

Liberstead



Registration Number #1002

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Liberstead Floating City Plan

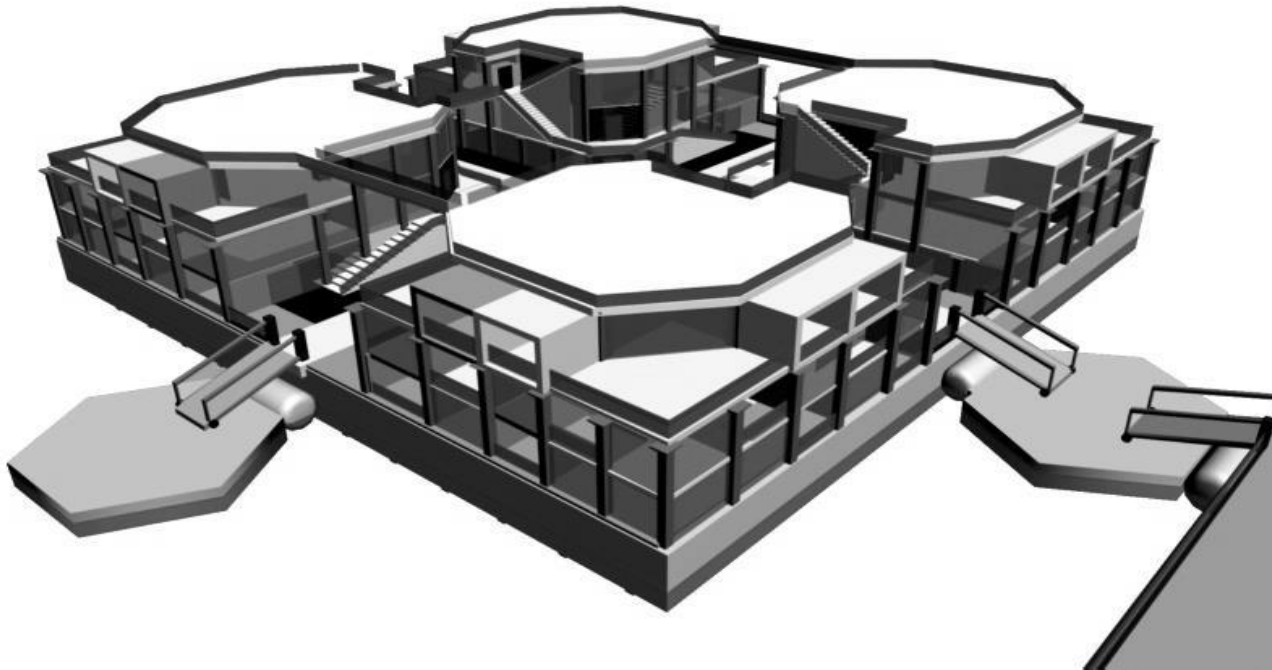
This plan illustrates a city of 1000 residents in its seventh year.

- Phase 1 – Four 160x160 foot concrete caissons start the city.
 - Three of them have 44 condo-apartments sold as luxury residences with investment and resale value. The sales pay for the creation of the city.
 - A central building contains eating, administration and medical facilities.
 - Rooftop farms, integral solar power, and generous public spaces
 - Emphasis on safety and security
- Phase 2 – With the city core in place, the city grows by innovating a building method while at-sea.
 - These units are smaller, based on 60x60 foot platforms
 - Substantially lighter materials mean the units can be lifted for maintenance.
 - Onsite construction (at sea) lowers the per-unit cost.

