



University of Evansville Student Chapter

1800 Lincoln Avenue
Evansville, Indiana 47722

Contest Date and Location:

Saturday, February 21st, 2009
Washington Square Mall Center Stage Area

Rules of Construction:

1. Bridges must provide for a 2 inch by 2 inch by 1/2-inch (2" x 2" x 1/2") plywood block (Figure 1) to be placed in the loading platform area shown in Figure 2. Note that the loading area is ± 0.5 inches vertically from the elevation of the abutments and is at the center of the span. This plywood block will serve to transfer the testing load to the rest of the bridge.

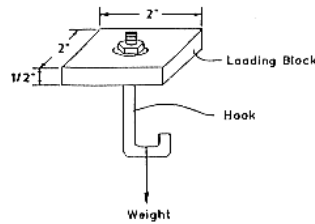


Figure 1

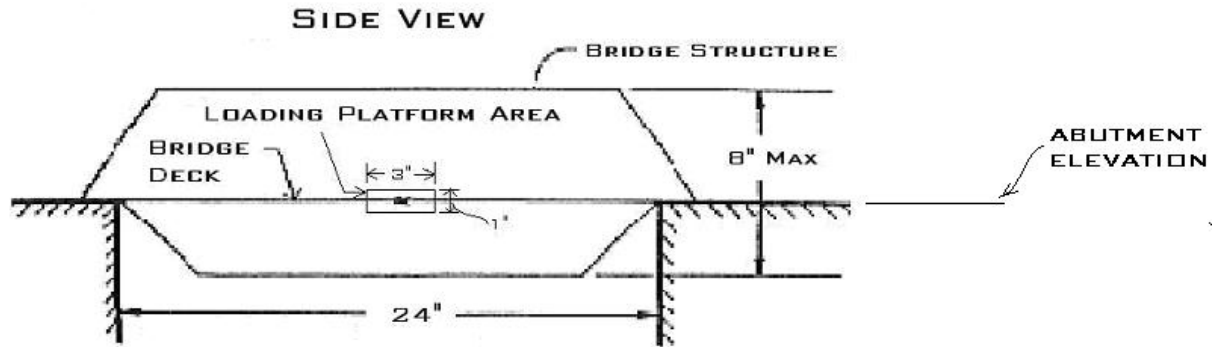


Figure 2

- All wood to be used in the construction of the bridges has been provided by UE's ASCE chapter. This material consists of 17 sticks of 1/8-inch square balsa wood stock (Approximately 51 linear feet).
- Participants must provide their own wood glue. Mechanical fasteners will not be permitted.
- Glue may be placed **only** on the face of the joint being glued (See Figure 3). The bridge may **not** be painted, coated, or treated in any way. Glue may **not** be spread more than 1/8 inch beyond the glued joint.



Figure 3

- Members of the bridge may **not** be laminated together (See Figure 4). The allowable overlapping of one member to another is 1/2 inch (See Figure 5). Parallel members will be glued **only** at their ends or where they come into contact with cross members. The minimum allowable spacing between parallel members is 1/8 inch (Figure 6).



Figure 4

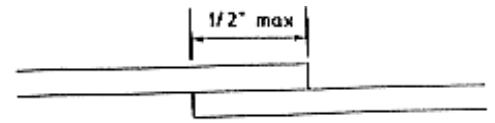


Figure 5



Figure 6

Bridge Dimensions:

- Bridges may have a total height of no more than 8 inches (Figure 7).

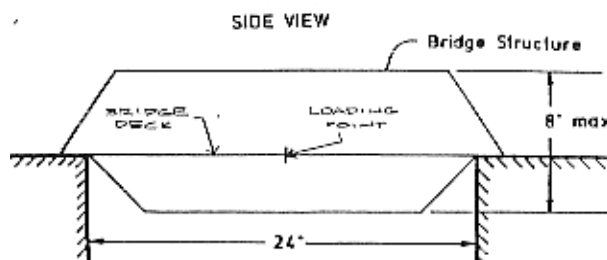


Figure 7

2. Bridges may be **no more** than 30 inches and **no less** than 26 inches long (Figure 8).
3. Bridges may have a maximum width of **no more** than 6 inches (Figure 8).

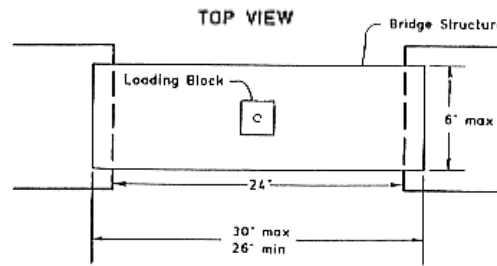


Figure 8

4. Bridges will not be allowed to butt up against the supports (Figure 9).

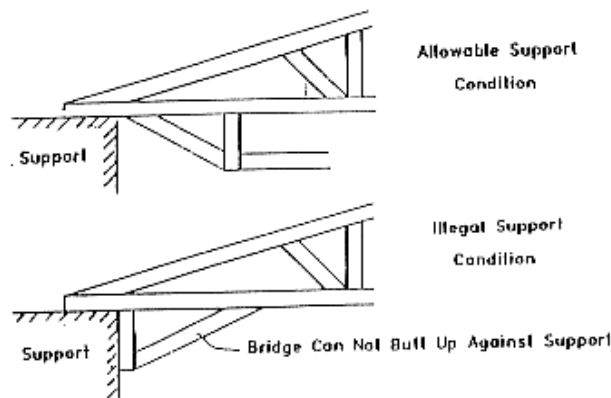


Figure 9

Judging:

1. The UE ASCE Chapter reserves the right to disqualify any bridge that does not meet the criteria outlined in the “Rules of Construction” and “Bridge Dimensions” sections of this packet.
2. Bridges will be scored and ranked based on an efficiency factor calculated by dividing the load sustained at failure by the weight of the bridge (Load Sustained/Weight).
3. The winner of each age division will be the bridge that has the highest efficiency value.

Awards:

1. Each student that participated in the building of a bridge entered in the competition will receive a T-shirt.
2. A scholarship from the University of Evansville will be awarded to the High School junior with the highest bridge efficiency.
3. Prizes will be awarded to the top finishing bridge in each division.

Age Divisions will be divided as outlined below:

Elementary:	Kindergarten - 5 th grade
Middle School:	6 th grade -- 8 th grade
High School:	9 th grade -- 12 th grade

Questions:

If you have any questions or concerns regarding the bridge rules or contest, you can contact the UE Department of Civil & Mechanical Engineering Department at **(720) 351-7834**, or **Ryan Farnum** at rf37@evansville.edu. If cannot reach, contact Dr. Mark Valenzuela at (812) 488-2590.