

1116-VE-479 **andrew simoson*** (ajsimoso@king.edu), King University, 1350 King College Road, Bristol, TN 37620. *Minimizing Utopia*. Preliminary report.

Sir Thomas More wrote *Utopia* 500 years ago in 1516. In the opening pages of Book II, he itemizes some clues about the shape of Utopia island: (1) The island has 54 city states, each separated from its nearest neighbor by at least 24 miles, and each city state is rectangular having lengths of at least 20 miles, (2) the island has a circular shaped harbor with a mouth of 11 miles making a perimeter of about 500 miles, rendering the island's shape somewhat like a crescent, (3) each cross section of the island is about 200 miles except at the extremes where it collapses to 0; the capital city is in the center of the island and is 60 miles from the sea on one side and 140 miles on the other. Given these clues, what is a possible minimal area for the island of Utopia? After interpreting these somewhat ambiguous clues by making some assumptions, we offer a map of Utopia island with [1] an elliptical shoreline, [2] a harbor whose shoreline is almost an *osculating circle* at one end of the ellipse, [3] its capital city at the *centroid* of the island, and [4] clues (1), (2), and (3) satisfied. (Received September 03, 2015)