

# Primary Care Medical Health Center

Jake Evans, Tommy James, Buck Kauffman

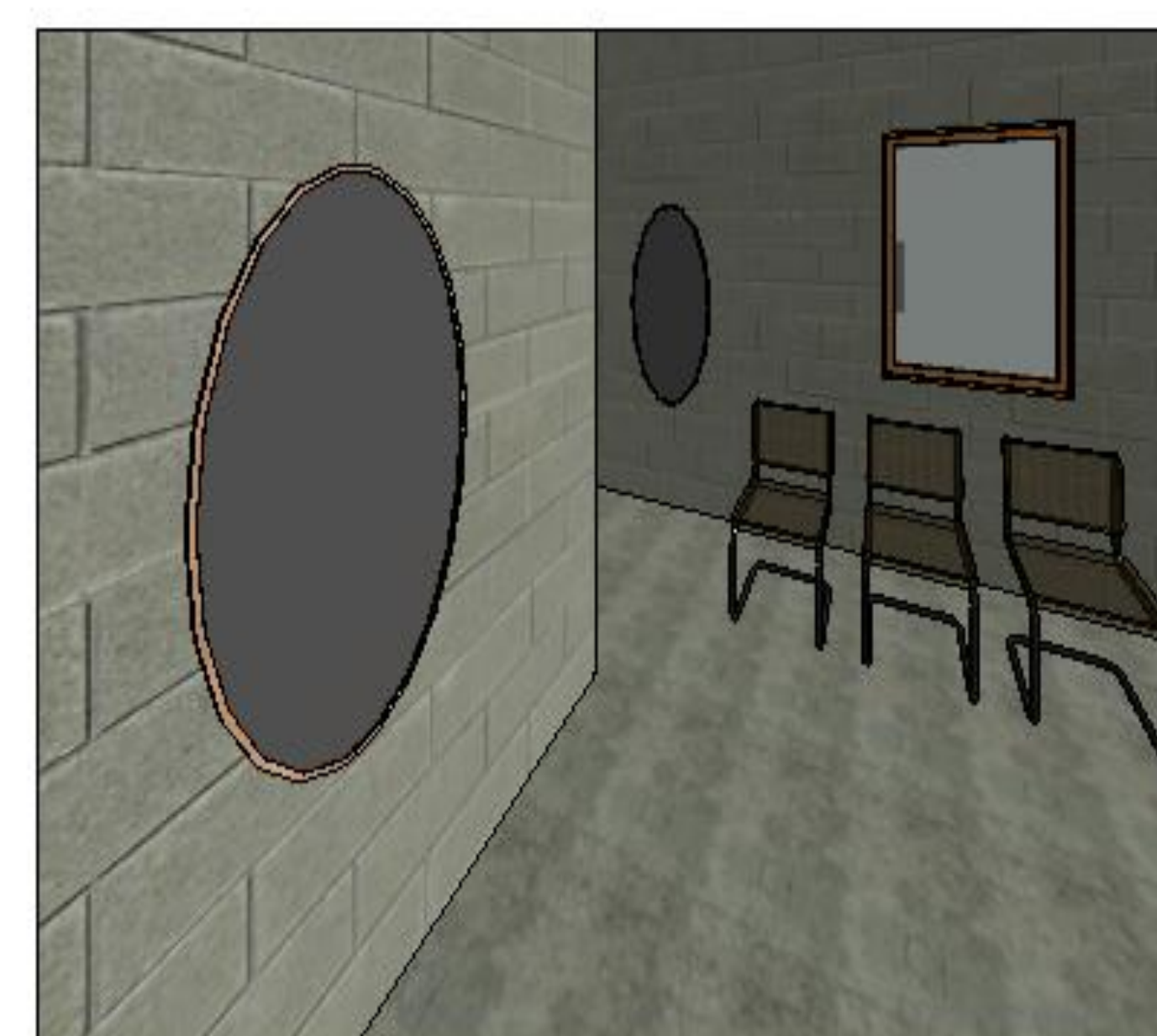
