm diameter for pipework other than copper have not been measured as extra over pipework but are enumerated as individual units. The pipework fittings smaller than or equal to 50 mm diameter for pipework other than copper have been enumerated as individual units.
- Section XVII, Sub-section (d), 4.*.0.0 – The pipework fittings for copper pipes larger than 54 mm diameter have not been measured as extra over pipework but are enumerated as individual units. The pipework fittings for copper pipes smaller than or equal to 54 mm diameter have been enumerated as individual units.
- Section XVII, Sub-section (d), 5.*.0.0 – The pipework fittings for pipes other than circular have not been measured as extra over pipework but are enumerated as individual units.
- Section XVII, Sub-section (g), Clause M.2 - Insulation to pipework is measured over short running lengths, but not through items of all in-line fittings and ancillaries.
- Section XVII, Sub-section (g), Clause C.2 (a) - Work is deemed to include insulation to joints in the running length, but not to fittings.
- Section XVII, Sub-section (g), 3-4.*.1.1 – Insulation to pipework fittings have not been measured as extra over pipework insulation but are enumerated as individual units, or alternatively, for those pre-insulated pipework, the insulation for such fittings shall be deemed to be included in the description of the pre-insulated pipework fittings but not measured separately.
- Section XVII, Sub-section (h), Clause M.1 - Protective coverings and finishings to insulated pipework is measured over short running lengths, but not through items of all in-line fittings and ancillaries.
- Section XVII, Sub-section (h), Clause C.2 - Work is deemed to include protective coverings and finishings to joints in the running length, but not to fittings.
- Section XVII, Sub-section (h), 3-4.*.1.0 – Protective coverings and finishings to insulated pipework fittings have not been measured as extra over protective coverings and finishings to insulated pipework but are enumerated as individual units, or alternatively, for those pre-insulated pipework, the protective coverings and finishings for such fittings shall be deemed to be included in the description of the pre-insulated pipework fittings but not measured separately.
- The BQ/ SOR description (i.e. ~~Extra over~~ Pipe Fittings) shall be amended accordingly.

SECTION 10: ELECTRICAL & ELV INSTALLATION

Version 1.0

5D BIM STANDARDS																		
General BQ/SOR								Naming Convention										
								System Attribute (System Type)		Standard Attribute (Naming)			Dimension Attribute	Additional Attribute (Shared & Instance Parameter)			
Item	System Name	Sub-System Name	BQ / SOR Item	Required Information	Unit	HKSMM4R Section	RLB Preambles (Jun 2020) Clause	System Name (Discipline Code)	Sub-System Name	Category	General Heading (Family Name)	Item (Type Name)	Size	Electrical-Load	Capacity	Other
Generally																		
Notwithstanding the requirement of the SMM the following departure has been made. Section XVIII, Sub-section (a), Clause M.2 – Work is measured irrespective of location and fixing background.						M.2	16.1.2											
Incoming main and LV Switchgear (IMS)																		
1	Building Services Installation	Electrical & ELV Installation	Incoming main and LV Switchgear	LV Switchboard	Rated capacity, Particulars of component parts, Details of any materials required for assembly, Equipment ID	no.	XVIII (a), (b) 1	16.2	EL	LVS	Electrical Equipment	LV Switchboard	Equipment ID	-	-	Rated capacity	-
2	Building Services Installation	Electrical & ELV Installation	Incoming main and LV Switchgear	Power factor improvement system - Capacitor bank	Rated capacity	no.	XVIII (a), (b) 1	16.2	EL	LVS	Electrical Equipment	Capacitor bank	Capacitor bank	-	-	Rated capacity	-
Emergency Generator Set (EG)																		
3	Building Services Installation	Electrical & ELV Installation	Emergency Generator Set	Generator	Rated capacity, Particulars of component parts, Details of any materials required for assembly, Equipment ID	no.	XVIII (a), (b)1	16.2	EL	EMG	Electrical Equipment	Generator	Equipment ID	-	-	Rated capacity	-
Mains and Sub Mains Distribution (MSM)																		
4	Building Services Installation	Electrical & ELV Installation	Mains and Sub Mains Distribution	Busbar Chambers	Number (e.g. TPN) and rated capacity of conductors	no.	XVIII (a), (b) 1	16.2	EL	MSM	Electrical Equipment	Busbar Chambers	Equipment ID _No. of conductor (e.g. TPN)	-	-	Rated capacity	-
5	Building Services Installation	Electrical & ELV Installation	Mains and Sub Mains Distribution	Moulded Case Circuit Breakers (MCCB) Distribution Board	No. of way, Rated capacity, SPN / TPN	no.	XVIII (a), (b) 1	16.2	EL	MSM	Electrical Equipment	MCCB Board	Equipment ID _No. of way _SPN / TPN	-	-	Rated capacity	-
6	Building Services Installation	Electrical & ELV Installation	Mains and Sub Mains Distribution	Miniature Circuit Breakers (MCB) Distribution Board	No. of way, Rated capacity, SPN / TPN	no.	XVIII (a), (b) 1	16.2	EL	MSM	Electrical Equipment	MCB Board	Equipment ID _No. of way _SPN / TPN	-	-	Rated capacity	-

