



## CAMLS Tour Outline

### General Intro

U.S. Green Building Council (USGBC) is a national non profit organization that was formed to promote and encourage sustainable buildings. USGBC developed and administers the LEED rating system as a way to measure the sustainable features designed and constructed in a project.

The LEED rating systems (Leadership in Energy and Environmental Design) are performance criteria tools used to design, construct, operate, and certify sustainable green building and development practices.

The LEED NC rating system (LEED for New Construction), one of several rating systems, was selected for the CAMLS project. LEED NC is comprised of 7 categories:

1. Sustainable Sites
2. Water Efficiency
3. Energy & Atmosphere
4. Materials & Resources
5. Indoor Environmental Quality
6. Innovation & Design
7. Regional Priority

Most categories contain at least one mandatory credit and several optional credits.

LEED NC points are awarded when the requirements of a credit are satisfied. The level of certification is determined by the total number of points awarded for a project.

LEED NC levels of certification:

- Certified            40-49 points
- Silver                50-59 points
- Gold                  60-79 points
- Platinum            80-110 points

## Exterior - Site

### *Sustainable Site, Urban Density, Open Space*

CAMLS is located within an existing urban fabric and is surrounded by a dense Central Business District. Sited within walking distance of many community services, the site preserves green space and reduces urban sprawl, and promotes biodiversity. Preservation of open space is such an important part of this project that the building footprint was kept smaller than the area of vegetative open space.

### *Heat Island Reduction*

Un-shaded, dark colored streets, sidewalks, parking lots, and roofs retain heat and create heat islands whose increased temperatures have an adverse impact on humans and microclimates and require increased energy use for cooling. The site which was formally a paved parking lot has been restored to include green space, exceeding the local requirements by more than 50%. The hardscape that remains on the site is highly-reflective paving and the roof is also reflective which reduces heat damaging radiation, provides a more comfortable human environment, and promotes biodiversity.

### *Reducing Impact of Automobile Use*

Using public transportation reduces pollution and land development impacts from automobile use. CAMLS has convenient access to four Hart bus stops and a trolley stop within ¼ mile walking distance. To further reduce pollution and the impact of vehicle use, CAMLS provides on-site bicycle storage and has designated 5 spaces in an adjacent City parking garage as reserved choice parking for fuel efficient and low-emitting vehicles for CAMLS employees and visitors.

### *Stormwater Management*

CAMLS installed an underground stormwater chamber detention system to reduce high volume stormwater runoff into the municipal water treatment system. Great care was also taken during construction so that rain events would prevent erosion and groundwater contamination.

## Interior – First Floor

### *Daylight & Views*

Studies have shown that a connection to nature and maximizing the amount of light to the interior greatly increases productivity and aids in learning. The public gathering spaces and offices have ample windows with views to nature and access to daylight. In addition, the abundance of natural light reduces the lighting loads, thereby improving energy performance of the building.

### *Indoor air quality*

To reduce outdoor contaminants being introduced into the building, permanent walk-off mats have been installed at all main entrances of the building keeping the quality of the indoor environment as clean as possible.

### *Green Power*

76% percent of the building's electricity use is being provided by green power through the purchase of Green-e Renewable Energy Credits (RECs). This not only offsets the non-renewable energy used by the building but it also encourages the development and use of grid-source, renewable energy technologies.

### *Lighting Controls*

Lighting controls for individual occupants and groups promote productivity, comfort and well-being. Task lighting and individual switching allows user control over light levels that in turn contribute to energy savings.

### *Low-impact finishes*

All materials in the building include the installation of products with low volatile organic compound (VOC) content levels and formaldehyde-free materials. This was important to the Owner and design team because a building committed to health and education should include healthy indoor air quality.

### *Reducing Impact of Automobile Use*

CAMLS provides on-site bicycle storage and showers and changing rooms for all employees who wish to ride their bicycle to the facility.

## Interior – Second Floor

### *Water Efficiency*

A reduction of 35% was achieved by installing high efficiency toilets and urinals, low flow faucets, and low flow showerheads, greatly reducing the consumption of scarce potable water.

### *Energy Performance*

A highly efficient mechanical system was installed and energy performance was improved further with energy saving strategies such as energy efficient interior and exterior lighting which are one of the biggest impacts of energy use in a building. Other building components that provide energy savings are high performance roof & wall insulation and high performance, low-e coated windows. A computer simulated model was used to determine potential energy savings, showing 12.83% in energy use reduction. These strategies help reduce the environmental and economic impacts associated with excessive energy use. A building energy simulation model was used to determine potential energy savings over a standard complaint building, with results showing an overall energy use reduction of 17.1% and 15.5% reduction in energy costs.

