Code of Practice on Buildability

Addendum No. 3

Applicable to 2022 Edition

This Addendum shall be read in conjunction with the Code of Practice on Buildability and shall form part of the Code.

Amendments to the Code of Practice on Buildability 2022

List of Amendments to the Code

S/N	Item	Effective Date
1	**Changes to Annex C Requirements for Outcome-based Solutions, Section 1 and 2** *(COP on Buildability 2022, Page 97 and 98)*	For projects that submit Planning / Design Gateway applications to the URA from **30 April 2026**
2	**Changes to Annex C Requirements for Outcome-based Solutions, Table 5** *(COP on Buildability 2022, Page 102)*	For projects that submit Planning / Design Gateway applications to the URA from **30 April 2026**
3	**Changes to Annex C Requirements for Outcome-based Solutions, Section 4** *(COP on Buildability 2022, Page 103)*	For projects that submit Planning / Design Gateway applications to the URA from **30 April 2026**
4	**Changes to Section 9.2 Construction Productivity Data** *(COP on Buildability 2022, Page 22)*	For projects with Permit to Commence Work (PTWC) applications made from **1 May 2026**
5	**Clarifications on Section 2.1.4 Buildable Design Score for Mechanical, Electrical and Plumbing (MEP) System, Table 5A** *(COP on Buildability Page 55 to 57)*	
6	**Clarifications on Section 7 on Minimum Requirements for Developments on Government Land Sales Sites** *(COP on Buildability 2022, Addendum No. 1)*	

Amendments to the Code of Practice on Buildability 2022

The following parts of the code shall be replaced as provided below with changes highlighted in blue.

S/N	Current Provision	Revision with effect from 30 Apr 2026
1	**Changes to Annex C Requirements for Outcome-based Solutions, Section 1 and 2 (Page 97 and 98) are shown in blue.**	
	1 INTRODUCTION This section covers the requirements and default Buildable Design Score and Constructability Score for projects that adopt outcome-based solutions. These solutions are applicable for large projects with GFA ≥ 25,000 m^2. **2 OUTCOME-BASED SOLUTIONS FOR PROJECTS WITH GFA ≥ 25,000 M^2** **2.1 Options** Outcome-based options include deemed acceptable solutions and open option. **Deemed Acceptable Solutions** Deemed acceptable solutions for different category of building works are as spelt out in Table 1.	**1 INTRODUCTION** This section covers the requirements and default Buildable Design Score and Constructability Score for projects that adopt outcome-based solutions. **2 OUTCOME-BASED SOLUTIONS** **2.1 Options** Outcome-based options include deemed acceptable solutions and open option. **Deemed Acceptable Solutions** Deemed acceptable solutions for different category of building works are as spelt out in Table 1.

Amendments to the Code of Practice on Buildability 2022

<table>
<tr><th>S/N</th><th>Current Provision</th><th>Revision with effect from 30 Apr 2026</th></tr>
<tr><td></td><td>

Table 1 Deemed Acceptable Solutions for Different Categories of Building Works / Development

<table>
<tr><th>CATEGORY OF BUILDING WORKS/ DEVELOPMENT</th><th>Deemed Acceptable Solution
(Applicable to large projects with GFA ≥ 25,000 m^2)</th></tr>
<tr><td>Public Residential (non-landed)</td><td rowspan="2"><u>Deemed Acceptable Solution: Option 1</u>
Structural System: Min. 65% Prefabrication Level
Architectural System: Min. 80% Prefabrication Level
MEP System: Min. 50% Prefabrication Level
System Formwork: Min. 70%

<u>Deemed Acceptable Solution: Option 2</u>
Min. 60% PPVC + 70% System Formwork; <u>or</u>
Min. 50% PPVC (5-storey and below) + 70% System Formwork</td></tr>
<tr><td>Private Residential (non-landed)</td></tr>
<tr><td>Commercial</td><td rowspan="3"><u>Deemed Acceptable Solution: Option 1</u>
Structural System: Min. 60% Prefabrication Level <u>or</u> 50% Structural Steel/APCS/MET
Architectural System: Min. 80% <u>or</u> 70% Prefabrication Level (for office only)
MEP System: Min. 50% Prefabrication Level
System Formwork: Min. 70%

<u>Deemed Acceptable Solution: Option 2</u>
Min. 60% PPVC + 50% Prefabricated MEP + 70% System Formwork</td></tr>
<tr><td>Industrial</td></tr>
<tr><td>Institutional, School and Others</td></tr>
</table>

For each of the deemed acceptable solutions, a Deemed Acceptable Proposal must be submitted. The proposal shall describe and demonstrate the extent of use of the DfMA or prefabrication technologies and system formwork to be implemented for the building works that meets the minimum requirements as spelt out in Annex A.