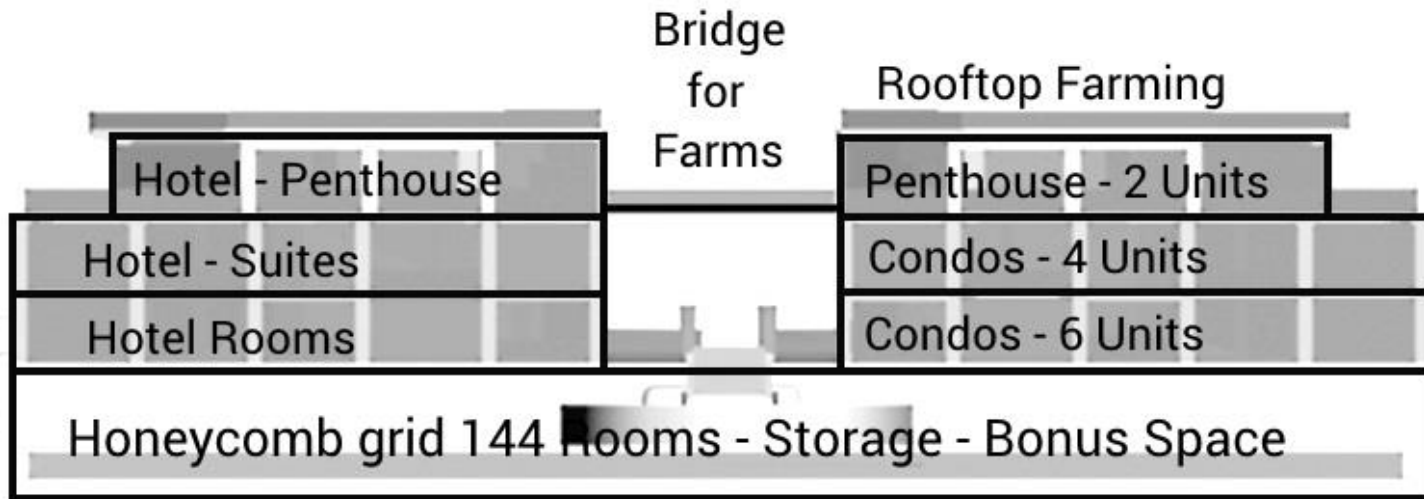
The Liberstead Plan is a realistic and cost-effective plan for a floating city that might be located in a bay, like the Gulf of Fonseca, or on the open ocean in an equatorial environment. Safety and stability are assured even with Category-5 winds and 30 foot waves.

Phase 1- Urbanados - (Spanish for Swimming City)

- 160x160 feet (50m by 50m), concrete caisson
- 4 Condo buildings, 3 stories tall, 44 units total
- Studio, 1, 2 and 3 bedroom units
- Rooftop sustainable farming

