

Our Ref : BCA BC 15.0.3

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21 May 2013

See **Distribution List**

Dear Sir/Madam

REQUIREMENT FOR APPROVAL OF PLANS OF MECHANISED CAR PARKING SYSTEM

The use of mechanised car parking systems are becoming prevalent and in view of the many types of mechanised car parking systems, this circular aims to clarify the types of system that would require approval of plans under the Building Control Act.

Mechanised car parking systems that require approval of plans

2 Mechanized car parking system that comprises supporting steel frames, with or without its own foundation system, are considered as building structures requiring approval of plans and permit under the Building Control Act. Some examples of such systems are as shown in Annex A.

3 When the system is designed to transport both the vehicle and the driver/passenger, the lifting system will also need to be approved under the Building Control Act in the same manner as passenger lifts. However, when the system is not designed to carry driver/passenger, the mechanical aspects of the system (e.g. rollers, chains, wire-ropes, motors, pulleys, hydraulic system, etc) need not be subject to approval under the Building Control Act.

4 QPs are reminded that the structural design of the supporting steel frames of mechanized car parking system should comply with the latest version of the British Standards BS5950 or Eurocode 3 (SS EN1993), and BC1 Design Guide. The structural design should also take into account the horizontal loading acting on the steel frames due to the movement of cars, akin to the horizontal surge loading for the design of supporting steel frames for gantry crane structures.

Mechanised car parking systems that do not require approval of plans

5 If the mechanised car parking system comprises a stand-alone single-car platform lifting mechanism, examples of which are as shown in Annex B, approval of plans is not required as it is considered a lifting equipment, similar to those used in car workshops.

Clarifications

6 I would appreciate it if you could bring to the attention of your members the contents of this circular. Please contact Er. Chang Heng Choy at Tel. 63257577 or email: chang_heng_choy@bca.gov.sg if you need further clarification.

Thank you.

Yours faithfully

A handwritten signature in black ink, consisting of a series of loops and a long diagonal stroke.

K THANABAL
DIRECTOR, BUILDING ENGINEERING GROUP
for COMMISSIONER OF BUILDING CONTROL
BUILDING AND CONSTRUCTION AUTHORITY

ANNEX A: EXAMPLES OF MECHANISED CAR PARKING SYSTEMS THAT REQUIRE APPROVAL OF PLANS



Figure A1 - Standalone structural frame



Figure A2 - Standalone structural frame



Figure A3 - Standalone structural frame



Figure A4 - Standalone structural frame



Figure A5 - Structural frame within a building



Figure A6 - Structural frame within a building



Figure A7 - Structural frame within a building



Figure A8 - Structural frame within a building

ANNEX B: EXAMPLES OF MECHANISED CAR PARKING SYSTEMS THAT DO NOT REQUIRE APPROVAL OF PLANS



Figure B1 – Standalone lifting system for a single car



Figure B2 – Standalone lifting system for a single car



Figure B3 – Lifting system for a single car within a building



Figure B4 – Lifting system for a single car within a building

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