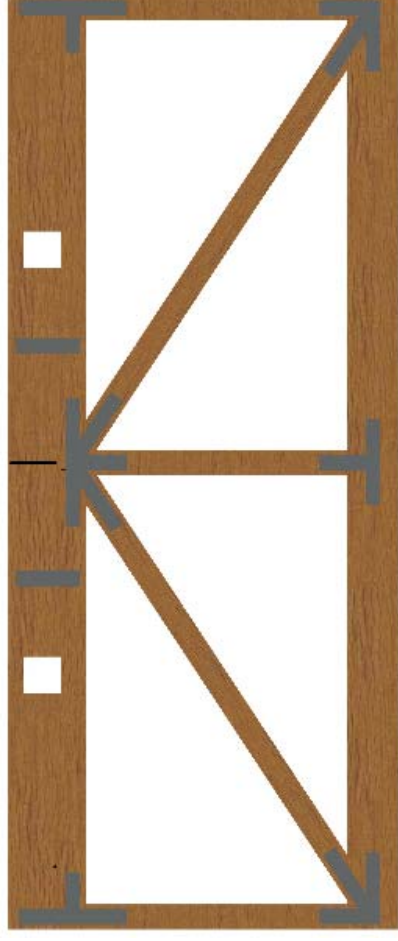
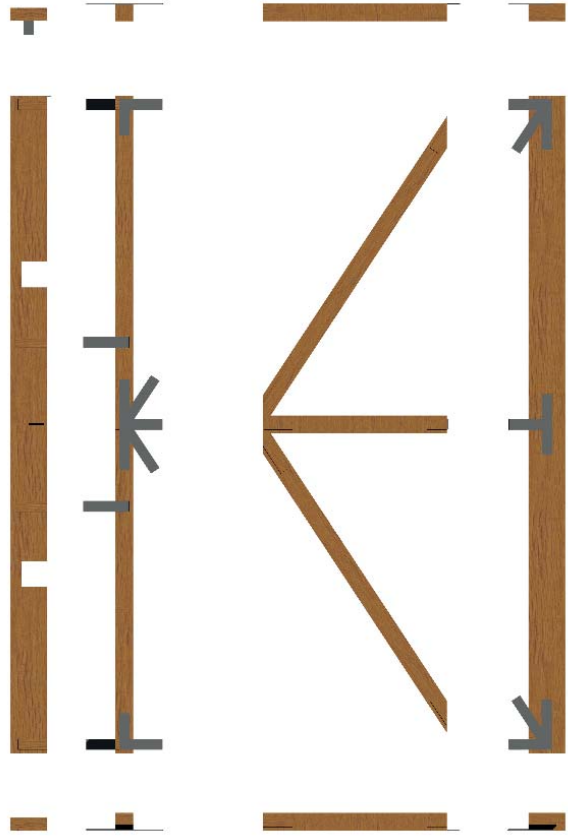


The design of a modular, amphibious structure for a flood and typhoon-prone municipality; Hagonoy, the Philippines

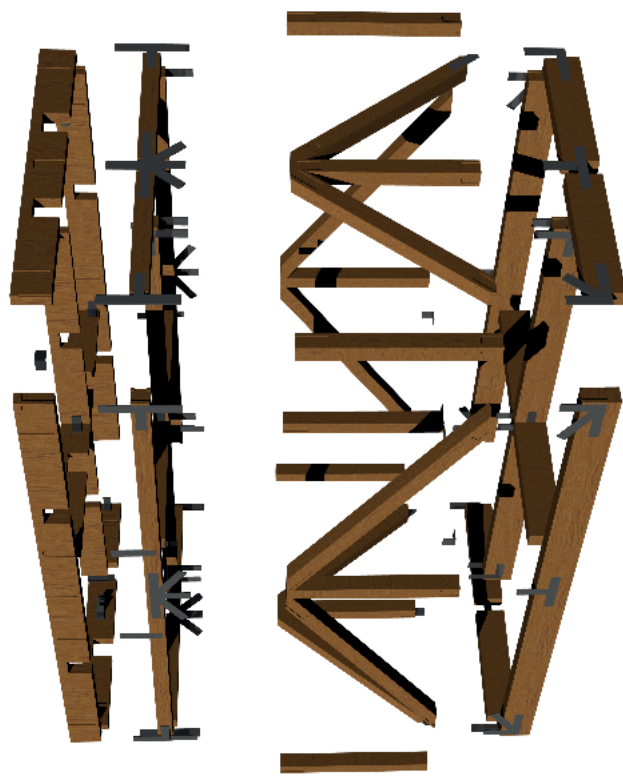
technical drawings

Pieter Ham

prefabrication

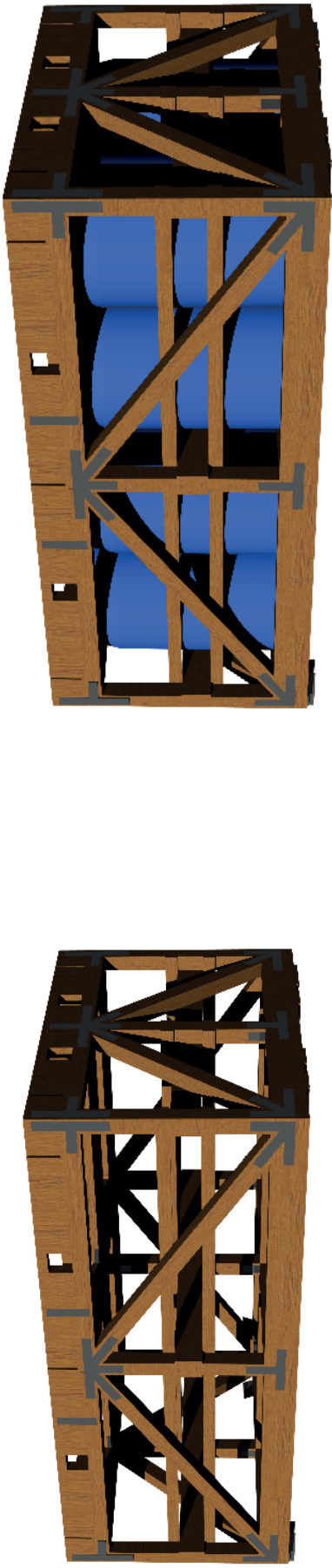


timber frame with steel connections

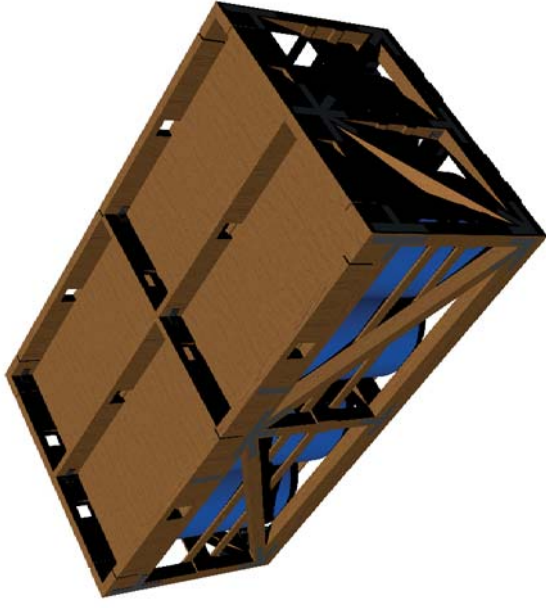
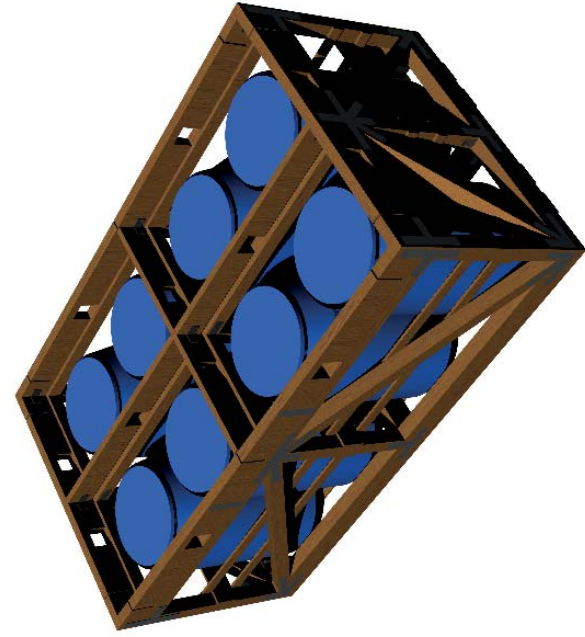


timber frame with steel connections

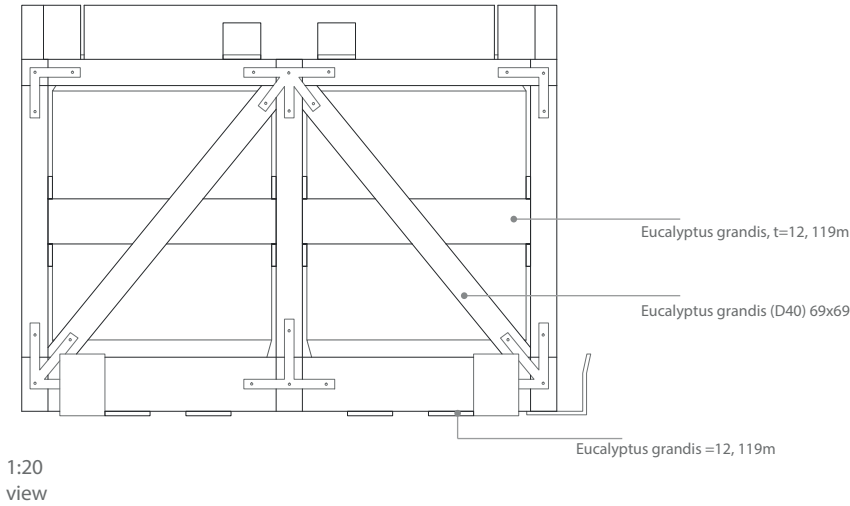
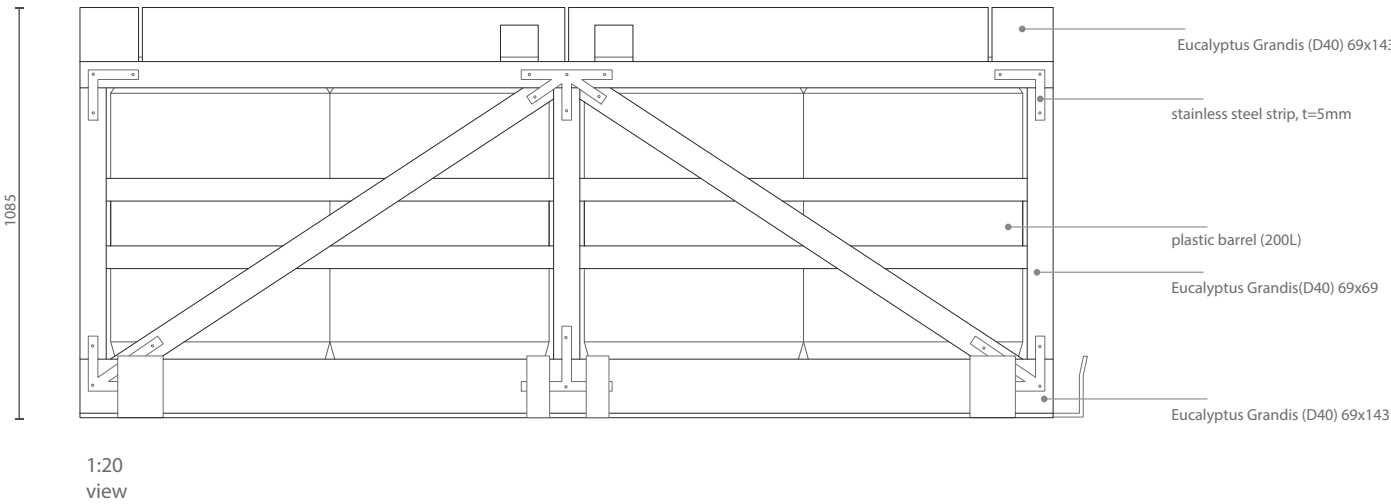
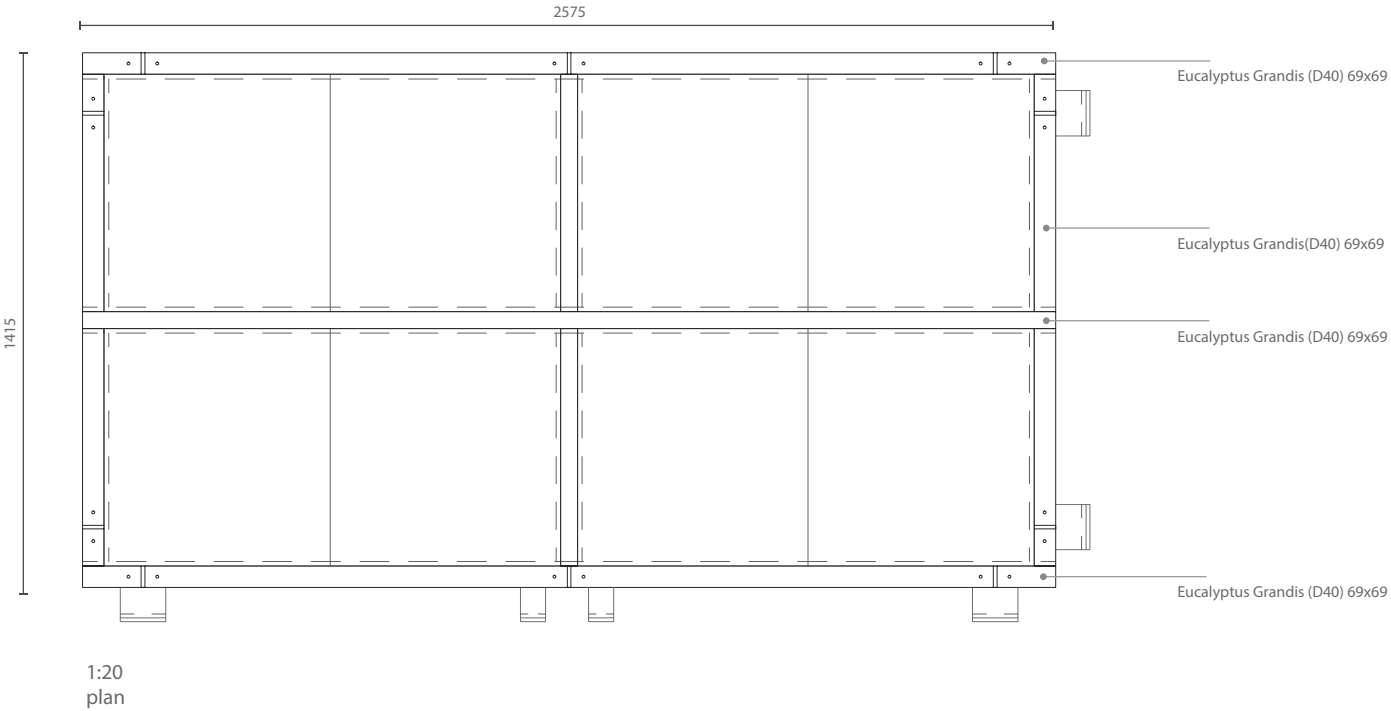
prefabrication

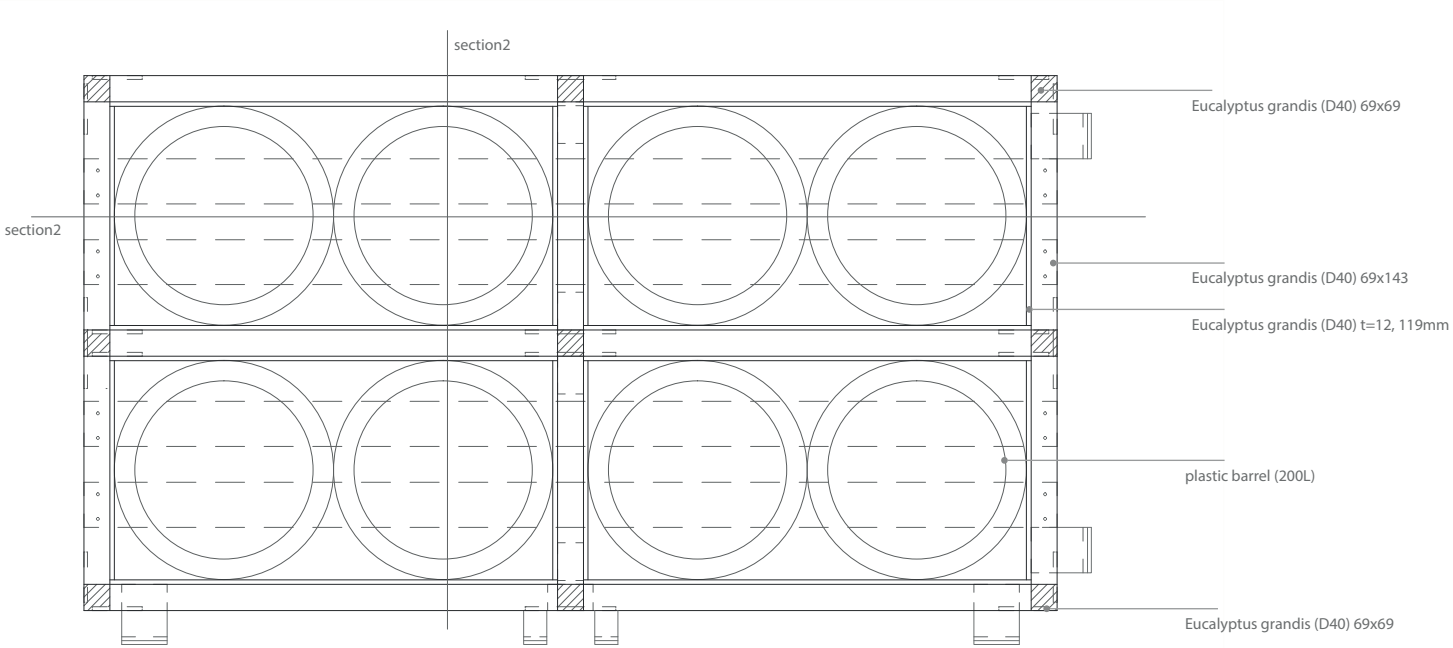


timber structure to keep barrels in place

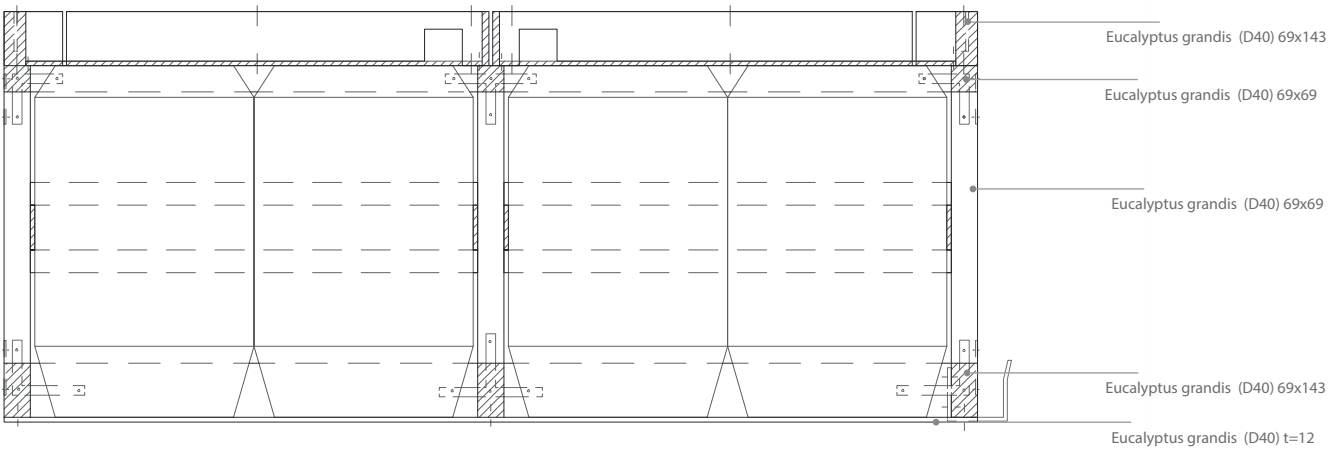


timber cover to keep barrels in place

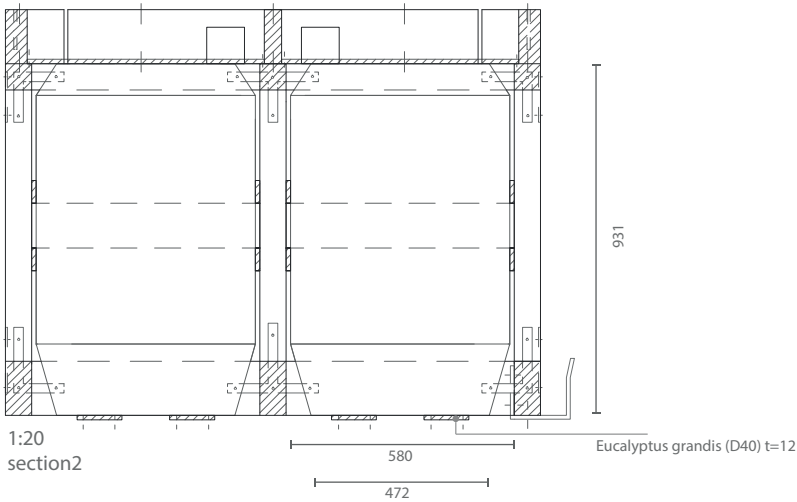




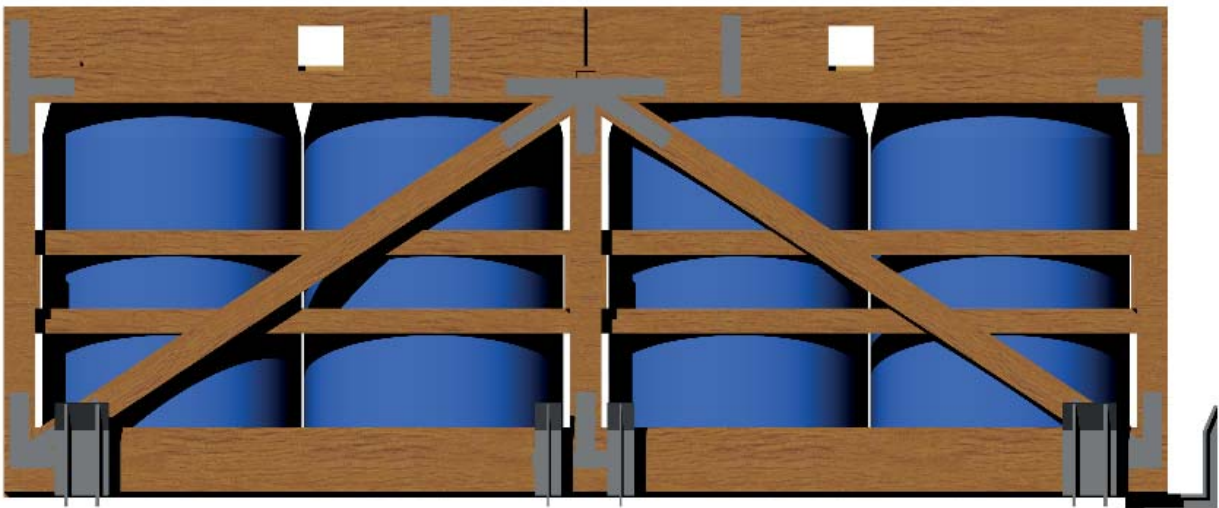
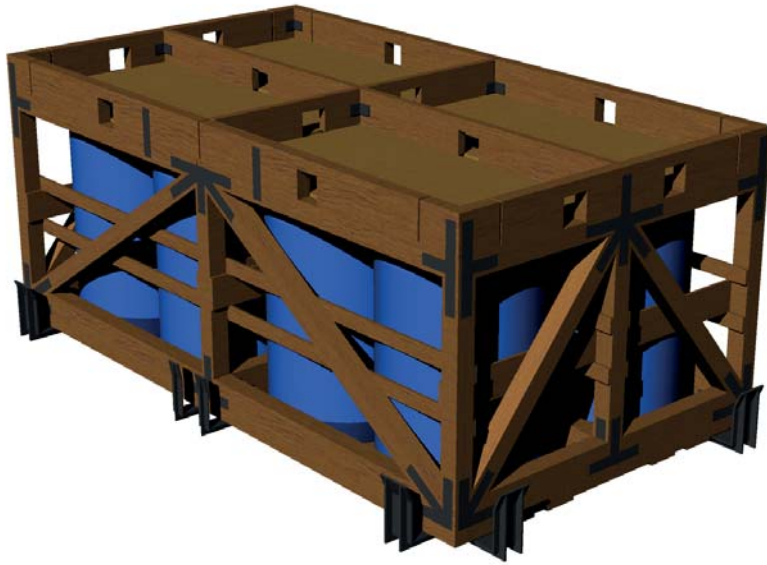
1:20
horizontal section



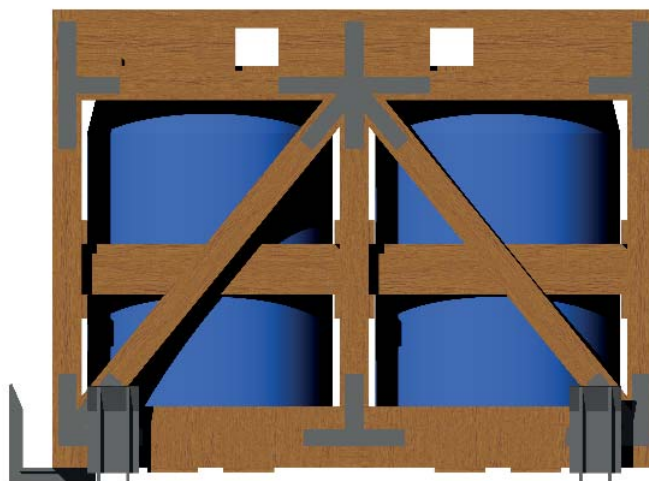
1:20
section1



view

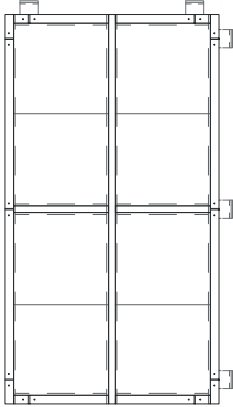


front

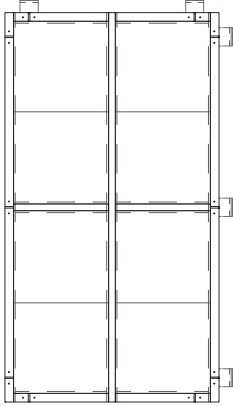


side

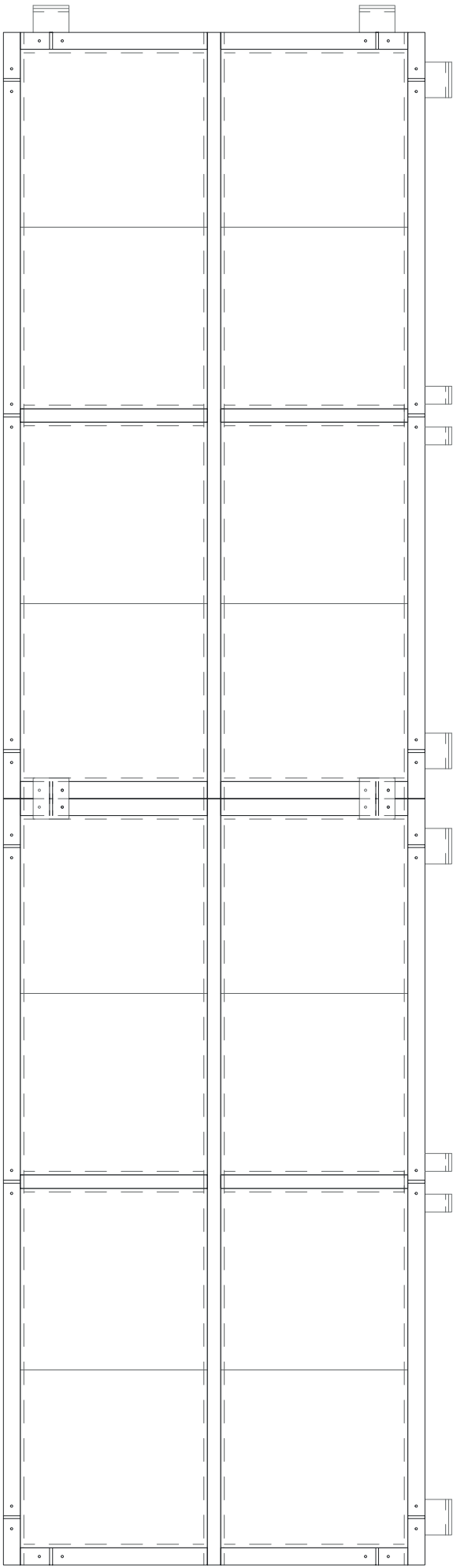
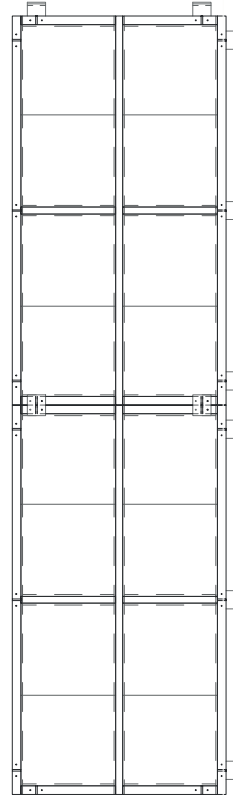
connection x direction