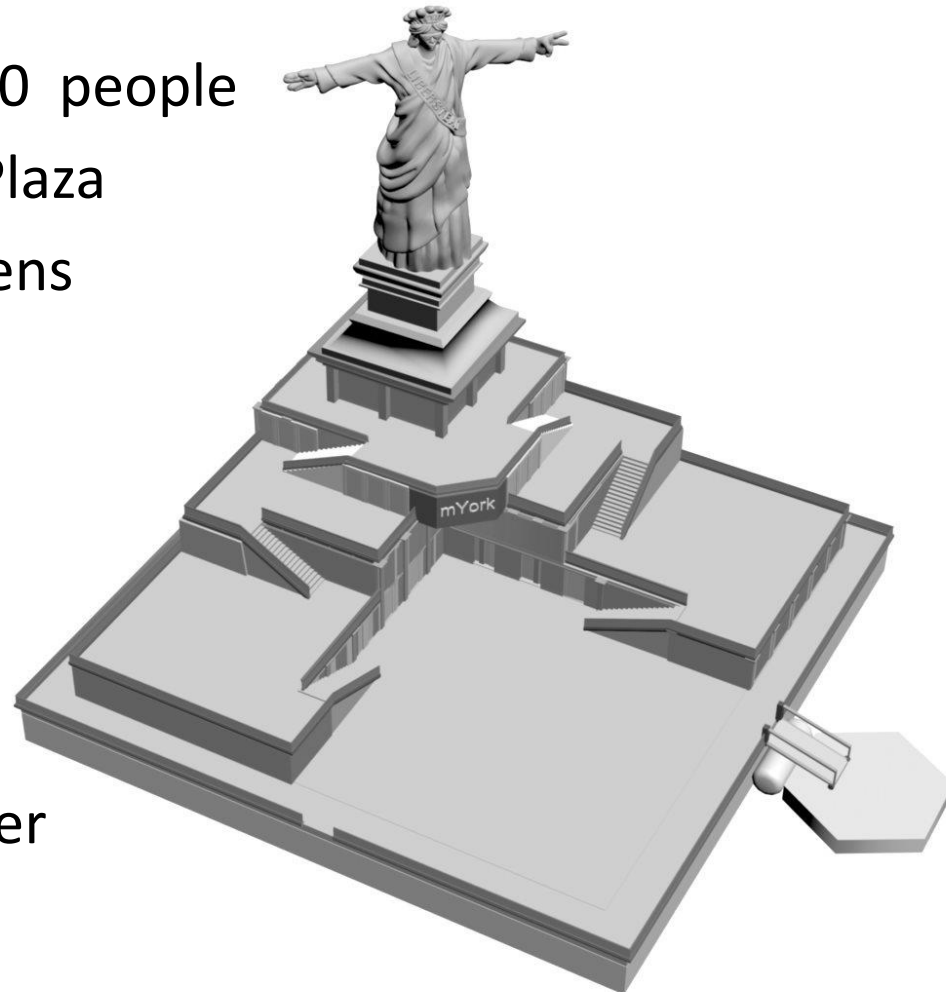


Urbanado Section View

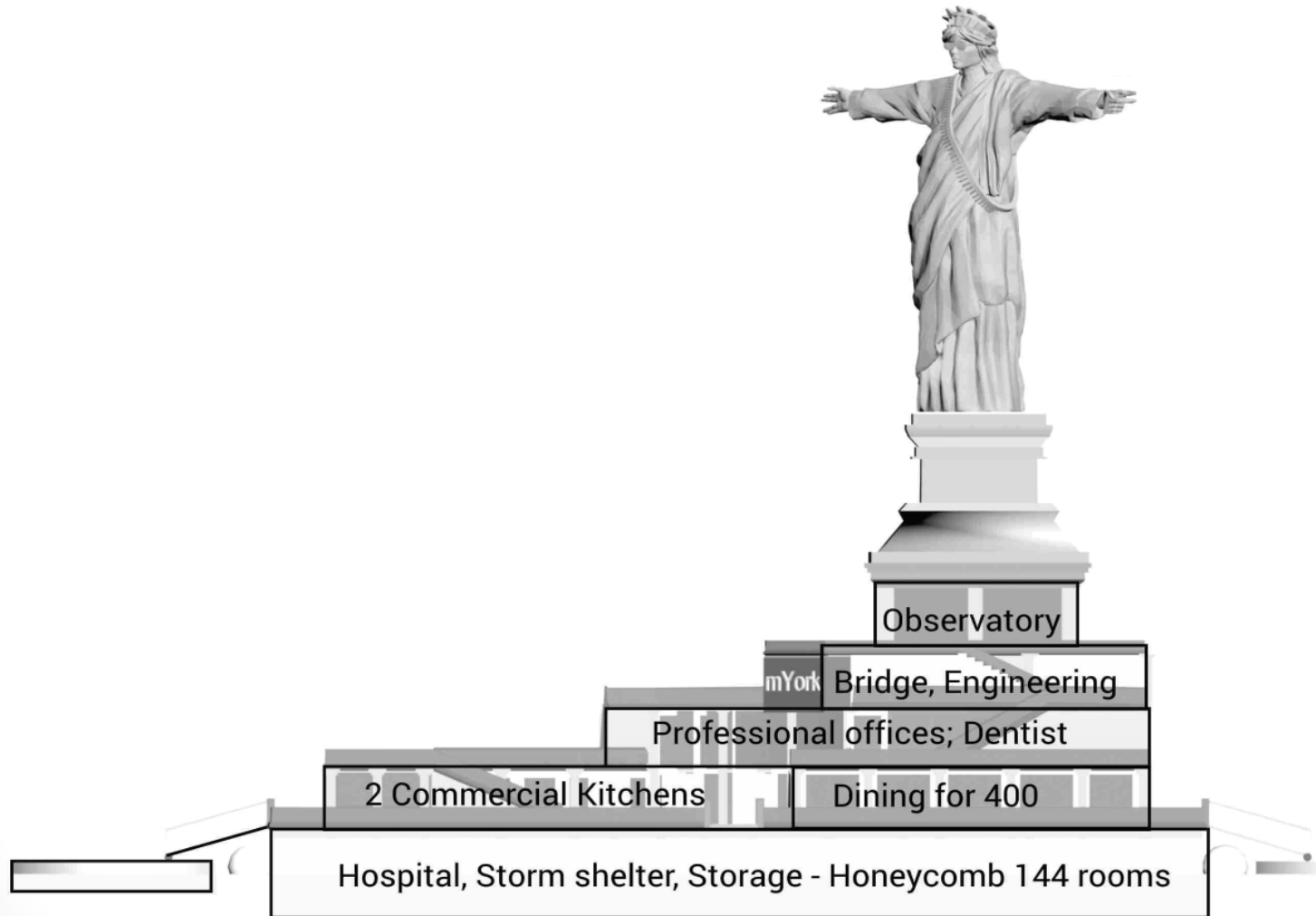


Phase 1 - mYork (mobile York)

- 160x160 feet
- Indoor dining for 400 people
- Outdoor dining on Plaza
- 2 Commercial Kitchens
- Professional offices
- Bridge
- Observation Room
- City center plaza
- Hospital, Dentist
- Liberty the Redeemer

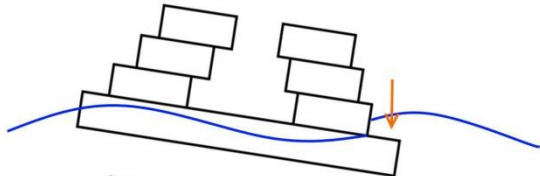


mYork Section View

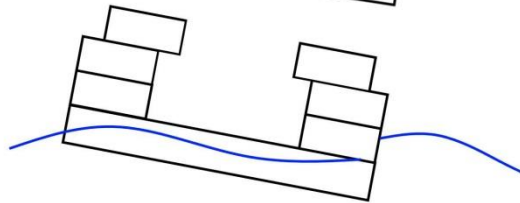


Urbanado Seakeeping

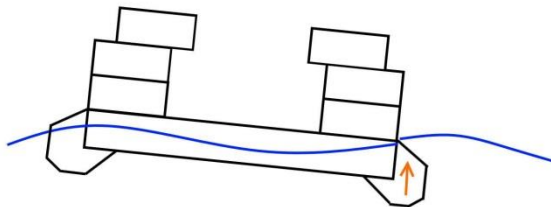
The concrete platform weighs about 5000 tons.
This mass causes the platform to lag in the waves
Waves may overtop the leading edge.



Problem:
Incoming wave overtops side.



Possible Solution 1:
Keep 1st floor flush to edge.



Possible Solution 2:
Add foam/polymer flotation

Modular Foam/Polymer edging could add 1200 tons of displacement
This would lift the concrete platform 18-inches, reducing the draft by 25%
from 6-feet to 4.5-feet, increasing the freeboard from 6-feet to 7.5 feet.

Phase 1 Cost, Weight

Phase 1 Investment (Dollars)	Unit Sales	Ft2	Per ft2	Qty	Income
Penthouse 3 Bdr	1,895,000	1700	1115	12	22,740,000
Penthouse 1 Bdr	1,295,000	1200	1079	12	15,540,000
2nd floor 2 Bdr Suite	1,295,000	1300	996	24	31,080,000
