

Wing Elevation

If very stiff or dense materials are present, installation of the sheet piles may be difficult with a vibratory hammer and consideration should be given to using an impact hammer. If lesser embedment of the sheet pile occurs due to the presence of stiffer or denser foundation soils, the engineer shall be notified immediately.

Steel Sheet Piling Notes:

As a minimum, all steel sheet piling shall be P227 and shall conform to ASTM A328 steel and shall meet the following requirements:

Section Length:	See this sheet to calculate *L*
Maximum Section Depth:	12 In.
Minimum Section Thickness:	0.375 in.
Elastic Section Modulus:	30.2 in ³ /ft



The Contractor shall submit for review a shop plan of the sheet pile layout, including the ties and walers, showing all pertinent dimensions, details, and section properties. The Contractor shall not proceed with installation of steel sheet piling and steel bearing piling prior to approval of the submittal by the Engineer.

Tie rods shall be ASTM A615 Grade 75 and galvanized in accordance with ASTM A123. Lock nuts and washers shall be galvanized and provided by the tie rod manufacturer. Steel channels, bearing plates and other miscellaneous plates shall conform to ASTM A709, Grade 50.

Field welding shall meet the requirements of Materials I.M. 558.

The steel walers shall bear uniformly against the sheet piles at each contact point as shown prior to tightening the tie rod nuts. 6" x 6" shim plates shall be used to provide uniform bearing.

Nuts shall be tightened snug tight prior to placing backfill above the elevation of the tie rod.

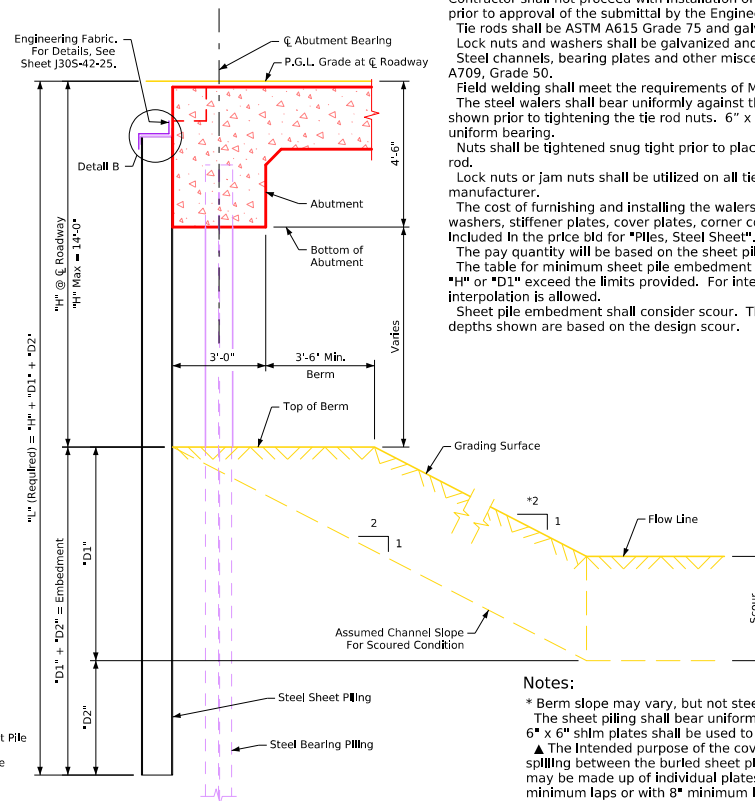
Lock nuts or jam nuts shall be utilized on all tie rods, or as specified by the tie rod manufacturer.

The cost of furnishing and installing the walers, tie rods, bearing plates, lock nuts, washers, stiffener plates, cover plates, corner connectors, and shim plates shall be included in the price bid for "Piles, Steel Sheet".

The pay quantity will be based on the sheet pile wall dimensions shown.

The table for minimum sheet pile embedment depths shall not be used if the values of *H* or *D1* exceed the limits provided. For intermediate values of *H* and *D1*, interpolation is allowed.

Sheet pile embedment shall consider scour. The design and sheet pile embedment depths shown are based on the design scour.



Typical Section thru Abutment

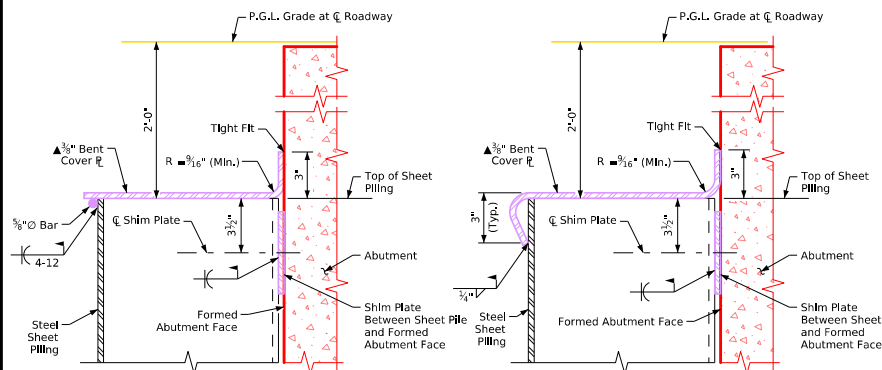
Notes:

* Berm slope may vary, but not steeper than 2:1.

The sheet piling shall bear uniformly against the abutment prior to back filling. 6" x 6" shim plates shall be used to provide uniform bearing.

▲ The Intended purpose of the cover plates is to prevent the backfill from spilling between the buried sheet piling and the abutment. The cover plate may be made up of individual plates of 10'-0" minimum length with 4" minimum laps or with 8" minimum lap plates (4" min. each side). Laps or lap plate are to be seal welded.

For additional cover plate details, see Sheet J305-25-25.



Alternate Detail B
(Engineering Fabric Not Shown)

Detail B
(Engineering Fabric Not Shown)

Minimum Sheet Pile Embedment Depth (*D1+*D2)

Height from Berm to Grade (H)	14'-0"	12'-0"	10'-0"	8'-0"	6'-0"
10'-0"	37'-0"	34'-0"	31'-6"	28'-6"	25'-6"
8'-0"	34'-0"	31'-6"	28'-6"	26'-0"	23'-0"
6'-0"	31'-0"	28'-6"	25'-6"	23'-0"	20'-0"
4'-0"	27'-6"	25'-0"	22'-6"	20'-0"	17'-0"
2'-0"	24'-0"	21'-6"	19'-0"	16'-6"	14'-0"
0'-0"	20'-0"	17'-6"	15'-0"	13'-0"	11'-0"

Latest Revision Date Approved by Bridge Engineer	 Standard Design - 30'-0" Roadway, Single Span Bridge Single Span Concrete Slab Bridges July, 2025	
	Steel Sheet Piling Details	J305-24-25