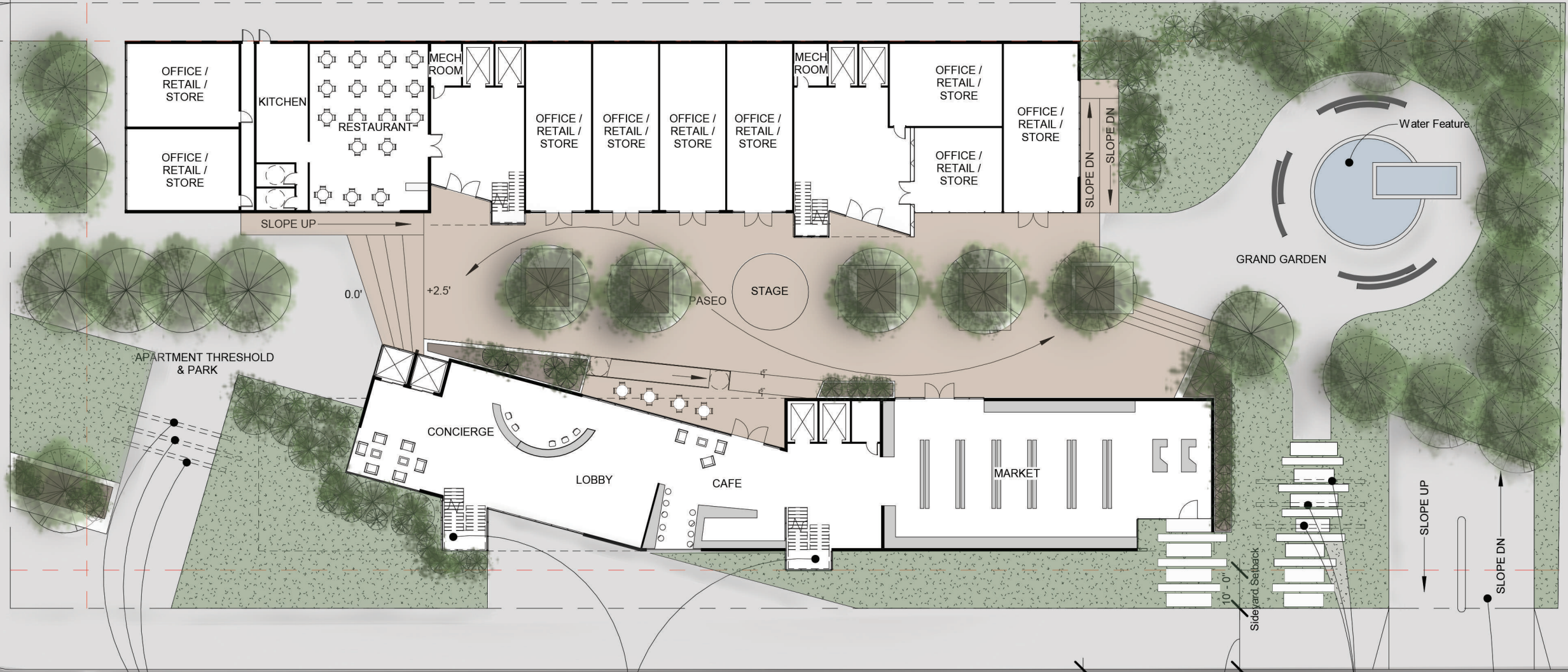


W. 12TH ST.

10' - 0" Sidewalk  
20' - 0" Streetside Setback

10' - 0" Rear Setback



PASEO TRELLIS THRESHOLD

"ATTRACTIVE STAIRS"

S. GRAND VE.

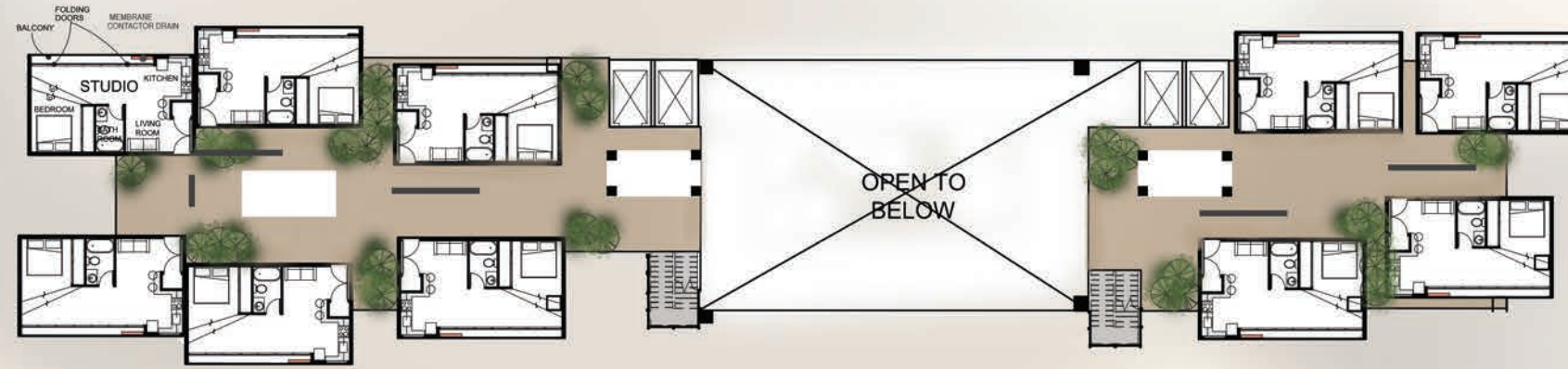
57' - 0"

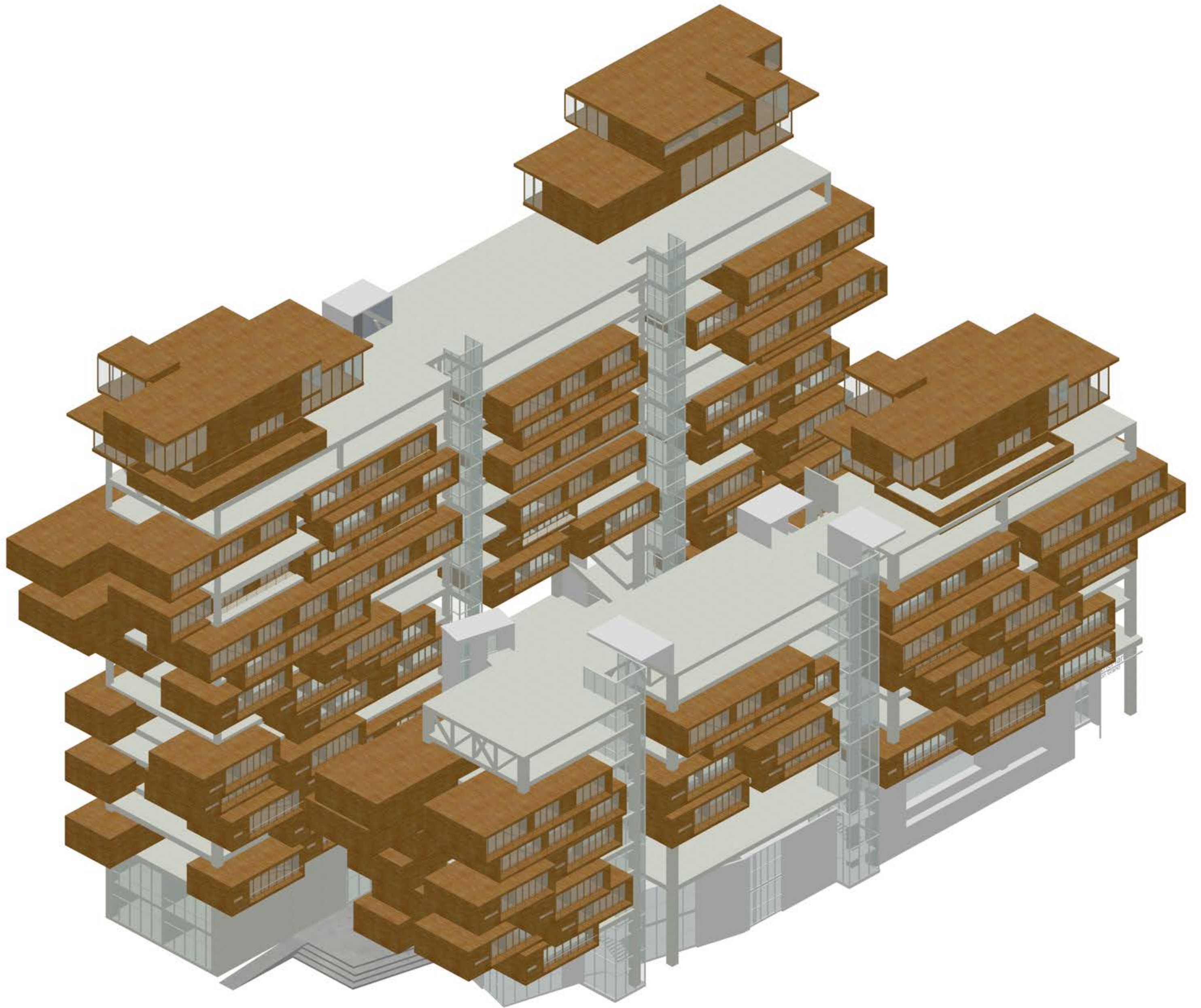
16' - 0" Sidewalk

GRAND PARK TRELLIS THRESHOLD

PARKING GARAGE ENTRY

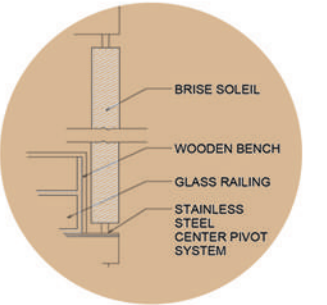
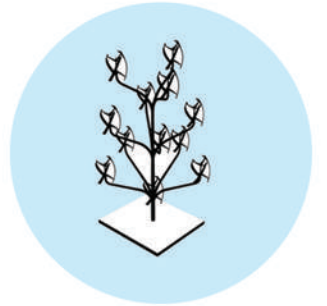
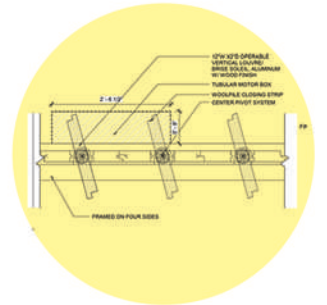
1 SITE PLAN  
1/32" = 1'-0"





