

DESIGN PROCESS | PHASE I

Use the information and knowledge you obtained through the first stage of schematic design to further design development.

SITE

In this iteration several aspects of the existing site have been clarified. Technical drawings of the tunnel (provided by the Boston Transit Authority Library) show that there is not one but two tunnels that run parallel to one another. The tunnel on the West is located approximately 28 feet below ground level and runs at the same level the entire length of the site. The second tunnel, on the East, meets the Western tunnel in the center portion of the site but elevates to 20 feet below ground level in the North and South.

TUNNELS

In this iteration the tunnels are opened up to one another to create a dialogue between the upper and lower spaces. The tunnel is currently a long linear path where the focal point is constantly pulled towards the destination rather than the present moment; by opening the tunnels to one another it gives the space a hierarchy and thus creates a basis for future spatial systems.

MEDITATION SPACES

The meditation spaces have come to include the Mantra Meditation Space, the Seated Meditation Space, and the Walking Meditation Space. These are determined by common and successful techniques used by those who practice meditation regularly.

Mantra Meditation Space

In this phase I have introduced the Mantra Meditation Space. This is characterized by increased height, reflective materials (for sound and light reflection) and simple form. It is a space where one is meant to remove themselves from the physical place and focus on sound. This sound is typically made by the user and is repeated in rhythm; the action is a common technique that relaxes the mind.

CIRCULATION

There will be ramps located at several intervals along the path to allow ease of access between the upper and lower tunnels.

PATH

Along the path there will be elements that intersect the user's sightline down the tunnel (seen in the Walking Space interior perspective). Inspired by electrical and other utilities found in underground spaces, these elements will visually break up the space and allow continuity between segmented spaces. There will also be public gathering spaces carved out of the walls along the path to allow a balance of path and place.

EXISTING TUNNEL SECTIONS

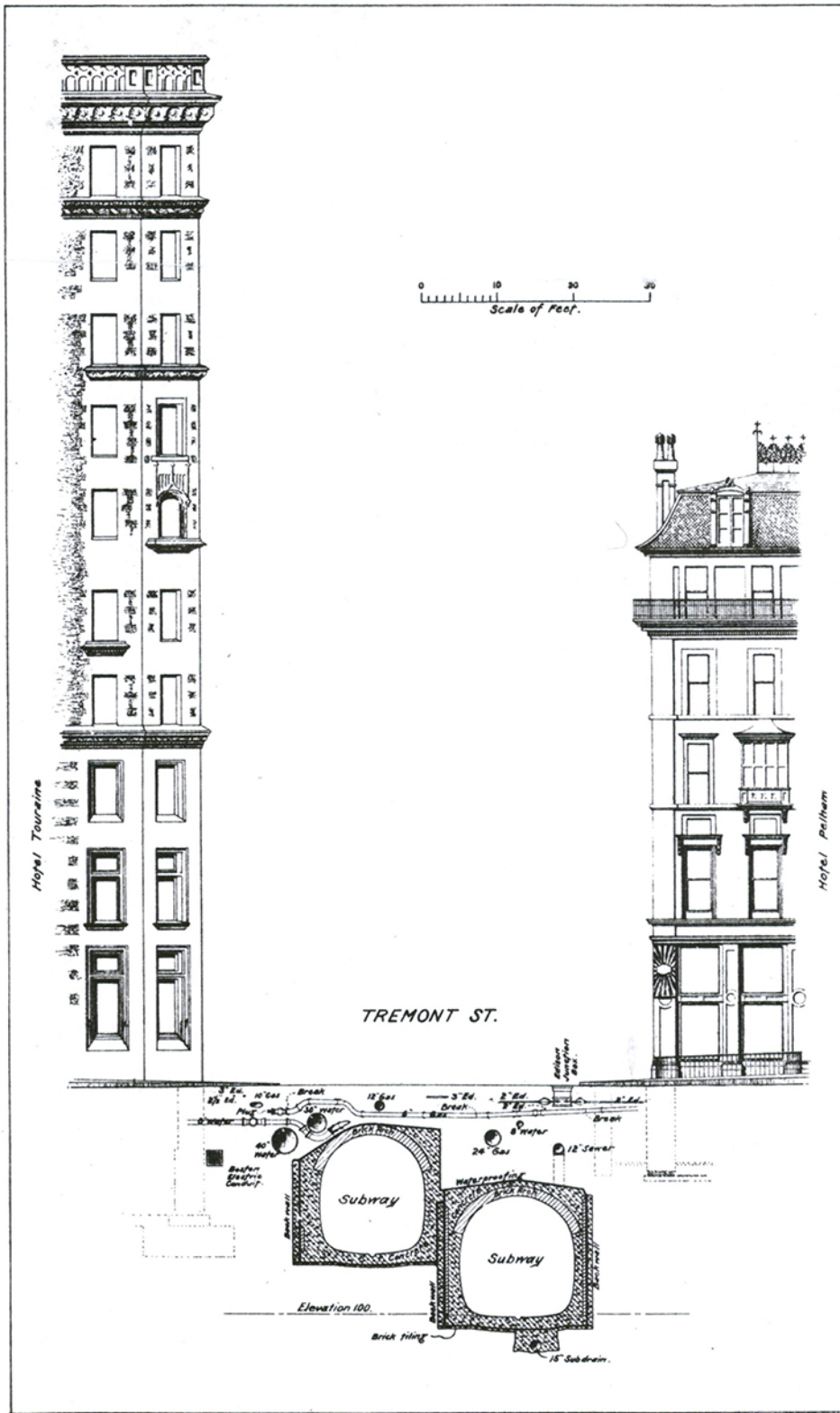
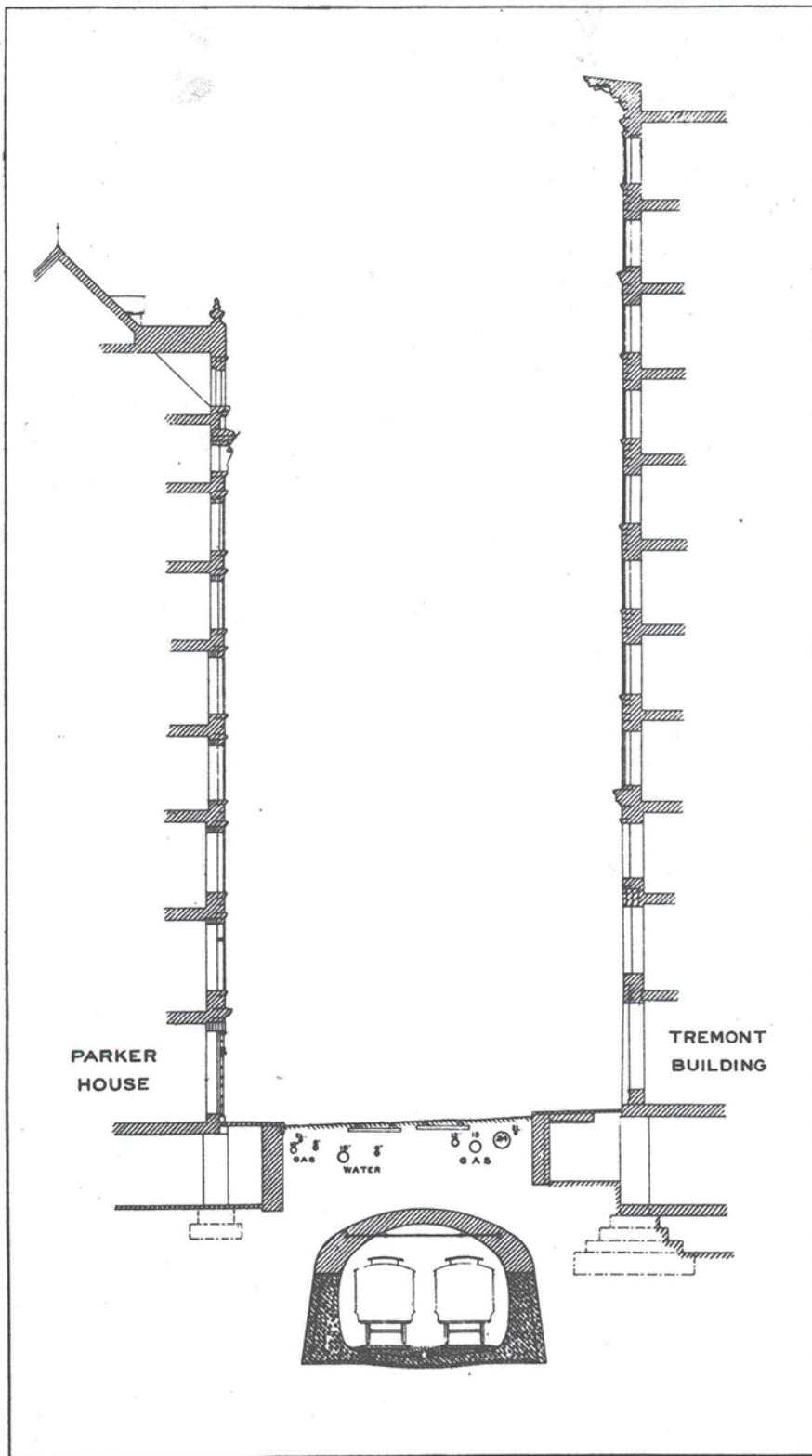


