

# Gathering: Sound of Space

Carlo Sturken, David Landon



functions of the space become performers of the sounds. (4) Peripheral sonic influences that collide with sounds produced within the space.

The performance score is a set of written instructions capable of being performed by any individual. In the score, specific sound events are purposed to signify the presence of a particular design feature. A procedure is then given as a method of creating – while simultaneously observing – how the extant sound modifiers interact with sounds created within or introduced by peripheral sources. Each and every performance is a unique interaction between the performance score, performer-observer, and the space (the venue for the performance).

#### Sounds Exhibited in the Listening Chambers

The listening chambers will reproduce field recordings for the exhibition attendees. The field recordings are part performance and part spatial analysis. The sounds heard in the listening chambers of Gathering are less a representation of the interaction of sound in a space, although that still can be heard, but act more as a sign or signal to listeners as an indication of the features that shape the sounds within a space. Each discrete sound event (strike on pot | clap of hands) is representative of a specific design feature within a given space. (A complete description and meanings of all sounds heard in the field recordings will be found in the “Performance Score” provided on the walking tour map).

Gathering bestows each attendee with the task of performer, sound creator, and sound receiver, while simultaneously asking them to view the design of a space from the following perspective: In designing a space, professionals confront many factors that influence the product. However, after a space is utilized, a vast number of design decisions ultimately act as sound modifiers. In this sense, designers of space are ultimately also designers of sound. Since sound design is inherently a part of space design, we propose that the intentional shaping of sound should be an integral part of any design directive.

#### The Chamber Installation

The physical installation is a container of 4 listening chambers. Each chamber manifests an unique field recording and transports attendees into another space through sound. The physical form of the installation peels up on one side to accommodate all types of human physical conditions. Each chamber will have 8 speakers to provide the maximum audio experience for a person of any height or ability. The smallness of the chambers and distinct materials of the chamber walls will mitigate sound bleeding and require only a minute amount of sound emittance. In order to comprehend relationships between sound and space, the sound projections must be experienced from physically diverse directions in reference to the human ear.

#### Walking map

A walking tour map will be provided for all attendees. The map will contain a list of suggested places with a specific performance score for each place so that attendees can recreate and experience urban environments first hand. The listening chambers will be testament to the relationship between sound and space, but the act of going to a place and performing will be the ultimate understanding.

#### Concept and Overview

Noise is inherent in every space. The very presence of an individual in a space disturbs air molecules which begins the process of pressure to nerve impulse to sound. Yet, people vehemently ignore it preferring noise from headphones or simply listening to their own thoughts. Sound, the most pervasive environmental condition, is ignored both in design and by its inhabitants. Seth Kim Cohen wrote in the publication “In the blink of an ear”; “The ear is always open, always supplementing its primary materiality, always multiplying the singularity of perception into the plurality of experience.” This installation takes the audience on a journey of performed-soundscapes and then asks the audience to be curious, to become performers in the urban spaces they inhabit, to be aware of their sonic surroundings and to critically engage the noise within a space.

Gathering is an ongoing research endeavor converging quantitative data analysis with critical perceptions of physical spaces to reveal relationships between environments and acoustics and the human experience. The primary goal is to understand architecture and urban design as a product of sound and sound as a product of design. Gathering seeks to accomplish this by isolating the layers of experience and suggesting that the observer inhabit them one at a time.

#### Performance Score Description

The sounds heard in listening chambers of Gathering are a more poignant representation of how a space shapes sound more than our typical awareness processes allows. Gathering is primarily concerned with the following sound modifiers: (1) Basic form characterized as the size and shape of the physical space. (2) Materials in and of a space, and consequential sound interactions. (3) Functions of a space that dictate specific activities which produce a specific set of sounds. Those acting out the

shall occur, but imagine that the sound has now been split into two. Half of the sound shall reflect off the obstacle, following the law of reflections, and the other half shall follow its own path as if it had passed over the partial height obstacle; following its own path.