2nd floor 1 Bdr Suite	995,000	900	1106	24	23,880,000
1st Floor 1 Bdr Suite	895,000	800	1119	36	32,220,000
1st Floor Studio	495,000	400	1238	36	17,820,000
Seed Fund or Financed					100,000,000
Project Cost					243,280,000

Uses lightweight concrete low density aggregate (LWC), 110 lbs per cubic foot. Normal concrete is 145 lbs per cubic foot

Phase 1 Expense (Dollars)	Cost		Qty	Expense	
Concrete Caissons	24,000,000		4	96,000,000	
Condo Units	220,000		144	31,680,000	
mYork Office	10,240,000		1	10,240,000	
Sanitation Systems	95,000		4	380,000	
Desalinization Systems	95,000		4	380,000	
Solar + batteries	295,000		4	1,180,000	
Labor and Management	4,400,000	Per Yr	Years	5	22,000,000
Allowance Overruns					81,420,000
					243,280,000

Urbanado Displacement

Height	12 Feet Tall
Concrete Weight	110 Lbs/Ft3
Exterior Walls	317 Tons
Interior Walls	3,174 Tons
Slab Top and Bottom	1,408 Tons
Total Weight	4,899 Tons
Displacement	25,600 Square Feet
	818 Tons per Foot
	5.99 Draft (Feet)

Phase 2 Concept

Phase 2 proposes:

- Liberstead purchases a used Handymax size bulk carrier
- Outfit the holds for 3-D building printing and building manufacture
- Develop a lightweight building material possibly derived from expanded polystyrene foam (EPS) and vinyl ester resin.

