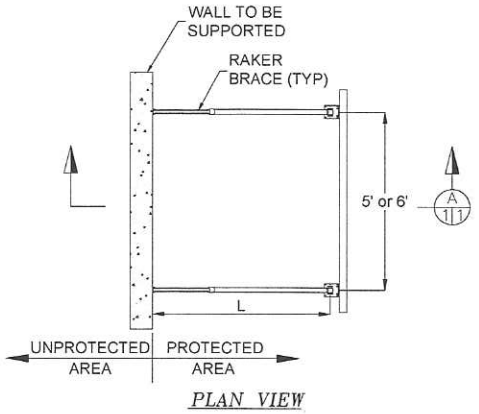
# Airshore Raker Rail Assembly With Midpoint Bracing

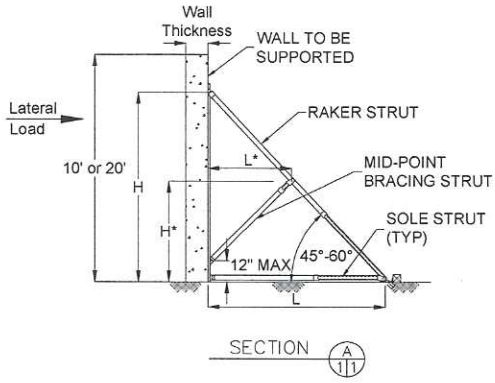
HURST JAWS OF LIFE® AIRSHORE

711 North Post Rd Shelby, NC 28150
704-487-6961 800-537-2659

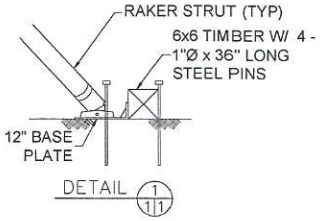
**Examples For Use of This Tabulated Data:**
Wall Bracing Against Wind and Seismic Forces



PLAN VIEW



SECTION A 1/1



DETAIL 1 1/1

## Braced Wall Against Wind Loading:

Example: Use rakers spaced at 6' max to support a wall that is 20' high'. The maximum anticipated wind speed is 80 mph. The raker strut shall be at a 45 degree angle.

* Allowable Values Are Bold

| Predicted Lateral Force-Wind | |
|---|---|
| Wind Speed (mph) | Force PSF |
| 50 | 17.2 |
| 60 | 24.7 |
| 70 | 33.6 |
| ***80*** | ***43.9*** |
| 90 | 55.6 |
| 100 | 68.6 |

Table 1

| 45 Degree Brace Strut | | | | | |
|---|---|---|---|---|---|
| Raker Strut Dimensions: (ft) | | | | Allowable Lateral Force (lbs) | Allowable Wall Pressure (psf) |
| H | L | H* | L* | | |
| ***6*** | ***6*** | ***3.5*** | ***2.5*** | ***18151*** | ***107*** |
| ***7*** | ***7*** | ***4*** | ***3*** | ***14202*** | ***84*** |
| ***8*** | ***8*** | ***4.5*** | ***3.5*** | ***11221*** | ***66*** |
| ***9*** | ***9*** | ***5*** | ***4*** | ***9089*** | ***54*** |
| ***10*** | ***10*** | ***5.5*** | ***4.5*** | ***7512*** | ***44*** |
| 11 | 11 | 6 | 5 | 6312 | 37 |
| 12 | 12 | 6.5 | 5.5 | 5378 | 32 |

| 60 Degree Brace Strut | | | | | |
|---|---|---|---|---|---|
| Raker Strut Dimensions: (ft) | | | | Maximum Lateral Force (lbs) | Allowable Wall Pressure (psf) |
| H | L | H* | L* | | |
| ***6*** | ***6*** | ***4.17*** | ***1.83*** | ***13068*** | ***54*** |
| 7 | 7 | 4.80 | 2.20 | 9847 | 41 |
| 8 | 8 | 5.44 | 2.56 | 7684 | 32 |
| 9 | 9 | 6.07 | 2.93 | 6164 | 26 |
| 10 | 10 | 6.71 | 3.29 | 5053 | 21 |
| 11 | 11 | 7.34 | 3.66 | 4218 | 18 |
| 12 | 12 | 7.97 | 4.03 | 3574 | 15 |

## Braced Concrete Wall Against Seismic Loading:

Example: Use rakers spaced at 6' max to support a wall that is 20' high'. The maximum thickness of the concrete wall to be supported is 12". The raker strut shall be at a 45 degree angle.

| Seismic Force = 0.3 x Weight | |
|---|---|
| Concrete Wall Thickness (in) | Force PSF |
| 6 | 22.5 |
| 8 | 30.0 |
| ***12*** | ***45.0*** |