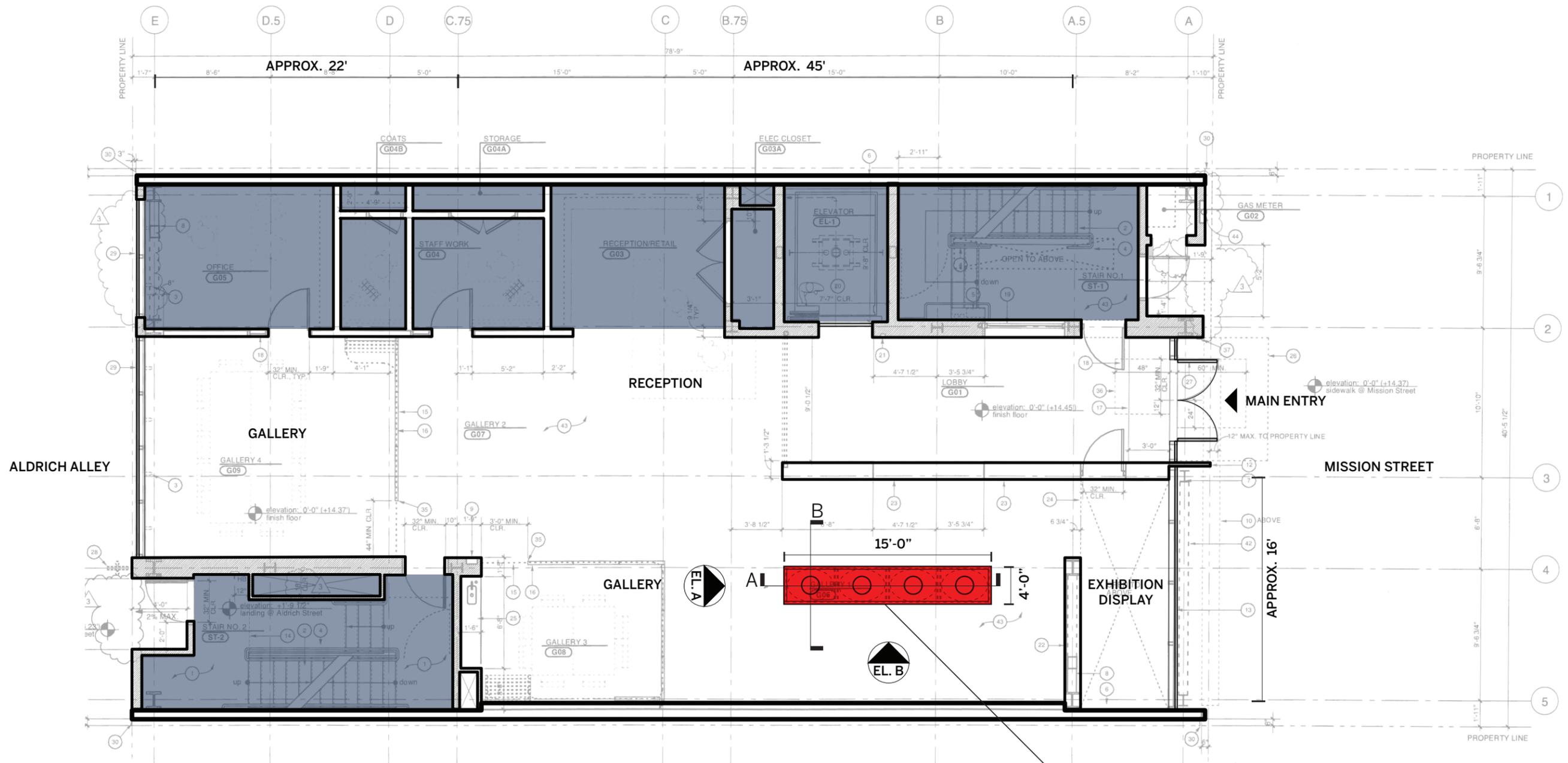
- Distance of the path travelled per sound source shall have a maximum capacity of reflections. Maximum reflections may be obtained assuming that the reflective qualities of all surfaces encountered along the walking path are high (i.e. concrete or brick walls). If, however, a surface encountered is partially absorbent of the sound (i.e. gypsum wall board or wood) the reflections allowed will be decreased. Additionally, a surface that will absorb all or most of a sound (i.e. foam, window, open door) will end the walking path at that point. See table below:

