



Vancouver Independent Music Centre Society

VIM House Acoustic Design Book

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Acoustics, Audio Visual, Theatre

March 29, 2017

ARUP

Project goals

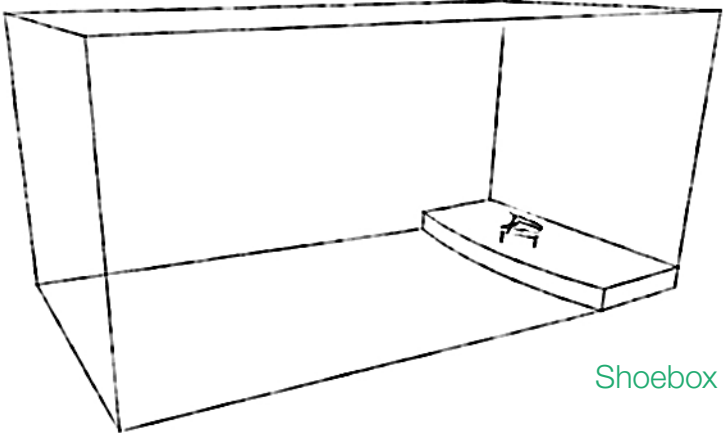
- To provide innovative independent musicians and performers with an acoustically excellent music performance venue in Vancouver, BC
- Main performance hall designed for early, chamber, jazz, experimental, popular, and avant-garde music, with approximately 225 fixed seats and room for 100 other patrons in a flexible configuration
- Modular experimental Underground Venue, sized for 100 patrons seated or 150 patrons standing
- Flexibility in both venues to accommodate a range of events and maximize usage

Room shape

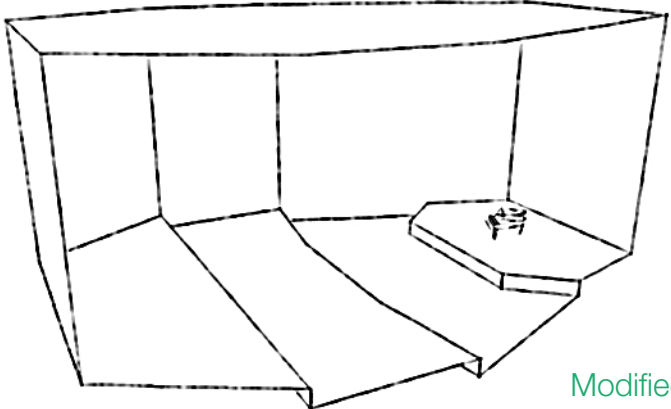
Orientation

Performer | Audience
relationship

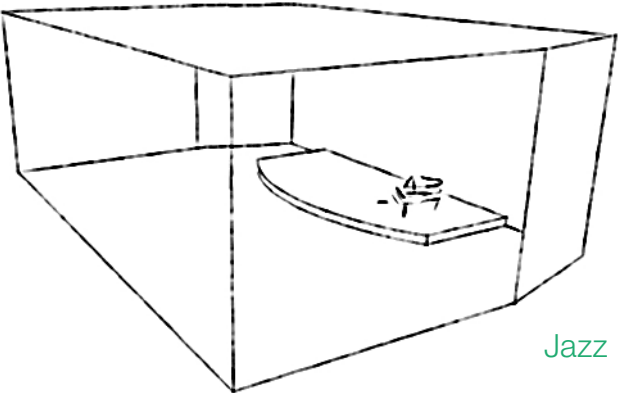
Room form typologies



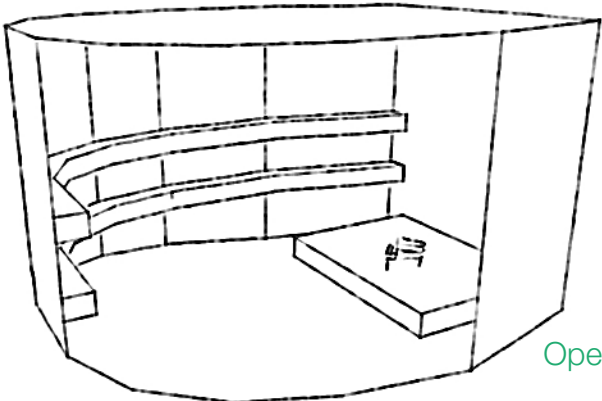
Shoebox



Modified fan



Jazz



Operetta

Stage

Platform

Performer zone

Performer support

Design goals – Main performance hall

- The acoustics of the hall should support an intimate and enveloping sound while allowing for clear and balanced sound for the performers on stage
- Audience should be near and around the stage to promote intimacy and afford excellent sightlines
- Stage size to accommodate up to 25 musicians
- Variability is important to accommodate a wide variety of music and performance types
- Hybrid room form to combine the best elements of jazz, modified fan, and operetta styles
- Natural light is desirable to create a sense of openness and connection to Vancouver
- Finishes and aesthetic should be a reflection of the northwest/Vancouver to make VIMH a venue that represents its location

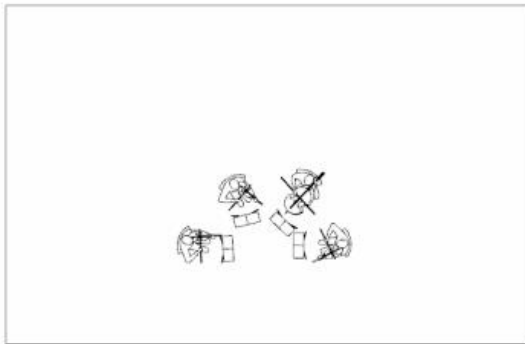
Stage design

- Flat floor performance area
 - Promotes intimacy
 - Allows for ease of load-in/load-out
 - Flexibility
- Suggested dimensions of 32ft wide by 22ft long based on musician layouts
- Loose seating may be added to stage area for events requiring less stage area

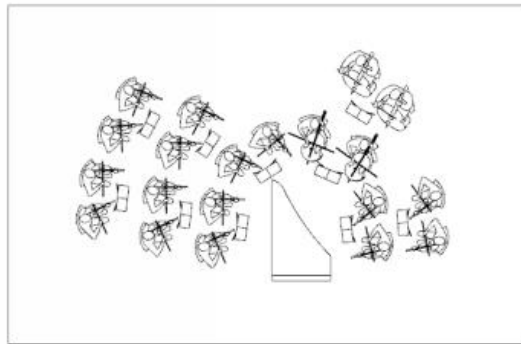


Musician layouts (2D)

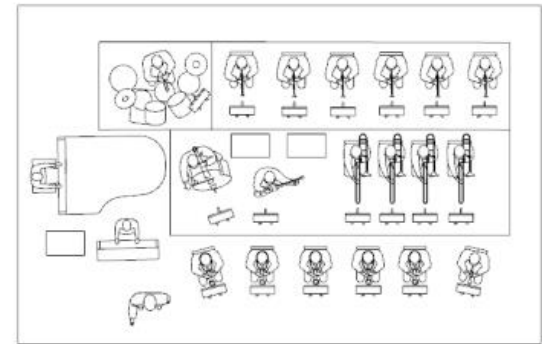
The musician layouts below show a variety of possible stage configurations. The stage has been sized to allow for maximum flexibility, while maintaining a sense of musical intimacy among the performers.