Table 2

| 45 Degree Brace Strut | | | | | |
|---|---|---|---|---|---|
| Raker Strut Dimensions: (ft) | | | | Allowable Lateral Force (lbs) | Allowable Wall Pressure (psf) |
| H | L | H* | L* | | |
| ***6*** | ***6*** | ***3.5*** | ***2.5*** | ***18151*** | ***107*** |
| ***7*** | ***7*** | ***4*** | ***3*** | ***14202*** | ***84*** |
| ***8*** | ***8*** | ***4.5*** | ***3.5*** | ***11221*** | ***66*** |
| ***9*** | ***9*** | ***5*** | ***4*** | ***9089*** | ***54*** |
| 10 | 10 | 5.5 | 4.5 | 7512 | 44 |
| 11 | 11 | 6 | 5 | 6312 | 37 |
| 12 | 12 | 6.5 | 5.5 | 5378 | 32 |

| 60 Degree Brace Strut | | | | | |
|---|---|---|---|---|---|
| Raker Strut Dimensions: (ft) | | | | Maximum Lateral Force (lbs) | Allowable Wall Pressure (psf) |
| H | L | H* | L* | | |
| ***6*** | ***6*** | ***4.17*** | ***1.83*** | ***13068*** | ***54*** |
| 7 | 7 | 4.80 | 2.20 | 9847 | 41 |
| 8 | 8 | 5.44 | 2.56 | 7684 | 32 |
| 9 | 9 | 6.07 | 2.93 | 6164 | 26 |
| 10 | 10 | 6.71 | 3.29 | 5053 | 21 |
| 11 | 11 | 7.34 | 3.66 | 4218 | 18 |
| 12 | 12 | 7.97 | 4.03 | 3574 | 15 |

* Allowable Values Are Bold


**AIRSHORE RAKER RAIL ASSEMBLY WITH MIDPOINT BRACING**

*J.M. TURNER ENGINEERING, INC.*
*CONSULTING ENGINEERS*
*1325 COLLEGE AVE., SANTA ROSA, CA. 95404*
*(707) 528-4503 FAX (707) 528-4505*

| DATE: | REV DATE: | JOB NO: |
|---|---|---|
| 3/10/2011 | 3/13/2012 | 13088-1 |

# Airshore Raker Rail Assembly With Midpoint Bracing



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**Notes:**

1) Rakers should be connected to the piece being shored or they should be cross braced using a minimum of 2x6 cross bracing.

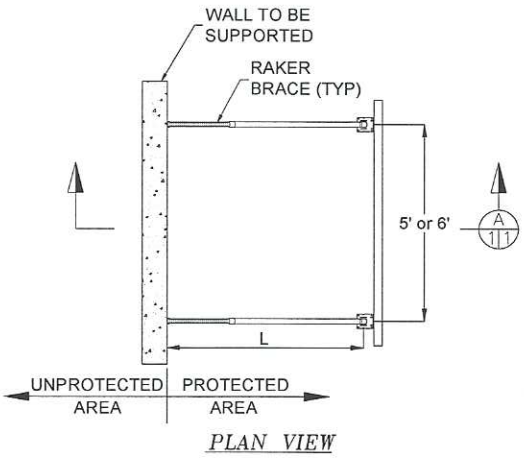
2) Raker struts and mid-point braces shall be configured so that the angle between them and the ground is at 45 degrees or 60 degrees. See diagrams below.

3) Light Duty or Heavy Duty Rails shall be used.

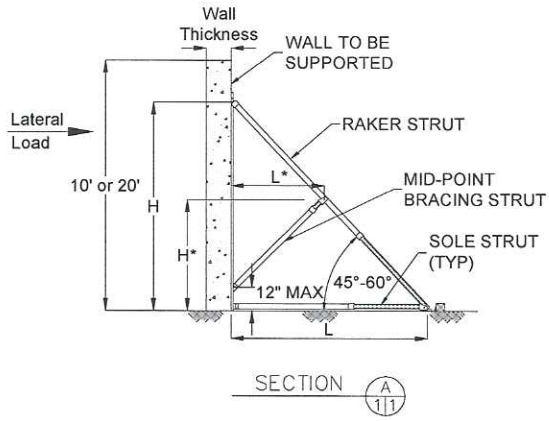
4) Use 1" diameter x 36" long steel pins to anchor base plates to the ground.

5) After braces are firmly in place they should be locked into place using locking mechanism.

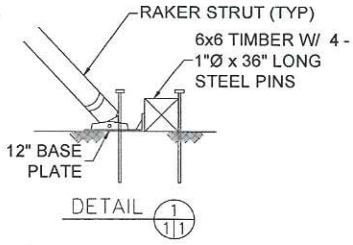
6) The Raker Brace System is intended for use in emergency situations. Caution should be used during installation and the installation should be checked by an engineer if they are left in place for any length of time.