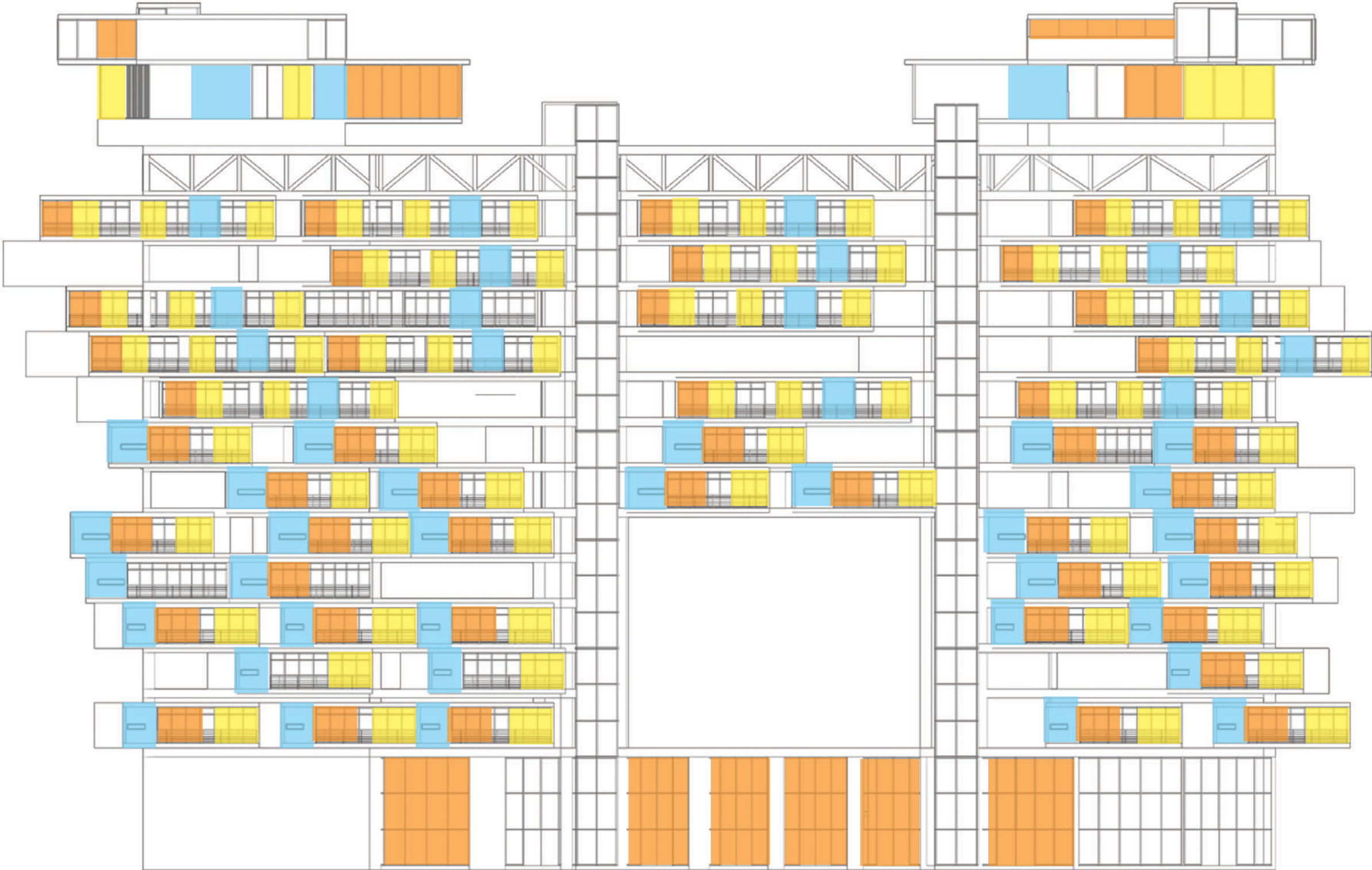
**SUSTAINABLE SYSTEMS**

- 1. PASSIVE VENTILATION
- 2. BUILDING AIR FILTRATION
- 3. MODULAR UNIT FILTRATION PANEL
- 4. WIND TREE/ TURBINES
- 5. PV WALL CLADDING
- 6. PV PANELS/ TRANSPARENT PANELS
- 7. OPERABLE SUN SHADING
- 8. MODULAR WOOD UNITS
- 9. CARBON ABSORPTION WOOD/ BRISE SOLEIL
- 10. TITANIUM DIOXIDE COATING
- 12. INTENSIVE GARDEN/ GREENSPACE
- 13. EXTENSIVE GARDEN/ GREENSPACE
- 14. LIVING/ ACTIVE GREEN WALL
- 15. GREEN WALL/ HANGING GARDEN