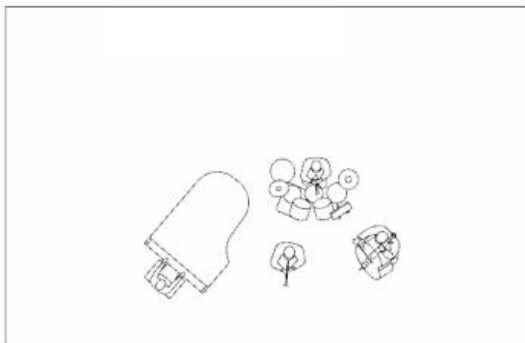
String quartet



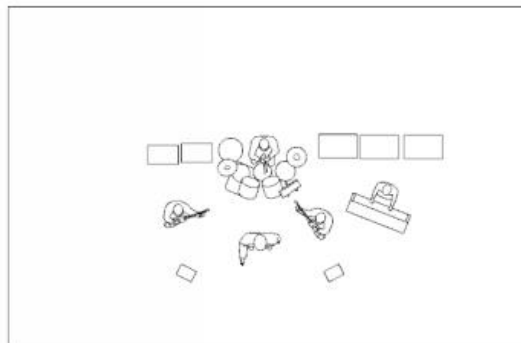
Baroque orchestra



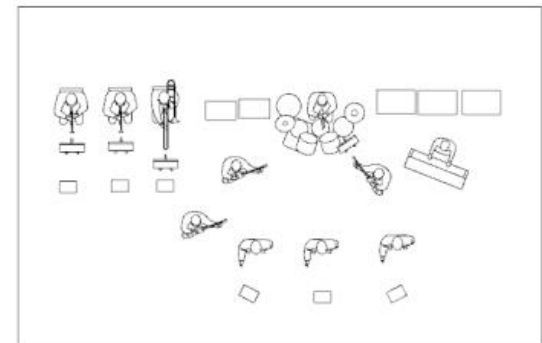
Jazz big band



Jazz combo

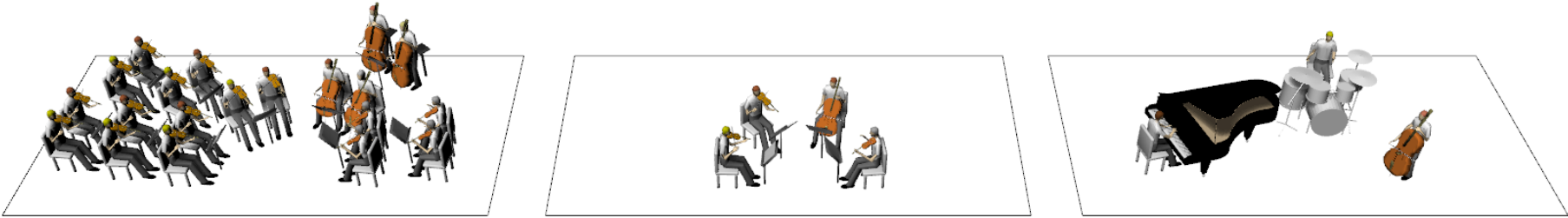


Rock band



Large rock band

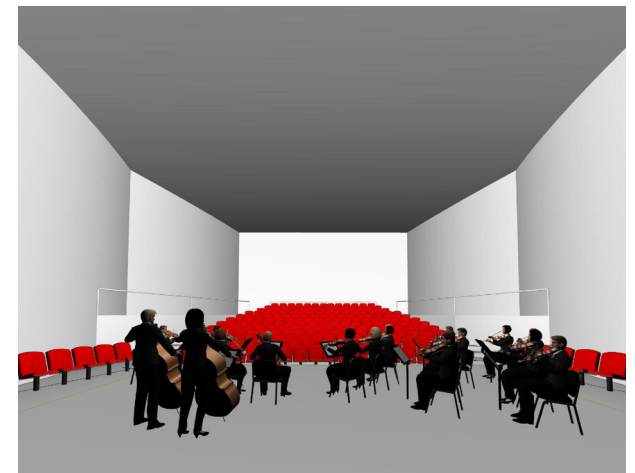
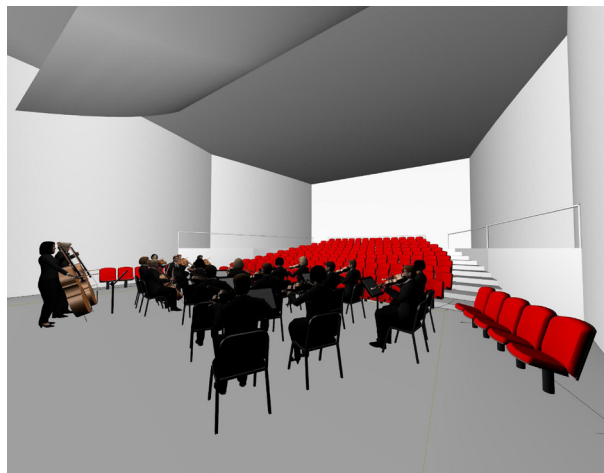
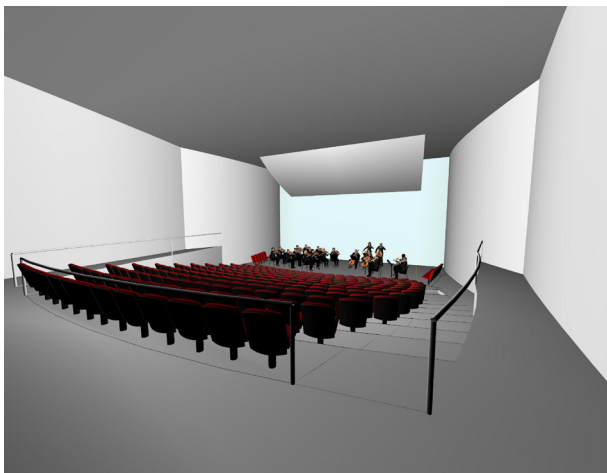
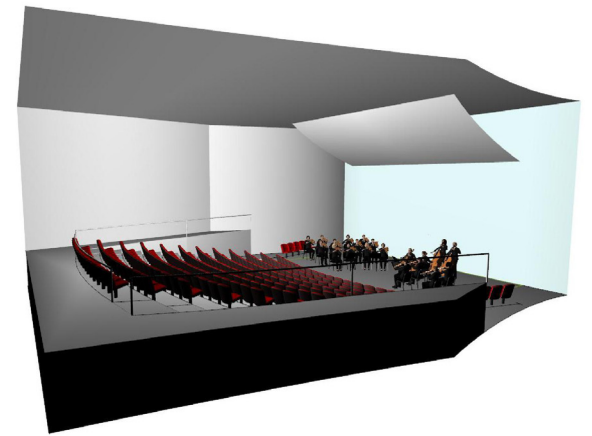
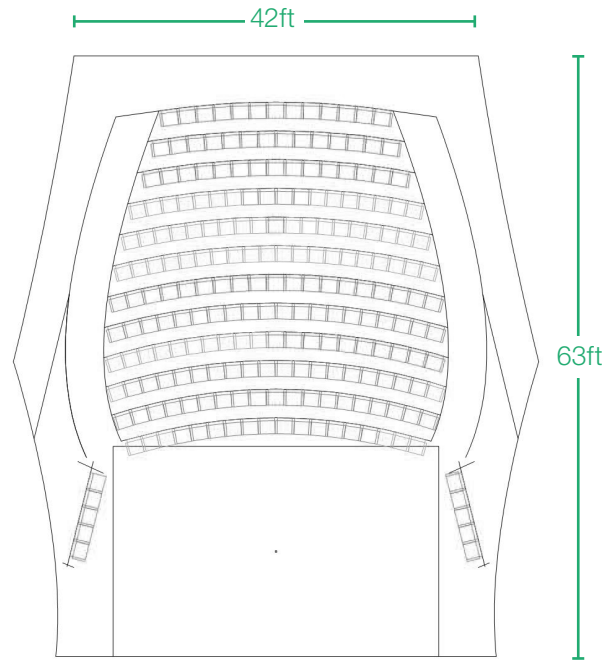
Musician layouts (3D)