PLAN VIEW



SECTION A 1|1



DETAIL 1 1|1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# Airshore Raker Rail Assembly With Midpoint Bracing



| Predicted Lateral Force-Wind | |
|---|---|
| Wind Speed (mph) | Force PSF |
| 50 | 17.2 |
| 60 | 24.7 |
| 70 | 33.6 |
| 80 | 43.9 |
| 90 | 55.6 |
| 100 | 68.6 |

Table 1

| Seismic Force = 0.3 x Weight | |
|---|---|
| Concrete Wall Thickness (in) | Force PSF |
| 6 | 22.5 |
| 8 | 30.0 |
| 12 | 45.0 |

Table 2

## 45 Degree Raker Strut
## Maximum Wall Height = 10 ft
## Maximum Raker Spacing = 5 ft

| 45 Degree Brace Strut | | | | | |
|---|---|---|---|---|---|
| Raker Strut Dimensions: (ft) | | | | Allowable Lateral | Allowable Wall |
| H | L | H* | L* | Force (lbs) | Pressure (psf) |
| 6 | 6 | 3.5 | 2.5 | 18151 | 257 |
| 7 | 7 | 4 | 3 | 14202 | 201 |
| 8 | 8 | 4.5 | 3.5 | 11221 | 159 |
| 9 | 9 | 5 | 4 | 9089 | 129 |
| 10 | 10 | 5.5 | 4.5 | 7512 | 106 |
| 11 | 11 | 6 | 5 | 6312 | 89 |
| 12 | 12 | 6.5 | 5.5 | 5378 | 76 |

| 60 Degree Brace Strut | | | | | |
|---|---|---|---|---|---|
| Raker Strut Dimensions: (ft) | | | | Allowable Lateral | Allowable Wall |
| H | L | H* | L* | Force (lbs) | Pressure (psf) |
| 6 | 6 | 4.17 | 1.83 | 13068 | 131 |
| 7 | 7 | 4.80 | 2.20 | 9847 | 98 |
| 8 | 8 | 5.44 | 2.56 | 7684 | 77 |
| 9 | 9 | 6.07 | 2.93 | 6164 | 62 |
| 10 | 10 | 6.71 | 3.29 | 5053 | 51 |
| 11 | 11 | 7.34 | 3.66 | 4218 | 42 |
| 12 | 12 | 7.97 | 4.03 | 3574 | 36 |

### Instructions For Use of Tabulated Data:

For Applications to Resist Wind Loads:

1) Determine the maximum anticipated wind speed. The corresponding wind force can be found in Table 1.

2) Choose the strut and mid-point brace orientation to be used from the tables labeled "45 Degree Brace Strut" and "60 Degree Brace Strut". The required wall pressure from Table 1 must be less than the max wall pressure specified for the chosen strut and brace orientations.

For Applications to Resist Seismic Loads on Concrete Walls:

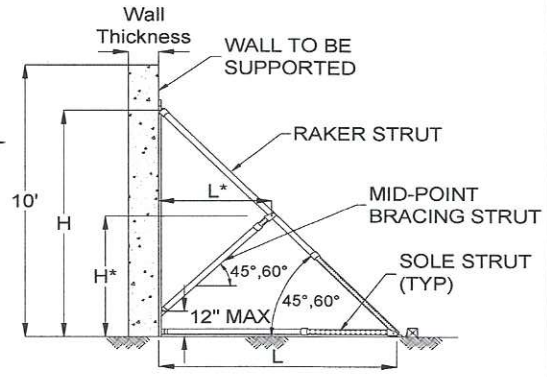
1) Determine the maximum wall thickness. The corresponding seismic force can be found in Table 2.

2) Choose the strut and mid-point brace orientation to be used from the tables labeled "45 Degree Brace Strut" and "60 Degree Brace Strut". The required wall pressure from Table 2 must be less than the max wall pressure specified for the chosen strut and brace orientations.

For Applications to Resist Other Lateral Loads:

1) Determine the maximum lateral load or pressure that will be exerted on the wall to be supported.

2) Choose the strut and mid-point brace orientation to be used from the tables labeled "45 Degree Brace Strut" and "60 Degree Brace Strut". The required lateral load or wall pressure must be less than the max lateral load or wall pressure specified for the chosen strut and brace orientations.