SECTION 10: ELECTRICAL & ELV INSTALLATION CONTINUED

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5D BIM STANDARDS																		
General BQ/SOR									Naming Convention									
									System Attribute (System Type)		Standard Attribute (Naming)			Dimension Attribute	Additional Attribute (Shared & Instance Parameter)			
Item	System Name		Sub-System Name	BQ / SOR Item	Required Information	Unit	HKSMM4R Section	RLB Preambles (Jun 2020) Clause	System Name (Discipline Code)	Sub-System Name	Category	General Heading (Family Name)	Item (Type Name)	Size	Electrical-Load	Capacity	Other	
Mains and Sub Mains Distribution (MSM)																		
7	Building Services Installation	Electrical & ELV Installation	Mains and Sub Mains Distribution	Switches (e.g. AI Switches, Timer Switches, Isolating Switches, Fused Switches, Automatic Changeover Switches)	Rated capacity SPN / TPN	no.	XVIII (a), (b) 1	16.2	EL	MSM	Electrical Equipment	AI switch / Timer switch / Isolating switch / Fused switch / Automatic changeover switch	SPN / TPN	-	-	Rated capacity	-	
8	Building Services Installation	Electrical & ELV Installation	Mains and Sub Mains Distribution	Busduct	Type (e.g. IP rating), number (e.g. TPN) and rated capacity of conductors	m	XVIII (a), (d) 3, 4, 5	16.3.1.4, 16.4(3)	EL	MSM	Ducts	Type (Rectangular Duct)	Busduct _Type (e.g. IP rating) _No. of conductor (e.g. TPN)	-	-	Rated capacity	-	
9	Building Services Installation	Electrical & ELV Installation	Mains and Sub Mains Distribution	Busduct Fittings	Type of fittings (e.g. elbows, tees, reducers, expansion fittings, others), Type (e.g. IP rating), number (e.g. TPN) and rated capacity of conductors	no.	XVIII (a), (d) 4	16.3.1.3*	EL	MSM	Duct Fittings	Type (Elbow / Junction / Cross / Transition / Union / Flange / Cap)	Busduct fittings _Type (e.g. IP rating) _No. of conductor (e.g. TPN)	-	-	Rated capacity	-	
10	Building Services Installation	Electrical & ELV Installation	Mains and Sub Mains Distribution	Busbar Accessories	Type of accessories (e.g. tap-off units, feeder units, flanged ends, etc.), Type (e.g. IP rating), number (e.g. TPN) and rated capacity of conductors	no.	XVIII (a), (d) 5	16.2	EL	MSM	Duct Accessories	Type (e.g. Tap-off units, Feeder units, Flanged ends, etc.)	Busbar accessories _Type (e.g. IP rating) _No. of conductor (e.g. TPN)	-	-	Rated capacity	-	
11	Building Services Installation	Electrical & ELV Installation	Mains and Sub Mains Distribution	Cables (Except Final Circuit)	Material and fire rating (e.g. FR/ XLPE/ SWA/ LSOH copper), Number and size of cores	m	XVIII (a), (f) 1*	16.3.1.4, 16.4 (3)	EL	MSM	Conduits	System Family: Conduit with Fittings	Cable _Cable mark _No. of cores _Material and fire	From List (Diameter) (Size of cores)	-	-	-	
											Conduit Fittings	Type (Bend)	Rating (e.g. FR/ XLPE/ SWA/ LSOH copper)					