Room form development

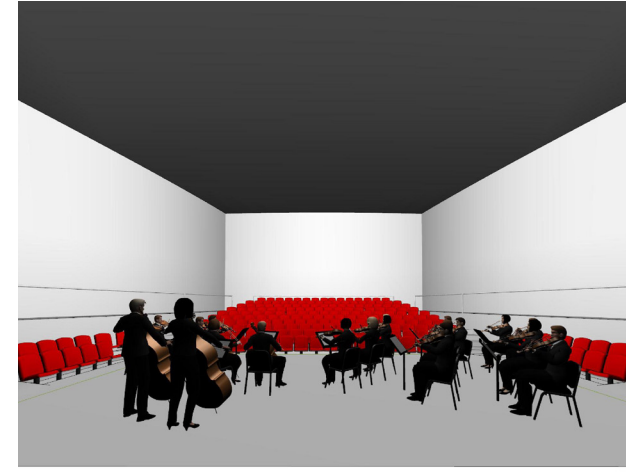
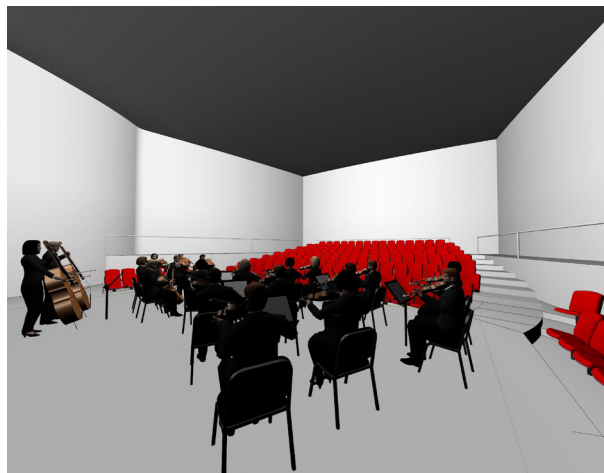
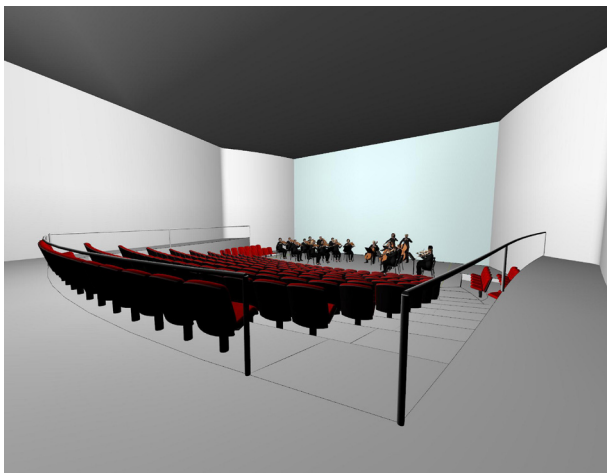
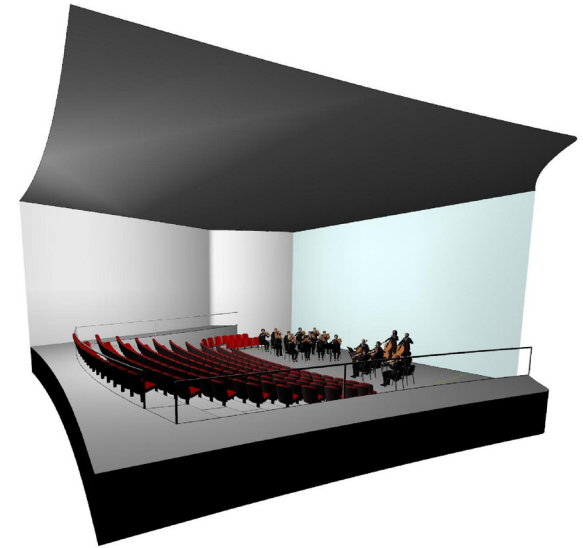
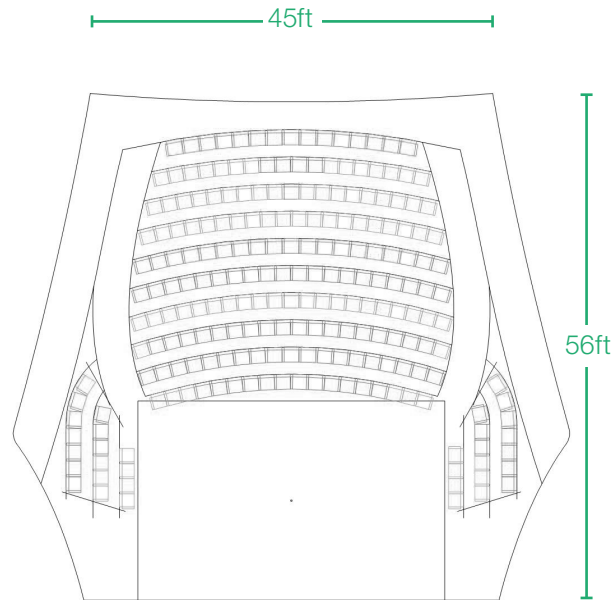
Shoebbox form

The shoebox form utilizes the traditional building geometry found in the world's greatest concert halls. It provides excellent sightlines, a clearly defined performer/audience relationship, and a consistent listening experience across the seating area.