SUSTAINABLE SYSTEMS | ENERGY

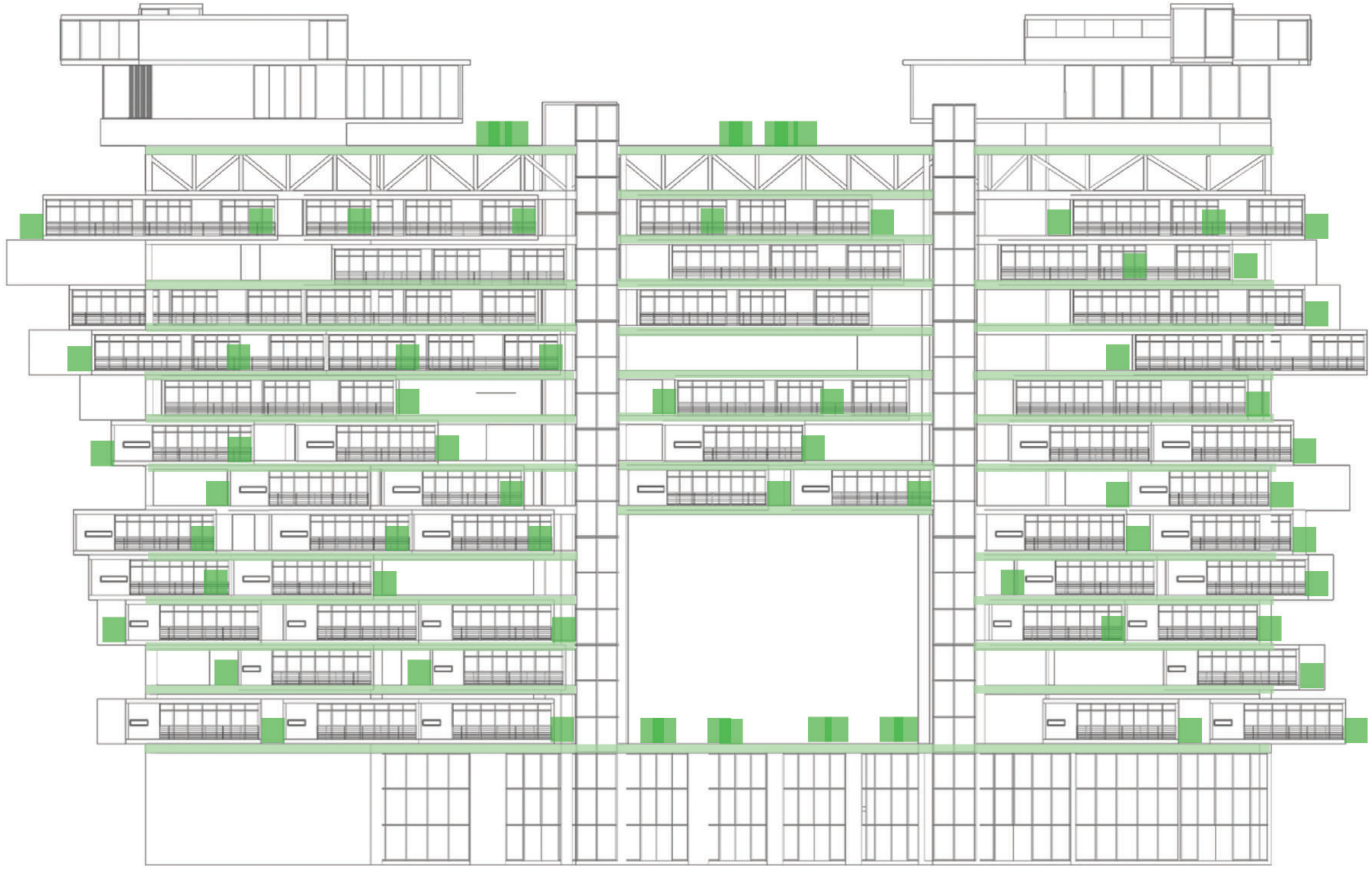




- PV PANELS
- TRANSPARENT PV
- NORMAL WINDOW/ DOOR

SUSTAINABLE SYSTEMS | AIR PURIFYING PANELS



-  AIR PURIFIER PANEL
-  BRISE SOLEIL



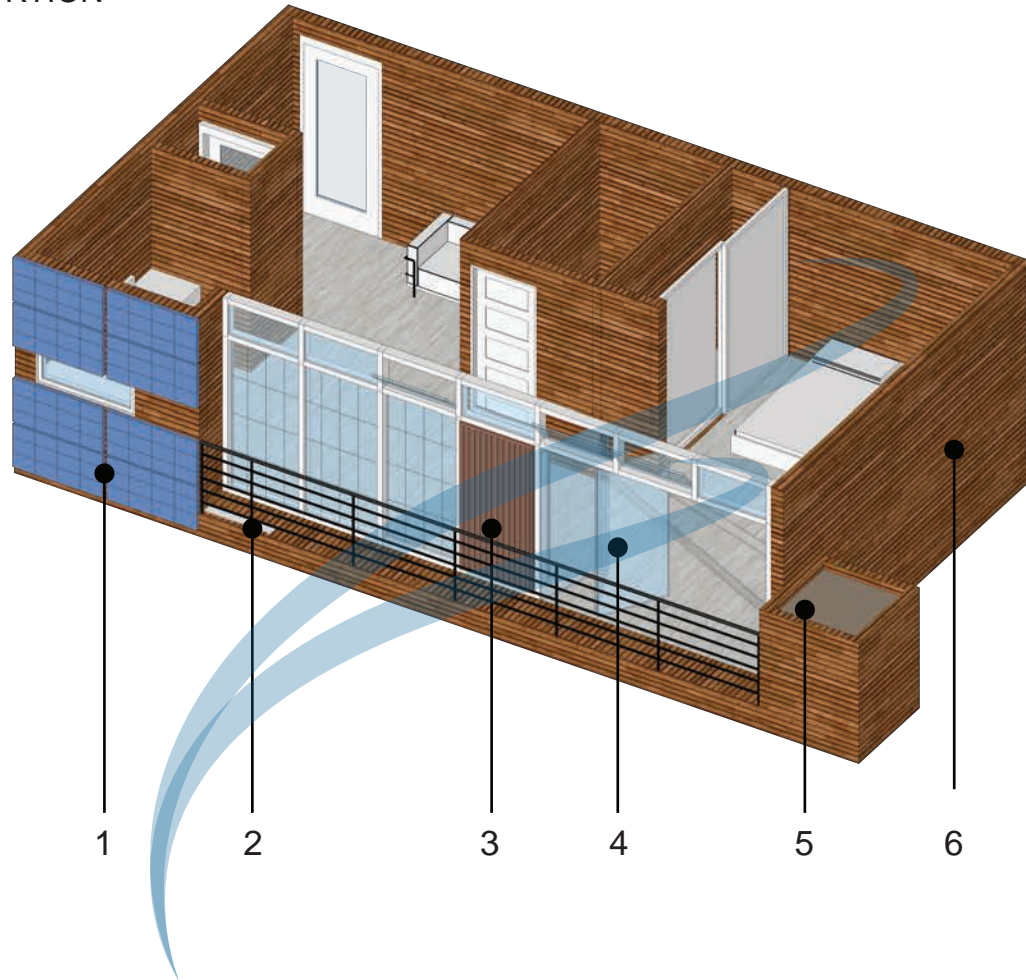
-  INTENSIVE GARDEN
-  EXTENSIVE GARDEN



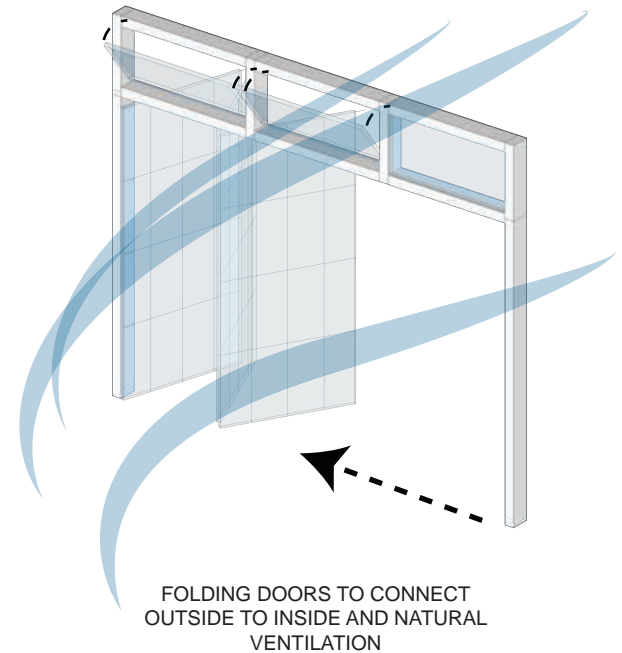
# SUSTAINABLE UNIT DIAGRAMS

## STUDIO APARTMENT | VENTILATION

1. PV PANELS FOR ENERGY
2. MEMBRANE CONTACTOR DRAIN
3. AIR PURIFIER FILTER
4. NATURAL VENTILATION
5. RESIDENT TREE FOR AIR PURIFICATION
6. WOOD FINISH FOR SMOG ABSORPTION

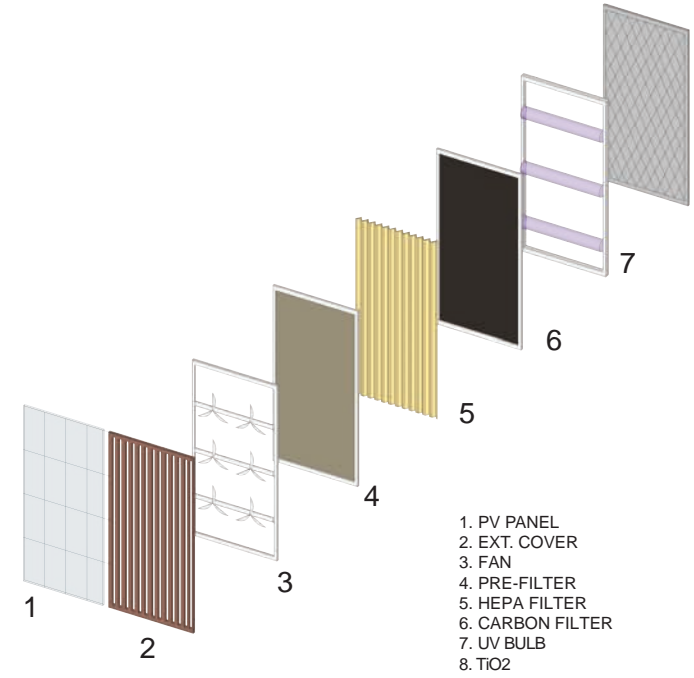
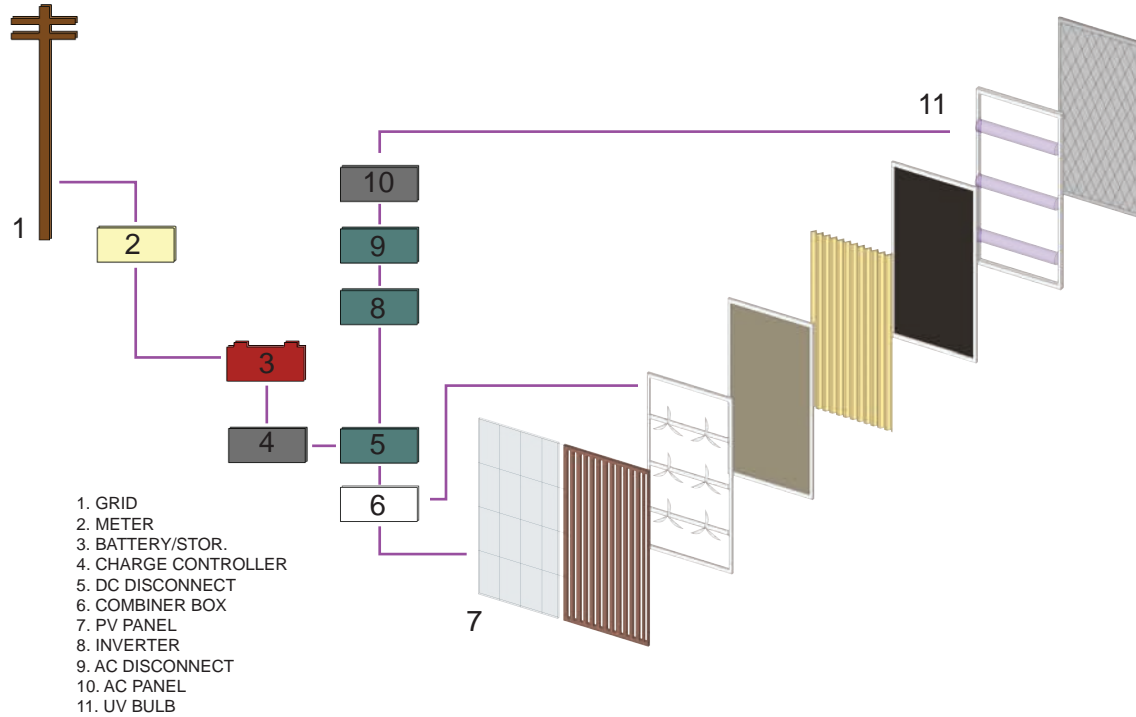


### 4. NATURAL VENTILATION



# AIR PURIFYING FILTER

## FILTER SYSTEM | COMPONENTS

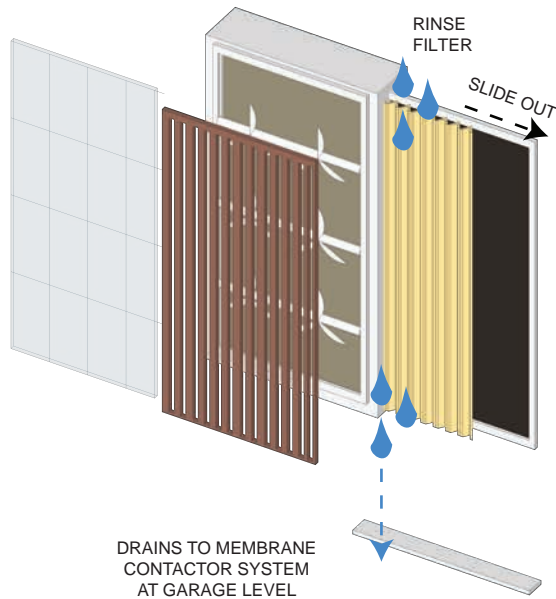


PV PANEL GENERATED AIR PURIFICATION  
 FILTER SYSTEM

# SUSTAINABLE UNIT DIAGRAMS

## STUDIO APARTMENT | VENTILATION

### 3. AIR FILTER

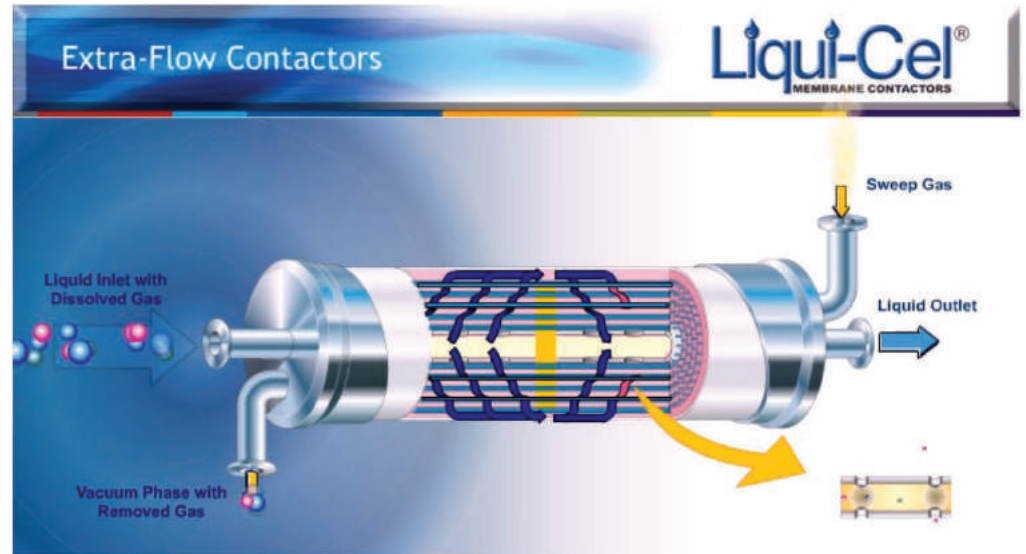


#### How to clean the Air Purifier:

Filter panels can slide out of the window mullion and system. User then rinses filter with water in designated outdoor membrane contactor drain. Water flows down to the membrane contactor plant underground (parking garage area, pressure drop is needed for system to work) which will cleanse the water of O<sub>2</sub> and CO<sub>2</sub> from the water and will be used as irrigation for the rest of the landscape at ground level.

