Arch 463
ECS
Fall 2018   **Name**_____

Quiz #1

"Home on the Hill"

For this problem you are the site and climate consultant for a global home construction company. The CEO is interested in developing prototype homes for south-facing hillsides in a variety of North American climates. Your first assignment is to propose suitable hillside positions for four prototypes located in four different typical climates. The CEO has identified three passive design characteristics for each prototype.

Climate Context. Four typical climates will be considered, hot humid, hot arid, temperate, and cold.

Modular Design. The homes will be modest single-story affordable dwellings.

Comfort Goal. Maximize the use of passive strategies for comfort throughout the year.

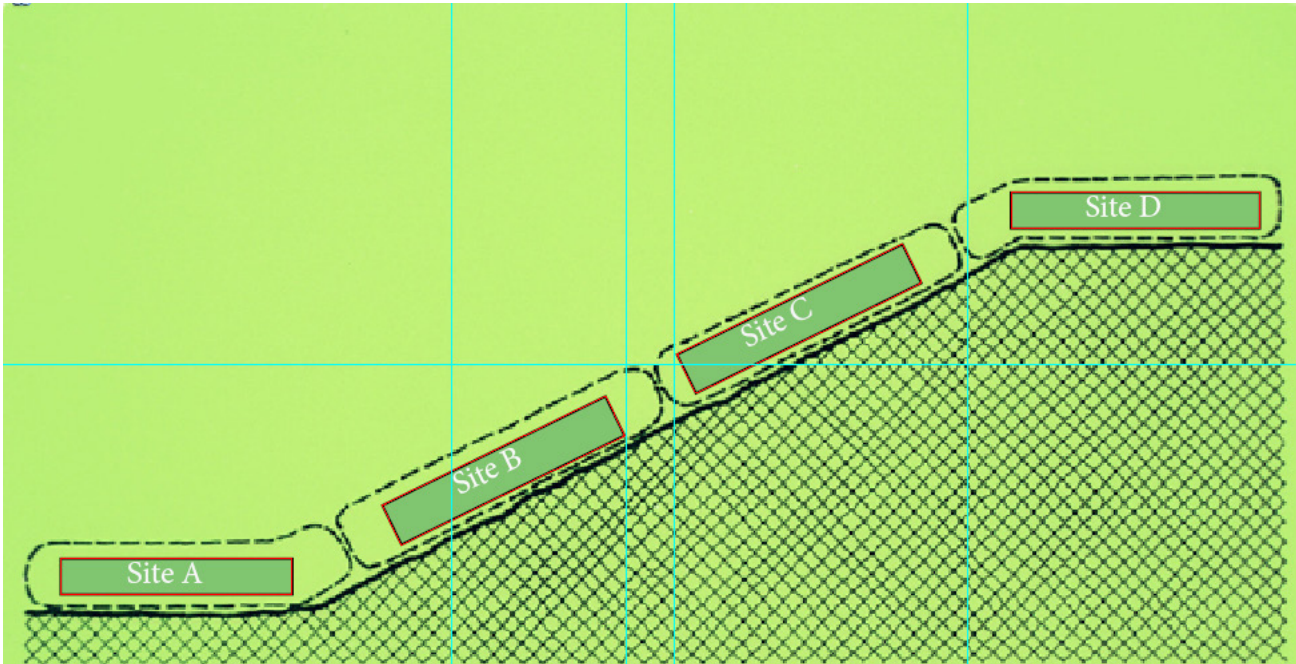*Three images of Brise Soliel House by Studio Workshop in Port Moresby, Papua New Guinea*
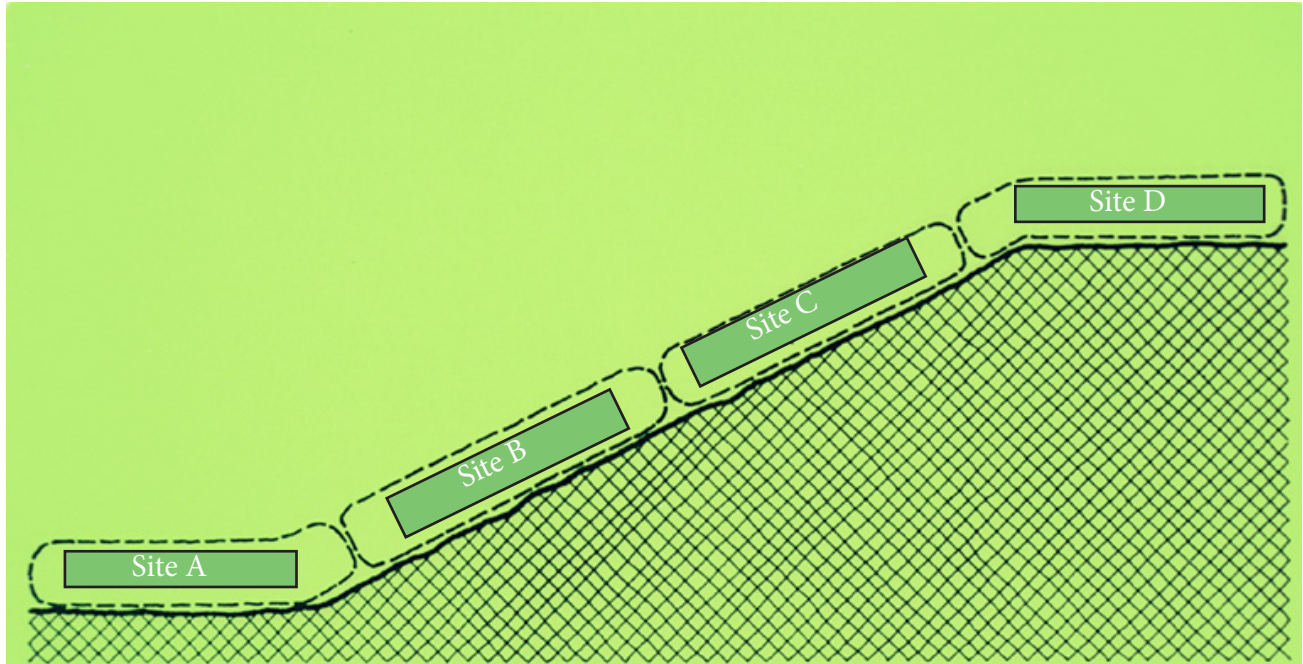
Prototype #1

