

SOGAKUDO CONCERT HALL

TOKYO JAPAN
1998

NAGATA
ACOUSTICS

Acoustics Consultant:	NAGATA ACOUSTICS, Inc.
Architect:	Okada & Associates Architects Engineers Planners
Owners:	Tokyo National University of Fine Arts and Music
Sound & Communications:	NAGATA ACOUSTICS, Inc.
Construction Cost:	¥ 7,750 Million JPY

The Sogakudo is a new concert hall constructed in the campus of the Tokyo National University of Fine Arts and Music, and opened in April 1998.

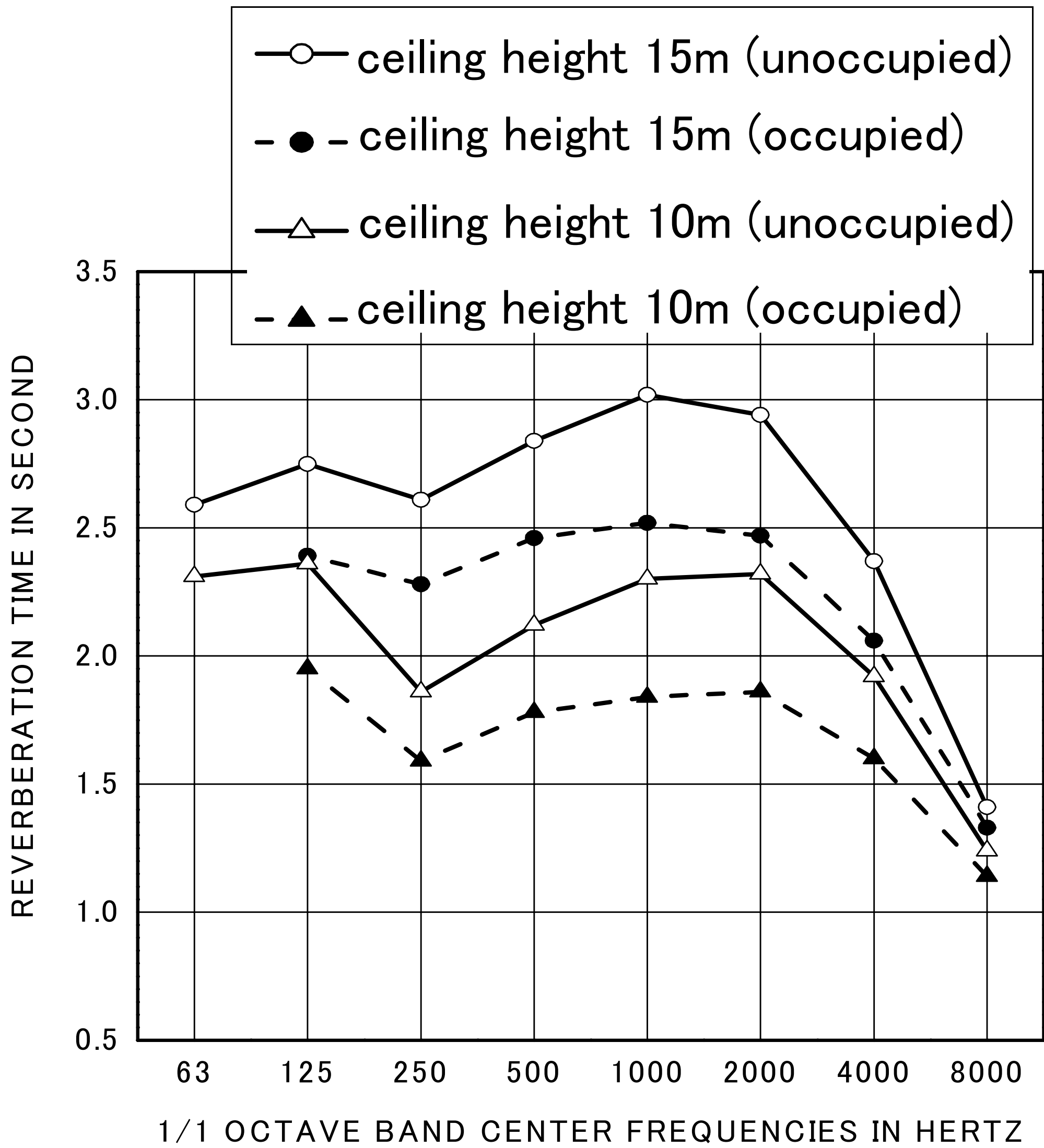
The hall has a sloped floor and balconies of two ranks in a rectangular space. An organ with 76 stops was installed at the front part of the hall. The seating capacity is 1,140.