The air purification filter contains many layers. The first layer, the Pre-filter will catch most large particles while the HEPA filter catches the smaller particles. Thus the rest of the filters in the system will have a longer life span.

The Carbon filter catches chemicals and odors in the air, in which the air flows through UVA light bulbs powered by their own personal PV panels which activates the Titanium Dioxide filter to absorb any last traces of carbon in the air. It is then released into the unit, providing cleaner air.



A product called Liqui-Cel provides a membrane contactor system that is FDA compliant, thus the water is safe for reuse for the residents' personal use.

#### How the Membrane Contactor system works:

- Tube: Hollow tube is wrapped in fiber fabric located at center.
- Baffle: Created in the middle of the hollow tube for gas transfer.
- Inlet: Liquid enters the inlet and travels to tube.
- Liquid: With dissolved gas, it is forced radially over the fibers on each side of baffle and exits through opposite outlet.
- Vacuum: Gas is swept through to push and remove residual gas from tube.

# Cortes + Luminarias\_air purifier

## Site Info



### Baseline Concept

LA, CA US

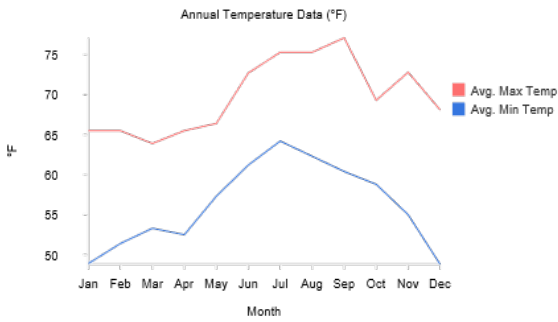
## Massings

	Occupants	Gross Area (GIA)	GIA/User
<a href="#">view report</a>	666	266,667ft <sup>2</sup>	400ft <sup>2</sup>

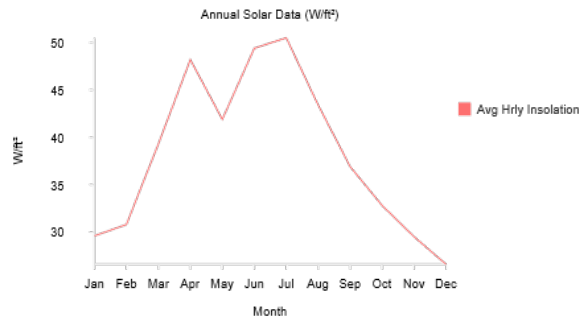
## Utility Info

<b>Electricity Rate</b>	0.240	\$/kWh
<b>Heat Rate</b>	8.80	\$/MMBTU
<b>Water Rate</b>	3.79	\$/1000·gal

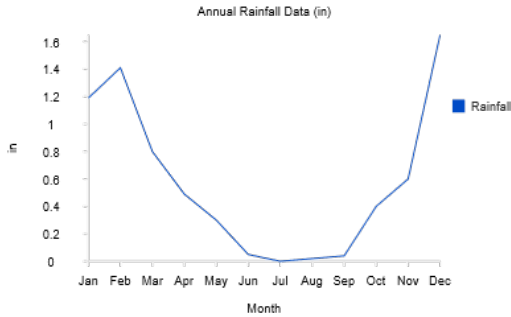
## Annual Temperature Data (°F)



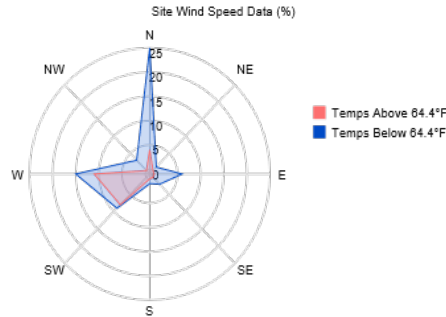
## Annual Solar Data (W/ft<sup>2</sup>)



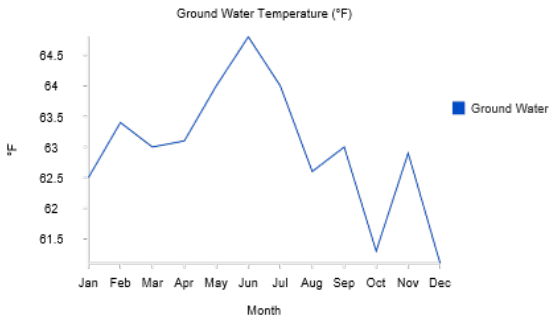
## Annual Rainfall Data (in)



