

RESILIENCY,  
SUSTAINABILITY  
& WELLNESS

SLEEPY HOLLOW  
COMMUNITY CENTER  
RENOVATION



TEAM

INTRODUCTION

RESILIENCY FEATURES

SUSTAINABILITY FEATURES

WELLNESS FEATURES

RESILIENCY, SUSTAINABILITY & WELLNESS  
TEAM

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# INTRODUCTION

The Sleepy Hollow Homes Association's charter includes supporting the Sleepy Hollow environment and promoting the general welfare, cooperation and understanding of its residents. **Resiliency, Sustainability** and **Wellness** are all aspects in support of the Sleepy Hollow environment and the general welfare of its residents and guests. Resiliency is central to the project goal to provide a disaster preparedness and recovery center. Sustainability and wellness are integral to the promotion of the Sleepy Hollow community's wellbeing. Their emphasis in the building design and operation beyond the requirements of the California building code, where practical and affordable, contribute to the community's support of the larger regional, national and global community. Below is an overview of each of the three categories. Please note that attributes listed for each are subject to change based on continuing development of the project and our ability to reasonably incorporate them.

## RESILIENCY

In 2011, our community established as a critical goal for improving the 70-year-old community center facility a **Resiliency** plan to offer the more than 2,400 residents of Sleepy Hollow a shelter facility in the event of a natural disaster or power shut-down, and that goal remains central to the project. The facility will also be home to the Sleepy Hollow Protection District offices and the shelter program is a key part of their mission, along with training and education, on behalf of the community. In the event of a natural disaster or prolonged power outage, in addition to sheltering residents, the facility will serve as the Fire Protection District's communication center, and distribution point for emergency supplies, through the Community Emergency Response Team program, also known as "C.E.R.T".

Plans for the renovation include a power system engineered to include solar panels on the roof of the building, a battery system, and a generator to provide power during a power shut-down event or natural disaster. The system will allow us to keep the power on throughout the facility, to allow for operation of the Fire Protection District's equipment; charging of community members' hand-held devices; and the continuous operation of refrigerators that can be used to keep medications and food from spoiling.

The project team is also investigating the possibility of creating the County of Marin's first Microgrid at the Community Center site. By providing an EV charging station next to the building, and with the cooperation of PG&E, we may, in time, be able to allow for Vehicle-to-Building charging as a back-up power system for the building.

# INTRODUCTION

## SUSTAINABILITY

In addition to providing resiliency features, the Sleepy Hollow Community Center project also answers the call of the State of California and County of Marin to reduce our production of greenhouse gases and promote **sustainable use** of our planet's resources. The project seeks to follow the concepts of the U.S. Green Building Council's Leadership in Energy and Environmental Design rating system (LEED). The State of California's CALGreen requirements are embedded within the California Building Code and must be met in order for the community center to receive its occupancy permit. Features include new, dual glazed windows, new heat-reducing roof, new insulation throughout, and tankless water heating. CALGreen requirements are the minimum threshold for compliance with the state's sustainability laws and provide the project with a "head start" toward achieving LEED certification. While formal certification is not being considered at this time, the project team is using the LEED certification criteria as a roadmap toward exceeding the state's mandated minimum thresholds where practical and affordable. Detailed information about the U.S. Green Building Council's LEED rating system can be found at [usgbc.org](http://usgbc.org).

The primary sustainable aspect of the Community Center project is the **re-use** of the building itself. The community's residents made a tremendous investment in the resources used to construct the building and our project approach preserves that investment. By re-using the roof structure, slab, walls, wall paneling and some doors, we are harnessing the building's **embodied carbon** – that is to say, the energy used in the production, transport and assembly of the materials used in the original construction and subsequent renovations. Re-use of these elements, instead of demolishing, landfilling and replacing them **saves energy and resources**; thereby significantly minimizing the community center's carbon footprint.

The heart of the operational sustainability program is a solar system that is estimated to provide 78% of the entire site's energy needs, with the remaining 22% needed produced using 100% renewable or "Deep Green" energy through MCE. The new solar system, plus a multi-zoned, efficient HVAC system, Energy Star-rated appliances and new LED lighting and controls throughout, results in a community center that meets the definition of a **Zero Net Carbon Operational Building**. That means, according to the World Green Building Institute and the Architecture 2030 organization, "it is a highly-efficient building that produces on-site, or procures, enough carbon-free renewable energy to meet the building operation's energy consumption annually". Additionally, the solar system returns to the community an estimated savings of \$200,000 in energy costs over the next 25 years.