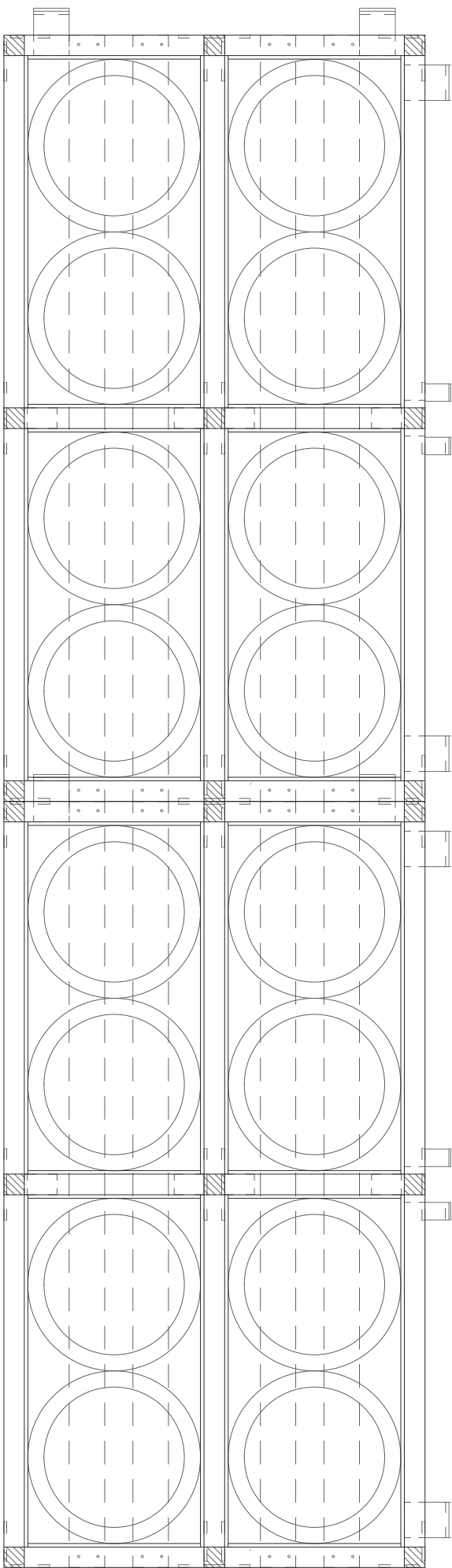
1:50, situation 2



1:50, situation 2

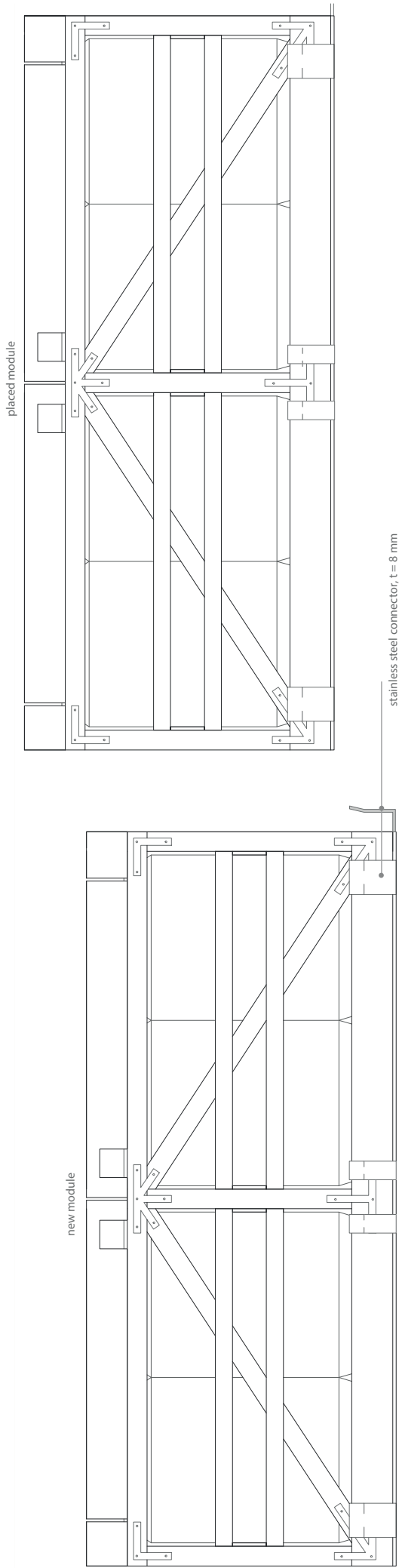


1:20, plan

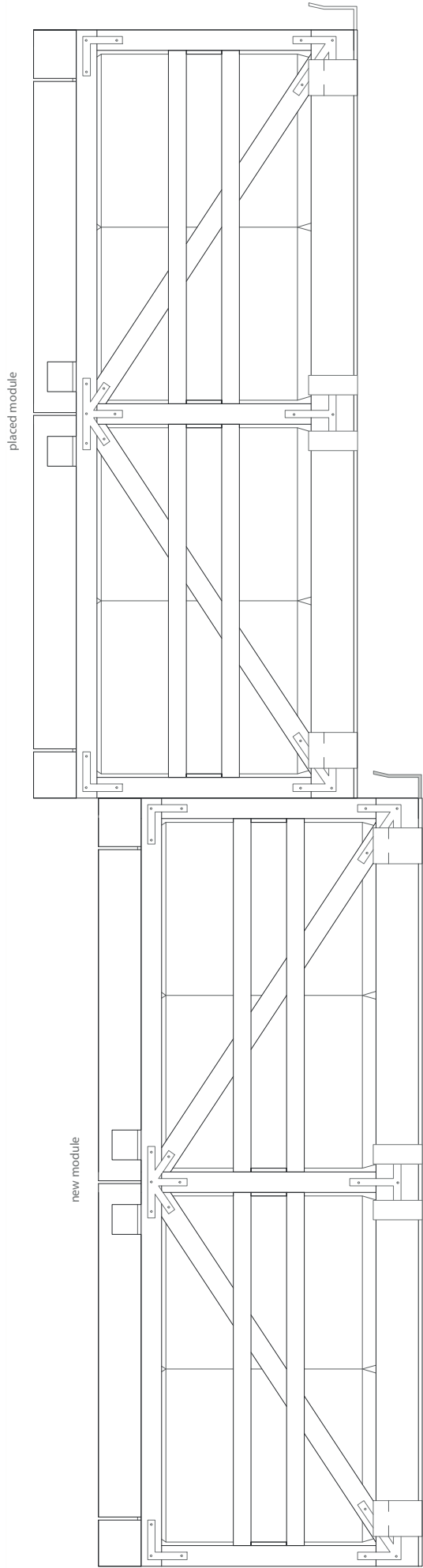


1:20, horizontal section

connection x direction

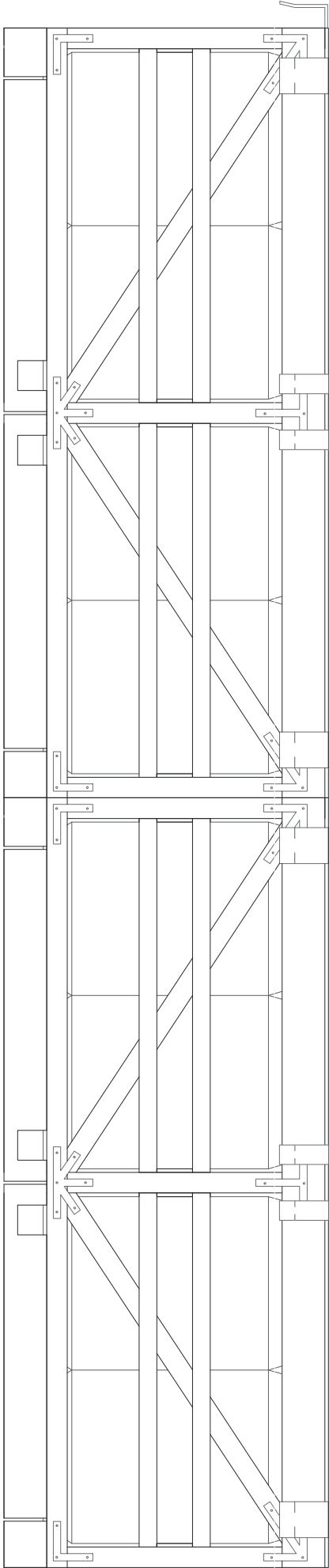


1:20
view situation 1

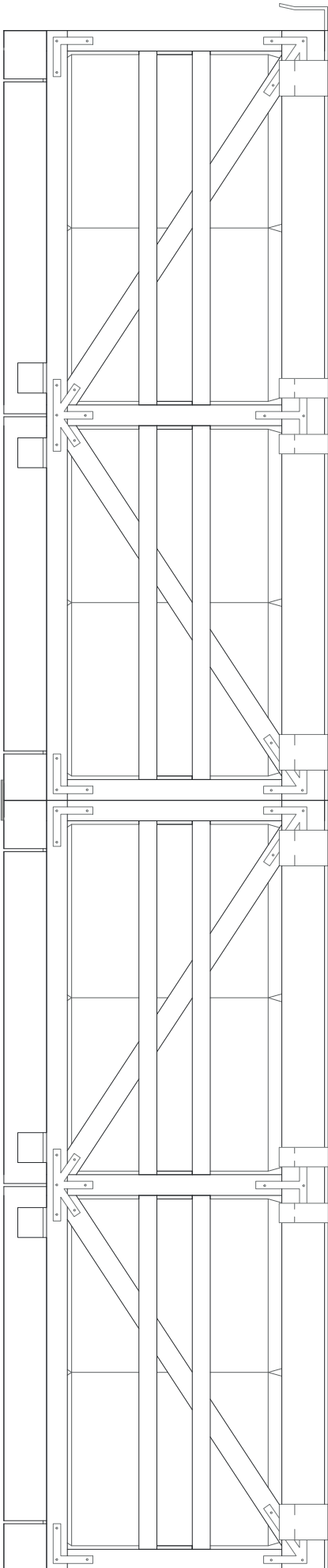


1:20
view situation 2

connection x direction



1:20 view, situation 3

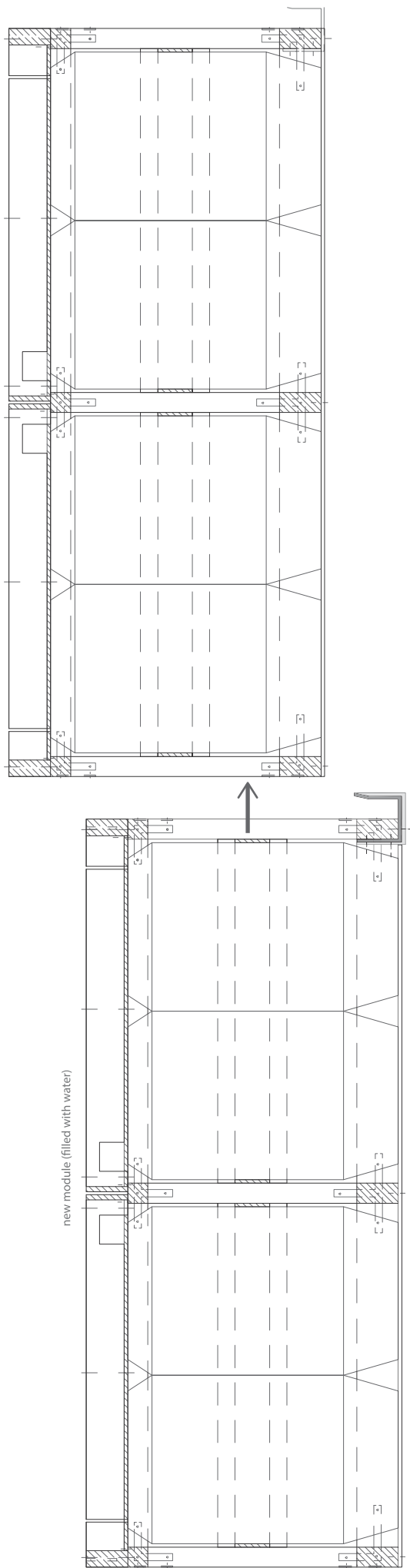


1:20 view, situation 4

connection direction

placed module

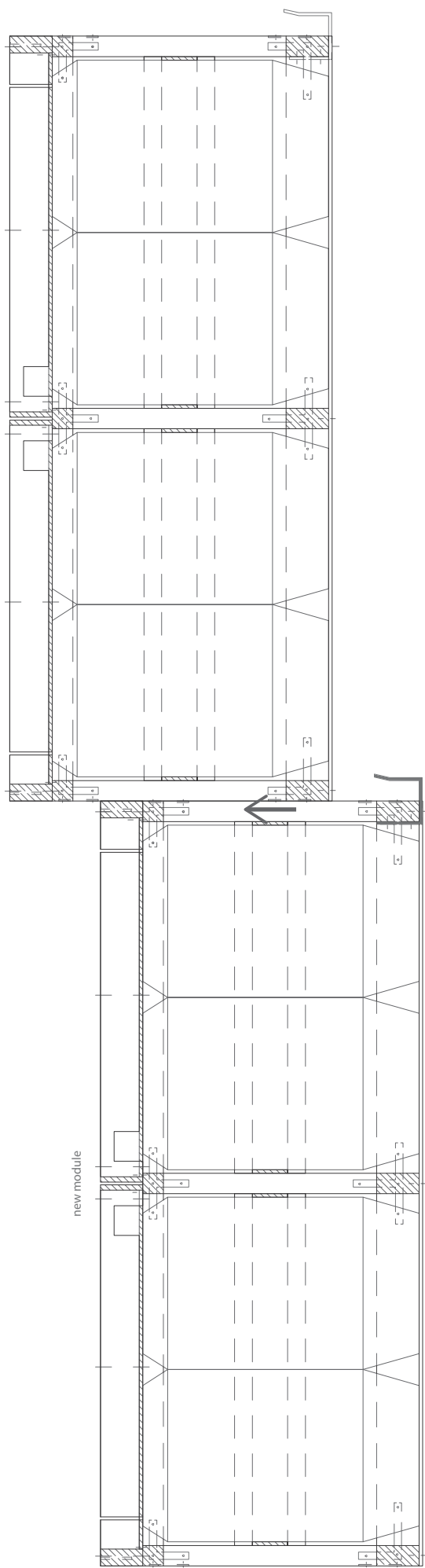
new module (filled with water)



1:20 section, situation 1

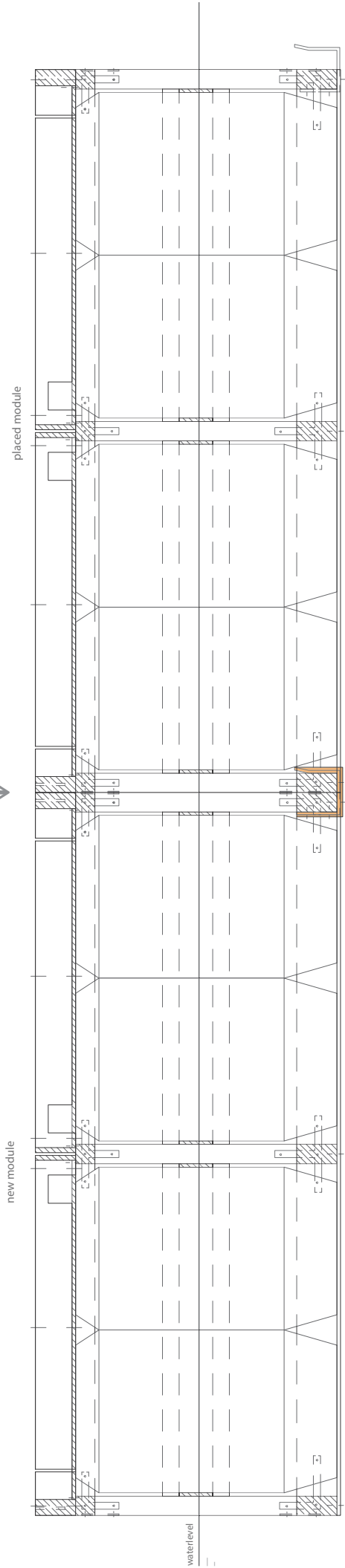
placed module

new module

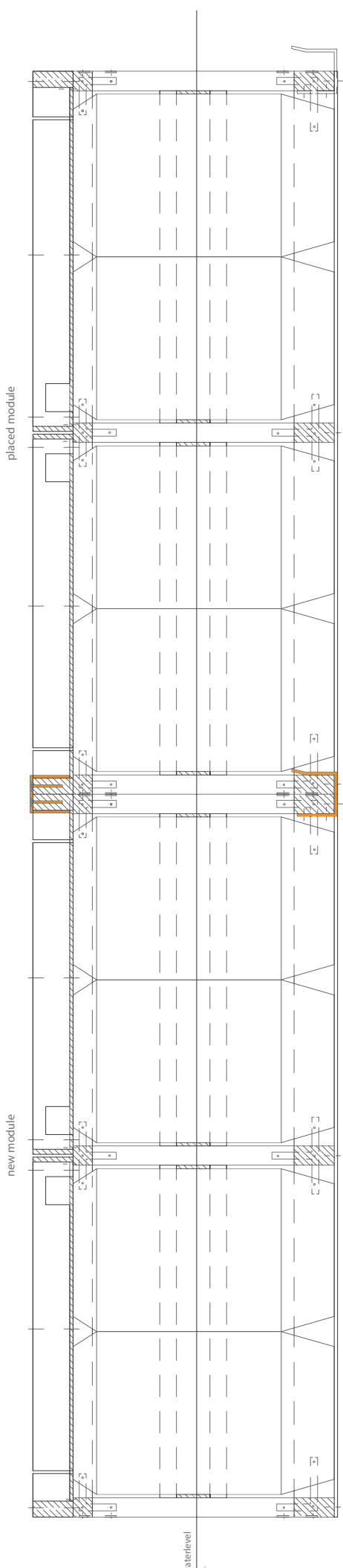


1:20 section, situation 2

connection x direction

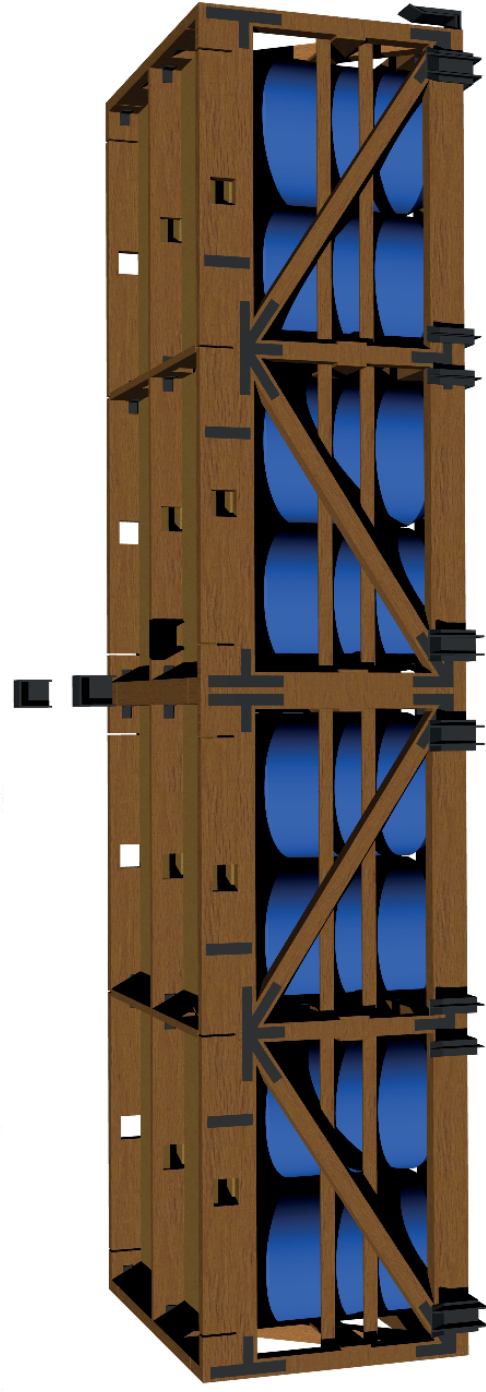
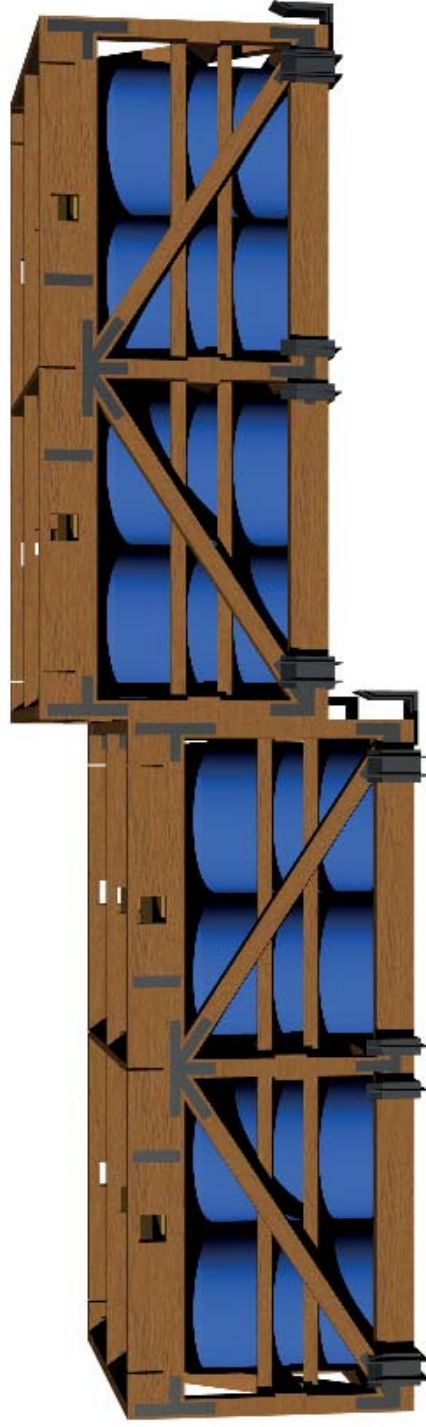
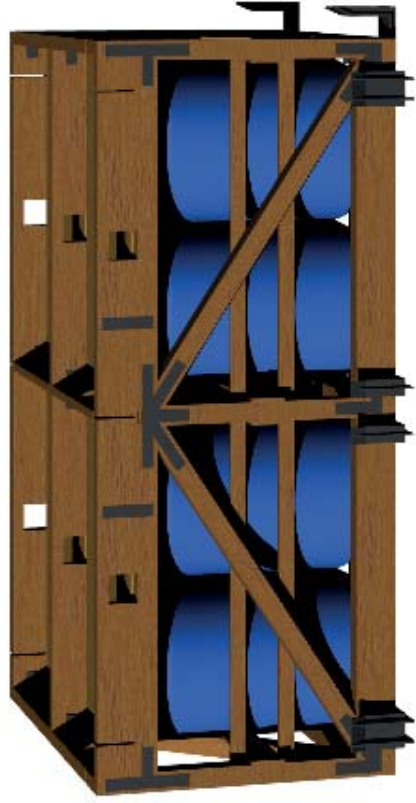
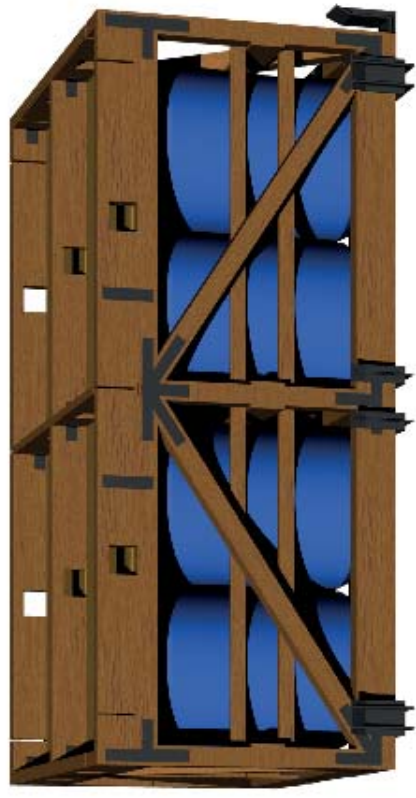


1:20 section, situation 3

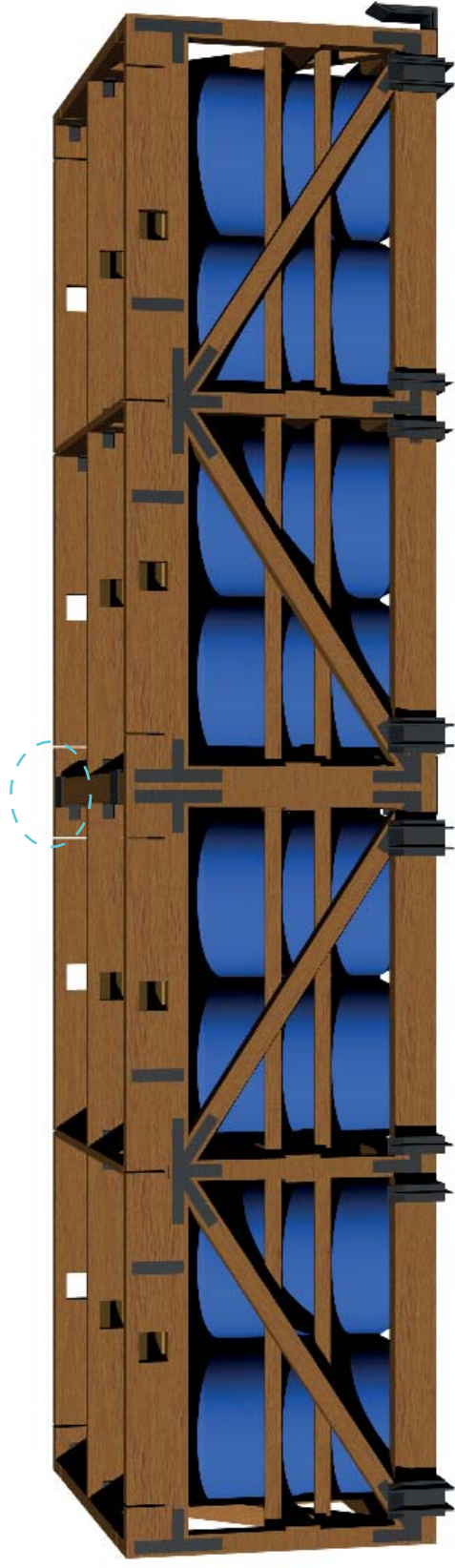
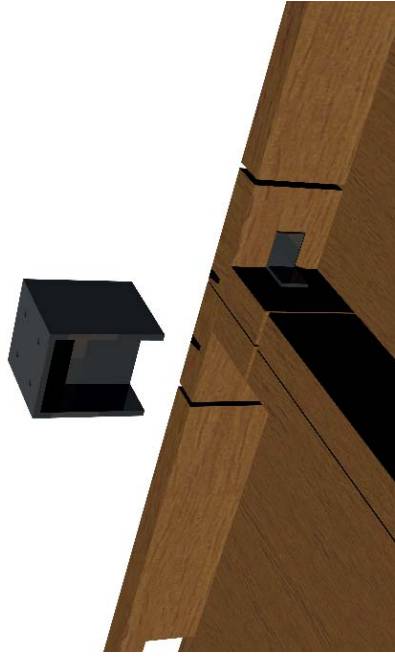


1:20 section, situation 4

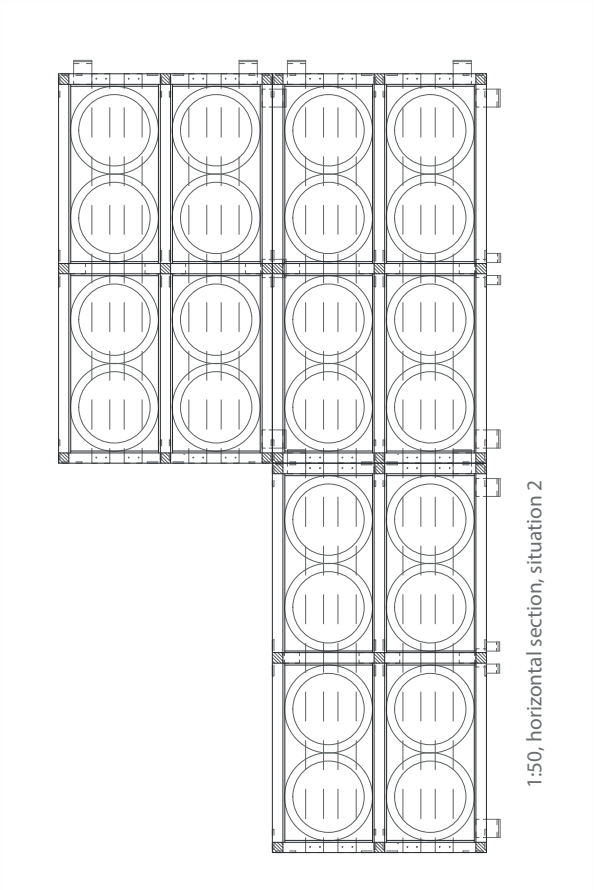
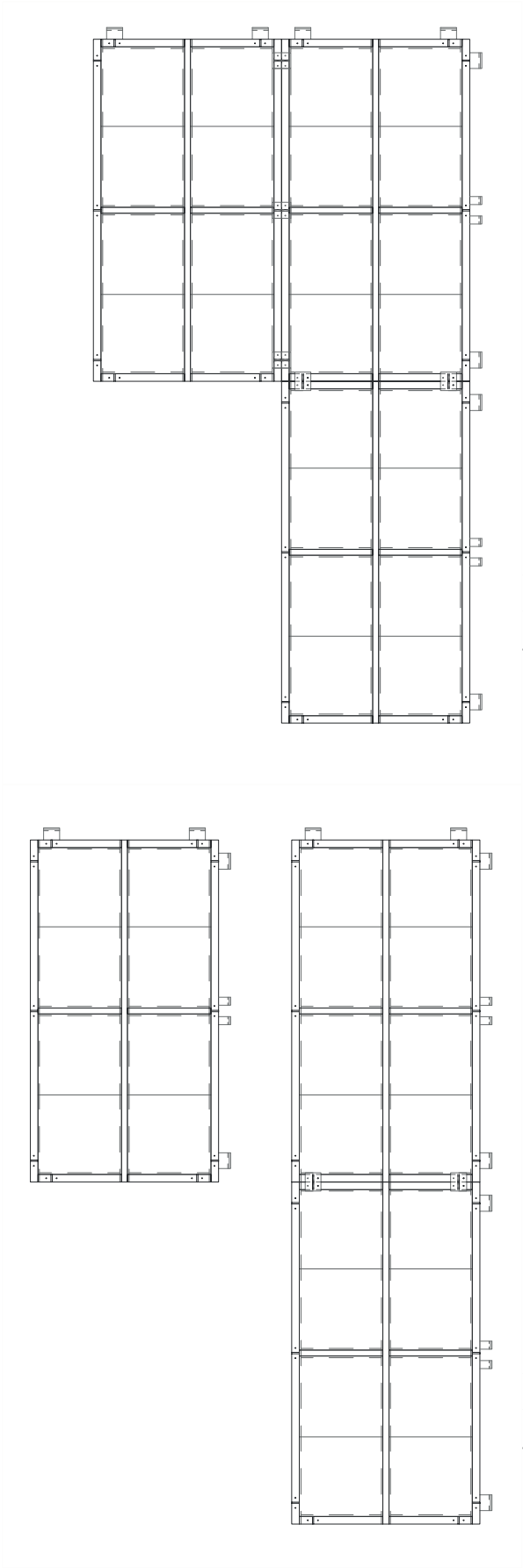
connection