## Site Wind Speed Data (%)



## Ground Water Temperature (°F)



## Energy Use

6,404,045 kBTU  
24 kBTU/ft<sup>2</sup>

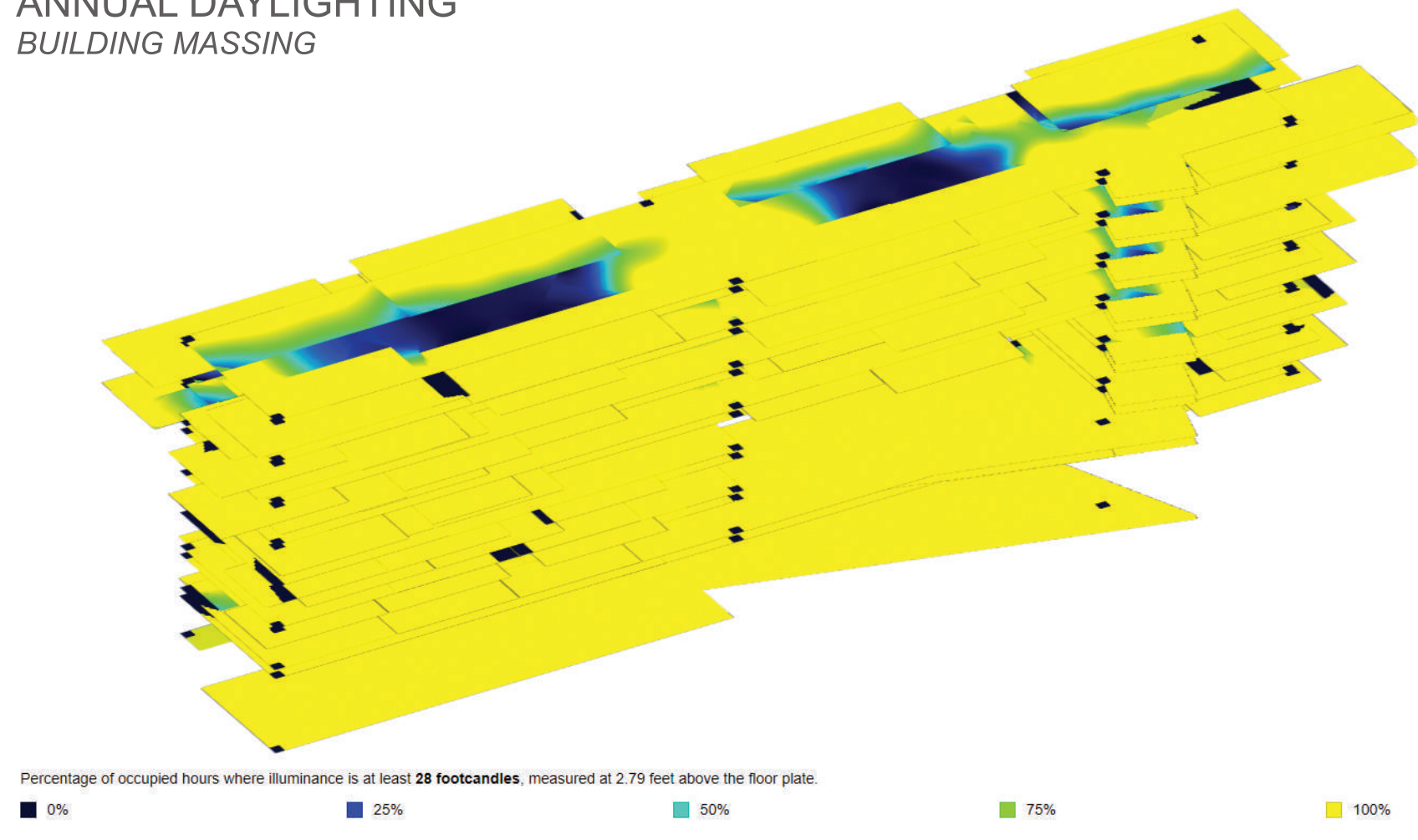
## Water Use

0 gal  
0 gal/person

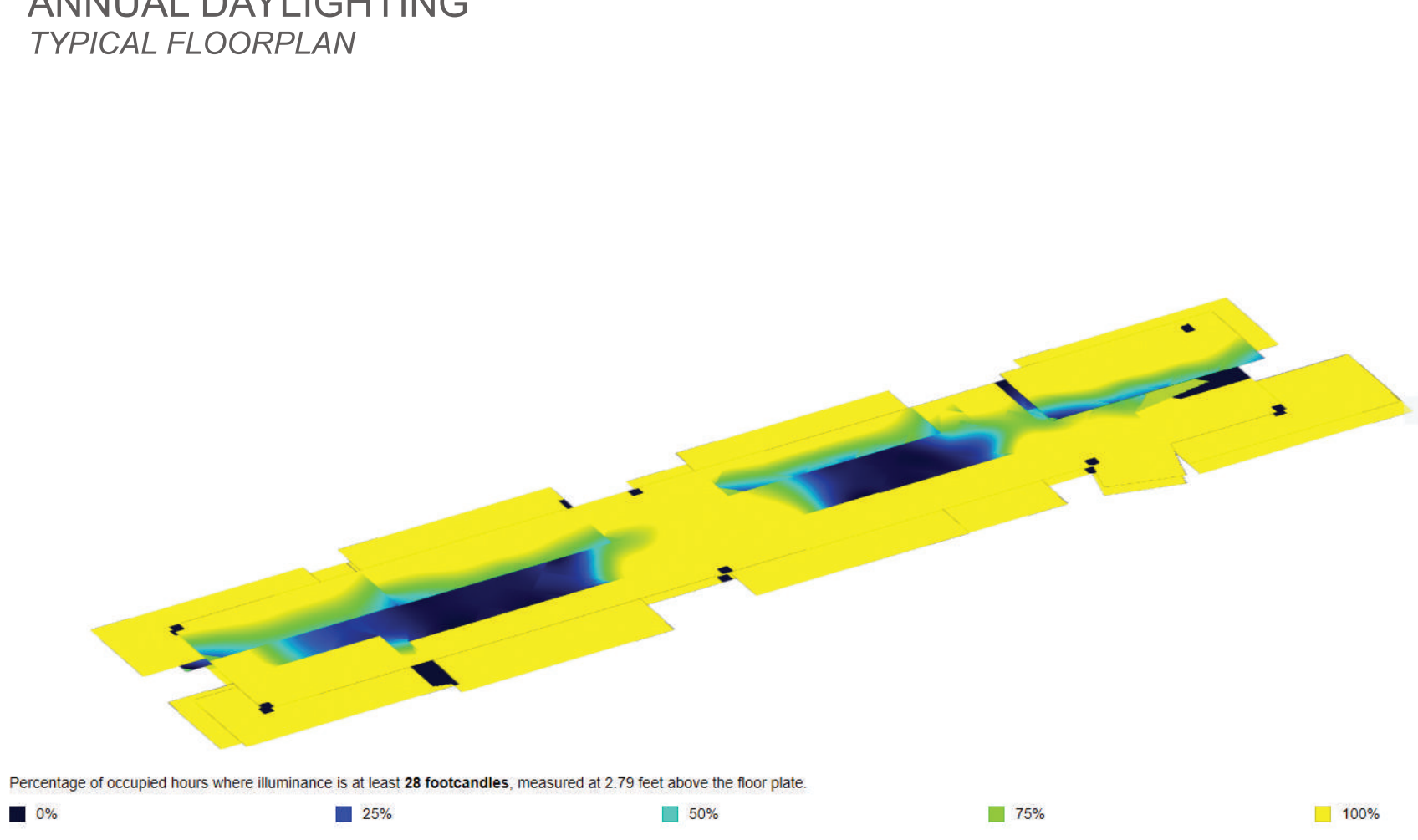
## CO<sub>2</sub> Emission

2,332,649 lbsCO<sub>2</sub>  
lbsCO<sub>2</sub>  
3,502 /person

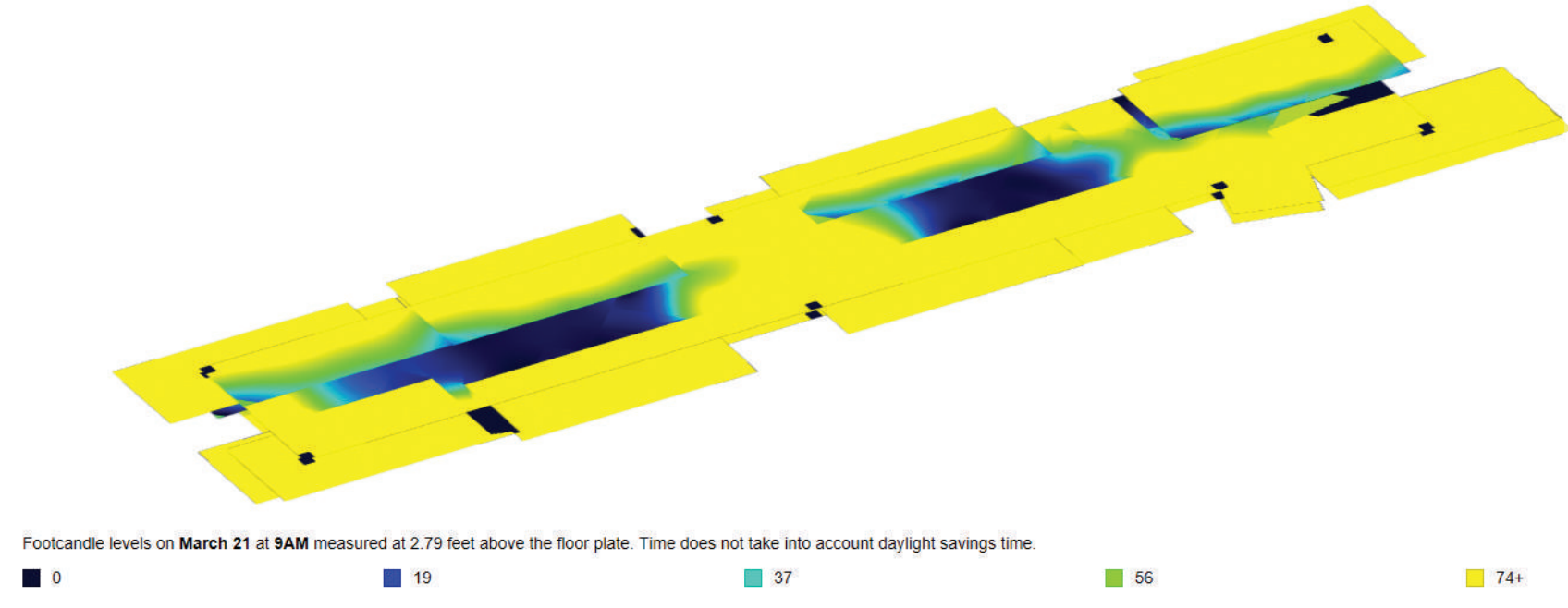