</td><td>

Table 1 Deemed Acceptable Solutions for Different Categories of Building Works / Development

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MEP System: Min. 50% Prefabrication Level
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Structural System: Min. 60% Prefabrication Level <u>or</u> 50% Structural Steel/APCS/MET
Architectural System: Min. 80% <u>or</u> 70% Prefabrication Level (for office only)
MEP System: Min. 50% Prefabrication Level
System Formwork: Min. 70%

<u>Deemed Acceptable Solution: Option 2</u>
Min. 60% PPVC + 50% Prefabricated MEP + 70% System Formwork</td></tr>
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For each of the deemed acceptable solutions, a Deemed Acceptable Proposal must be submitted. The proposal shall describe and demonstrate the extent of use of the DfMA or prefabrication technologies and system formwork to be implemented for the building works that meets the minimum requirements as spelt out in Annex A.

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Amendments to the Code of Practice on Buildability 2022

	For mixed developments, each building use must meet the minimum requirements specified under deemed acceptable solutions. **<u>Open Solution (applicable to large projects with GFA ≥ 25,000 m^2)</u>** An open solution refers to a proposal which can achieve at least 25% productivity improvement. The proposal must be accompanied by a Project Productivity Improvement Plan (PPIP) of the building works which describes the extent of use and details of the innovative designs and construction techniques to be implemented for the building works for the purpose of demonstrating that the minimum 25% productivity improvement requirement over the 2010 level can be achieved.	For mixed developments, each building use must meet the minimum requirements specified under deemed acceptable solutions. Under Buildability Type Approval pathway for Kit-of-Parts approach, developers may submit their programme level proposal including (i) Design Standardisation Plan containing standard building specifications (e.g. layouts, spatial requirements, grids) and (ii) a catalogue of building components with standard specifications (e.g. dimensions, material content, connections) that can be used across projects of suitable typologies. These documentations would form the Deemed-Acceptable Proposal. BCA will assess whether the proposal demonstrates design standardisation before including the proposal as a Deemed Acceptable Solution in Table 1 above. Following this, the developer can apply this Deemed Acceptable Solution to their projects. **<u>Open Solution (applicable to large projects with GFA ≥ 25,000 m^2)</u>** An open solution refers to a proposal which can achieve at least 25% productivity improvement. The proposal must be accompanied by a Project Productivity Improvement Plan (PPIP) of the building works which describes the extent of use and details of the innovative designs and construction techniques to be implemented for the building works for the purpose of demonstrating that the minimum 25% productivity improvement requirement over the 2010 level can be achieved.

Amendments to the Code of Practice on Buildability 2022

S/N	Current Provision
Changes to Annex C Requirements for Outcome-based Solutions, Table 5 (Page 102) are shown in blue.	
2	**3 DEFAULT BUILDABLE DESIGN SCORE AND CONSTRUCTABILITY SCORE FOR DEVELOPMENTS ADOPTING OUTCOME-BASED SOLUTIONS** The following default scores shall be applicable for superstructure works of developments adopting outcome-based solutions in lieu of submissions of Buildable Design Score and Constructability Score. **Table 5 Default Buildable Design Score and Constructability Score for Developments with GFA ≥ 25,000m² adopting Outcome-based Solutions**

