EXAMPLE #1:
To determine post type: 100% panel coverage dimensions (U.O.N.)

\[ \text{Span} = 145.0 \text{ ft} \]
\[ X/2 + 30.0 \text{ ft} \]
\[ R(1+1) \text{ Post 1} \]
\[ R(1+2) \text{ Post 2} \]

ELEVATION

The following method is for sizing of columns only. (verified by OT-stru computer runs). Use the right side to size the post, then check the left side.

Panel depth = 8.33'
Height from base plate to center of truss = 29.0'
Span = 145.0'
Columns = 180'

Wind pressure = 40.3 psf

\[ \text{Force} = \text{area} \times \text{pressure} = (145.0/2 + 30.0) \times 8.33 \times 40.3
\]
\[ = 34,409 \text{ lb} \]

Actual M = Mx + Mz

\[ \text{Actual M} = \text{wind load moment on base} \]

\[ = \text{height} \times \text{area of sign} \times \text{wind pressure}(40.3 \text{ psf}) \times 1.05
\]

\[ = 5 \% \text{ in the moment will take care of the 20\% lateral wind forces, AASHTO spec. computer runs verify by OT-stru)}

M = force \times height = 34,409 \text{ lb} \times 29.0 \text{ ft} = 1,047,754 \text{ lb-ft}

Read from post type selection chart, left side corresponding to moment = 1,047,754 lb-ft

Read column V-5, which corresponds to the moment V-5, 24" NPS x 3/4" TK, split 10'.

Any moment bigger than 1,258,167 lb-ft, requires special column design.

Use same column size for left-hand side, the above example is using 100% panel coverage.

EXAMINE LEFT HAND SIDE COLUMN

Panel depth = 8.33'
Height from base plate to center of truss = 29.0'
Span = 145.0'
Columns = 180'

Wind pressure = 40.3 psf

\[ \text{Force} = \text{area} \times \text{pressure} = (145.0/2 + 30.0) \times 8.33 \times 40.3
\]
\[ = 24,338 \text{ lb} \]

Pseudo - moment = Mx + Mz

\[ \text{Actual M} = \text{wind load moment on base} \]

\[ = \text{height} \times \text{area of sign} \times \text{wind pressure}(40.3 \text{ psf}) \times 1.05
\]

\[ = 5 \% \text{ in the moment will take care of the 20\% lateral wind forces, AASHTO spec. computer runs verify by OT-stru)}

\[ \text{M} = \text{force} \times \text{height} = 24,338 \text{ lb-ft} \times 29.0 \text{ ft} = 636,663 \text{ lb-ft}
\]

Read from post type selection chart, left side corresponding to moment = 636,663 lb-ft

Read column V-5, which corresponds to the moment V-5, 24" NPS x 3/4" TK, split 10'.

However, for both sides use column size V-5, 24" NPS x 3/4" TK, split 10', the larger column section of the left & right side shall govern.

1. Legend:
   - Tx = Thickness
   - X = span

2. Dimensions are in feet

3. Moments calculated or shown on this sheet are "pseudo-moments" intended for use with the chart on this sheet. Do not provide all of the forces in the post that would result from detailed calculations, use where post height from bottom of base plate to Q of sign panel is between 21'-0" and 31'-0", and the details of the structure and sign panel conform to Standard Plans for two post truss. Center of the sign panel should be no higher than 43" above the surrounding terrain.

EXAMPLE #2:
To determine post type: 100% panel coverage dimensions (U.O.N.)

\[ \text{Span} = 120.0 \text{ ft} \]
\[ X/2 + 18.0 \text{ ft} \]
\[ R(1+1) \text{ Post 1} \]
\[ R(1+2) \text{ Post 2} \]

ELEVATION

The following method is for sizing of columns only. (verified by OT-stru computer runs). Use the right side to size the post, then check the left side.

Panel depth = 8.33'
Height from base plate to center of truss = 21.0'
Span = 120.0'
Columns = 180'

Wind pressure = 40.3 psf

\[ \text{Force} = \text{area} \times \text{pressure} = (120.0/2 + 18.0) \times 8.33 \times 40.3
\]
\[ = 26,183 \text{ lb} \]

Actual M = Mx + Mz

\[ \text{Actual M} = \text{wind load moment on base} \]

\[ = \text{height} \times \text{area of sign} \times \text{wind pressure}(40.3 \text{ psf}) \times 1.05
\]

\[ = 5 \% \text{ in the moment will take care of the 20\% lateral wind forces, AASHTO spec. computer runs verify by OT-stru)}

M = force \times height = 26,183 \text{ lb} \times 21.0 \times 1.05 = 577,379 \text{ lb-ft}

Read from post type selection chart, left side corresponding to moment = 577,379 lb-ft

Read column V-5, which corresponds to the moment V-5, 24" NPS x 3/4" TK, split 10'.

Any moment bigger than 1,258,167 lb-ft, requires special column design.

Use same column size for left-hand side, the above example is using 100% panel coverage.

EXAMINE LEFT HAND SIDE COLUMN

Panel depth = 8.33'
Height from base plate to center of truss = 29.0'
Span = 145.0'
Columns = 180'

Wind pressure = 40.3 psf

\[ \text{Force} = \text{area} \times \text{pressure} = (120.0/2 + 18.0) \times 8.33 \times 40.3
\]
\[ = 20,142 \text{ lb} \]

Pseudo - moment = Mx + Mz

\[ \text{Actual M} = \text{wind load moment on base} \]

\[ = \text{height} \times \text{area of sign} \times \text{wind pressure}(40.3 \text{ psf}) \times 1.05
\]

\[ = 5 \% \text{ in the moment will take care of the 20\% lateral wind forces, AASHTO spec. computer runs verify by OT-stru)}

\[ \text{M} = \text{force} \times \text{height} = 20,142 \text{ lb-ft} \times 29.0 \text{ ft} = 593,663 \text{ lb-ft}
\]

Read from post type selection chart, left side corresponding to moment = 593,663 lb-ft

Read column V-5, which corresponds to the moment V-5, 24" NPS x 3/4" TK, split 10'.

However, for both sides use column size V-5, 24" NPS x 3/4" TK, split 10', the larger column section of the left & right side shall govern.

1. Legend:
   - Tx = Thickness
   - X = span

2. Dimensions are in feet

3. Moments calculated or shown on this sheet are "pseudo-moments" intended for use with the chart on this sheet. Do not provide all of the forces in the post that would result from detailed calculations, use where post height from bottom of base plate to Q of sign panel is between 21'-0" and 31'-0", and the details of the structure and sign panel conform to Standard Plans for two post truss. Center of the sign panel should be no higher than 43" above the surrounding terrain.