SECTION 10: ELECTRICAL & ELV INSTALLATION CONTINUED

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Version 1.0

5D BIM STANDARDS																			
General BQ/SOR								Naming Convention											
								System Attribute (System Type)		Standard Attribute (Naming)			Dimension Attribute	Additional Attribute (Shared & Instance Parameter)			
Item	System Name	Sub-System Name	BQ / SOR Item	Required Information	Unit	HKSMM4R Section	RLB Preambles (Jun 2020) Clause	System Name (Discipline Code)	Sub-System Name	Category	General Heading (Family Name)	Item (Type Name)	Size	Electrical-Load	Capacity	Other	
Mains and Sub Mains Distribution (MSM)																			
12	Building Services Installation	Electrical & ELV Installation	Mains and Sub Mains Distribution	Cable glands	Material and fire rating of cable (e.g. FR/ XLPE/ SWA/ LSOH copper), Number and size of cores	no.	XVIII (a), (f) 2, 4, 5	16.3.1.4, 16.4 (3)	Using the quantities of Cable Mark in Mains and Sub Mains Distribution (MSM): Cables properties										
13	Building Services Installation	Electrical & ELV Installation	Mains and Sub Mains Distribution	Cable joints	Type and size of cables stated, Joint-boxes, sealing boxes and the like given in the description	no.	XVIII (a), (f) 2	16.3.1.4, 16.4.1(3)	EL	MSM	Electrical Fixture	Cable joints	Type and size of cables	-	-	-	-		
Small Power Installation (SPS)																			
14	Building Services Installation	Electrical & ELV Installation	Small Power System	Final Circuits	Size and type of cable, Type of points	no.	XVIII (a), (g) 2	16.3	Using the quantity of Accessories and Circuit Diagram (with size and type of cable specified)										
15	Building Services Installation	Electrical & ELV Installation	Small Power System	Accessories (e.g. switches, socket outlets, thermostates, bell pushes, signal indicating units, stop/ start push buttons)	Rated capacity, Type of each accessory (If complete with pilot light, switch, etc. shall also be stated), Number of gangs in each accessory, SPN / TPN	no.	XVIII (a), (h) 3	16.3, 16.4.1 (1), (2)	EL	SPS	Electrical Fixture	Switches / Socket outlets / Thermostates / Bell pushes / Signal indicating units / Stop/Start push buttons _Type of accessory (e.g. Pilot light, Switch) _No. of gangs	SPN / TPN	-	Panel (e.g. Equipment ID of MCCB/ MCB board) & Circuit Number	Rated capacity	-		
Lighting Installation (LS)																			
16	Building Services Installation	Electrical & ELV Installation	Lighting System	Final Circuits	Size and type of cable, Type of points	no.	XVIII (a), (g) 2	16.3	Using the quantity of Luminaries, LED strips and Accessories and their corresponding Circuit Diagram (with size and type of cable specified)										