Category of Building Works	Deemed-acceptable Solution (Applicable to large projects with GFA ≥ 25,000 m²)				Default B-Score	Default C-Score
	Prefabricated Structural System	Prefabricated Architectural System	Prefabricated MEP System	System Formwork		
Public Residential (non-landed) or **Private Residential (non-landed)**	Min. 65%	Min. 80%	Min. 50%	Min. 70%	80	60
	Min. 60% PPVC		-	Min. 70%	82	62
	Min. 50% PPVC (5-storey and below)		-	Min. 70%		
Commercial	Min. 60% or Min. 50% Structural Steel/APCS/MET	Min. 80% or Min. 70% (for office only)	Min. 50%	Min. 70%	70	60
	Min. 60% PPVC		Min. 50%	Min. 70%	72	62
Industrial	Min. 60% or Min. 50% Structural Steel/APCS/MET	Min. 80%	Min. 50%	Min. 70%	70	60
	Min. 60% PPVC		Min. 50%	Min. 70%	72	62
Institutional, School and others	Min. 60% or Min. 50% Structural Steel/APCS/MET	Min. 80%	Min. 50%	Min. 70%	66	60
	Min. 60% PPVC		Min. 50%	Min. 70%	68	62

The default Buildable Design Score for basement works shall be 42 points if the basements are part of the projects adopting any of the outcome-based solutions.

Amendments to the Code of Practice on Buildability 2022

S/N	Revision with effect from 30 Apr 2026
Changes to Annex C Requirements for Outcome-based Solutions, Table 5 (Page 102) are shown in blue.	
2	**3 DEFAULT BUILDABLE DESIGN SCORE AND CONSTRUCTABILITY SCORE FOR DEVELOPMENTS ADOPTING OUTCOME-BASED SOLUTIONS** The following default scores shall be applicable for superstructure works of developments adopting outcome-based solutions in lieu of submissions of Buildable Design Score and Constructability Score. **Table 5 Default Buildable Design Score and Constructability Score for Developments adopting Outcome-based Solutions**

Category of Building Works	Deemed-acceptable Solution				Default B-Score	Default C-Score
	Prefabricated Structural System	Prefabricated Architectural System	Prefabricated MEP System	System Formwork		
Public Residential (non-landed)	Min. 65%	Min. 80%	Min. 50%	Min. 70%	80	60
or	Min. 60% PPVC		-	Min. 70%	82	62
Private Residential (non-landed)	Min. 50% PPVC (5-storey and below)		-	Min. 70%		
Commercial	Min. 60% or Min. 50% Structural Steel/APCS/MET	Min. 80% or Min. 70% (for office only)	Min. 50%	Min. 70%	70	60
	Min. 60% PPVC		Min. 50%	Min. 70%	72	62
Industrial	Min. 60% or Min. 50% Structural Steel/APCS/MET	Min. 80%	Min. 50%	Min. 70%	70	60
	Min. 60% PPVC		Min. 50%	Min. 70%	72	62
Institutional, School and others	Min. 60% or Min. 50% Structural Steel/APCS/MET	Min. 80%	Min. 50%	Min. 70%	66	60
	Min. 60% PPVC		Min. 50%	Min. 70%	68	62

The default Buildable Design Score for basement works shall be 42 points if the basements are part of the projects adopting any of the outcome-based solutions.

Amendments to the Code of Practice on Buildability 2022

S/N	Current Provision	Revision with effect from 30 Apr 2026
3	**Changes to Annex C Requirements for Outcome-based Solutions, Section 4 (Page 103) are shown in blue.**	
	4.1 Submission at BP Stage The QP shall indicate in Form BPD_BP03 (Application for Approval of Building Plans) that the project is submitting an outcome-based proposal in lieu of a Buildable Design Score, and submit Form BPD_BS01 jointly endorsed by QP for Architectural Works, the QP for Structural Works, the PE for Mechanical Works and the PE for Electrical Works to declare the choice of outcome-based solution and acknowledge the default Buildable Design Score. Forms BPD_BP03 and BPD_BS01 can be downloaded from BCA's website at http://www1.bca.gov.sg/. In addition to the above, the QPs must submit a Deemed Acceptable Proposal or Project Productivity Improvement Plan jointly endorsed by the QP for Architectural Works, the QP for Structural Works, the PE for Mechanical Works and the PE for Electrical Works for approval. Requirements in Table 6 serves to substantiate the outcome-based solution selected.	**4.1 Submission at BP Stage** The QP shall indicate in Form BPD_BP03 (Application for Approval of Building Plans) that the project is submitting an outcome-based proposal in lieu of a Buildable Design Score, and submit Form BPD_BS01 jointly endorsed by QP for Architectural Works, the QP for Structural Works, the PE for Mechanical Works and the PE for Electrical Works to declare the choice of outcome-based solution and acknowledge the default Buildable Design Score. Forms BPD_BP03 and BPD_BS01 can be downloaded from BCA's website at http://www1.bca.gov.sg/. In addition to the above, the QPs must submit a Deemed Acceptable Proposal or Project Productivity Improvement Plan jointly endorsed by the QP for Architectural Works, the QP for Structural Works, the PE for Mechanical Works and the PE for Electrical Works for approval. Requirements in Table 6 serves to substantiate the outcome-based solution selected. Projects by developers with deemed acceptable solution under the Buildability Type Approval pathway must declare conformance with programme level Design Standardisation Plan, catalogue of pre-designed prefabricated building components and/or any other standardised design documentation.