To fulfill the requirements for wide range of the music style, from organ music to Japanese traditional music, variable ceiling was installed. The ceiling height changes from 10 to 15m above the stage level in three parts independently. The reverberation time changes from 1.7 to 2.4 seconds with full audience, according to various ceiling height. The wall around the stage area is finished with wooden panels of uneven surface in order to scatter sound reflections.

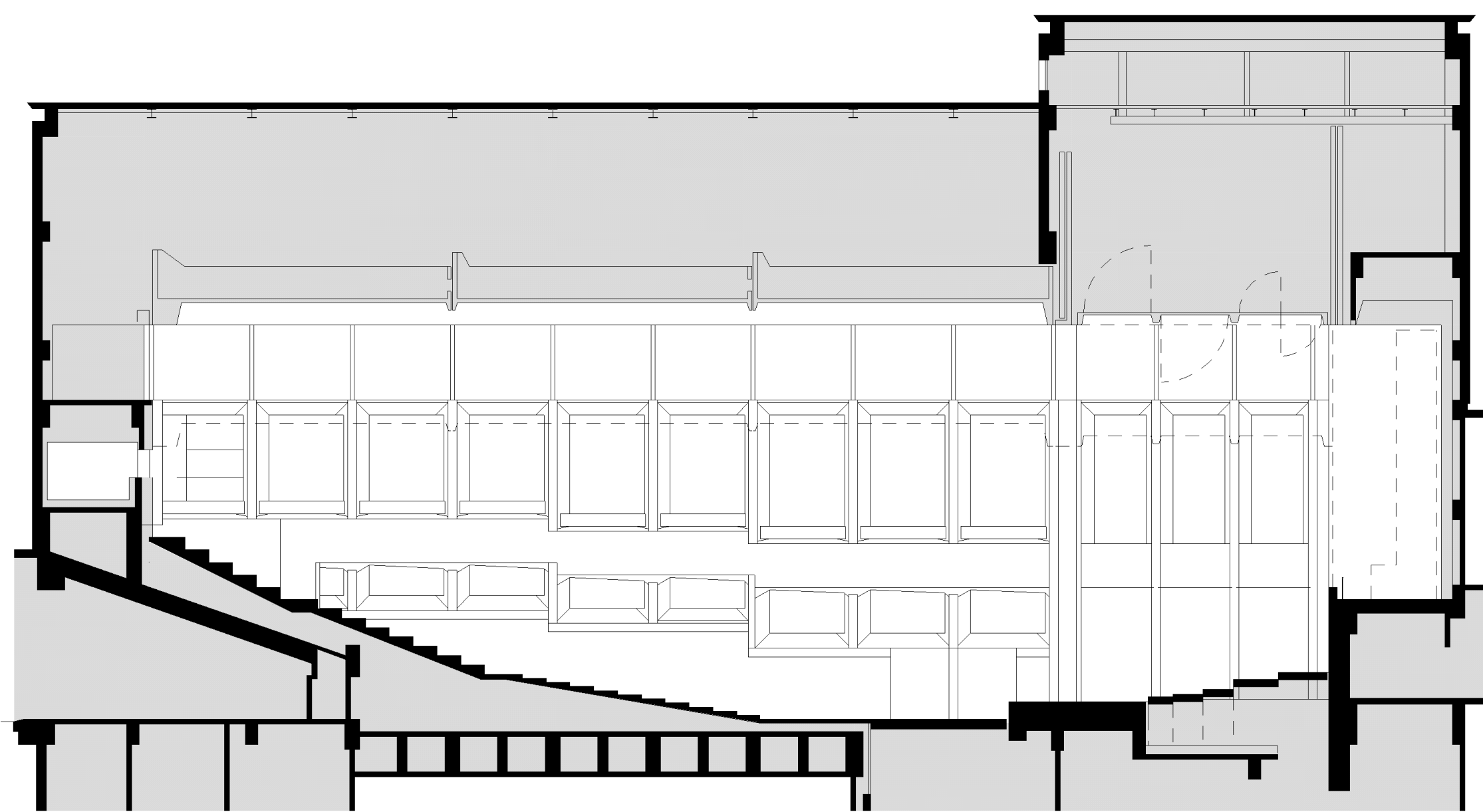
The vibration control against the underground railway passing near the building site was another big problem during the beginning stage of the project. The vibration insulation structures supported by rubber springs were installed between the outer building walls and hall inner finishing. The railway noise is completely attenuated and not detectable in the hall.