# INTRODUCTION

## SUSTAINABILITY, continued

Additional sustainability features include plans for **reducing water use**. These include fire-wise, drought-tolerant plantings and drip irrigation; and new water-saving fixtures in the Locker Rooms, Warming Kitchen and Powder Room. The renovation plans also allow for the future addition of rain barrels to harvest rainwater for site irrigation needs.

## WELLNESS

**Wellness** is embodied in the building's day-to-day use – providing spaces for community members to gather, study, read, talk, exercise or just relax in an environment that carefully considers their well-being, and the well-being of the staff who support them. The project seeks, where practical and affordable, to follow the concepts established under the International WELL Building Institute's WELL Building Standard, which provides a comprehensive approach to well-being in ten different categories: air, water, nourishment, light, movement, thermal comfort, sound, materials mind and community. Meeting the WELL Building requirements involves up-front design and engineering considerations, and also long-term operational plans and policies.

The WELL program has also recently added a new rating, Health Safety, to meet the challenges of COVID-19 and we are able to incorporate some aspects of it. We have learned that some aspects of the building's design, such as indoor/outdoor connections, cross ventilation and the ability to sequester spaces based on sizes of groups – all developed pre-COVID, will help allow the community to mitigate the effects of the disease as re-opening becomes possible. Detailed information about the WELL Building Standard and Health Safety Standard can be found at [wellcertified.com](http://wellcertified.com).

Wellness attributes are continuing to be developed as the project progresses, and development of operational and policy plans will begin soon. Please check back to this Deeper Dive section for updates as the project develops. Related information will also be included in the Operations & Activities section of the Deeper Dive.

# DESIGN CONSIDERATIONS - RESILIENCY



Rally Point / Source of Information

Emergency Power

Robust Communications

Charging Stations

Emergency Supplies (C.E.R.T. – medical)

State of the Art Audio Visual

Emergency Shelter (Beds, Water, Food)

SHFPD Office Weekend Staffing





## Planned and Future\*

### PREPARATION

- SHFPD Office and Disaster Recovery Command Center with rooftop antennas and communication equipment
- Community Emergency Response Team (C.E.R.T.) Emergency Supply Storage
- Shelter (bed, food, water)

### DEMONSTRATION

- Building hardening – including new roof, exterior finishes, ember-resistant venting and defensible space
- Fire Smart / low-water landscaping

### POWER OUTAGE/DISASTER RECOVERY

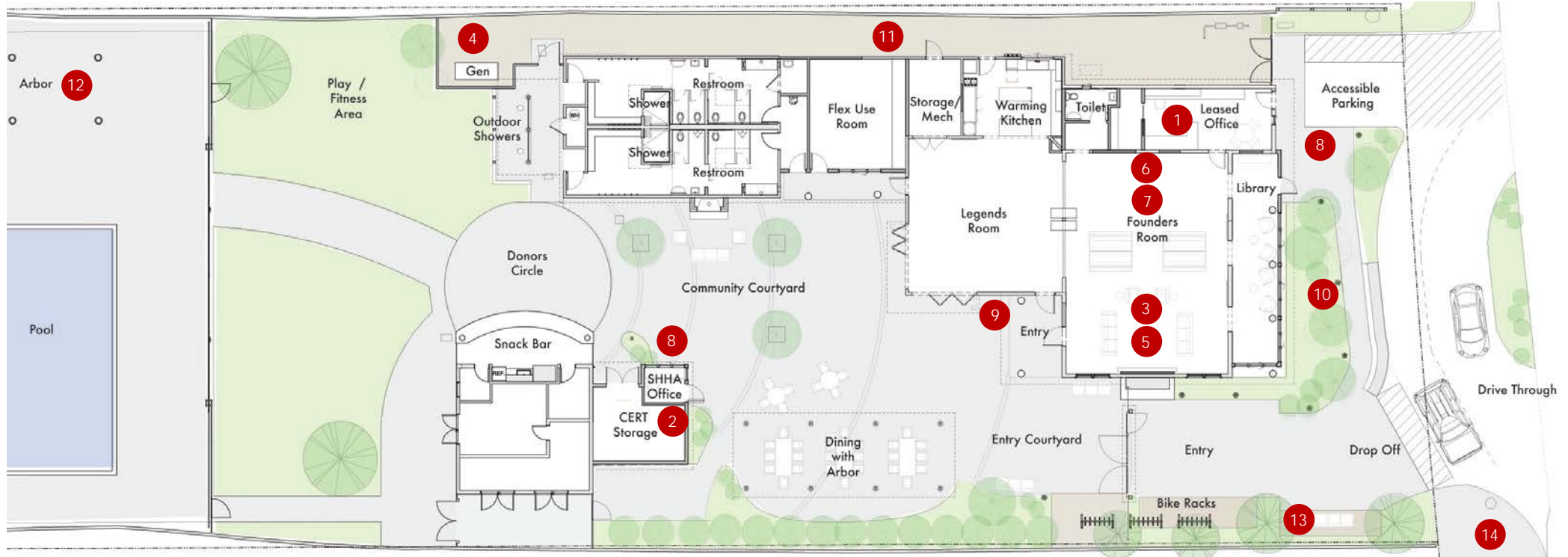
- Dual-fuel (natural gas and propane) Generator for building-wide systems
- 40 kW Solar System powering 78% of site energy needs
- Future Energy Storage System for after-dark powering of building systems
- Future Additional Solar Panels for 100% site energy needs
- Future Outdoor Charging Stations
- Future EV Charging