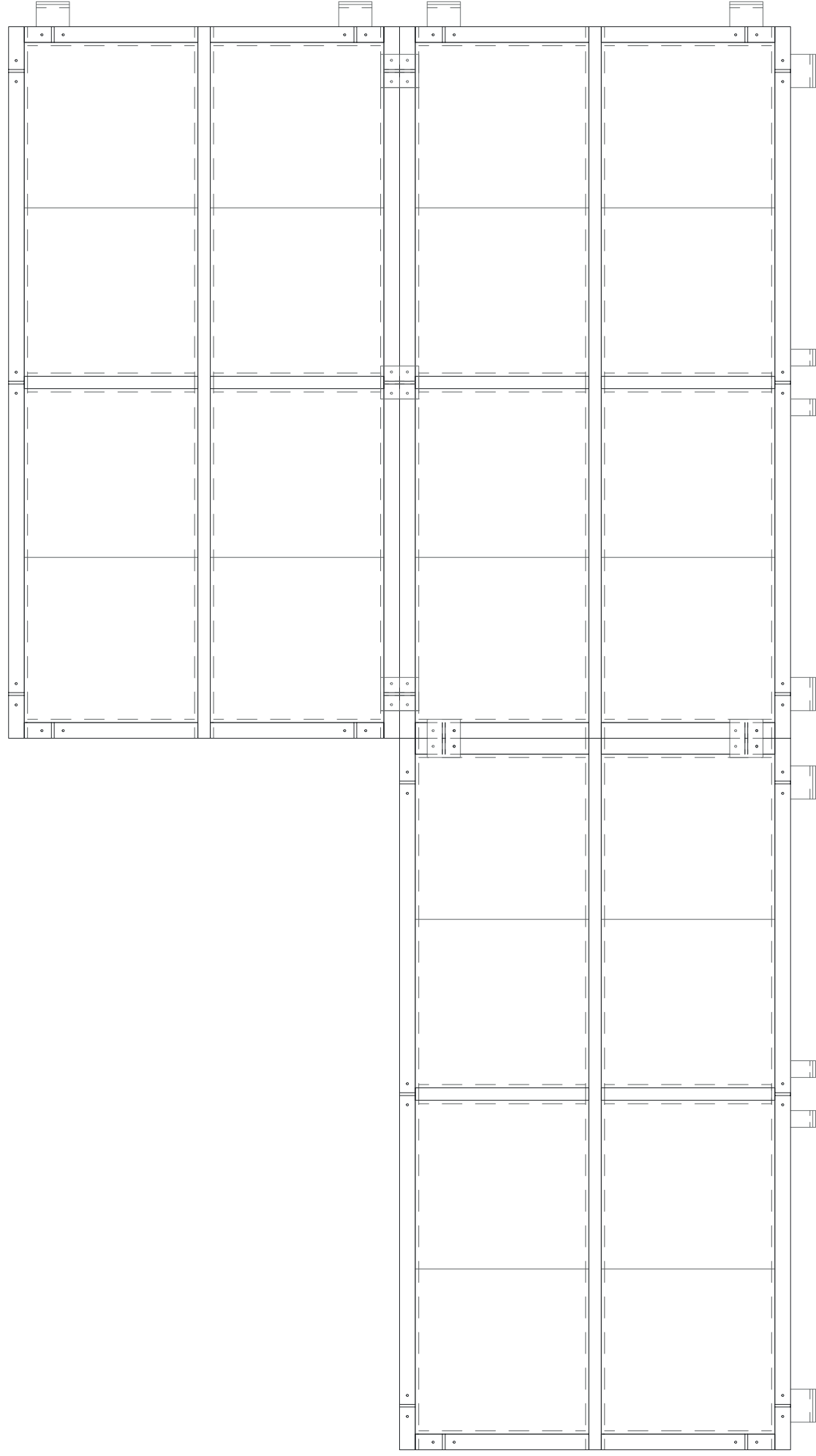
connection



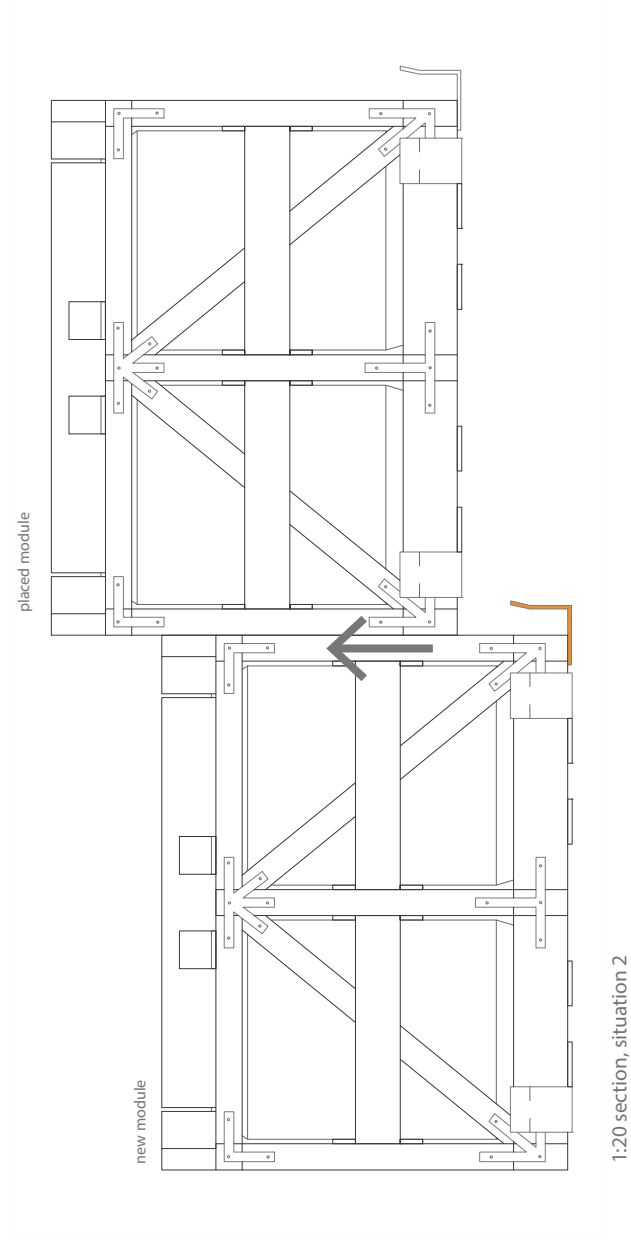
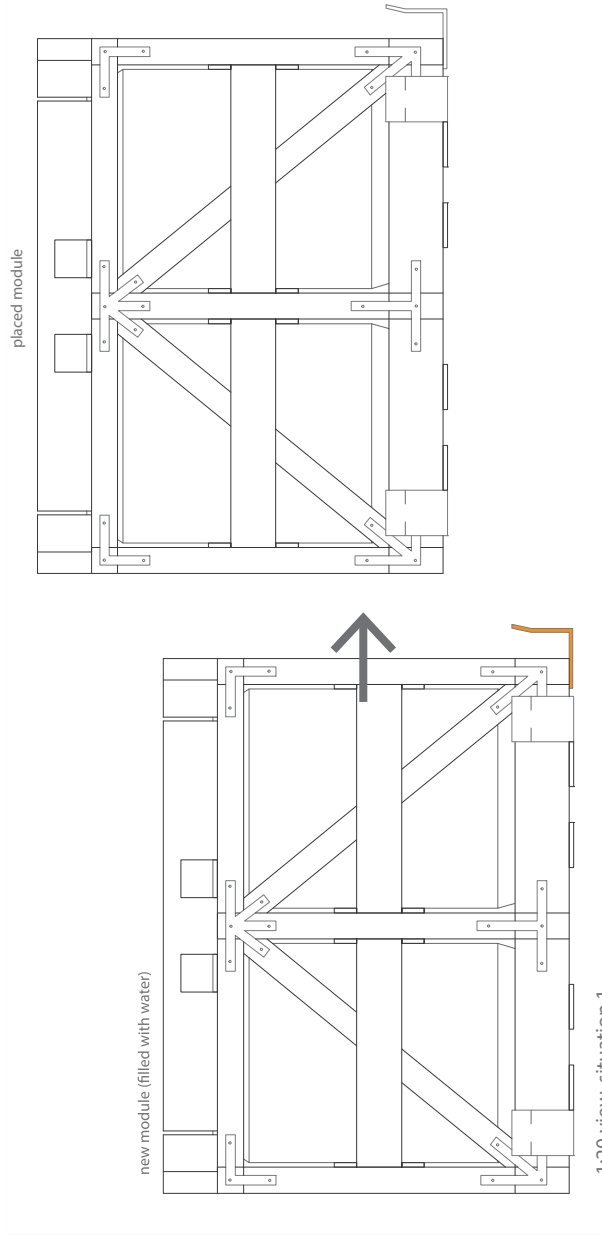
connection y direction



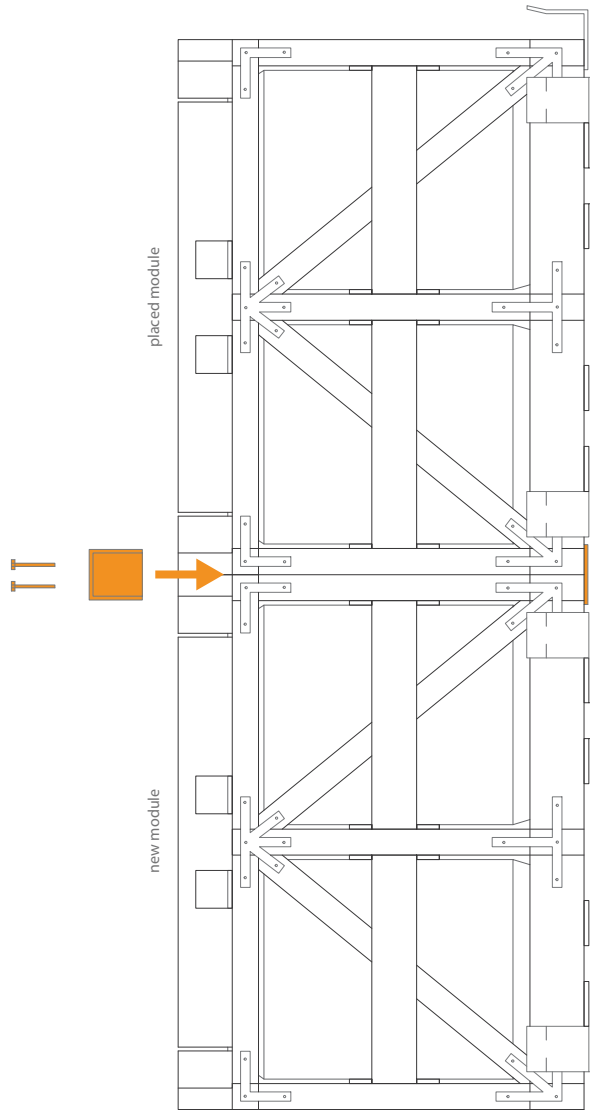
connection y direction



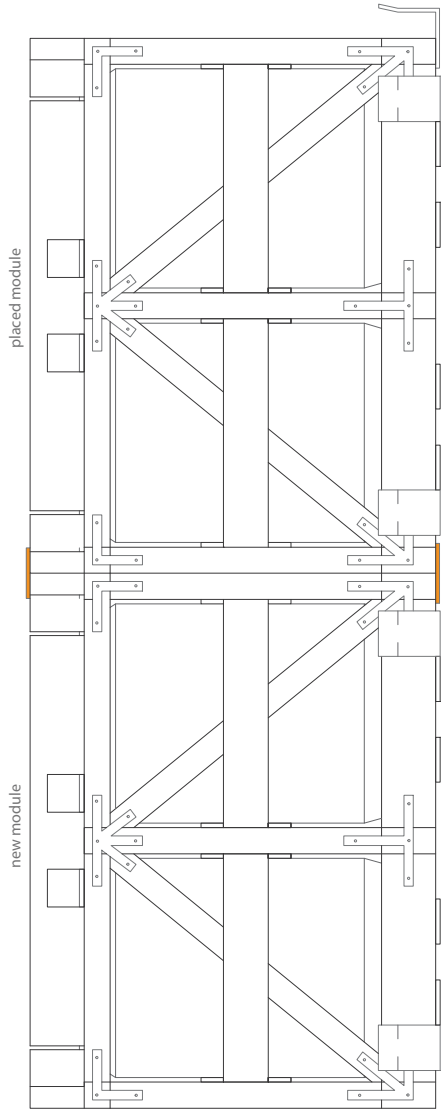
1:50
horizontal section



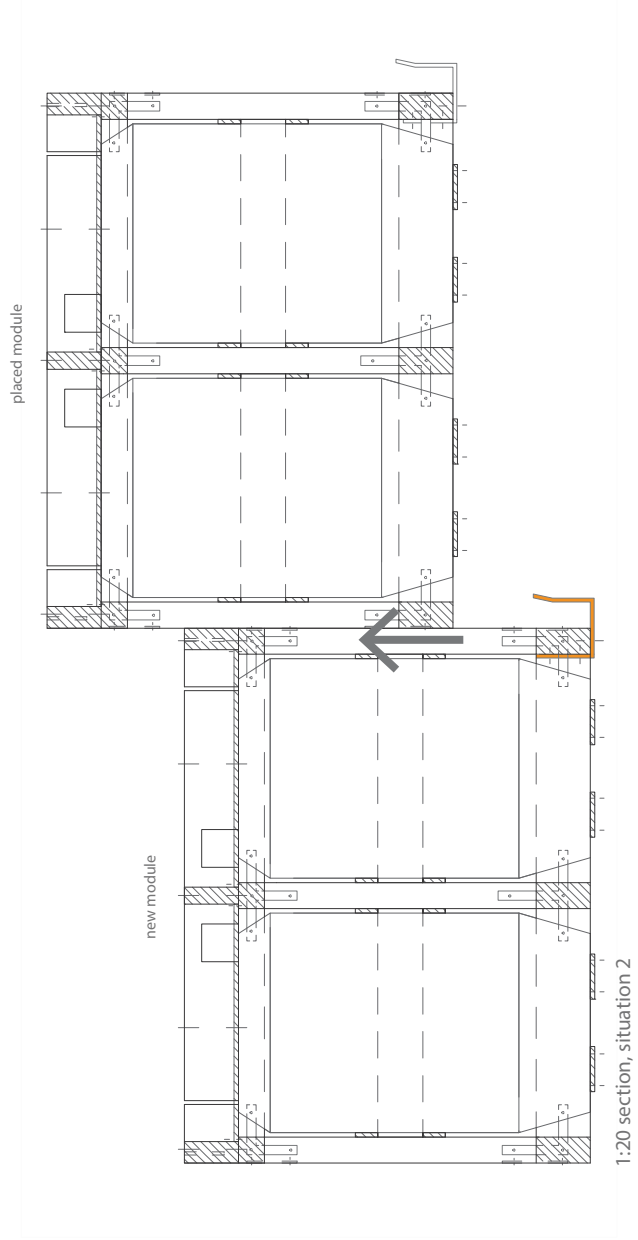
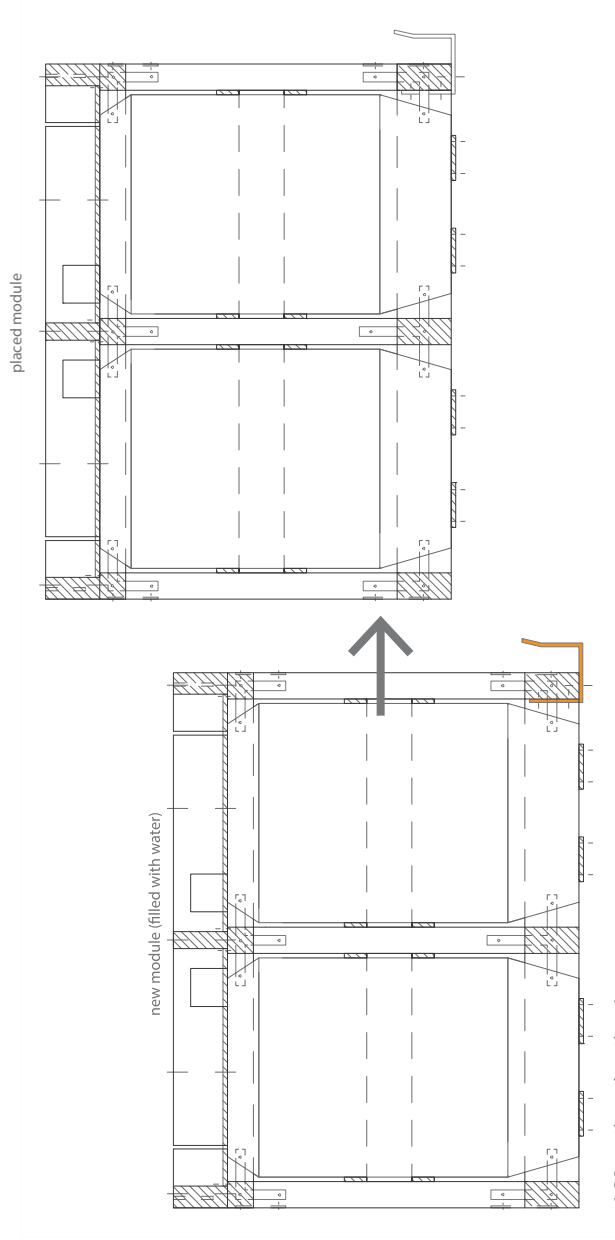
connection y direction

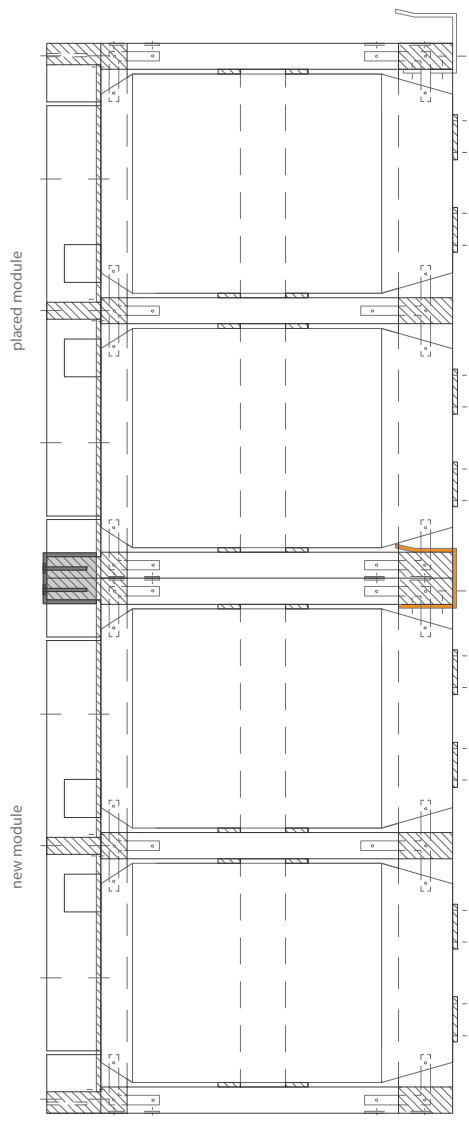
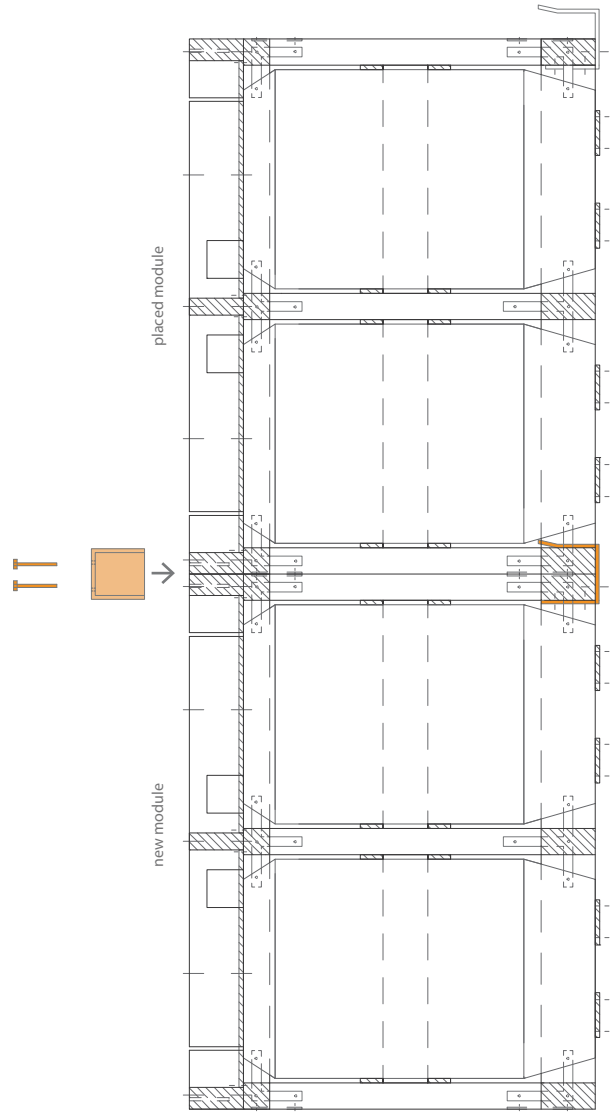


1:20 view, situation 3

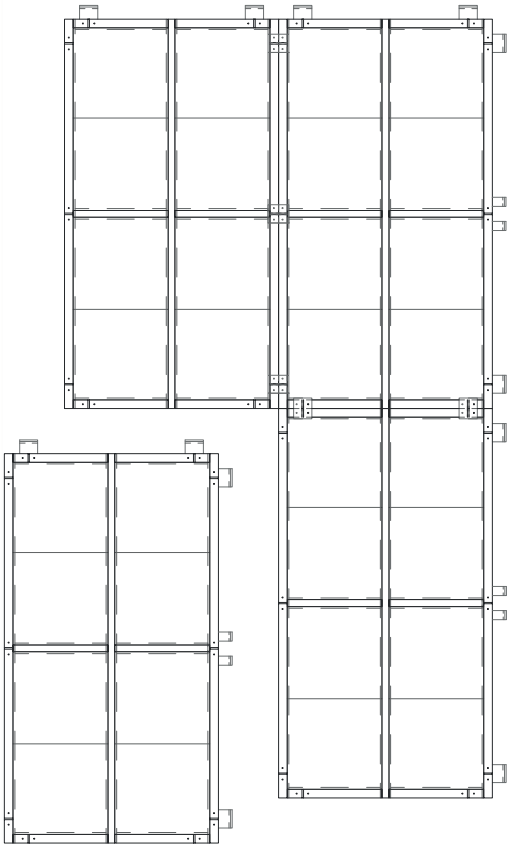


1:20 view, situation 4

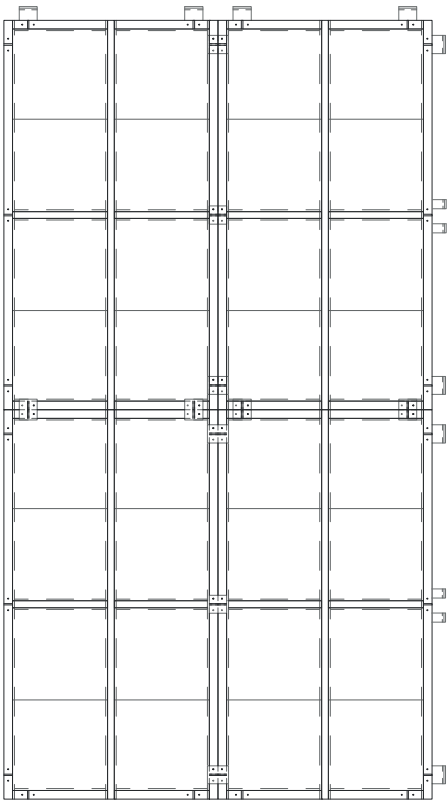




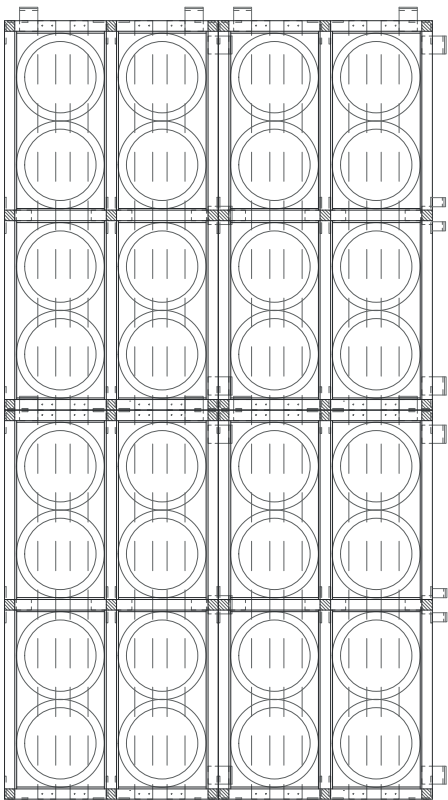
connection xy direction



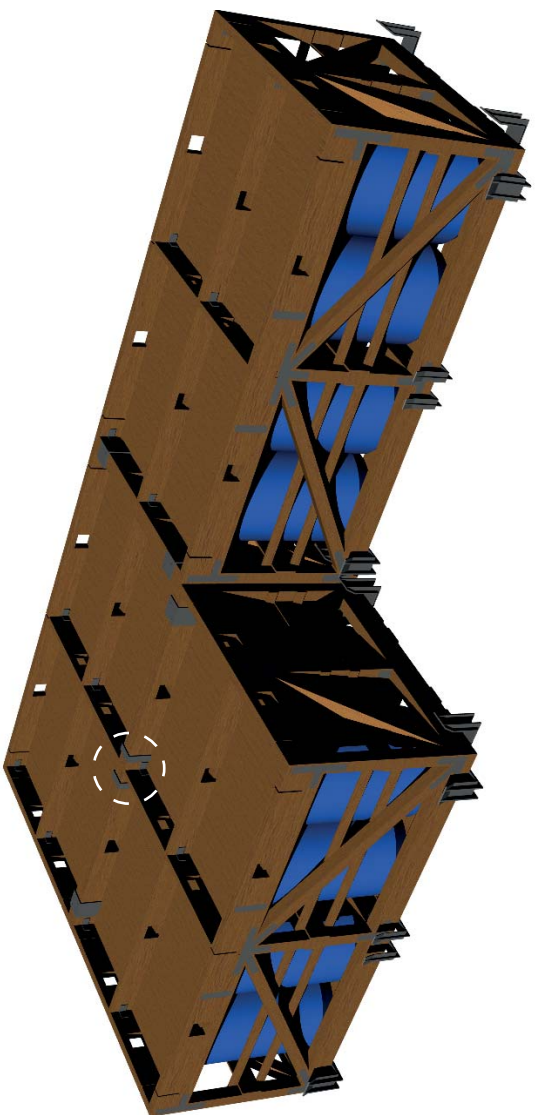
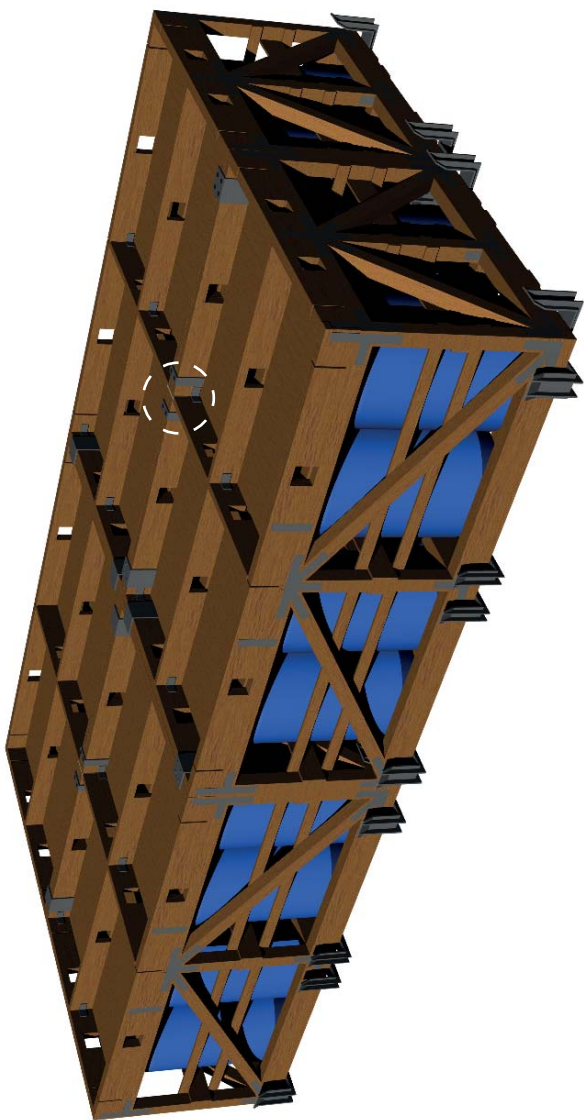
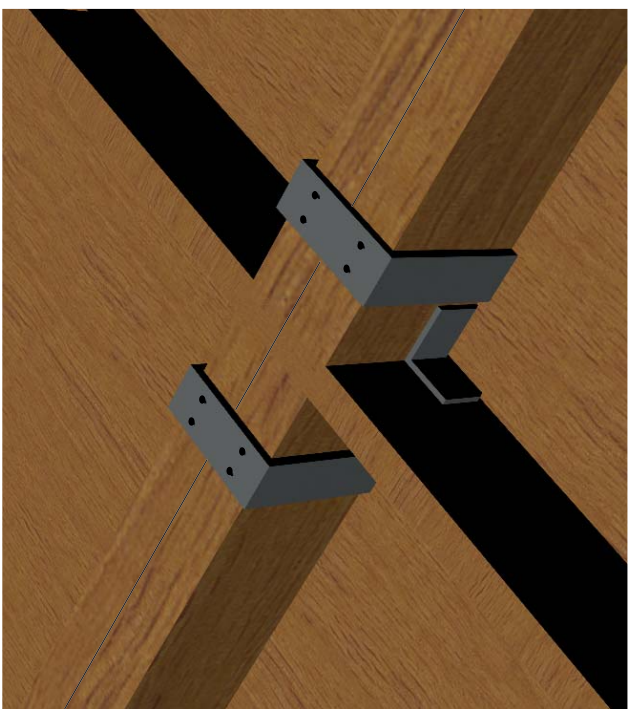
1:20 plan, situation 1