1. This prototype has thick stone walls, small shaded windows, and a central courtyard. On the site section below show the appropriate location for the prototype and explain why and what passive strategies will be effective. Use barrier, filter, connector, switch terminology in your explanation.
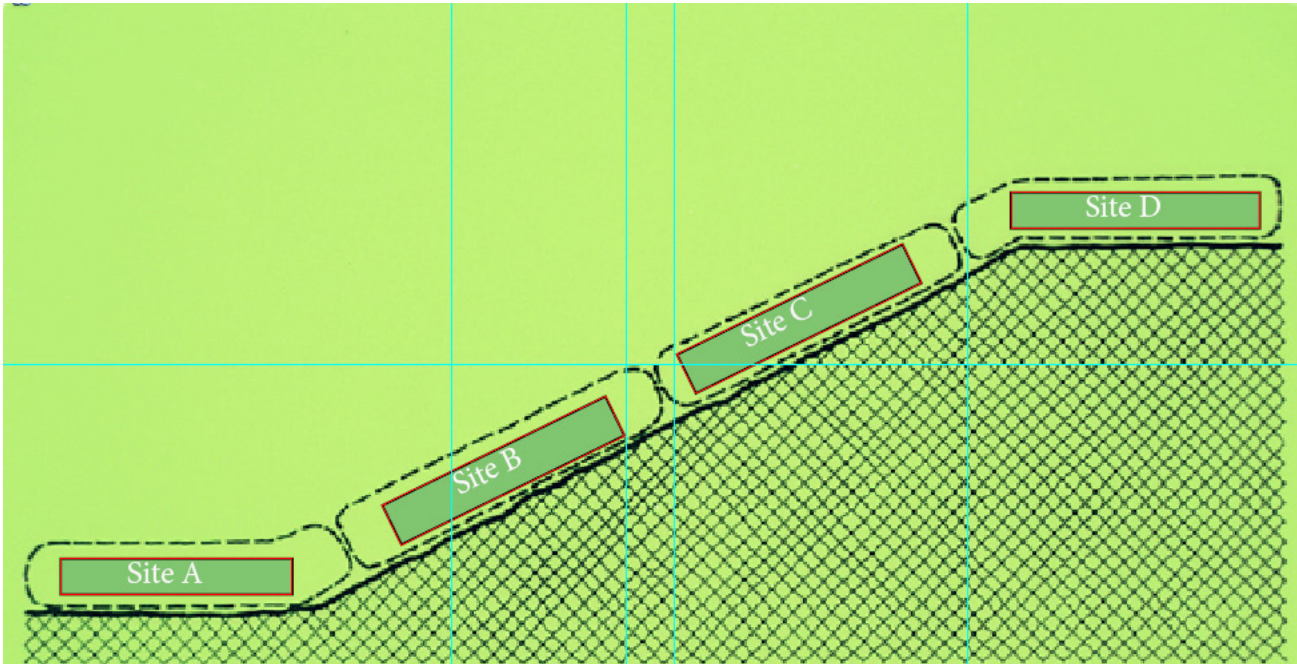
2.5 points

2.5 points

Prototype #2

1. This prototype has highly insulated walls, most windows face south, and operable shading devices. On the site section below show the appropriate location for the prototype and explain why and what passive strategies will be effective. Use barrier, filter, connector, switch terminology in your explanation.

Prototype #3

1. This prototype has thick insulated walls, small windows for daylight, and a central masonry fireplace. On the site section below show the appropriate location for the prototype and explain why and what passive strategies will be effective. Use barrier, filter, connector, switch terminology in your explanation.

Prototype #4

1. This prototype has lightweight walls, large operable windows, and a roof with long overhangs. On the site section below show the appropriate location for the prototype and explain why and what passive strategies will be effective. Use barrier, filter, connector, switch terminology in your explanation.