

Outline

8th Arab-Hellenic Economic Forum
27-28 November, 2019 - Divani Caravel Hotel,



- 1 A R B E R R A
- 2 A Sustainable Process
- 3 ARBERRA's Advantages
- 4 Sample Units
- 5 System Development Research
- 6 The Future of Housing

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A R B E R R A

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ARBERRA



An "Integrated Building Concept" is the product of scientific advancements on traditional construction methods.

ARBERRA is a Corporation headquartered in Canada. We have developed a unique methodology to design and build environmentally sustainable structures.



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**Boreal Wood**

Boreal Trees grown in Sub Arctic regions (Spruce, Pine, Fir).

**Pressure treated**

Against Insects, rodents, humidity and termites for longevity.

**Fire Resistance**

Treatment process results in increased resistance to fire.



WOOD

+

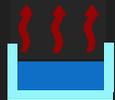


CLAY

THE USE OF

**Local Product**

Stabilized & treated according to a specialized lab analyses.

**Controlled Rate of Evaporation**

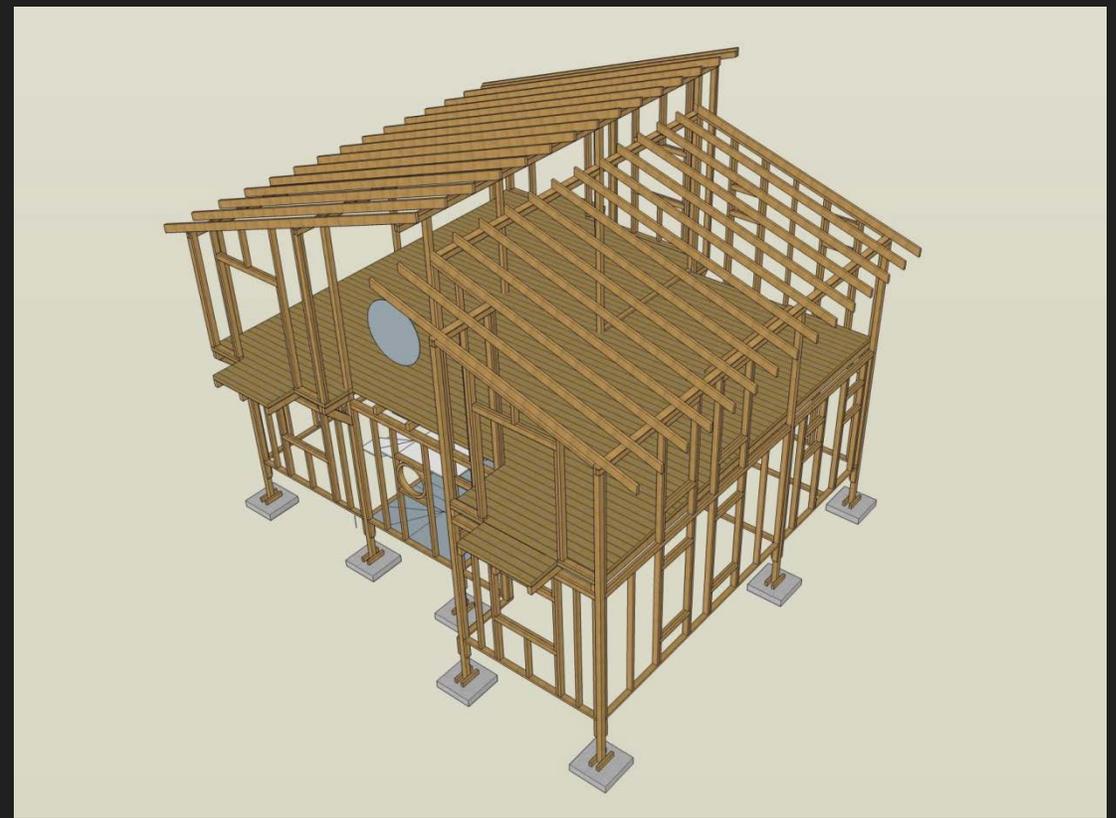
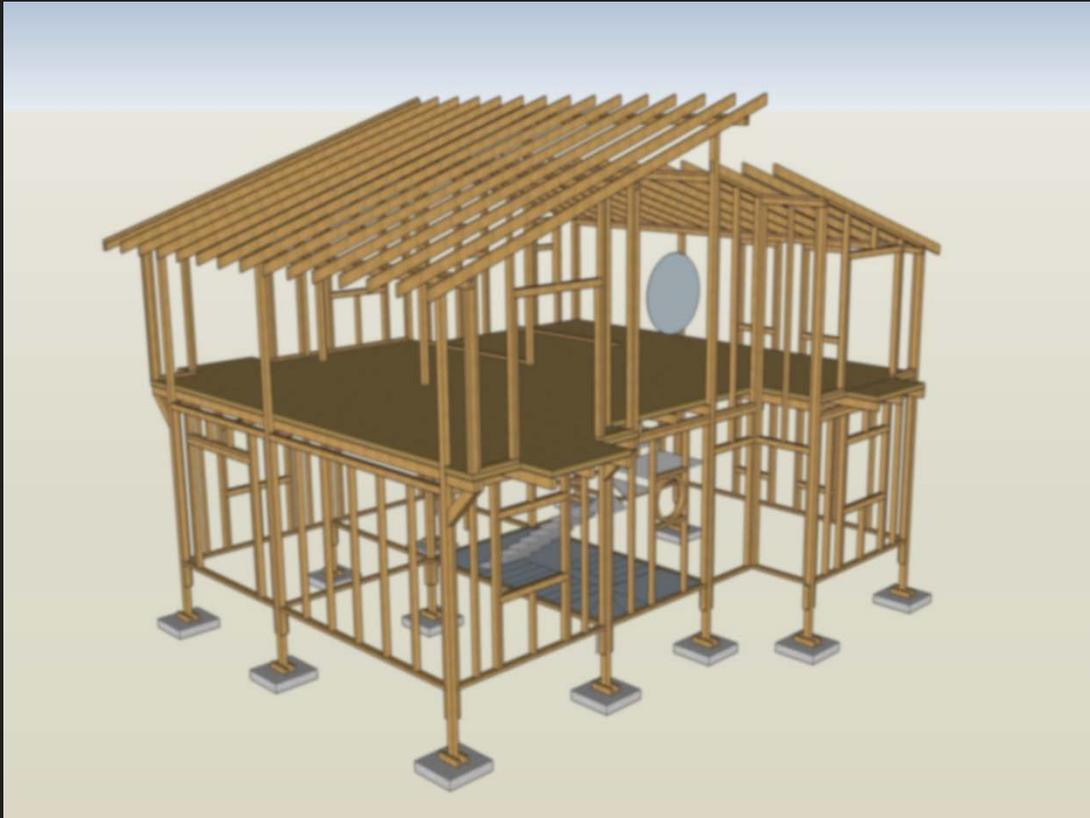
To prevent cracking and acquire higher strength.



Removal of impurities & salts for optimization.