BUILDING DETAILS AND ACOUSTICS DATA

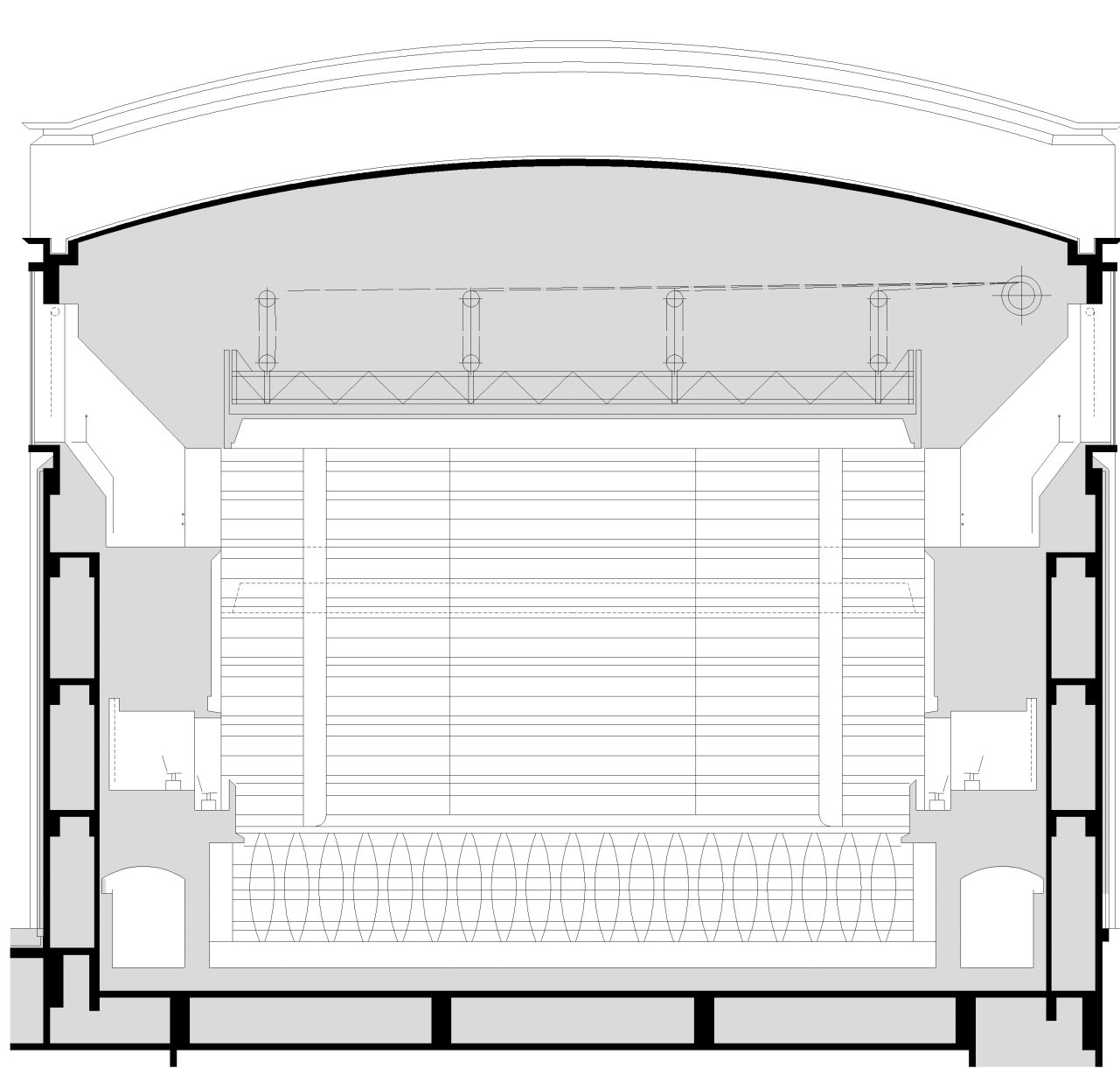
Location	12-8 Ueno Park, Taito-ku Tokyo 110-8714, Japan
Tel	03-5685-7507
Seating Capacity	1,140
Room Volume	99,600 CM - 15,500 CM
Surface Area	3,900 SM - 5,200 SM
Stage Area	300 SM
Reverberation Time (Mid-Frequency)	
Unoccupied	2.1 sec - 2.8 sec
Occupied	1.7 sec - 2.4 sec
Finishing Materials	
Ceiling	: 20 mm Glassfibre reinforced cement panel
Stage Wall	: 18 mm wooden surfaced gypsum board + 3 layers of gypsum board (12 mm x 3), 100 mm wood + 12 mm gypsum board
Lower Side Wall	: 200 mm stone
Upper Side Wall	: 18 mm wooden surfaced gypsum board + 1-3 layers of gypsum board (12 mm x 1-3)
Floor	: 15 mm wooden board on concrete
Seat	: leather (back), cloth (seat)
Miscellaneous	: Movable ceiling
Organ	: 76 stops (M. Garnier, France)
Noise Level	: NC-15
Total Cost	: ¥ 7,750 Million JPY
Total Floor Area	: 6,540 SM



