

EX 1.1

HUMANITARIAN AMPHIBIOUS ARCHITECTURE

PREDICTING NEW COASTAL LINES/FUTURE PLANNING FOR FLOODING

EMERGENCY AMPHIBIOUS EVAC. CLUSTERS

INSPIRATION: FIRE ANT COLONY FLOOD SURVIVAL INSTINCTS IN RAINFORESTS

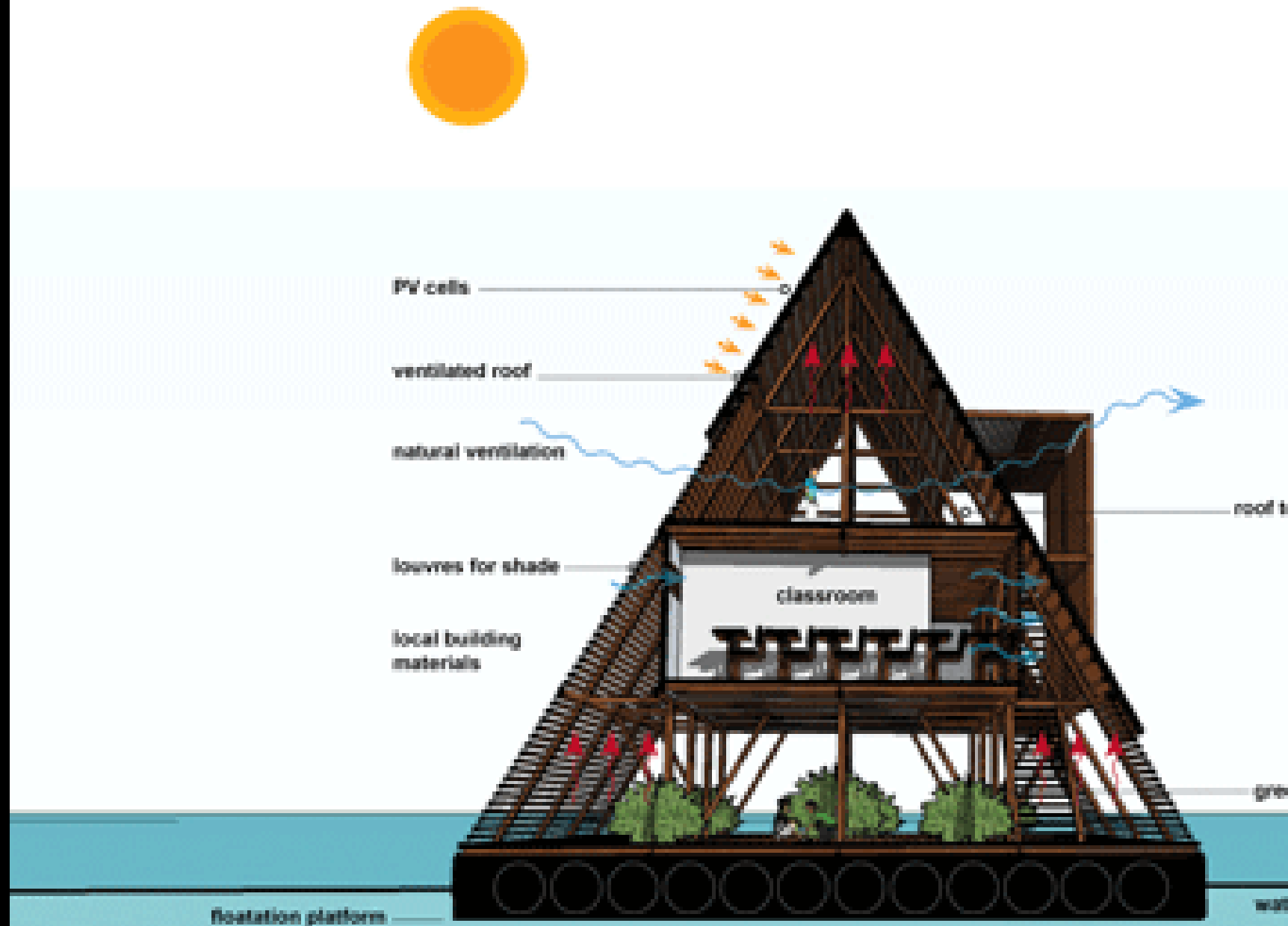
MAKOKO FLOATING SCHOOL

- LOCATED IN LAGOS, NIGERIA, 2012
- DESIGNED BY ARCHITECTURAL FIRM NLE
- FLOATING SCHOOL TO PROVIDE FOR 100 STUDENTS/ADULTS
- OLD SCHOOL ON LAND WAS SUSCEPTIBLE TO FLOODING AND CONSTANTLY HAD TO BE REBUILT



DESIGN CONCEPT

- 16 FLOATING BARRELS CONSIST OF THE “RAFT”