SECTION 10: ELECTRICAL & ELV INSTALLATION CONTINUED

Version 1.0

5D BIM STANDARDS																		
General BQ/SOR									Naming Convention									
Item	System Name		Sub-System Name	BQ / SOR Item	Required Information	Unit	HKSMM4R Section	RLB Preambles (Jun 2020) Clause	System Attribute (System Type)		Standard Attribute (Naming)			Dimension Attribute	Additional Attribute (Shared & Instance Parameter)			
									System Name (Discipline Code)	Sub-System Name	Category	General Heading (Family Name)	Item (Type Name)	Size	Electrical-Load	Capacity	Other	
Lighting Installation (LS)																		
17	Building Services Installation	Electrical & ELV Installation	Lighting System	Luminaries	Size, Type (e.g. IP rating, voltage, wattage, emergency lighting), Battery and Charger (backup hours to be stated)	no.	XVIII (a), (h) 1	16.3, 16.4.(1), (2)	EL	LS	Lighting Fixture	Luminaries	Light Fitting Code _Size	-	Panel (e.g. Equipment ID of MCCB/ MCB board) & Circuit Number	-	Emergency & Battery (Hr)	
18	Building Services Installation	Electrical & ELV Installation	Lighting System	LED Strip	Size, Type (e.g. voltage, wattage/meter, IP rating), Battery and Charger (backup hours to be stated)	m	-	-	EL	LS	Lighting Fixture	LED Strip	Light Fitting Code _Size	Length	Panel (e.g. Equipment ID of MCCB/ MCB board) & Circuit Number	-	Battery (Hr)	
19	Building Services Installation	Electrical & ELV Installation	Lighting System	Accessories (e.g. switches)	Rated capacity, SP, Type of each accessory (If complete with pilot light, switch, etc. shall also be stated), Number of gangs in each accessory	no.	XVIII (a), (h) 3	16.3, 16.4.1 (1), (2)	EL	LS	Electrical Fixture	Type (e.g. Switches) _Type of accessory (e.g. Pilot light) _No. of gangs	SP	-	Panel (e.g. Equipment ID of MCCB/ MCB board) & Circuit Number	Rated capacity	-	
Trunking and Tray (TT)																		
20	Building Services Installation	Electrical & ELV Installation	Trunking and Tray	Trunking	Size (width and height), Type of trunking stated (e.g. material, flushed floor), Number and size of any compartments	m	XVIII (a), (d) 1	16.3.1.2	EL	TT	Ducts	Duct Type (Rectangular Duct)	Trunking	From List (Width & Height)	-	-	-	

SECTION 10: ELECTRICAL & ELV INSTALLATION CONTINUED

Version 1.0

5D BIM STANDARDS																		
General BQ/SOR								Naming Convention										
								System Attribute (System Type)		Standard Attribute (Naming)			Dimension Attribute	Additional Attribute (Shared & Instance Parameter)				
Item	System Name	Sub-System Name	BQ / SOR Item	Required Information	Unit	HKSMM4R Section	RLB Preambles (Jun 2020) Clause	System Name (Discipline Code)	Sub-System Name	Category	General Heading (Family Name)	Item (Type Name)	Size	Electrical-Load	Capacity	Other		
Trunking and Tray (TT)																		
21	Building Services Installation	Electrical & ELV Installation	Trunking and Tray	Trunking Fittings	Type of fittings (e.g. bends, reducing bends, tees, reducing tees, crosses, reducing crosses, reducers, fire barriers, others), Size (width and height), Type of trunking stated (e.g. material, flushed floor), Number and size of any compartments	no.	XVIII (a), (d) 2	16.3.1.2*	EL	TT	Duct Fittings	Type (Elbow / Junction / Cross / Transition / Union / Flange / Cap)	Trunking fittings	From List (Width & Height)	-	-	-		
22	Building Services Installation	Electrical & ELV Installation	Trunking and Tray	Trays and Ladders	Material, Size (width)	m	XVIII (a), (e) 1 - 2	16.3.1.3	EL	TT	Cable Trays	System Family: Cable Tray with Fittings	Trays and ladders	From List (Width)	-	-	-		
23	Building Services Installation	Electrical & ELV Installation	Trunking and Tray	Trays and Ladders Fittings	Type of fittings (e.g. stop ends, bends, tees, reducing tees, crosses, offsets, reducers, others), Material, Size (width)	no.	XVIII (a), (e) 3 - 4	16.3.1.3*	EL	TT	Cable Tray Fittings	Type (Horizontal Bend / Vertical Inside Bend / Vertical Outside Bend / Tee / Cross / Transition / Union)	Trays and ladders fittings	From List (Width)	-	-	-		
Earthing And Bonding (EAB)																		
24	Building Services Installation	Electrical & ELV Installation	Earthing And Bonding	Cables	Material and fire rating (e.g. PVC), Number and size of cores	m	XVIII (a), (b)1	16.3	Using the quantities of Cable Mark in Mains and Sub Mains Distribution (MSM): Cables properties									
25	Building Services Installation	Electrical & ELV Installation	Earthing And Bonding	Earth Pit	Size	no.	-	-	EL	EAB	Generic Model	Earth Pit	Size	-	-	-	-	

