

# CDOT Measure XY Distance Tool



This document guides you through measuring distances using the Measure XY Distance Tool. This tool can be used in both MicroStation and Redline.

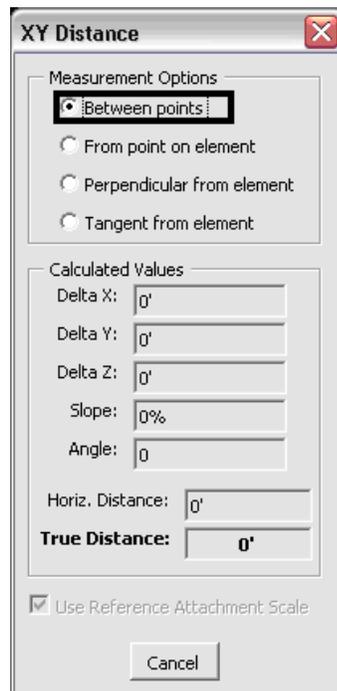
## Measure XY Distance

### Launching Measure XY Distance

1. The **Measure XY Distance** utility can be used in both MicroStation and Redline. For either application it is launched in the same way. From the CDOT Menu select **Add On's > Measure XY Distance**

### Measuring Between Points

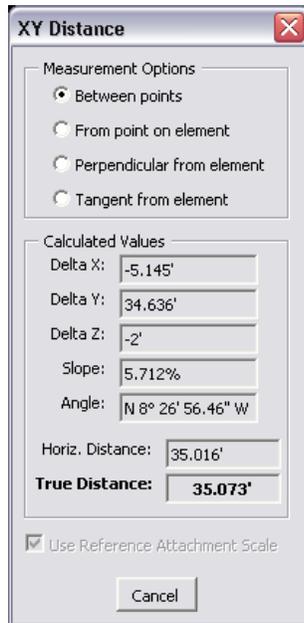
2. In the **XY Distance** dialog under *Measurement Options* select **Between points**.



**Note:** The **Use Reference Attachment Scale** option is grayed out when the **Between points** option is selected. Using the reference attachment scale calculation requires an element be selected from a reference attachment. Since this option does not require a selected element the option is disabled.

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3. <D> two points in the design file to measure the distance between and the *Calculated Values* fields will display the computed data.



The screenshot shows a dialog box titled "XY Distance" with a close button in the top right corner. It is divided into two main sections: "Measurement Options" and "Calculated Values".

**Measurement Options:** This section contains four radio buttons. The first, "Between points", is selected. The other three options are "From point on element", "Perpendicular from element", and "Tangent from element".

**Calculated Values:** This section contains several input fields with their respective values:

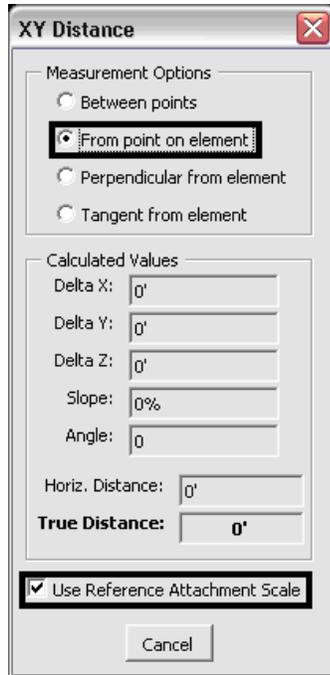
- Delta X: -5.145'
- Delta Y: 34.636'
- Delta Z: -2'
- Slope: 5.712%
- Angle: N 8° 26' 56.46" W
- Horiz. Distance: 35.016'
- True Distance:** 35.073'

At the bottom of the dialog, there is a checked checkbox labeled "Use Reference Attachment Scale" and a "Cancel" button.

**Note:** Distance and Angle values will be displayed based on *Coordinate Readout* settings establish in the design files settings. To change coordinate readout settings select **Settings > Design File** and choose **Coordinate Readout** from the *Category* list.

### Measuring from Point on Element

4. In the XY Distance dialog under *Measurement Options* select From point on element.



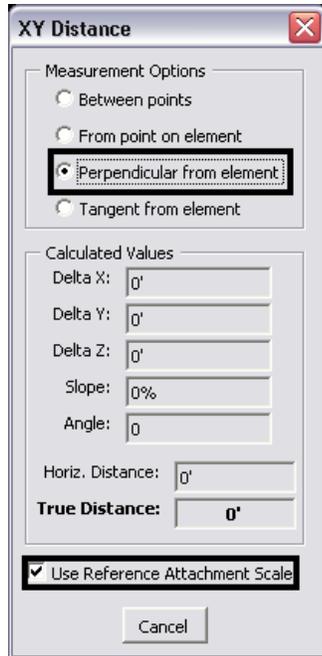
5. Choose either *reference scale* or *design values* by toggling the Use Reference Attachment Scale checkbox on/off. When the Use Reference Attachment Scale checkbox is on, the *Calculated Values* will be scaled by the reference attachment scale if the selected element is in a reference attachment.
6. <D> a point on the element to be measured from.
7. <D> the second point to be measured to. The second point can, but does not have to be, on an element. The measured distance will display in the *Calculated Values* fields.

**Note:** Measurements with this method require selecting at least one element. If the measurement will not start on an element choose **Between Points** under *Measurement Options*. If selecting an element in a reference attachment the *Locate* setting must be turned on for that attachment.

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### Measuring Perpendicular from Element

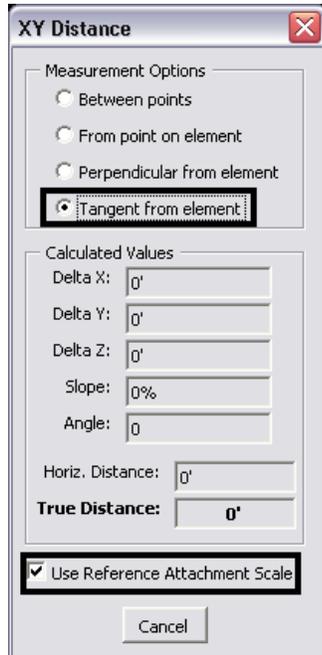
8. In the XY Distance dialog under *Measurement Options* select Perpendicular from element.



9. Choose either *reference scale* or *design values* by toggling the Use Reference Attachment Scale checkbox on/off.
10. <D> a point on the first element to begin measuring from.
11. <D> the second point to be measured to. The second point can, but does not have to be on an element. The measured distance will display in the *Calculated Values* fields.

### Measuring Tangent from Element

12. In the XY Distance dialog under *Measurement Options* select **Tangent from element**.



13. Choose either *reference scale* or *design values* by toggling the **Use Reference Attachment Scale** checkbox on/off.
14. <D> a point on the first element to begin measuring from.
15. <D> the second point to be measured to. The second point can, but does not have to be on an element. The measured distance will display in the *Calculated Values* fields.