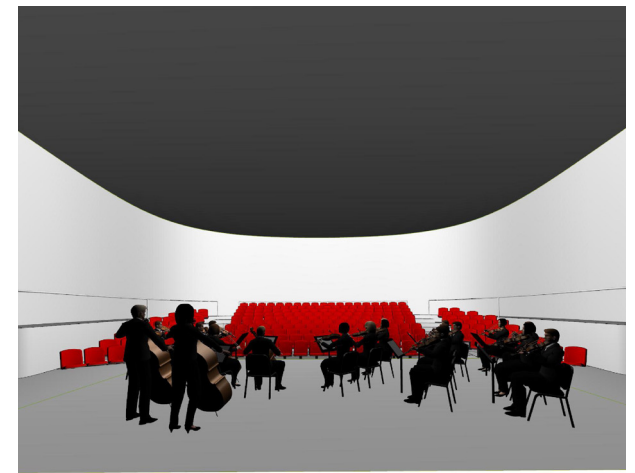
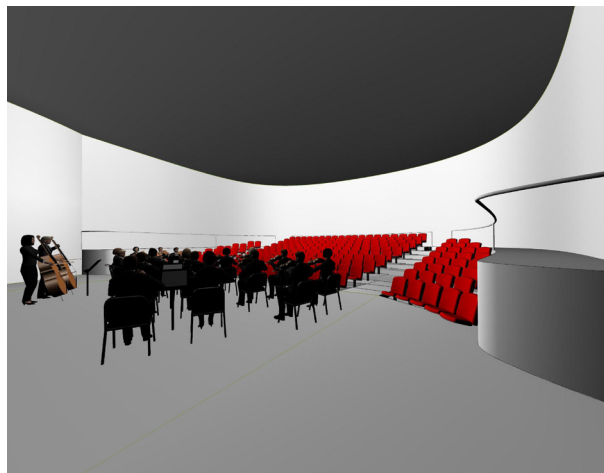
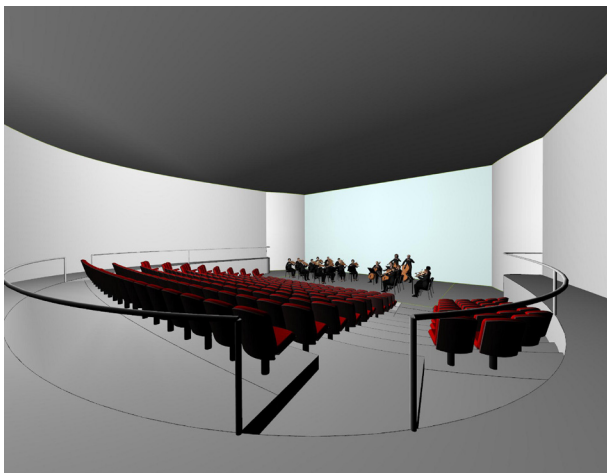
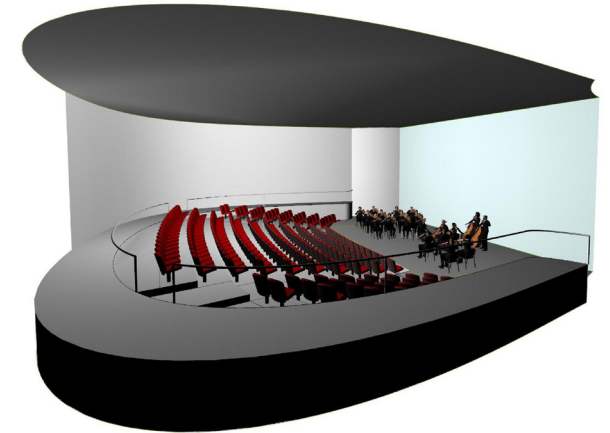
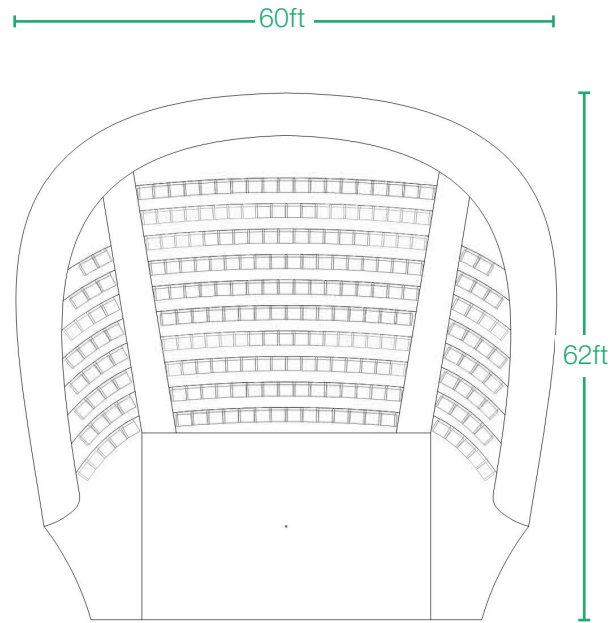
Modified fan form

The modified fan form incorporates the acoustic excellence of a shoebox concert hall while providing a more intimate audience experience. The modified fan form utilizes audience seating at the sides of the stage to bring the audience closer to the performers.