SECTION 10: ELECTRICAL & ELV INSTALLATION CONTINUED

Version 1.0

5D BIM STANDARDS																		
General BQ/SOR								Naming Convention										
								System Attribute (System Type)		Standard Attribute (Naming)			Dimension Attribute	Additional Attribute (Shared & Instance Parameter)			
Item	System Name	Sub-System Name	BQ / SOR Item	Required Information	Unit	HKSMM4R Section	RLB Preambles (Jun 2020) Clause	System Name (Discipline Code)	Sub-System Name	Category	General Heading (Family Name)	Item (Type Name)	Size	Electrical-Load	Capacity	Other
Lightning Protection (LIG)																		
26	Building Services Installation	Electrical & ELV Installation	Lightning Protection	Tapes	Material (e.g. tinned copper), Size (width x thickness)	m	XVIII (a), (i) 2	16.3	EL	LIG	Electrical fixture	Tape _Type of material (e.g. Tinned copper)	Size (width x thickness)	-	-	-	-
27	Building Services Installation	Electrical & ELV Installation	Lightning Protection	Air Termination Equipment	Size, Material, Method of connection	no.	XVIII (a), (i) 3	16.3	EL	LIG	Electrical Equipment	Air Termination Equipment	Size	-	-	-	-
28	Building Services Installation	Electrical & ELV Installation	Lightning Protection	Earth Pit	Size	no.	-	-	EL	LIG	Generic Model	Earth Pit	Size	-	-	-	-
ELV (Telephone & Computer Network System, TV Boardcast System, Public Address System, Local CCTV Monitoring System, etc.)																		
29	Building Services Installation	Electrical & ELV Installation	ELV	Equipment	Type	no.	XIX (a), (b)	17.2, 17.3	EL	ELV	Electrical Equipment	Type	Type	-	-	-	-
30	Building Services Installation	Electrical & ELV Installation	ELV	Final Circuits	Size and type of cable, Type of points	no.	XIX (a), (d)	17.4	Using the quantity of ELV equipment									
31	Building Services Installation	Electrical & ELV Installation	ELV	Conduit Points	Type of points	no.	XIX (a), (d)	17.4	EL	ELV	Electrical Fixture	Junction Box	Type of points	-	-	-	-

Remarks
1 The measurement of circuit breakers (e.g. MCCB/ MCB/ RCCB/ RCBO/ RCD units), main switches, contactors, etc. for distribution boards shall refer to corresponding distribution board details / schedules.
2 The measurement of earthing tapes and earth terminals shall refer to earthing schematic diagram
* Additional preambles (optional):
- Section XVIII, Sub-section (d) 1, 2, and RLB preambles 16.3.1.2 – Trunkings are measured over all short lengths but not through items stated in Section XVIII (d) 2. Items for bends, reducing bends, tees, reducing tees, crosses, reducing crosses, reducers, fire barriers and the like shall be measured separately.
- Section XVIII, Sub-section (d) 3, 4, and RLB preambles 16.3.1.2 – Busbar trunkings are measured over all short lengths but not through items stated in Section XVIII (d) 4. Items for elbows, tees, expansion fittings and the like shall be measured separately.
- Section XVIII, Sub-section (e) 1, 2, and RLB preambles 16.3.1.3 – Trays and ladders are measured over all short lengths but not through items stated in Section XVIII (e) 3, 4. Items for stop ends, bends, tees, reducing tees, crosses, offsets, reducers and the like shall be measured separately.
- Section XVIII, Sub-section (f) 1, Clause M.1 – Cables are measured the net length between equipment, control gear, fittings, accessories and the like, no allowance will be made for cables entering fittings, accessories, equipment, switch gear and the like.

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