1. A Wood Structure





High-End
Housing

End Product

Social
Housing





ARBERRA

OUR VISION FOR
SUSTAINABLE
STRUCTURES

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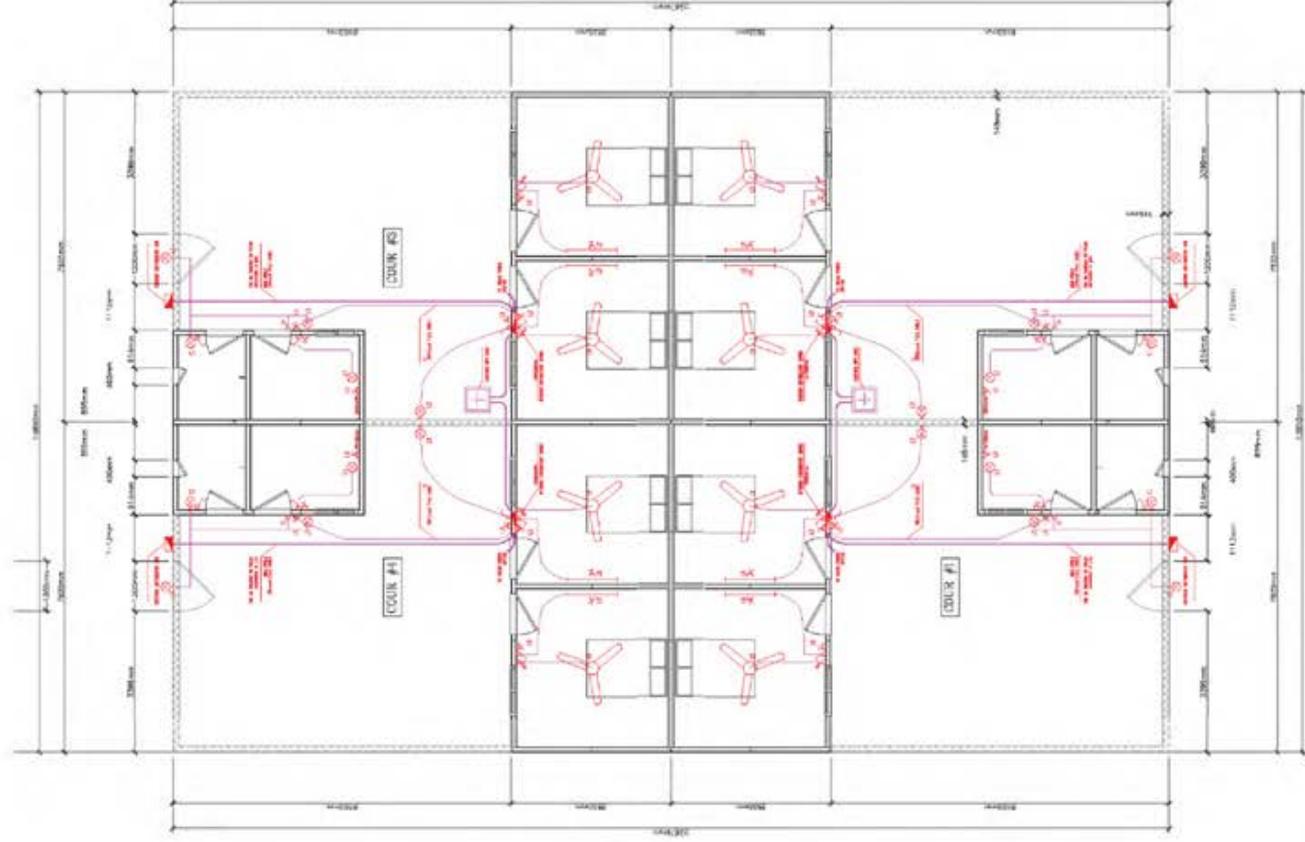


Construction Methodology



Djibouti Social Housing – 4 Model Units

April 2019 to June 2019



NOTES

- ALL POWER OUTLET ARE AT 400mm HEIGHT UNLESS INDICATED.
- ALL LIGHT SWITCHES ARE AT 1200mm HEIGHT
- ALL WALL MOUNTED LIGHTING FIXTURE ARE AT 2000mm HEIGHT OR 200mm ABOVE DOORPS OR WINDOWS.
- MAIN CABLE & EXTERIOR DISTRIBUTION BOX ARE OPTIONAL AT THIS PHASE AS MAIN POWER IS PROVIDED BY SOLAR CELLS.
- ALL LIGHTING UNITS MUST BE LED TYPE.