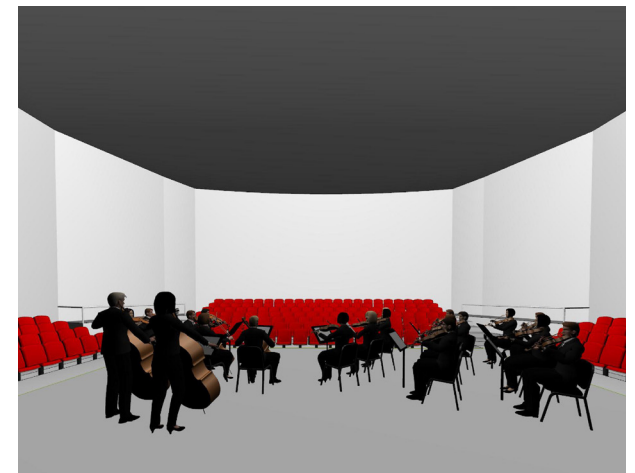
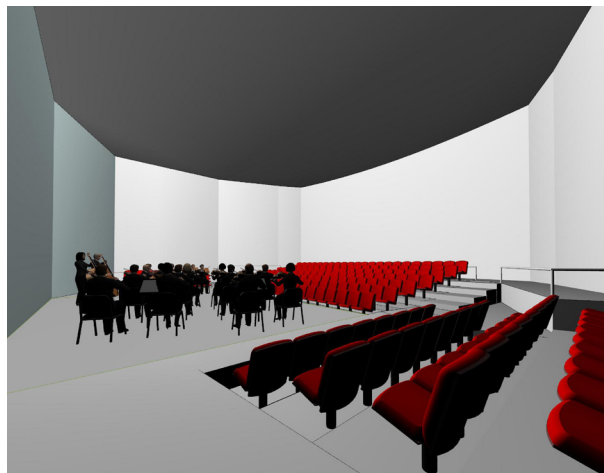
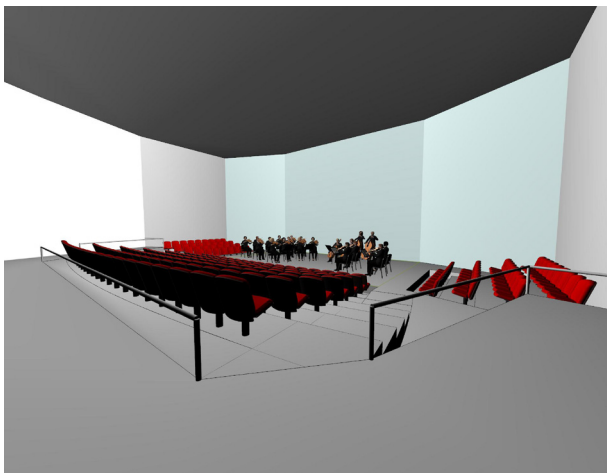
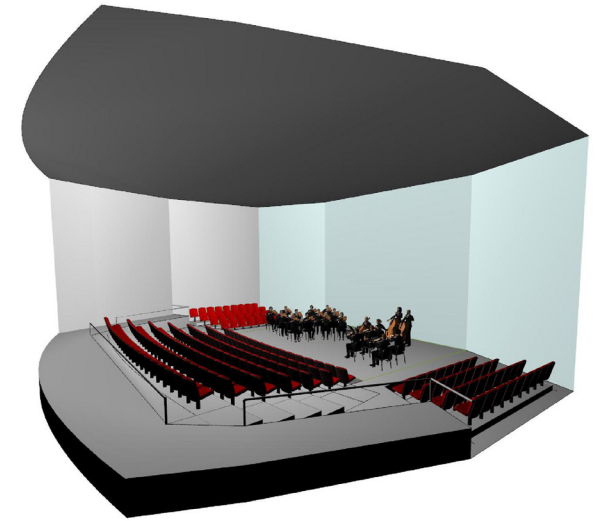
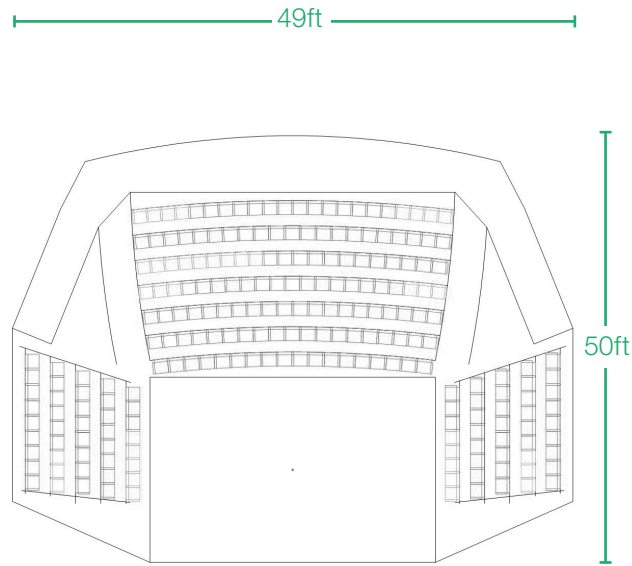
Operetta form

The operetta form creates a broader seating area, allowing for optimized sightlines for a consistent and intimate viewing experience. The acoustic design is informed by traditional operetta-style halls, allowing for a versatile acoustic profile for speech, classical, and contemporary music.



Jazz form

The jazz form provides the most intimate audience experience, utilizing a surround seating configuration. The acoustics allow for direct and immediate sounding music well suited for programming stretching from the Baroque to the contemporary.



Main performance hall design features

Modest level of variability with a focus on rigging and infrastructure provisions to support a variety of ad hoc equipment (lighting, loudspeakers, projection, scrims, etc.).

Audience seating layout provides intimacy (visual and acoustic) via excellent sightlines and close proximity to stage.

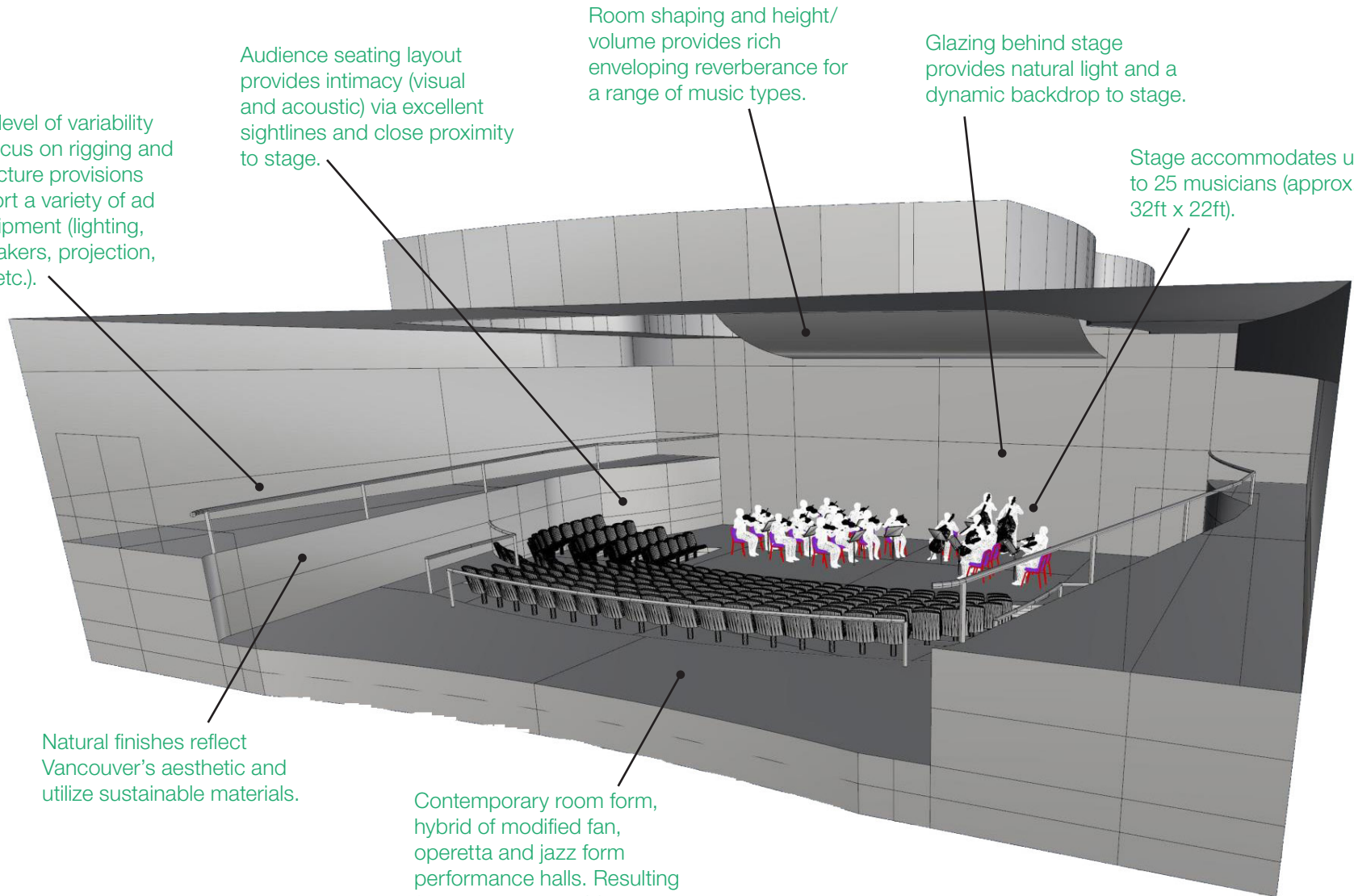
Room shaping and height/volume provides rich enveloping reverberance for a range of music types.