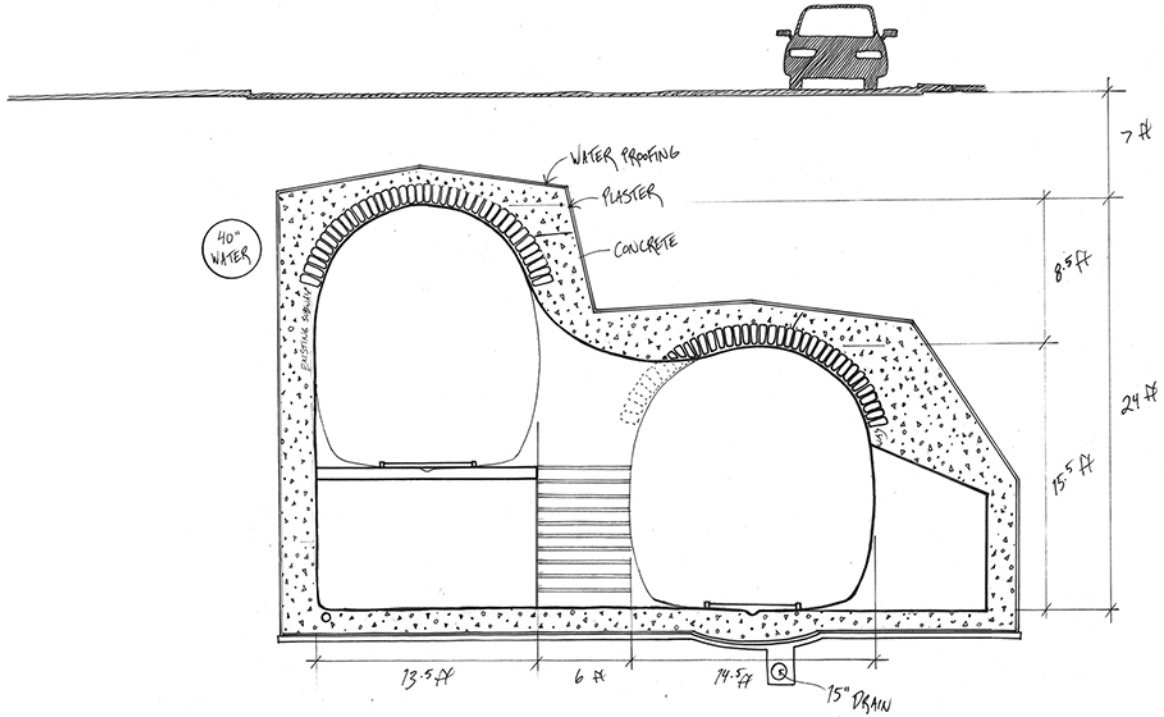
PLATE 3. CROSS SECTION ABOUT 17 FEET NORTH OF SOUTHERLY LINE OF BOYLSTON STREET.



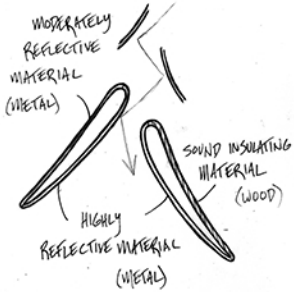
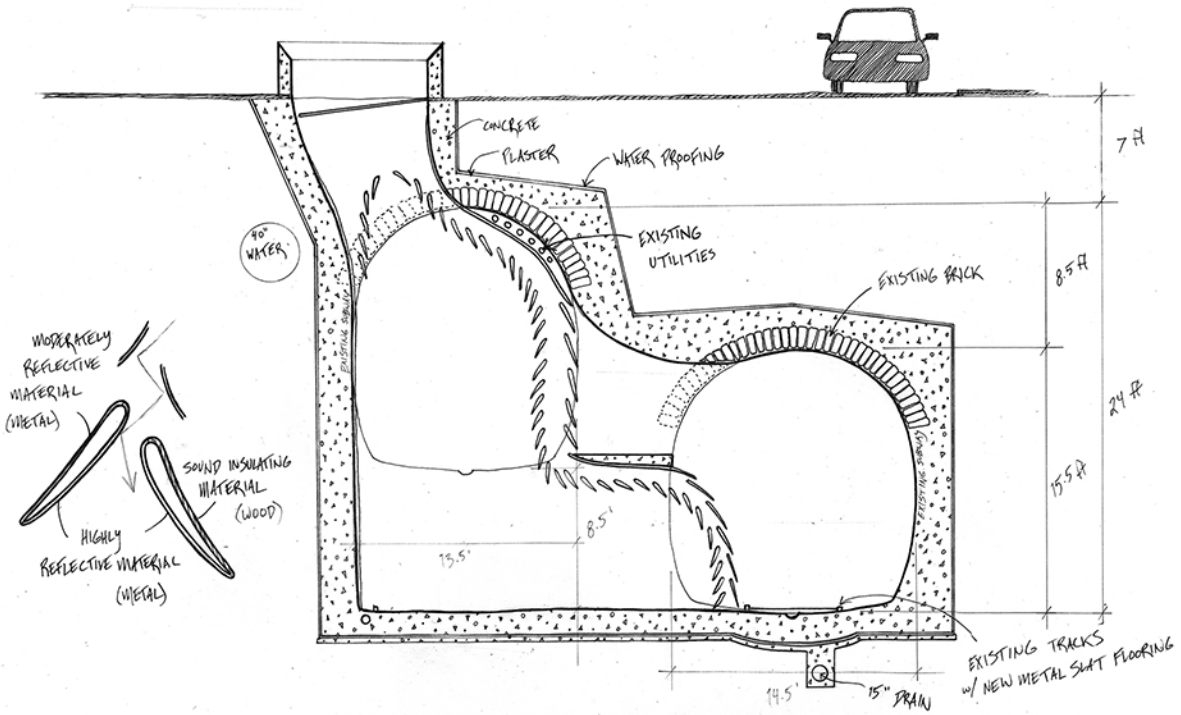
GEO. H. WALKER & CO. BOSTON.