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S/N	Provision	Clarifications on Current Provision
4	**Changes to Section 9.2 Construction Productivity Data (Page 22) are shown in blue.**	
	9.2 Construction Productivity Data With DfMA becoming the mainstream way of construction, more on-site construction works would be shifted off-site. To enhance data collection and facilitate overall productivity measurement of the building works, the builder is required to: • install and operate a biometric authentication system at the project site to collect the Construction Productivity Data of the building works; and • submit both on-site and off-site Construction Productivity Data to BCA. The Construction Productivity Data shall include but is not limited to: • manpower utilisation (e.g. mandays required to carry out building works including prefabrication works); • construction output (e.g. volume of precast components); and • documentation relating to the construction of the building works. Such Construction Productivity Data shall be submitted to BCA on a monthly basis which would be used to assess the overall productivity level of the building works.	**9.2 Construction Productivity Data (Link)** 9.2.1 To enhance data collection and facilitate overall productivity measurement of the building works, builders are required to: • Install and operate a Biometric Authentication System (BAS) to collect Construction Productivity Data (CPD); and • Submit CPD to BCA from Permit to Commence Work (PTCW) issuance until final Temporary Occupation Permit (TOP) or Certificate of Statutory Completion (CSC) is issued. 9.2.2 The Construction Productivity Data shall include but is not limited to: • Manpower Utilisation (e.g. personnel's NRIC/FIN, time-in/out, employer, trade, etc.). • Manpower Distribution (e.g. ratio of off-site fabricators' production output etc.). *The full data schema is specified under Appendix C - Productivity Datasets of BCA's Site Management Data Standards.* 9.2.3 Applicable projects with PTCW application made from 1 May 2026 onwards are required to submit CPD via the automated route and adopt a BAS that fulfils the following requirements: a. System Integration Requirements Builders must appoint a BAS that is integrated with BCA's designated data exchange platform (i.e. SGBuildex) to submit CPD on their behalf via an API connection. Alternatively, builders may use in-house systems provided they establish API connection with BCA's designated data exchange platform.

		b. Worker Management Builders must ensure all personnel check in and out via the integrated BAS at every site entrance. This ensures accurate CPD collection across all entry and exit points. For projects with multiple builders (e.g. joint ventures), one nominated builder must submit CPD collectively for all personnel entering the project. Where different builders operate separate integrated BAS supporting distinct parts of the same project, both parties must submit CPD. c. Submission Frequency and System Reliability Under the automated workflow, the appointed BAS must submit all CPD for each calendar month to BCA by the 5th calendar day of the subsequent month. Builders must ensure their appointed BAS maintains appropriate backup measures for data integrity and service continuity during disruptions (e.g. system issues, power outages, BAS malfunctions etc.).