- IMPERVIOUS TO FLOODING AND STORM SURGES
- BUILT FROM LOCALLY SOURCED BAMBOO AND WOOD
- STRUCTURE SHAPE FOOD FOR WIND MITIGATION/TIPPING
- PROVIDE A PUBLIC EDUCATIONAL PROGRAM THAT IS IMPERVIOUS TO WATER HAZARDS



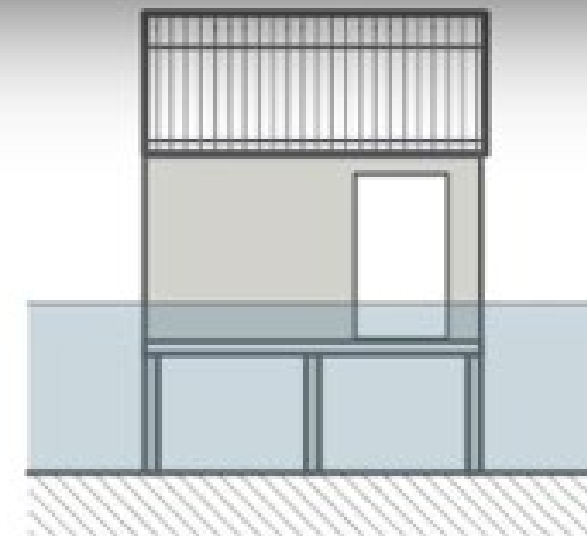
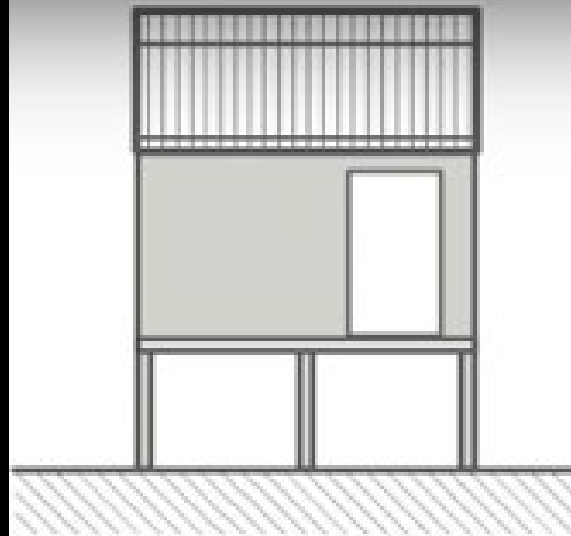
VIETNAM: AMPHIBIATION IN THE MEKONG RIVER DELTA

- LOCATED ON THE MEKONG RIVER DELTA, VIETNAM, MAY 2018
- DESIGNED BY THE BUOYANT FOUNDATION PROJECT
- RETROFITS HOMES BY ADDING BUOYANCY BARRELS UNDER THE OLD FLOORING STRUCTURE OF THE HOME, AND POSTS TO ALLOW HOME TO RISE WITH FLOOD WATERS.