1:20 plan, situation 2

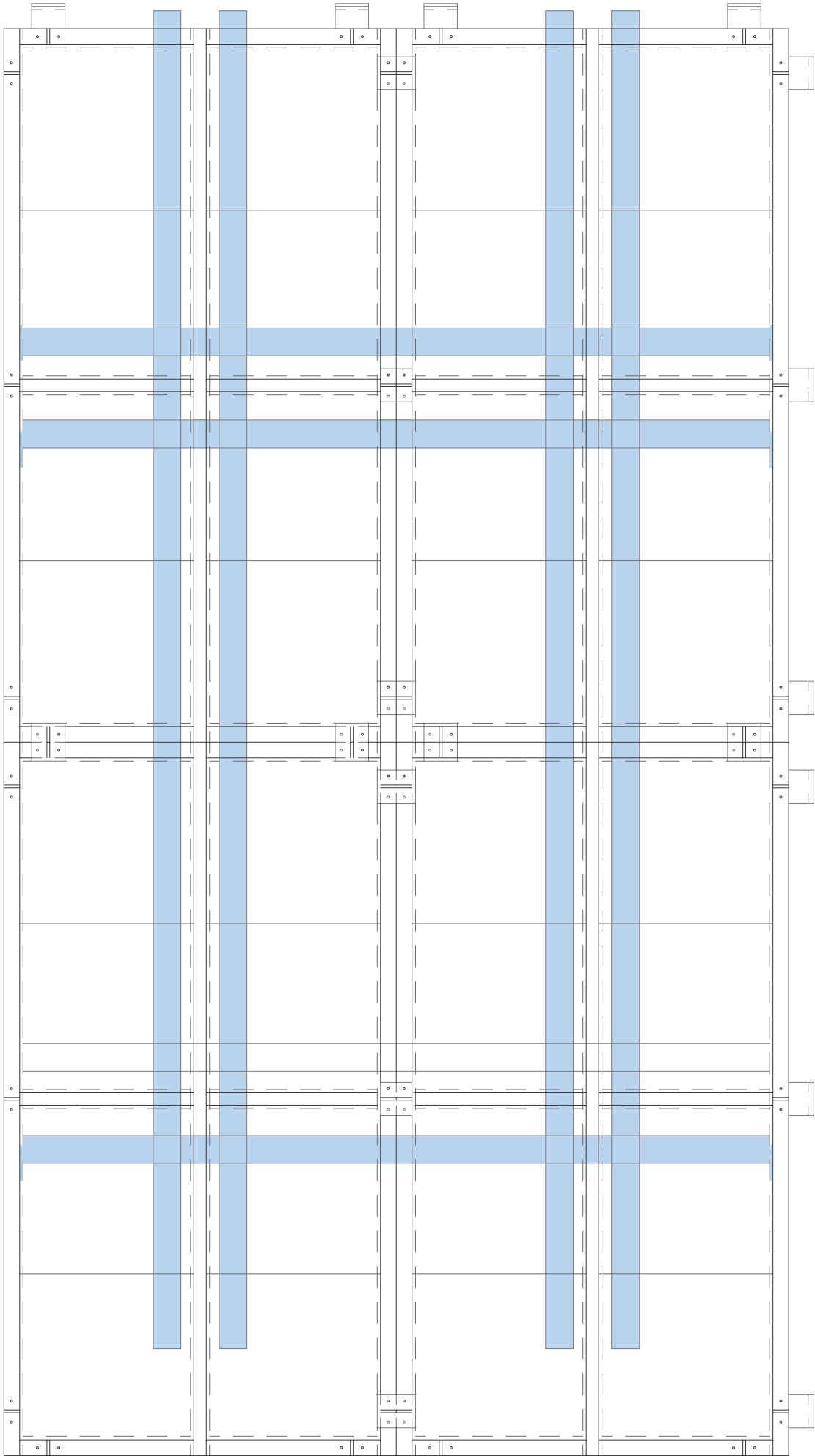


1:20 horizontal section, situation 2



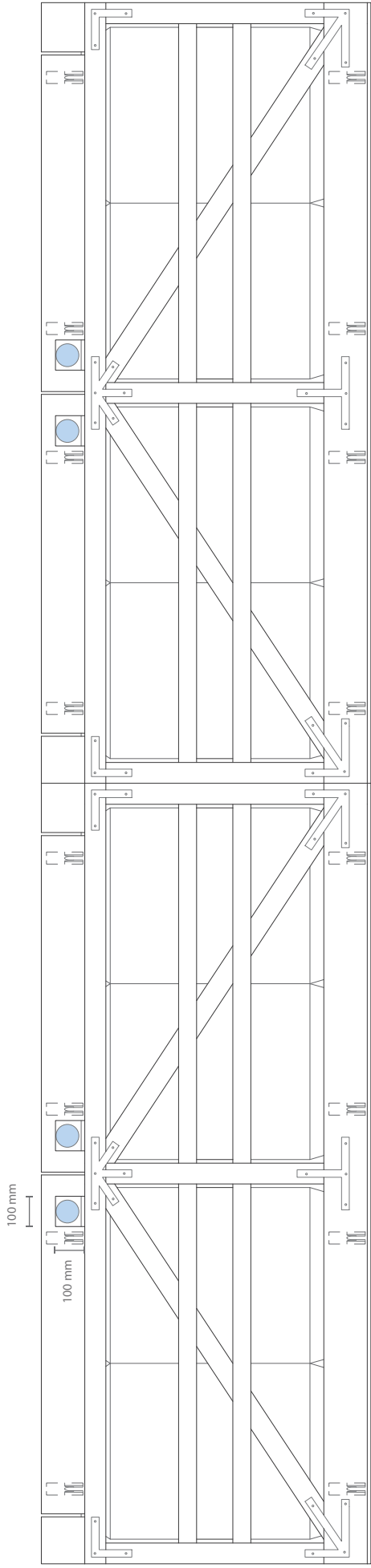
connection

integrated piping system

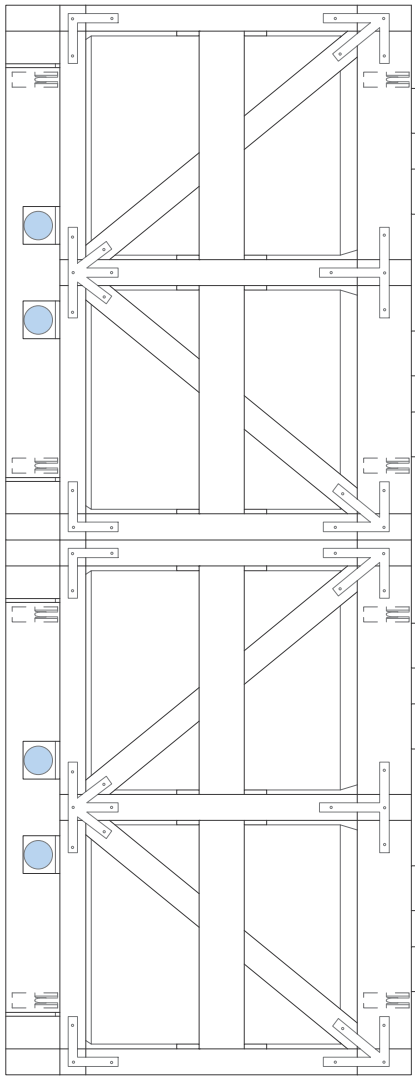


1:20 plan

integrated piping system

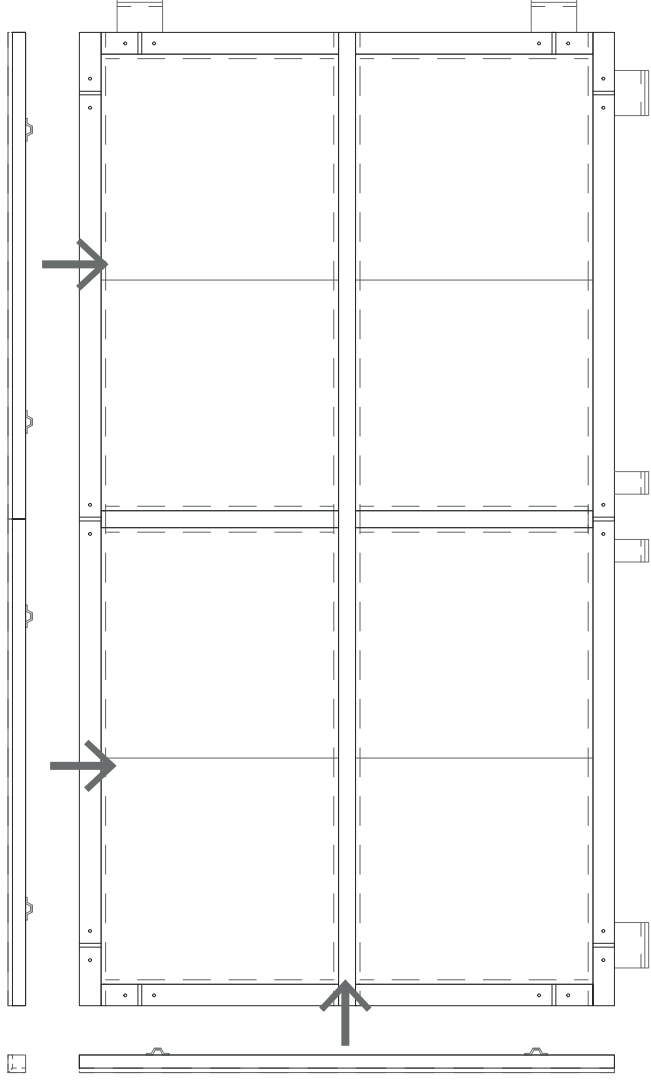


1:20 section

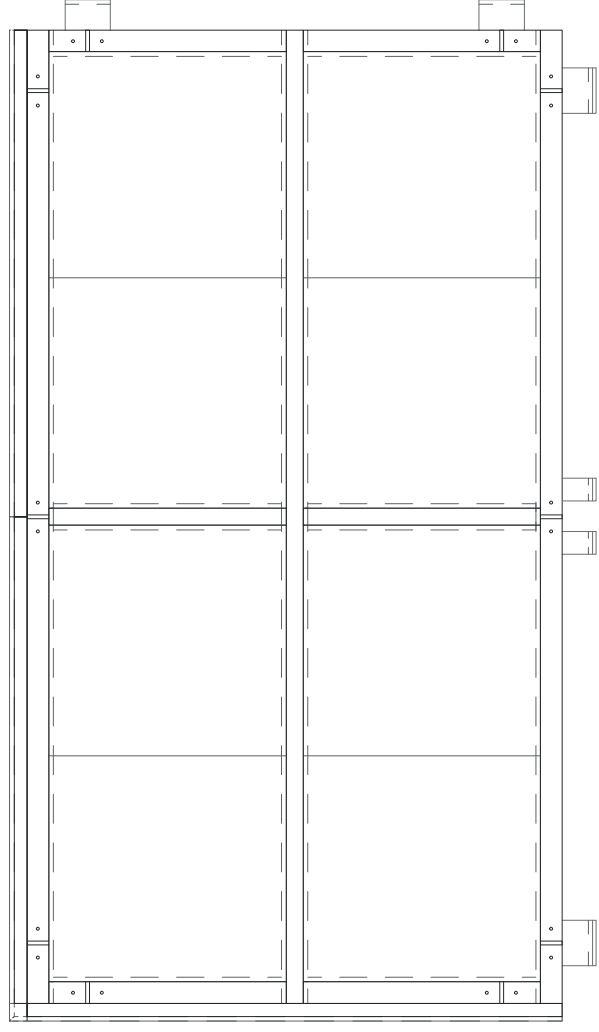


1:20 section

connection covers

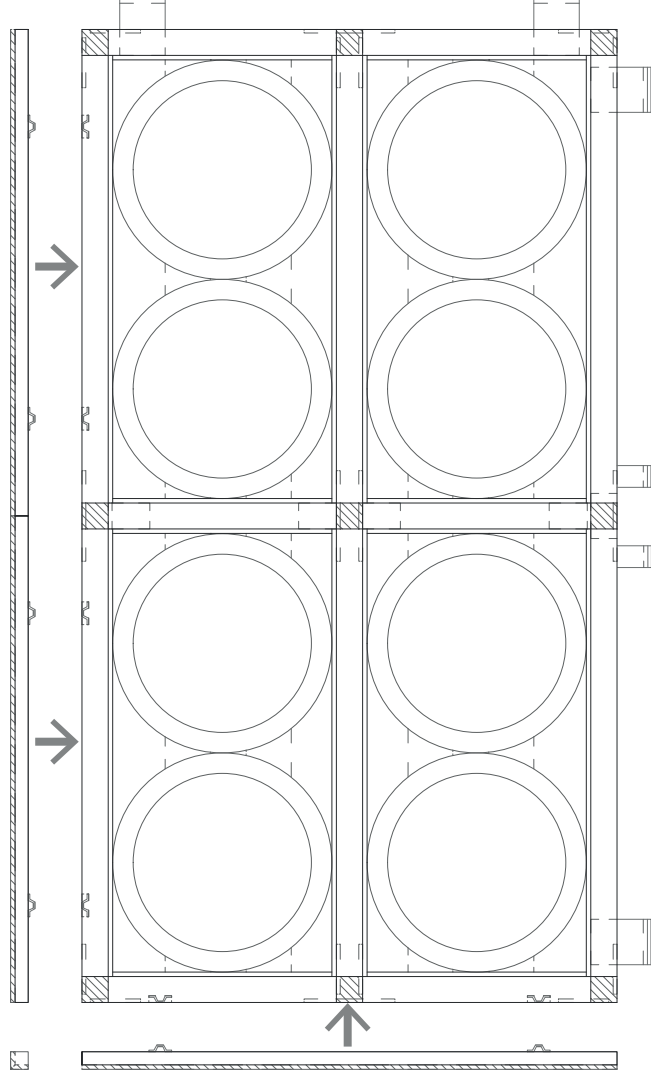


1:20 plan, situation 1

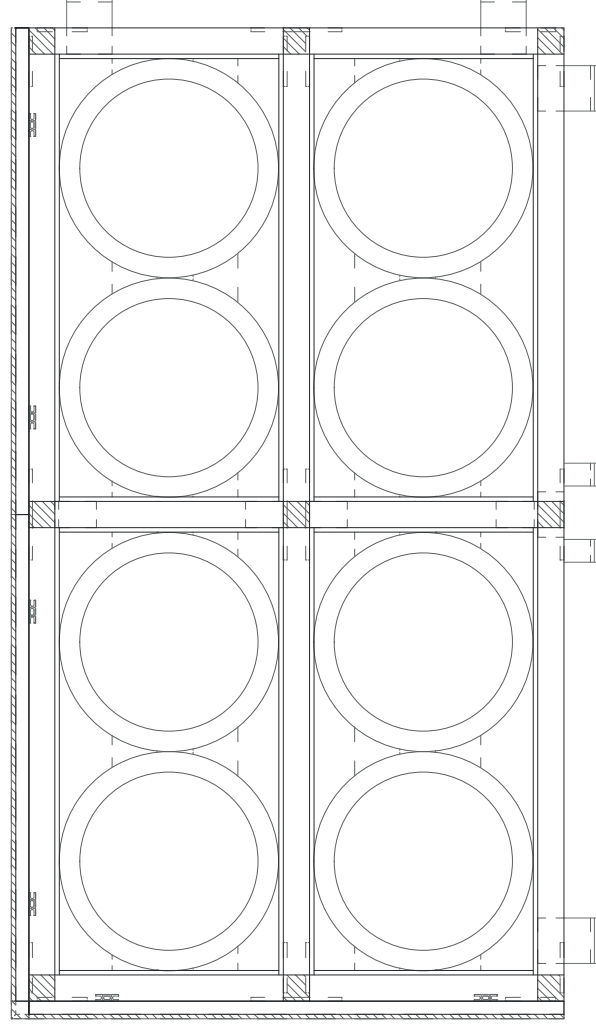


1:20 plan, situation 2

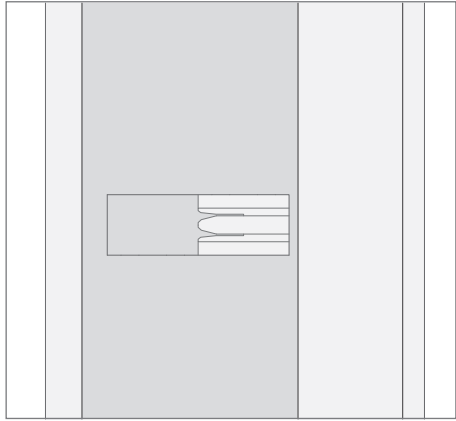
connection covers



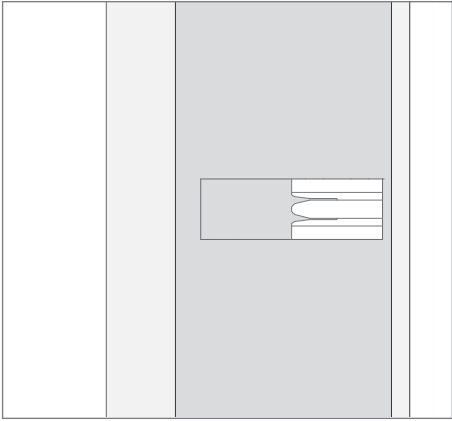
1:20 horizontal section, situation 1



1:20 horizontal, situation 2



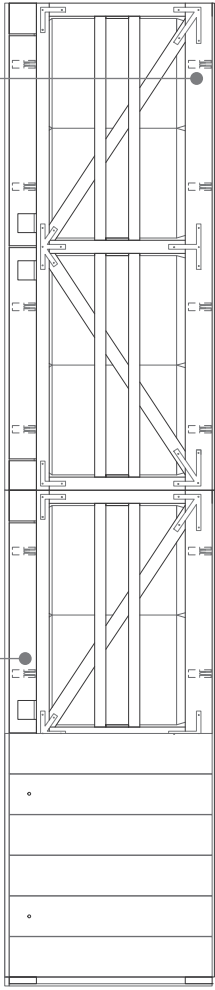
1:5 upper connection



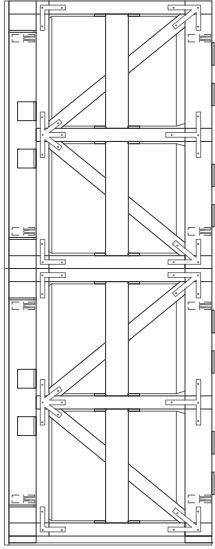
1:5 lower connection



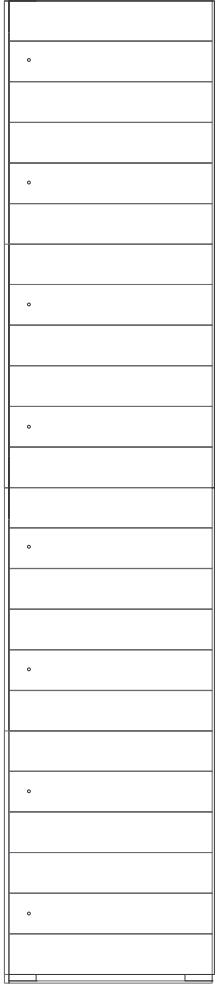
reference



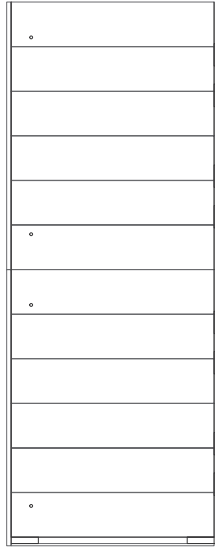
1:20 view, situation 1



1:20 view, situation 1

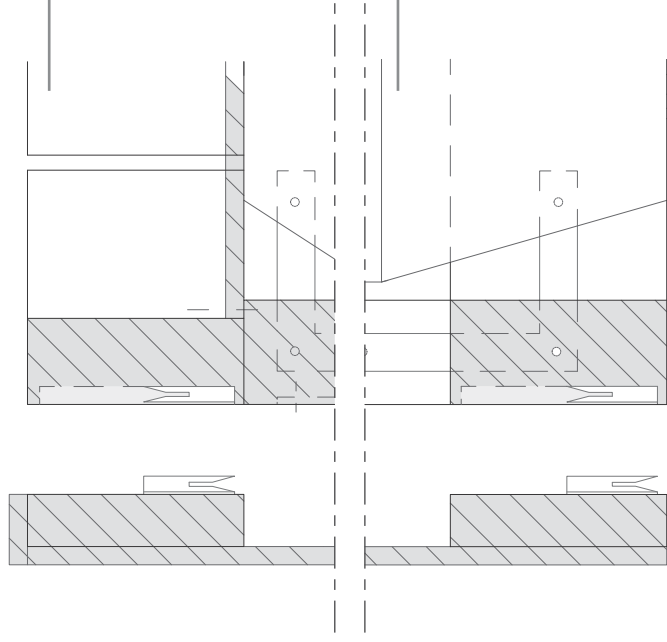


1:20 view, situation 2

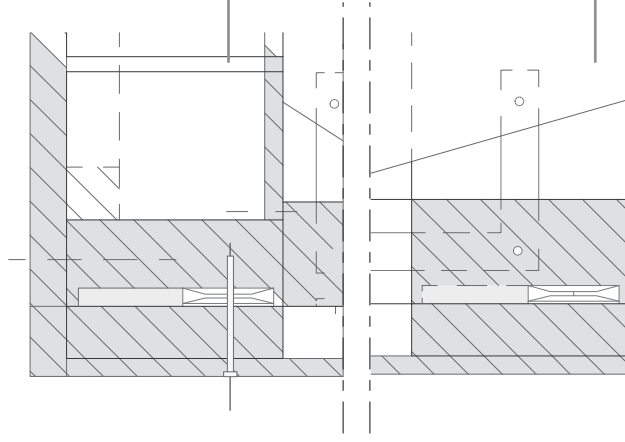


1:20 view, situation 2

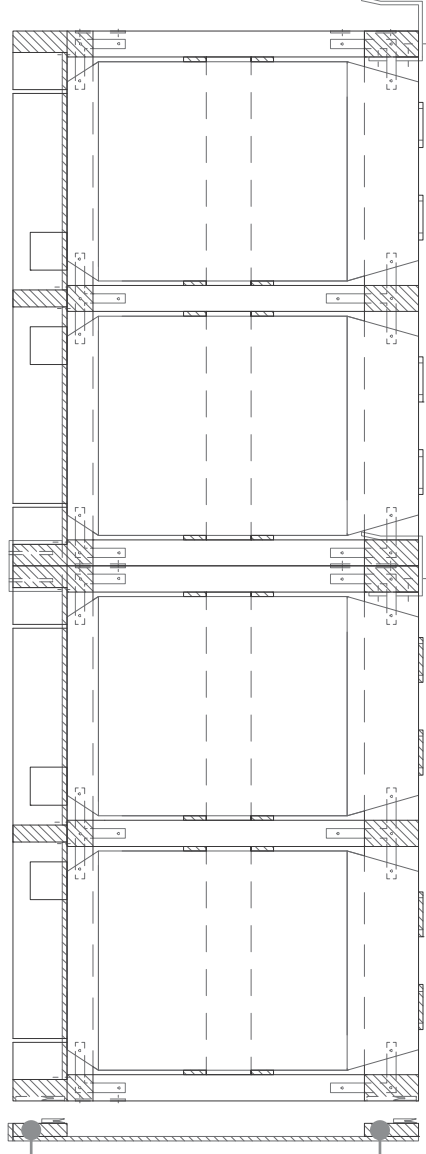
connection covers



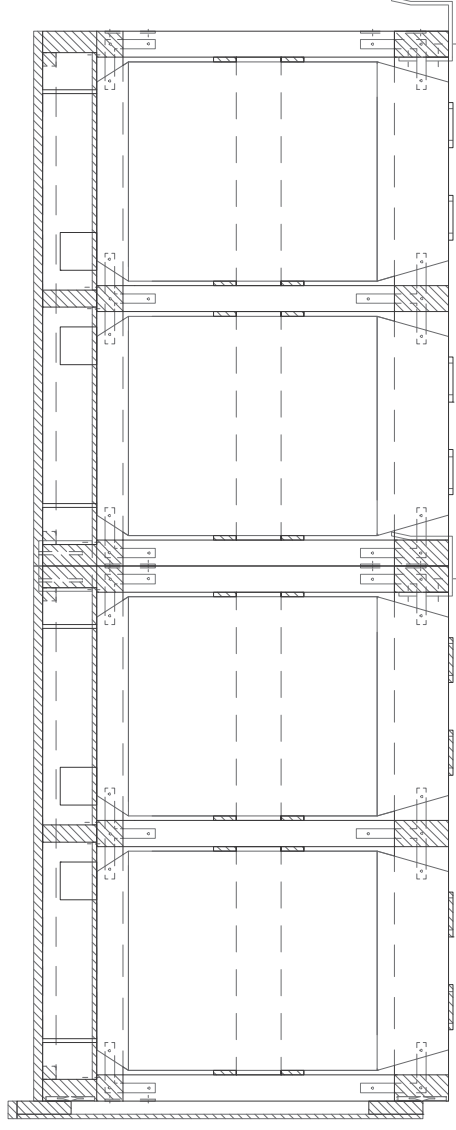
1:5 detail, situation 1



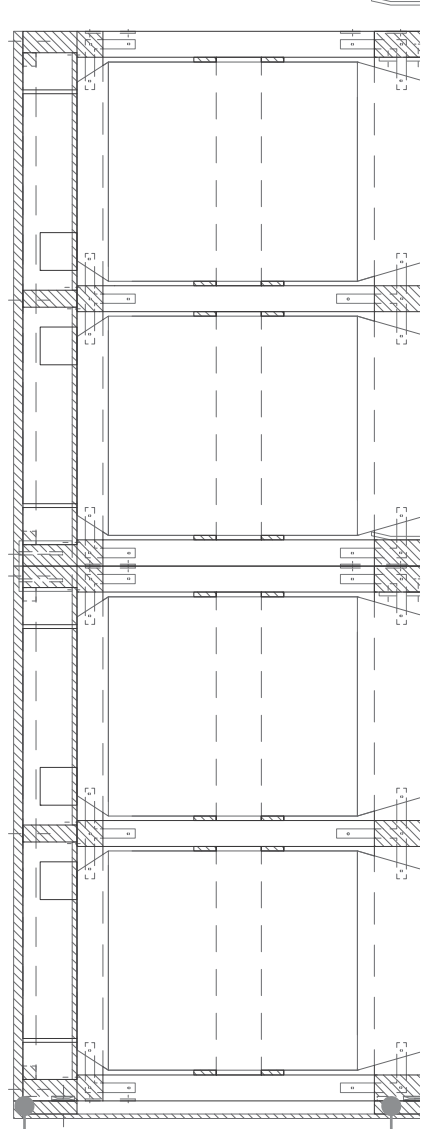
1:5 detail, situation 2



1:20 section situation 1

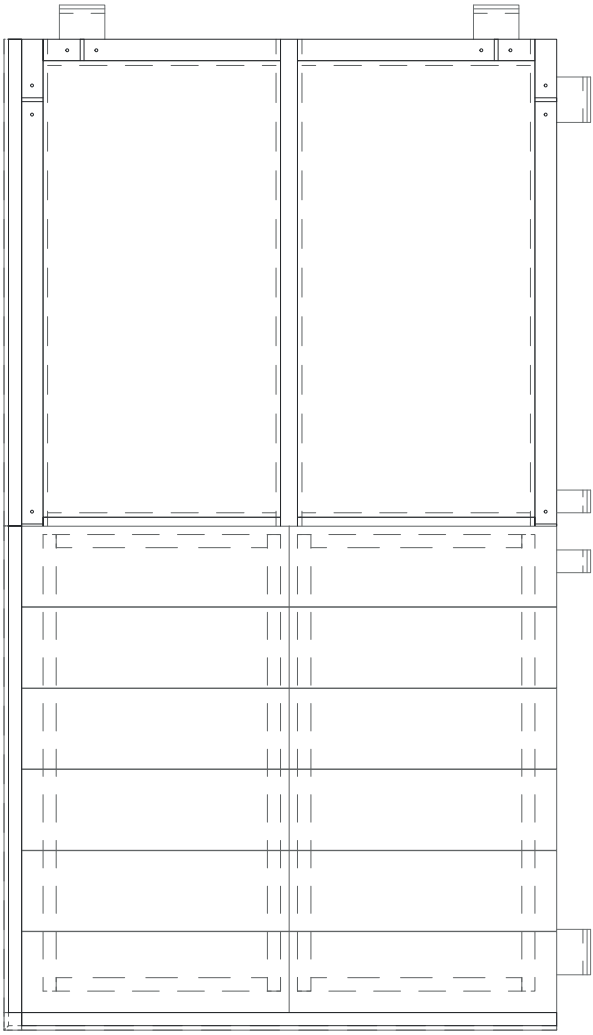


1:20 section situation 2

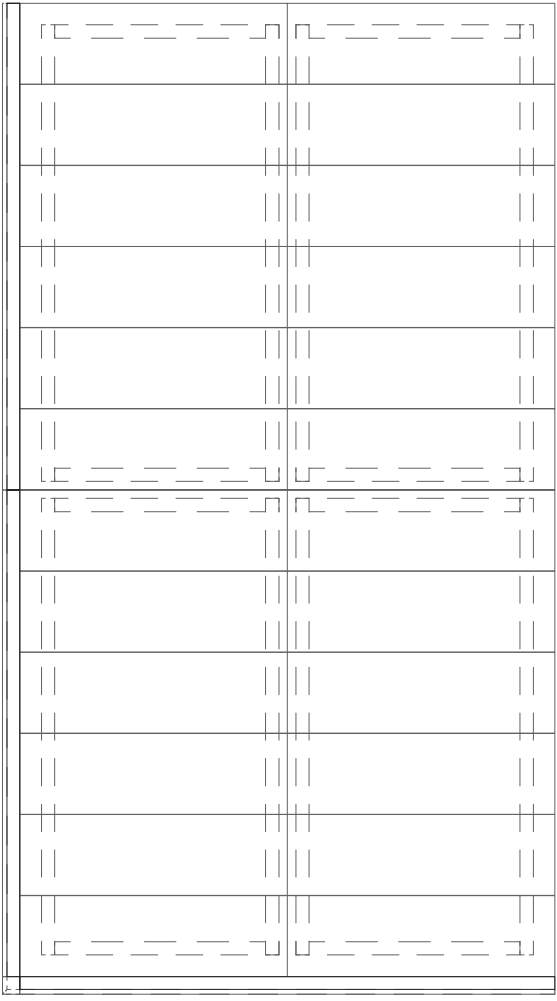


1:20 section situation 3

placing deck

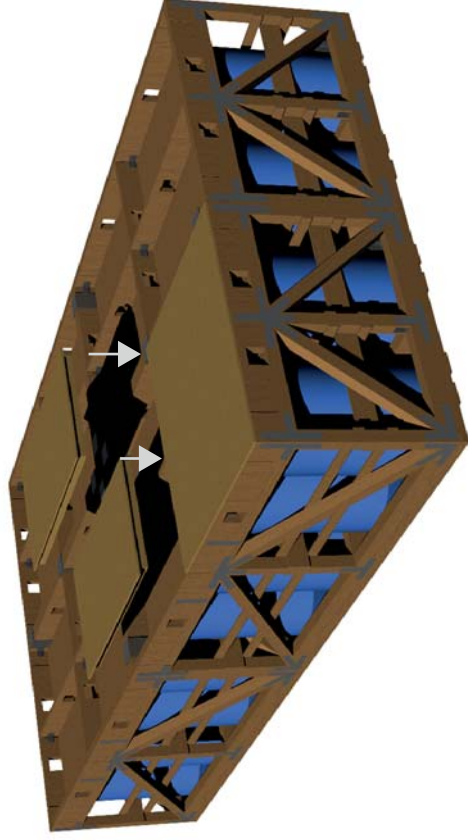
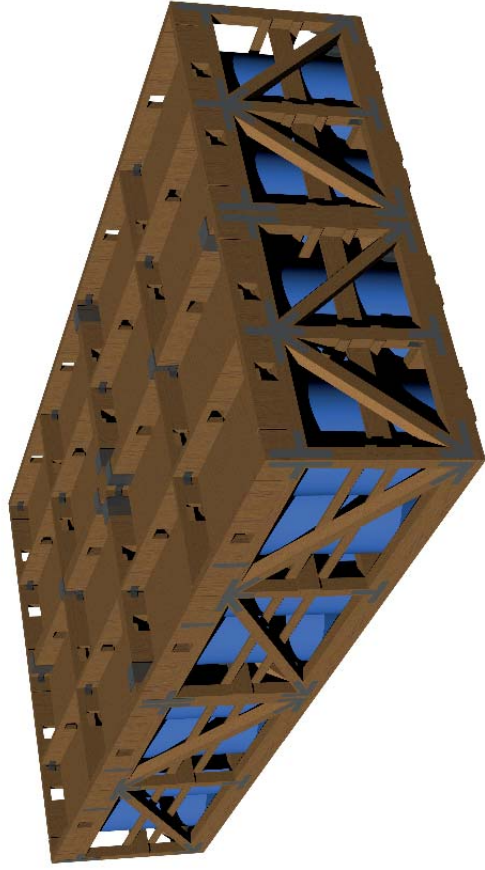


