Dear Sir/Madam

AMENDMENTS TO BUILDING CONTROL (BUILDABILITY AND PRODUCTIVITY) REGULATIONS 2011 AND REVISIONS TO CODE OF PRACTICE ON BUILDABILITY TO RAISE PRODUCTIVITY IN THE BUILT ENVIRONMENT SECTOR

Objective

1 This circular informs the industry of the changes to the Building Control (Buildability and Productivity) Regulations 2011 (“Buildability Regulations”) and the enhancements made to the Code of Practice on Buildability which will take effect on 1 May 2017. The changes are:

(A) Higher minimum level of use of prefabrication systems for developments on sites sold under the Industrial Government Land Sales (IGLS) Programme

(B) Enhanced Buildable Design Appraisal System (BDAS) incorporating more Design for Manufacturing and Assembly (DfMA) technologies

(C) Separate minimum Buildable Design Scores for basement and superstructure works.

Background

2 In December 2015, BCA raised the minimum buildability standards and introduced the mandatory adoption of productive technologies such as welded mesh for cast in-situ concrete floor and prefabricated and pre-insulated duct for air-conditioning systems for all developments. As part of the larger drive
towards wider adoption of prefabrication technologies along the Design for Manufacturing and Assembly (DfMA) continuum, there is a need to further enhance the buildability legislative framework to raise construction productivity. BCA has hence amended the Buildability Regulations and enhanced the BDAS as described in detail below.

A) Higher minimum prefabrication level for industrial sites sold under IGLS Programme

3 To promote greater adoption of prefabrication, any building to be built for use as an industrial building with a Gross Floor Area (GFA) greater than or equal to 5,000m² on State land sold under the IGLS Programme on or after 1 May 2017 is required to meet the minimum level of use of prefabrication system as shown in Table 1.

Table 1: Minimum Prefabrication Level

<table>
<thead>
<tr>
<th>Minimum Prefabrication Level</th>
<th>5,000m² ≤ GFA &lt; 25,000m²</th>
<th>GFA ≥ 25,000m²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Structural system in respect of total structural floor area of the building works</td>
<td>25% (20%)</td>
<td>40% (35%)</td>
</tr>
<tr>
<td>Wall system in respect of total wall length of the building works</td>
<td>45% (35%)</td>
<td>60% (50%)</td>
</tr>
</tbody>
</table>

Note: Figures in parentheses denote existing requirements implemented for IGLS sites sold on or after 1 November 2014 and before 1 May 2017

B) Enhanced Buildable Design Appraisal System (BDAS)

4 The BDAS as set out in the new Code of Practice on Buildability 2017, which is applicable to project submitted to the Urban Redevelopment Authority (URA) for Planning Permission on or after 1 May 2017, will incorporate the following key changes with the objective to encourage designs to place greater emphasis on DfMA:

(a) A new Table comprising a continuum of DfMA technologies from prefabricated components to fully integrated assemblies across the structural, architectural, as well as Mechanical, Electrical and Plumbing (MEP) disciplines is added. The total points allocated to this DfMA Table is 20 points.
(b) The current Buildable Design Features under Table 3 of the BDAS will be incorporated under either the Structural System Table or the Wall System Table, where appropriate. The total points for Structural System and Wall System remains at 45 points each.

(c) The maximum Buildable Design Score achievable for a building design under the 3 main parts of Structural System, Wall System and DfMA Technologies is 110 points instead of the current 100 points.

C) Separate minimum Buildable Design Scores (B-Score) for Basement Works and Superstructure Works

5 Currently, projects with both superstructure and basement works are required to meet a single minimum Buildable Design Score stipulated for the category of development and GFA size. Recognising industry feedback that basement and superstructure works involve different scope for DfMA technologies, project submitted to the Urban Redevelopment Authority (URA) for Planning Permission on or after 1 May 2017 will be required to meet separate minimum B-Scores for superstructure and basement works, where applicable.

6 The minimum B-Score for superstructure works remains unchanged as per Code of Practice on Buildability 2015 edition. The new minimum B-Score for basement works is set at 68 points and this will apply to all categories of development. Please refer to Annex for the minimum B-Score requirements for both superstructure and basement works.

7 The details of the changes in the Buildability Regulations and the new Code of Practice on Buildability 2017 will be available on BCA website at http://www.bca.gov.sg from 1 May 2017.
Clarification

8 Should you or your members have any queries concerning this circular, please contact Ms Jenny Tan at 6804 4230 (email: jenny_xy_tan@bca.gov.sg) or Mr. Chin Kim Hong at 6804 4234 (email: chin_kim_hong@bca.gov.sg).

