

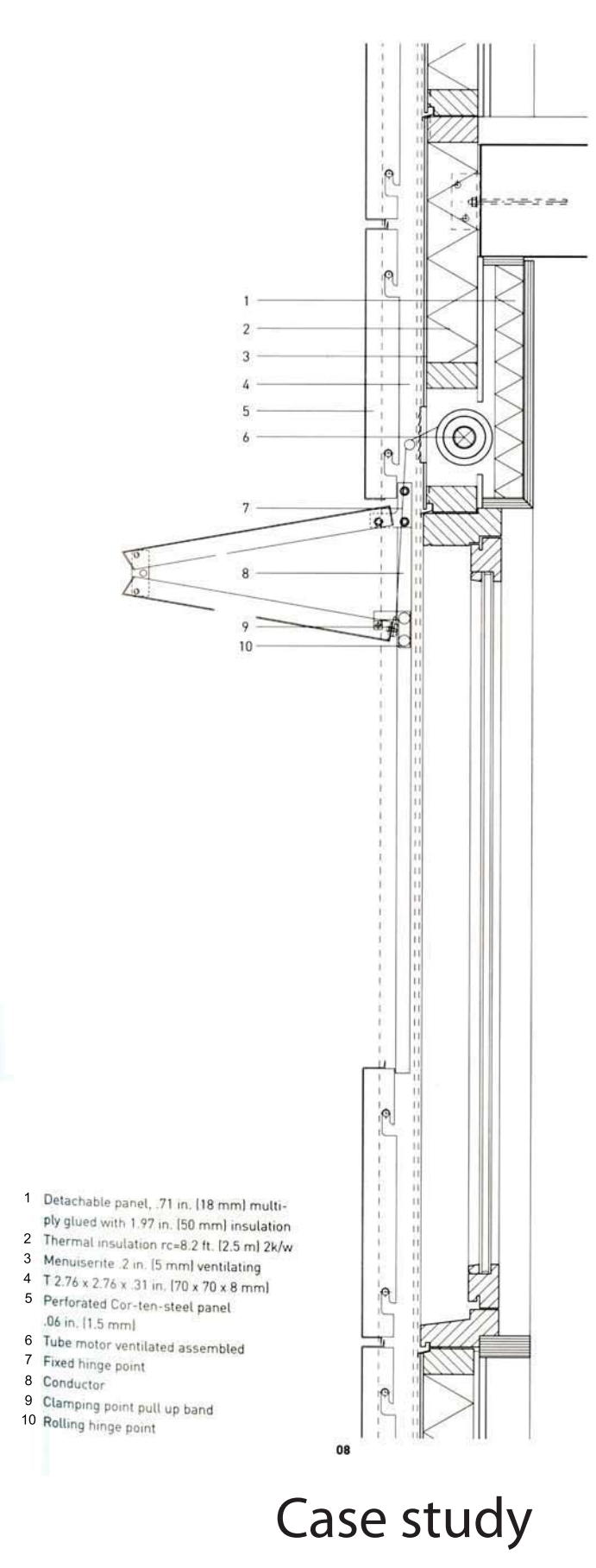
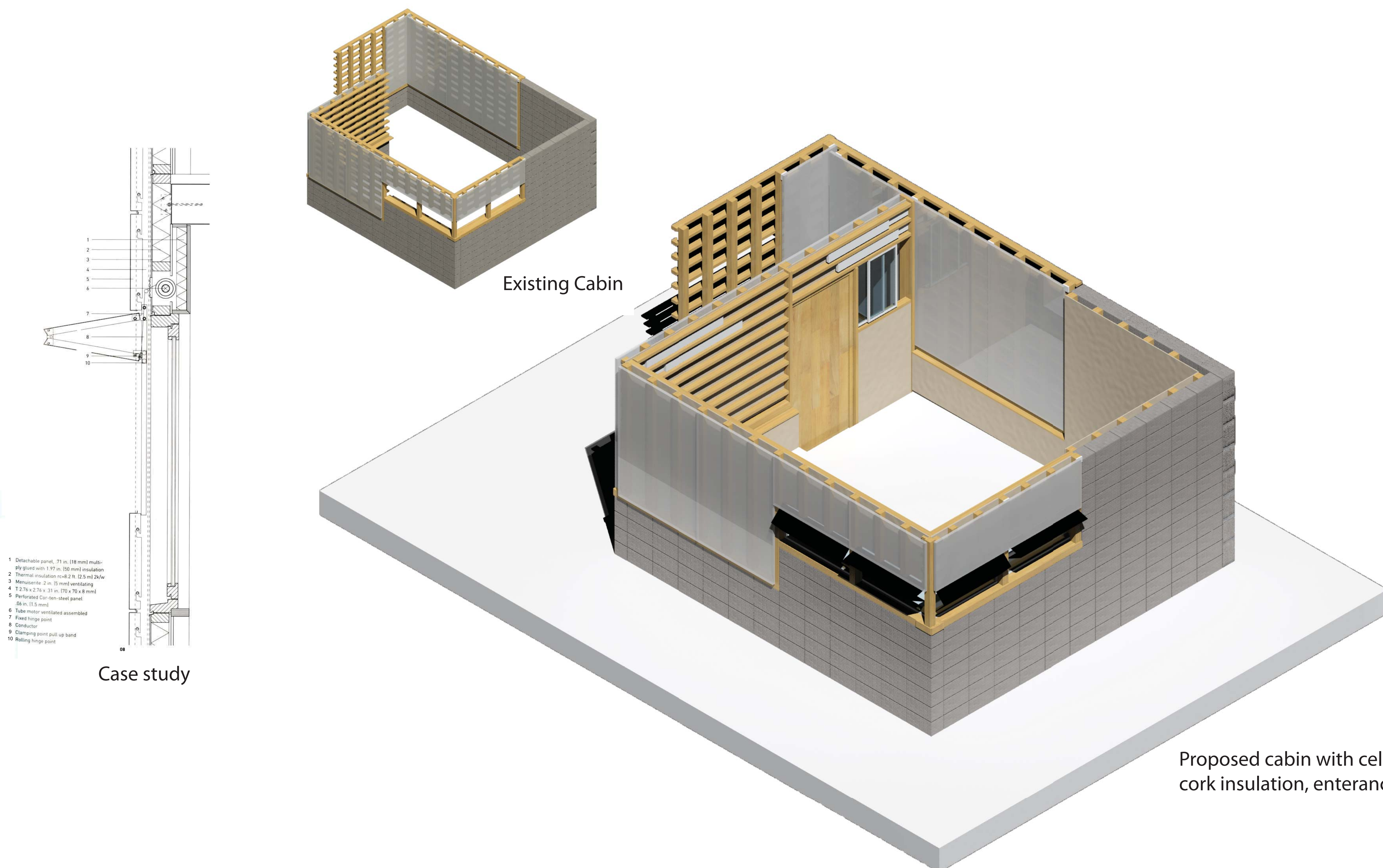
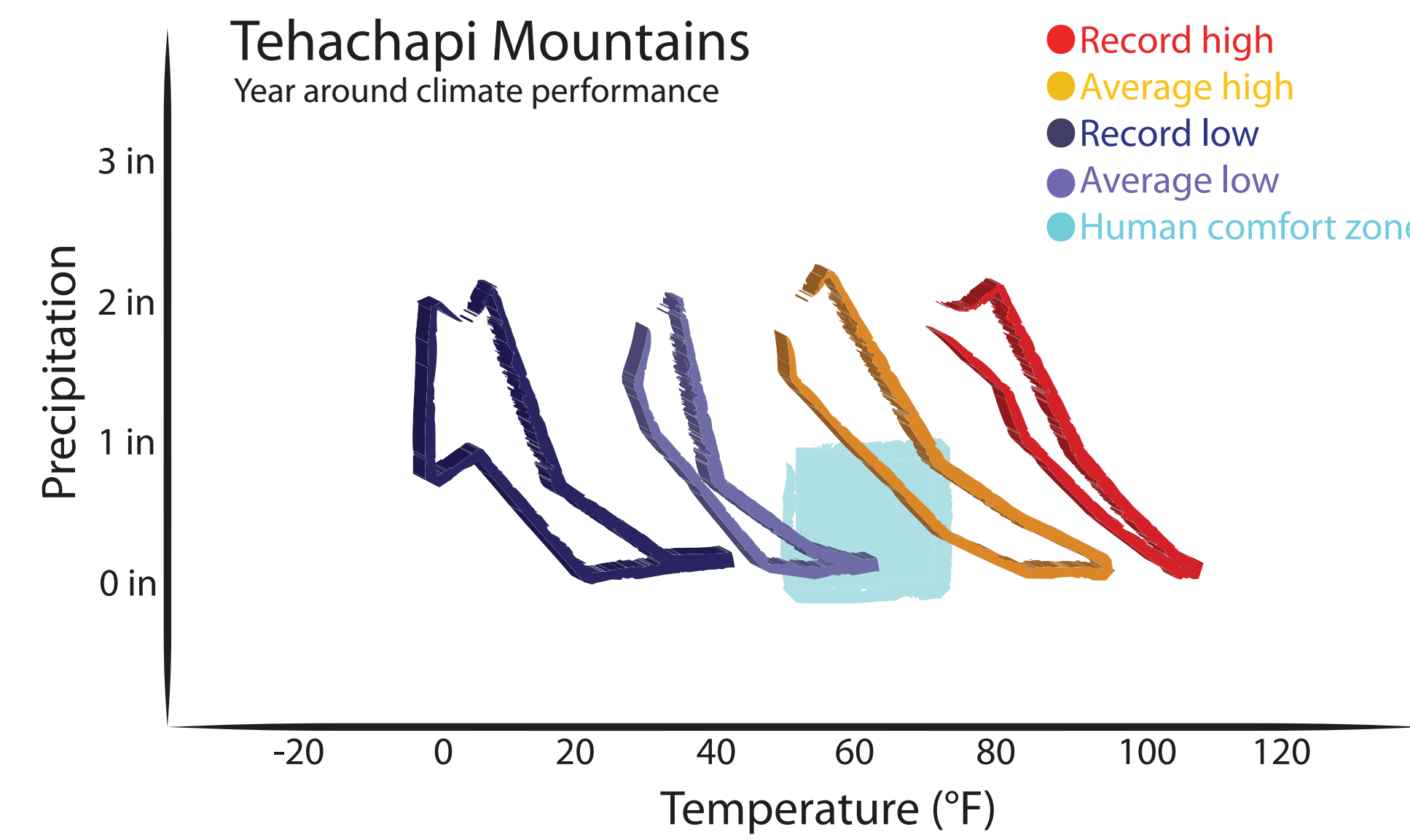
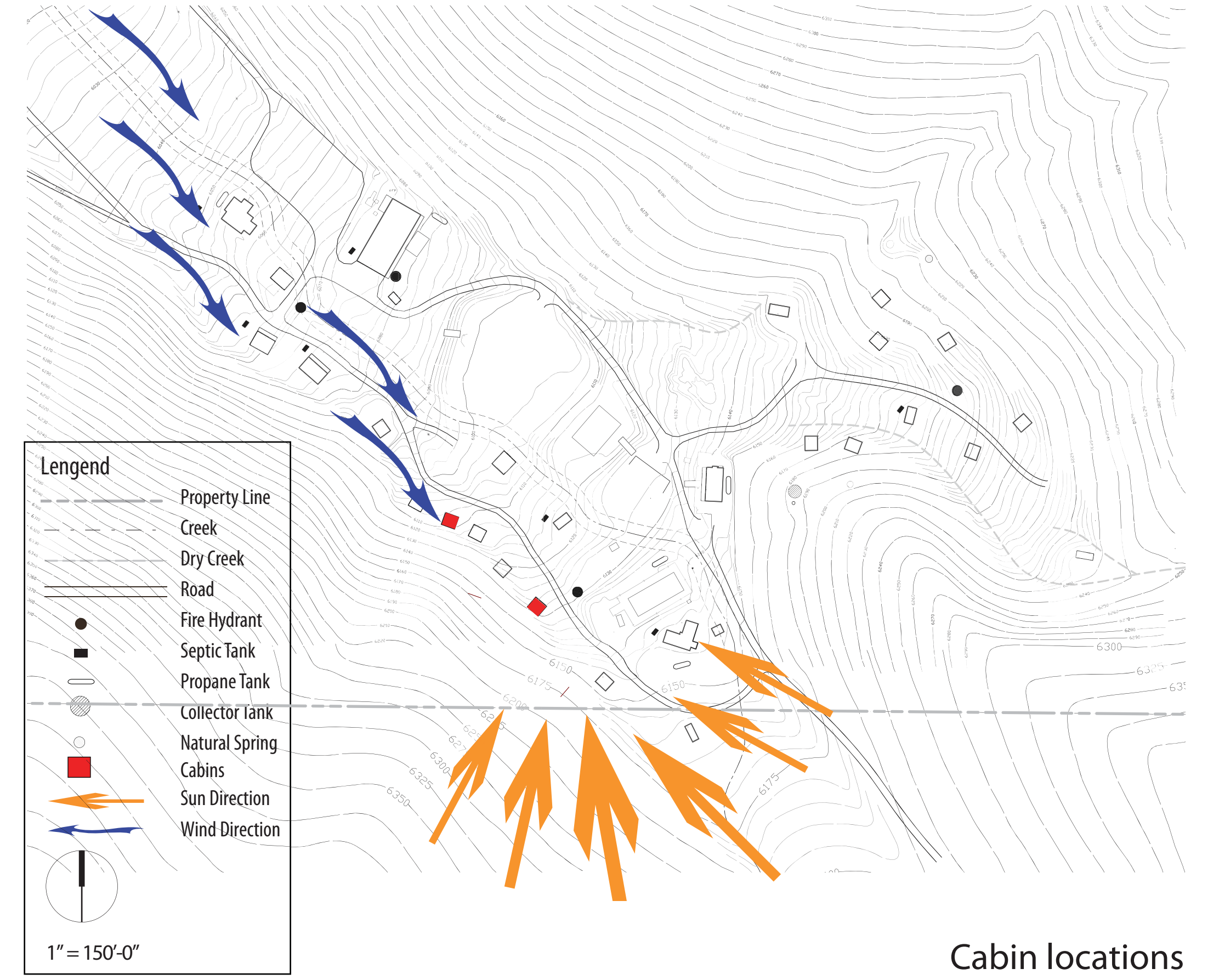
E(nvironmental) Wall

Ari Bhod campus, Tehachapi Montains
Wing-Yan (Heidi) Li . Studio 4A . Spring 2010

Ari Bhod campus is located in the Tehachapi Mountains of Tehachapi in California, at approximately 6000 ft above sea level. It is campus for workshop and occasionally use as a camping site. E (nvironmental) Wall is a proposal to provide a prototype for the cabins on site, to refreshing the cabins to extend the use life of itself. The target cabins currently have no insulation or interior finishes and only minimal electrical wiring.