1:20 plan, situation 1

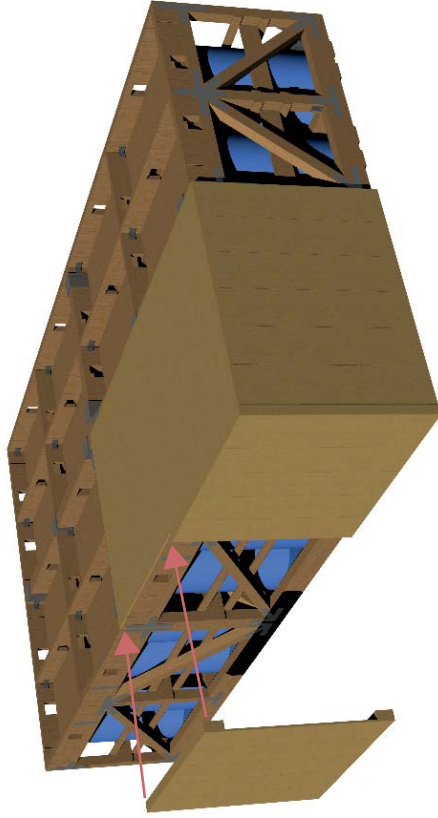


1:20 plan, situation 2

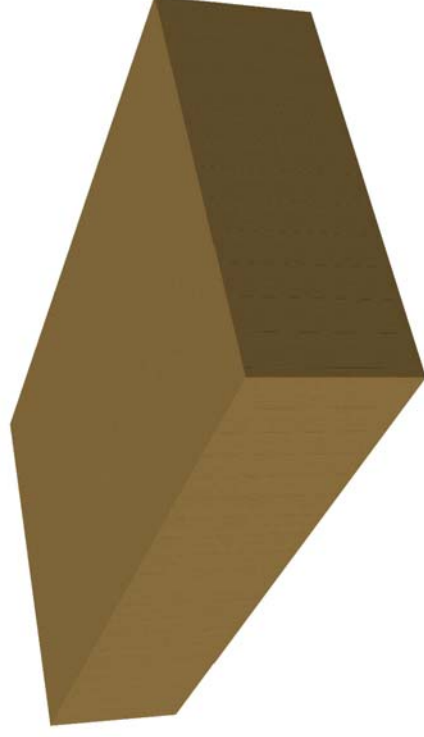
covers

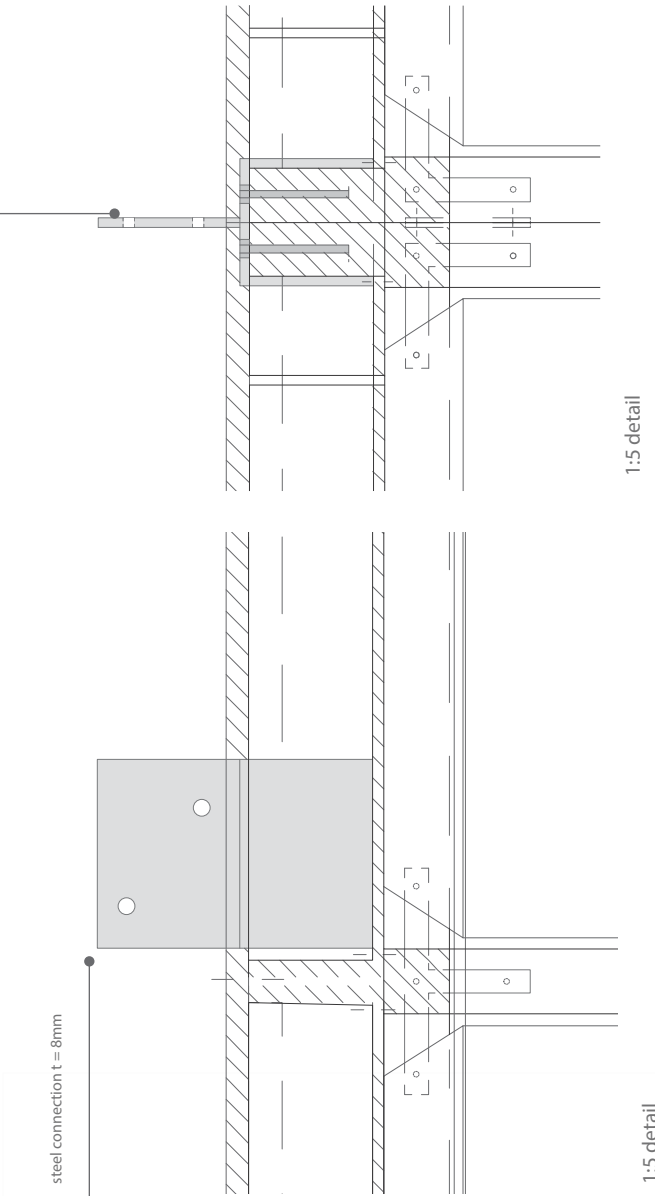
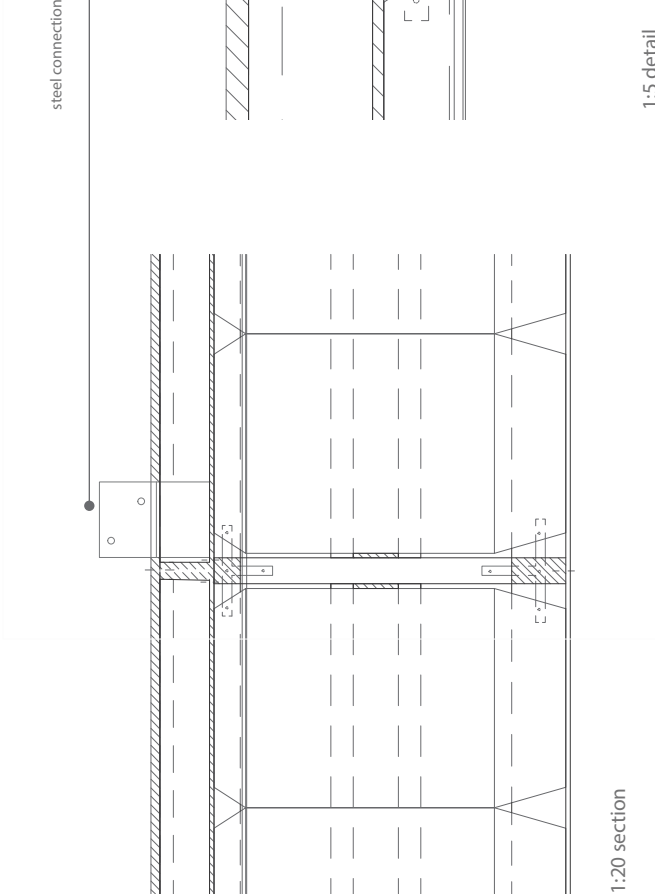
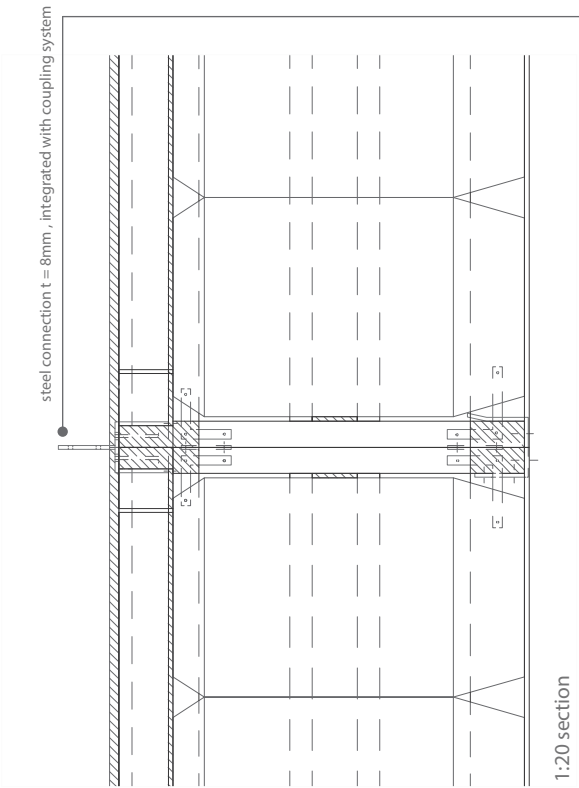
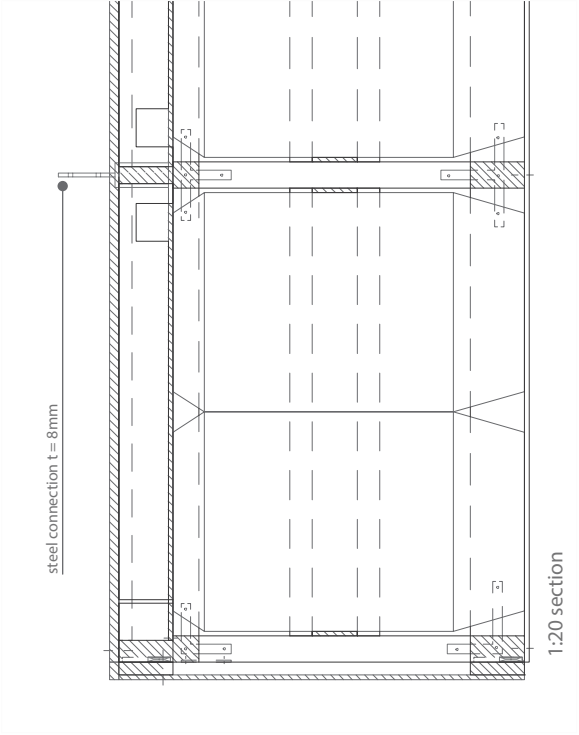


prefab panels

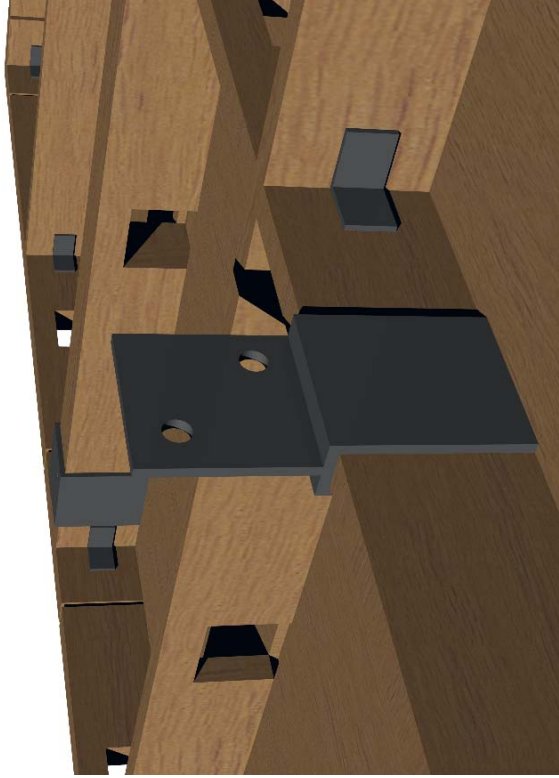


prefab panels

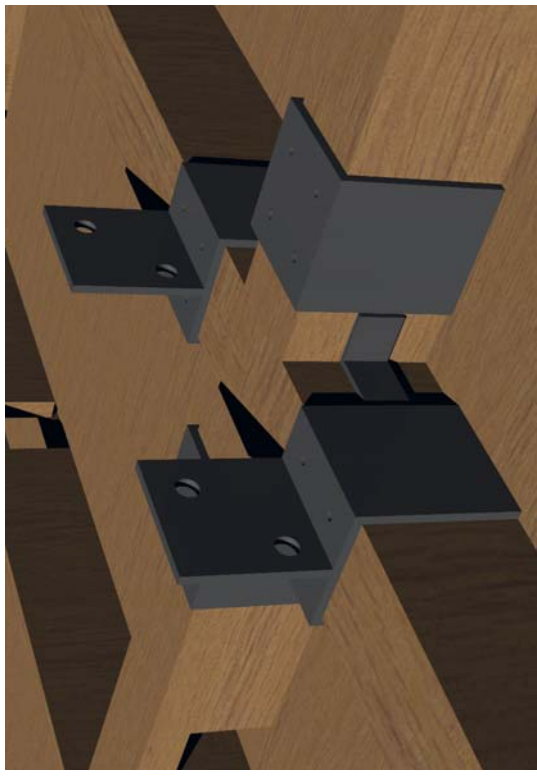




connection with building



connection with building



connection with building, integrated in module connection



integrated piping system

steel connection for coupling

steel connection for coupling

upper deck: jarrah t=24

cover: bamboo/jarrah

(pinned) connection cover

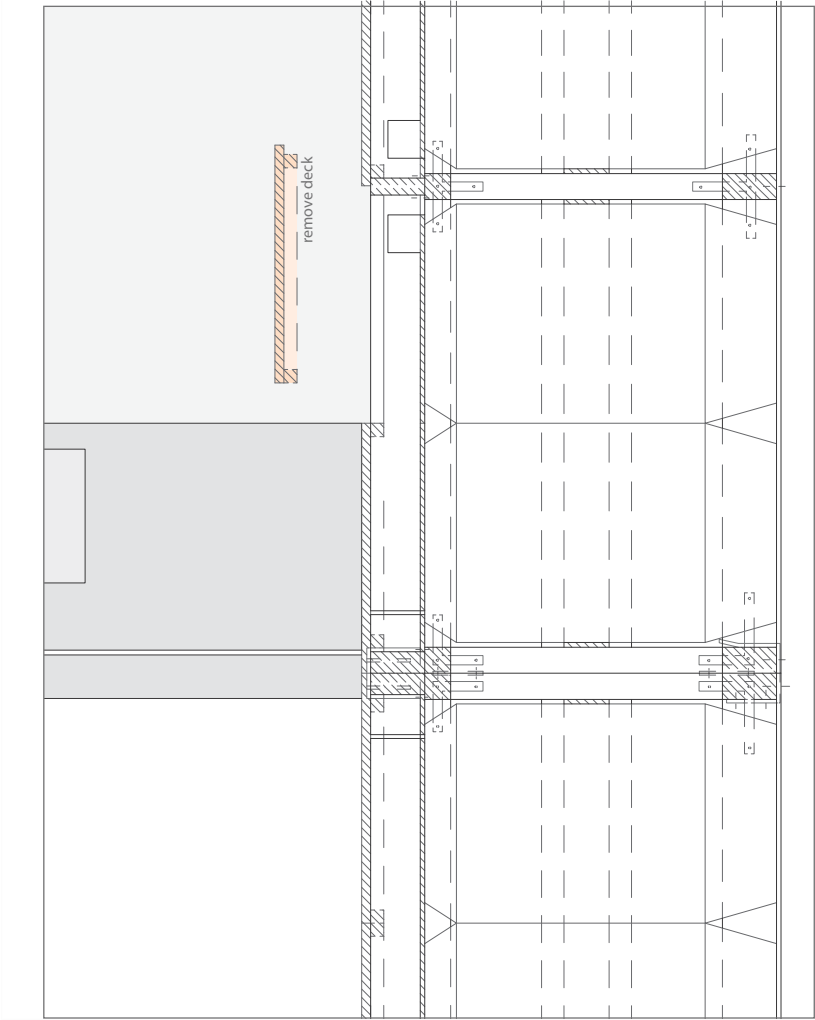
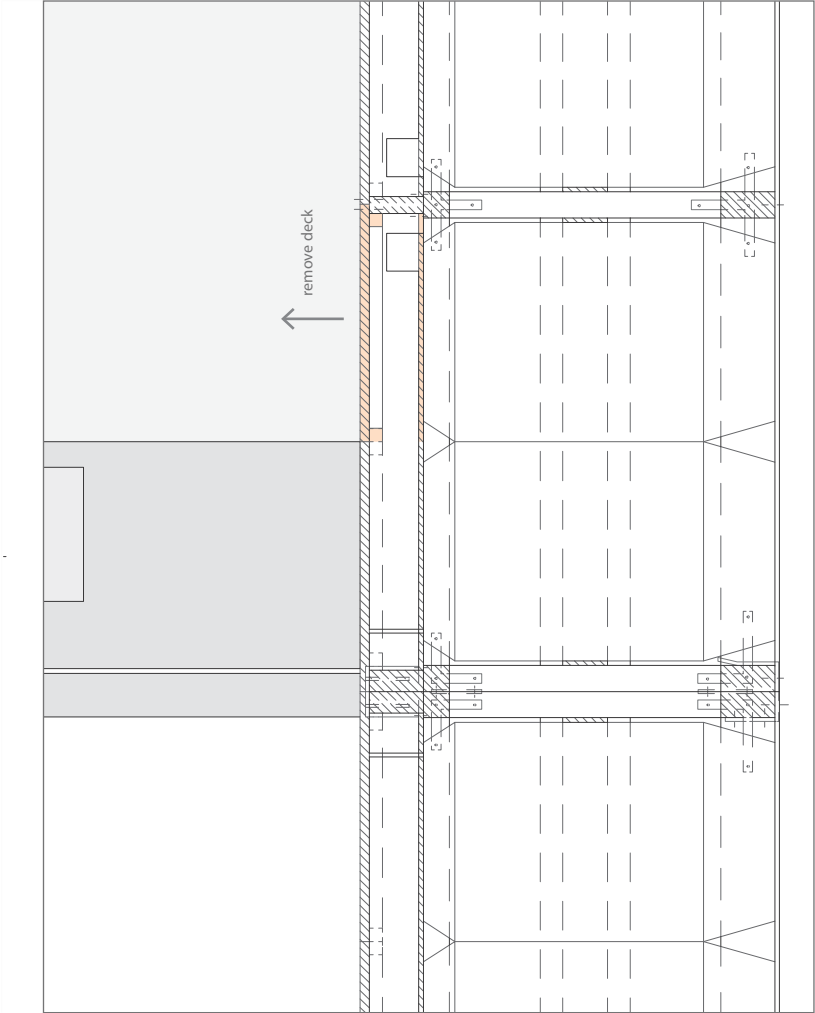
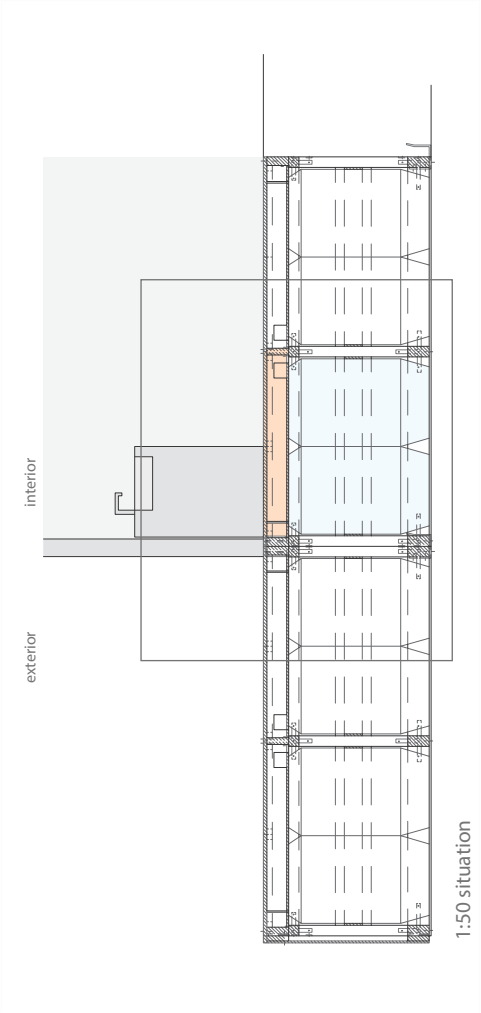
jarrah t= 12mm

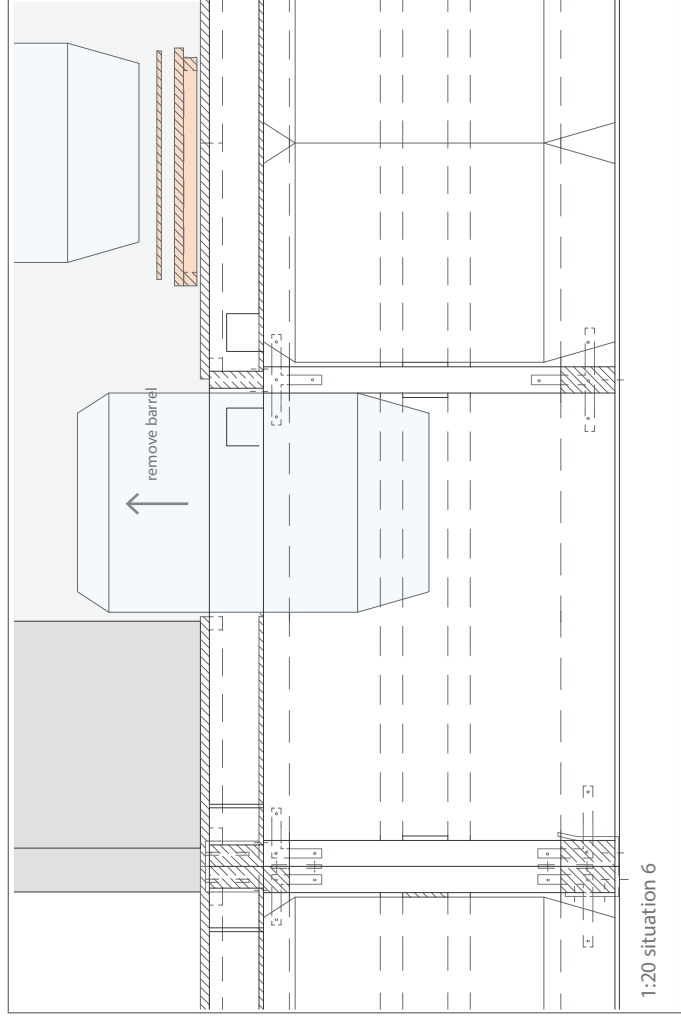
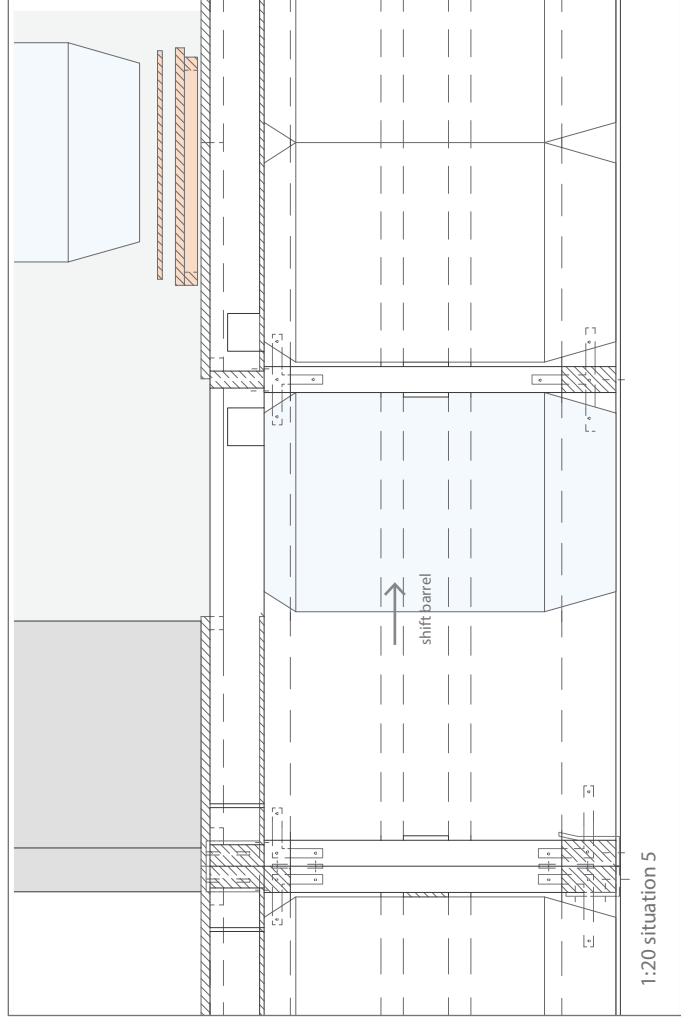
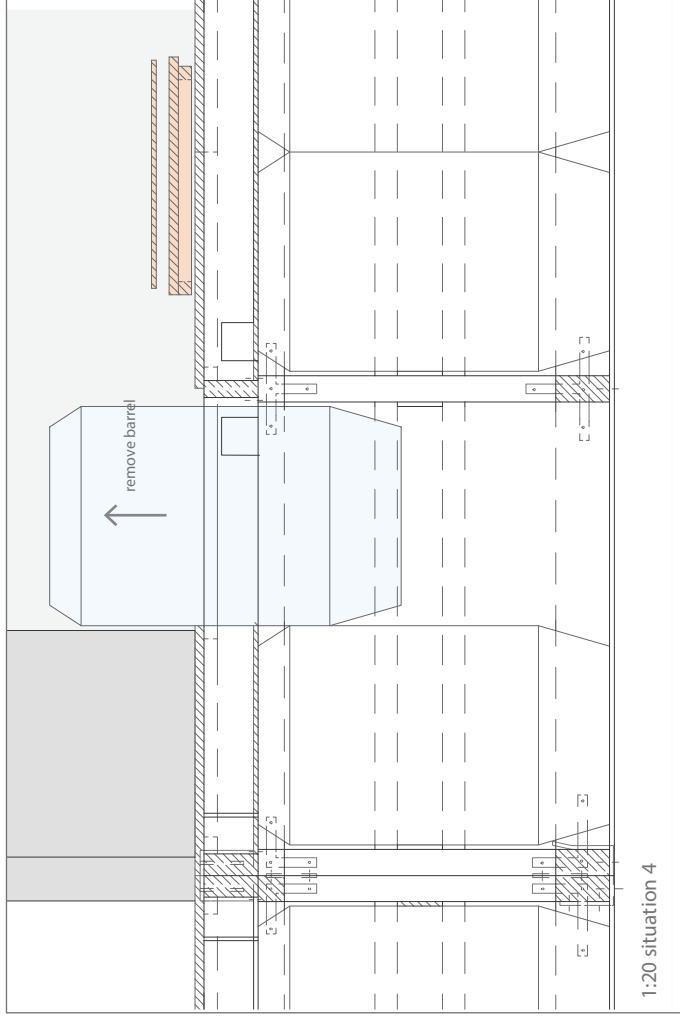
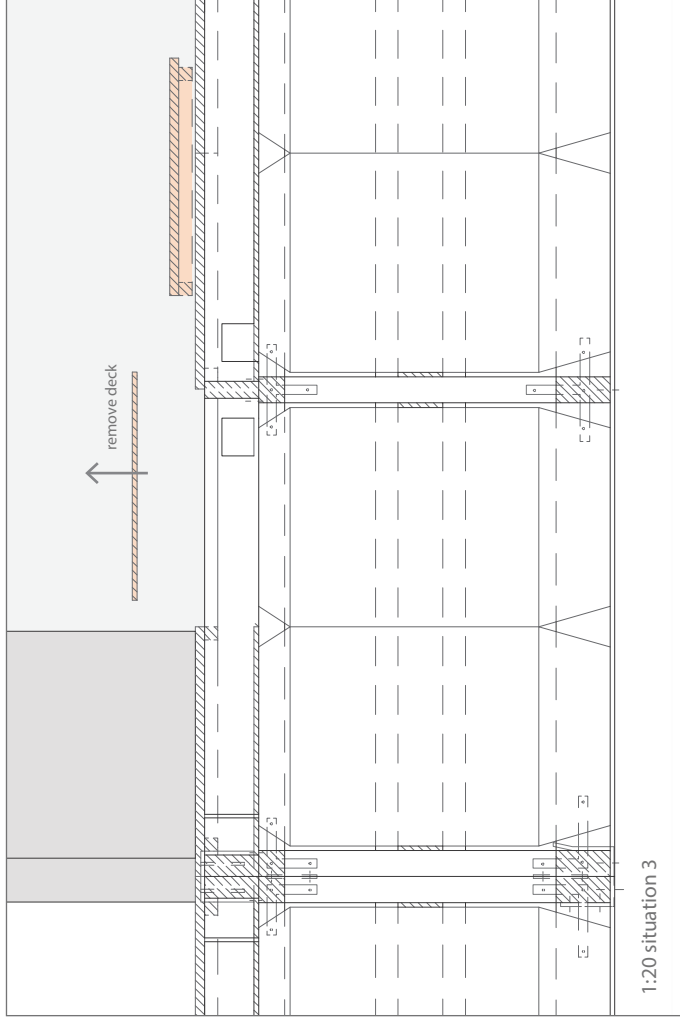
steel connection t= 5mm