Glazing behind stage provides natural light and a dynamic backdrop to stage.

Stage accommodates up to 25 musicians (approx. 32ft x 22ft).

Natural finishes reflect Vancouver's aesthetic and utilize sustainable materials.

Contemporary room form, hybrid of modified fan, operetta and jazz form performance halls. Resulting form supports a wide range of music types.



Main performance hall rendering



Main performance hall rendering



Underground performance space

Design goals – Underground performance venue

- The Underground venue provides a less formal atmosphere than the main performance hall, catering to adventurous programming and a focus on younger patrons
- Versatility and modularity is an important feature of the space, allowing for rental opportunities and alternate uses
- The space should utilize a flat floor and no fixed seating to democratize the audience experience
- The stage should accommodate up to 10 musicians with a piano
- The room should support amplified music while still maintaining an excellent acoustic environment

Stage design

- Flat floor performance area
 - Promotes intimacy
 - Allows for ease of load-in/load-out
 - Flexibility
- Suggested dimensions of 19ft wide by 10ft deep based on musician layouts
- Loose seating may be added to stage area for events requiring less stage area

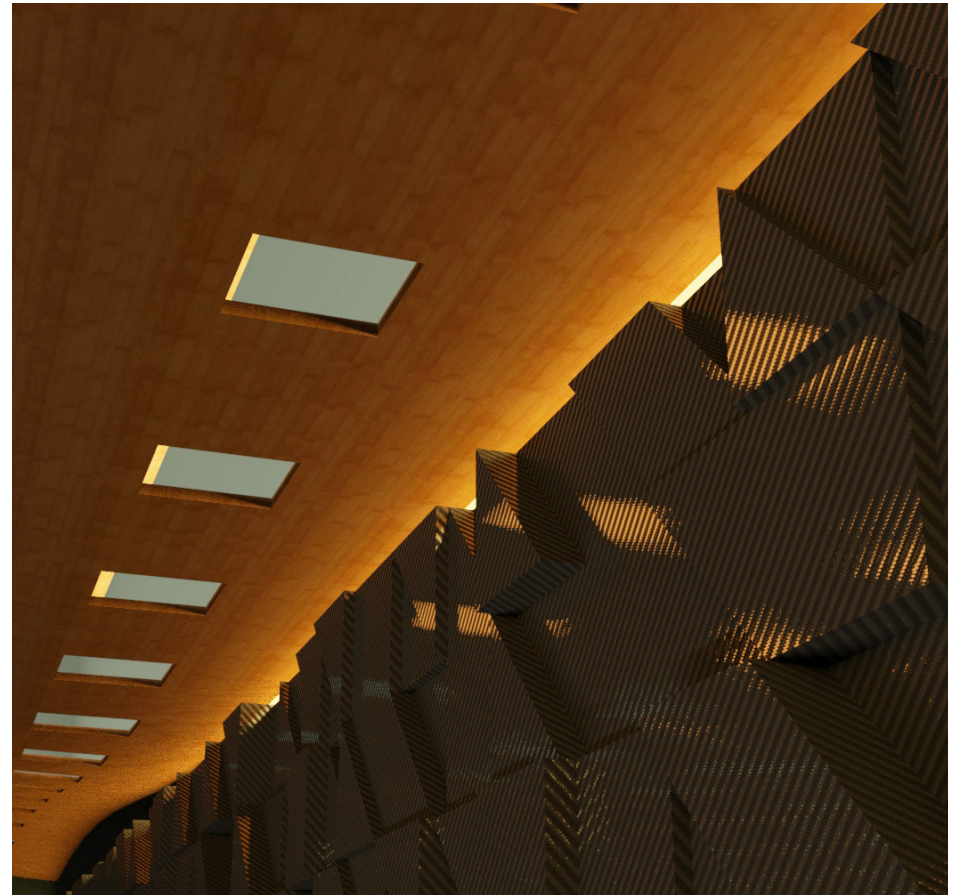


Design features and conceptual renderings

Notes regarding the conceptual design and renderings

The following images show a basic room design for the the Underground venue at the Vancouver Independent Music Centre. The isometric cutaways show the key design features that are a direct result of discussions and feedback received during multiple workshops in Vancouver, as well as Arup's venue design experience.

The conceptual design approach is “from the inside out.” The room shape and form are derived from the preferred audience-performer relationship and the performer's artistic needs. The design also considers technical functionality, operational needs and accessibility. The “acoustic architecture” design is conceptual only, and is intended to be developed with the design architect.