### COMMUNICATION

- Charging Stations for handheld devices
- Audio-visual System
- Community Rallying Points

\* Project features subject to change based on affordability.





1. SHFPD Office and Disaster Recovery Command Center with rooftop antennas and communication equipment
2. Community Emergency Response Team (C.E.R.T.) Emergency Supply Storage
3. Shelter (bed, food, water)
4. Dual-fuel (natural gas and propane) Generator for building-wide systems

5. 40 kW Solar System powering 78% of site energy needs
6. Charging Stations for handheld devices
7. Audio-visual System
8. Community Rallying Points
9. Building hardening – including new roof, exterior finishes, ember-resistant venting and defensible space

10. Fire Smart / low-water landscaping
11. Future Energy Storage System for after-dark powering of building systems
12. Future Additional Solar Panels for 100% site energy needs
13. Future Outdoor Charging Stations
14. Future EV Charging



## Planned and Future\*

### BUILDING RE-USE/ CARBON SEQUESTRATION

- Re-used building shell, foundations, floor slab, wall paneling and historic doors

### WATER CONSERVATION

- Low-flow plumbing fixtures at Kitchen, Powder Room and Locker Rooms
- Drainage percolation system at lawn to reduce storm water run-off into Bay
- Future exterior light-colored, permeable paving to reduce heat gain and encourage ground water re-charging
- Future Rain Barrels for irrigation of tree wells and planters

### RENEWABLE ENERGY/ ENERGY CONSERVATION

- 40 kW Solar System powering 78% of site energy needs with the remainder generated with 100% "Deep Green" renewable resources = Zero Net Carbon Building
- New roof, windows/doors and building insulation to keep building warm in winter and cool in summer
- New mutli-zoned heating and cooling system with air filtration and web-based controls
- New LED lighting and controls throughout
- Future Additional Solar Panels for 100% site energy needs
- Future Energy Storage System for after-dark powering of building systems
- New cool roof to reduce heat gain

### RECYCLED PRODUCTS

- Ceramic tile with recycled content in Kitchen, Powder room and Locker rooms
- Carpet at Leased Office contains recycled content.

### ZERO WASTE INITIATIVE

- Water-bottle Filling Station to eliminate plastic water bottles
- Zero-waste Operational Commitment: compost, metal and plastics recycling and compostable service ware