ELECTRICAL LAYOUT

SCALE :



















































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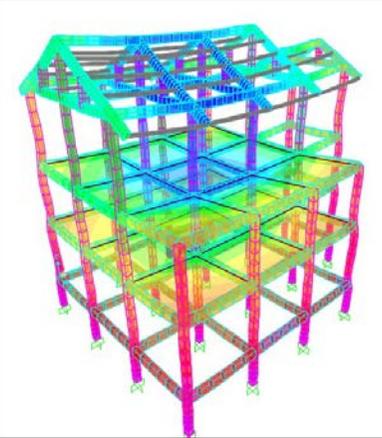


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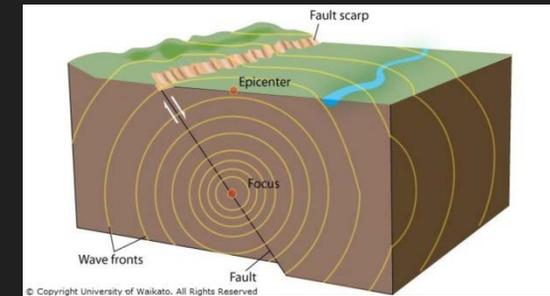


The Structural Qualities

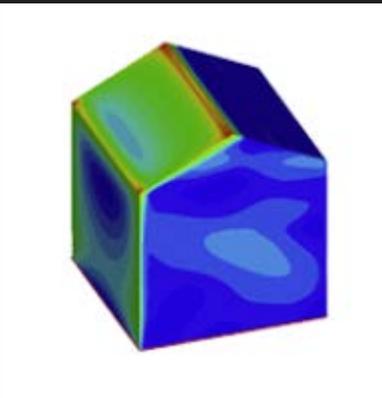
ARBERRA's Technology currently supports structures up to 5 stories



Increased resistance to seismic activity due to "light-weight" property of wood.

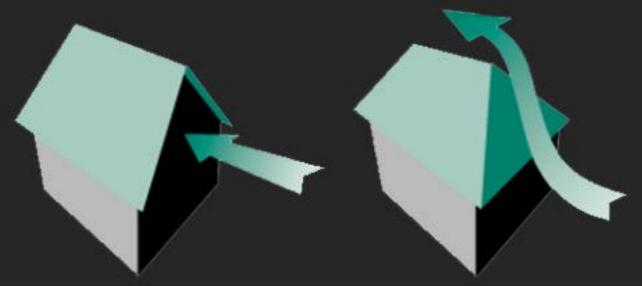


Bio-climatic homes with excellent thermal performance



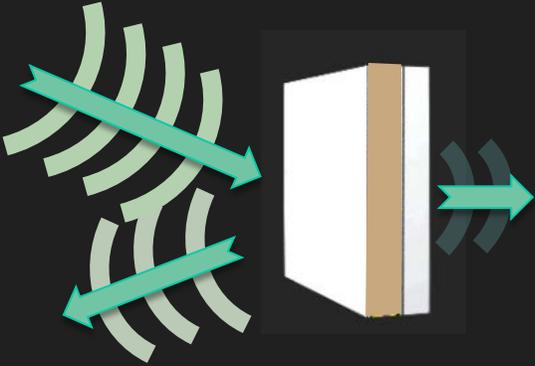


The Structural Qualities



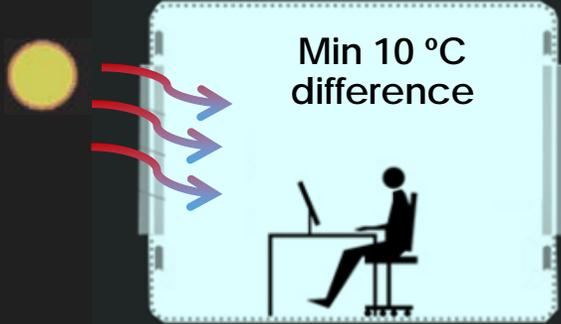
Wind resistance

High degree of sound insulation



Fire resistant for up to 4 hours.

7 hours for heat transfer from the external to the internal settings





ARBERRA

Wood Structures in Canada



The Origine Tower will be the "tallest wood condo tower in the World" with a height of 41 metres (13 stories).

A 100% mass-timber envelope, including its roof.



Wood Structures in Canada



The holes, and all the other openings, are factory-cut.