	For spaces > 1,000 S.F.	For spaces < 1,000 S.F.
Maximum Reflections Per Sound	3	6
Highly Reflective Surfaces: e.g. metal, concrete, tile, etc...	±0	±0
Partially Absorbant Surface: e.g. wood, gypsum board, glass, hard but uneven surface, etc...	-1	-2
Fully Absorbant Surface or Escaped Sound: e.g foam, Carpet, Water feature, indoor tree, Open door/window, Hallway, etc...	- remaining reflections	- remaining reflections

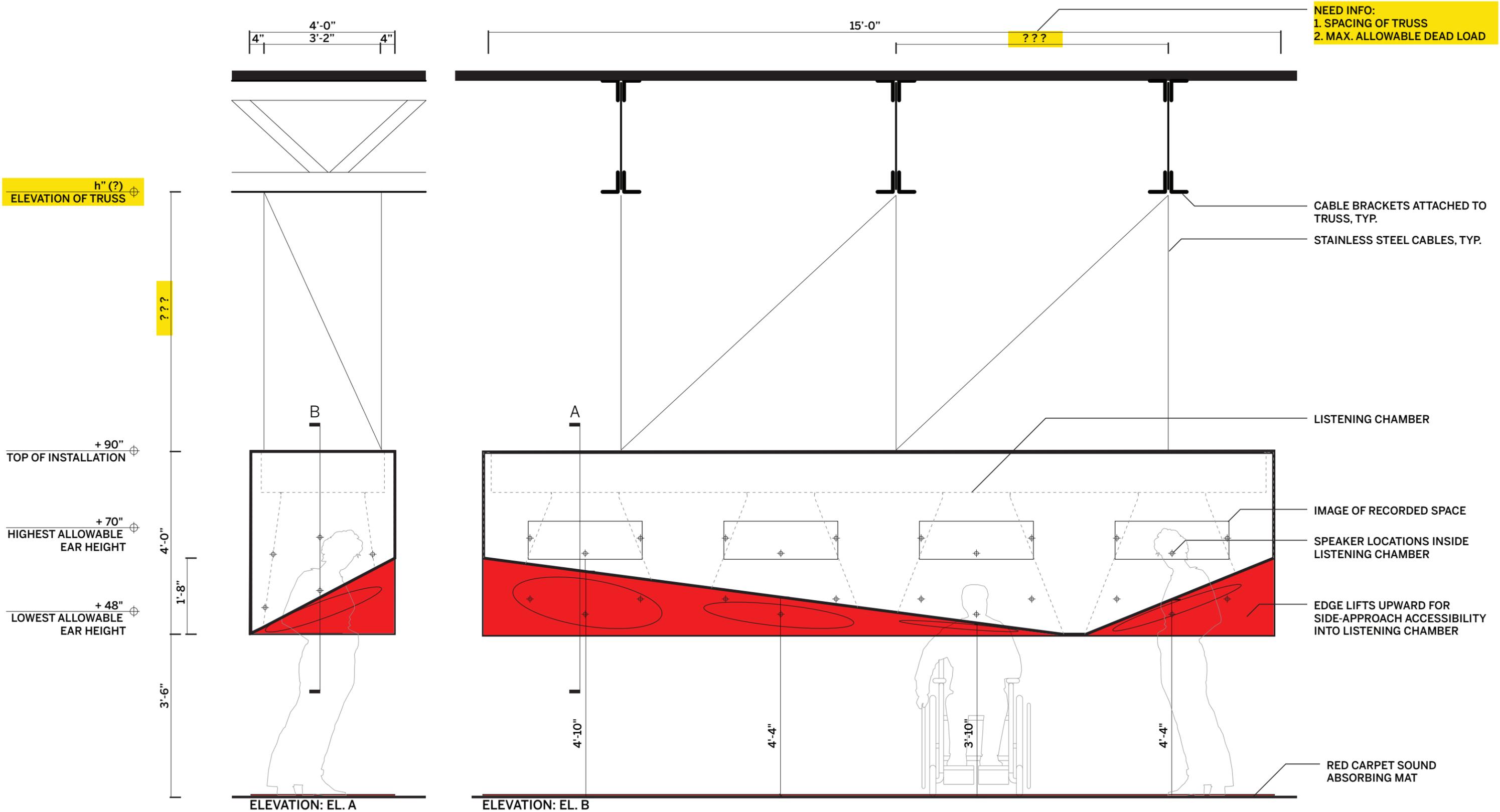
- At each encountered obstacle, a sound will be made, following the guidelines below. Each sound shall be produced within "ear shot" of the center of the room - i.e. for partial height obstacles, do not create sound at low height, behind obstacle.
  - Full height obstacle (highly reflective) – (1) strike on pot or pan
  - Full height obstacle (partially absorbent) – (1) strike on Coffee or Oatmeal Container
  - Full height obstacle (fully absorbent) – (2) rubs against abrasive surfaces
  - Partial height obstacle (highly reflective) – (3) strikes on soda cans or coffee mugs
  - Partial height obstacle (partially absorbent) – (3) strikes on coffee or oatmeal container
  - Partial height obstacle (fully absorbent) – (4) rubs against abrasive surfaces
  - Sound reflected out of reach (e.g. to ceiling or over guard rail) - (2) claps
  - Escaped sound – (1) expulsion of air (toward center of room)