With this investment, the city can manufacture at sea, and can produce 60x60 foot “Casanados”

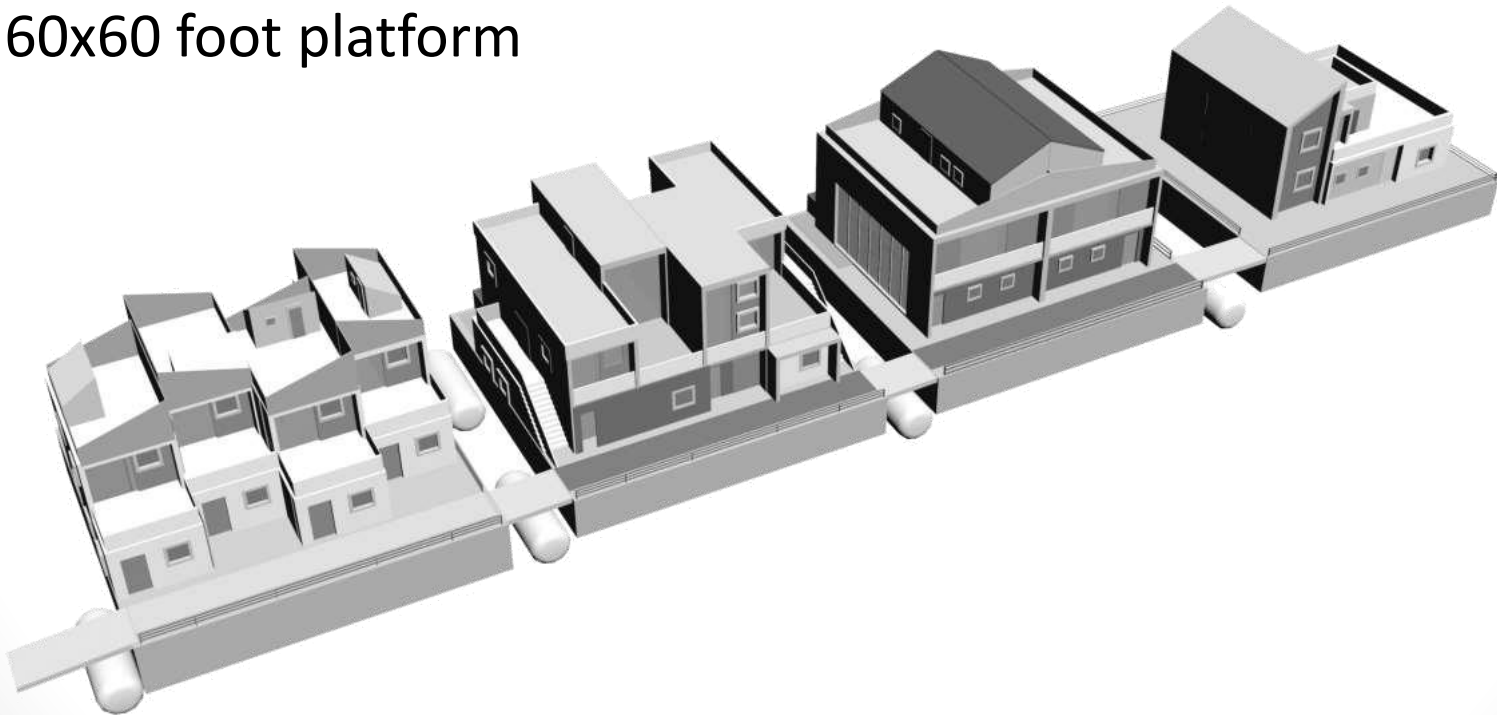


Phase 2 Production Setup

Used Panamax Bulk Carrier	28,000,000
Drydock and repair ship	4,000,000
Outfit as 3d Printer	4,000,000
Allowance/Overruns	14,000,000
Total Production Setup Cost	50,000,000