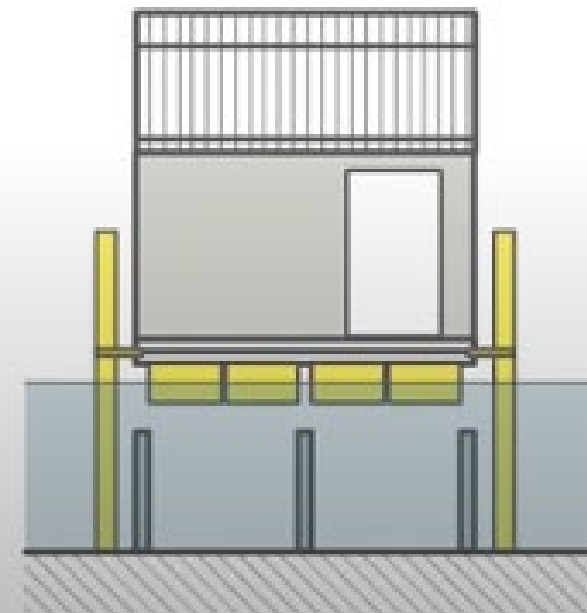
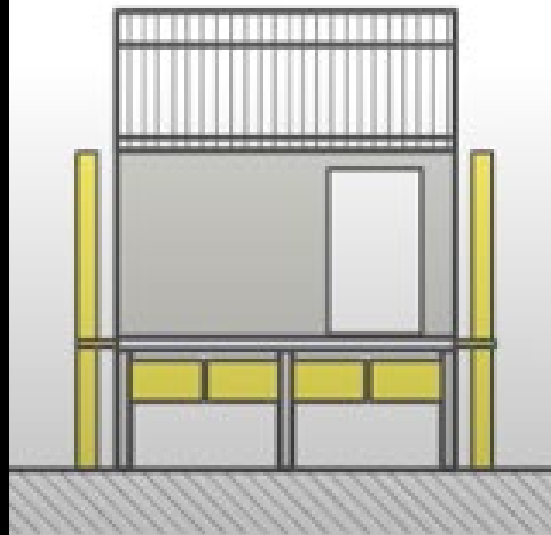


DESIGN CONCEPT

- TAKES THE VERNACULAR PRACTICE OF HOUSING ON STILTS, AND ALLOWS THE HOME TO RISE AND FALL WITH THE RISING AND FALLING WATER LEVELS DURING THEIR MONSOON SEASON
- ORIGINAL STILTS ARE NOT ADEQUATE FOR RISING SEA LEVELS
- THESE RETROFITS ARE EFFECTIVE, PRE-EMPTIVE SOLUTIONS TO THE DANGERS POSED BY ANNUAL FLOODING EVENTS TO IMPOVERISHED AND VULNERABLE COMMUNITIES IN THE REGION.



A TYPICAL RAISED HOME IN DRY AND FLOOD CONDITIONS



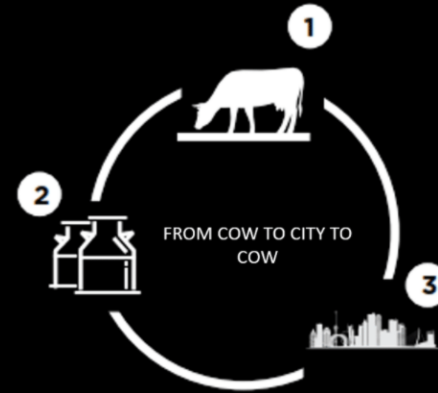
FLOATING FARM

- LOCATED IN ROTTERDAM, NETHERLANDS, MAY 2019
- DESIGNED BY ARCHITECTURAL FIRM, BELADON
- DESIGNED FOR A FUTURE WHERE RISING SEA LEVELS MEAN THAT FARMLAND IS INCREASINGLY OUT OF ACTION DUE TO FLOODING.
- BRINGS FARMING BACK INTO THE CITY, WITH MINIMAL IMPACT ON RESOURCES AND THE ENVIRONMENT.



BENEFITS

- CREATES NEW OCCUPIABLE PROGRAMMABLE SPACE ALONG THE RHINE RIVER
- BRINGS FOOD PRODUCTION CLOSER TO MAJOR CITIES, AND REDUCES TRANSPORTATION EMISSIONS.
- CREATES A CYCLE OF COW TO CITY TO COW. COW'S DAIRY PRODUCTION CREATES PRODUCTS FOR THE CITY, AND THE COWS ARE FED GRAIN FROM LOCAL GRANARIES WITHIN THE CITY, AS WELL AS VEGETABLE SHAVINGS FROM LOCAL RESTAURANTS.



