Dear Sir/Madam

CHANGES TO ANNEX C IN ADVISORY NOTE 1/09 FOR EARTH RETAINING OR STABILISING STRUCTURES (ERSS)

Objective

BCA has carried out a review on the form Exc_UBW_Annex C (which is provided under Advisory Note 1/09 issued on 2 April 2009) in order to streamline the processes for site inspection and construction controls. This circular is to inform you of the changes to form Exc_UBW_Annex C “Site Inspection & Approval Records” in Advisory Note 1/09, which have been worked out in consultation with the industry.

Changes

2. The existing form Exc_UBW_Annex C and Exc_erss_Annex C will be superceded and withdrawn. It will be replaced by two new forms, namely:
   a) Exc_GBW_AnnexC-1, which is for projects where there are Geotechnical Building Works (GBW); and
   b) Exc_Non-GBW_AnnexC-1, which is for projects where excavation works do not fall under GBW.

3. Each of the new forms is divided into four sections (A to D), and each section is to be completed by different parties, namely Builder, QP(S)s, QP(D)s and ACs. The accompanying Flowchart_AnnexC shows the processes involved and how the forms are to be used.

4. As the forms Exc_GBW_AnnexC-1 and Exc_Non-GBW_AnnexC-1 help to streamline the processes for site inspection and construction controls, we encourage project parties to make use of them with immediate effect.

For clarification

5. Please contact Dr Poh Teoh Yaw or Miss Tung Qiao Yue at Tel 1800-3425222 or email bca_enquiry@bca.gov.sg, if you need any clarification. Thank you.

Yours faithfully

YANG KIN SENG
DIRECTOR
BUILDING ENGINEERING DIVISION
For COMMISSIONER OF BUILDING CONTROL
SITE INSPECTION & APPROVAL RECORDS

Exc_GBW_AnnexC-1

This report is to be prepared and certified for ERSS before the construction proceeds to the next strut level or critical construction stage, as stipulated in the approved plans. The accompanying Flowchart_AnnexC shows the process and use of this form. The QP(S) / QP (Geo)(S) is required to keep a copy of each of these completed reports on site.

Location/Section:

<table>
<thead>
<tr>
<th>Section A: To be completed and certified by Builder</th>
<th>Section B1: To be completed by QP(S) &amp; QP(Geo)(S)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Please tick the applicable box on current construction stage</td>
<td>Declaration of Builder</td>
</tr>
<tr>
<td>Completion of installation of embedded walls, piling or kingpost, or ground improvement</td>
<td>I confirm that the ERSS have been constructed according to the approved plans and hereby seek QP(S)'s approval before proceeding with the next construction stage.</td>
</tr>
<tr>
<td>At strut/support level no:</td>
<td>Name &amp; Signature of Technical Controller for &amp; on behalf of the builder</td>
</tr>
<tr>
<td>At final excavation level</td>
<td></td>
</tr>
<tr>
<td>Removal of strut/support no: / removal of wall</td>
<td></td>
</tr>
<tr>
<td>others, pls specify:</td>
<td>Name, UEN, stamp &amp; signature of builder</td>
</tr>
<tr>
<td></td>
<td>Date:</td>
</tr>
</tbody>
</table>

Section B2: To be completed and certified by QP(S) and QP(Geo)(S)

We have inspected the site and its neighbouring areas, and assessed the performance of constructed ERSS, results of instrumentation and monitoring readings, and the actual ground conditions. We are satisfied that the ERSS is safe for the works to proceed to the next construction stage. (please tick only one of the boxes below)

- We are satisfied that the constructed ERSS is fully in accordance with the approved plans. We hereby grant approval for the builder to proceed to the next construction stage. We have submitted a copy of this form to QP(D), QP(D)(Geo), AC and AC(Geo) together with a copy of instrumentation and monitoring results, relevant as-built information of ERSS and actual ground condition encountered at site. (Sections C & D are not applicable)

- There are changes to the approved plan, which in our opinion do not require a re-design of ERSS. We hereby grant approval to the builder to proceed to the next construction stage subject to confirmation by QP(D)s and AC(s). (Sections C and D to be completed by QP(D) (ST & Geo) and AC (ST & Geo))

Name, stamp & signature of QP(S) Date: 

Name, stamp & signature of QP(Geo)(S)** Date: 

Section C: When applicable, to be completed and certified by QP(D) and QP(GEO)(D), with assessment report appended

We have assessed and reviewed the adequacy of the as-installed key structural elements of the Geotechnical Building Works (GBW), results of instrumentation and monitoring readings, and actual ground conditions and the changes highlighted by the QP(S) and QP(Geo)(S), and conclude that – (please tick only one of the boxes below)

- The changes do not require a re-design of the ERSS. ERSS works to the next construction stage can proceed.

- Amendment submission to BCA is required before ERSS works to the next construction stage can proceed, and no excavation is permitted.

Name, stamp & signature of QP(D) Date: 

Name, stamp & signature of QP(Geo)(D)** Date: 

Section D: When applicable, to be completed and certified by the AC and AC( Geo)

We have reviewed the adequacy of the as-installed key structural elements of the GBW, including results of instrumentation and monitoring readings, and actual ground conditions and the QP(D) and QP( Geo)(D)'s assessment report and concluded that – (please tick only one of the boxes below)

- The changes do not require a re-design of the ERSS. We agree to permit the builder to proceed ERSS works to the next construction stage.

