

Legend

- 2ft Lidar Contours (2016)
- 10ft Lidar Contours (2016)
- Address
- Parcels
- Buildings
- Parks
- March 2020
- Red: Band_1
- Green: Band_2
- Blue: Band_3

SLOPE 1
17 ÷ 30 = 56%

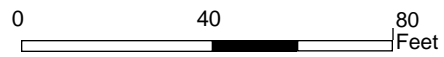
SLOPE 2
22 ÷ 30 = 73%

SLOPE 3
20 ÷ 30 = 66%

SLOPE 4
33 ÷ 30 = 110%

SLOPE 5
31 ÷ 30 = 103%

Notes



1 inch = 80 feet



Disclaimer: These maps were developed by the City of Mercer Island and are intended to be a general purpose digital reference tool. These maps are not an accepted legal instrument for describing, establishing, recording or maintaining descriptions for property concerns or boundaries. The City makes no representation or warranty with respect to the accuracy or currency of these data sets, especially in regard to labeling of surveyed dimensions, or agreement with official sources such as records of survey, or mapped locations of features.



Resources for Teachers

To Determine Percent of Slope and Angle of Slope

[<Back](#)

Percent of slope is determined by dividing the amount of elevation change by the amount of horizontal distance covered (sometimes referred to as "the rise divided by the run"), and then multiplying the result by 100. The "run" assumes you're traveling on an idealized flat surface – it does **not** account for the actual distance traveled once elevation change is factored in.

Example: let's assume your climb gains **1,000** feet in altitude (the rise) and the horizontal distance as measured on the map is **2,000** feet (the run).

1,000 divided by **2,000** equals **0.5**

Multiply **0.5** by 100 to derive percent of slope: **50%**

Example: let's assume your climb gains **500** feet in altitude (the rise) and the horizontal distance as measured on the map is **3,000** feet (the run).

500 divided by **3,000** equals **0.166**

Multiply **0.166** by 100 to derive percent of slope: **16.6%**

Example: let's assume your climb gains **700** feet in altitude (the rise) and the horizontal distance as measured on the map is **500** feet (the run).

700 divided by **500** equals **1.4**

Multiply **1.4** by 100 to derive percent of slope: **140%**

Angle of slope represents the angle that's formed between the run (remember it's an idealized flat surface that ignores elevation change) and your climb's angular deviation from that idealized flat surface. To calculate this, you divide the rise divided by the run, and then obtain the inverse tangent of the result.

Example: let's assume your climb gains **1,000** feet in altitude (the rise) and the horizontal distance as measured on the map is **2,000** feet (the run).

1,000 divided by **2,000** equals **.5**

Press the **INV** button on your calculator (sometimes called 2nd function)

Press the **TAN** button on your calculator

Your angle of slope is **26.5 degrees**

Example: Let's assume your climb gains **1,000** feet in altitude (the rise) and the horizontal distance as measured on the map is **1,000** feet (the run).

1,000 divided by **1,000** equals **1**

Press the **INV** button on your calculator (sometimes called 2nd function)

Press the **TAN** button on your calculator

Your angle of slope is **45 degrees**