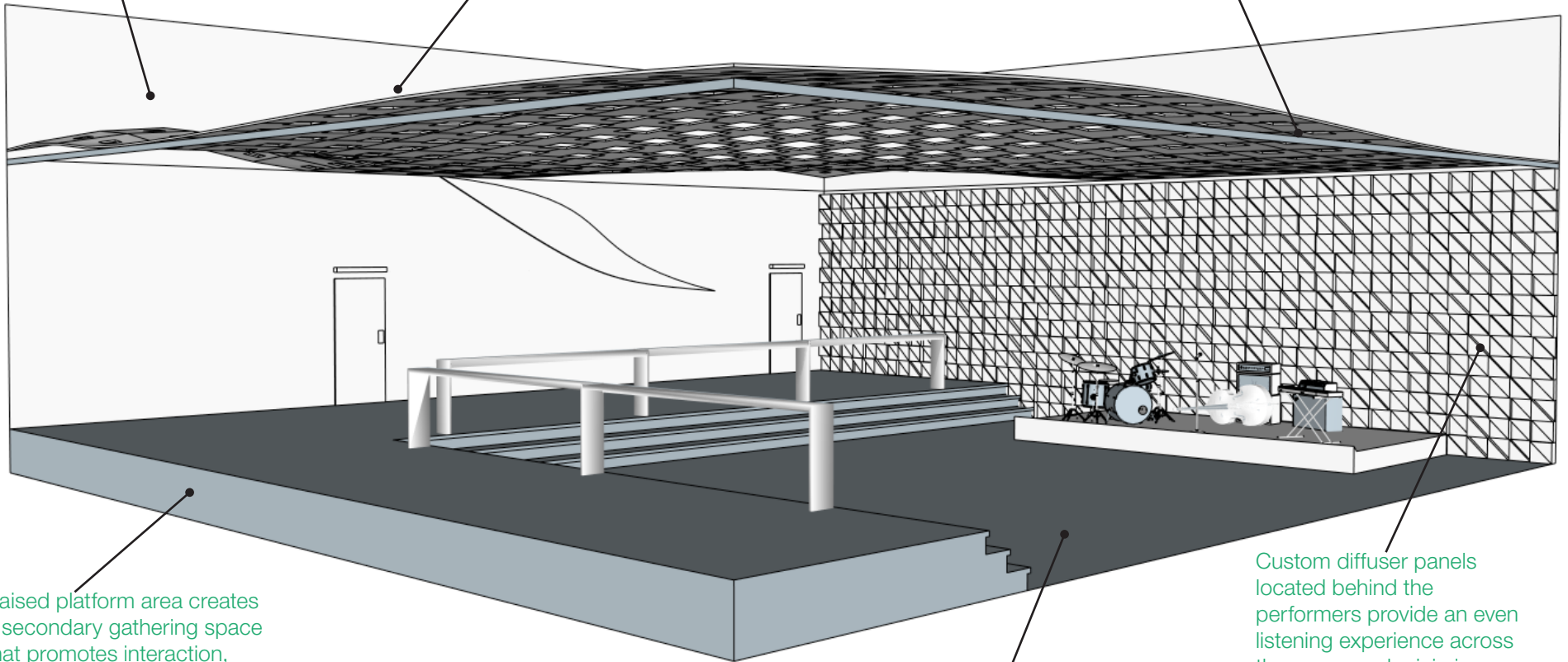


Underground venue design features

Rigging points around the venue accommodate experimentation with immersive technologies (e.g. projections, 3D audio, dynamic lighting, etc).

Rectilinear shape provides flexibility in room reconfiguration, construction simplicity and good sound distribution.

Lower architectural ceiling provides sense of intimacy while maintaining a larger volume necessary for improved reverberance. The parametrically designed ceiling provides for excellent on stage acoustics as well as clarity and warmth within the audience area

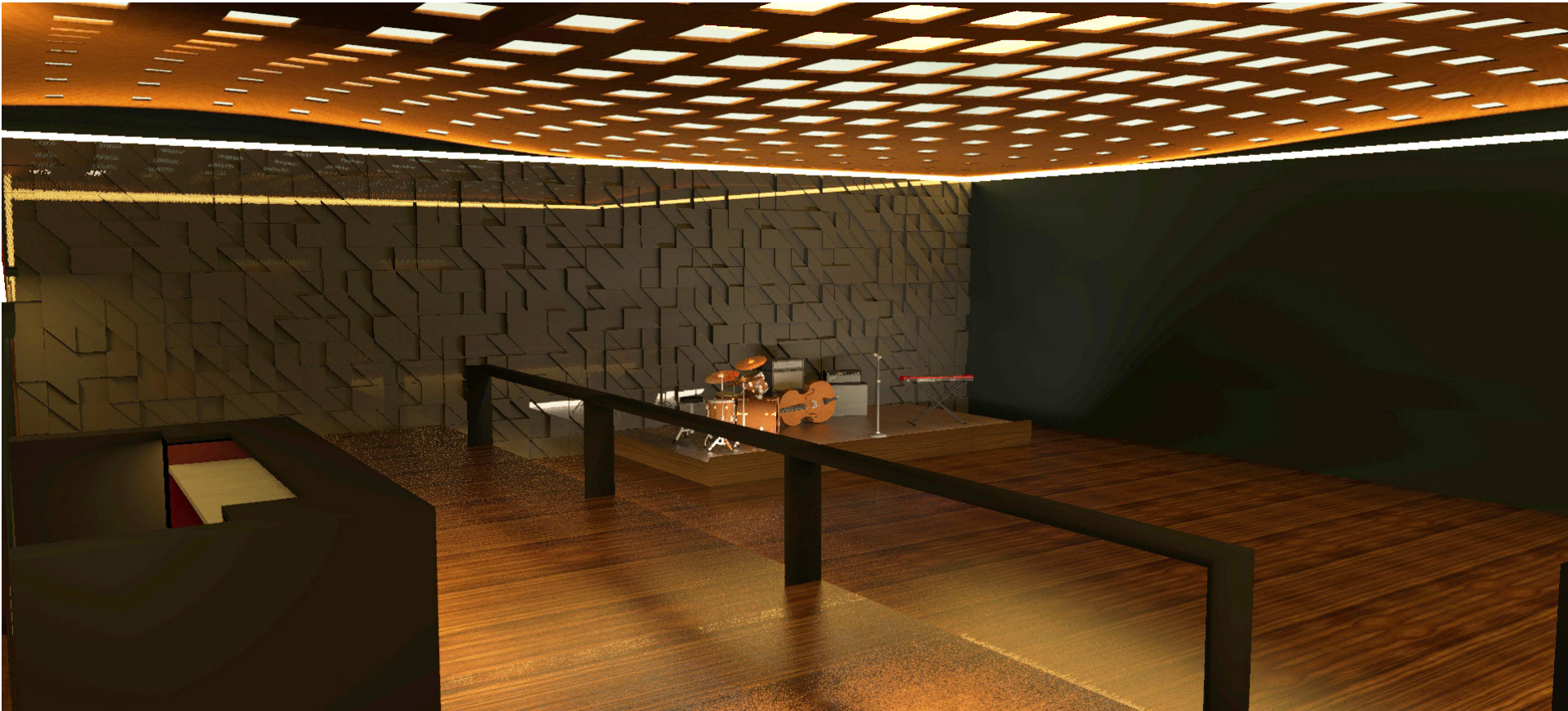


Raised platform area creates a secondary gathering space that promotes interaction, between patrons, artists, and event staff, while remaining connected to the music.

Flat floor provides flexibility for multiple uses and room configurations, and avoids the formality of fixed/raked seating.

Custom diffuser panels located behind the performers provide an even listening experience across the venue and minimize reflections that could adversely color the sound