ANNUAL DAYLIGHTING  
BUILDING MASSING



ANNUAL DAYLIGHTING  
TYPICAL FLOORPLAN

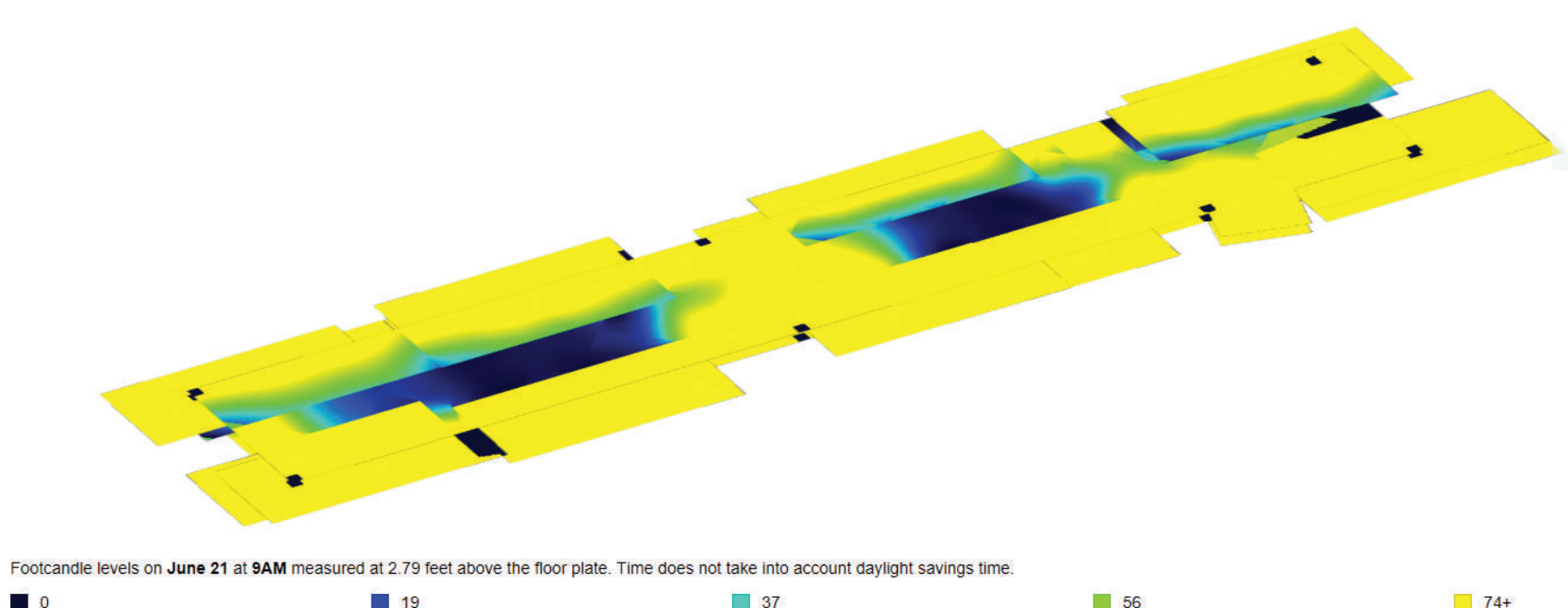


SPRING EQUINOX  
TYPICAL FLOORPLAN

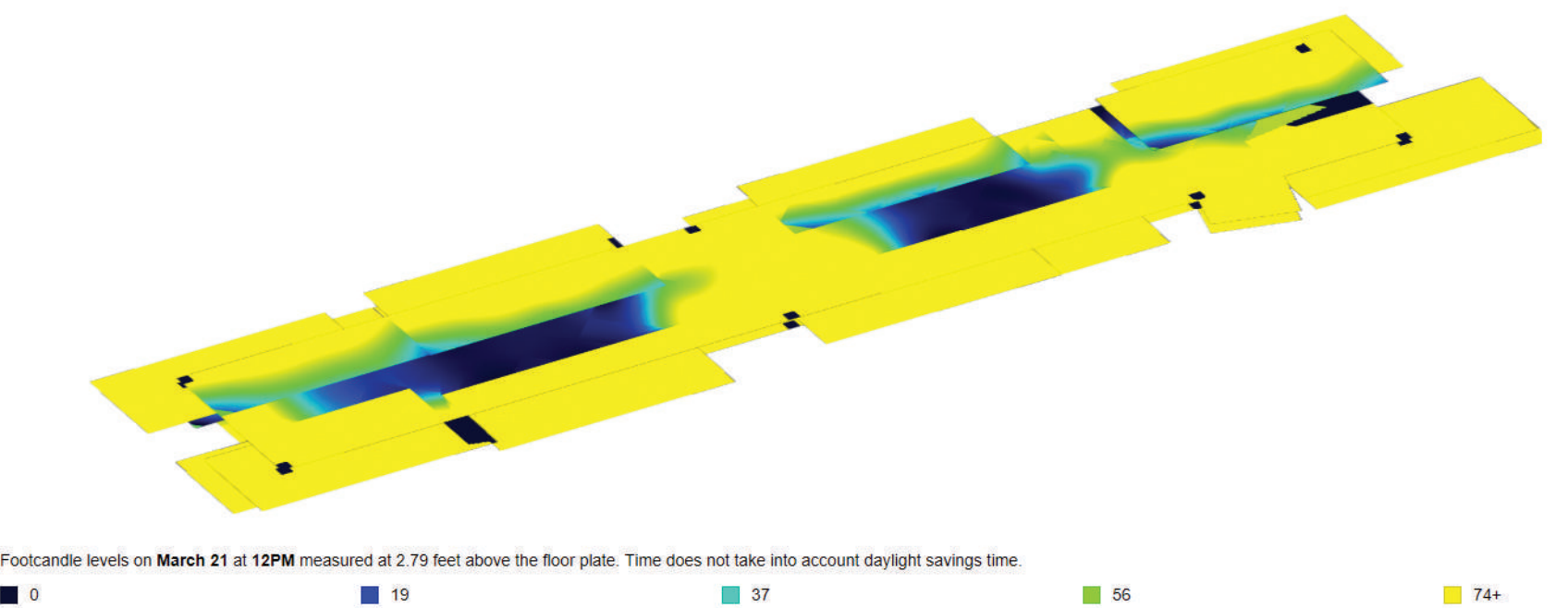


MAR 21  
9:00 AM

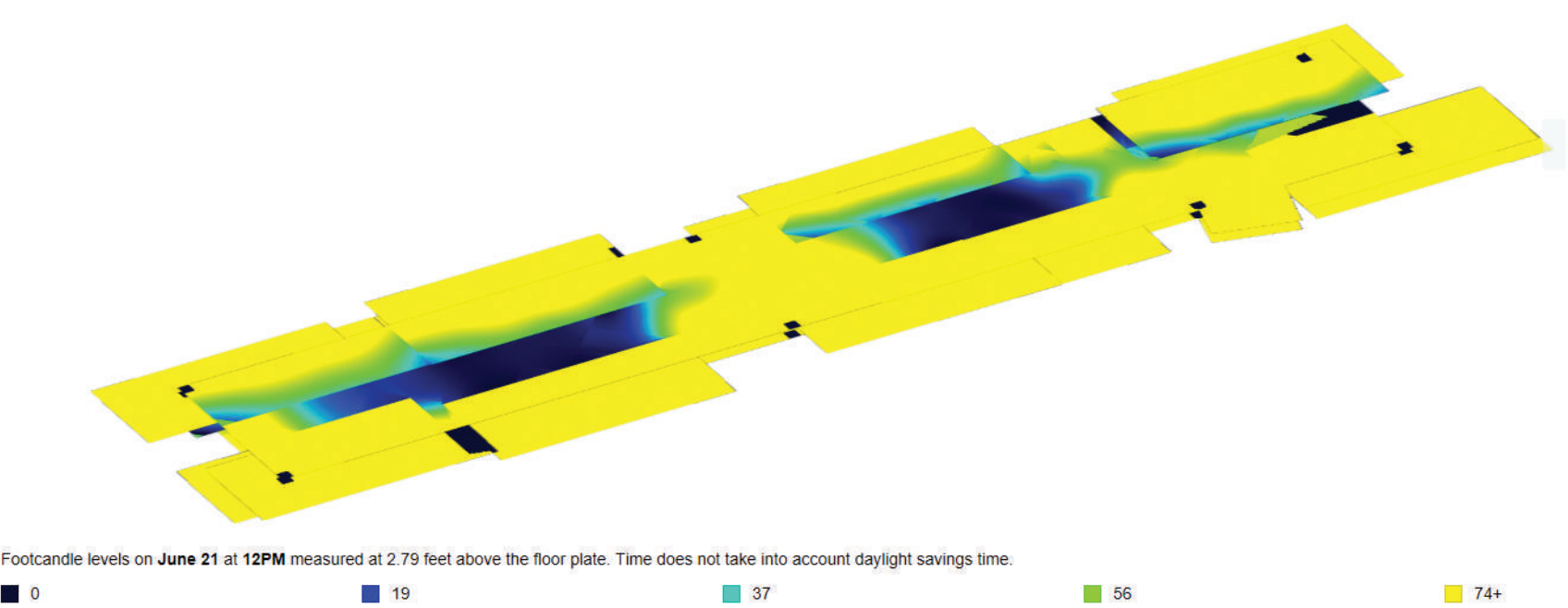
SUMMER SOLSTICE  
TYPICAL FLOORPLAN



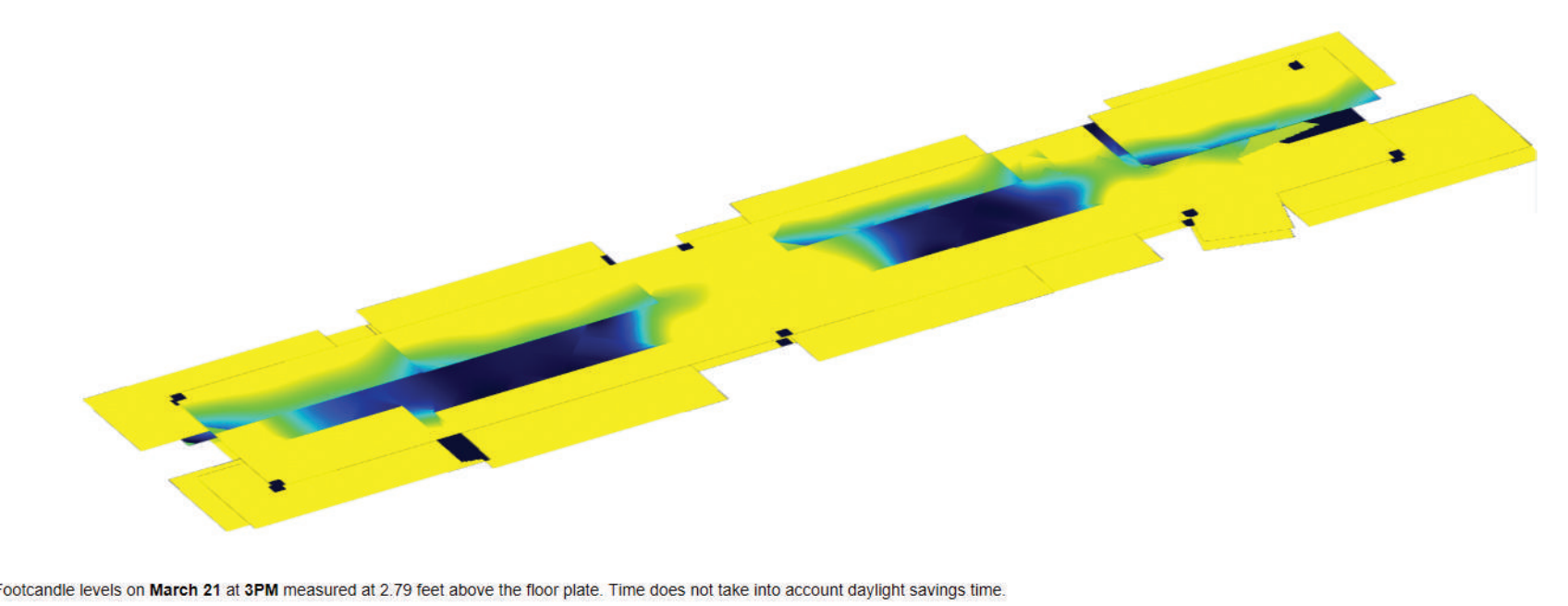
JUN 21  
9:00 AM