The two elevator shafts are made of wood.

Using the cross-laminated timber panels and beams.



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ARBERRA's Advantages

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ARBERRA



Can be built for Residential, Medical, Educational, and Commercial Buildings.

The Process' Advantages





ARBERRA



Can be built for Residential, Medical Educational, and Commercial Buildings.

The Process' Advantages



The Use of Natural Materials





Can be built for Residential, Medical Educational, and Commercial Buildings.

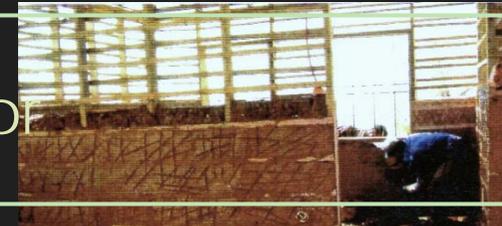


The Use of Natural Materials

The Process' Advantages



Unskilled Local Labor





ARBERRA

The Process' Advantages



Can be built for Residential, Medical Educational, and Commercial Buildings.



The Use of Natural Materials



Unskilled Local Labor



Environmental benefits (UNEP)





Proposed Structure Vs Reinforced Concrete



Saves construction time



EST: 50 % < R.C



Heating & cooling loads



EST: 35 % < R.C



Cost efficient



EST: 20 % < R.C



Social Impact

The project offers opportunities for training and employment for the local population.

In addition, this helps develop long-term self-sufficiency for the community.



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Residential High-End Building

