

2015

**FREQUENTLY ASKED QUESTIONS (FAQS) ON
the Design, Construction and
Commissioning of Public Shelters**

**Building and Construction Authority
Civil Defence Shelter Engineering Department
Special Functions Group**



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Q1 What are the requirements governing the design, construction and commissioning of public shelters?

These are the relevant requirements governing public shelters:

Large Shelters (E.g. MRT shelters)

- a) Technical Requirements for S10-S29 Public Shelters; and
- b) Civil Defence Materials & Workmanship (M&W) Specifications for S10-S29 Public Shelters;

Small Shelters (E.g. HDB public shelter/ School/ Community Centres/ Clubs, etc.)

- a) Technical Requirements for S1-S5 Public Shelters;
- b) Technical Specifications for Works of S1-S5 Public Shelters;
- c) Guidelines on Plan Submission of S1-S5 Public Shelters;
- d) Guidelines on Construction and Commissioning of S1-S5 Public Shelters; and
- e) Handbook for Commissioning Requirements of S1-S5 Public Shelters

Q2 Where can I get a copy of the technical requirements for public shelters?

The hard copy of the Technical Requirements for S1 - S5 Public Shelters as well as the Technical Requirements and CD M&W Specifications for S10 - S29 public Shelters are specially for QPs, consultants and contractors who have been engaged by the user ministry or statutory board to incorporate public shelter requirements into their projects. Prior arrangement has to be made to obtain the hard copy from:

Fire Safety & Shelter Department (FSSD)
HQ SCDF Complex
91 Ubi Ave 4
Level 1
Singapore (408827)

Please contact 6848 1478 or 6848 1473 to arrange for collection.

Large Shelters (E.g. MRT shelters)

For plan submission and commissioning of large shelters (S10-S29 Public Shelters), a consultation session can be arranged with the Transit Shelter Engineering Department of Building and Construction Authority. To make an appointment, you may e-mail to the following persons:

Contact Person	E-mail
Lee Chee Keong	lee_chee_keong@bca.gov.sg
Bernard Tan (Architectural & Civil Works)	bernard_tan@bca.gov.sg
Wong Siew Heng (Mechanical Works)	wong_siew_heng@bca.gov.sg
Ng Kok Lam (Electrical Works)	ng_kok_lam@bca.gov.sg

Small Shelters (E.g. HDB public shelter/ School/ Community Centres/ Clubs, etc.)

The [Guidelines on Plan Submission of S1-S5 Public Shelters \(279kb .pdf\)](#), [Guidelines on Construction and Commissioning of S1-S5 Public Shelters \(281kb .pdf\)](#) and [Handbook for Commissioning Requirements of S1-S5 Public Shelters \(278kb .pdf\)](#) can be obtained from this web site.

The Technical Specifications for Works of S1-S5 Public Shelters will be issued only to the project co-ordination Qualified Person.

Q3 If I need a consultation session before submission of plans, how can I request for one?

You may make a request for consultation via [CORENET e-Submission System](#) using e-form (BCA-CD-PLAN01.XFD) or using [Request for Consultation on Civil Defence Shelter Requirements](#) (103kb .doc) and submit to BCA Service Counter at 6th Storey, 52 Jurong Gateway Road.

Consultation can cover issues involving shelter building, structural, piling, mechanical, electrical, shock design and commissioning method statement and test report. For effective consultation, you are advised to prepare and bring along the relevant plans showing sufficient details.

Q4 Where can I make a formal application for approval of public shelter plans?

You may submit via [CORENET e-Submission System](#) using e-form (BCA-CD-PLAN02.XFD) or using [Application for Approval of Civil Defence Shelter Plans](#) (140kb .doc) and submit to the BCA Service Counter at 6th Storey, 52 Jurong Gateway Road.

Q5 Can I submit shelter structural plans for approval before shelter building plans are approved?

Yes. However, it is advisable to obtain approval of shelter building plans first before applying for approval of shelter structural plans.

Each application for approval of shelter structural plans should be accompanied with a set of shelter building plans.

Q6 How many sets of plans shall I submit to BCA?

You only need to submit one set of plans.

Q7 Who can submit shock design calculations for processing by BCA?

A Qualified Person (Civil/Structure) or a Qualified Person (Mechanical) can submit shock design calculations.