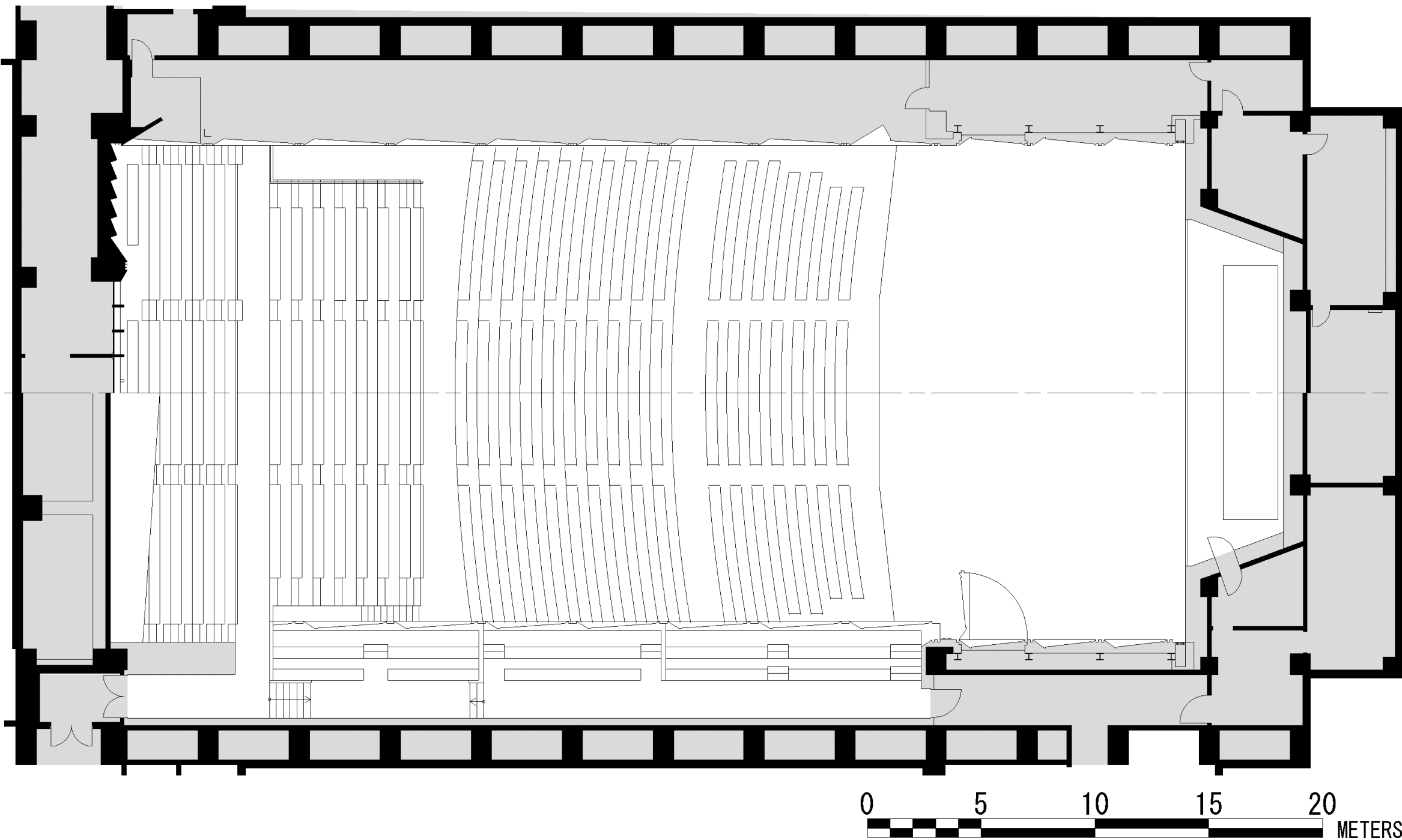
REVERBERATION TIME



LONGITUDINAL SECTION



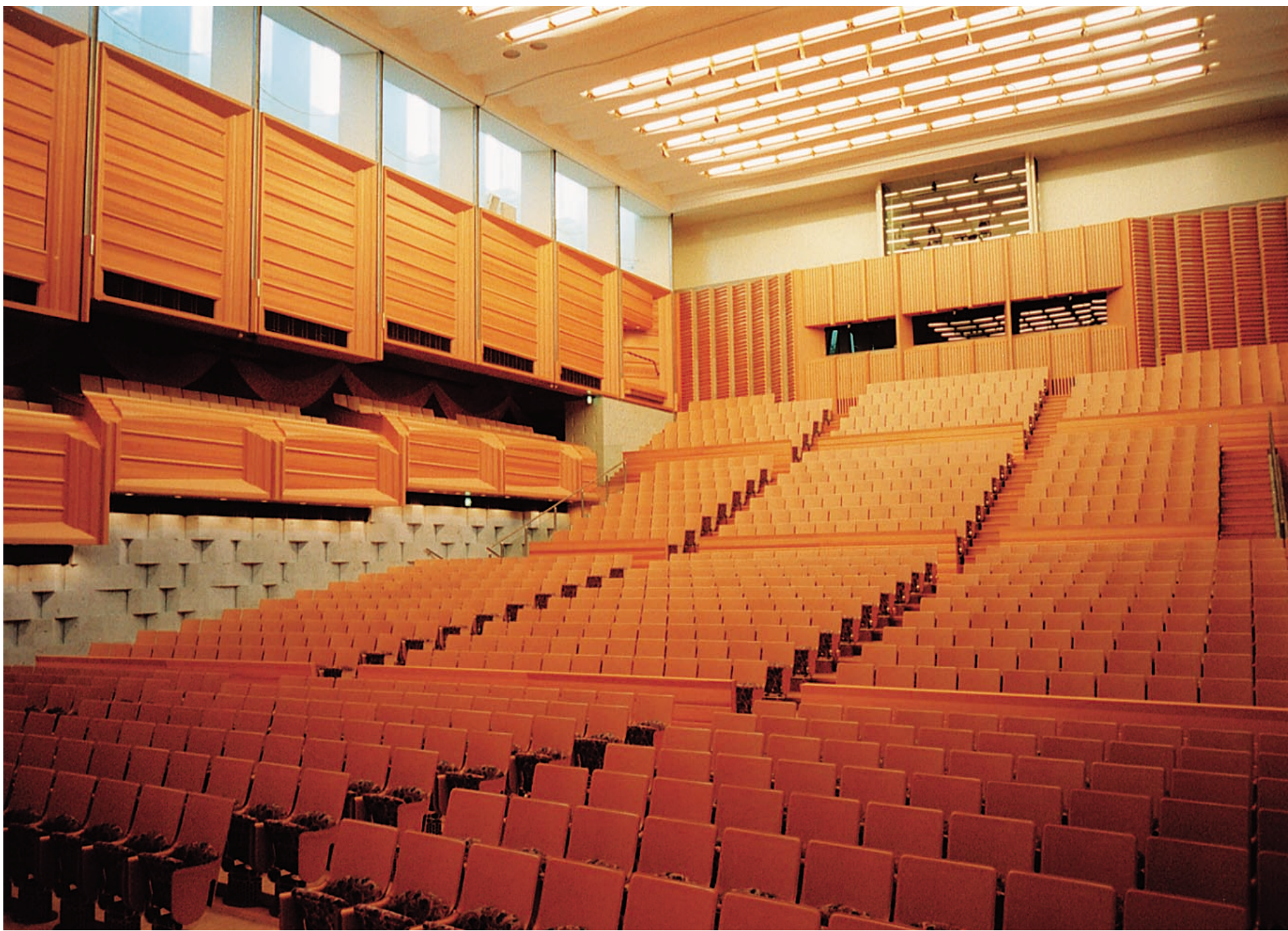
