Alignment Chapter

What are the steps when designing a project

> 1. import the existing conditions 2. layout a 2d version of key features i.e. building outlines, road centerlines, pipe networks

what types of segments make up an alignment?

> tangents, curves, and spirals

What connects segments?

> geometry points that include **PI, PC,** and **PT**

What are segment properties?

> they can be **Fixed**, **Floating**, and **Free**

Profile Chapter

How to edit/see a profile?

> create a profile view

How to make a design profile?

> **A profile view must be in the drawing to create a design profile**, even if its empty

Profile Definitions

Profile View	a plot with **distance along alignment on X axis** and **elevation on Y axis**
Surface Profile	elevations of profile are **determined from a surface** in the drawings
Design or Layout Profile	elevations are **entered by the user** to **represent the elevations of the proposed design**

Alignment Definitions

Alignment	a **2d line** made of straight and/or curved segments, used to represent linear projects such as roads, pipelines, streams, has **no elevation** but it has **direction**
Tangents	straight segments

Alignment Definitions (cont)

Curves	curved segments with a **constant radius** (arcs)
Spirals	curved segments that **change in radius** from one end to the other
PI	Point of Intersection, where **2 tangents intersect** or would intersect
PC	Point of Curvature, place where the curve **begins**
PT	Point of Tangency, place where the curve **sends**
Fixed	editable only be adjusting its geometry points, **does not** depend on another segment
Floating	attachable only to **another fixed** or **floating** segment, dependent on and always **attached** to the **before** segment
Free	located **between fixed** or **floating** segments, defined by **before and after** segments
Station	A number representing the horizontal distance between a **point** on the alignment and the **start** of the alignment
Station number format	**Full + Partial**, full=the number of **100 ft** intervals, partial=remaining distance