Thank you.

Yours faithfully

[Signature]

FOO-LEOH CHAY HONG (MRS)
DIRECTOR
BUILDABILITY DEVELOPMENT DEPARTMENT
CONSTRUCTION PRODUCTIVITY AND QUALITY GROUP
for COMMISSIONER OF BUILDING CONTROL
DISTRIBUTION (via e-mail):

President
Professional Engineers Board, Singapore (PEB)
52 Jurong Gateway Road #07-03
Singapore 608550
registrar@peb.gov.sg

President
Board of Architects, Singapore (BOA)
5 Maxwell Road
1st Storey Tower Block MND Complex
Singapore 069110
boarch@singnet.com.sg

President
Singapore Institute of Architects (SIA)
79 Neil Road
Singapore 088904
info@sia.org.sg

President
Institution of Engineers, Singapore (IES)
70 Bukit Tinggi Road
Singapore 289758
ies@iesnet.org.sg

President
Association of Consulting Engineers, Singapore (ACES)
18 Sin Ming Lane
#06-01 Midview City
Singapore 573960
secretariat@aces.org.sg

President
Real Estate Developers’ Association of Singapore (REDAS)
190 Clemenceau Avenue
#07-01 Singapore Shopping Centre
Singapore 239924
enquiry@redas.com

President
Singapore Contractors Association Limited (SCAL)
Construction House
1 Bukit Merah Lane 2
Singapore 159760
enquiry@scal.com.sg
President
Society of Project Managers (SPM)
Macpherson Road P.O. Box 1083
Singapore 913412
societyofprojectmanagers@gmail.com

President
Singapore Institute of Surveyors & Valuers (SISV)
110 Middle Road #09-00
Chiat Hong Building
Singapore 188968
sisv.info@sisv.org.sg

President
Singapore Institute of Building Limited (SIBL)
70 Palmer Road #03-09C
Palmer House
Singapore 079427
info@sibl.com.sg

All CORENET e-Info subscribers
### A New Minimum Buildable Design Score for Basement Works for all new building projects

<table>
<thead>
<tr>
<th>Year</th>
<th>From 1 May 2017*</th>
</tr>
</thead>
<tbody>
<tr>
<td>CATEGORY OF BUILDING WORK/ DEVELOPMENT</td>
<td>MINIMUM BUILDABLE DESIGN SCORE (FOR BASEMENT WORKS)</td>
</tr>
<tr>
<td></td>
<td>GFA ≥ 2,000 m²</td>
</tr>
<tr>
<td>Residential (landed)</td>
<td></td>
</tr>
<tr>
<td>Residential (non-landed)</td>
<td></td>
</tr>
<tr>
<td>Commercial</td>
<td></td>
</tr>
<tr>
<td>Industrial</td>
<td></td>
</tr>
<tr>
<td>School</td>
<td></td>
</tr>
<tr>
<td>Institutional and others</td>
<td></td>
</tr>
</tbody>
</table>

68

*based on date of planning application made to URA except for projects built on land sold under GLS Programme which are based on date of the GLS land sold.

### B Minimum Buildable Design Score for Superstructure Works for all new building projects

<table>
<thead>
<tr>
<th>Year</th>
<th>From 1 May 2017*</th>
</tr>
</thead>
<tbody>
<tr>
<td>CATEGORY OF BUILDING WORK/ DEVELOPMENT</td>
<td>MINIMUM BUILDABLE DESIGN SCORE (FOR SUPERSTRUCTURE WORKS)</td>
</tr>
<tr>
<td></td>
<td>2,000 m² ≤ GFA &lt; 5,000 m²</td>
</tr>
<tr>
<td>Residential (landed)</td>
<td>73</td>
</tr>
<tr>
<td>Residential (non-landed)</td>
<td>80</td>
</tr>
<tr>
<td>Commercial</td>
<td>82</td>
</tr>
<tr>
<td>Industrial</td>
<td>82</td>
</tr>
<tr>
<td>School</td>
<td>77</td>
</tr>
<tr>
<td>Institutional and others</td>
<td>73</td>
</tr>
</tbody>
</table>

*based on date of planning application made to URA except for projects built on land sold under GLS Programme which are based on date of the GLS land sold.