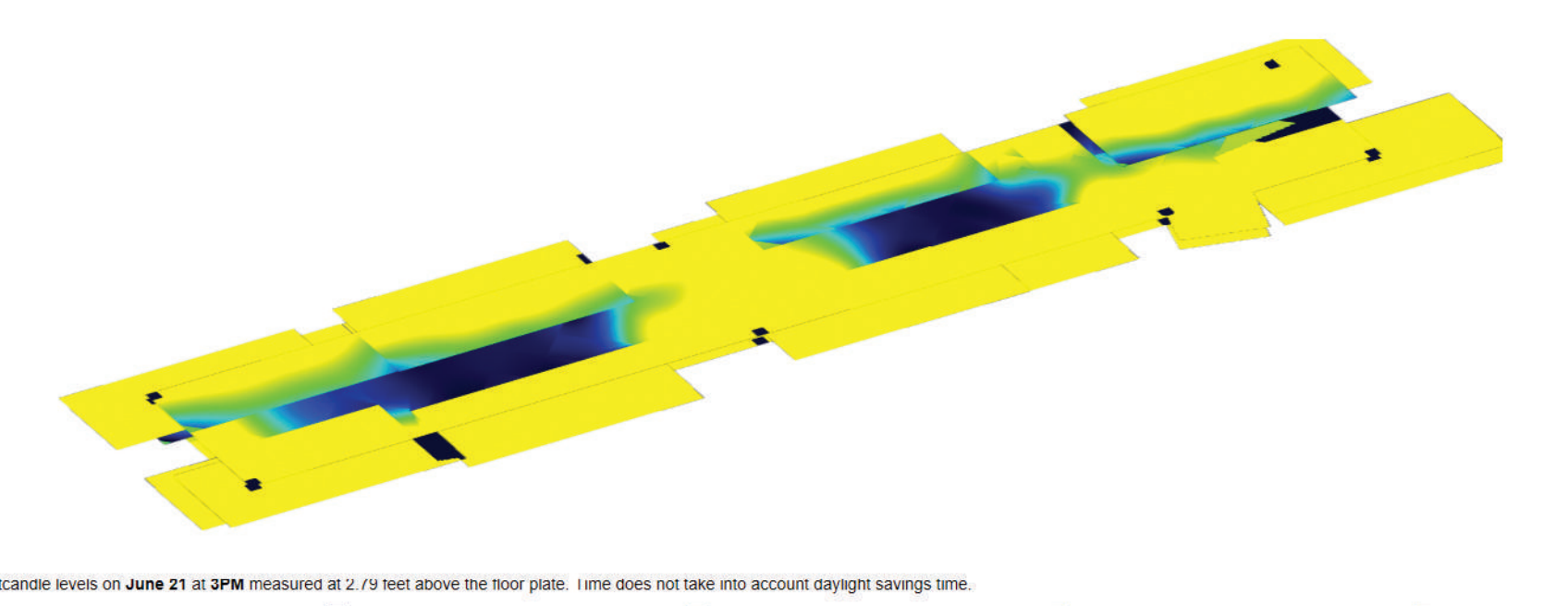
MAR 21  
12:00 PM



JUN 21  
12:00 PM

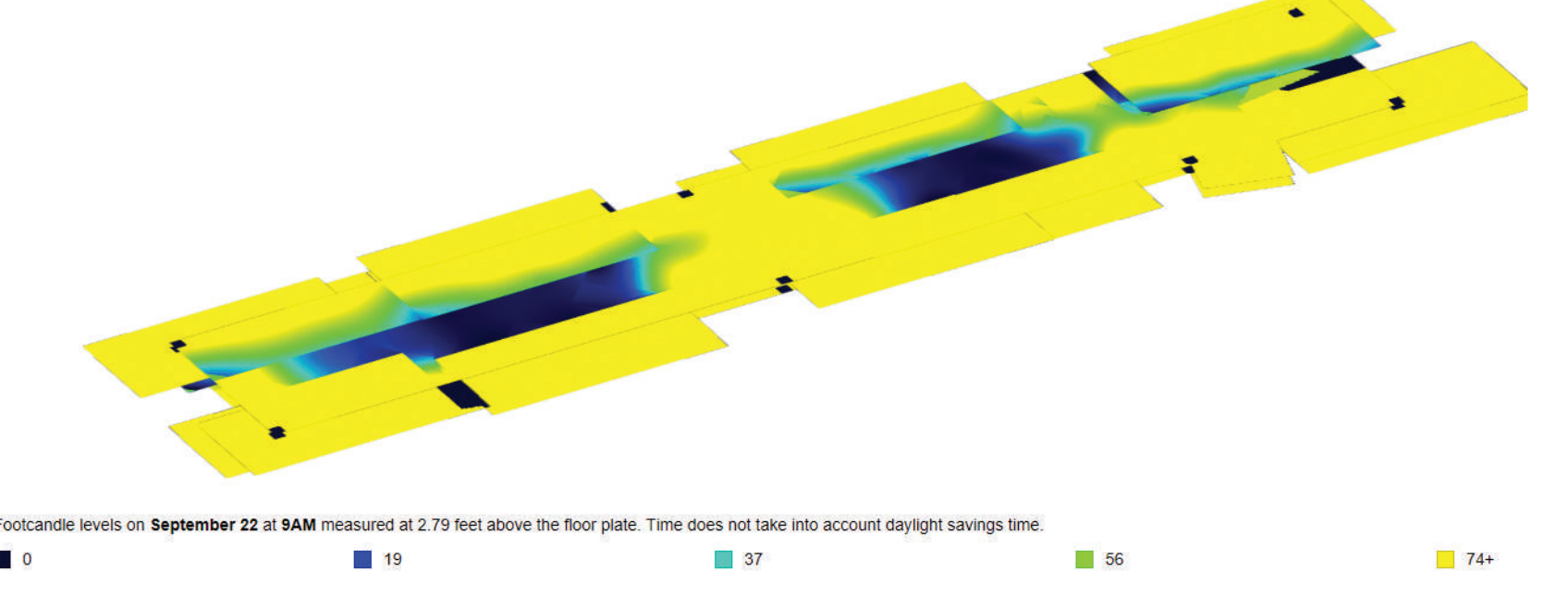


MAR 21  
3:00 PM



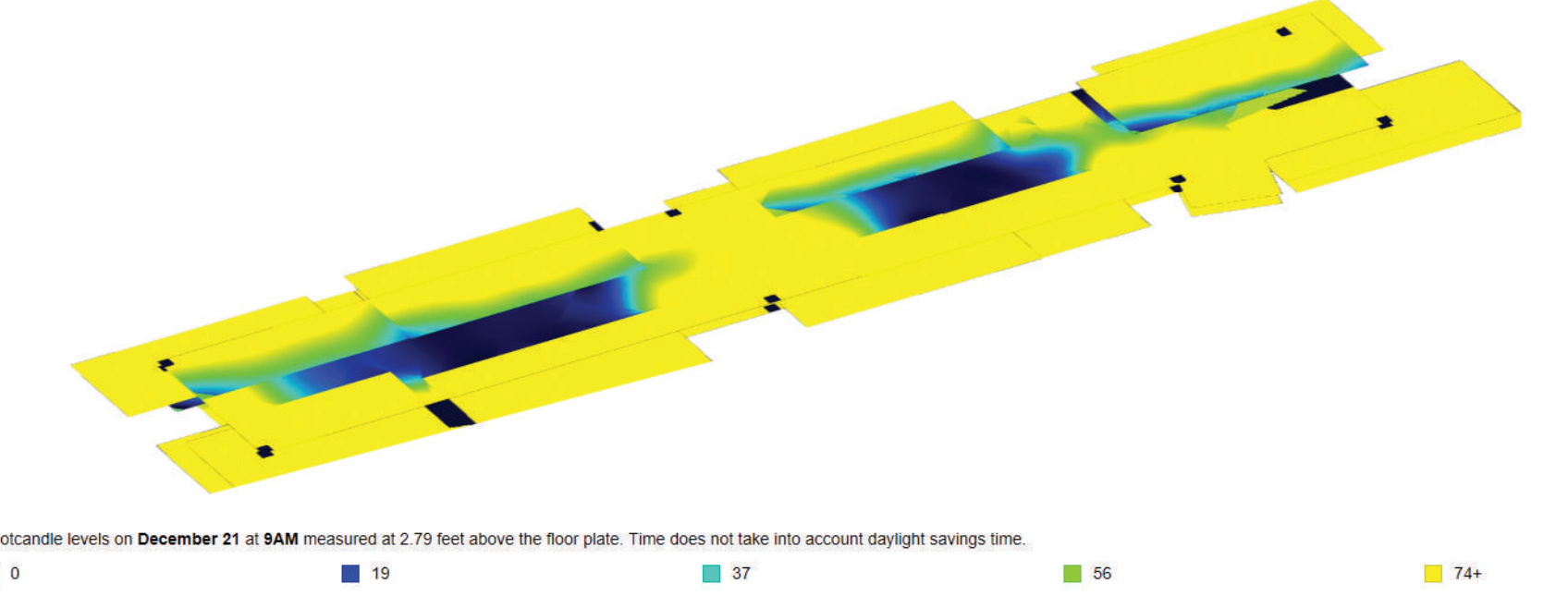
JUN 21  
3:00 PM

FALL EQUINOX  
TYPICAL FLOORPLAN

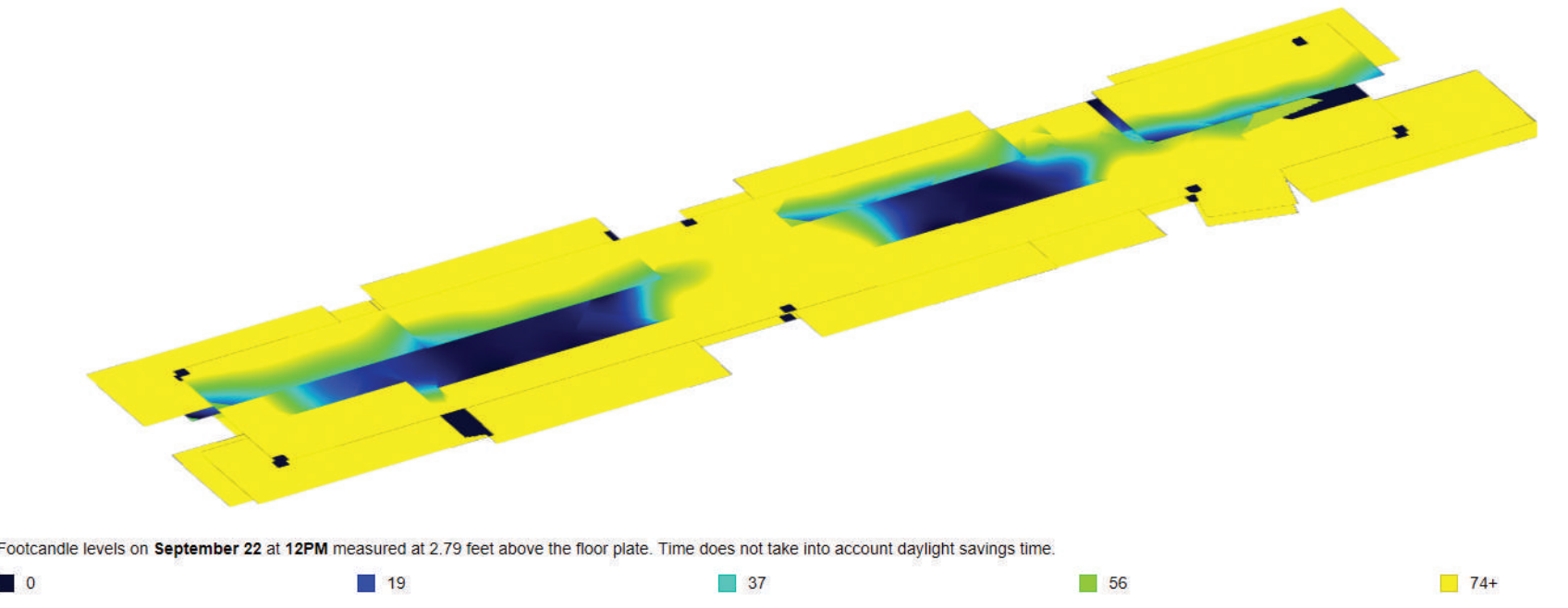


SEP 21  
9:00 AM

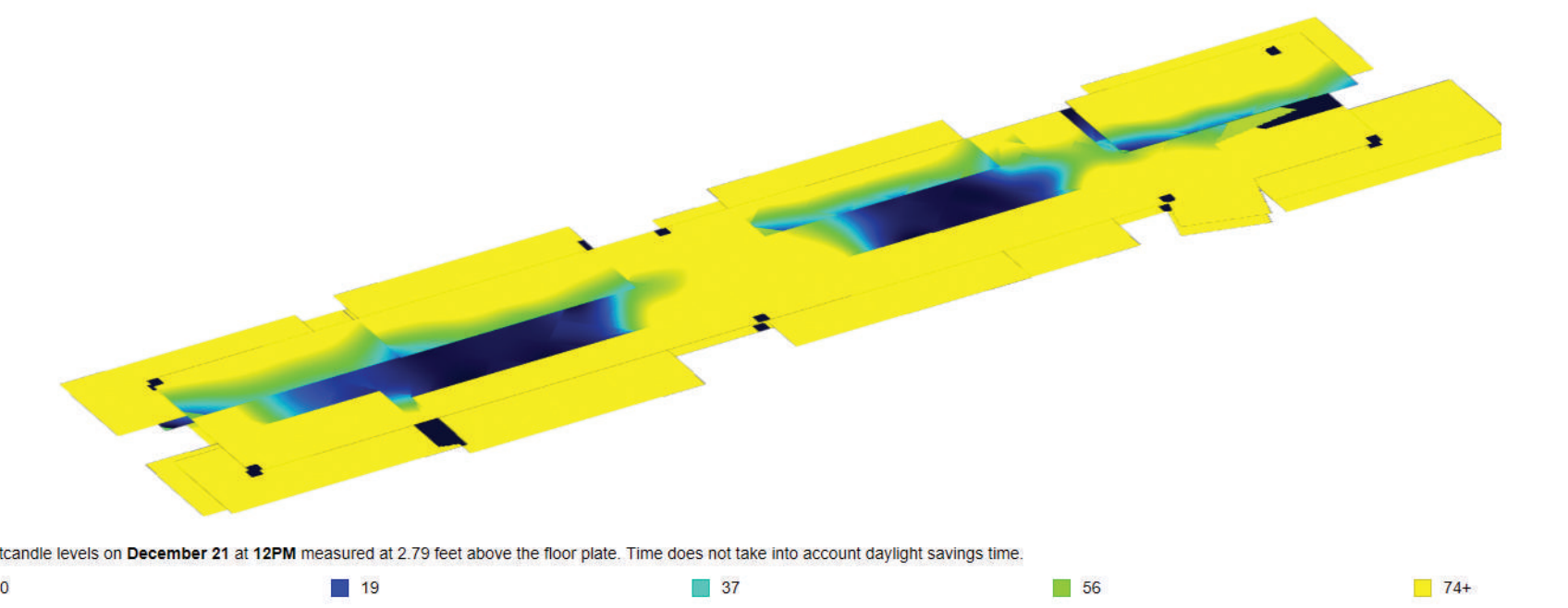
WINTER SOLSTICE  
TYPICAL FLOORPLAN