Djibouti – Start Date September 2020



3D Section

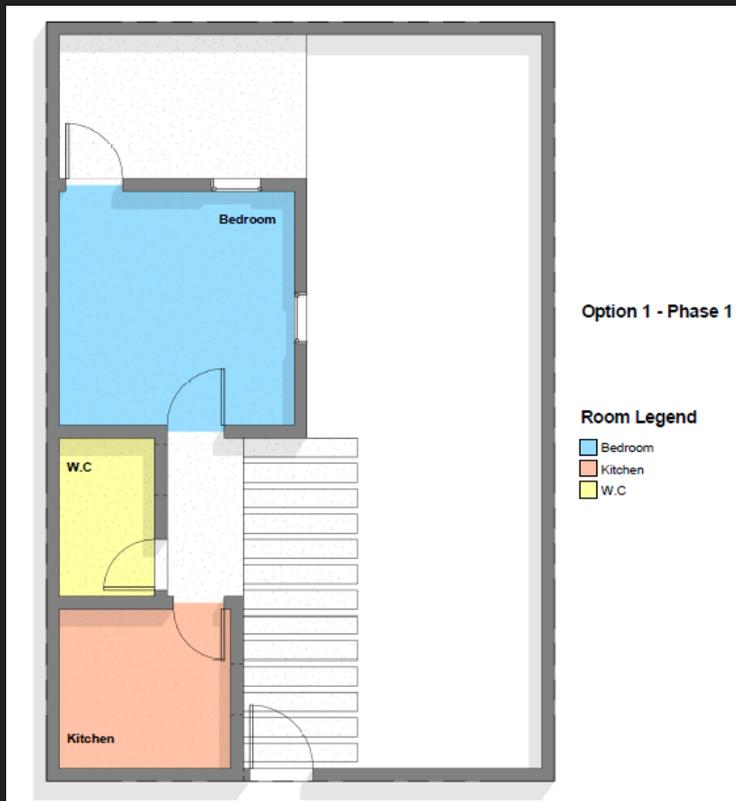


3D Shot

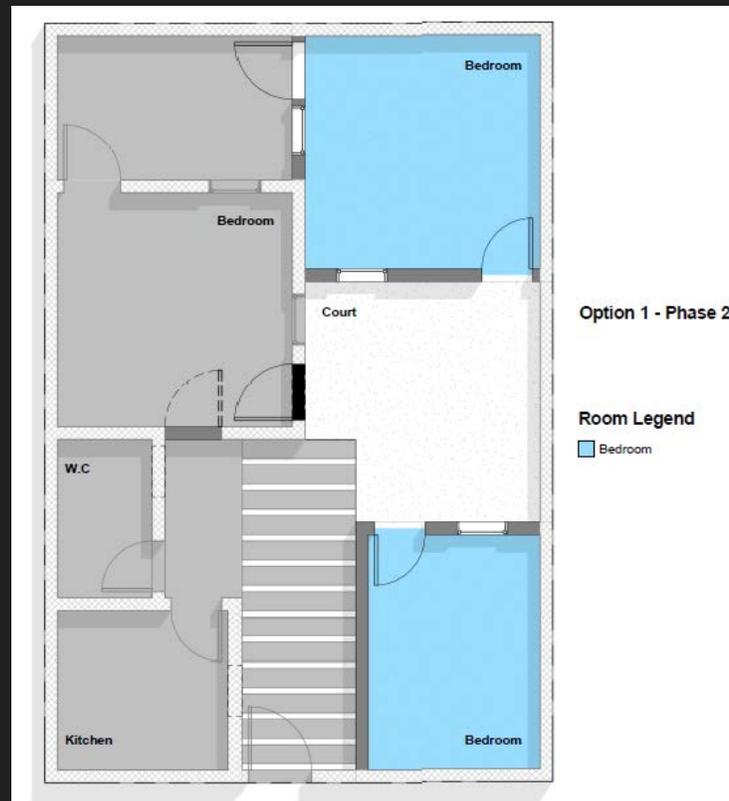


Residential High-End Building

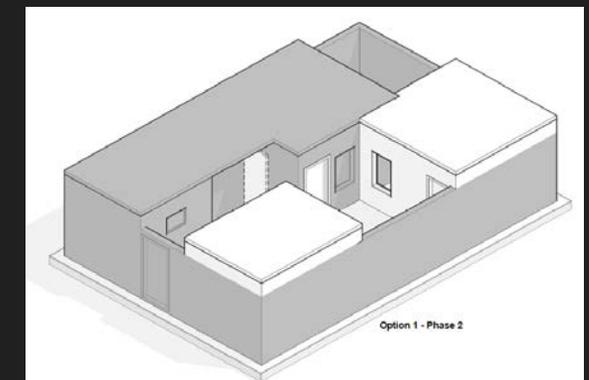
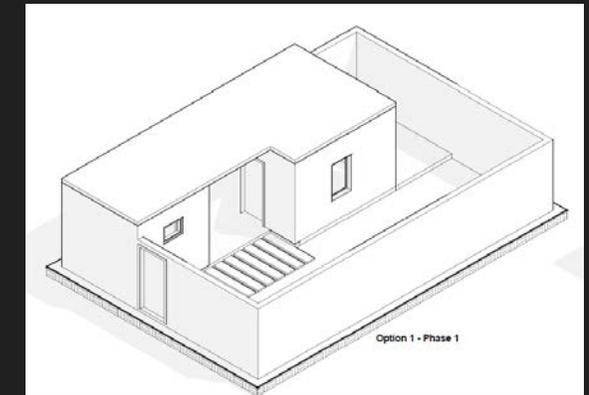
Social Housing



Phase 1



Phase 2



3D Shots

4

Sample Units



Social Housing

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ARBERRA is working with Cleland Jardine, a Canadian leader in Structural Design, to:

1. Increase the number of stories for the structures, and
2. Improve the utilization of wood in the building process.
3. Planned development of educational programs.



We continue to research additional enhancements to optimize the use of clay with ZRS lab of Berlin.

Ziegert | Roswag | Seiler
Architekten Ingenieure

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To build housing in the following African countries by 2022.

To be the leader in Social Housing by 2025.

To establish our *ARBERRA Training Program*TM for unskilled labour to build, maintain and expand our Modular Housing



To create employment opportunities for workers through our ARBERRA Professional Skills Development™ training programs.

To encourage Universities to introduce Structural Engineering programs specializing in wood and clay structures.

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ARBERRA

Thank You.