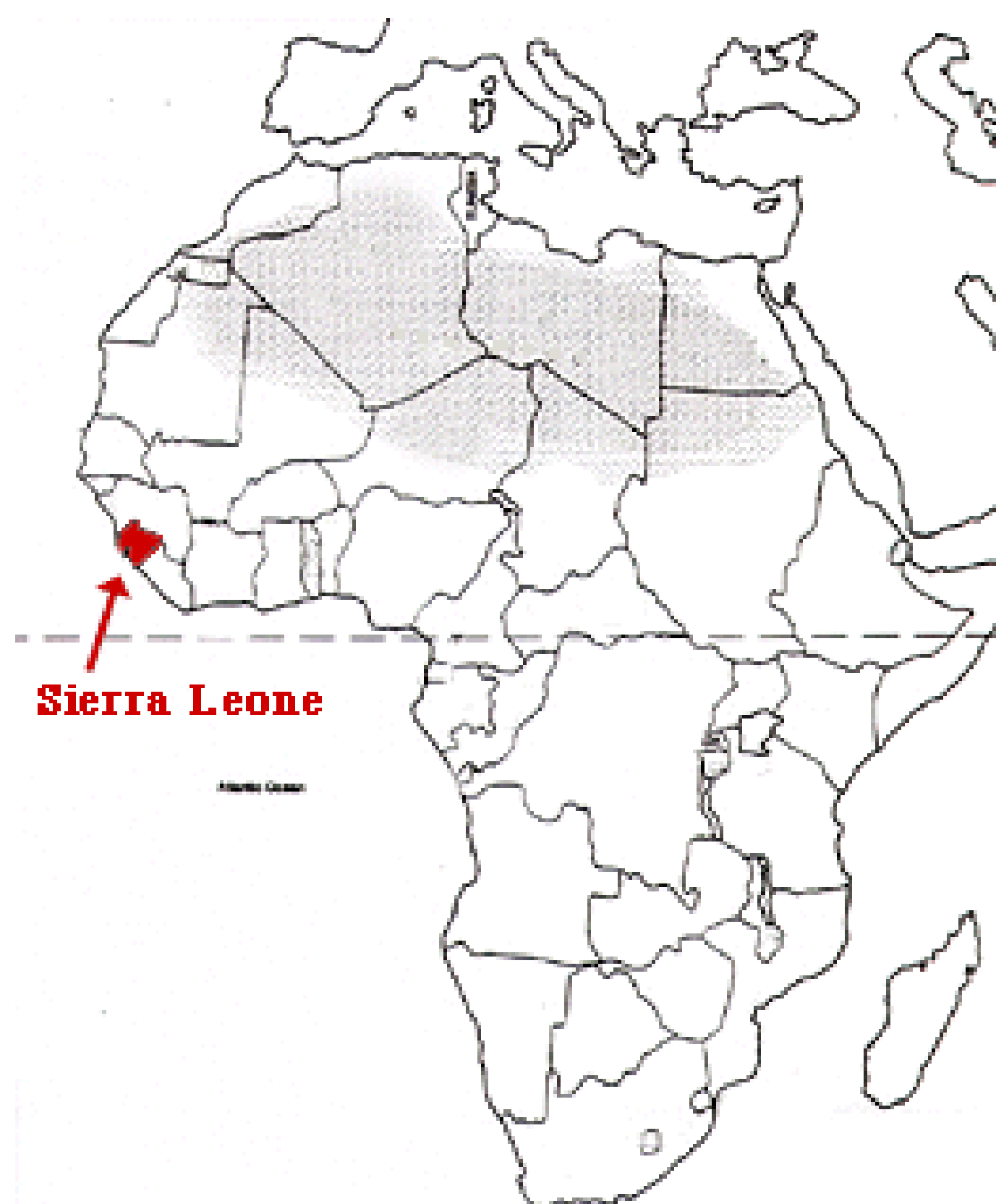
EGR 343: Green Architectural Engineering  
 Elizabethtown College, Elizabethtown, PA