Phase 2 - Casanados (Swimming Houses)

- Stylomer foam (EPS Foam + Fiberglass + Vinylester)
- 4-Plexes, Duplex, Single House
- 3-D Printed at sea (on site)
- 60x60 foot platform



Phase 2 – Casanado Cost, Weight

Phase 2 Casanado cost	Quantity	Per	Cost (Dollars)	Lbs	Weight
EPS/Wall Fill	20160 Ft3	1.42 ft3	28,627	1.20	24,192
Exterior Coating	14400 Ft2	108 Gal	13,392	1.00	14,400
Structure Framing	14400 Ft	3.62 Lin foot	52,128	0.50	7,200
Windows	44	400 Per	17,600	20	880
Fixtures	4	2000 Total	8,000	20	80
Instant hot water	8	500 per	4,000	20	160
Desalinization	1	8000 per	8,000	400	400
Waste Treatment	1	8000 per	8,000	1,200	1,200
Solar Power + Battery	1	4000 per	4,000	2,400	2,400
Gyroscope	1	40000 per	40,000	1,200	1,200
Labor/Management	16	500 per day	8,000		-
Allowance/OVERRUNS	1		28,253		-
Cost to manufacture a Casanado			\$ 220,000	Weight	52,112
				Draft-Ft	0.23

Estimated Phase 2 Housing Prices	Sales Price	Ft2	Per ft2	Qty	Total
2 Bdrm Townhouse in 4-Plex	59,500	1120	53	4	238,000
2 Bdrm Flat in 4-Plex	59,500	1000	60	4	238,000
3 Brdm Duplex	114,500	1800	64	2	229,000
Detached House	229,500	2100	109	1	229,500

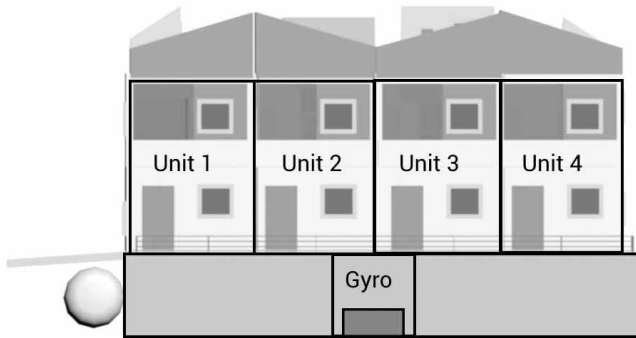
At \$53 per square foot, casanados make Seasteading affordable

No Connections

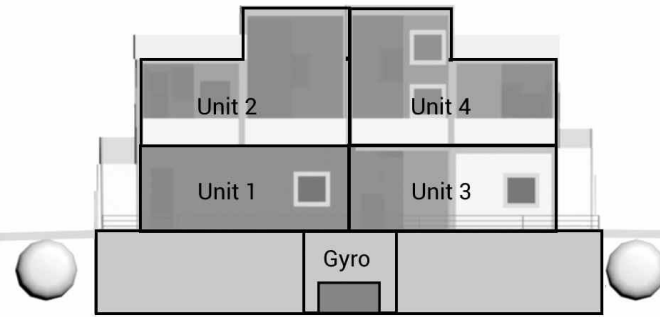
- Each Platform contains
 - Solar Cells and Batteries
 - or Wave Power Generation
 - Water Desalinization
 - Sewage processing
- Centralized services
 - Commercial Laundry
 - Food Production
 - Garbage Composting
 - Trash Incinerator
 - Satellite Internet
- Each Unit Uses
 - Low Flow Toilets
 - Instant Hot Water
 - Natural Air Cooling
 - LED Lights
 - LED Walls (video)
- Proposed HOA
 - \$100/mo maint
 - \$100/mo medical
 - \$250/mo food
 - Voluntary HOA Fee