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<table>
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<tr><td>5</td><td colspan="2">Clarifications on Section 2.1.4 Buildable Design Score for Mechanical, Electrical and Plumbing (MEP) System, Table 5A (Page 55 to 57) are shown in blue.</td></tr>
<tr><td></td><td>Table 5A: Computation of Qualifying Area and Prefabricated Area of Prefabricated MEP Systems
<table>
<tr><th>S/N</th><th>Item</th><th>Criteria of Qualifying Area</th></tr>
<tr><td>1</td><td><u>Prefab MEP modules integrated with structural or architectural system</u>
e.g. Working platform / catwalk / façade / wall / ceiling / slab, etc.</td><td>To consult BCA</td></tr>
<tr><td>2</td><td><u>Vertical modules</u>
e.g. Prefab water / gas risers, prefab hose reel risers

Coverage of Vertical modules (%) = Prefabricated Vertical Area (m²) ÷ Qualifying Vertical Area (m²)

where,

Prefabricated Vertical Area (m²) = Sum [Internal wall-to-wall width of Riser(s) x Total height of Riser(s) adopting prefabricated modules]

Qualifying Vertical area (m²) = Sum [Internal wall-to-wall width of Riser(s) x Total height of Riser(s)]</td><td>Risers or service ducts comprising the following services, where available:
a. Chilled water risers
b. Plumbing and sanitary risers
c. Firefighting services i.e. sprinkler, hose reel and dry/wet rising mains
d. Electrical risers

Exclusions:
a. Risers within residential dwelling units
b. Mechanical risers:
• 1 no. pipe only; or
• 2 no. pipes and any of them is ≤ 200mm in overall diameter
c. Electrical risers with ≤ 2 no. components in cable containment system
d. Extra Low Voltage (ELV) and High Tension (HT) risers</td></tr>
</table></td><td>Table 5A: Computation of Qualifying Area and Prefabricated Area of Prefabricated MEP Systems
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<tr><th>S/N</th><th>Item</th><th>Criteria of Qualifying Area</th></tr>
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Coverage of Vertical modules (%) = Prefabricated Vertical Area (m²) ÷ Qualifying Vertical Area (m²)

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a. Chilled water risers
b. Plumbing and sanitary risers
c. Fire Protection i.e. sprinkler, hose reel and dry/wet rising mains
d. Electrical risers

Exclusions:
a. Risers within residential dwelling units
b. Mechanical risers:
• 1 no. pipe only; or
• 2 no. pipes and any of them is ≤ 200mm in overall diameter
c. Electrical risers with ≤ 2 no. components in cable containment system
d. Extra Low Voltage (ELV) and High Tension (HT) risers</td></tr>
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3	**Horizontal modules** *e.g. Prefab ceiling modules* Coverage of Horizontal modules (%) = Prefabricated Horizontal Area (m²) ÷ Qualifying Horizontal Area (m²) *where,* *Prefabricated Horizontal Area (m²) = Sum [Corridor width x Total length of the Corridor adopting prefabricated modules]* *Qualifying area (m²) = Sum [Corridor width x Total length of the Corridor(s)]* Note: (i) On-site works of up to 35% of the length of the corridor shall be allowed to account for junctions, bends and module connections, and this length could be considered for prefabricated horizontal area	**All common corridor areas (including lift lobbies)** **Exclusions:** a. Floors with non-typical layouts b. Corridor with length totaling less than: • 12m per floor for residential non-landed developments • 30m per floor for all other developments c. Corridors that only contain M&E fixtures/services that are directly mounted to the ceiling soffit
4	**Plant modules** Coverage of Plant modules (%) = Prefabricated Plant Area (m²) ÷ Qualifying Plant Area (m²) *where,* *Prefabricated Plant Area (m²) = Sum [Plan area of the Plant rooms or Skids of prefabricated M&E Equipment]*	**M&E rooms/skids containing the following:** a. Potable water pumps b. NEWater pumps c. Sprinkler pumps d. Hose reel pumps e. Chilled water pumps f. Condenser water pumps

3	**Horizontal modules** *e.g. Prefab ceiling modules* Coverage of Horizontal modules (%) = Prefabricated Horizontal Area (m²) ÷ Qualifying Horizontal Area (m²) *where,* *Prefabricated Horizontal Area (m²) = Sum [Circulation Area(s) width x Total length of the Circulation Area(s) adopting prefabricated modules]* *Qualifying area (m²) = Sum [Circulation Area(s) width x Total length of the Circulation Area(s)]* Note: (i) Spaces in between modules (i.e. at junctions, bends and module connection) can be included under the prefabricated horizontal areas.	**All circulation areas (such as corridors and lift lobbies) where common M&E services will run** If not clearly demarcated, the width of the circulation area can be taken as the larger of: a. Width of common corridors within the establishment; or b. The overall or cumulative width of the M&E services layout, including all service elements and any clearance between individual services. **Exclusions:** a. Floors with non-typical layouts b. Circulation area with length totaling less than: • 12m per floor for residential non-landed developments • 30m per floor for all other developments c. Areas that only contain M&E fixtures/services that are directly mounted to the ceiling soffit
4	**Plant modules** Coverage of Plant modules (%) = Prefabricated Plant Area (m²) ÷ Qualifying Plant Area (m²) *where,*	**M&E rooms/skids containing the following:** a. Plumbing and sanitary pumps b. Fire protection system pumps c. Chilled water pumps d. Condenser water pumps