CIRCULAR DEVELOPMENT

Floating Farm stands for circular farming: in addition to supplying fresh dairy to the city, as much of the raw materials as possible, including the ration of our cows, consists of residual flows from the same city! For example, our animals already receive grains from a number of Rotterdam breweries, bran from Schiedam mills, grass from sports fields in the area and potato peelings from a local processor.

[read more](#)



SURVIVAL CAPSULE

- PRODUCT OF SURVIVAL CAPSULE LLC, JUNE 2013
- CONCEPT OF A PERSONALIZED SAFETY SYSTEM AGAINST THE THREAT OF A TSUNAMI.
- SINGULAR "CAPSULE/POD"
- DURABLE STEEL DESIGN FOR IMPACT PROTECTION.
- "THE CAPSULE IS ALSO A VARIABLE DISASTER SOLUTION, WHICH MEANS IT CAN VARY POSITION ACCORDING TO THE WATER DEPTH, SO IT WILL NEVER BE INUNDATED BY WATER LEVELS RISING TOO HIGH. IT ALSO PROVIDES WARMTH, SAFETY, AND SHELTER DURING THE INITIAL POST-DISASTER PERIOD BEFORE RESCUE CREWS AND RELIEF WORKERS HAVE ARRIVED ON THE SCENE."
- LIFE SUPPORT SYSTEM INTEGRATED

Doughton, Sandi. "No Time to Run? Tsunami Pod Aims to Save Lives - at a Price." The Seattle Times. The Seattle Times Company, February 12, 2017.

<https://www.seattletimes.com/seattle-news/science/no-time-to-run-tsunami-pod-aims-to-save-lives-at-a-price/>.



BENEFITS

- QUICK EMERGENCY RESPONSE
- ABILITY TO BE POSITIONED VIRTUALLY ANYWHERE
- MENTALLY REDUCES STRESS UPON OWNER KNOWING THEY HAVE A LAST RESORT SAFETY OPTION.

Negatives

- OWNER STILL LOSES HOME
- PROTECTS YOUR LIFE, BUT NOT YOUR LIVELIHOOD
- CRAMPED



ISSUE

- WHILE INDIVIDUAL CAPSULES HAVE BEEN CREATED TO WITHSTAND THE FORCES OF A TSUNAMI AND SAVE THE OCCUPANT'S LIFE, THEY CANNOT PRESERVE THE OCCUPANT'S COMMUNITY, OR LIVELIHOOD
- THE OTHER EMERGENCY SOLUTION IS CLIMBING AS HIGH AS POSSIBLE, HOWEVER, THIS IS NOT POSSIBLE IN MANY TSUNAMI-PRONE AREAS OF THE WORLD, ESPECIALLY WITH SUCH SHORT NOTICE BEFORE THEY MAKE LANDFALL.
- HOW CAN WE PRESERVE COMMUNITY IN THE WAKE OF A TSUNAMI'S DESTRUCTION?

Lhoknga, Indonesia Pre and Post Tsunami



December 29, 2004



January 10, 2003

BURNING QUESTIONS

- HOW CAN WE PROTECT NOT ONLY THE LIVES OF PEOPLE THAT LIVE IN HIGH-RISK AREAS FOR FLOOD/SEA LEVEL RISE/TSUNAMIS, BUT ALSO THEIR HOME/WAY OF LIFE/COMMUNITY?
- CAN A HIGH IMPACT, AQUATIC, TSUNAMI-PROOF, SHELTER/HOME BE CREATED THAT MITIGATES THE NEED FOR VERTICAL EVACUATION IN AREAS THAT DO NOT HAVE THE ABILITY TO DO SO?
- CAN A SYSTEM OF CLUSTERS OF PUBLIC PROGRAM PROVIDE EMERGENCY SHELTER IN TIMES OF IMMEDIATE UNEXPECTED CALL FOR SHELTER FOR AQUATIC NATURAL DISASTERS?