in plane steel connection

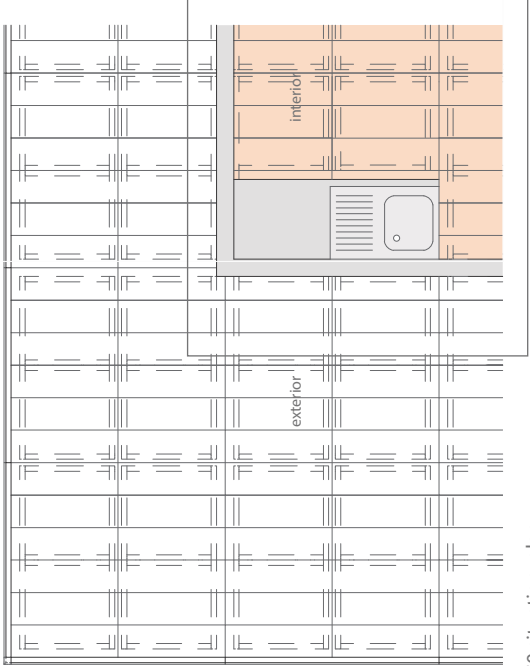
barrel 200L

connection cover

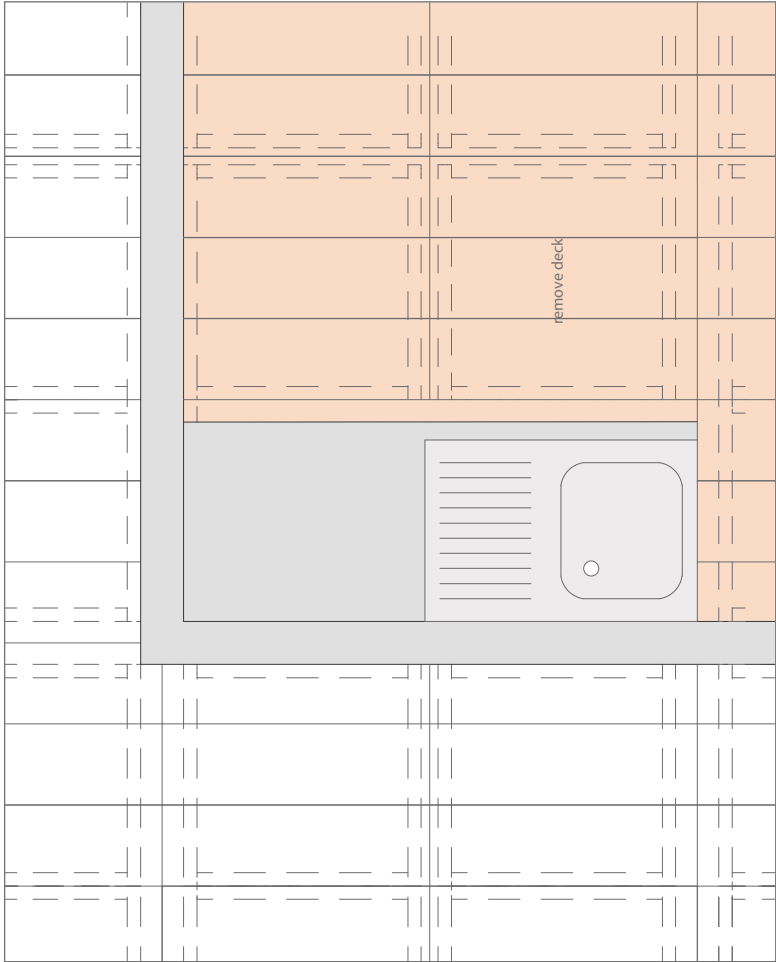




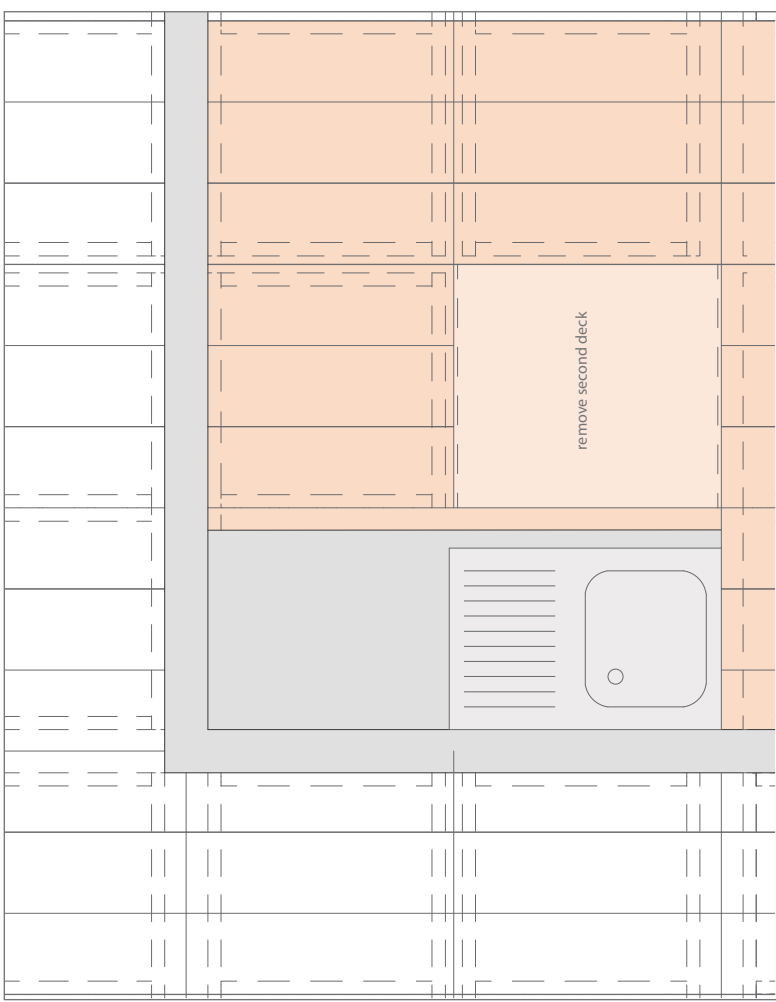
removable barrels



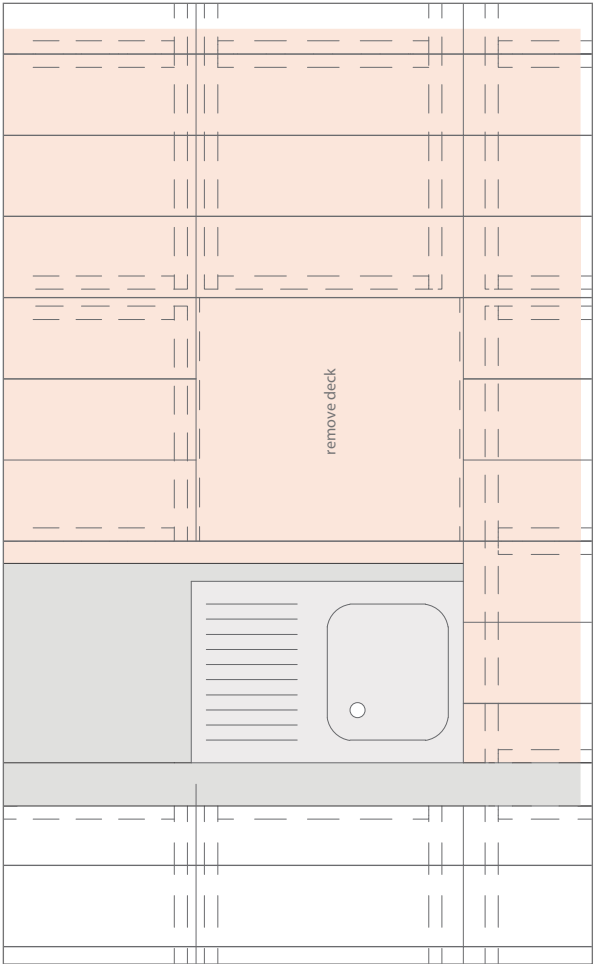
1:50 situation, plan



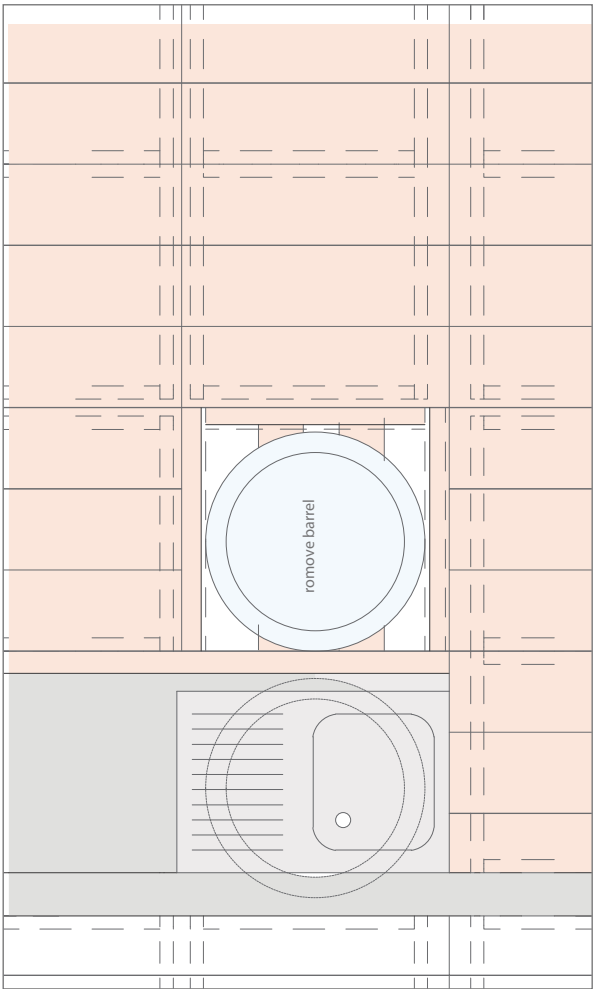
1:20 situation 1



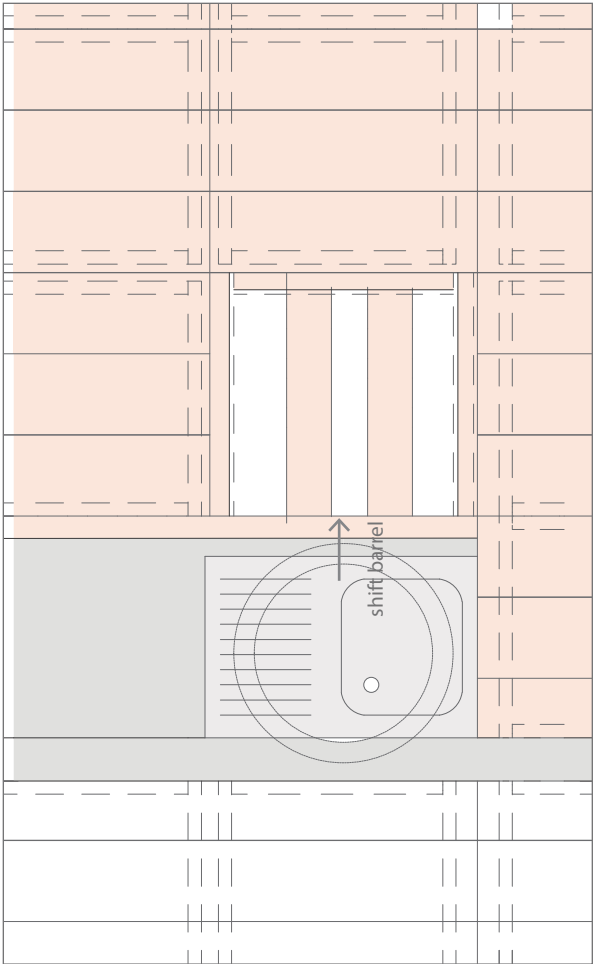
1:20 situation 2



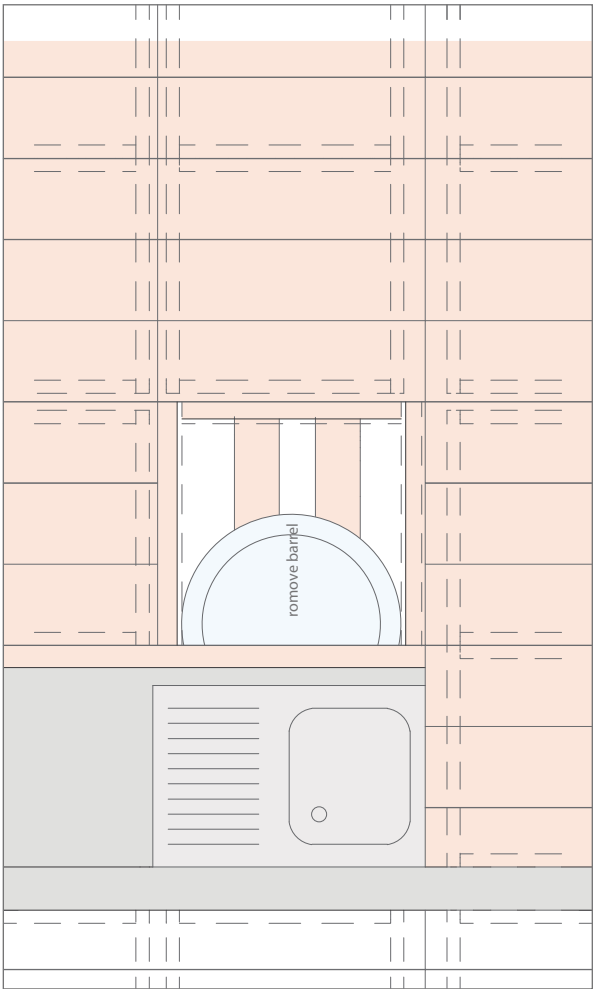
1:20 situation 3



1:20 situation 4

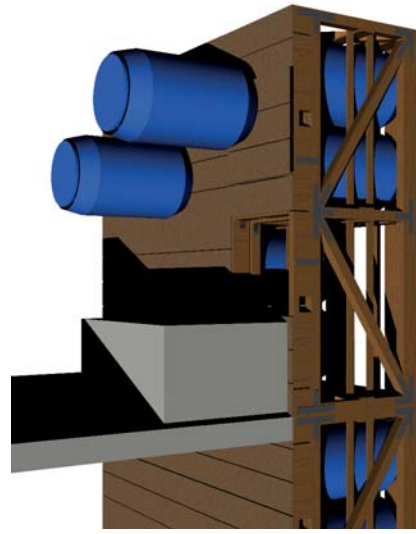
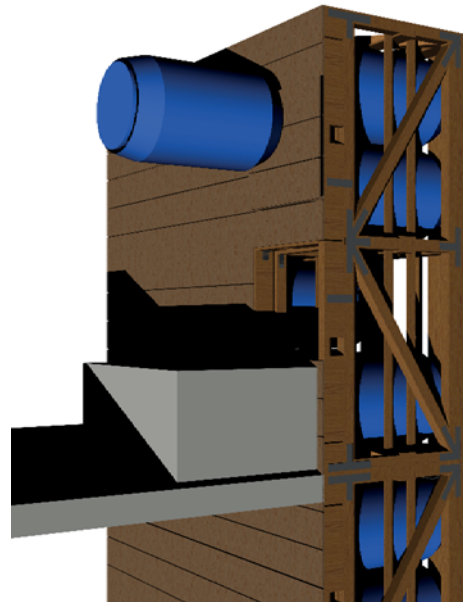
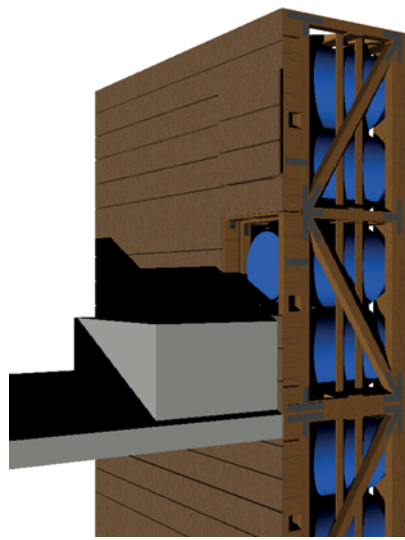
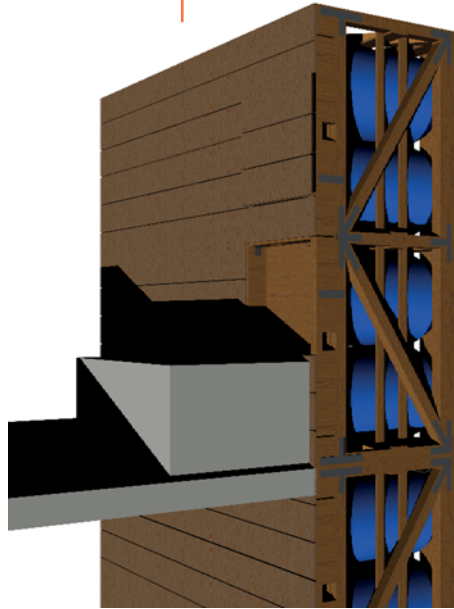
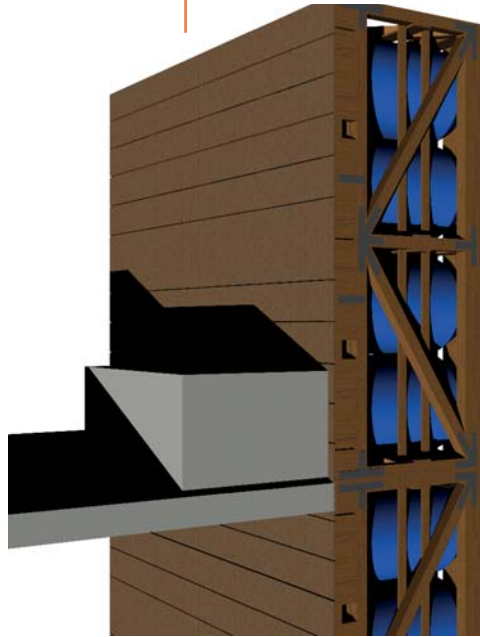
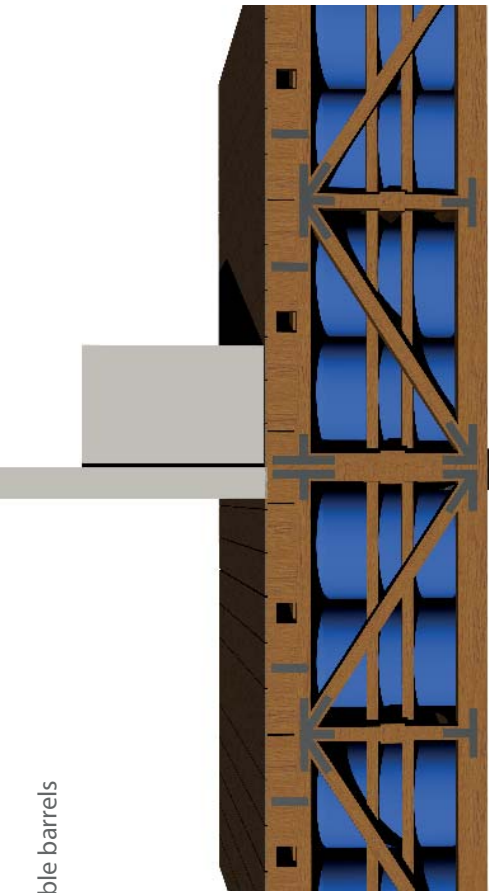
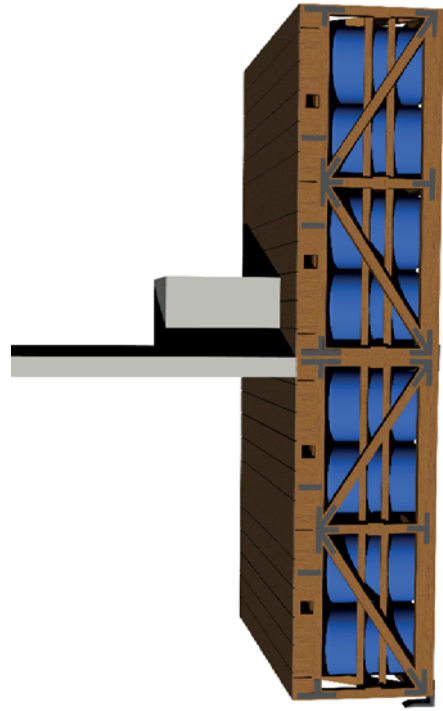


1:20 situation 5

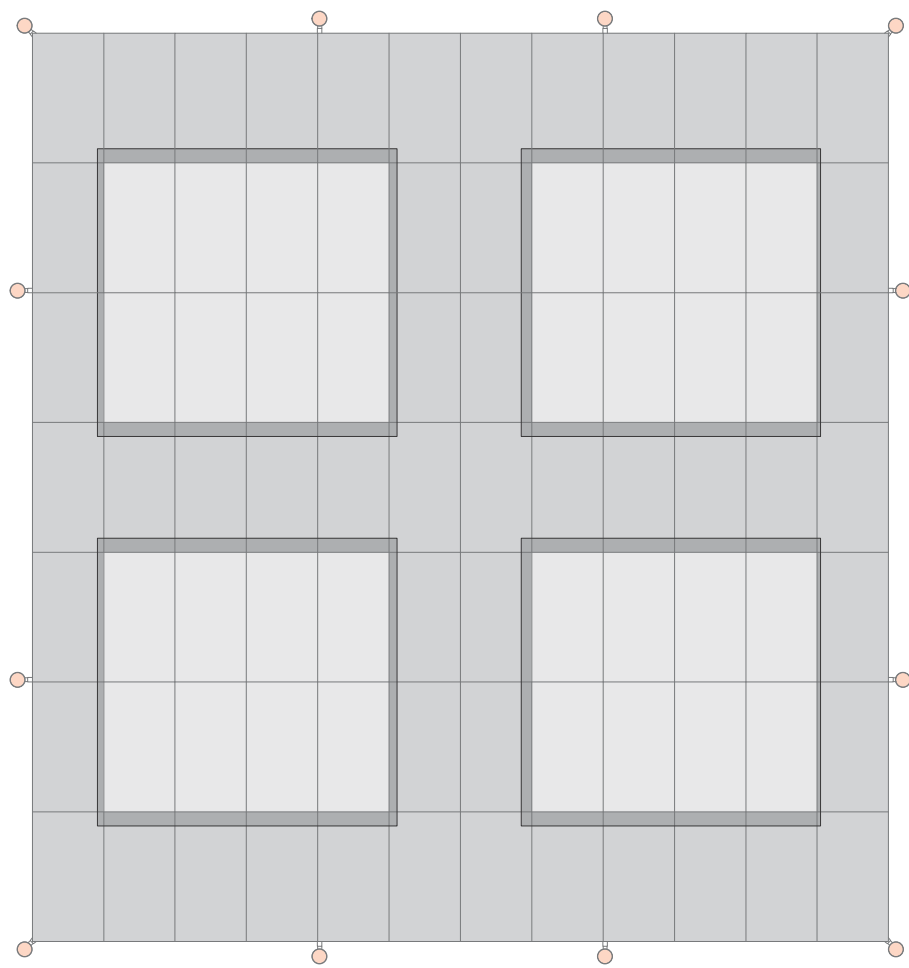


1:20 situation 6

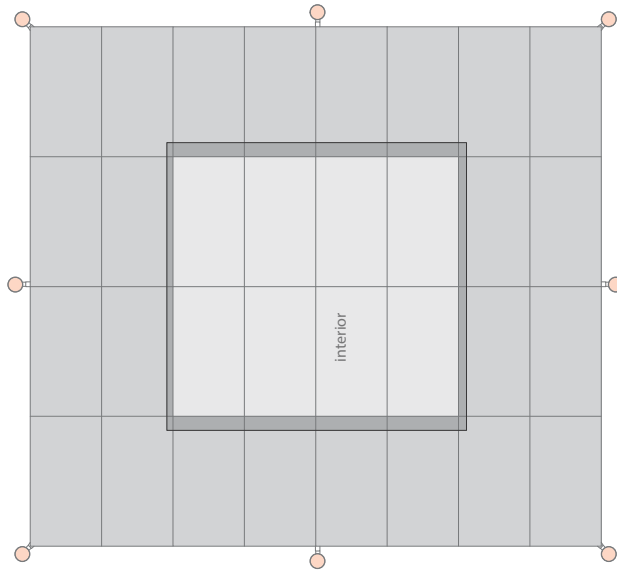
replacable barrels



mooring piles

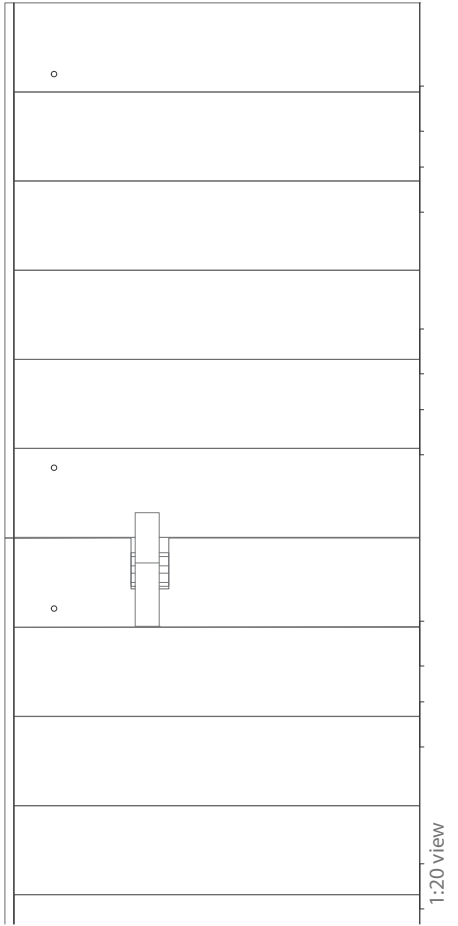
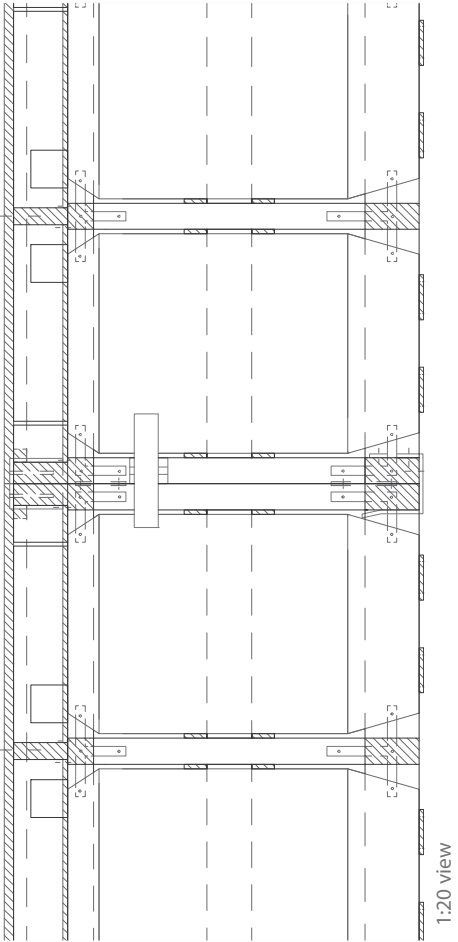
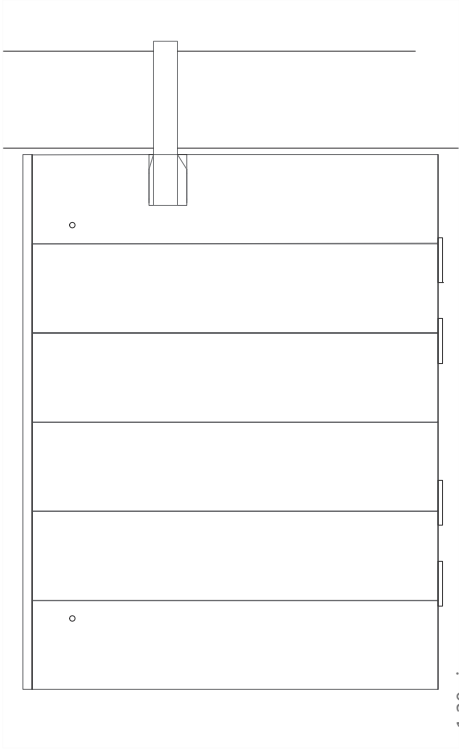
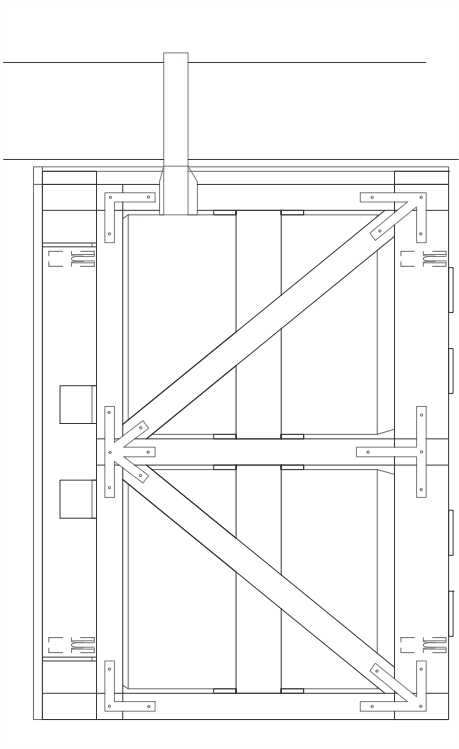
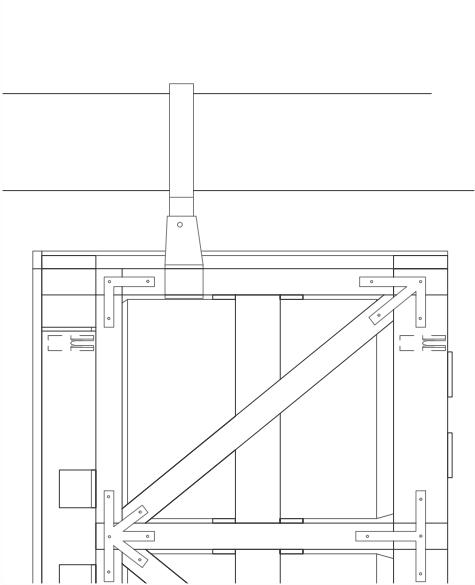
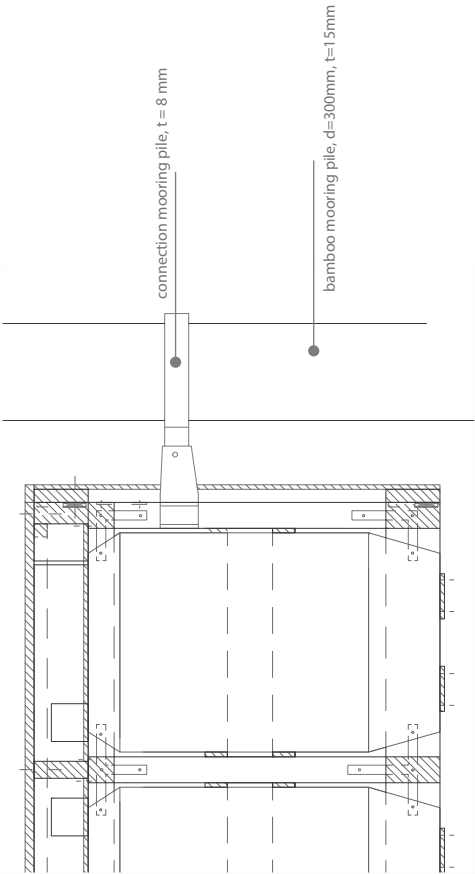


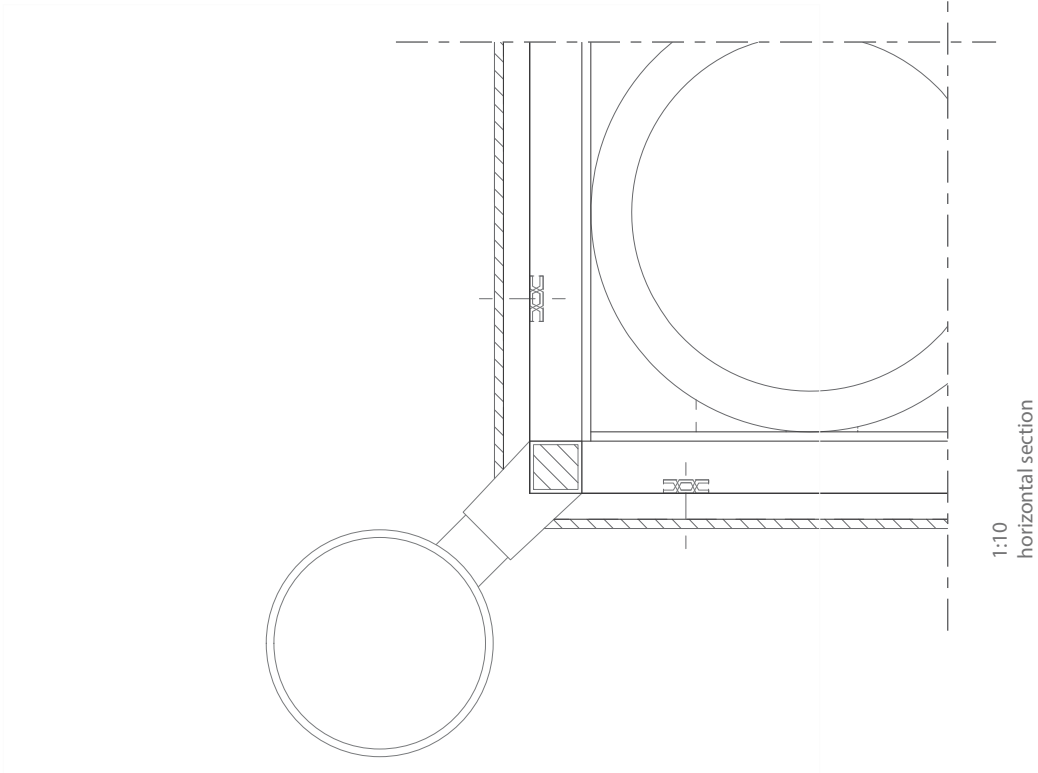
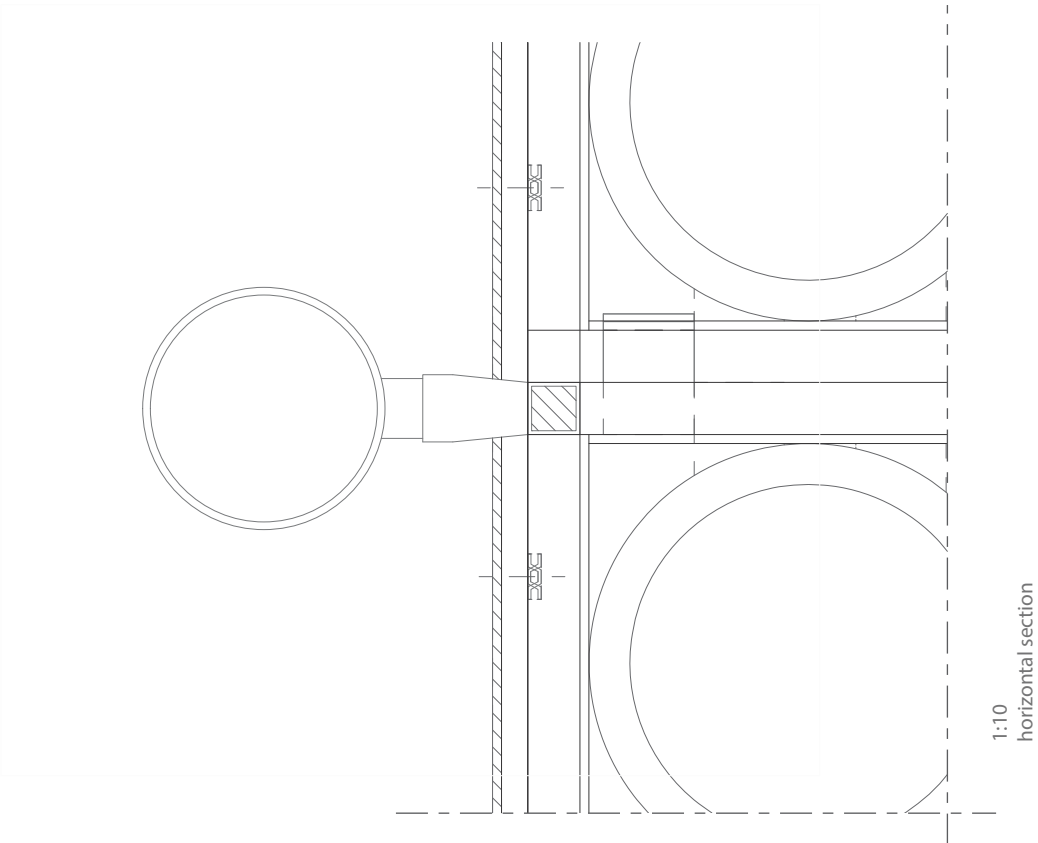
1:150
plan, 2x2x2 modules

