Professional Engineers and Geoscientists of BC

ULTIMATE BRIDGE BUILDING CONTEST

March 20,2010
Pine Center Mall at Center Court

Contest Rules and Guidelines

Registration:

1. One entry per team.
2. Teams are encouraged to register in advance. A limited number of registrations will be accepted on the day of the event. A completed registration form should be emailed to ci@apeg.bc.ca or faxed to 250-562-7045 by March 15, 2010. Registration form can be downloaded from our website: http://www.apeg.bc.ca/ci.

Bridge Construction:

1. Bridges must be built using only a maximum of 100 standard popsicle sticks, standard all-purpose white glue. No other glues are acceptable, including carpenter's glue. Construction paper or regular weight bond (no cardboard) is permitted for the bridge deck only.
2. The popsicle sticks must be left whole. They cannot be cut or split.
3. The bridge must span a 500 mm gap and should be long enough to have a bearing area on both ends beyond 500 mm (i.e. 50 mm excess on either end for a total length of 600 mm). The bridge must incorporate a flat area to attach the loading mechanism (see drawing on next page).
4. A deck capable of supporting a "Hot Wheels" type toy car shall be included in the design. The car must be able to roll across the deck.
5. Bridges will be inspected during registration. Any violations of the rules above will result in disqualification from the official results, but the contestants will still be able to test the bridge.

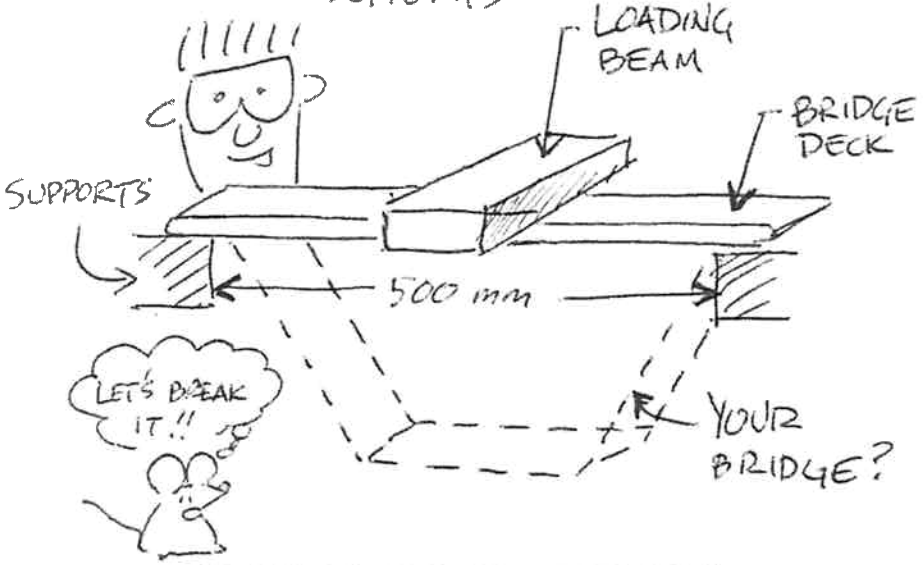
Judging Criteria:

1. Bridges will be judged separately on the basis of aesthetics and the ratio of load carrying capacity to bridge mass.
2. Bridges will be weighed upon registration.
3. There will be 3 categories for the contest: Primary (Grades 1 through 3), Intermediate (Grades 4 through 7) and Secondary (Grades 8 through 12).

Bridge Testing:

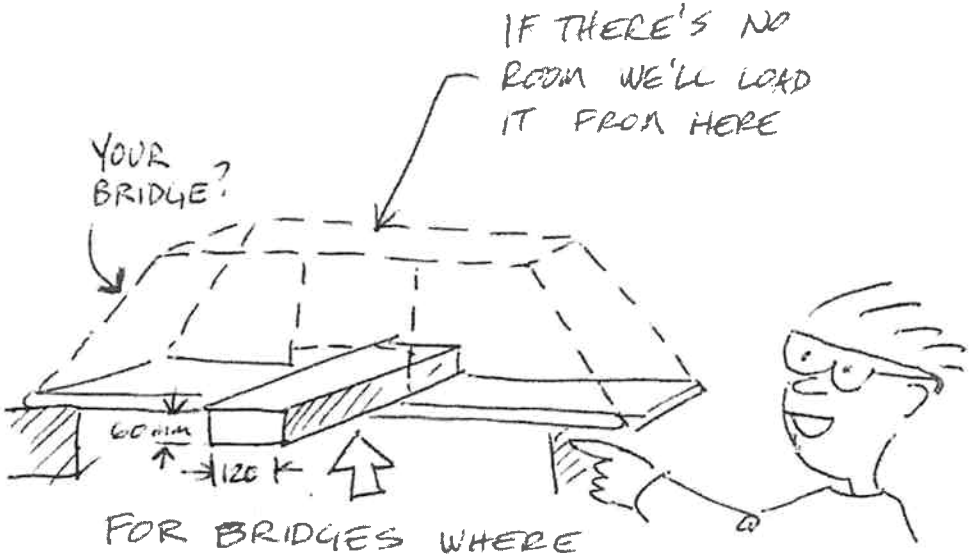
1. The bridges will be loaded as close as possible to the bridge deck. Sufficient space must be provided for the loading mechanism. Arch or truss-type bridges with the deck below the truss will be loaded on the top unless a minimum 12 cm space is provided through the truss or arch.
2. All contestants and officials within the loading area must wear protective eyewear (provided).
3. The contestant (or parent/adult) will load their own bridge.
4. A strain gauge will record the maximum load that each bridge carries prior to failure.
5. The recorded load will be divided by the bridge's mass to determine the load/mass ratio.
6. The highest load/mass ratio will determine the winners. In the event of a tie (same load/mass ratio) the lighter bridge will win.

MAKE YOUR BRIDGE SLIGHTLY LONGER THAN 500 mm SO IT SITS ON THE SUPPORTS



TOP DECK STYLE

IF THERE'S NO ROOM WE'LL LOAD IT FROM HERE



FOR BRIDGES WHERE THE DECK IS LOWER THAN THE STRUCTURE, MAKE SURE YOU LEAVE ENOUGH ROOM TO PLACE THE LOADING BEAM.

BOTTOM DECK STYLE