### Performance Score

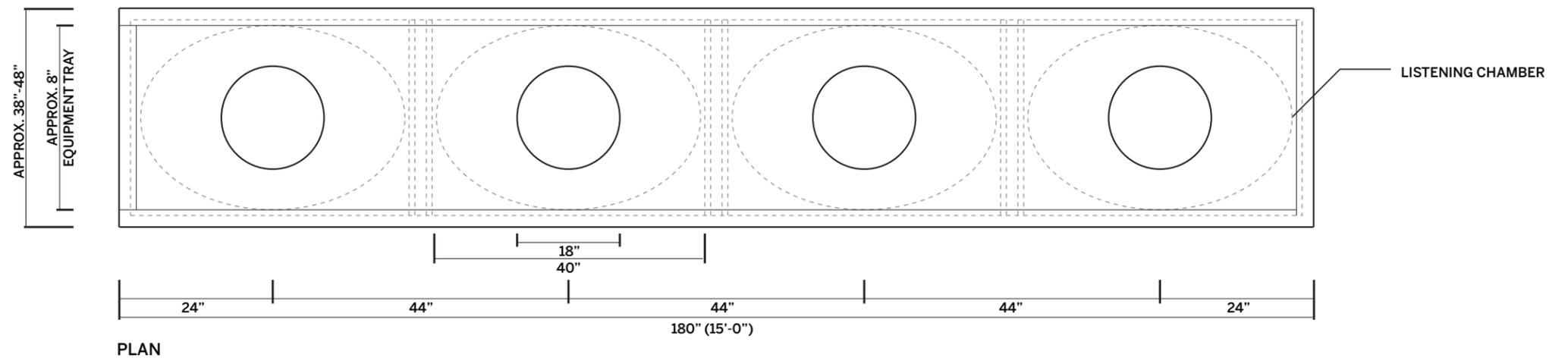
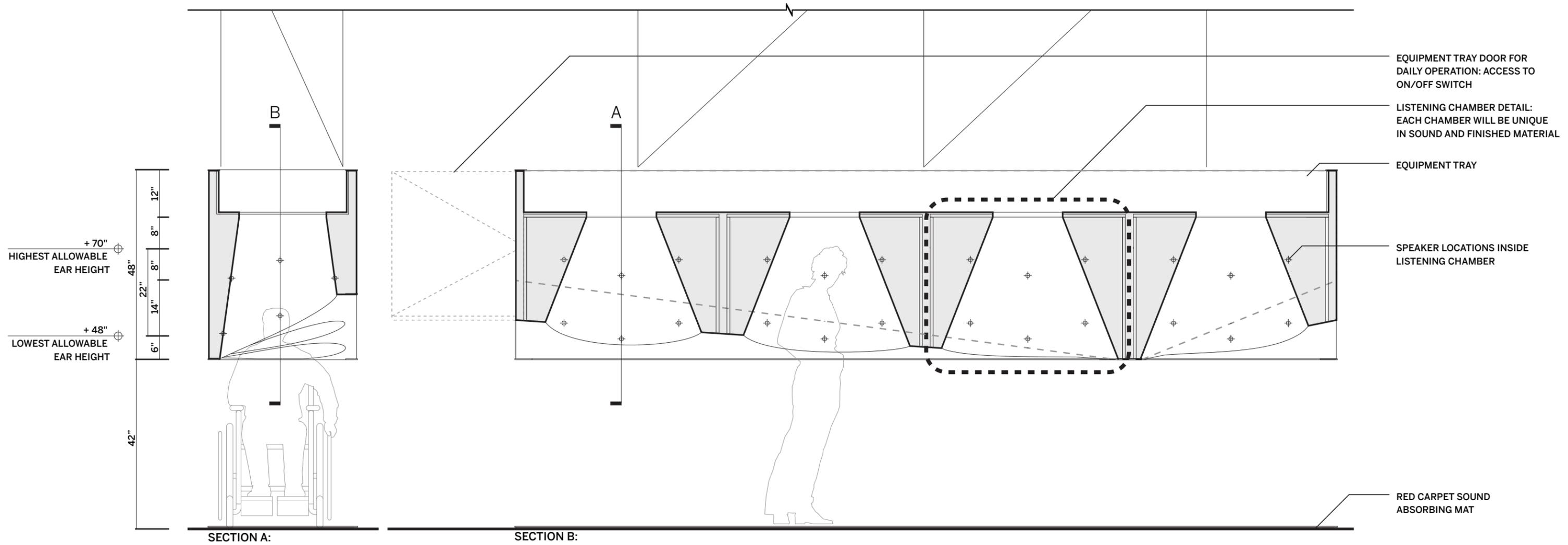
- Gather instruments (multiples/equivalents may be gathered and used for different sound sources)
  - Pot, Pan, or equivalent
  - Coffee can with lid, oatmeal can with lid, or equivalent
  - (2) Abrasive surfaces – sandpaper blocks, pieces of wood, or equivalent
  - (3) Partially consumed soda cans, coffee mugs, or equivalent
  - Means for expelling air – compressed air canister, lungs, or equivalent
  - Means for clapping - Pair of hands, wood blocks, or equivalent
- Beginning with the strongest, locate as many sound sources within a given spaces as there are performers.
  - strongest can be defined as the sound source creating the most decibels over a given period of time, namely the once which you are present. i.e. if sound source "a" is louder than sound source "b", but sounds are emitted from "b" more frequently, and over the period which you are present will in turn create more cumulative decibels, sound source "b" is stronger than sound source "a"; performers shall use their discretion in deciding.
- With a performer's back to the identified sound sources, move at a brisk walking pace towards the centroid of the space. The walking path of each performer from that point on is dictated by the reflective qualities of the materials encountered, the law of reflection, and any obstacles encountered along the path, and shall follow these guidelines:
  - "Reflections" will occur when forward motion can no longer occur due to an obstacle. An obstacle can be either full height (floor to ceiling) or partial height. For a full height obstacle, performers path shall be rerouted following the law of reflections - the angle of incident equals the angle of reflection. I.e. leave the wall at the equal but opposite angle by which you encountered it. For a partial height obstacle, the same



