

Design Alternatives Decision Matrix Components

The decision matrix for our architectural design alternatives includes the criteria of maintenance, cost, aesthetics, and constructability. The weights for each of these components and their individual rating scales are listed below.

1. Maintenance (20%)

The scale for this design criteria is a 1-5 scale. Each of these rating values is listed below.

- 1= Extensive maintenance required (monthly)
- 2= Consistent maintenance required (every three months)
- 3= Average maintenance required (three times per year)
- 4= Infrequent maintenance required (twice per year)
- 5= Maintenance is not an issue (once per year)

2. Cost (20%)

The scale for this design criteria is a 1-5 scale. Each of these rating values is listed below.

- 1= Cost is extremely high relative to other designs
- 2= Cost is noticeably higher (10-20%) than any other alternative
- 3= Cost is average an very close to other designs
- 4= Cost is noticeably less (10-20%) than any other alternative
- 5= Cost is extremely low relative to other designs

3. Aesthetics (40%)

The scale for this design criteria is a 1-5 scale. Each of these rating values is listed below.

- 1= The design is not appealing and does not fit surrounding environment
- 2= The design is basic and not very unique
- 3= The design is average and is aesthetically similar to existing structure
- 4= The design heavily incorporates bamboo but is also distracting
- 5= Raw bamboo is heavily incorporated in the design with strong aesthetic appeal

4. Constructability (20%)

The scale for this design criteria is a 1-5 scale. Each of these rating values is listed below.

- 1= Construction is difficult to implement in all aspects
- 2= Construction is noticeably harder than any other alternatives
- 3= Construction is average and similarly easy/difficult compared to other designs
- 4= Construction is noticeably easier than other alternatives
- 5= Construction is easy to implement in all aspects

Design Deflections vs. Deflection Limits

Criteria	Alternative (Raw Score)			Alternative (Weighted Score)		
	A	B	C	A	B	C
Maintenance (20%)	5	5	3	1	1	0.6
Cost (20%)	3	4	3	0.6	0.8	0.6
Aesthetics (40%)	2	5	4	0.8	2	1.6
Constructability (20%)	3	2	1	0.6	0.4	0.2
				3	4.2	3