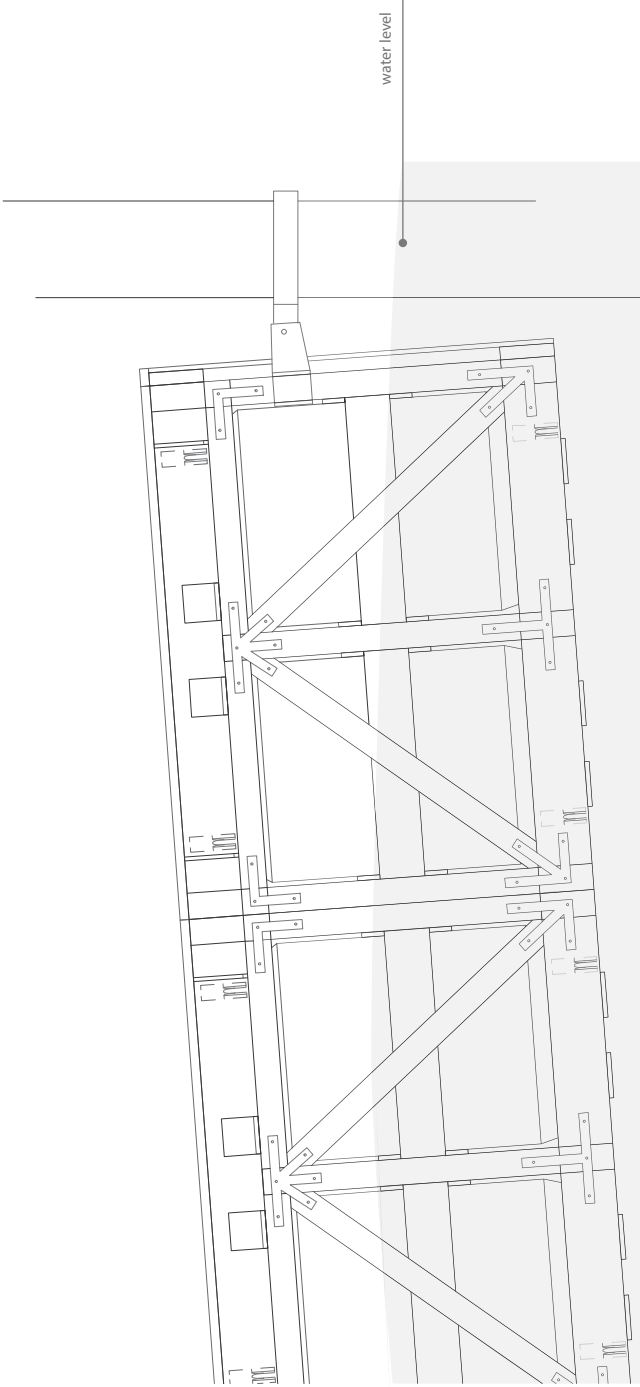
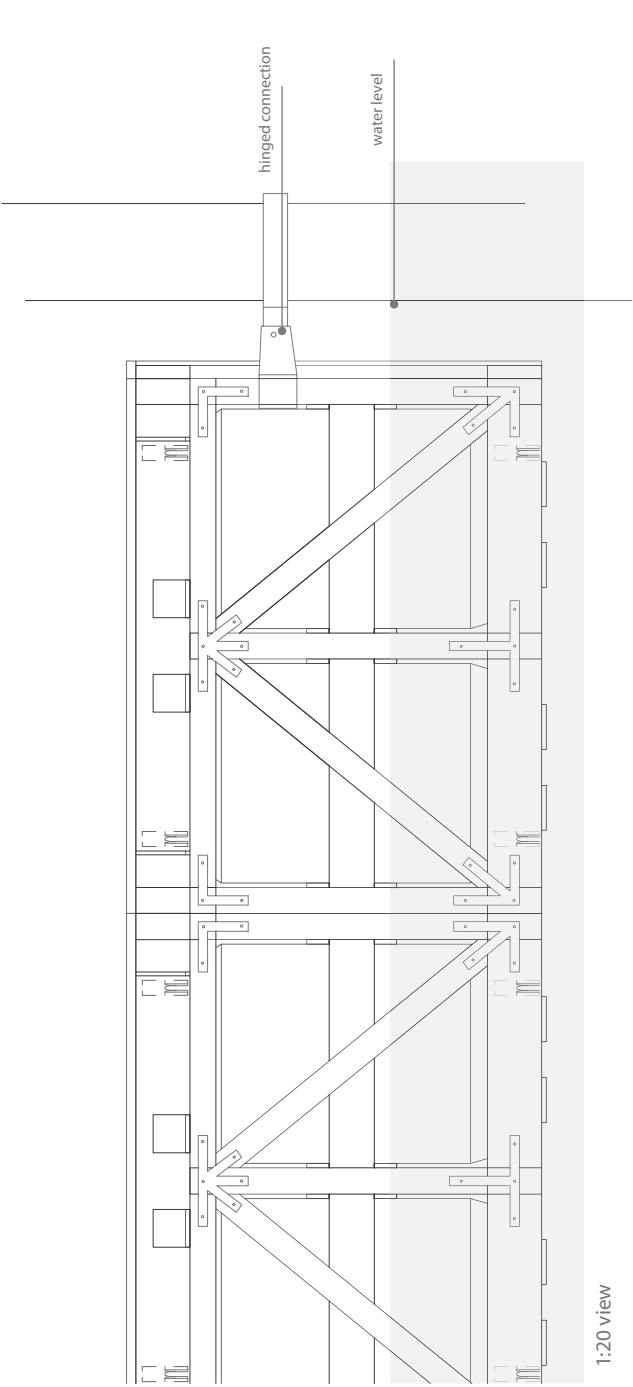


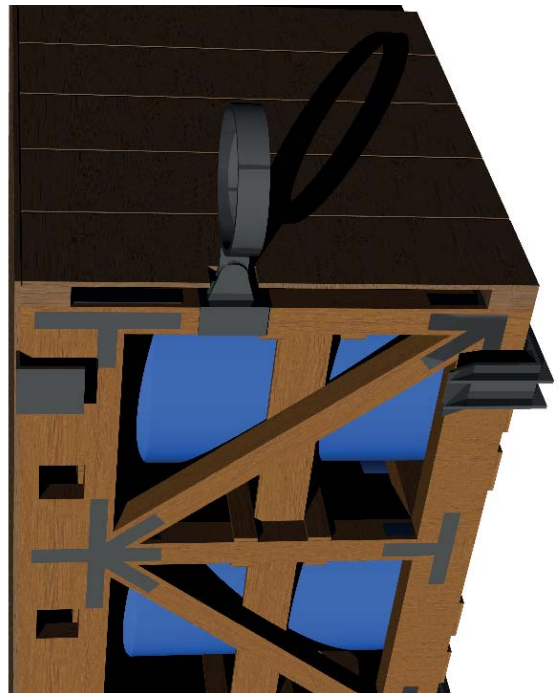
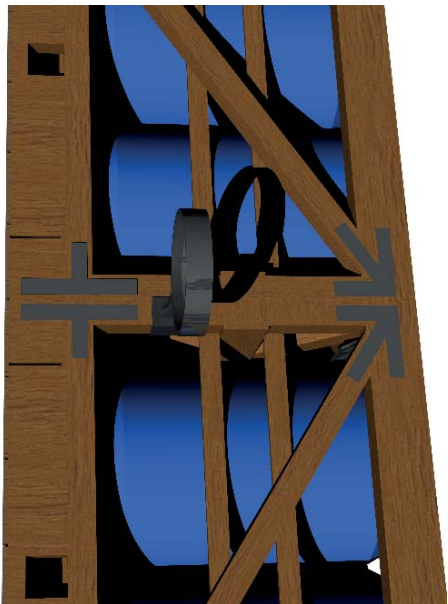
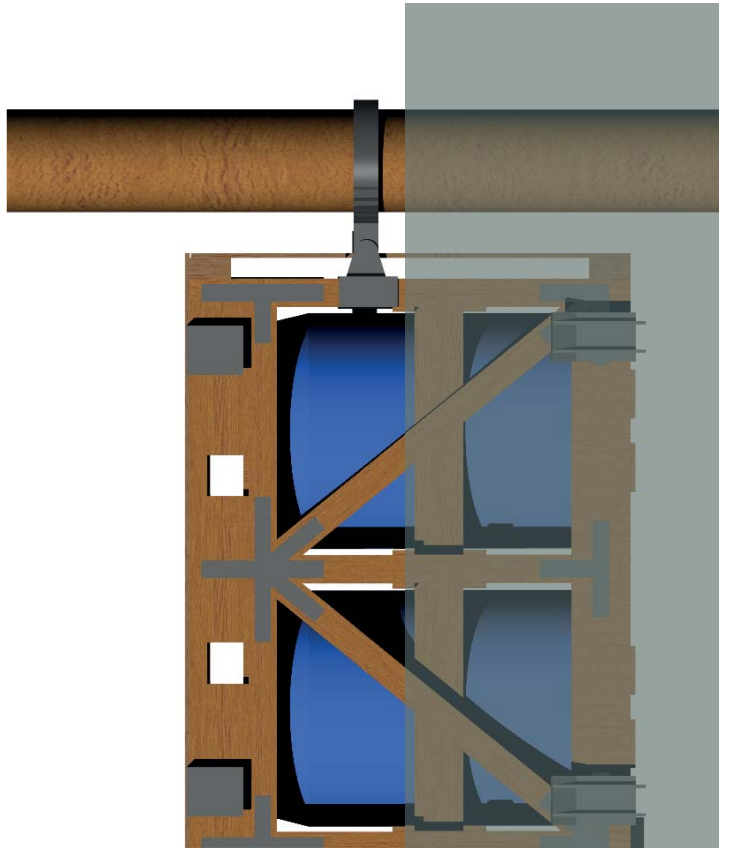
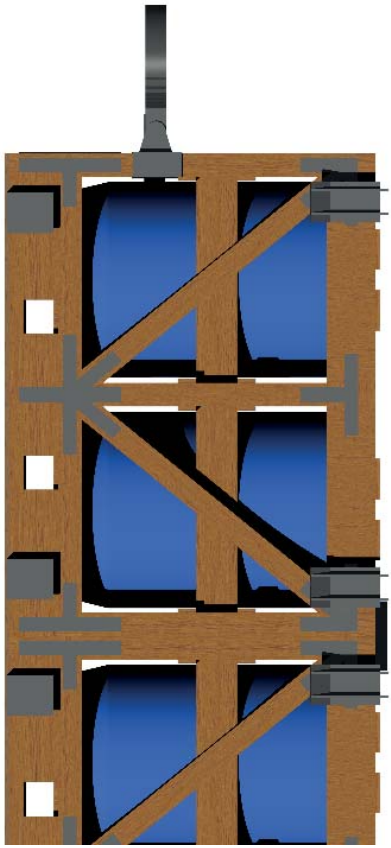
interior

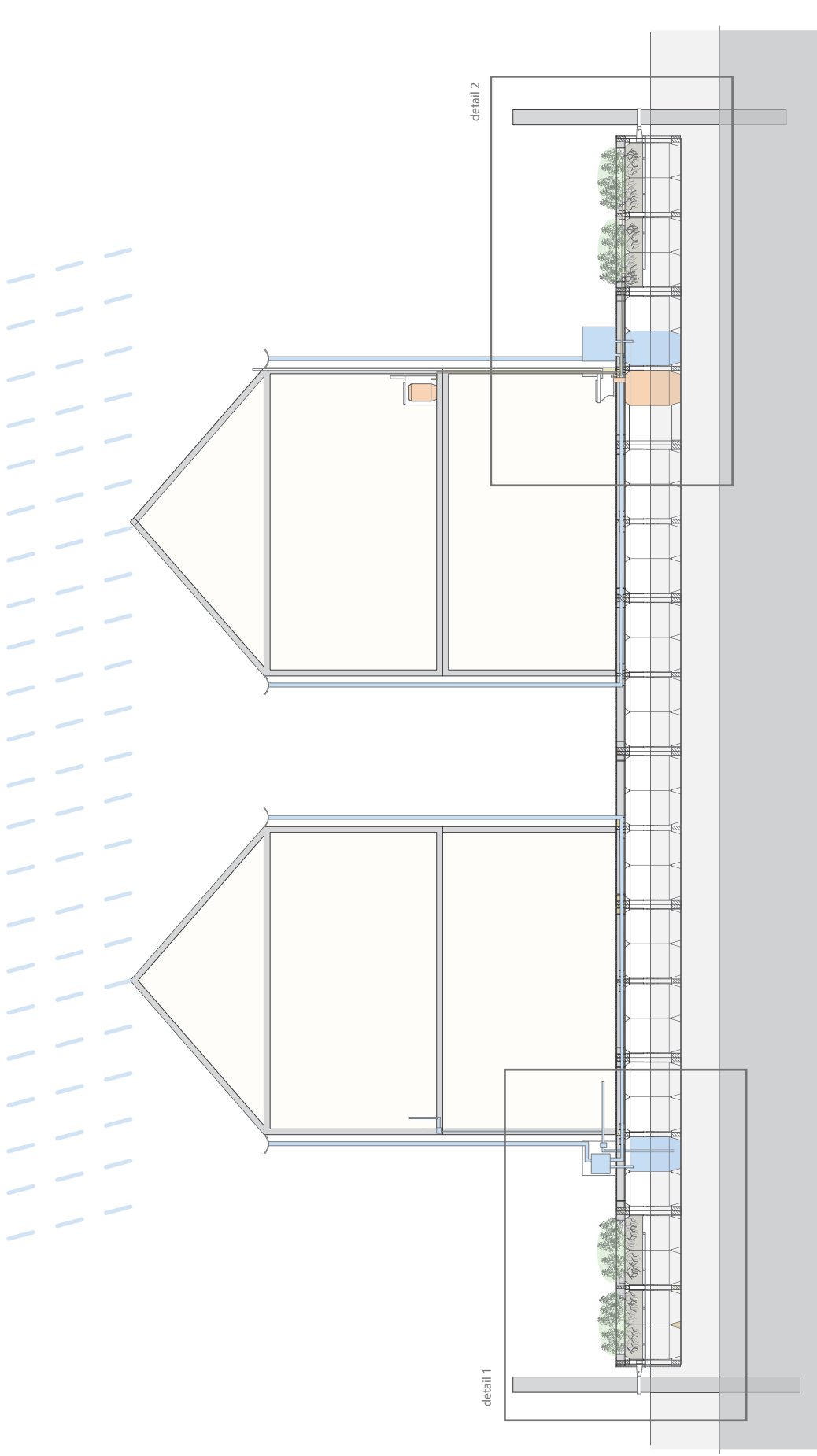
1:150
plan, single module

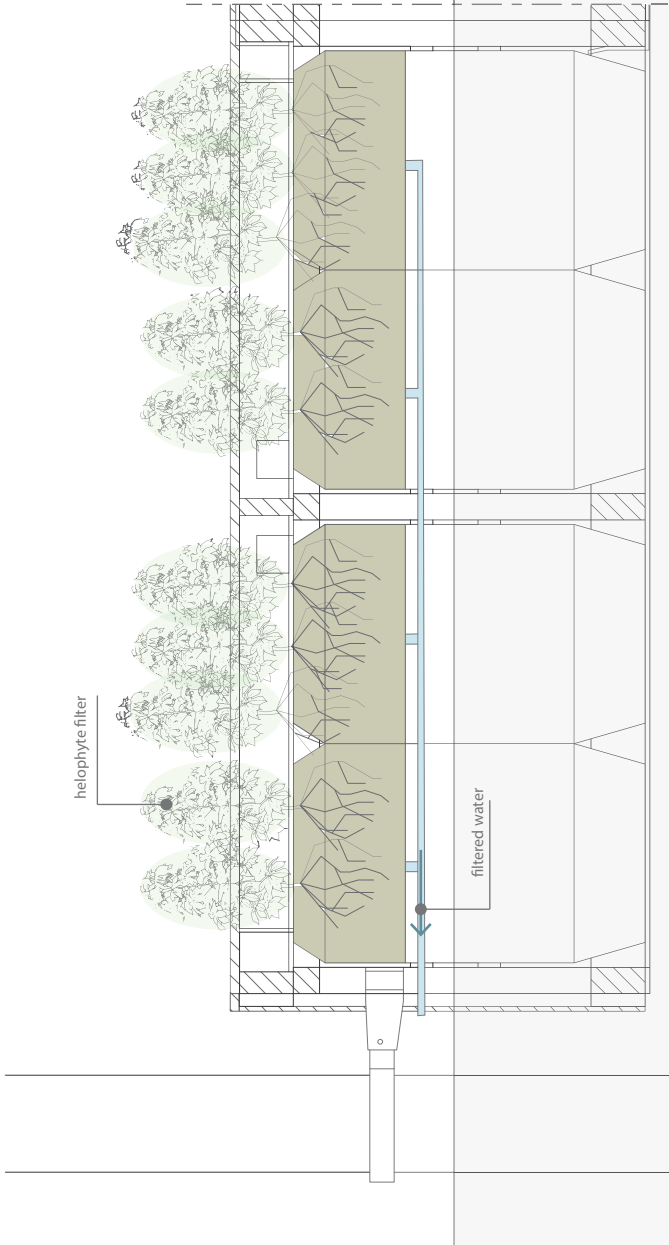
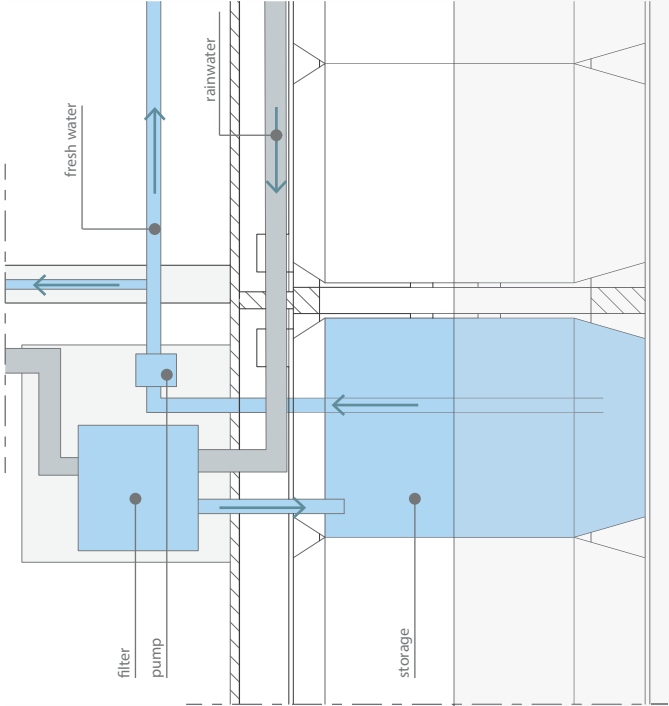
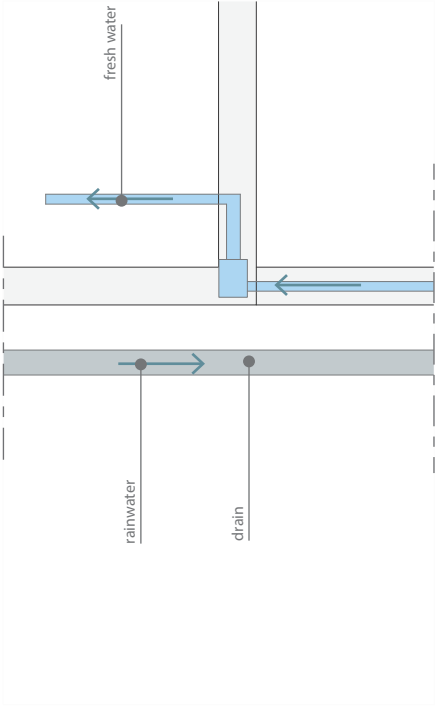
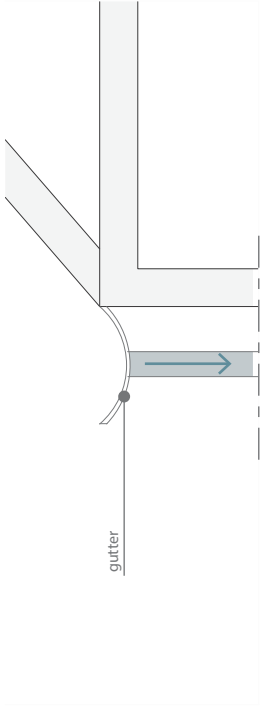


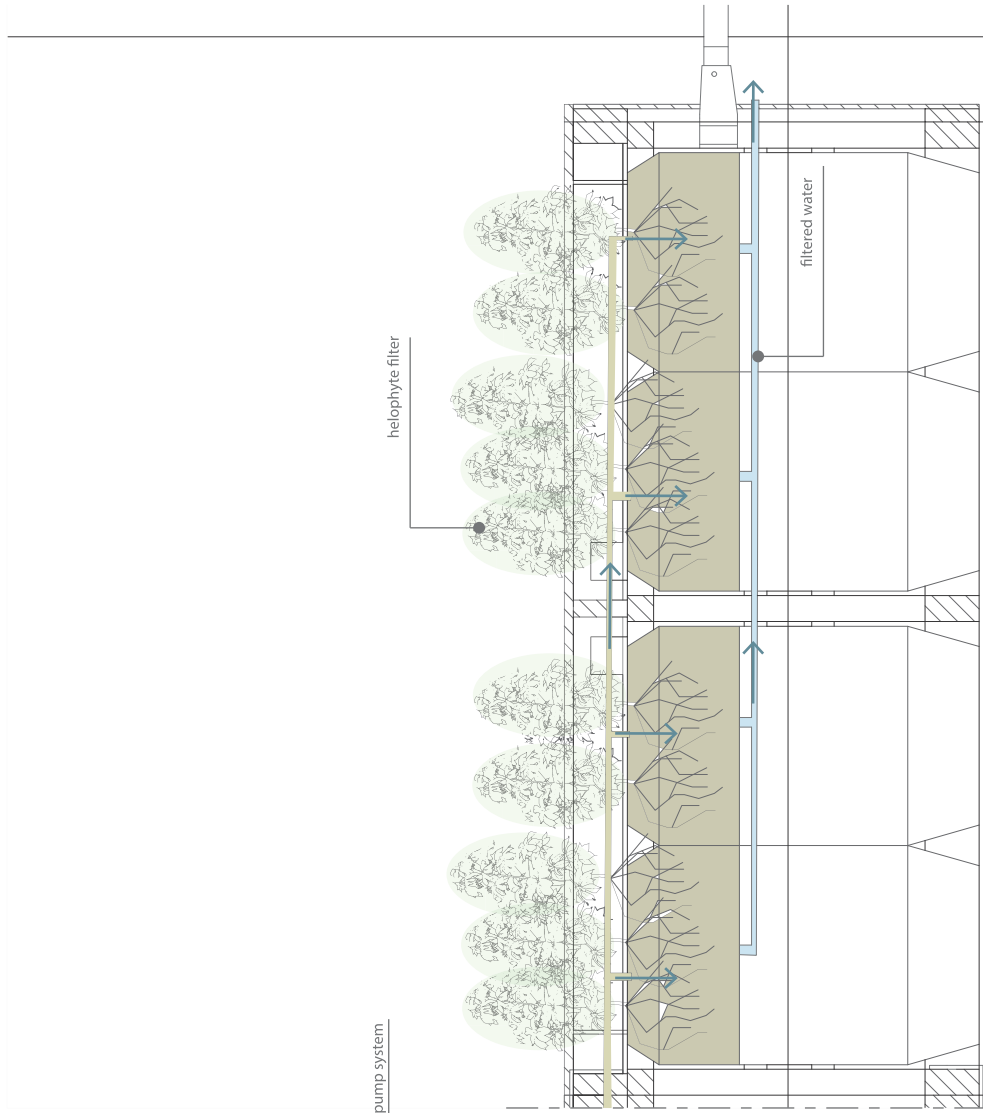
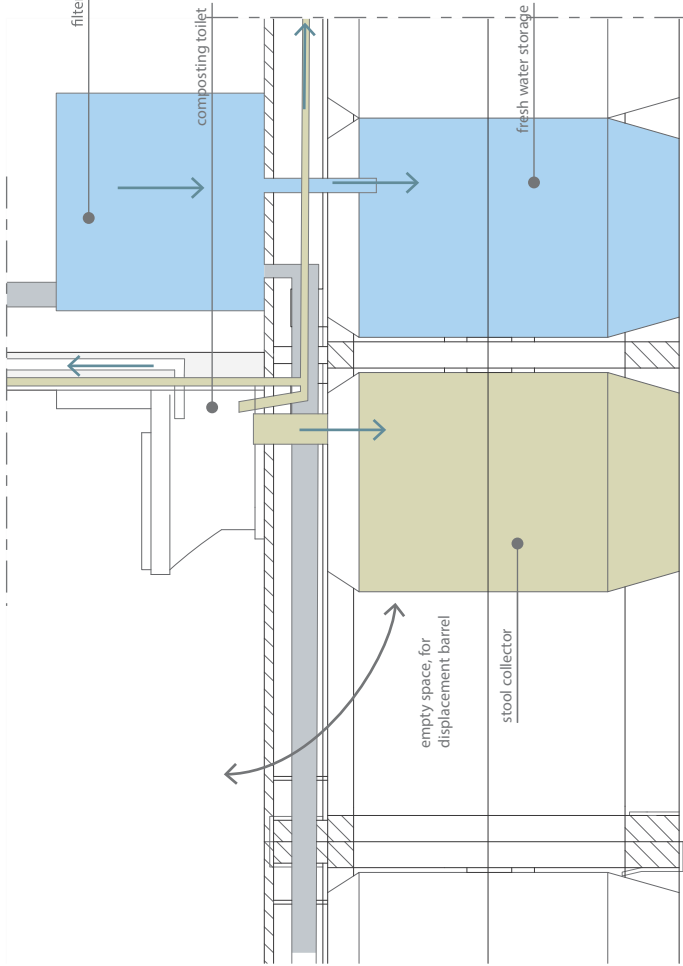
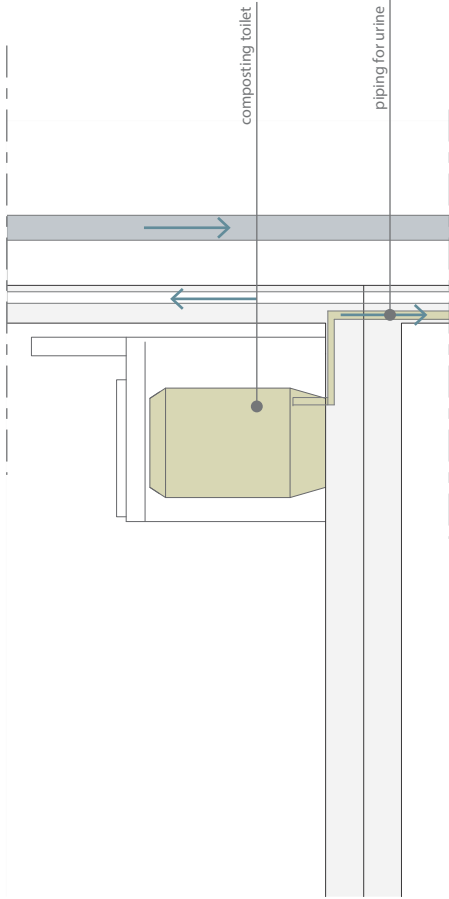
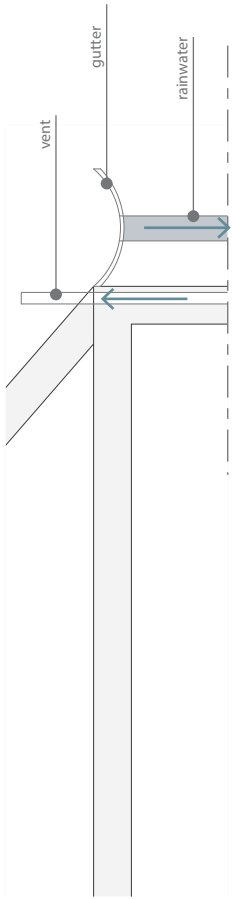


