

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.

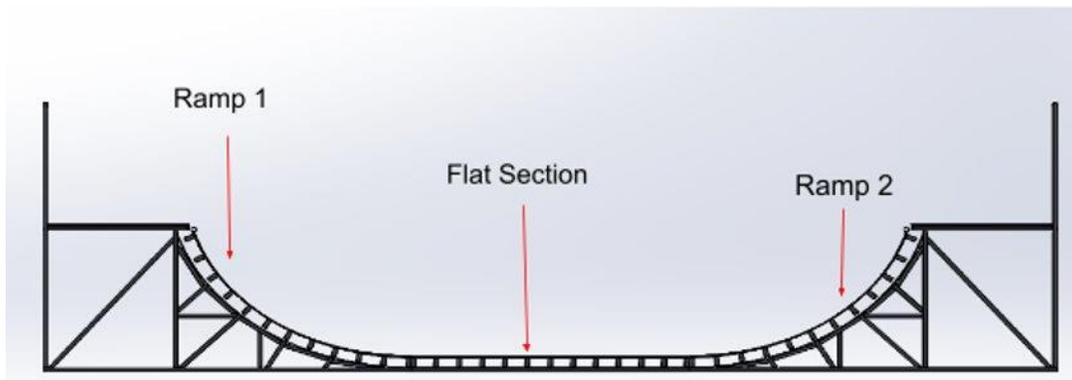


Figure 1. Final CAD Model outlining the three major sections



Figure 2. Final Product assembled at the skate park