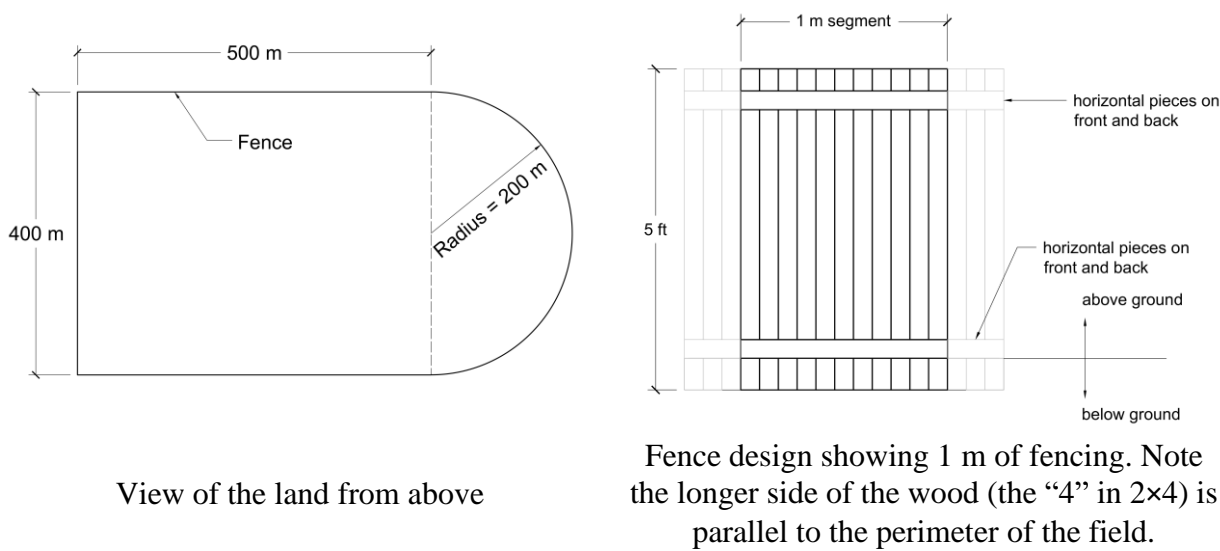# CIV102F Quiz # 1: Wednesday AM September 16, 2020
Engineering Computation and Judgement

A farmer would like to build a wood fence around a patch of land using pieces of 2×4 lumber ordered in 10 ft lengths. The fence will be built by driving 5 ft lengths into the ground and holding these vertical pieces in place using four horizontal pieces of wood (two on the top and two on the bottom). The shape of the land and a view of the fence design can be seen in the figure below:

View of the land from above

Fence design showing 1 m of fencing. Note the longer side of the wood (the "4" in 2×4) is parallel to the perimeter of the field.

If it is assumed that trucks which each have a storage space of 1.0 m × 2.0 m × 3.5 m are used to transport all of the wood to the site, how many trucks will be needed to deliver everything in one trip? Note that a 10 ft length of 2×4 lumber is a rectangular prism with dimensions of 1.5 in. × 3.5 in. × 120 in. Describe how the wood would be loaded into each truck. 1 ft = 12 in and 1 in = 25.4 mm.