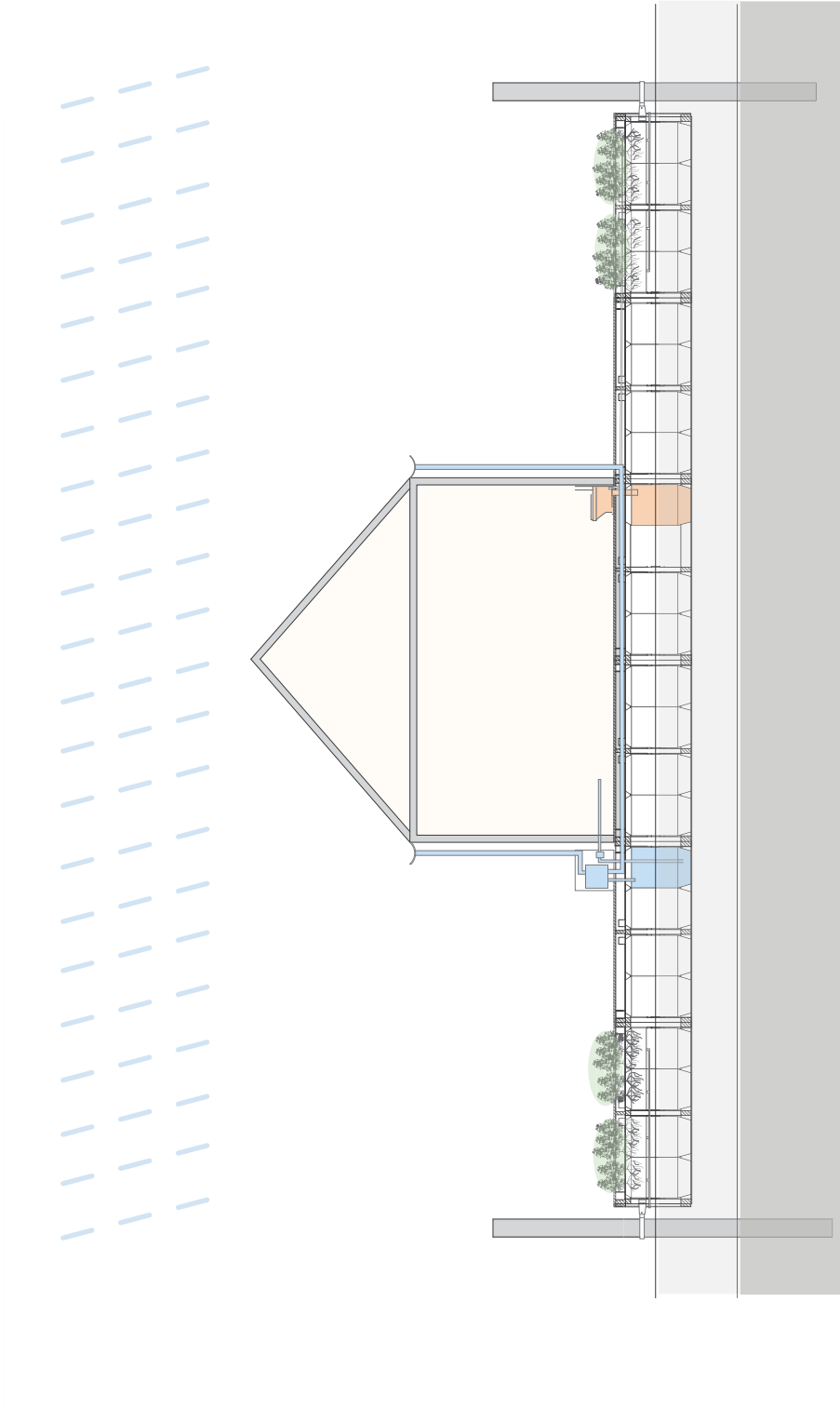




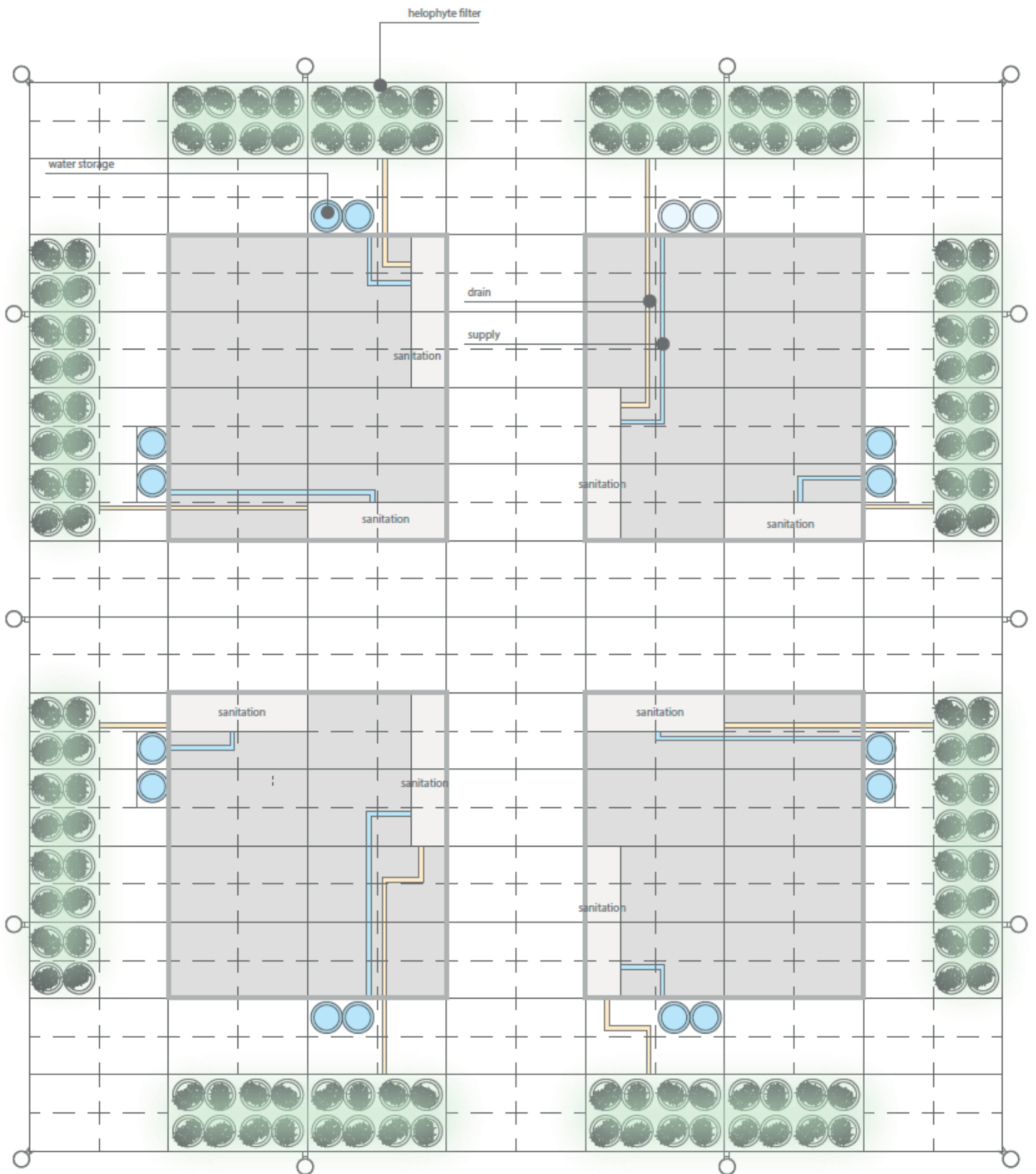




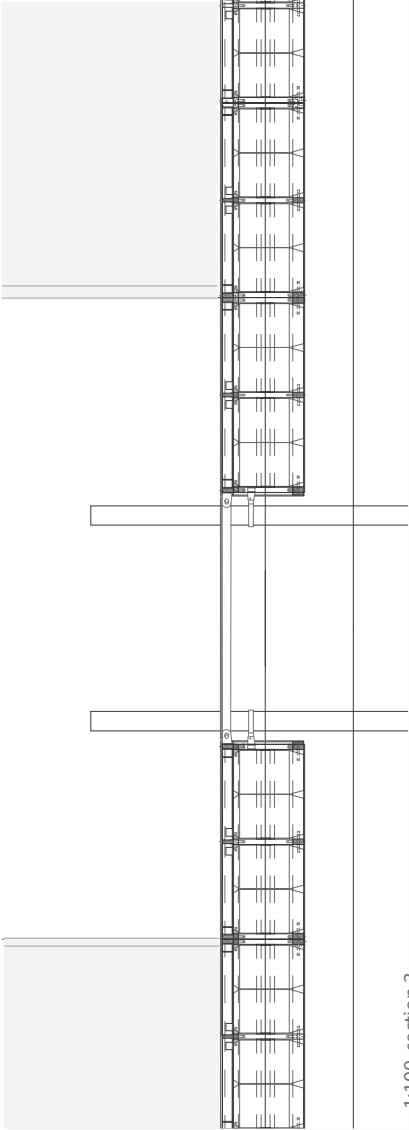
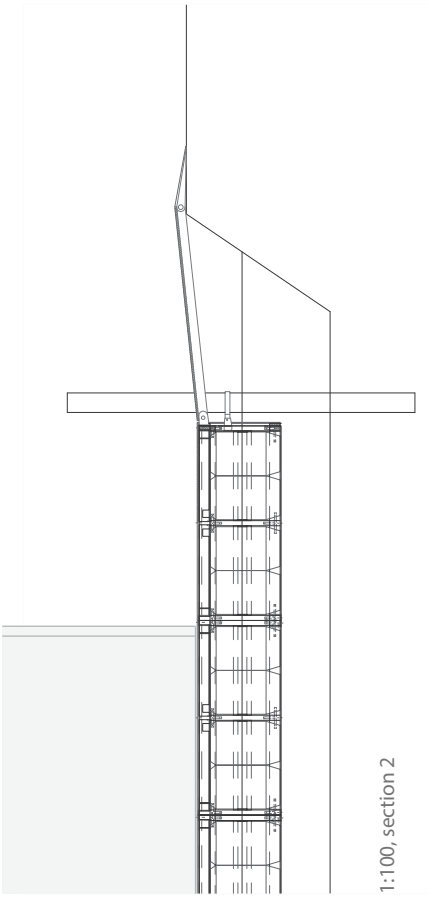
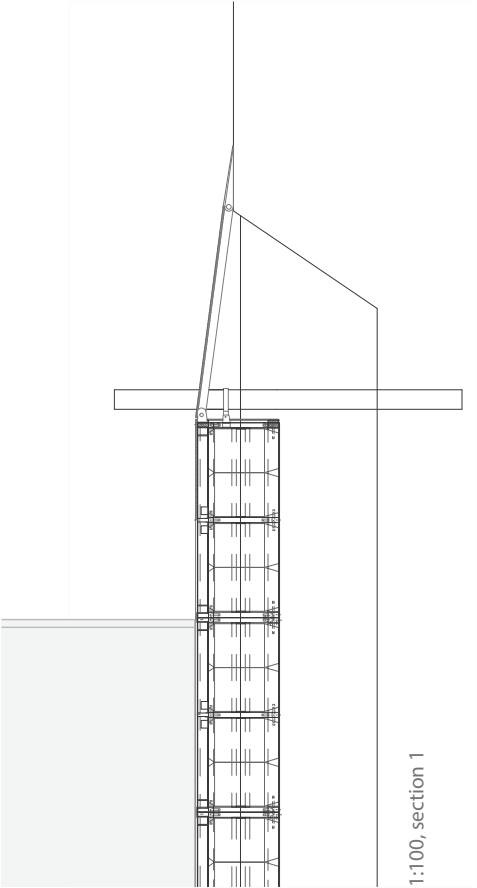




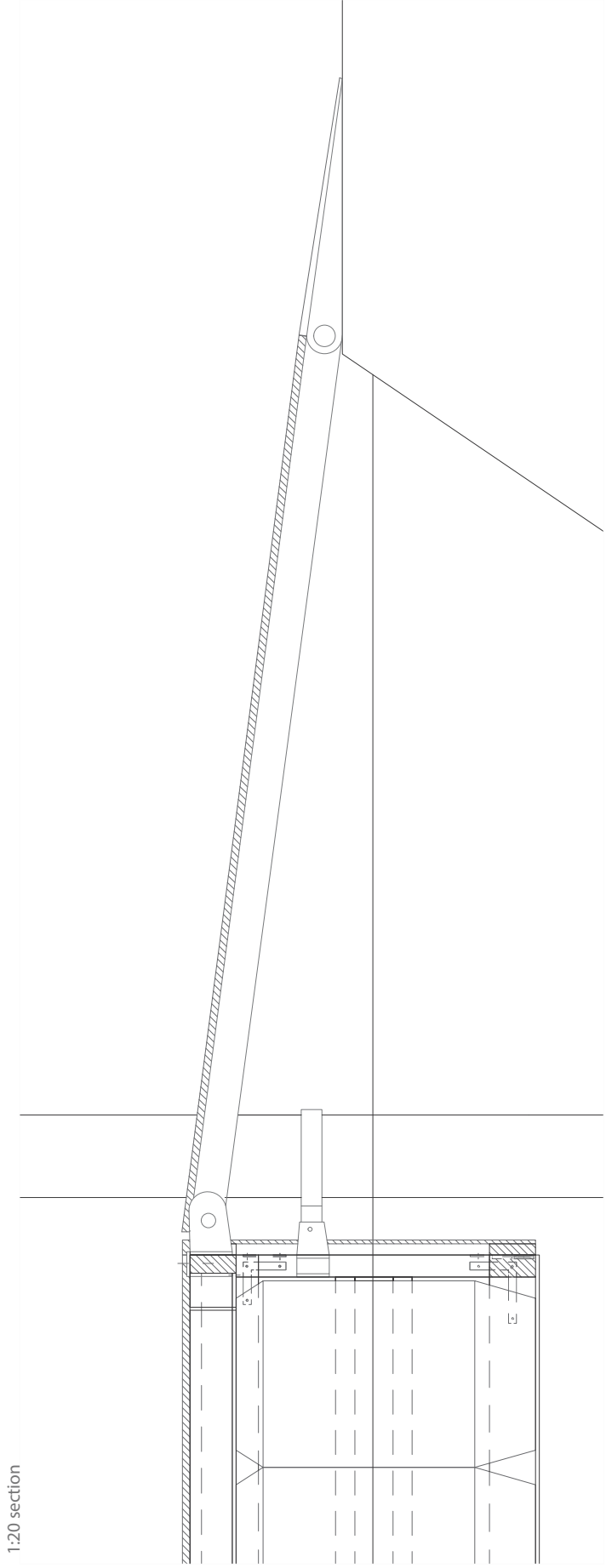
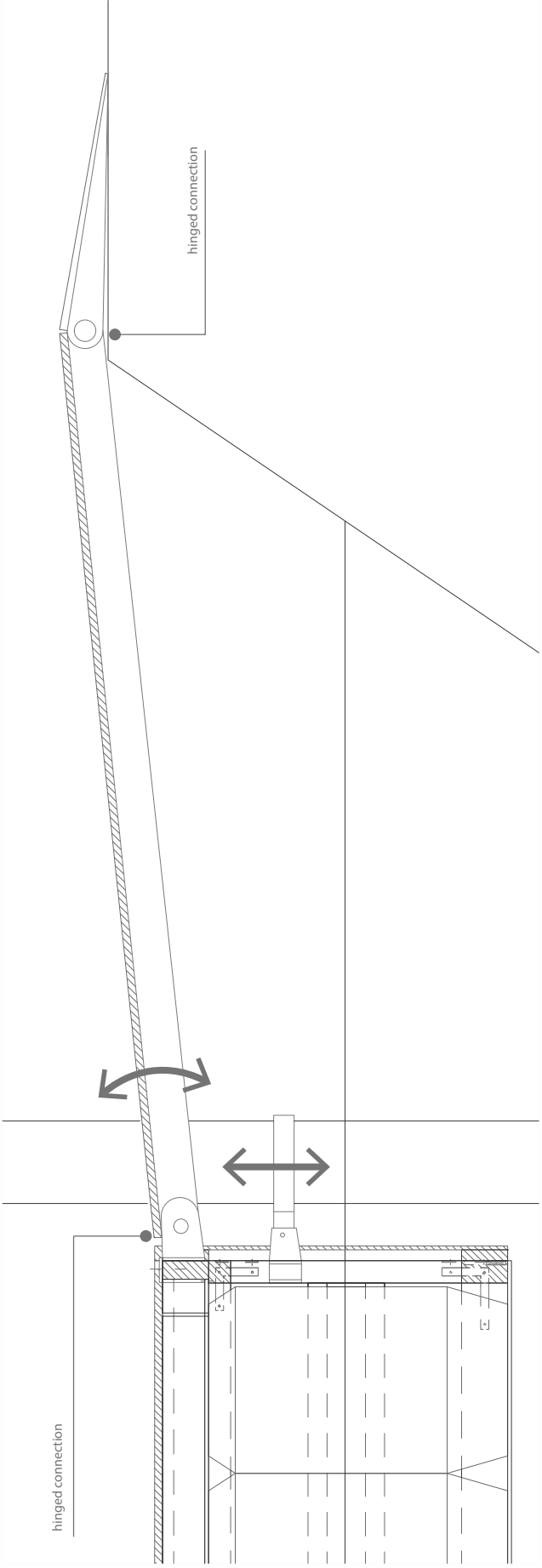
1:100 section



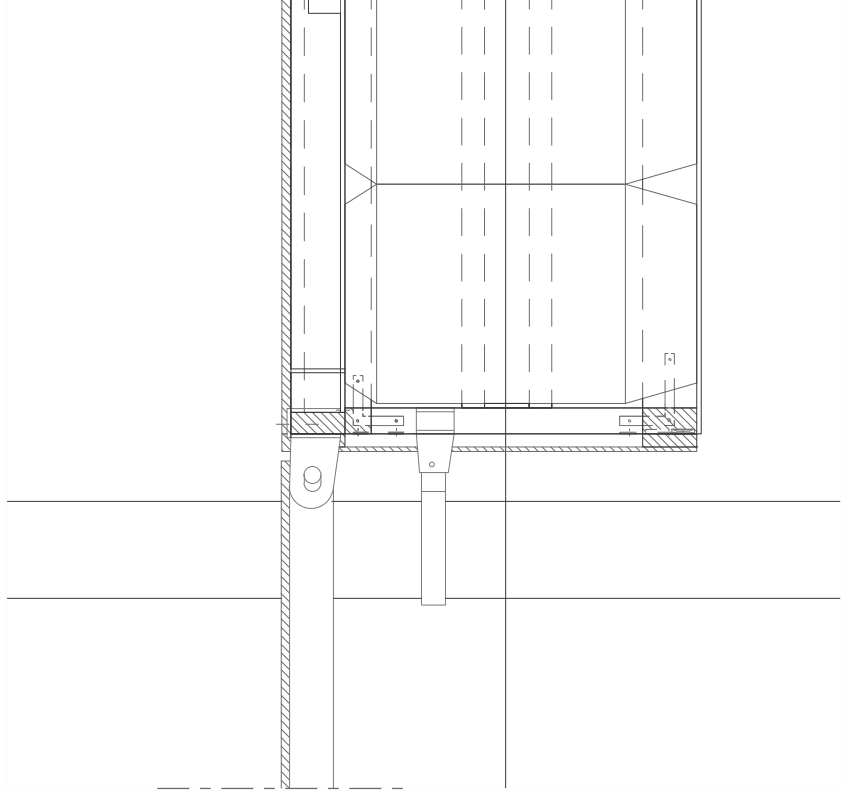
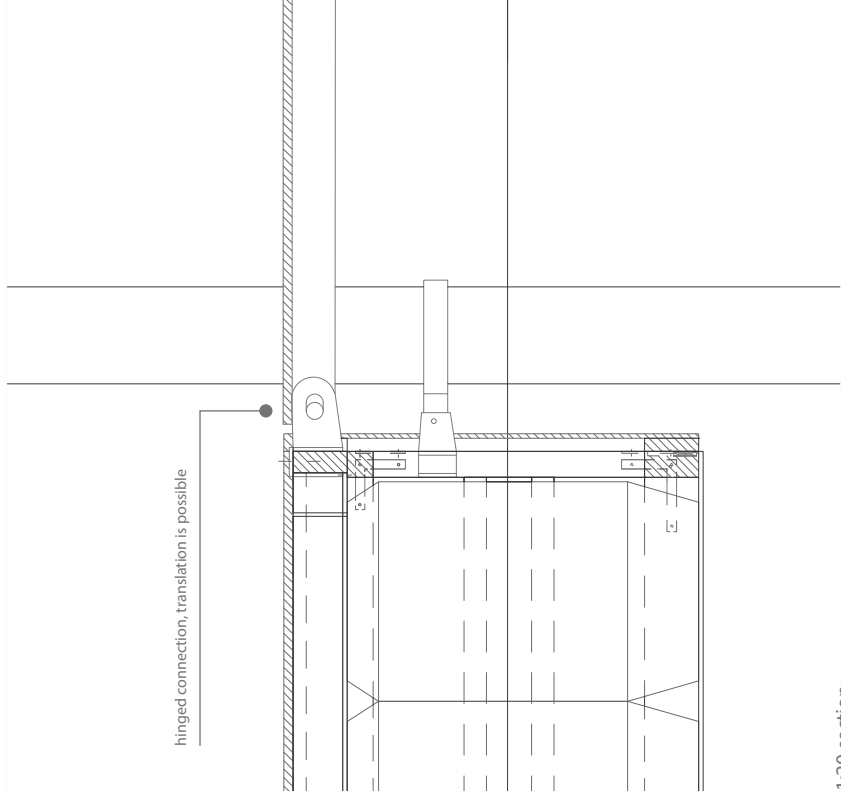
1:100 view

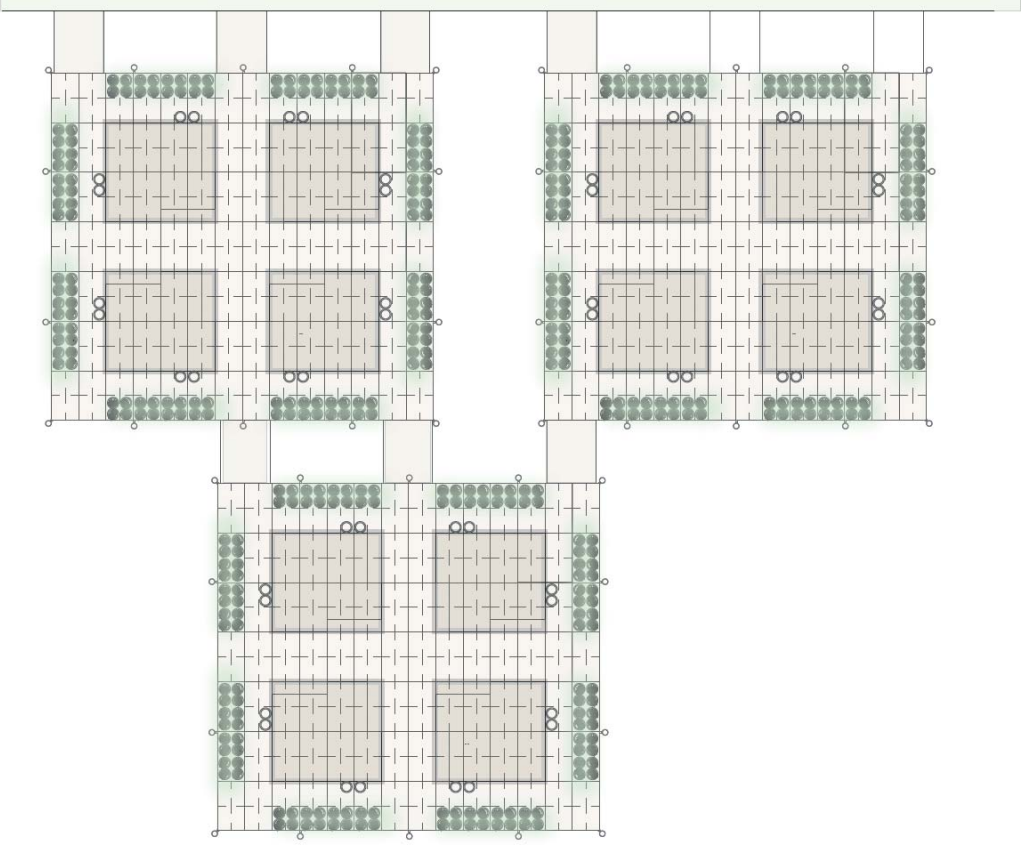


quay model

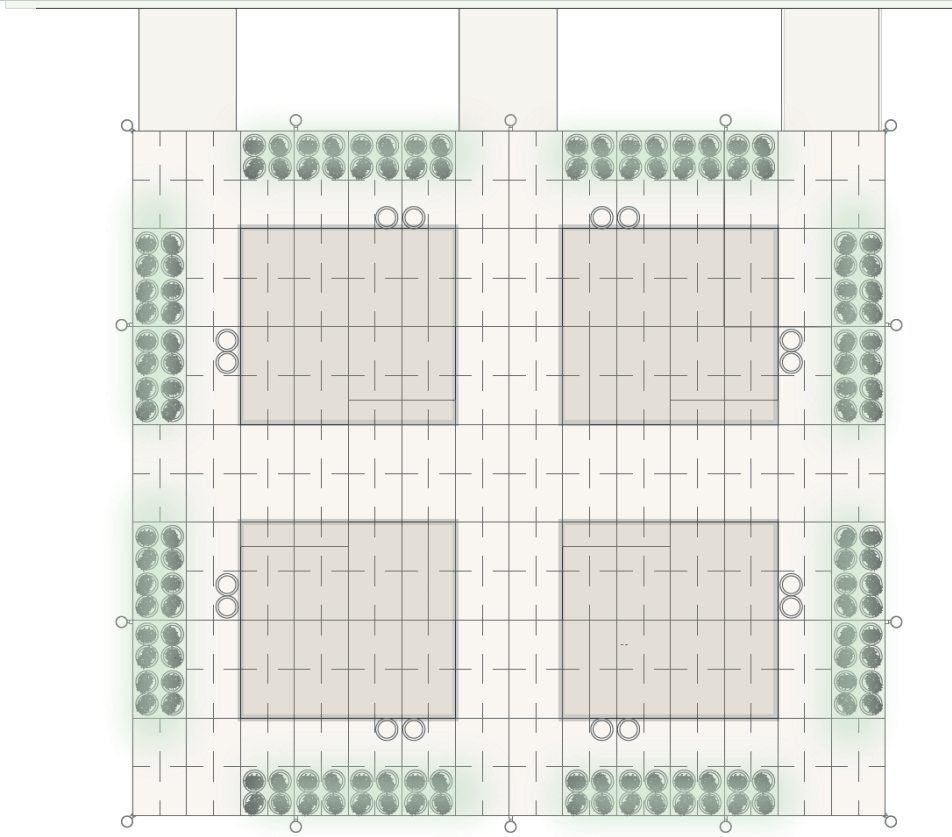


1:20 section

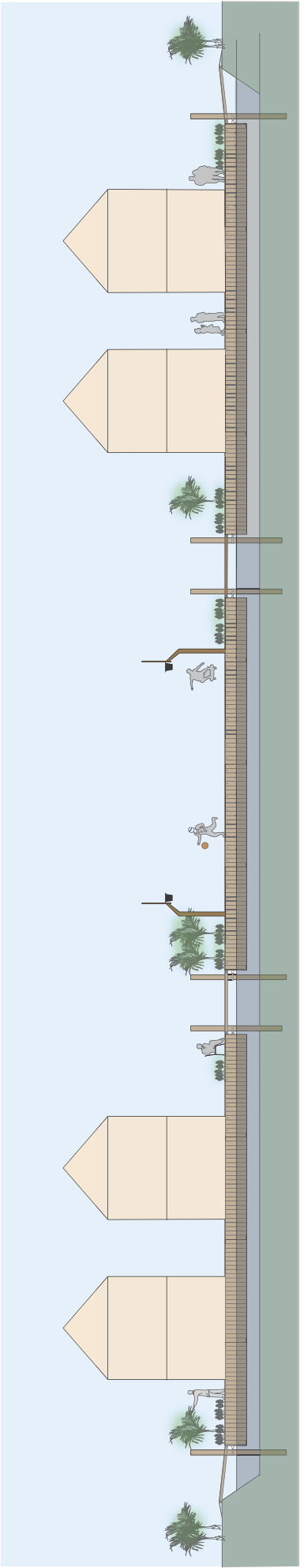




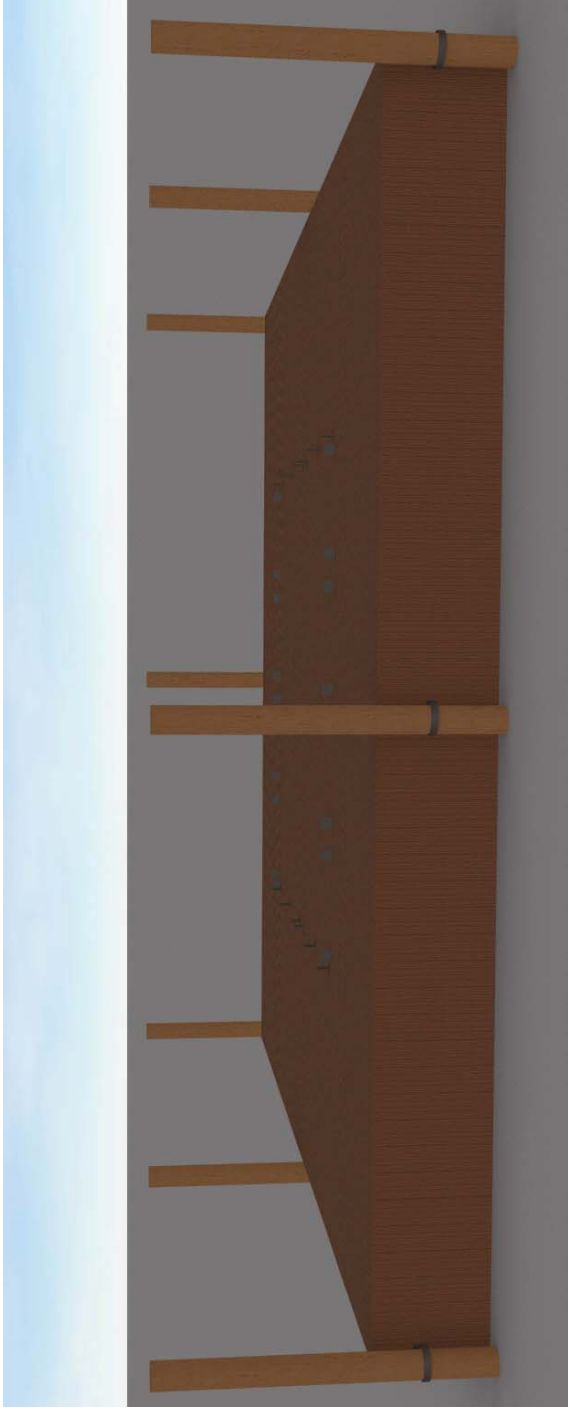
1:500 plan



1:200 plan



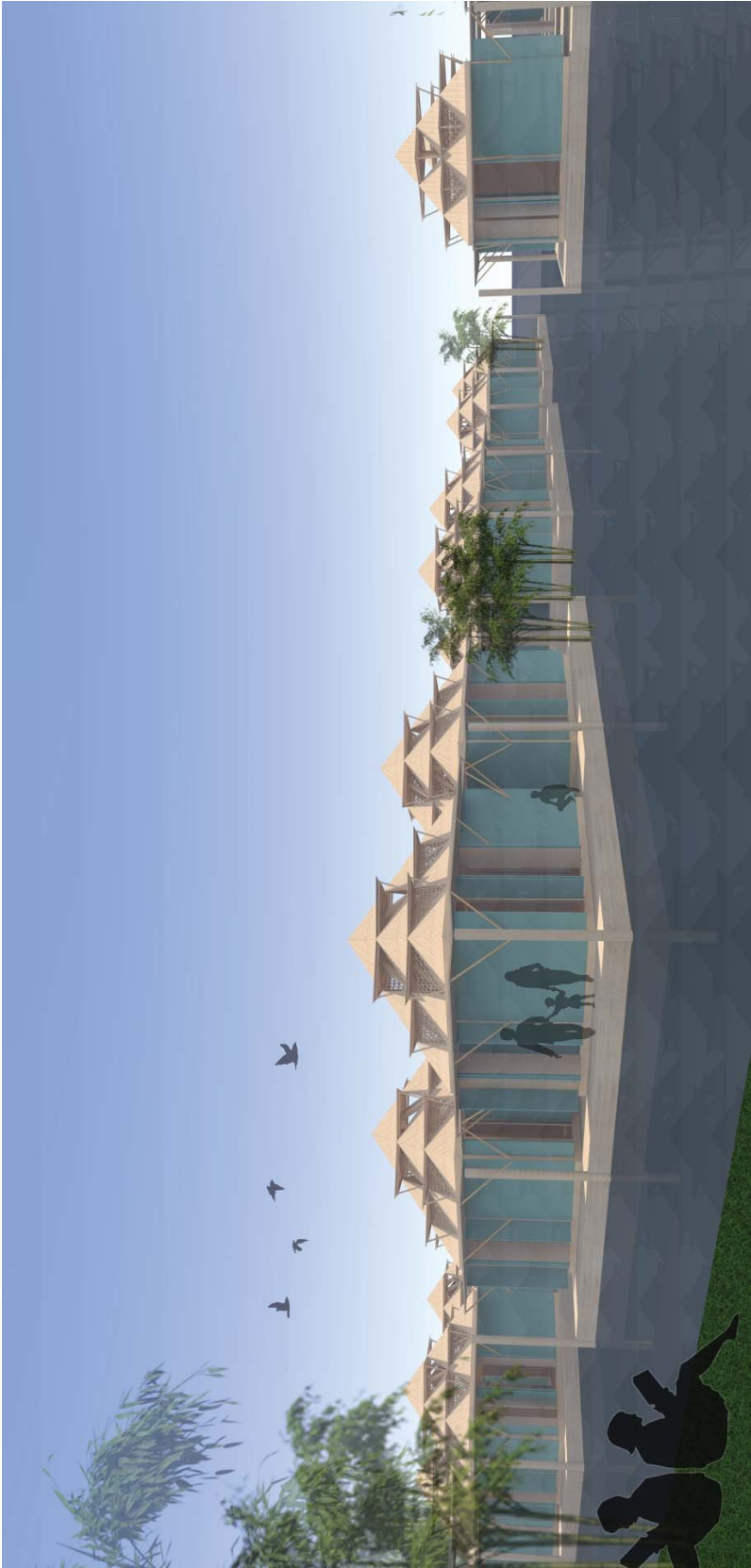
rendered view



rendered view



rendered view





rendered view