### ELECTRIC VEHICLES

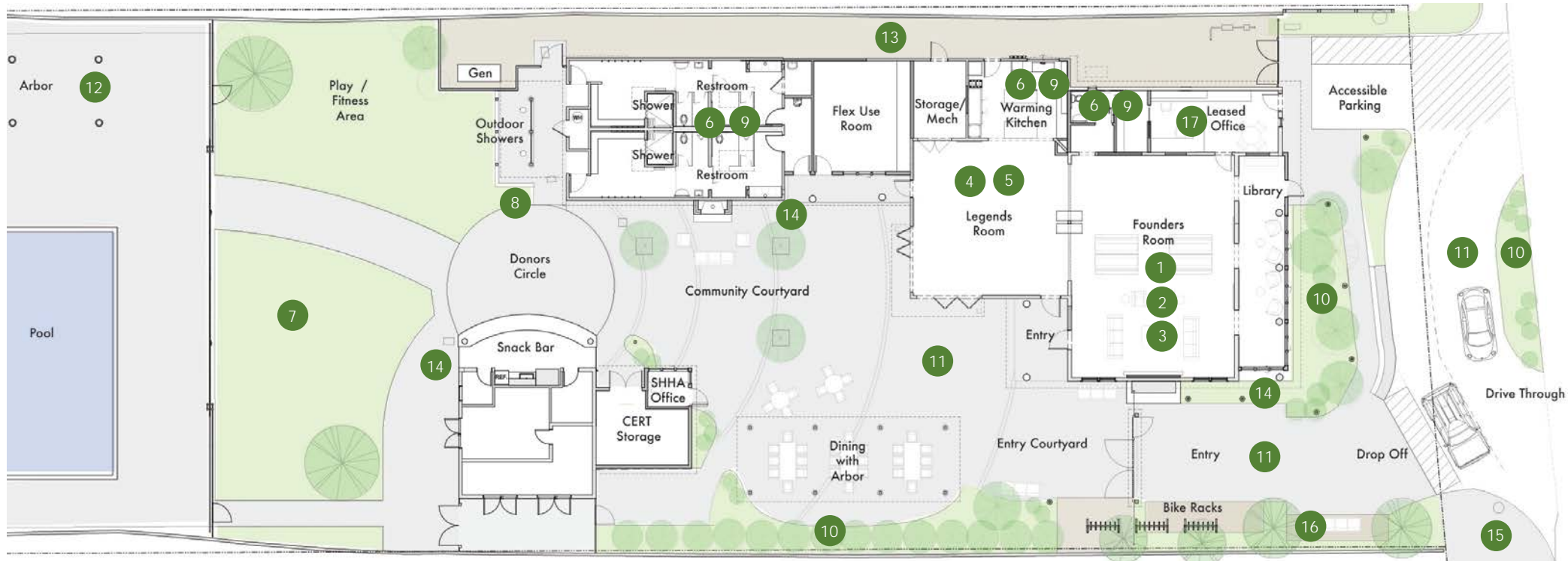
- Future EV Charging

\* Project features subject to change based on affordability

# DESIGN CONSIDERATIONS - SUSTAINABILITY



## Planned and Future



1. Re-used building shell, foundations, floor slab, wall paneling and historic doors

2. 40 kW Solar System powering 78% of site energy needs with the remainder generated with 100% "Deep Green" renewable resources = Zero Net Carbon Building

3. New energy-saving roof, windows/doors and building insulation to keep building warm in winter and cool in summer

4. New, energy-saving heating and cooling system with web-based controls

5. New LED lighting and controls throughout

6. Low-flow plumbing fixtures at Kitchen, Powder Room and Locker Rooms

7. Rainwater percolation system at lawn to reduce storm water run-off into Bay and encourage ground water re-charging

8. Water-bottle Filling Station to eliminate plastic water bottles

9. Ceramic tile with recycled content in Kitchen, Powder room and Locker rooms

10. Fire-Smart drought tolerant plantings and drip irrigation

11. Future exterior light-colored, permeable paving to reduce heat gain, reduce storm run-off and encourage ground water re-charging

12. Future Additional Solar Panels for 100% site energy needs

13. Future Energy Storage System for after-dark powering of building systems using solar-generated energy

14. Future Rain Barrels for irrigation of tree wells and planters

15. Future EV Charging

16. Future Outdoor Charging Stations

17. Carpet contains recycled content



### COMMUNITY

- Shaded Outdoor Gathering Spaces
- Future movable acoustic partition system between the Legends and Founders rooms to reduce size of group gatherings
- Sliding doors at Library for small group gatherings

### MIND

- AED Defibrillator and First Aid Station
- Disaster preparedness and Education
- Secured Front Gate to allow for health screening checks

### AIR

- Bi fold glass doors at Legends Room for Indoor/Outdoor Connection and fresh air
- Operable Windows Throughout

### WATER

- Baseline and annual water testing
- Water-bottle Filing Station

### LIGHT

- Views and Natural Light
- Dimmable Lighting

### THERMAL COMFORT

- New Heating and Cooling System with 100% Outside Air delivery capability and MERV-13 Filtration