PLATE 18. CROSS SECTION TREMONT STREET, NEAR SCHOOL STREET
(LOOKING SOUTH).

TUNNEL SECTIONS

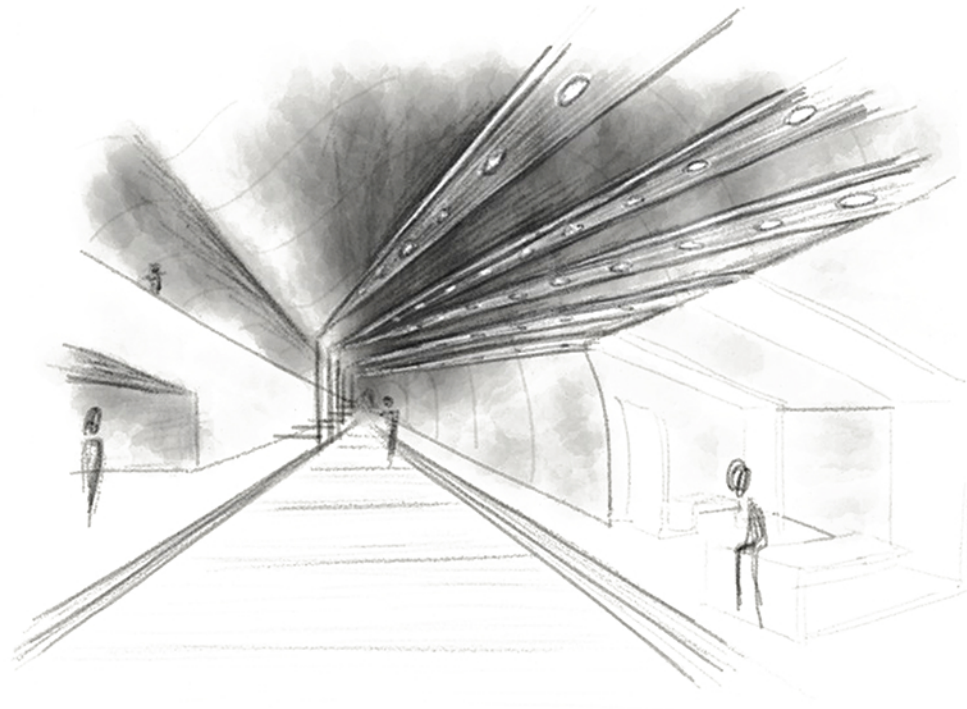


WALKING SPACE

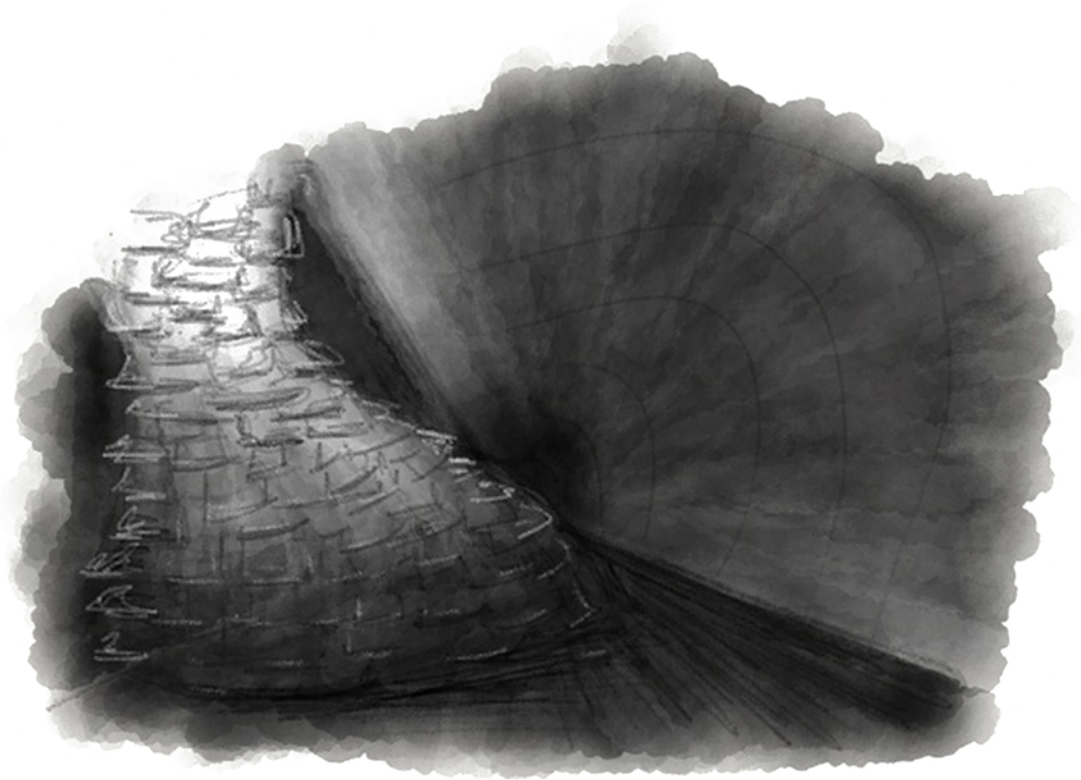


MANTRA MEDITATION SPACE

INTERIOR PERSPECTIVES

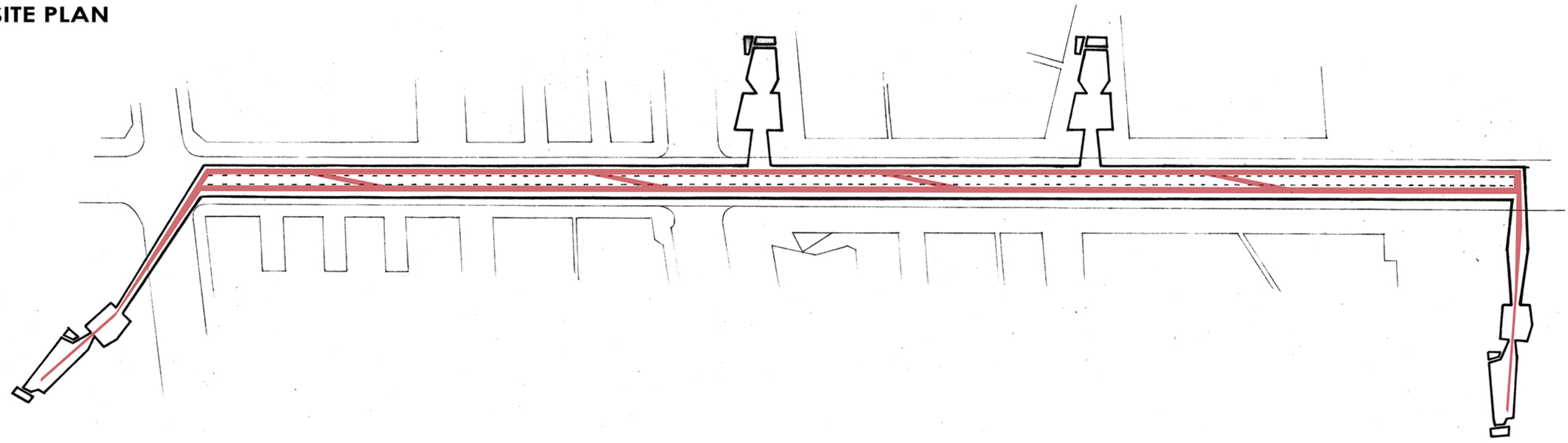


WALKING SPACE

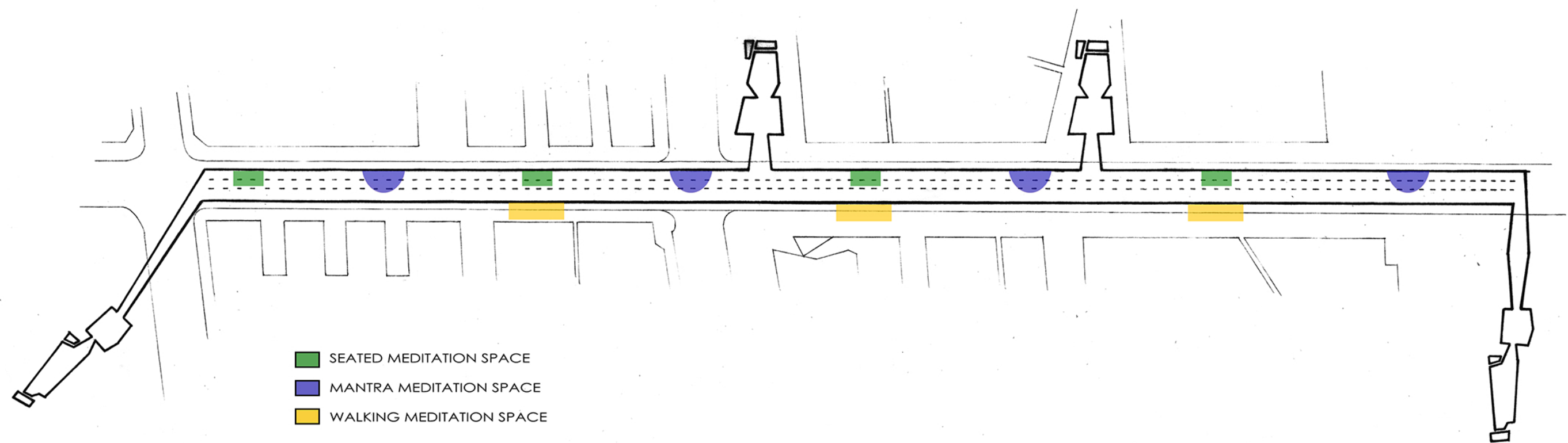


MANTRA MEDITATION SPACE

SITE PLAN



CIRCULATION BETWEEN UPPER AND LOWER TUNNEL



- SEATED MEDITATION SPACE
- MANTRA MEDITATION SPACE
- WALKING MEDITATION SPACE



LOCATION OF MEDITATION SPACES

DESIGN PROCESS | PHASE II

Use the information and knowledge you obtained through the previous stages of design to further design development. Your second phase in the design process will show:

- Site Integration
- Resolved Program
- Spatial and Structural Ordering Systems
- Sustainable Environmental Control Systems
- Proposed Detail (Wall Sections)

The following questions should be clearly answered as you continue the development of your project:

- Does the project directly address the thesis premise and question?
- Is the project exploring the thesis in a systematic manner?
- Is the project coalescing into an elegant and comprehensive solution?

LIGHT

Entrances

Planes are shifted and openings are designed to allow light to penetrate the spaces below. The entrance points are the spaces with greatest access to natural light before entering the tunnels.

Tunnels

Access to natural light is limited as the tunnel is located under a main roadway. The tunnel is best lit by funneling light into the space. The new skin, built within the constraints of the existing tunnel, is used as a method of light filtration and distribution.