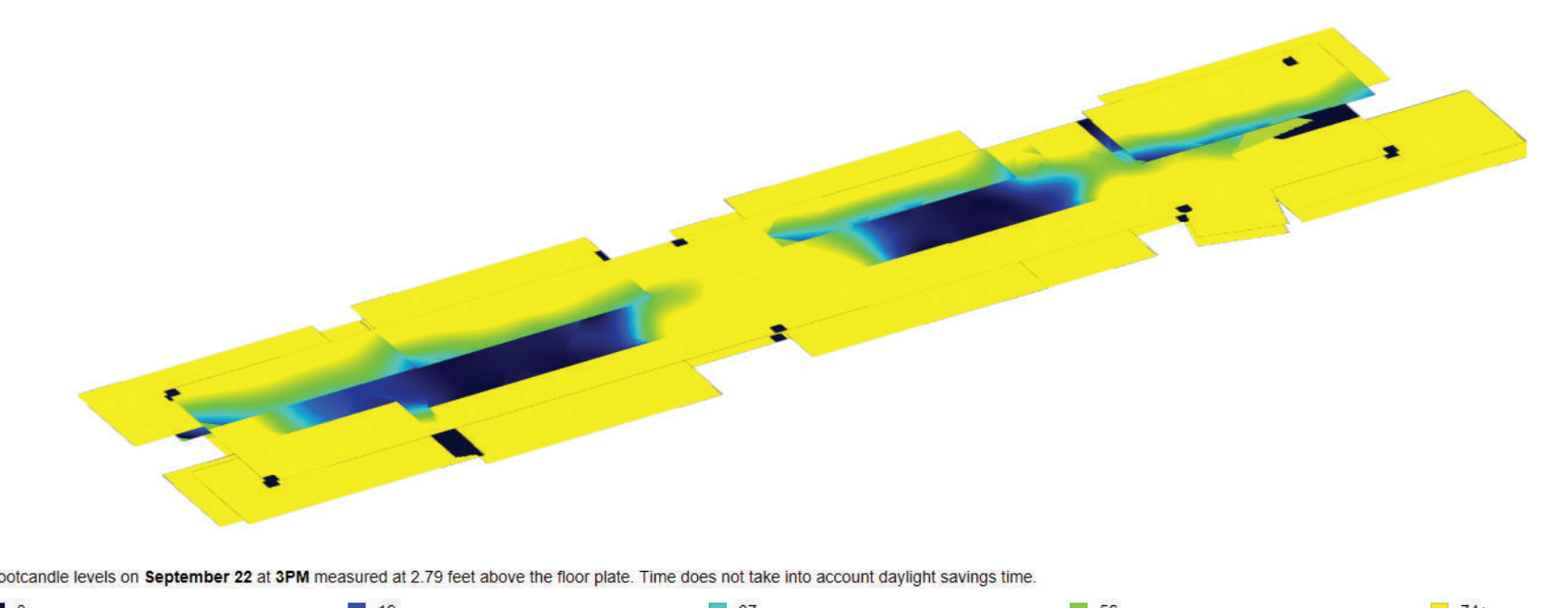
SEP 21  
9:00 AM



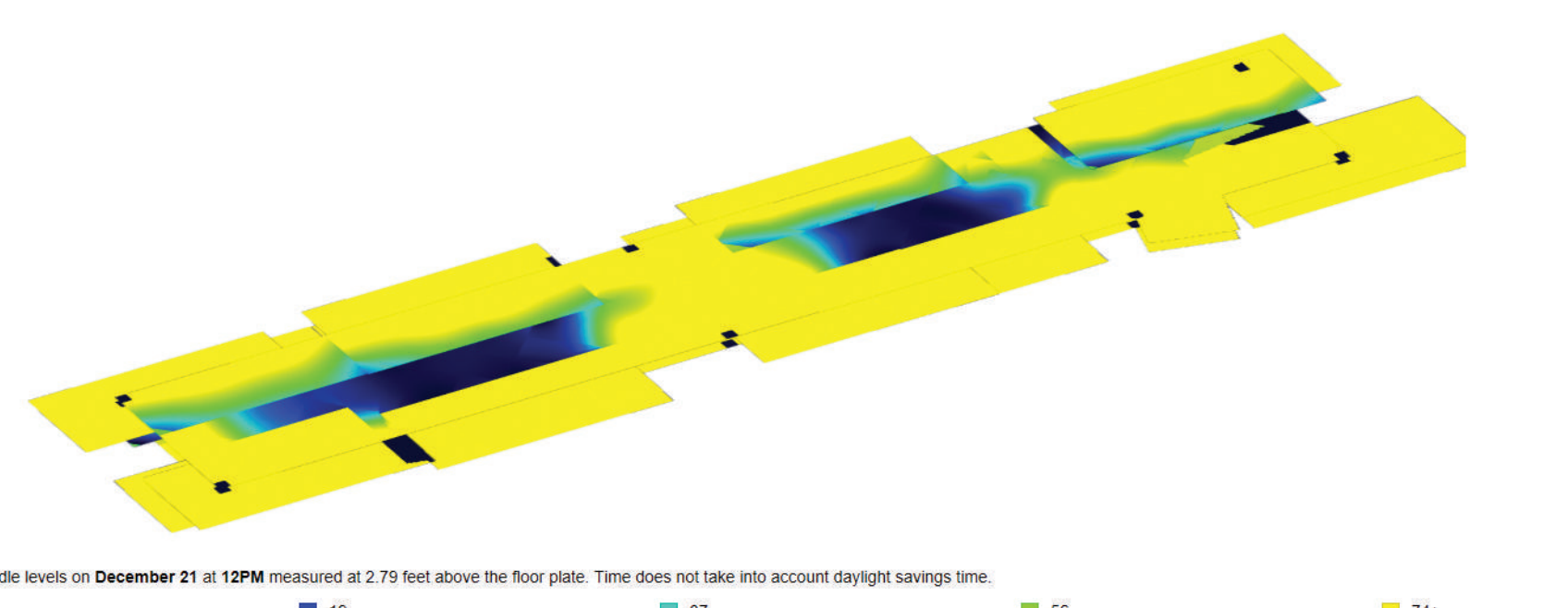
SEP 21  
12:00 PM



DEC 21  
12:00 PM



SEP 21  
3:00 PM



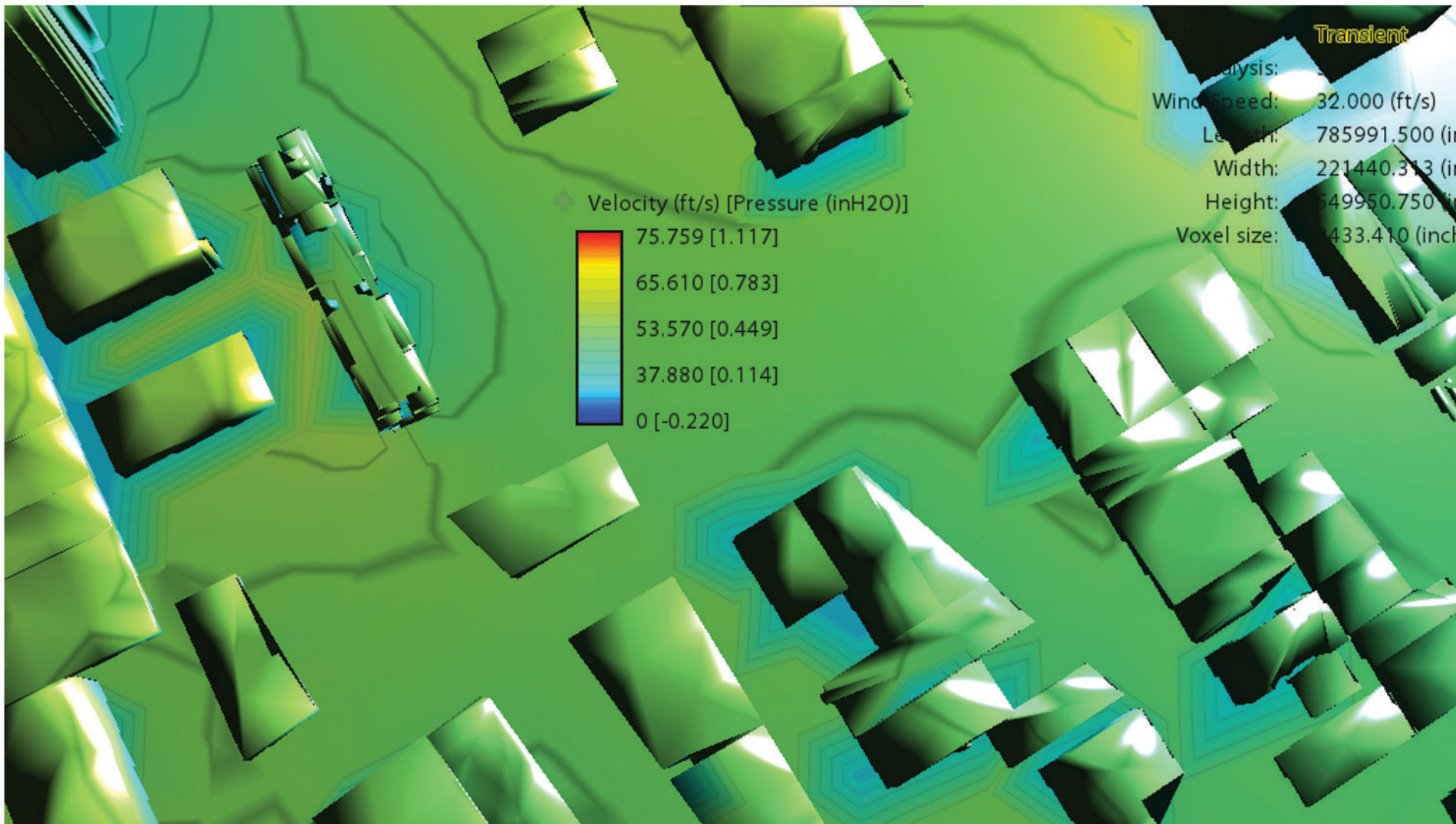
DEC 21  
3:00 PM

# SUSTAINABILITY + CARBON + SIMULATIONS

FLOW DESIGN | WIND ANALYSIS

## WIND ANALYSIS

*BUILDING MASSING*



AVERAGE  
VELOCITY