### MATERIALS

- Non-toxic cleaning supplies
- Furniture selected with no harmful materials or finishes
- Onsite staff for cleaning and sanitizing

### MOVEMENT

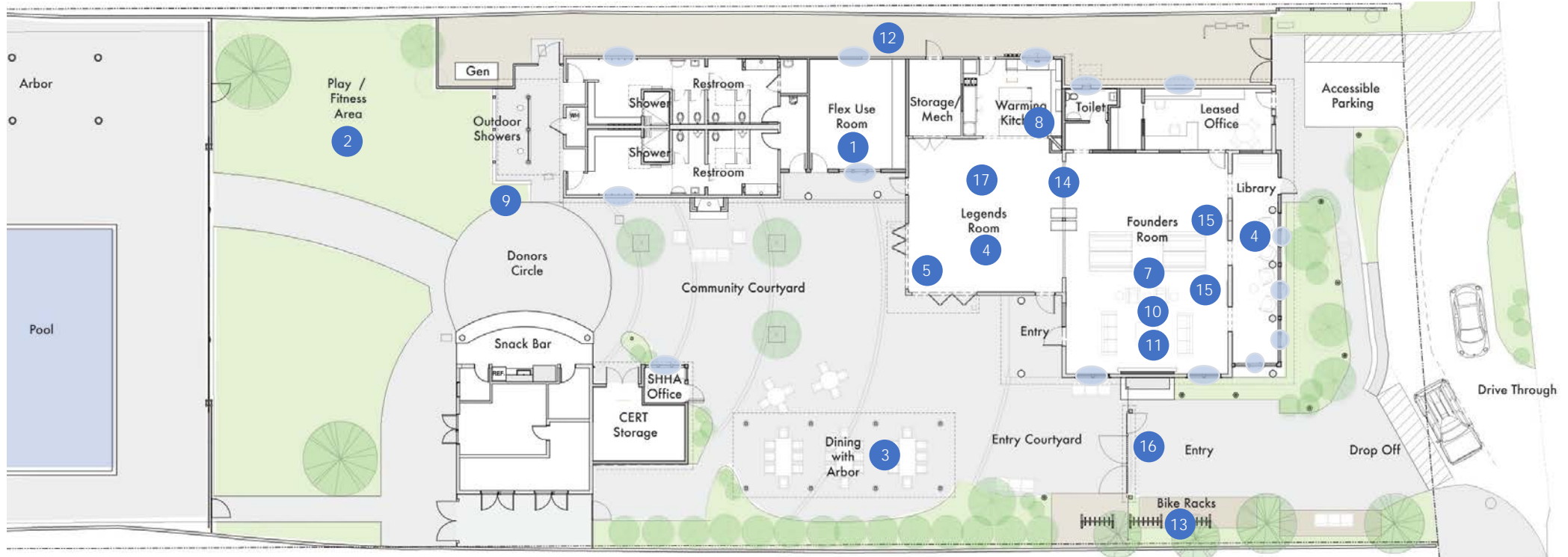
- Fitness Equipment in Flex Use Room
- Play & Outdoor Fitness Area
- Lockable racks for manual and electric bicycles

\* Project features subject to change based on affordability

# DESIGN CONSIDERATIONS - WELLNESS



## Planned and Future



1. Fitness Equipment in Flex Use Room
2. Play & Outdoor Fitness Area
3. Shaded Outdoor Gathering Space
4. Views and Natural Light
5. Bi Fold Glass Doors at Legends Room for Indoor/Outdoor Connection and fresh air
6. Operable Windows Throughout
7. Dimmable overhead and personal lighting (at Library and Office)

8. AED Defibrillator and First Aid Station
9. Water-bottle Filing Station
10. Furniture selected with no harmful materials or finishes (throughout)
11. New Heating and Cooling System with 100% Outside Air and MERV-13 Filtration
12. Back-up power to maintain communication systems

13. Lockable racks for manual and electric bicycles
14. Future movable partition system between the Legends and Founders rooms to reduce size of group gatherings
15. Sliding doors at Library for small group gatherings
16. Secured Front Gate to allow for health screening checks
17. Legends Room programmed for removable furniture for fitness use

### Operational Factors:

- Onsite staff for cleaning and sanitizing
- Disaster preparedness and Education
- Non-toxic cleaning supplies



QUESTIONS?  
CONTACT THE TEAM