ENTRANCES

The entry points are designed to disappear in their respective environments. As one descends into the tunnel, they slip away from the realities of the world above and into the underground.

Boston Commons and Elliot Norton Park Entrances

By using angled planes at the points of entry, where the access to natural light is greatest, light can enter into and be reflected throughout the underground spaces.

Wilbur Theater Entrance

The plot of land just north of the Wilbur Theater is overgrown and unkept, however is the only space that is dedicated to the advertisement of the Theater District area. The wide panels rising from below ground of the entrance are designed to provide a place for advertisement. The panels rise upwards around the entrance, cut from the ground below, and downwards into an area of seating for public gathering. By providing focal points in the front and rear the entrance disappears and becomes hidden.

Tufts Medical Center Entrance

By using angled planes at the points of entry, where the access to natural light is greatest, light can enter into and be reflected throughout the underground spaces.

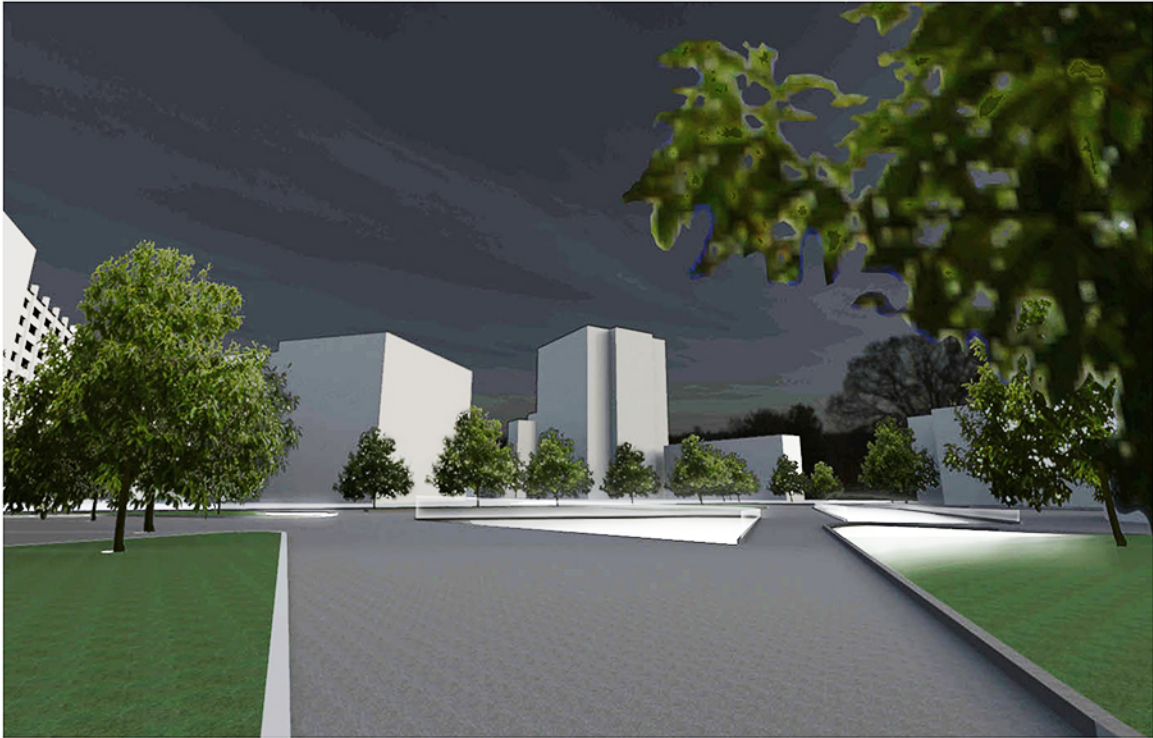
PINCHING

Through variation of height, width and depth, the occupant experiences moments of both compression and release. Moving from the openness of the outdoors to the constraints of the tunnel may invoke a feeling of being 'trapped'; fluctuation of space relieves the growth of anxiety.