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### *Construction Waste*

The design and construction team sought to minimize the use of materials and create attractive, low-maintenance spaces. The commitment to minimizing materials extended to minimizing waste, as approximately 55% of all construction waste was recycled, diverting the waste from the landfill, mitigating the detrimental effects of new construction.

### *Recycling centers*

To facilitate the reduction of waste generated by the building occupants, recycling stations are conveniently located on all floors of the building for use by students, visitors, and staff. Recycling items include paper, corrugated cardboard, glass, aluminum and plastic.

### *Indoor air quality*

To ensure the comfort and well-being of construction workers and building occupants, a stringent Indoor Air Quality Management Plan was employed during and after construction. This includes protecting stored on-site absorptive materials from moisture damage, sealing and protecting ductwork during construction to prevent the intrusion of dust, and high efficiency filters for the air conditioning system to remove dust and particles from the air stream. Chemical storage rooms such as janitor closets are separately ventilated to prevent cross-contamination into other areas of the building.

## Interior – Third Floor

### *Regional and recycled materials*

To reduce the impacts resulting from the extraction and processing of virgin building materials, products were used throughout the building which had a high recycled content. Some of these materials were acoustical ceiling tile, steel/metal products, gypsum wall board, insulation, carpet, and concrete. The percent of recycled content is measured by the total cost of all construction materials. This project totaled 23.65%. In addition, 25.8% of products used for construction were extracted, processed and manufactured within 500 miles of the project. This not only helps support the regional economy but reduces the environmental impacts resulting from transportation.

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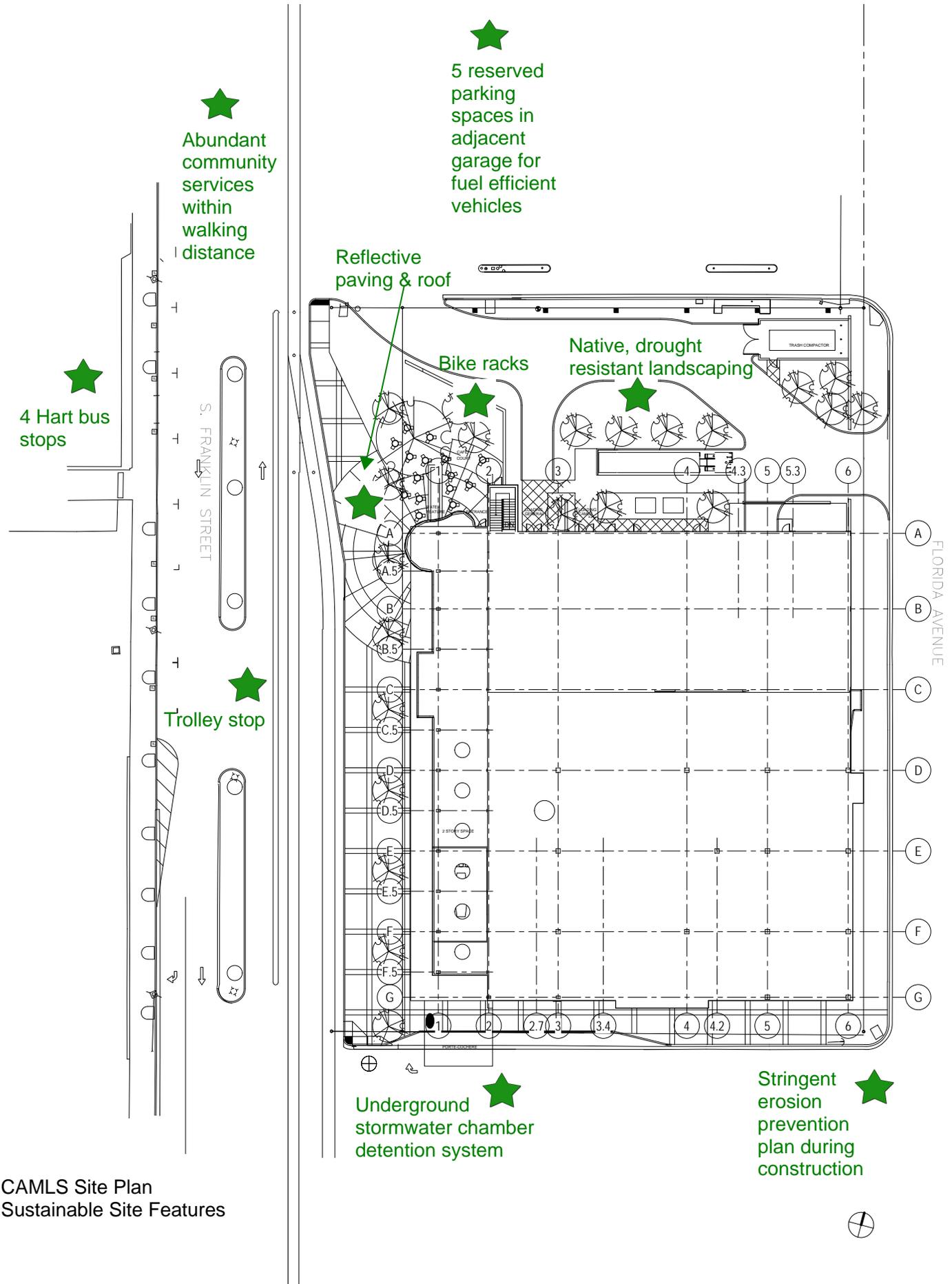
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★  
Abundant community services within walking distance

