

Design and Build a Half-Pipe Skate Ramp for City of Lexington

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The halfpipe skate ramp project was presented to us by the Chief of Police, Angela Greene, and a coalition of Lexington skateboarders. The aim of the project was to design and build a sizable halfpipe to be utilized by the residents of Lexington. The objectives of the project were: (1) to design a safe and skateable halfpipe; (2) to perform a computational analysis of the dynamic stress distribution within the ramp structure; (3) to build the final design that would be presented to the public and ultimately skate on.

The first step was to create a CAD model using SOLIDWORKS, shown in Figure One. We reached a consensus on a modular design that could be produced in the machine shop. The final product would consist of a steel frame, with 2x6 runners underneath of a plywood floor topped with a skating surface. Figure 2 shows the final product. The skate ramp will be completed by City of Lexington.

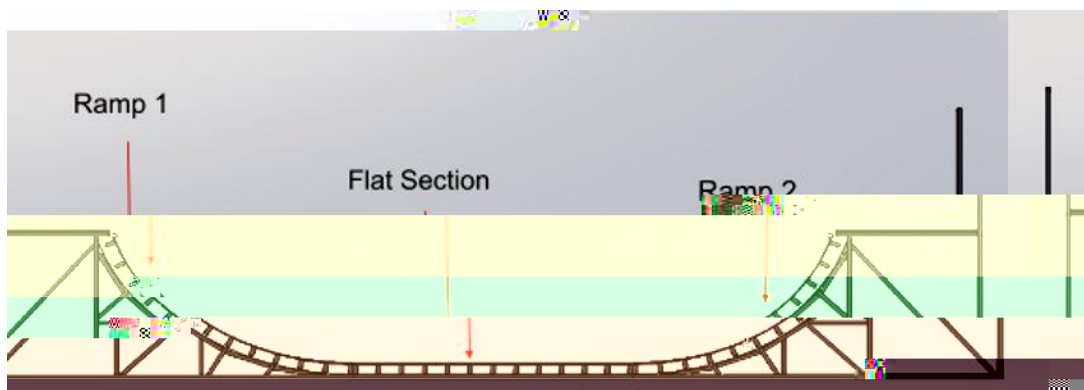


Figure 1. Final CAD Model outlining the three major sections