- Amendment submission to BCA is required before ERSS works to the next construction stage can proceed, and no excavation is permitted.

Name, stamp & signature of AC Date: 

Name, stamp & signature of AC( Geo)** Date: 

**For geotechnical aspects of the GBW
 SITE INSPECTION & APPROVAL RECORDS

This report is to be prepared and certified for ERSS before the construction proceeds to the next strut level or critical construction stage, as stipulated in the approved plans. The accompanying Flowchart_AnnexC shows the process and use of this form. The QP(S)(ST) is required to keep a copy of each of these completed reports on site.

Location/Section:

<table>
<thead>
<tr>
<th>Section A: To be completed and certified by Builder</th>
<th>Section B1: To be completed by QP(S)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Please tick the applicable box on critical construction stage</td>
<td>Declaration of Builder</td>
</tr>
<tr>
<td>☐ Completion of installation of embedded walls, piling or kingpost, or ground improvement</td>
<td>I confirm that the ERSS have been constructed according to the approved plans and hereby seek QP(S)'s approval before proceeding with the next construction stage.</td>
</tr>
<tr>
<td>☐ At strut/support level no: ____</td>
<td>Name &amp; Signature of Technical Controller for &amp; on behalf of the builder</td>
</tr>
<tr>
<td>☐ At final excavation level</td>
<td></td>
</tr>
<tr>
<td>☐ Removal of strut/support no: ____ / removal of wall</td>
<td></td>
</tr>
<tr>
<td>☐ others, pls specify: ____</td>
<td></td>
</tr>
</tbody>
</table>

Section B2: To be completed and certified by QP(S)

I have inspected the site and its neighbouring areas, and assessed the performance of constructed ERSS, results of instrumentation and monitoring readings, and the actual ground conditions. I am satisfied that the ERSS is safe for the works to proceed to the next construction stage. (please tick only one of the boxes below)

☐ I am satisfied that the constructed ERSS is fully in accordance with the approved plans. I hereby grant approval for the builder to proceed to the next construction stage. I have submitted a copy of this form to QP(D), and AC together with a copy of instrumentation and monitoring results, relevant as-built information of ERSS and actual ground condition encountered at site. (Sections C & D are not applicable)

☐ There are changes to the approved plan, which in my opinion do not require a re-design of ERSS. I hereby grant approval to the builder to proceed to the next construction stage subject to confirmation by QP(D) and AC. (Sections C and D to be completed by QP(D) and AC)

Name, stamp & signature of QP(S)
Date: ______________________

Section C: When applicable, to be completed and certified by QP(D), with assessment report appended

I have assessed and reviewed the adequacy of the as-installed key structural elements of the ERSS, results of instrumentation and monitoring readings, actual ground conditions and the changes highlighted by the QP(S) and conclude that— (please tick only one of the boxes below)

☐ The changes do not require a re-design of the ERSS. ERSS works to the next construction stage can proceed.

☐ Amendment submission to BCA is required before ERSS works to the next construction stage can proceed, and no excavation is permitted.

Name, stamp & signature of QP(D)
Date: ______________________

Section D: When applicable, to be completed and certified by the AC

I have reviewed the adequacy of as-installed key structural elements of the ERSS, results of instrumentation and monitoring readings and actual ground conditions and the QP(D)'s assessment report and concluded that— (please tick only one of the boxes below)

☐ The changes do not require a re-design of the ERSS. I agree to permit the builder to proceed ERSS works to the next construction stage.

☐ Amendment submission to BCA is required before ERSS works to the next construction stage can proceed, and no excavation is permitted.

Name, stamp & signature of AC
Date: ______________________
**Flowchart for ERSS Annex C**

(If ERSS is GBW use form Exc_GBW_AnnexC; if ERSS is non-GBW, use form Exc_Non-GBW_AnnexC)

**Section A**

Technical Controller of Builder confirms and certifies that the ERSS is constructed according to the approved plans, and seek QP(S)'s approval to proceed to the next construction stage.

**Section B1 and B2**

QP(S) and QP(GEO)(S)* inspect the site, and assess the performance of the ERSS, monitoring results and ground conditions (Section B1 & B2).

**Decision Point**

QP(S) & QP(GEO)(S)*

Amendment submission to BCA required

No

Changes?

Yes

Re-design ERSS?

Yes

No

**Section C**

QP(S) and QP(GEO)(S)* check first box of Section B, and certify performance.

Builder may proceed to the next construction stage.

QP(S) and QP(GEO)(S)* check second box of Section B, and certify performance.

Form is routed to QP(D)s, and Section C of Annex C to be filled up.

**Decision Point**

QP(D) and QP(GEO)(D)*

Amendment submission to BCA required

No

Re-design ERSS?

Yes

**Section D**

QP(D) and QP(GEO)(D)* assess the as-installed key structural elements, monitoring results and ground conditions

**Decision Point**

QP(D) and QP(GEO)(D)*

Amendment submission to BCA required

No

Re-design ERSS?

Yes

AC and AC(GEO)* review the adequacy of the as-installed key structural elements, monitoring results, ground conditions and QPs assessment report.

When the form is complete, builder may proceed to the next construction stage.

AC and AC(GEO)* review adequacy of the as-installed key structural elements, monitoring results, ground conditions and QPs assessment report.

**Decision Point**

AC and AC(GEO)*

Amendment submission to BCA is required before ERSS works to the next construction stage can proceed.

* For GBW projects
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