★  
5 reserved parking spaces in adjacent garage for fuel efficient vehicles

★  
Reflective paving & roof

★  
Bike racks

★  
Native, drought resistant landscaping

★  
4 Hart bus stops

★  
Trolley stop

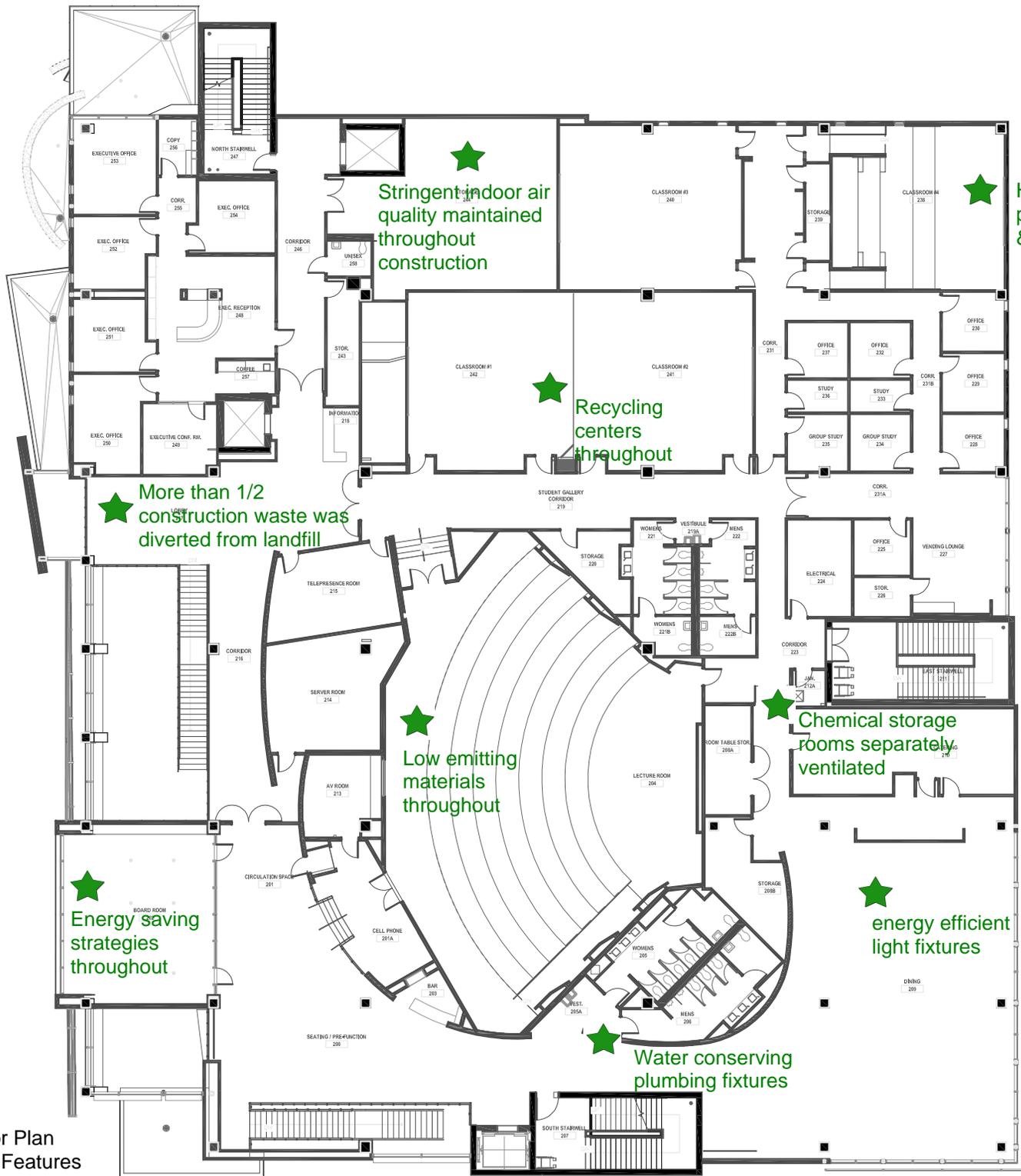
★  
Underground stormwater chamber detention system