Before



After



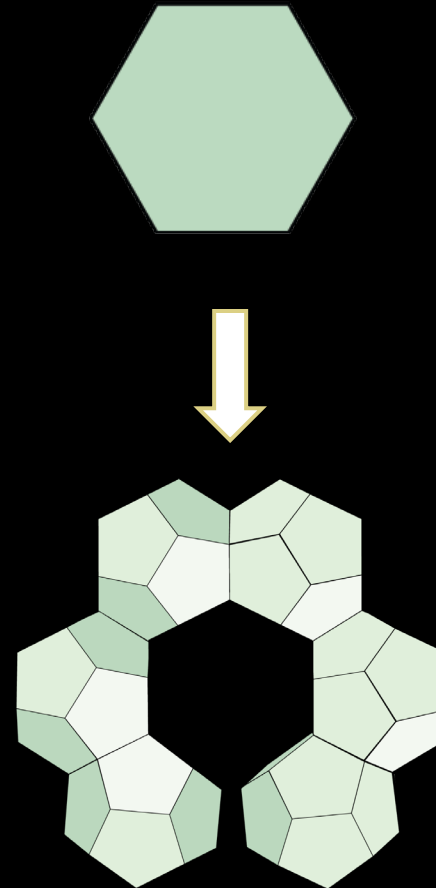
INSPIRATION

- [HTTPS://PMDVOD.NATIONALGEOGRAPHIC.COM/NG_VIDEO_DEV/991/466/WEIRDEST-FIRE-ANT-RAFT.MP4](https://pmdvod.nationalgeographic.com/ng_video_dev/991/466/weirdest-fire-ant-raft.mp4)
- FIRE ANTS IN THE RAINFOREST HAVE THE INSTINCT TO EVACUATE THEIR COLONY, AND FORM A LIVING RAFT.
- THE ANTS MANAGE TO CREATE A FLOATING RAFT COMPOSED ONLY OF THEIR BODIES. CHAINED TOGETHER IN A NETWORK OF INTERLOCKING LEGS, BODIES AND MANDIBLES. THE WATER'S SURFACE TENSION AS WELL AS TRAPPED AIR BUBBLES IN THE MINIATURE HAIRS ON THEIR LEGS KEEP THE ENTIRE RAFT AFLOAT AS THEY SAFELY DRIFT TO DRY LAND

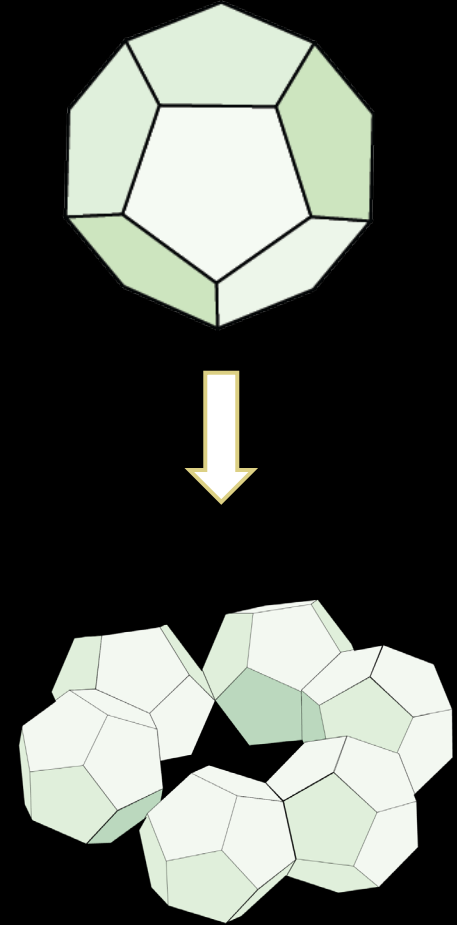


TSUNAMI LIFE SHELTER

- THE INSPIRATION FROM THESE INSTINCTS LEAD TO A DESIRE TO CREATE HIGH-IMPACT RESISTANT, MODULAR, PROTECTIVE HOUSING COMMUNITIES THAT CAN PRESERVE NOT ONLY THE LIVES OF THE OCCUPANTS, BUT THEIR LIVELIHOODS AS WELL
- RATHER THAN SMALL, CRAMPED, SURVIVAL CAPSULES, CREATE RESIDENTIAL UNITS THAT CAN BE EASILY ATTACHED TO ONE ANOTHER IMPROVING STABILIZATION WITH EACH ADDITIONAL CONNECTED UNIT, WORKING AS A NETWORK



