

113-10 Sidewalk Compliance

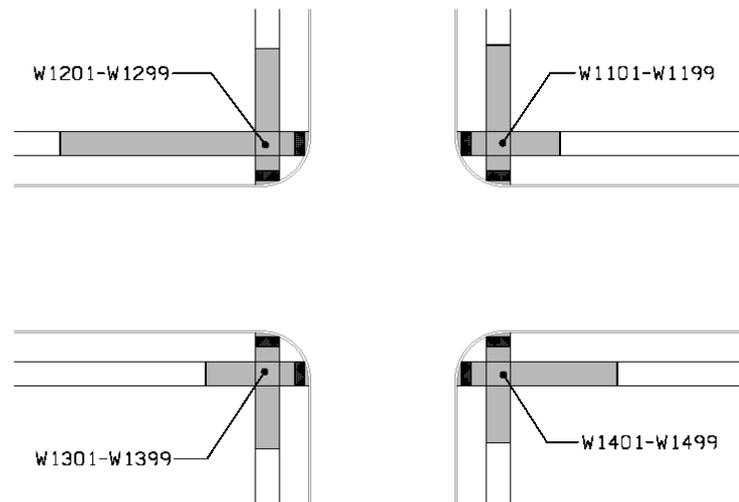
(This section last updated 11-16-16)

For Accessible Sidewalk Requirements, see Design Manual [12A-2](#).

Instructions and Explanation

A quick instruction and walk through for each column

Point: Use the following convention to name **any** point that has a change in length, width, or slope for each corner within every intersection:



The second intersection will have numbering starting W2101-W2499 and so on.

Station, Offset, and Elevation: Populate as per standard procedure.

Point to Point: Type in the two points that are to be compared. It is critical that the points used are entered EXACTLY as they appear under the Point column.

Sidewalk Designation: A pull-down menu that allows the designer to select what piece of the sidewalk layout is designated by the two points selected in the Point to Point columns. This is a locked selection. If the designer feels that their piece is not one of the available selections, please contact the [Design ADA Coordinator](#) to discuss.

_" PCC Sidewalk: Assumed based on typical depth for given Sidewalk Designation entry. Values may be changed for site conditions. Values are not locked. Type in a value if different.

Distance: The distance between the two points in the Point to Point columns. This can be a straight line if the points are oriented as such. In the case where the two points are on a curve, use the distance around the curve between the two points, rather than their straight line distance. Please note that this distance does not include curb, as indicated by the asterisk.

Δ Elevation: Calculates the change in elevation between the two points.

Slope: Calculates the change in slope between the two points by taking the value in the Δ Elevation column divided by the value in the Distance column.

Legally Acceptable Range: Provides the acceptable range in slope depending on the Sidewalk Designation column. Although these slopes are shown as positives, they can also be negative and still valid.

Acceptable Constructed Range: Provides the acceptable constructed range in slope.

If the difference between designed slope and the maximum legally acceptable range is greater than or equal to zero, it fills with the values provided in the legally acceptable range column. If the difference is less than zero, meaning the slope is beyond the maximum legally allowed, it fills with the minimum value provided in the legally acceptable range column and one percent higher than the designed slope. Although these slopes are shown as positives, they can also be negative and still valid.

Does Designer need to obtain design approval from Methods Engineer?: Fills with Yes if the Acceptable Constructed Range does not equal the Legally Acceptable Range or if Yes appears in the Staking Required column. This will be the case when the Difference column shows a negative number.

Staking Required on this Quadrant: Fills with Yes if Ramp Running Slope or Sidewalk Running Slope is selected in Sidewalk Designation column and the Slope is within 1% of the maximum allowed, or if Ramp Cross Slope or Sidewalk Cross Slope is selected in Sidewalk Designation column and the Slope is within 0.5% of the maximum allowed.

Measured Slope % and Initials: For the inspector to fill out in the field. The designer should leave these columns blank.

Remarks: Available for the designer to make remarks regarding the constructability of various points. Common remarks are available in a drop down. You are also able to write in one of your own, some examples are:

- This point is near the maximum allowable value.
- This point overrides the general specifications for the range selected.
- Cross slope of existing sidewalk is greater than 2%. Warp last section of sidewalk into existing sidewalk.

Also available for making remarks regarding corner radii or any additional information the contractor may need to construct a compliant design.

For Information Only: Provides the tab viewer with the information the designer entered in the Point, Station, Offset, and Elevation columns. These columns will automatically populate as the designer enters their information in. They were placed to the right of the blank column and beyond the remarks column to help suggest that these numbers cannot be guaranteed to be correct in the field. The actual constructor of the sidewalk is to use these numbers as a base but is ultimately responsible for adhering to ADA laws, not the points set in this tab.

Cell Formatting and Programming

Point column: If cell color is Yellow, the point is involved in ONE slope that is outside the acceptable range. If cell color is Orange, the point is involved in TWO slopes that are outside the acceptable range. If cell color is Red, the point is involved in MORE THAN TWO slopes that are outside the acceptable range.

Slope column: If the value calculated in the Slope column falls outside of the Acceptable Range for that sidewalk piece, the value will turn color to indicate that the design is out of compliance.

Sidewalk Design Adjustments

If any Slope column is highlighted, the design needs to be adjusted. It is suggested that the designer starts their adjustment by finding which Points are involved in the most out-of-compliance Slopes (see the color coordination above). By adjusting the “worst” Points first, one can potentially eliminate multiple Slope problems with minimal adjustment. By reducing the number of colored Points, one also reduces the number of Slopes out of compliance. The goal is to return the all the Point and Slope cell colors back to grey, and thus within all acceptable ranges, by adjust the Stationing, Offset, or Elevation points in the design. This will be a tedious process with multiple trials, but is necessary. If the designed layout cannot work in the theoretical model, it cannot be expected to work in the field.

Design Tips

In order to satisfy all the Slope requirements, one may have to think beyond just adjusting the elevations between points. Some suggestions include:

- Start with either your lowest form grade point intersecting with the sidewalk or the shortest leg on the ramp
- Add additional landings if the slope is too steep
- Move the sidewalk starting point further away from the intersection to create more room for the slopes to mature
- In some cases, the designation may need to change because the slope doesn't fit in the designation's range
- Landings may need to be placed at the back of curb when sidewalk is placed within 6 feet of curb. Use ramps to tie into to the existing sidewalk (if this approach is used, do not forget a landing at the top of the ramp).

No two layouts will be alike and all will require viewing sidewalk design as a puzzle with interchangeable pieces that allow for certain fluctuations. This is not a step-by-step thoughtless process, so do not view it as such.