

## Building Case Study

Name: \_\_\_\_\_ GSI: \_\_\_\_\_

### **Preliminary Research: Due in section Week 3: [5 pts]**

- Draft annotated **diagram** of the sustainable strategies used in the building. YOU must draw this diagram. See “Sun, Wind and Light” for examples.
- Bibliography – you must use *at least* three sources.
- Indicate the evaluation approach you have chosen to help analyze your building, as well as a backup option (see page 2).

### **Final Deliverables due in section on the day specified by your GSI:**

- 11 x 17 presentation board (see example)
- Verbal presentation in section
- File for projection (jpeg, MS Word or PDF format preferred)

### **Procedure:**

Sign up in groups of two for a project to present from the list provided in section. If you wish, you may choose to sign up for a building project from the secondary list, which may require additional research.

Obtain documentation of the building (plans, articles, photographs) at least a week in advance of the presentation. You should not spend more than two hours looking for sources of information, as the emphasis of this project is diagramming, questioning, and hypothesis.

Prepare an 11 x 17 presentation, which describes and evaluates your case study. An example template will be provided online. This presentation will need to be in a format that can be projected (pdf, jpeg, powerpoint, etc).

The presentation should include the following:

#### **1. Project Information [5 pts]**

- Student name
- Project name
- Architect's Name
- Location of project
- Climate (description, degree-days, etc.)
- Year completed
- Consultant/Engineer
- Plans (with north arrow), section, and photographs
- Basic project description
- Include at least three citations

**2. Annotated diagram of the sustainable strategies used in the building. [5 pts]**

**Additionally, choose among the following to evaluate your building: [5 pts]**

*Please note that we have included a number of different ways to conduct a building performance study. Not all of these approaches are appropriate for your specific case study—please choose ONE option from below, as well as a backup option.*

- a) Survey. Contact building occupants and conduct a brief survey of the quality of occupied spaces, specifically related to the design strategies employed in the building.
- b) Interview design team. Contact the building's architect or design engineer to further understand the strategies used in the building. Determine if any post-occupancy studies have been conducted or considered or if the designers have documented the usefulness of their design strategies in previous buildings.
- c) Interview operations team. Contact the building's management, maintenance, or engineering staff to obtain qualitative or quantitative information relating to the design strategies employed in the building.
- d) Model. Physically or digitally model the building or an aspect of the building to evaluate a specific design strategy (e.g. a simple solar shading analysis).
- e) Site visit. Visit the building and document evidence of the performance of the space. This may include a log of your perception of the thermal and daylighting experience, discussions with occupants or visitors, a photo log documenting the design strategies, data collection (temperature, illumination), etc. You may want to discuss your strategy with your GSI if selecting this option.
- f) Existing POE's. Conduct a search of the following databases that may include post-occupancy evaluations (POE) in order to summarize and analyze the information available about the performance of the building:
  - US DOE Buildings Database:  
[www.eere.energy.gov/buildings/database/](http://www.eere.energy.gov/buildings/database/)
  - Vital Signs Case Study Library:  
[www.arch.ced.berkeley.edu/vitalsigns/bld/case\\_studies.html](http://www.arch.ced.berkeley.edu/vitalsigns/bld/case_studies.html)
  - Mixed Mode Database:  
[www.cbe.berkeley.edu/mixedmode/index.html](http://www.cbe.berkeley.edu/mixedmode/index.html)
  - PROBE studies:  
[www.usablebuildings.co.uk/](http://www.usablebuildings.co.uk/) (look under Probe)

**3. TWO critical questions about the project: [5 pts]**

i.e. does the sun shading actually provide adequate shade; does the use of thermal mass make the building cooler? Provide an answer to the best of your ability for the class to discuss.

**VERBAL PRESENTATION.** Prepare a five-minute talk that covers the basic project information and the design strategies that relate to the week's lesson. You should determine whether that building successfully integrates the sustainable strategies into the DESIGN of the building. Follow these guidelines when making your presentation:

- Practice, to ensure you cover all the required information within the time limit
- Be concise.
- Do not read directly from your notes.
- Be prepared to compare and contrast your project with others presented the same day.