Unit to Whole



TSUNAMI LIFE SHELTER

- SHOWN IS THE CITY OF LHOKNGA, INDONESIA
- THESE CLUSTERS CAN BE PLACED THROUGHOUT THE CITY AS PUBLIC SHELTERS/COMMUNITY CLUSTERS
- CLUSTERS CAN ALSO BE USED FOR RESIDENTIAL NEIGHBORHOOD PURPOSES
- RADIUS SHOWS AREA THAT CLUSTER CAN BE ACCESSED FROM WHEN TSUNAMI WARNING IS ISSUED

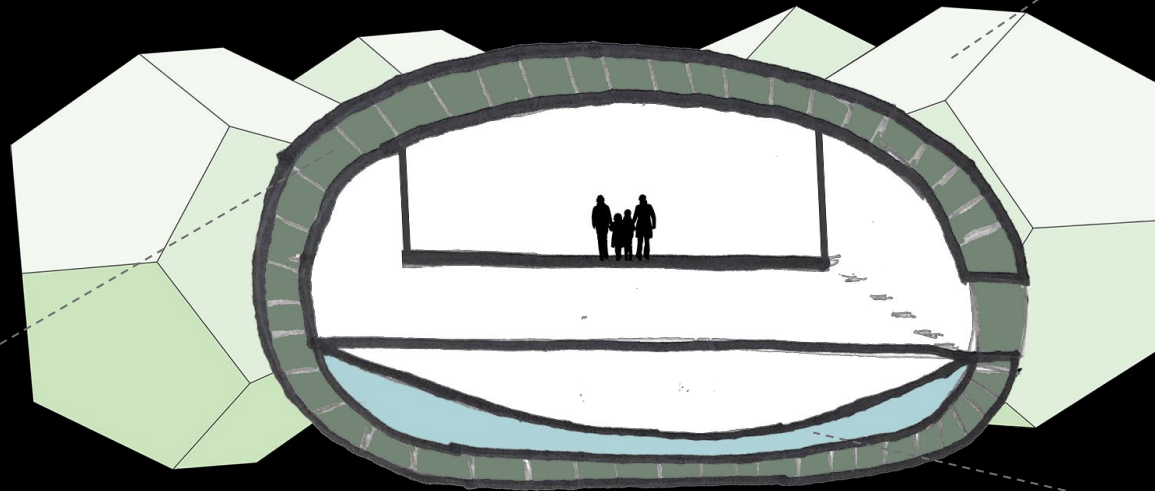




TSUNAMI LIFE SHELTER



Clustering Aids
Stability and
Preserves
Community



Impact Resistant
System

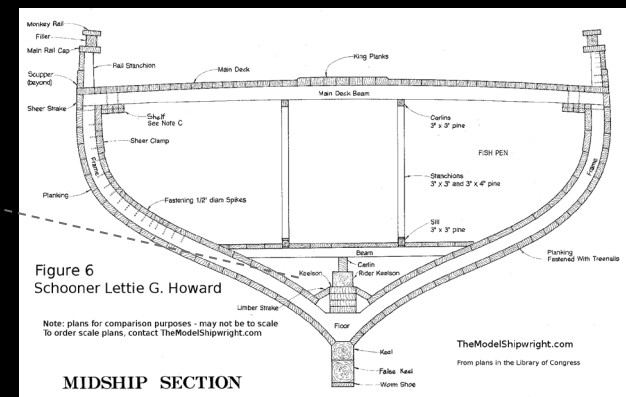


Figure 6
Schooner Lettie G. Howard

Note: plans for comparison purposes - may not be to scale
to order scale plans, contact TheModelShipwright.com

TheModelShipwright.com
From plans in the Library of Congress

Dual Shell
Design