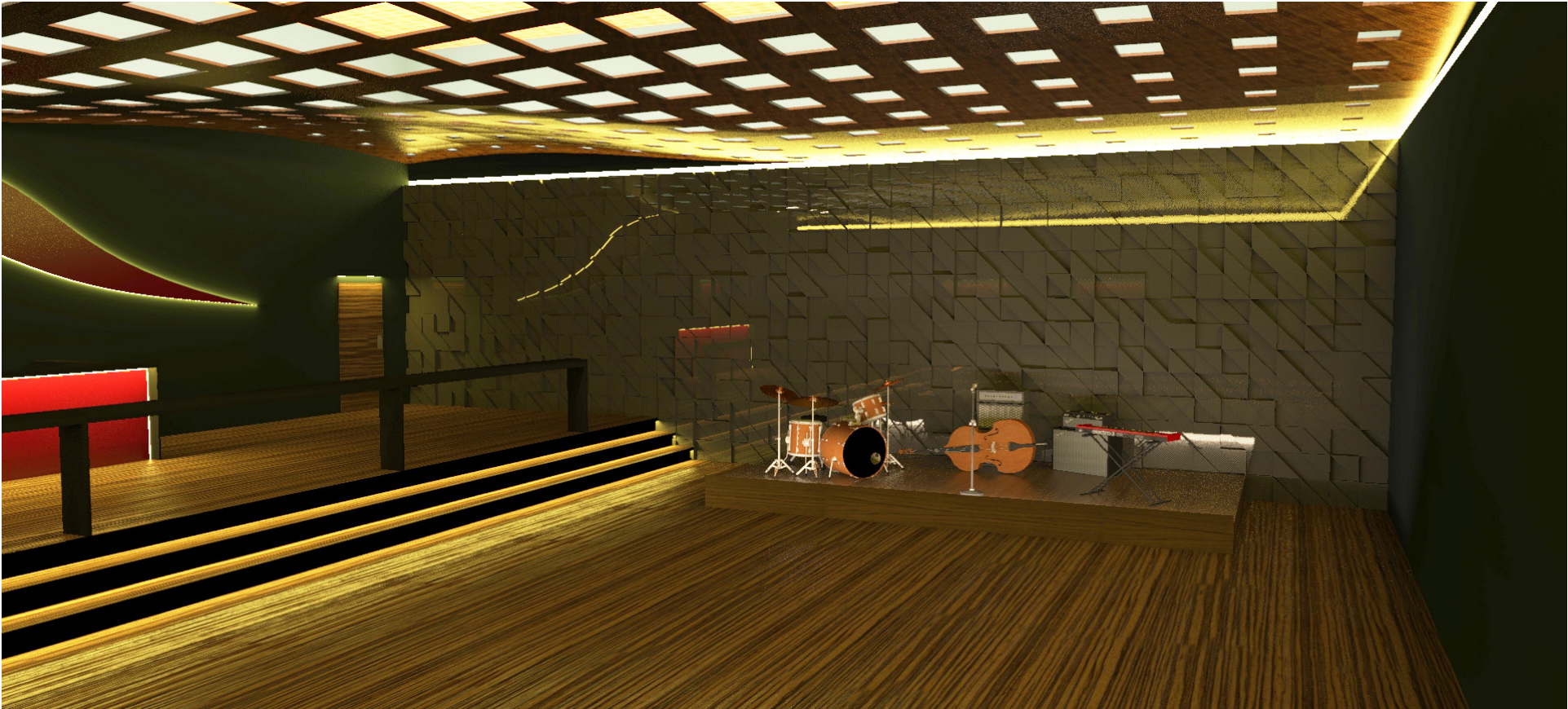
Underground venue rendering



Underground venue rendering



Underground venue rendering



Next steps

- Detailed programming assessment to further refine the needs and functions of the VIMH
- Site assessment and strategy to inform the integration of the VIMH into the unique cultural, social, and architectural ecosystem of Vancouver
- Broader community engagement to solicit feedback from stakeholders and civic leaders
- Design team selection

Thanks

The VIM House Acoustic Design Book study was prepared for the Vancouver Independent Music Centre Society by Arup. In 2014 and 2015, work sessions and focus groups were held on three two-day visits to Vancouver with music presenters, musicians, sound technicians and production staff from diverse genres, both independent and from various music organizations and venues. As part of the background assessment, Arup also visited music venues and theatres throughout Vancouver.

We gratefully acknowledge: the support of the City of Vancouver's Cultural Infrastructure Program; generous support from our donors; staff support by Diane Kadota Arts Management; ongoing participation by Donald Luxton & Associates, cultural facility consultants; Vancouver's diverse music community; and the VIM House Board of Directors. Many people helped organize the sessions, attended meetings, and arranged venue tours, and their assistance was invaluable to this process. We would like to express our sincerest thanks to all who participated, and in particular the following:

Arup

- Larry Tedford, Associate Principal, San Francisco
- Denis Blount, Associate | Acoustics, Audio Visual, Theatre Consulting, Seattle
- Peter Dodds, Design Consultant | Acoustics, Audio Visual, Theatre Consulting, Seattle

Vancouver Independent Music Centre Society - Current* and former members of the Board of Directors

- Sarah Ballantyne*, former Managing Director, Early Music Vancouver
- Jennifer Hewson*, Independent marketing consultant
- Chris Kelly*, retired, Superintendent of Schools, Vancouver; education consultant
- John Korsrud*, Artistic Director, Hard Rubber New Music Society
- Dan Mangan*, musician, songwriter
- Rainbow Robert*, Executive Director, Jazz Festivals Canada
- Paul Whitney*, retired, Chief Librarian, Vancouver Public Libraries; consultant
- Jack Schuller*, Retired Manager

- Robert Benaroya, Artistic Managing Director, Caravan World Rhythms
- Jeremy Berkman, musician/ trombone, Co-Artistic Director, Turning Point Ensemble
- Neelamjit Dhillon, musician, educator
- Matt Gibbons, Owner, MRG Ventures, Inc. Neil Mangan, Lawyer, Bell Alliance
- Veda Hille, musician, composer
- Neil Mangan, lawyer
- Ken Pickering, Artistic Director, Coastal Jazz & Blues
- Les Staff, News Director, CTV

Diane Kadota Arts Management - Staff

- Cenk Guven, Administrative Assistant
- Diane Kadota, Executive Director
- Koralee Tonack, Past Administrative Assistant, musician

Donald Luxton & Associates

- Donald Luxton

Stakeholders

- Kris Boyd, Technical Director, The Cultch
- DB Boyko, New Music Director/Curator, Western Front
- JP Carter, musician/ trumpet
- Josef Chung, Production Manager, Eponymous
- Marc Destrubé, musician/ violin
- Kevin Elaschuk, musician/ trumpet
- Leila Getz, Artistic Director, Vancouver Recital Society
- Don Harder, retired recording engineer, CBC

Stakeholders (cont.)

- François Houle, musician/ clarinet, composer
- Sharman King, musician/ trombone
- André Lachance, musician/ bass
- Peggy Lee, musician/ cello, composer
- Marc L'Esperance, sound technician, musician
- Heather McDermid, Marketing and Communications Manager, Vancouver New Music
- Lisa Miller, musician/ piano
- Michael O'Neill, musician/ highland pipes, gamelan
- Dave Pay, Artistic Director, Music on Main
- John Reischman, musician/ mandolin
- Ben Rogalsky, sound technician, musician, composer
- Andy Smith, sound technician, Vancouver Live Sound
- Stefan Smulovitz, musician, composer
- Kathleen Speakman, consultant
- Leslie Uyeda, musician, composer
- José Verstappen, C.M., Artistic Director Emeritus, Early Music Vancouver
- Matthew White, Artistic Director, Early Music Vancouver
- Ben Wilson, Technical Director, Western Front
- Karen Wilson, Producer, Managing Director, CBC Radio Orchestra
- Jesse Zubot, musician, producer

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