## Project Constraints

- 50 sites with varying environments in Sierra Leone in West Africa
- Footprint based on existing buildings, 27'x25'
- Limited resources, local materials preferred
- Cost kept to a minimum due to local economy

## Medical Supplies

- Essential equipment- syringes, needles, defibrillators, exam table paper, etc.
- Essential Medications- based off of World Health Organization standards.
- Ebola suits will be located in the store room if a major outbreak arises around the health center.



Therapy Room



Consultation Room



Observation Room

## Design Features

### Structure

- Concrete slab floor (27'x25'x3", 6.25 cu yards)
- Walls created with mud bricks (dry season) or concrete blocks (wet season)
- Aluminum sheet roof with a Thatched roof above (Ventilation)
- Trusses, door frames, and window frames will be made from local wood and assembled on site
- Windows will have shutters that open outward for air flow and lighting, without having to use glass
- Doors will be imported from local dealers made from wood
- Ceramic tile will be used in the observation and sterilization room for sanitation

### Sustainable Energy Sources

- A 3 kilowatt PV system will be installed with solar panels on the roof facing the South end for maximum sun exposure
- A windmill will be placed on the back of the building facing East to take advantage of the Harmattan winds

### Water Use

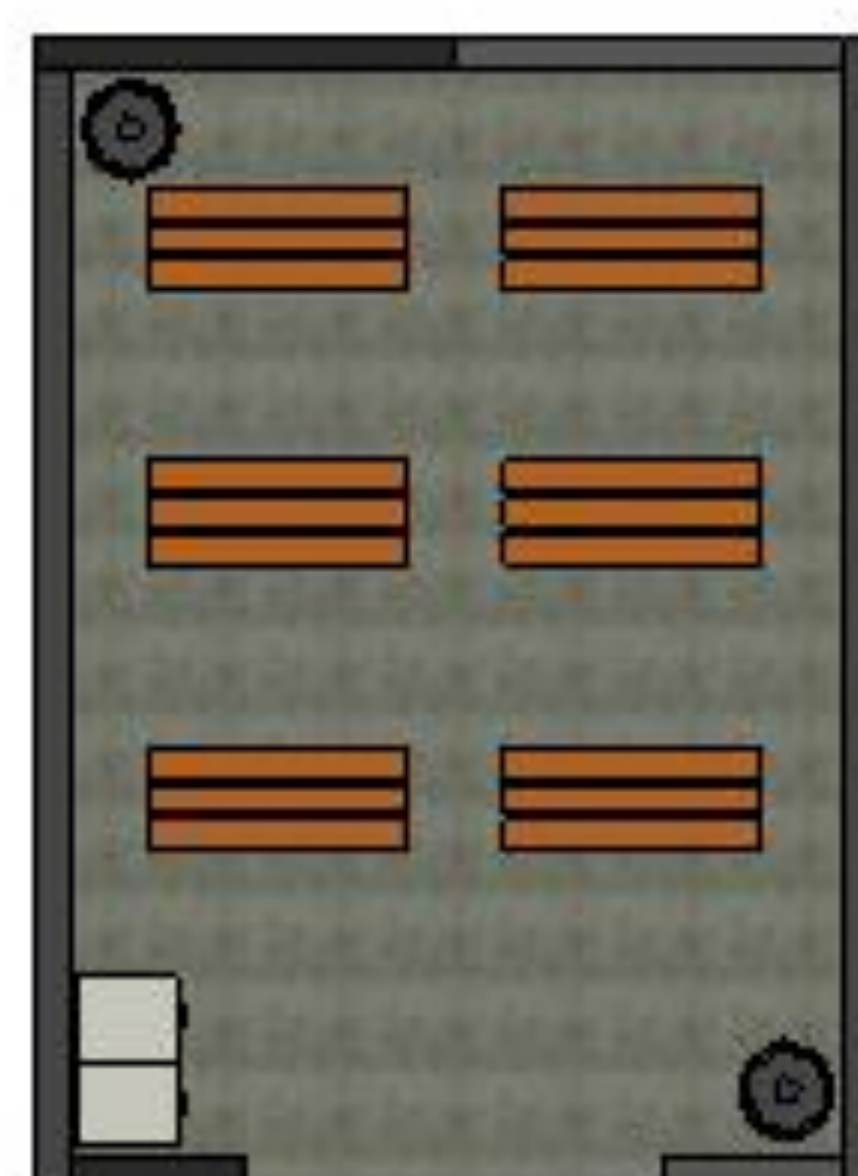
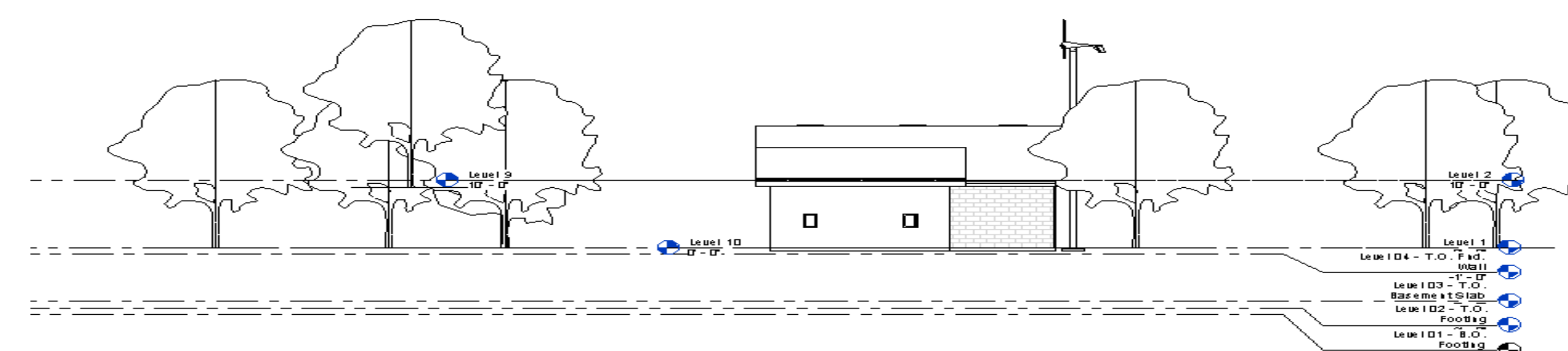
- A rain catchment system will be used to collect rainwater from the downspouts of the structure
- A large tank located on the back side, exposed to Southern light for natural heating will store the water collected for use in the facility
- This tank will be in a small structure with low density brick walls and a south facing window made of Plexiglas

### Interior Furnishings

- Stools will be in each room for faculty and patient use
- A desk will be in the consultation room for the faculty
- Cabinets will be in all rooms for storage and a tabletop like surface
- Beds will be in the observation room for ill patients
- A bench will be in the consultation room for faculty to examine patients, and fit entire families
- A chair with a sturdy back and mats for the floor will be in the physical therapy room for the patients
- Mirrors in the therapy room will be used for exercises to watch form and posture

### Medical Equipment

- Hazardous material containers will be in each room
- A sink and fridge will be in the Sterilization and Treatment room for sanitation and medical supplies



Sterilization and Treatment Room



Ebola Screening Tent