NA

From: NA
Sent: Thursday, September 17, 2009 5:42 PM
To: members_of_the_staff
Subject: Revised Master Specifications
Attachments: noise level.pdf

Our Ref: OM-SC/019

Hi all,

Please note that the following master specifications have been updated. The changes are highlighted in the attached specifications.

1. All M&E Services (DSC & NSC)

   Section 1 – Scope of Work - Noise Level

Regards
Adzimah
for ALPHA CONSULTING ENGINEERS PTE LTD
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→ NA, please update all Master Specs!

Space/Area	Noise Criteria (NC)	Approx. Level in db (A)
Apartment Bedrooms, Dining/Living Room	35	43
Bathrooms within Bedrooms	40	48
General Offices	40	48
Public Areas, e.g. Foyers, Corridors, Lobbies, Coffee Houses, Shops, Kiosks and General Outlets, Atrium Space (where applicable)	45	53
Carparks	60	67
At Property Boundaries: (7am do 7pm)		60
(7 ~~p~~m to 11 pm)		~~65~~ 55
(11 pm to 7 am)		~~55~~ 50

CCC 28/7/09

The specified interior noise criteria limits apply to every position from 1m to 2m from the floor not closer than 1.5m from any air outlet, or equipment.

The ~~Contractor shall ensure~~ that noise emitting from any equipment (chiller, cooling tower, fan, ~~etc.~~ pump) to be effectively ~~controlled~~ such that the noise level at property boundaries shall comply with the requirements of the Code of Practice on ~~Environmental Health~~ Pollution Control.

The Contractor shall ~~examine all the~~ Specification Drawings and Specifications including architectural and structural sets of working drawings, before commencing any work forming the Works and shall immediately bring to the Architect's attention any characteristics or properties of the Building or any other factors which, in his opinion would jeopardize or nullify the attainment of the design objectives in respect of noise level control.

The Contractor shall ensure that all plant equipment and installation included in the Works, when operated within the design criteria, shall acoustically perform to the specified noise criteria ratings.

The Contractor shall be responsible for any corrective action which may be necessary either during the execution or after completion of the Works, to achieve all design objectives.

1.7 Not Used

1.8 Certificates, Permits & Fees

The Contractor shall apply and obtain all necessary certificates and approval from the governing Authorities for the work done and shall lodge same with the Architect. The Sub-Contractor shall also obtain and complete all permits and notices required by the governing Authorities and shall obtain consents necessary for the various works to be executed. The Contractor shall pay all fees in connection therewith.

When dispute arises over the classification of any area under the following Schedule, the Architect's determination of the space, type and function of the area, as listed below, shall be final and binding on the Sub-Contractor.

Space/Area	Noise Criteria (NC)	Approx. Level in db (A)
Guestrooms for Service Apartment & Hotels	35	43
Apartment Bedrooms, Dining/Living Room	35	43
Executive Offices, Conference Rooms	35	43
Quality Restaurants	40	48
Bathrooms within Bedrooms	40	48
General Offices	40	48
Public Areas, e.g. Foyers, Corridors, Lobbies, Coffee Houses, Shops, Kiosks and General Outlets, Atrium Space (where applicable)	45	53
Control Rooms	50	57
Kitchens	55	63
Carparks	60	67
At Property Boundaries:		
(7 am to 7 pm)		60
(7 pm to 11 pm)		55
(11 pm to 7 am)		50

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The Sub-Contractor shall ensure that all plant equipment and installation included in the Works, when operated within the design criteria, shall acoustically perform to the specified noise criteria ratings.

The Sub-Contractor shall be responsible for any corrective action which may be necessary either during the execution or after completion of the Works, to achieve all design objectives.

1.7 Building Completion Programme

1.8 Amplification of Specification

The following Sections of this Specification shall be read with reference to the design of this particular installation. In case of any doubts about the meaning or relevance of any portion of the Specification, the Sub-Contractor shall refer the matter to the Architect for a definition or interpretation and the Architect's decision shall be final and binding upon the Sub-Contractor.

For projects where Acoustic Consultants are engaged to advise on the noise & vibration aspects of the M&E Systems etc., the Acoustic Consultants should be consulted before using Clause 5. This clause should be common for all the M&E Services for the particular project.
20/08/09

1.9 Noise Levels

Octave band sound pressure levels in the various areas within the Building shall not exceed the noise criteria set out in the following Schedule.

When dispute arises over the classification of any area under the following Schedule, the Architect's determination of the space, type and function of the area, as listed below, shall be final and binding on the Sub-Contractor.

Space/Area	Noise Criteria (NC)	Approx. Level in db (A)
Guestrooms for Service Apartment	35	43
Apartments Bedroom, Dining/Living Room	35	43
Executive Offices, Conference Rooms	35	43
Quality Restaurants	40	48
Bedroom Bathrooms	40	48
General Offices	40	48
Public Areas, e.g. Foyers, Corridors, Lobbies, Coffee Houses, Shops, Kiosks and General Outlets, Atrium Space (where applicable)	45	53
Control Rooms, Squash Courts	50	57
Manned Store Areas Kitchens	55	63
Carparks	60	67
At Property Boundaries:		
(7 am to 7 pm)		60
(7 pm to 11 pm)		55
(11 pm to 7 am)		50

The specified interior noise criteria limits apply to every position from 1m to 2m from the floor not closer than 1.5m from any air outlet, or equipment.

The Sub-Contractor shall ensure that noise emitting from any equipment (chiller, cooling tower, fan, pump, etc.) to be effectively controlled such that the noise level at property boundaries shall comply with the requirements of the Code of Practice on Pollution Control.

The Sub-Contractor shall examine all the Specification Drawings and Specifications including architectural and structural sets of working drawings, before commencing any work forming the

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Space/Area	Noise Criteria (NC)	Approx. Level in db (A)
Guestrooms for Service Apartment & Hotels	35	43
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The Sub-Contractor shall guarantee that all plant equipment and installation included in the Works, when operated within the design criteria, shall acoustically perform to the specified noise criteria ratings.

The Sub-Contractor shall be responsible for any corrective action which may be necessary either during the execution or after completion of the Works, to achieve all design objectives.

1.7 Amplification of Specification

The following Sections of the Specification (from Section 2 onwards) shall be read with reference to the design of this particular installation. In case of any doubts about the meaning or relevance of any portion of the Specification, the Sub-Contractor shall refer the matter to Architect for a definition or interpretation and the Architect's decision shall be final and binding upon the Sub-Contractor.

1.4 Electricity Supply

For the purpose of this Installation, the medium voltage electricity supply will be 400/230 volts, 3 phase, 4 wire, 50 Hz system with deviations/fluctuations as normally declared by the PUB.

For projects where Acoustic Consultants are engaged to advise on the noise & vibration aspects of the M & E Systems etc., the Acoustic Consultants should be consulted before using Clause 4. This clause should be common for all the M & E Services for the particular project.
20/08/09

1.5 Noise Levels

Octave band sound pressure levels in the various areas within the Building shall not exceed the noise criteria set out in the following Schedule.

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The specifier shall discuss with the Employer to decide whether to include these requirements. Also for installation with few lifts, this is not required.
01/04/97

1.5 Operation of Lifts

In addition to the requirements stipulated under 'Servicing and Maintenance' and 'General Requirements' of this Specification, the Works shall include a competent and experienced Lift

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