Casanado Section View

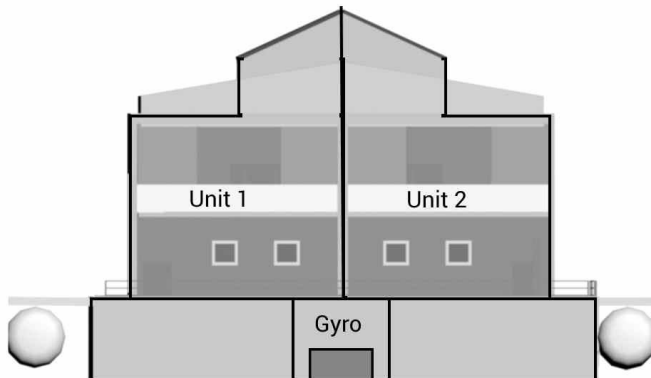
4-Plex Townhouse



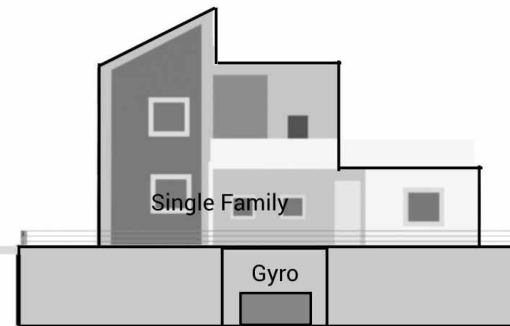
4-Plex Flats



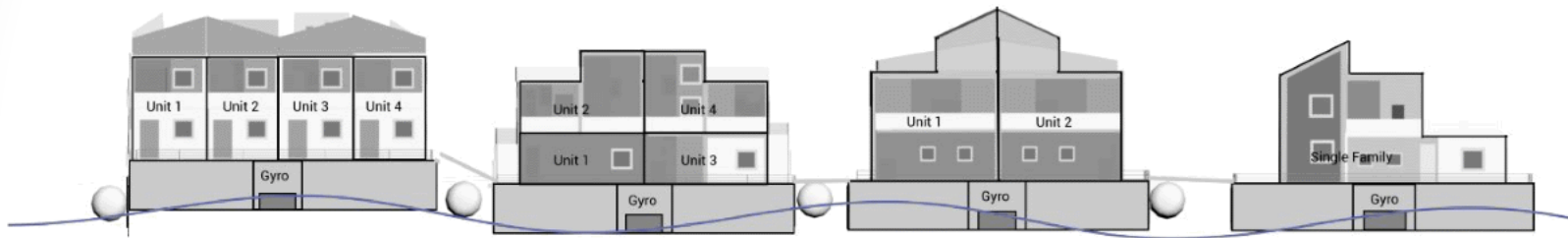
Duplex



Detached House

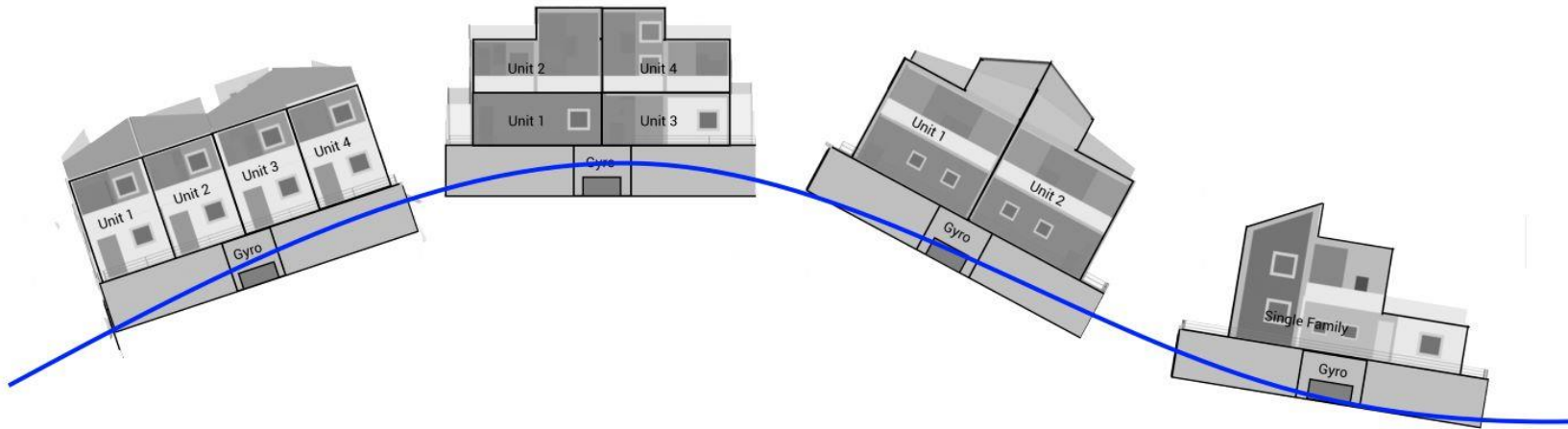


Casanado Seakeeping



Casanados are light – draft one-foot, freeboard 7-foot
Marine gyros can easily steady the light structures
Seakeeping – 25mph wind, 5-foot waves, 10 waves per minute
Vertical rise 3-feet, angular motion zero (gyro dampened)

Casanados in Storms



In heavy waves, the gyros spin down.