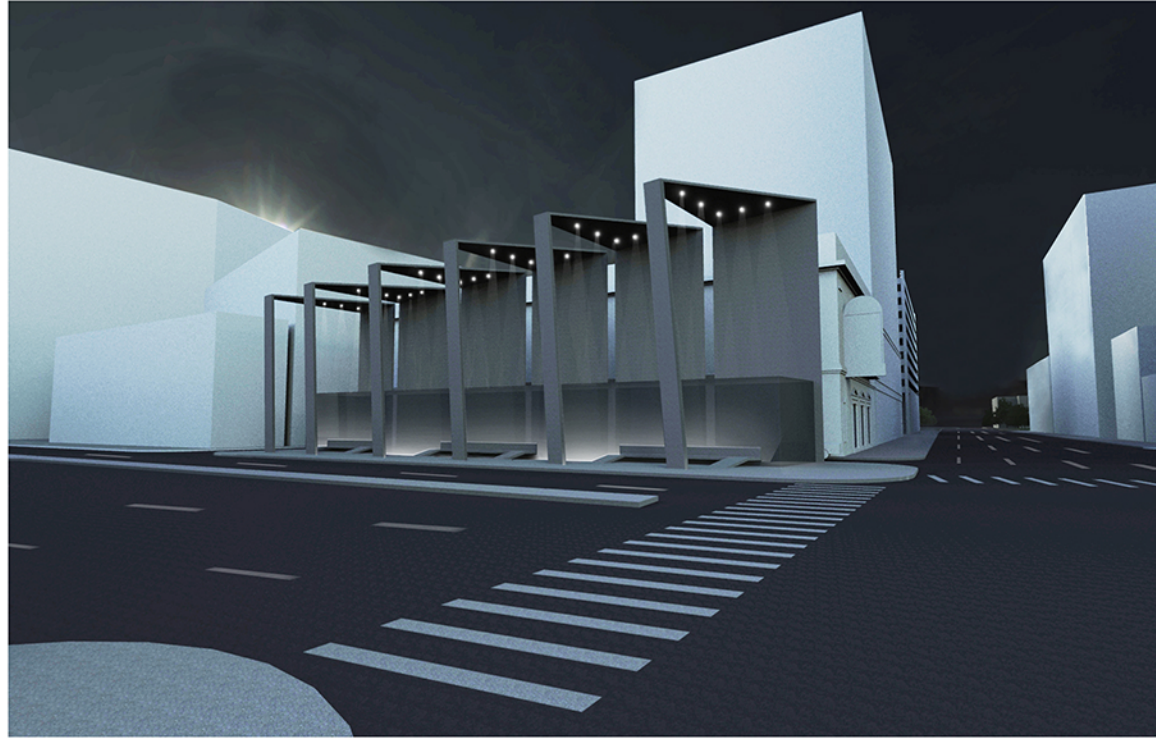
EXISTING TUNNEL AND NEW EXTENSION

The new extension will exist within the constraint of the existing tunnel. The form will accommodate both existing utilities and the possibility of future spatial opportunity.