	Qualifying area (m²) = *Sum [Plan Area of the Plant rooms or Skids in qualifying area]* Note: (i) The area of plant room is considered if pump(s) are enclosed in the plant room. The area of skid is used if the pump(s) are not enclosed in a plant room. (ii) For a plant room where ≥ 65% of the equipment (by no.) is prefabricated, prefabricated plant area (m²) can be considered as the total area of that particular plant room. (iii) For a plant room where < 65% of the equipment (by no.) is prefabricated, prefabricated plant area shall be computed based on the following: *Prefabricated plant area (m²) = Plan area of the plant room (m²) x No. of prefabricated equipment ÷ Total no. of equipment*	

NOTE:

Other proposed areas could be considered and included in the coverage of prefabricated MEP modules subject to productivity improvement on a case-by-case basis of coverage.

	Prefabricated Plant Area (m²) = *Sum [Plan area of the Plant rooms or Skids of prefabricated M&E Equipment]* *Qualifying area (m²) =* *Sum [Plan Area of the Plant rooms or Skids in qualifying area]* Note: (i) The area of plant room is considered if pump(s) are enclosed in the plant room. The area of skid is used if the pump(s) are not enclosed in a plant room. (ii) For a plant room where ≥ 65% of the equipment (by no.) is prefabricated, prefabricated plant area (m²) can be considered as the total area of that particular plant room. (iii) For a plant room where < 65% of the equipment (by no.) is prefabricated, prefabricated plant area shall be computed based on the following: *Prefabricated plant area (m²) = Plan area of the plant room (m²) x No. of prefabricated equipment ÷ Total no. of equipment*	

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Amendments to the Code of Practice on Buildability 2022

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<tr><td>6</td><td colspan="2">Clarifications on Section 7 on Minimum Requirements for Developments on Government Land Sales Sites (Addendum No. 1) are shown in blue.</td></tr>
<tr><td></td><td>7 MINIMUM REQUIREMENTS FOR DEVELOPMENTS ON GOVERNMENT LAND SALES (GLS) SITES

This section covers the requirements on the minimum level of use of DfMA technologies or prefabrication systems, and Integrated Digital Delivery (IDD) essential use cases for GLS sites stipulated with productivity requirements, including all industrial developments with GFA of 5,000m² or more built on Industrial GLS. The land parcels selected are gazetted and may be found in the Building Control (Buildability and Productivity) Regulations.

Table 1: Productivity Requirements for GLS Sites
<table>
<tr><th>GLS Sites</th><th>Productivity Requirements</th></tr>
<tr><td>All GLS sites</td><td>IDD requirements as detailed in Section 7.1 below.

a. Minimum 5 out of 14 IDD essential use cases across the design, fabrication and construction project life-cycle stages for residential non-landed building project/component and/or across the design, fabrication, construction, and handover management project life-cycle stages for industrial and commercial building project/component with at least 1 use case per stage

b. Use of digital platform(s) based on Common Data Environment (CDE) data standard across the project life-cycle of a building development</td></tr>
<tr><td>Residential Non-landed and residential non-landed component of mixed-use developments on GLS sites</td><td>For all sites, the minimum number of Prefabricated Bathroom Units (PBUs) to be adopted at each development shall be 65% of the total number of bathroom units. The requirements and acceptance framework for PBU systems are spelt out in Section 3.</td></tr>
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a. Minimum 5 IDD essential use cases
i. For residential non-landed building project/component, across the design, fabrication and construction project life-cycle stages; and
ii. For industrial and commercial building project/component, across the design, fabrication, construction, and asset management* project life-cycle stages
with at least 1 use case per stage

b. Use of digital platform(s) based on Common Data Environment (CDE) data standard across the project life-cycle of a building development