THE LISTENING CHAMBERS,  
EXHIBITION INSTALLATION PROPOSED LOCATION



NEED INFORMATION FROM SPUR



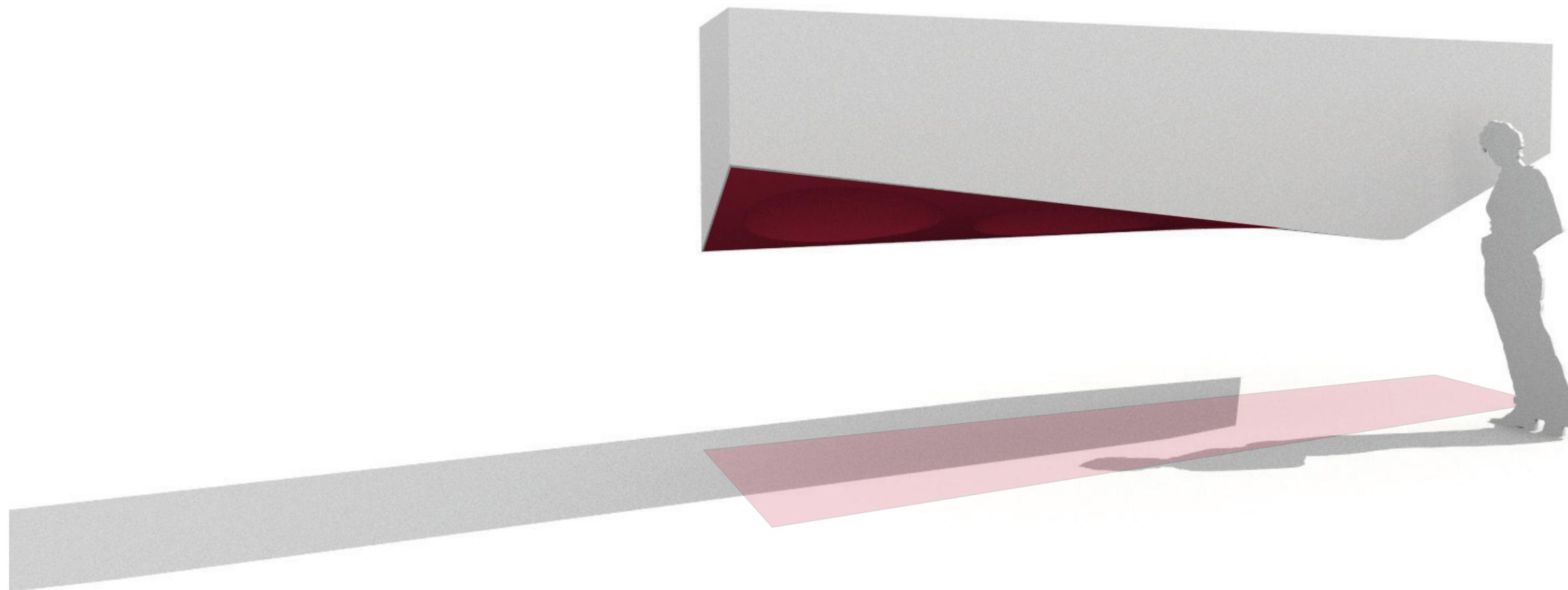
#### Artist Bio

Carlo Sturken, a committed member of SPUR, has studied urban design at the Università degli Studi di Firenze and received a Bachelor of Architecture at the Academy of Art University. He has worked both in the United States and in Italy accumulating 7 years of architectural experience. He approaches this project with a vision at the urban scale and an acute sense for the human relationship between sound and physical, urban environments. Exhibitions include architectural and artistic work displayed at the Academy of Art Spring Show in 2011, 2012, 2013, 2014 and 2015. His involvement in local architectural communities, leadership role as student mentor and critical, multidisciplinary design approach makes him a key player in this project.

David Landon is a performer, composer, and independent student of architecture who explores the role of each facet as the author of a complex set of interactions, and enjoys blurring the roles of the individuals involved at all levels. In each stratum/echelon, he seeks to understand the human response to those interactions in regards to intellect, emotion, and physiology. He has interests in ontology, cosmology, music semiology, and music cognition. His compositions have been performed predominately in southern California at events such as the Long Beach Sound Walk, and venues such as Work Evolution Laboratories. David Landon studied music composition at California State University in Long Beach, and is currently a project manager and designer at GPI Architects in Los Angeles.

#### How Exhibition Aligns With SPUR's Programs and Objectives

Design: From Sound to Space isolates sound as an architectural tectonic and investigates its affects within the urban landscape. Sound is an inseparable component of space-making, and a tool that designers are not familiar building with. Design: From Sound to Space, Part 1: "Gathering", is an experimental research project that explores the importance of sound within the urban context. It aligns with SPUR's dedication to public awareness of urban conditions and the importance of thoughtfully designed public spaces, but with a lens on acoustics that is often ignored. This ongoing research endeavor confronts current planning codes and environmental policies in architecture and urbanism with aims to raise public awareness and improve public environments.



MASSING AND SCALE  
PERSPECTIVE SKETCH

GATHERING: SOUND OF SPACE  
01SEPT2015

ARTISTS  
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## Walking Tour Map and Performance Score

(To be provided at the exhibition in paper or in digital form)

"There is no such thing as an empty space or an empty time. There is always something to see, something to hear. In fact, try as we may to make a silence, we cannot." - John Cage