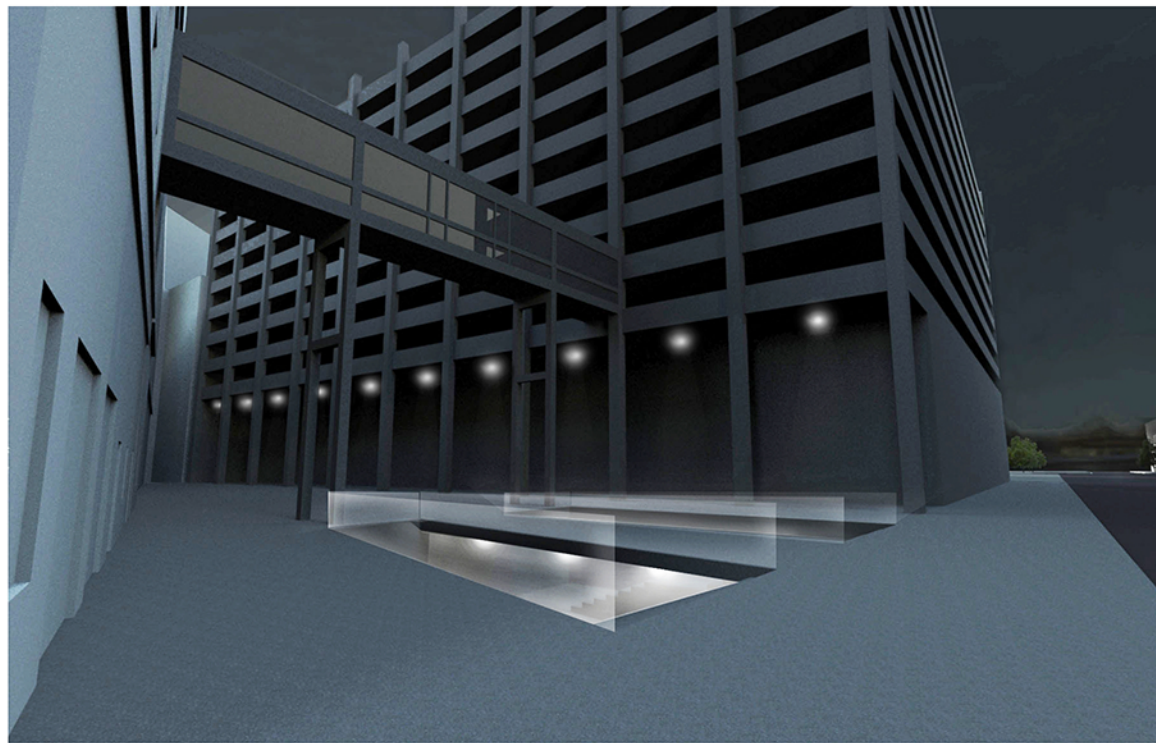
ENTRANCE POINTS



ELLIOT NORTON PARK ENTRANCE



WILBUR THEATER ENTRANCE



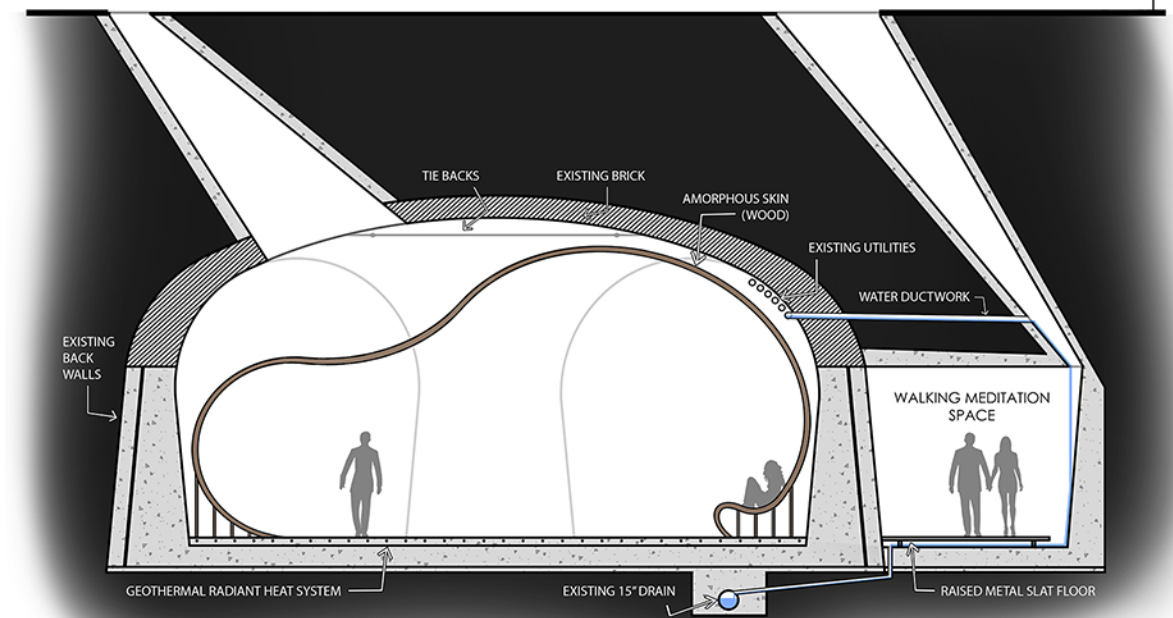
TUFTS MEDICAL CENTER ENTRANCE

TUNNEL FORMATION



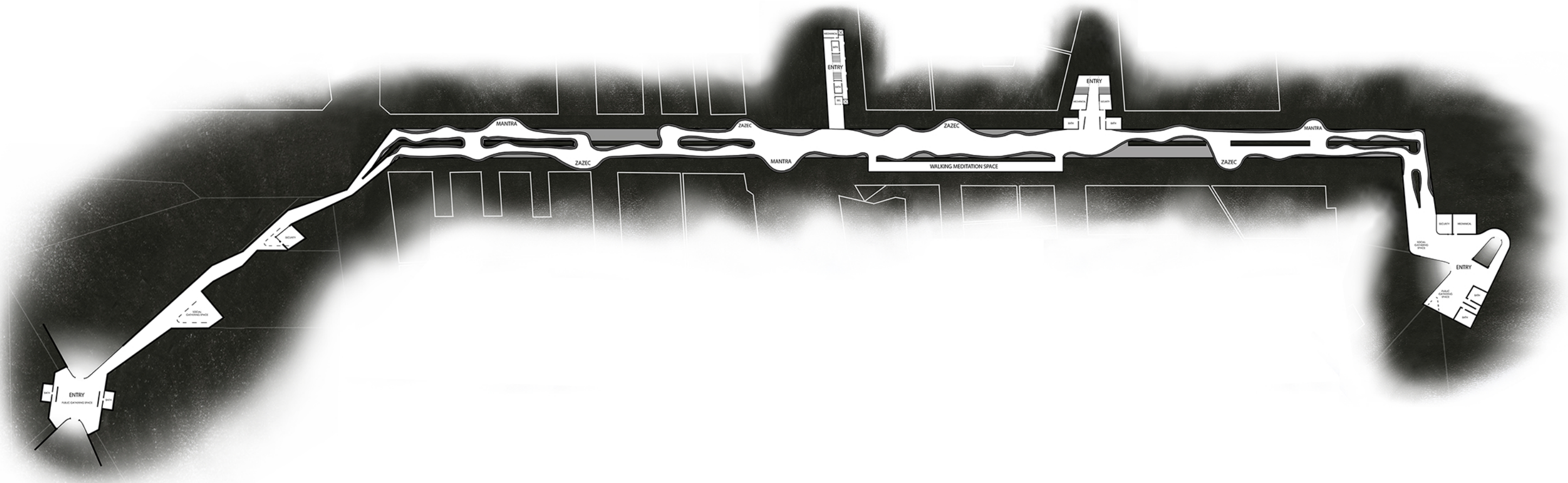
PROTECTION | "THE WOMB"

TUNNEL SECTIONS

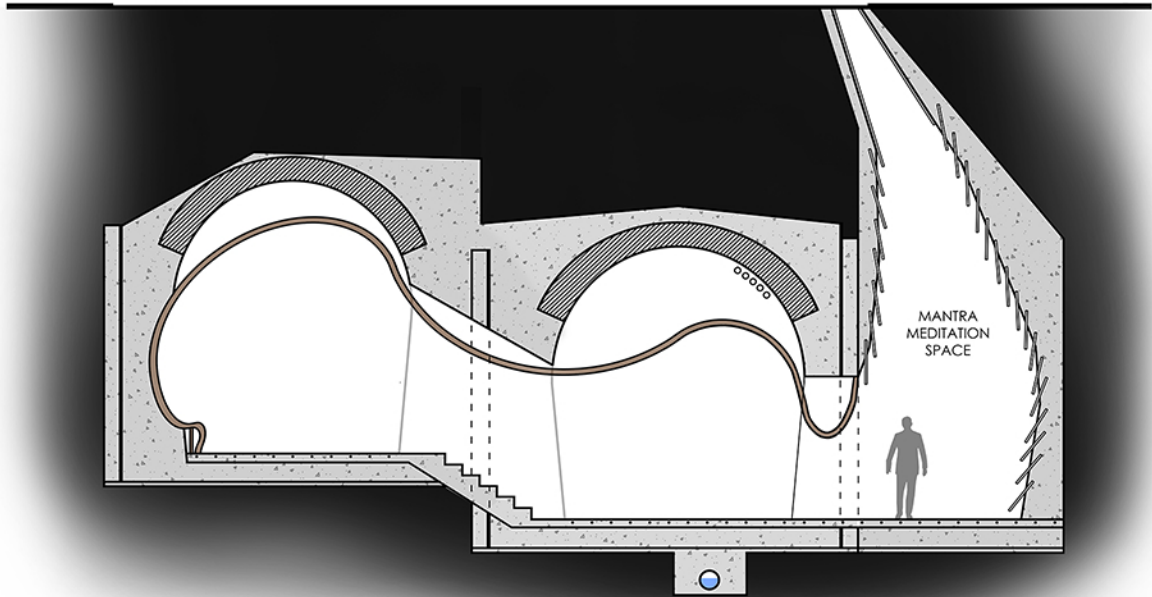


EXISTING TUNNELS, NEW SKIN AND WALKING MEDITATION SPACE

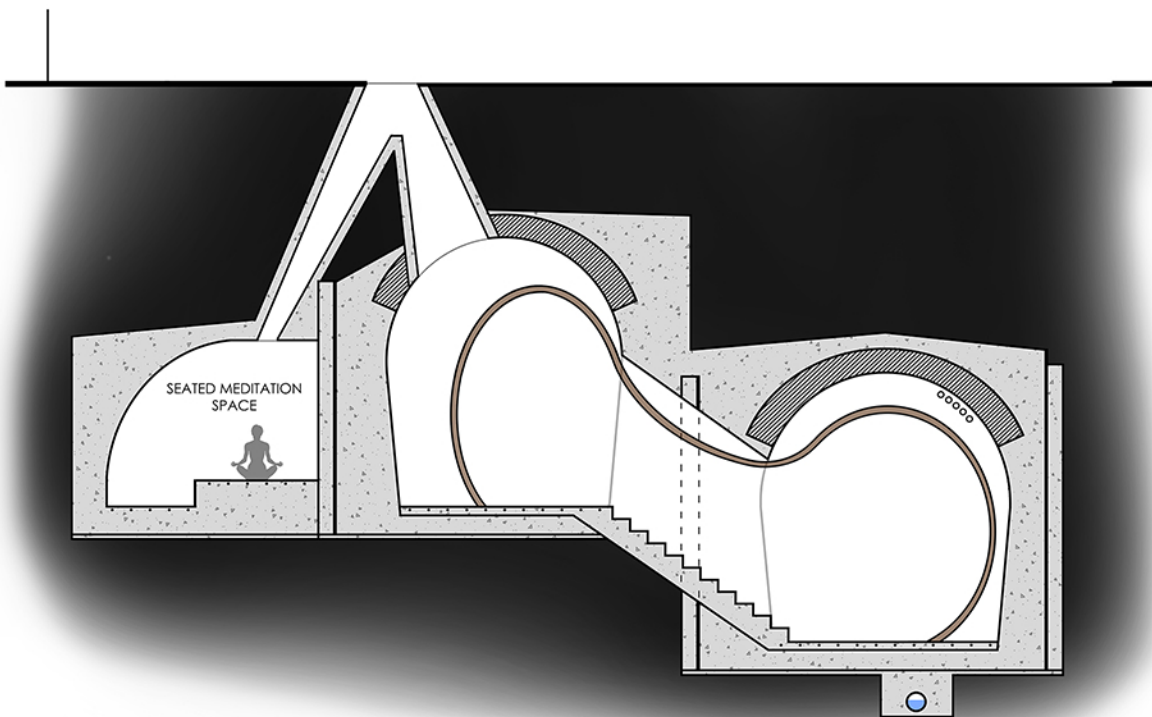
SITE PLAN



EXISTING TUNNELS AND NEW EXTENSIONS



EXISTING TUNNELS, NEW SKIN AND MANTRA MEDITATION SPACE



EXISTING TUNNELS, NEW SKIN AND SEATED MEDITATION SPACE

DESIGN PROCESS | PHASE III

Use the information and knowledge you obtained through the previous stages of schematic design to further design development. Your third phase in the design process will show:

- Plans, Sections and Elevations
- Perspectives
- Circulation
- Structure
- Passive and Active HVAC
- Lighting

PASSIVE AND ACTIVE HVAC

New 6" Radiant Slab

Above the floor grade of the existing tunnel there will be a new 6" radiant slab applied. As warm air rises this will not only provide warmth during the cool months of winter but keep air circulating as warm air rises and is replaced with fresh air.