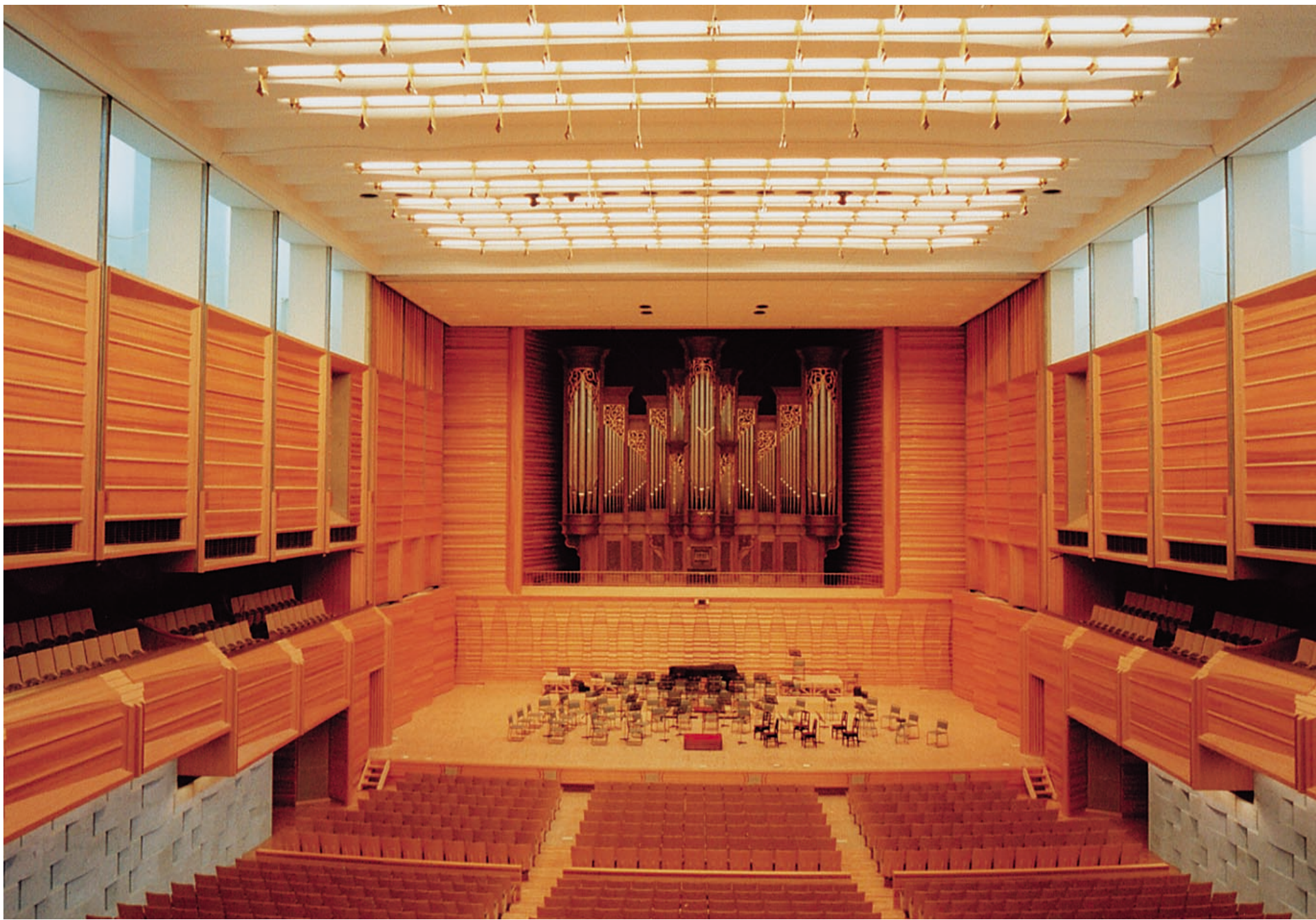
TRANSVERS SECTION



PLAN

1st floor

2nd floor



CEILING HEIGHT : 15 m



CEILING HEIGHT : 10 m

SEAT
Back : Leather
Seat : Cloth

Leg & Riser :
Punching Metal
+ Glass wool