★  
Stringent erosion prevention plan during construction

CAMLS Site Plan  
Sustainable Site Features







Stringent indoor air quality maintained throughout construction

High performance wall & roof insulation

Recycling centers throughout

More than 1/2 construction waste was diverted from landfill

Low emitting materials throughout

Chemical storage rooms separately ventilated

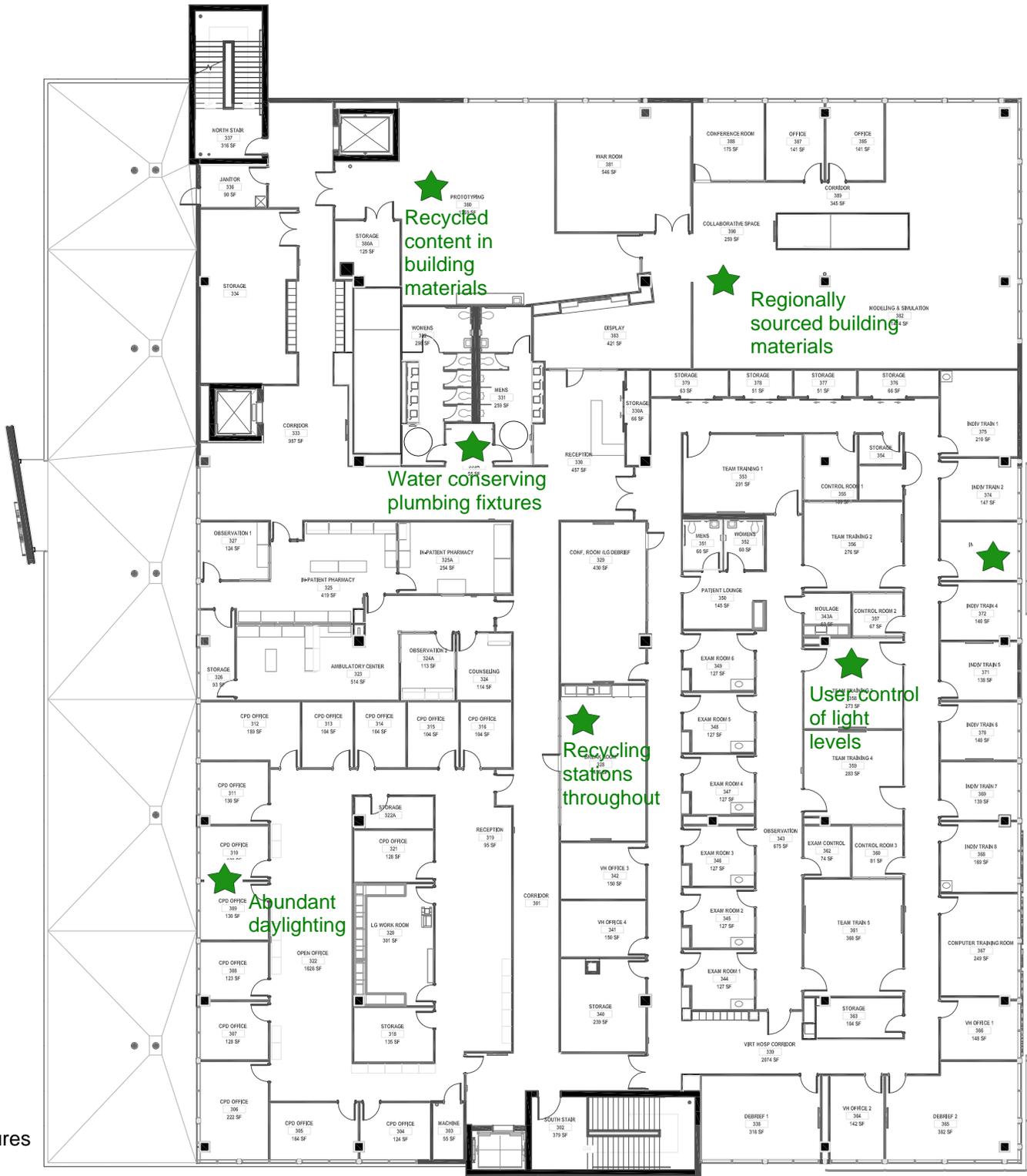
Energy saving strategies throughout

energy efficient light fixtures

Water conserving plumbing fixtures

CAMLS Second Floor Plan Sustainable Building Features

CAMLS Third Floor Plan  
Sustainable Building Features



★  
Recycled content in building materials

★  
Regionally sourced building materials

★  
Water conserving plumbing fixtures

★  
Abundant daylighting

★  
Recycling stations throughout

★  
Use control of light levels

★  
Low-e coated performance windows