Light Shafts as Fresh Air Intake and Exhaust

Being underground, the air in the existing tunnel lacks circulation. The proposed light shafts will also act as a means for fresh air intake and exhaust of stale air. By alternating the intake and exhaust shafts it keeps the air in the tunnel circulating for maximized comfort.

The intake shafts will bring fresh air down from approximately 10 feet above street level (to avoid low lying pollutants) and store the air in a geothermal air exchange unit. Here the air will either cool down or heat up to the tunnel's average temperature of approximately 50°F. From there the unit will condition the air to the comfort zone of 68°-72°F and send the air downwards to replace the stale air below as it moves horizontally and rises upwards.

STRUCTURE

The way that the skin will be constructed and moved into the tunnel is examined. The system, shown in the exploded isometric view, is composed of the following:

- 1 5/8" x 1 5/8" Steel Channel (attached to the existing tunnel to support cable system)

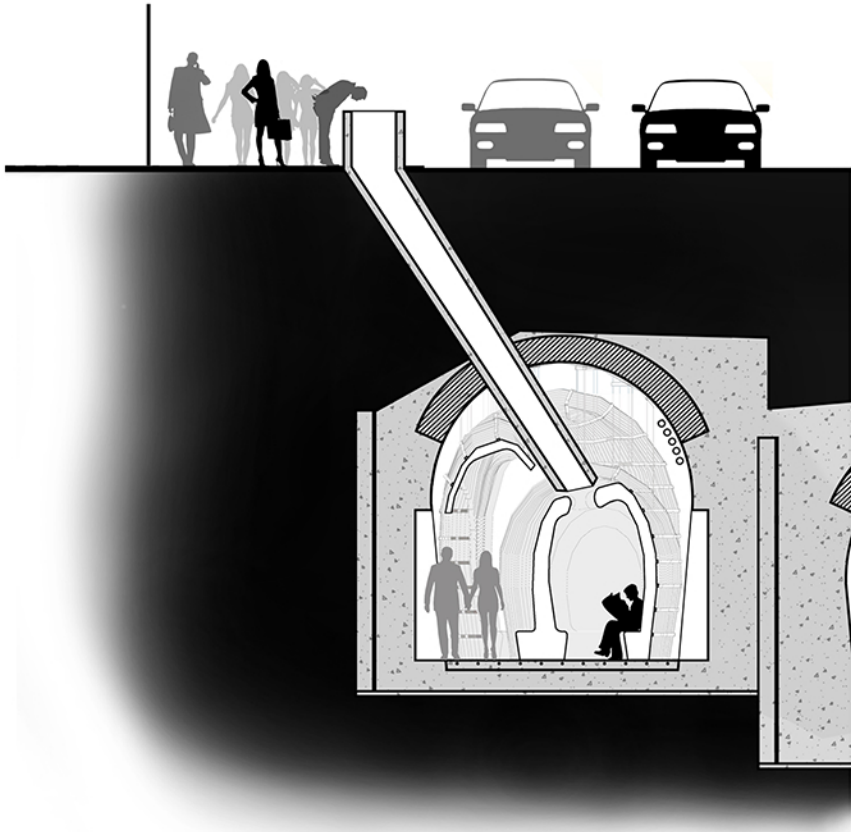
- 1/4" Steel Rods (supports in both tension and compression)

- 2x1 Wood Strapping (horizontal bracing)

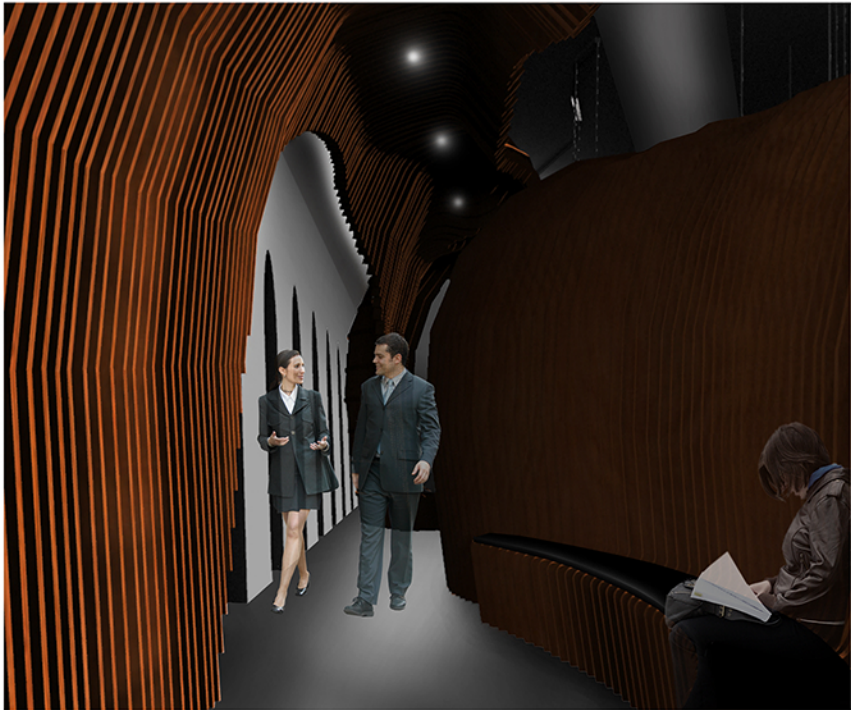
- Wood Slat Skin (each slat is composed of two separate pieces that attach to form one continuous piece - this accommodates the 8' dimension constraint needed to fit the structure through door openings)

- Peg Connection (attaches skin to new floor)

