

Assignment 01: Planning a Sustainable Building Project (2020-2021)

The University of Hong Kong (HKU) is considering the redevelopment of the following student hall residence and would like to include sustainability in the project brief and development strategy. As the specialist green building consultant of this project, you are asked to prepare a technical proposal to explore the planning and design process of a sustainable building project for this student residence hall. The basic information of the student residence hall is given below.

St. John's College 聖約翰學院 <https://www.stjohns.hk/>

Situated at 82 Pokfulam Road, St. John's College is an Anglican college affiliated to the University of Hong Kong, which provides accommodation to undergraduates and postgraduates. As the successor of St. John's Hall, which was founded in 1912, the College is the oldest residential hall/college of the University. The first phase of the construction of St. John's College at 82 Pokfulam Road, known as the Marden Wing (Old Wing), was completed in 1955. In 1979, the second phase of St. John's College was completed with the building of the Aw Boon Haw Wing and the Liang Chi Hao Building. The third phase development, the building of the postgraduate wing, Wong Chik Ting Hall, was accomplished in 1997. At present, there are 125 places for male students and 98 for female students in the Old Wing and New Wing, a total of 223 places; the Third Wing (Postgraduate) holds 111 places.



Figure 1. Location map of the student residence hall (source: <https://www.map.gov.hk/>)

Major Tasks

You are required to evaluate the potential, limitations and opportunities of the project for achieving high sustainability and green building performance in a holistic way. You should identify the critical issues and possible planning/design strategies for the project in order to give professional guidance and advice to the client on further development of the project brief and performance targets. You are recommended to carry out preliminary site analysis and evaluation of the important project planning issues for setting effective strategies on redevelopment of the site and sustainable design of the new buildings. The outcomes at this stage will form the basis for the client to formulate the project brief and development strategy.

Submission Requirements

You should prepare a technical proposal report of not more than 20 nos. of A4 pages to explain the key findings of the investigation in a systematic and logical manner. The contents of the report shall address the following aspects. Other important issues may also be included.

- (a) Benefits, limitations and development potential of the sustainable building project.
- (b) Site analysis and evaluation of the important project planning issues.
- (c) Sustainable building design process and key considerations.
- (d) Sustainability performance targets for the project and important design strategies.
- (e) Recommendations on project brief and development strategy.

The report shall be submitted in electronic PDF format to the Moodle of MEBS6020. The assessment criteria of the report include quality of the content, organization, clarity of thought, and report writing skills. The report will be evaluated on synthesis of information during the course and from your own reading/study, and evidence that you have thought about the subject and the lecture topics in some depth. A clear structure and a logical argument is important and you should provide evidence of critical thinking, originality and effective writing.

Report submission (via Moodle): **on or before 16 July 2021 (Fri)**

Useful References

- ASHRAE 2018. *ASHRAE GreenGuide : Design, Construction, and Operation of Sustainable Buildings*, 5th ed., American Society of Heating, Refrigerating and Air-Conditioning Engineers, Atlanta, GA.
- Brophy V. & Lewis J. O., 2011. *A Green Vitruvius: Principles and Practice of Sustainable Architectural Design*, Second Edition, Earthscan, London.
- Green building design strategies http://ibse.hk/GB_design_strategies.pdf
- Keeping M. and Shiers D., 2017. *Sustainable Building Design : Principles and Practice*, Wiley-Blackwell, New York.
- PTI, 1996. *Sustainable Building Technical Manual: Green Building Design, Construction and Operations*, Public Technology, Inc. (PTI), Washington, D.C.