

[EW-211](#) Details for Special Grading at Side Piers

(This section last updated 07-18-13)

To calculate AL use the following formula:

$$AL = \frac{W}{\tan 15^\circ}$$

where:

W = the length measured from the shoulder edge to the toe of the berm in the area of bridge berm protection.

Round the result to the nearest whole foot. As an example, suppose W is 24 feet.

$$AL = \frac{24}{\tan 15^\circ} = 89.57 \text{ feet}$$

Enter 90 feet into Tab [104-12](#) for AL.

TL is calculated in the same manner.