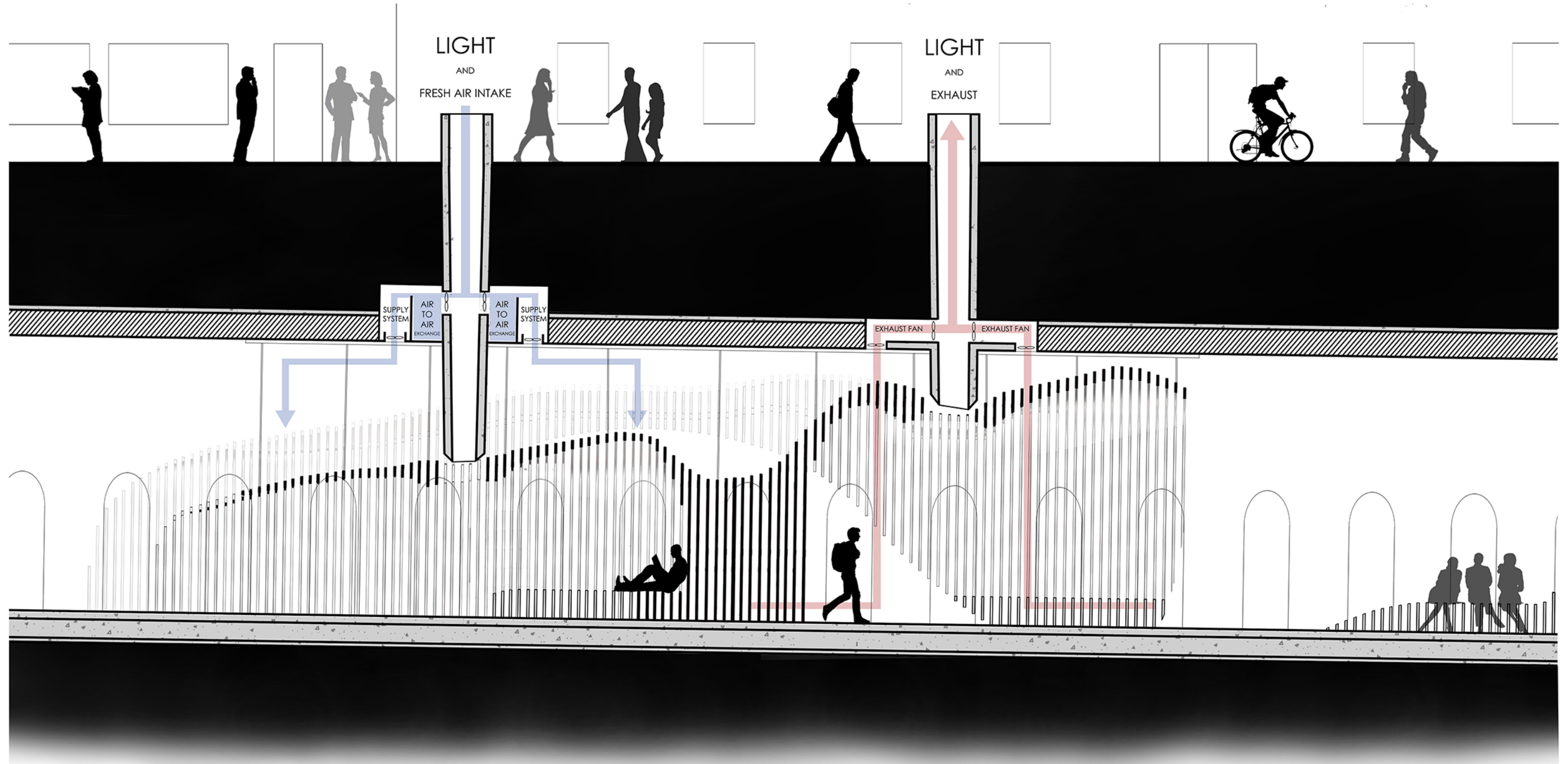
TUNNEL SECTION



INTERIOR PERSPECTIVE

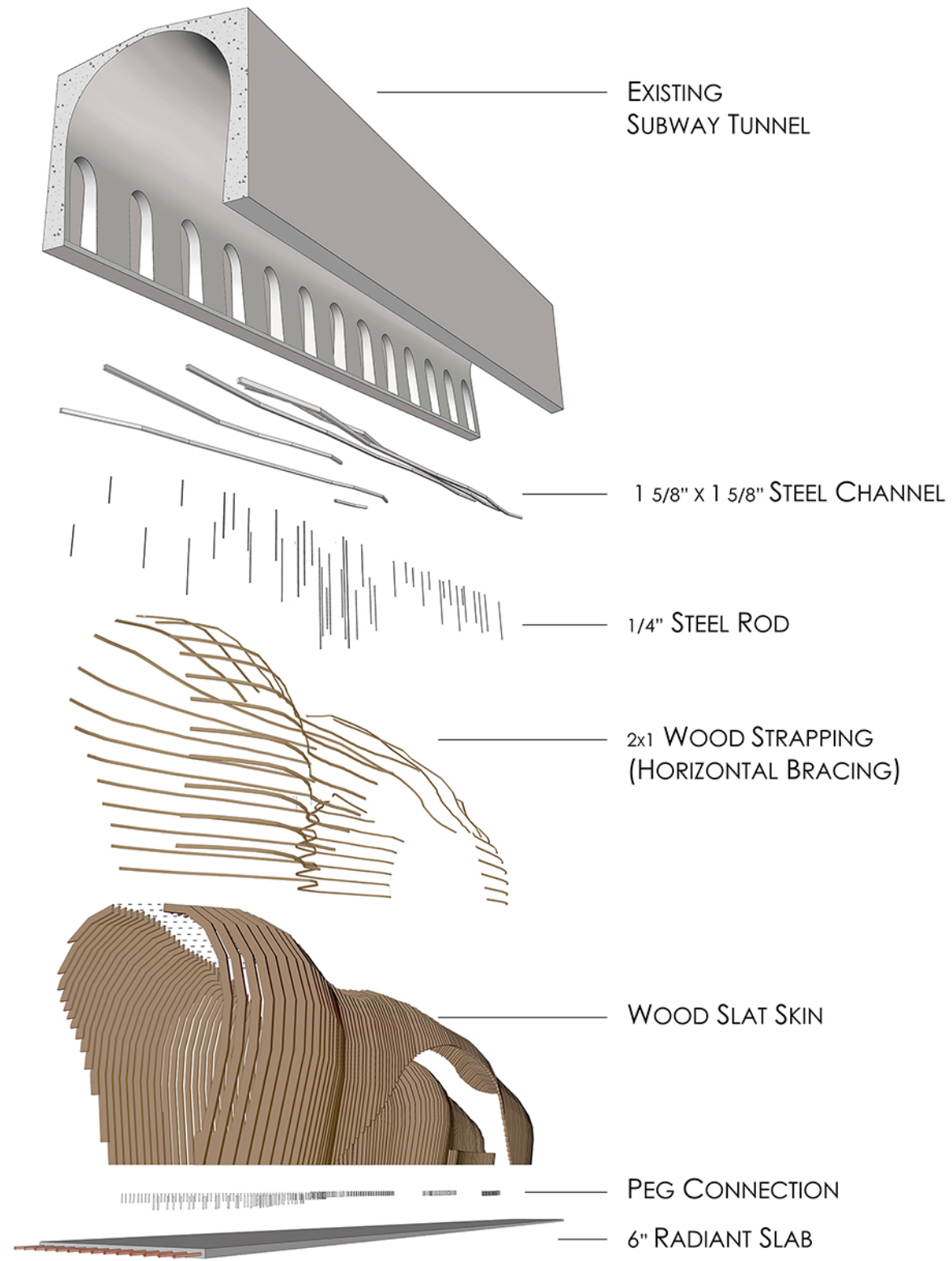


TUNNEL SECTION



EXISTING TUNNEL, NEW SKIN, AND HEATING / VENTILATION

EXPLODED ISOMETRIC



PROCESS MODELS | PHASE I LIGHT AND FORM

Carved from a floral foam block, first the negative space of the tunnel is formed. From there the form can be shaped into a skin that could fit within the tunnels constraints. The first iteration takes into consideration access to natural light and spatial formation.



PROCESS MODELS | PHASE II

LIGHT, FORM AND SPACE

Taking into consideration the first iteration, Phase II not only integrates natural light and form but also movement/circulation and spatial segmentation.



PROCESS MODELS | PHASE III LIGHT, FORM, SPACE AND RETREAT

In the third phase, the models are not only taking a form that integrates natural light and spatial variety but also the opportunity for retreat. "Nodes" are created where the user can slip away into a moment of isolation. The nodes are integrated into the skin within the tunnel's existing constraints.



PROCESS MODELS | Interior Perspective