E (nvironmental) Wall is design based on the existing wall structures and flooring. All materials used in the E (nvironmental) Wall system are recycled, recyclable, and environmental friendly. 3.5 inches of cellulose insulation will provide R-13 for the exterior walls. Fire rated A, 1/2" NovaCork interior panels will be installed between the 4X4 and 2X4 for interior finishes. In the account of the existing wood studs and polycarbonate sheets, the exterior walls will become R-16 in total. For friability control of the inslation, additional sliding 1-1/2" thick NovaCork panels were installed on the top two rows, which provided extra R-2.5 per inch when it close.

In summer, Tehachapi will increase to 110°F, therefore, ventilation and shading become very critical for the cabins. An extra window by the door is added for cross ventilation. Movable shading devise is attached to the windows for air and natural lighting control. The space between the expose 2X4s are meant extra spaces occupy by the users. Designed furniture can used and secure by the designated space between the 2X4s.



Cellulose (blow-in) Insulation

Description:
Cellulose (blow-in) insulation is a blend of recycled specially prepared cellulose fibres, organic in nature and treated to make it fire retardant. Tests have shown that when packed together, this natural cellulose insulation material is acoustically and thermally more effective than man-made mineral wool.

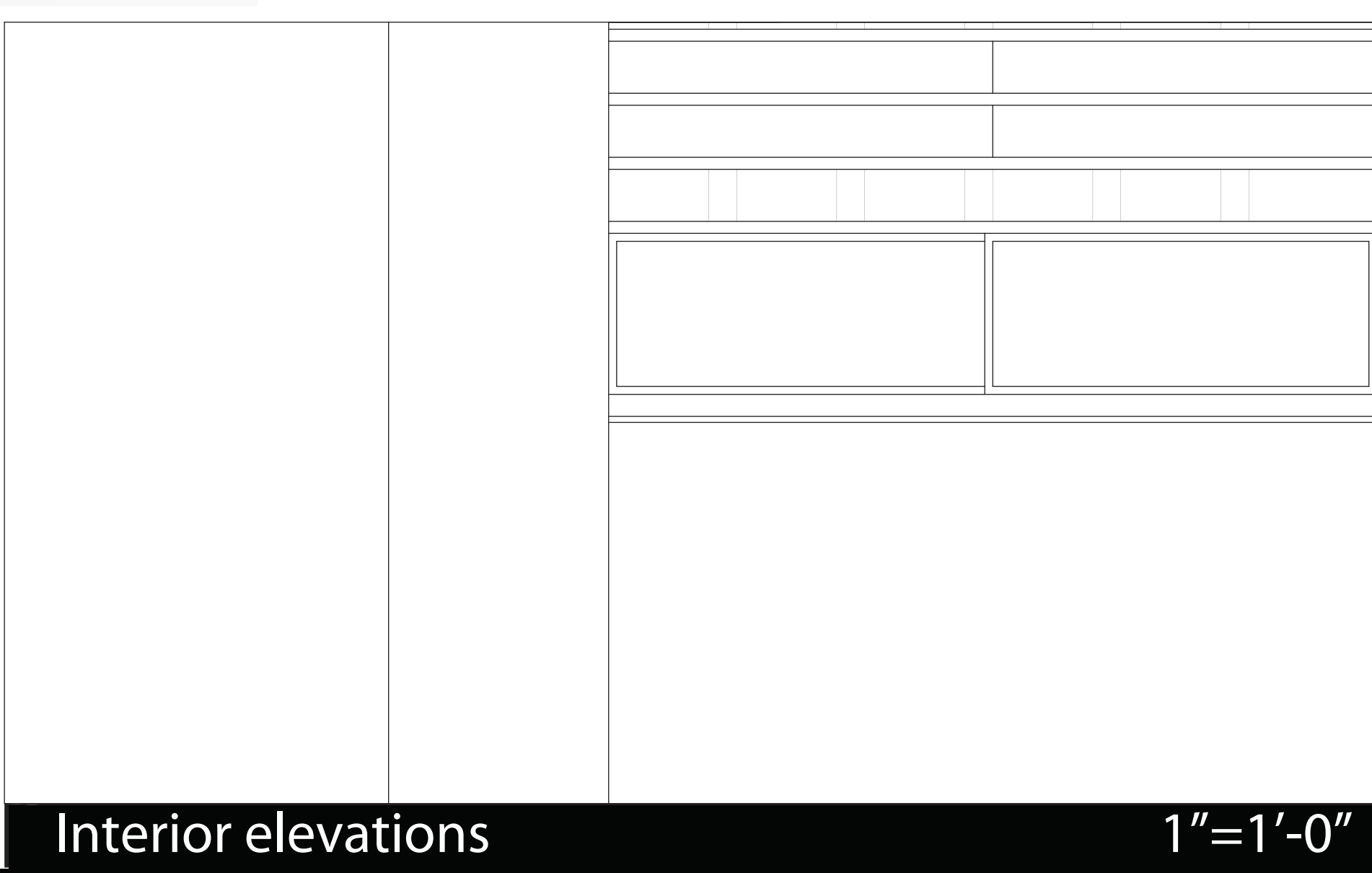
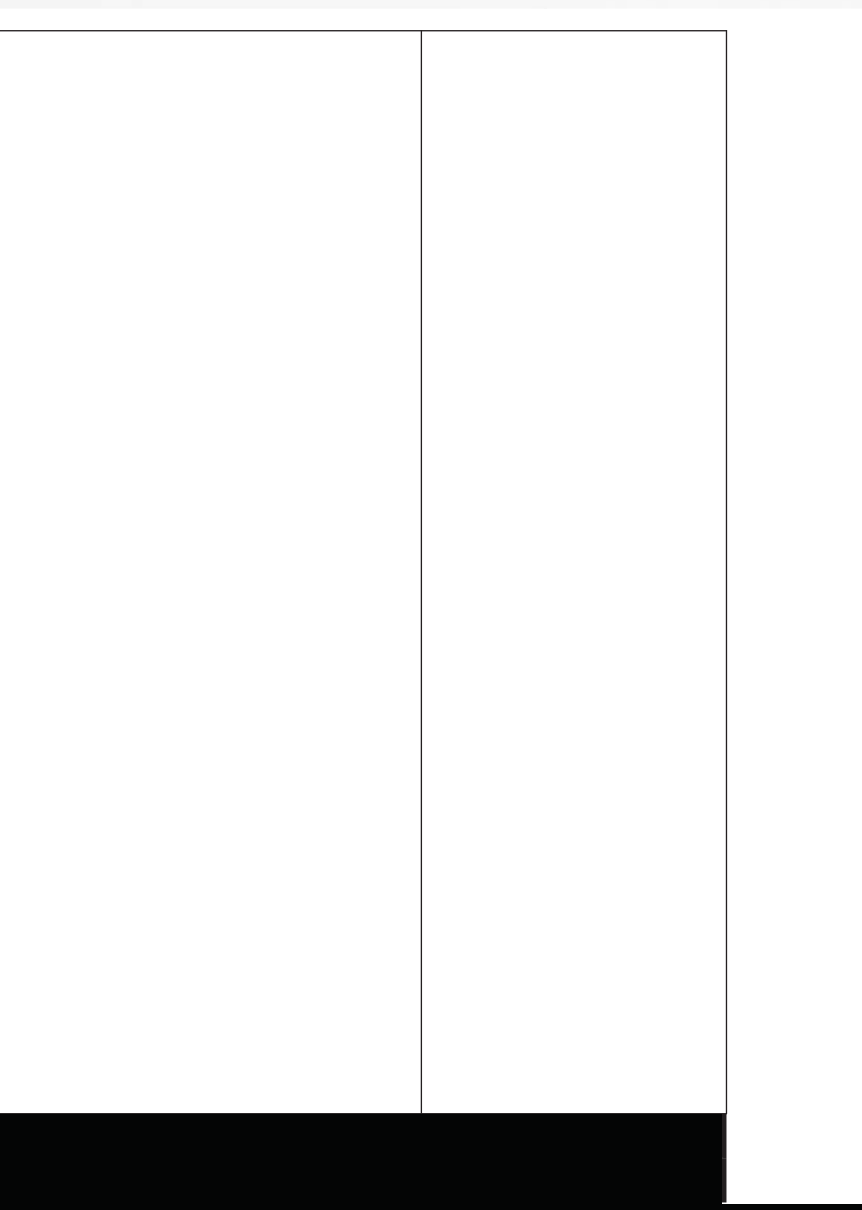
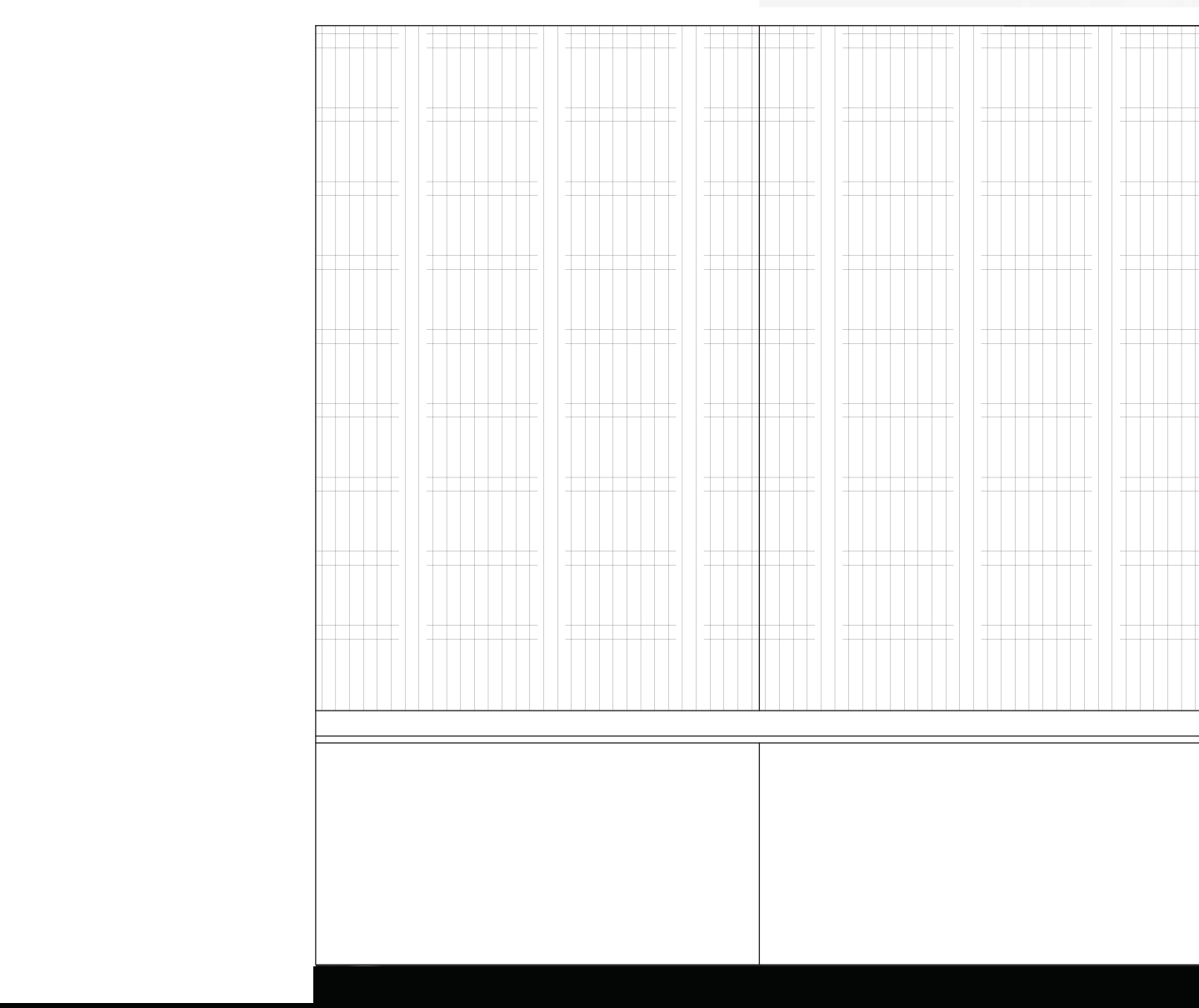
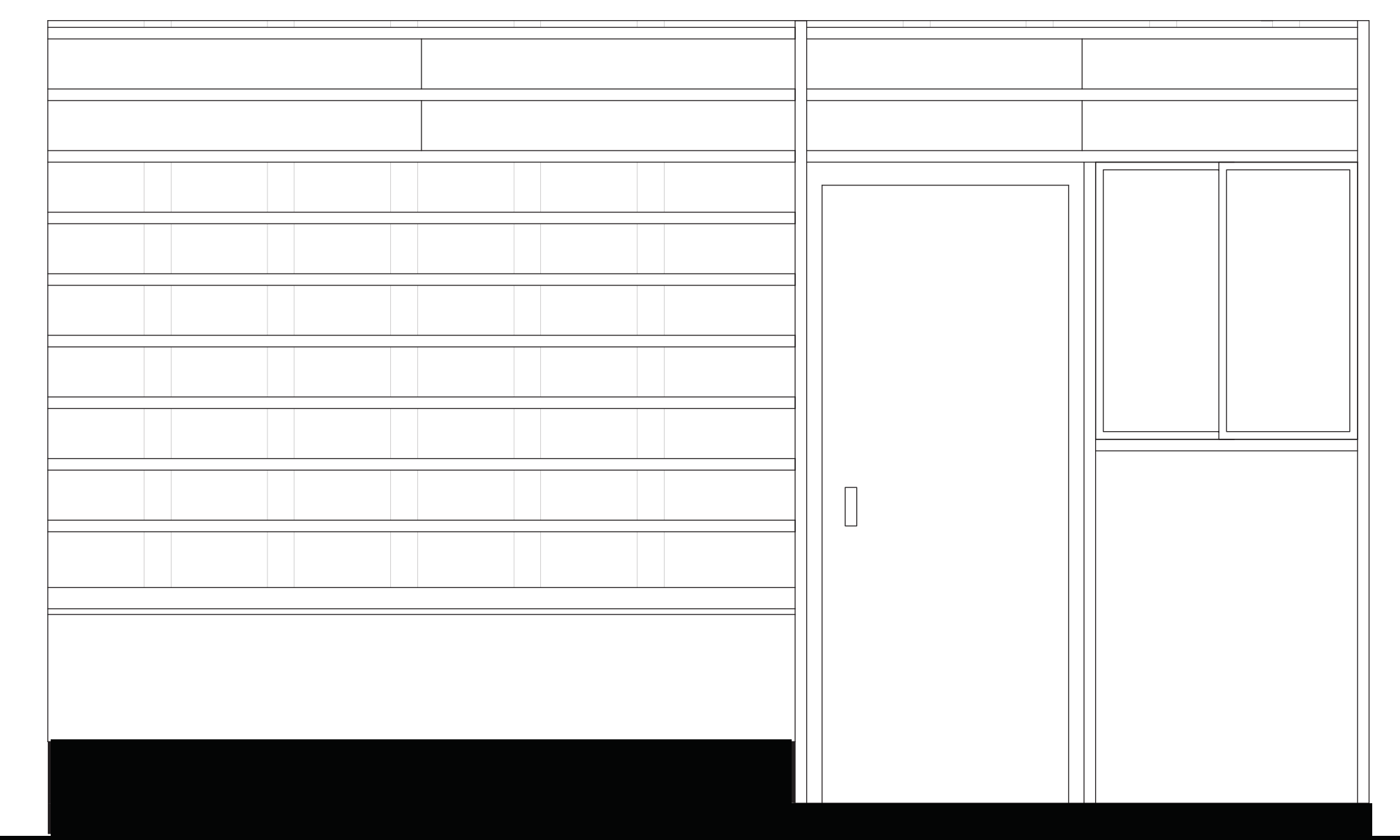
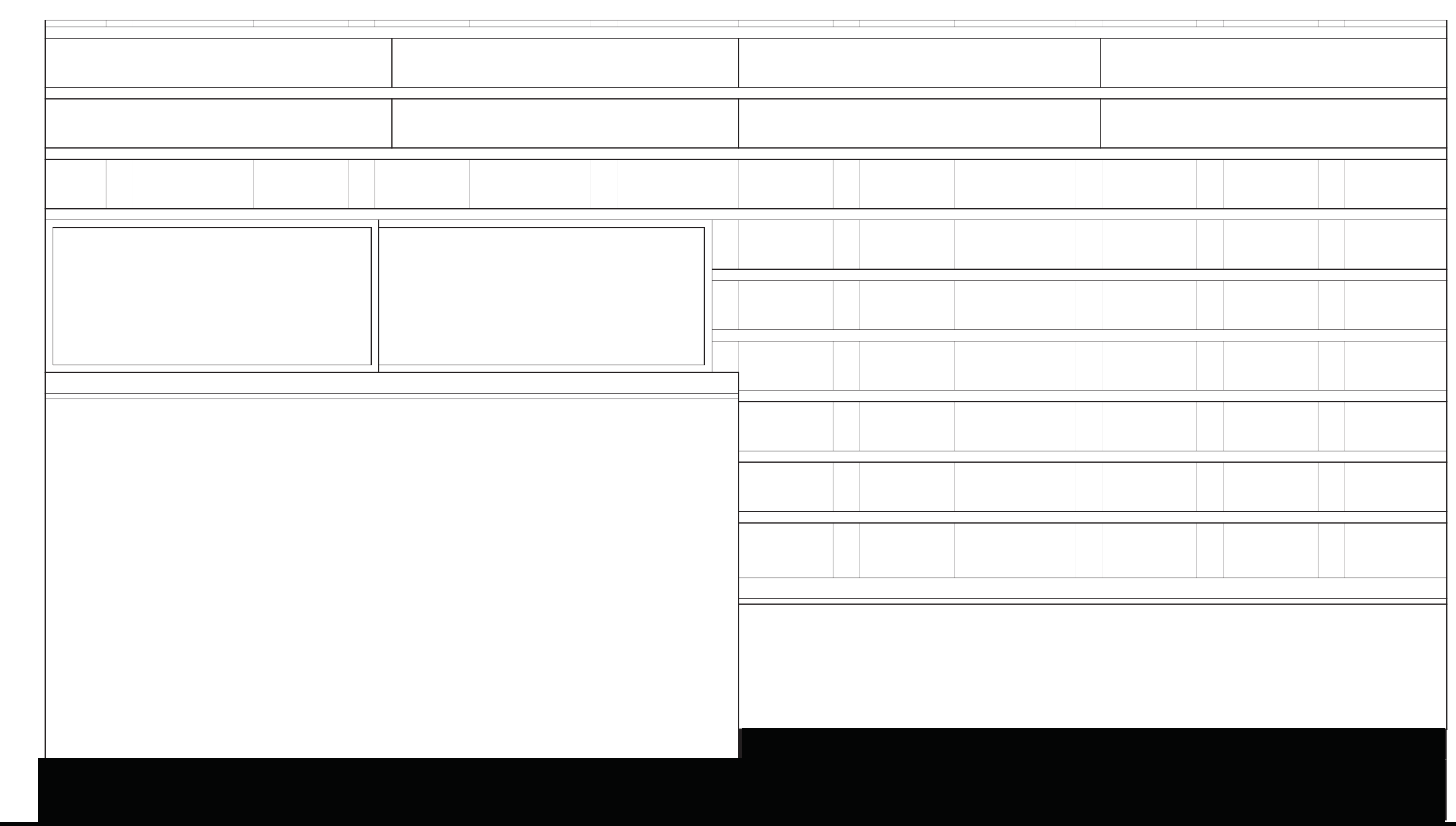
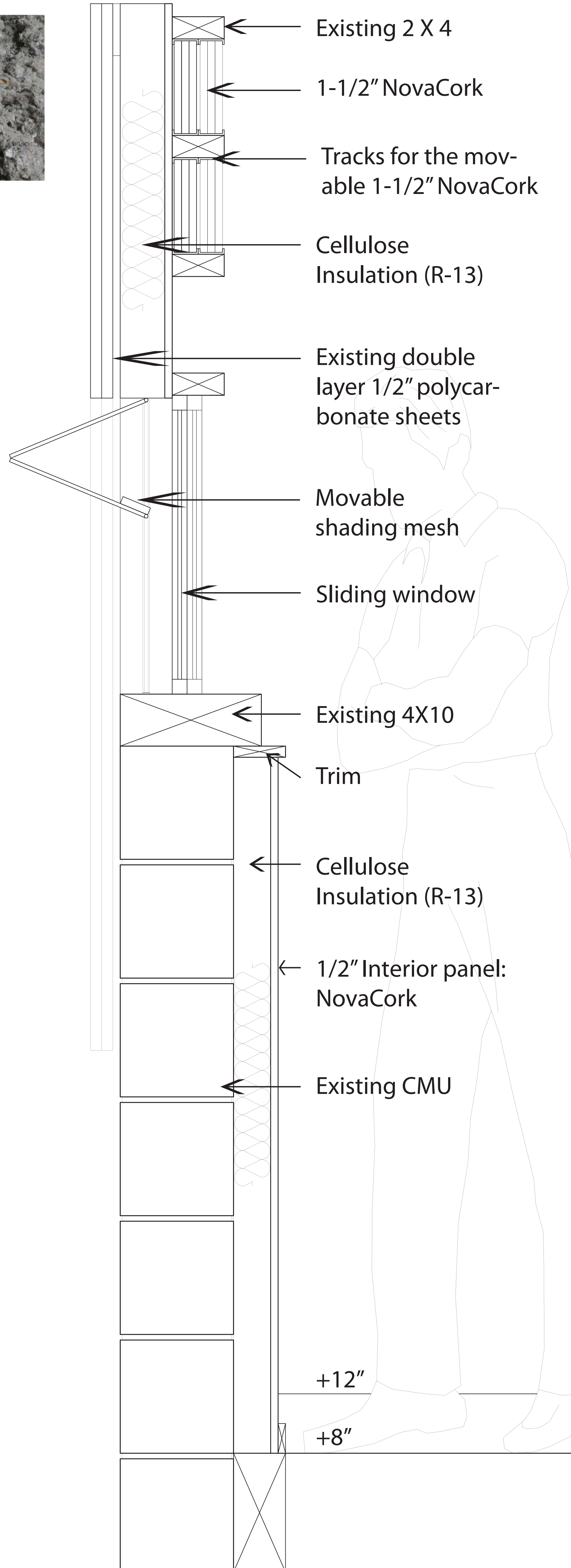


Environmental Impact:
The fibre is organic cellulose derived entirely from recycled macerated paper and treated with a borax compound to protect against fungus, insects and rodents. It also has fire protection built in. Cellulose insulation has excellent thermal resistance and provides a high degree of thermal insulation. Recycled material and a low manufacturing energy requirement combine to produce probably the most environmentally friendly material used in building construction, low CO2. Naturally safe recycled cellulose fibre. Reconstruction of a building may necessitate removal of cellulose insulation fibre. It can be recycled or disposed of as a non-special waste to landfill.

NovaCork panels

Description:
Nova Cork paneling is composed of three basic elements: cork veneer surface, bonding adhesive, and substrate. The bond is made with a waterproof adhesive applied to the substrate in a continuous uniform coating. It is a completely finished, structural panel. On-site surface treatment is not required. It is lightweight, easy to work, and the surface is unique and exclusive. Cork is noise-deadening and provides extra insulation when used to panel peripheral walls or ceilings.

Environmental Impact:
The substrate is Structural Building Board made from 100% recycled newsprint. It is a homogeneous composition, treated for resistance to moisture, protection against termites, rot and fungus and compressed into high density, structural panels.



Interior elevations 1"=1'-0"

Wall detail 3"=1'-0"