Q8 If there are architectural fixtures or Mechanical & Electrical (M&E) systems in public shelters which are also required for peacetime usage, do I need to submit any application for approval?

We have no requirement for peacetime architectural fixtures and Mechanical & Electrical (M&E) systems if they do not penetrate through bounds of protection and will be removed during the conversion of the shelter. Items to be removed should be installed with removable screws (max. 50 mm long) with non-metallic inserts.

For peacetime fixtures or systems which penetrate through bounds of protection or will not be removed during emergency, only their penetration layouts and shock designs for mountings need to be submitted to BCA for approval.

Q9 When can I expect a reply from BCA after I have made an application?

You can expect to obtain reply from BCA within 10 working days.

Q10 Is there a time frame for re-submission of plans if Written Directions (WDs) had been issued?

Yes. You are expected to re-submit the amended plans within 2 weeks from the date of the Written Directions.

All re-submissions shall be accompanied by a covering letter and may be submitted via [CORENET e-Submission System](#) using CR Submission or by manual submission at BCA Service Counter at 2nd storey, Tower Block, MND Complex, 5 Maxwell Road.

For re-submission, the ES No. (for e-submission) and Plan Type No. shall be the same as those of the Written Directions.

A "Notice of Disapproval" will be issued if you do not re-submit within the stipulated time frame. In such a case, you may request for a consultation before submitting a re-application for approval of shelter plans.

Q11 After "Notice of Approval" has been obtained, do I still need to re-submit amendment plans if there are changes to public shelter design?

Yes. You have to re-apply for approval of public shelter plans if there are changes in the design concept or parameters, which will affect the operation of the public shelter. Some examples of changes are re-location of the bounds of protection and changes in the overpressure regimes.

Q12 When can I start the construction of the public shelter?

Construction of public shelters can only start after you have obtained "Notice of Approval" for shelter structural plans from Civil Defence Shelter Engineering Department (CSDS) of BCA and "Permit to Commence Building Works" from Building Engineering Group of BCA. For more details, you can refer to [Guidelines on Construction and Commissioning of S1-S5 Public Shelters \(281kb .pdf\)](#).

Q13 Do I need to seek approval from BCA before casting any part of the shelter?

No, Qualified Persons can proceed with the concreting of the shelter structure in accordance with the approved plans, as the Qualified Person is responsible to ensure that the work is carried out in accordance with approved plans. However, the Qualified Person is requested to inform BCA before casting of major structural elements so that inspection can be scheduled if required.

Q14 Must I inform BCA if there are major deviations from the approved shelter plans?

Yes. You have to inform BCA if there are major deviations or amendments such as coring of walls or slabs. You have to submit amendment plans or method statements for rectification works to BCA.

Q15 Are there any tests be carried out when the construction of public shelter is completed?

Yes. There are 3 commissioning tests to be conducted. These are:

- a) Internal Overpressure Test,
- b) Overpressure Regime & Airflow Test, and
- c) Integrated Systems Test.

Method statements for these tests and test reports shall be submitted for approval via [CORENET e-Submission System](#) using e-form (BCA-CD-PLAN02.XFD) or using [Application for Approval of Civil Defence Shelter Plans](#) (140kb .doc) and submit to BCA Service Counter at 6th Storey, 52 Jurong Gateway Road.

Prior to conducting any of these tests, you have to notify BCA via [CORENET e-Submission System](#) using e-form (BCA-CD-NCOM01) or using [Notification of Commissioning Test for Civil Defence Shelter](#) (70kb .doc) and submit to BCA Service counter.

Besides the three commissioning tests mentioned, you also have to conduct Air- tightness Inspection, Anchor Bolts Pull-out Tests, Individual Functional System Tests and Visual Inspection of completed shelter at different stages of the public shelter construction. You should keep BCA informed when conducting these tests and inspections can be scheduled if required.

Q16 Are there any record forms available for the tests and inspection?

Yes. The test and inspection record forms are available in [Handbook for Commissioning Requirements of S1-S5 Public Shelters](#) (278kb .pdf).

Q17 What should I do after completion of the Integrated Systems Test for the public shelter?

After obtaining Notice of Approval for Commissioning Test for the public shelter (Integrated System Test), the public shelter is considered to have been successfully tested and commissioned. Please note that this Notice of Approval is part of the requisite for obtaining the Certificate of Statutory Completion (CSC) from Building Plan Department of BCA.