Casanados follow the waves.

50mph wind on open ocean (1000 mile fetch)

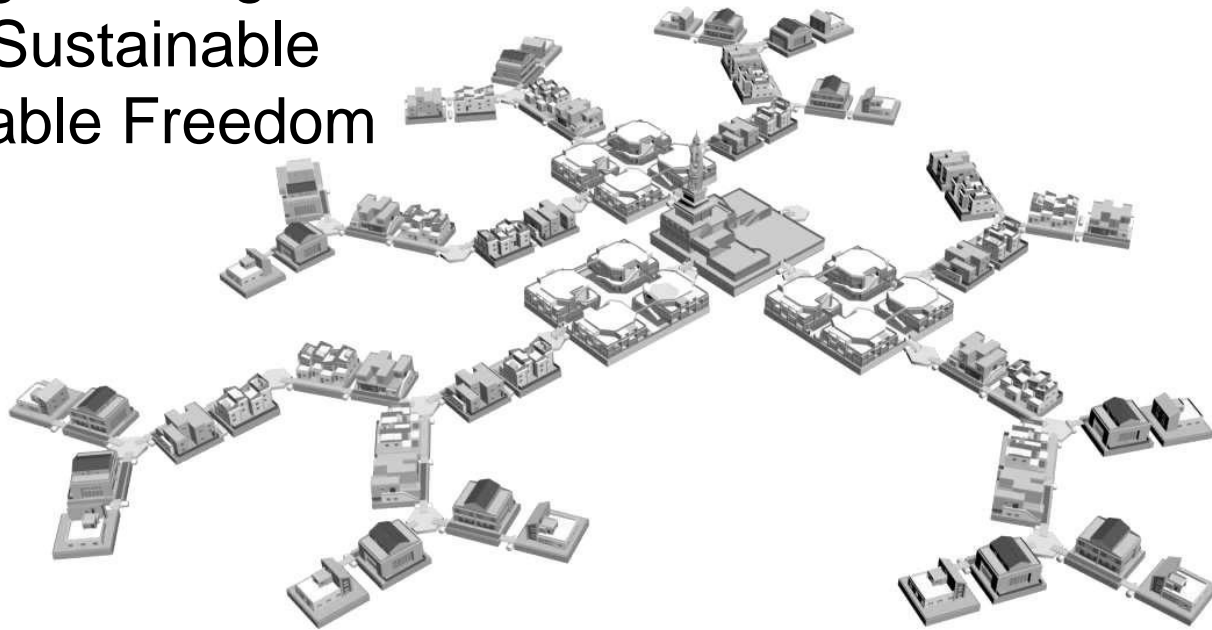
30 foot waves, 5 waves/min

7-feet of freeboard adds reserve buoyancy

Overall light design “Like a boat” prevent upset

City Plan

- Heavy platforms at city core
- Outer units dampen waves
- Bulk carrier prints casanados
- Fishing, farming
- Eco—Sustainable
- Affordable Freedom



Liberstead

- Thank you for learning about Liberstead
- Now, sit back and enjoy the pictures



Liberstead Overall Section View

























Liberstead