*IDD use cases under asset management must include at least one of the following: Real-time Monitoring, and/or Digital Operations and Maintenance</td></tr>
</table></td></tr>
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Table 1: Productivity Requirements for GLS Sites (continued)

GLS Sites	Productivity Requirements
Residential Non-landed and residential non-landed component of mixed-use developments, and hotels on GLS sites	Selected residential non-landed and hotel sites are required to meet all of the following requirements: **DfMA Technology / Prefabrication / System** — **Level of Adoption** PPVC — Min. 65% Prefabricated MEP System — Min. 65% System Formwork — Min. 70%
Commercial office developments on GLS sites	Selected office sites are required to meet all of the following requirements: **DfMA Technology / Prefabrication / System** — **Level of Adoption** Structural Steel — Min. 80% of total office area Prefabricated MEP System — Min. 65% System Formwork — Min. 70%
All industrial developments with GFA of 5,000m² or more on GLS sites	The minimum prefabrication level for both structural systems and architectural systems must be met. The computation method for prefabrication level is spelt out in Section 6. **Minimum Prefabrication Level** — **5,000 m^2 ≤ GFA < 25,000 m^2** — **GFA ≥ 25,000 m^2** Structural System — 30% — 60% Architectural System — 70% — 80% Prefabricated MEP System — 40% — 50% System Formwork — 70% — 70%

Table 1: Productivity Requirements for GLS Sites (continued)

GLS Sites	Productivity Requirements
Residential Non-landed and residential non-landed component of mixed-use developments on GLS sites	For all sites, the minimum number of Prefabricated Bathroom Units (PBUs) to be adopted at each development shall be 65% of the total number of bathroom units. The requirements and acceptance framework for PBU systems are spelt out in Section 3.
Residential Non-landed and residential non-landed component of mixed-use developments, and hotels on GLS sites	Selected residential non-landed and hotel sites are required to meet all of the following requirements: **DfMA Technology / Prefabrication / System** — **Level of Adoption** PPVC — Min. 65% Prefabricated MEP System — Min. 65% System Formwork — Min. 70%
Commercial office developments on GLS sites	Selected office sites are required to meet all of the following requirements: **DfMA Technology / Prefabrication / System** — **Level of Adoption** Structural Steel — Min. 80% of total office area Prefabricated MEP System — Min. 65% System Formwork — Min. 70%

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Table 1: Productivity Requirements for GLS Sites (continued)

GLS Sites	Productivity Requirements
Others including mixed-use developments and developments on GLS sites subject to review by URA's Design Advisory Panel (DAP)	Selected sites are required to meet all of the following requirements: **DfMA Technology / Prefabrication / System** — **Level of Adoption** Prefabricated Structural System (Minimum use of APCS) — Min. 65% Prefabricated Architectural System — Min. 80% Prefabricated MEP System — Min. 65% System Formwork — Min. 70% Minimum Productivity Improvement over 2010 Levels — Min. 30%

Table 1: Productivity Requirements for GLS Sites (continued)

GLS Sites	Productivity Requirements
All industrial developments with GFA of 5,000m² or more on GLS sites	The minimum prefabrication level for both structural systems and architectural systems must be met. The computation method for prefabrication level is spelt out in Section 6. **Minimum Prefabrication Level** — **5,000 m^2 ≤ GFA < 25,000 m^2** — **GFA ≥ 25,000 m^2** Structural System — 30% — 60% Architectural System — 70% — 80% Prefabricated MEP System — 40% — 50% System Formwork — 70% — 70%
Others including mixed-use developments and developments on GLS sites subject to review by URA's Design Advisory Panel (DAP)	Selected sites are required to meet all of the following requirements: **DfMA Technology / Prefabrication / System** — **Level of Adoption** Prefabricated Structural System (Minimum use of APCS) — Min. 65% Prefabricated Architectural System — Min. 80% Prefabricated MEP System — Min. 65% System Formwork — Min. 70% Minimum Productivity Improvement over 2010 Levels — Min. 30%