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| Predicted Lateral Force-Wind | |
|---|---|
| Wind Speed (mph) | Force PSF |
| 50 | 17.2 |
| 60 | 24.7 |
| 70 | 33.6 |
| 80 | 43.9 |
| 90 | 55.6 |
| 100 | 68.6 |

Table 1

| Seismic Force = 0.3 x Weight | |
|---|---|
| Concrete Wall Thickness (in) | Force PSF |
| 6 | 22.5 |
| 8 | 30.0 |
| 12 | 45.0 |

Table 2

## 45 Degree Raker Strut
## Maximum Wall Height = 10 ft
## Maximum Raker Spacing = 6 ft

| 45 Degree Brace Strut | | | | | |
|---|---|---|---|---|---|
| Raker Strut Dimensions: (ft) | | | | Allowable Lateral | Allowable Wall |
| H | L | H* | L* | Force (lbs) | Pressure (psf) |
| 6 | 6 | 3.5 | 2.5 | 18151 | 214 |
| 7 | 7 | 4 | 3 | 14202 | 167 |
| 8 | 8 | 4.5 | 3.5 | 11221 | 132 |
| 9 | 9 | 5 | 4 | 9089 | 107 |
| 10 | 10 | 5.5 | 4.5 | 7512 | 89 |
| 11 | 11 | 6 | 5 | 6312 | 74 |
| 12 | 12 | 6.5 | 5.5 | 5378 | 63 |

| 60 Degree Brace Strut | | | | | |
|---|---|---|---|---|---|
| Raker Strut Dimensions: (ft) | | | | Allowable Lateral | Allowable Wall |
| H | L | H* | L* | Force (lbs) | Pressure (psf) |
| 6 | 6 | 4.17 | 1.83 | 13068 | 109 |
| 7 | 7 | 4.80 | 2.20 | 9847 | 82 |
| 8 | 8 | 5.44 | 2.56 | 7684 | 64 |
| 9 | 9 | 6.07 | 2.93 | 6164 | 51 |
| 10 | 10 | 6.71 | 3.29 | 5053 | 42 |
| 11 | 11 | 7.34 | 3.66 | 4218 | 35 |
| 12 | 12 | 7.97 | 4.03 | 3574 | 30 |

### Instructions For Use of Tabulated Data:

For Applications to Resist Wind Loads:

1) Determine the maximum anticipated wind speed. The corresponding wind force can be found in Table 1.

2) Choose the strut and mid-point brace orientation to be used from the tables labeled "45 Degree Brace Strut" and "60 Degree Brace Strut". The required wall pressure from Table 1 must be less than the max wall pressure specified for the chosen strut and brace orientations.

For Applications to Resist Seismic Loads on Concrete Walls:

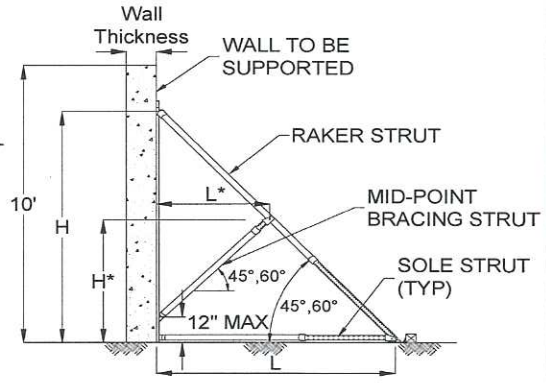
1) Determine the maximum wall thickness. The corresponding seismic force can be found in Table 2.

2) Choose the strut and mid-point brace orientation to be used from the tables labeled "45 Degree Brace Strut" and "60 Degree Brace Strut". The required wall pressure from Table 2 must be less than the max wall pressure specified for the chosen strut and brace orientations.

For Applications to Resist Other Lateral Loads:

1) Determine the maximum lateral load or pressure that will be exerted on the wall to be supported.

2) Choose the strut and mid-point brace orientation to be used from the tables labeled "45 Degree Brace Strut" and "60 Degree Brace Strut". The required lateral load or wall pressure must be less than the max lateral load or wall pressure specified for the chosen strut and brace orientations.




REGISTERED PROFESSIONAL ENGINEER
ADRIANUS J. VERMEULEN
No. 69082
Exp. 6/30/14
CIVIL
STATE OF CALIFORNIA

**AIRSHORE RAKER RAIL ASSEMBLY WITH MIDPOINT BRACING**

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| Predicted Lateral Force-Wind | |
|---|---|
| Wind Speed (mph) | Force PSF |
| 50 | 17.2 |
| 60 | 24.7 |
| 70 | 33.6 |
| 80 | 43.9 |
| 90 | 55.6 |
| 100 | 68.6 |

Table 1

| Seismic Force = 0.3 x Weight | |
|---|---|
| Concrete Wall Thickness (in) | Force PSF |
| 6 | 22.5 |
| 8 | 30.0 |
| 12 | 45.0 |

Table 2

## 45 Degree Raker Strut
## Maximum Wall Height = 20 ft
## Maximum Raker Spacing = 5 ft

| 45 Degree Brace Strut | | | | | |
|---|---|---|---|---|---|
| Raker Strut Dimensions: (ft) | | | | Allowable Lateral | Allowable Wall |
| H | L | H* | L* | Force (lbs) | Pressure (psf) |
| 6 | 6 | 3.5 | 2.5 | 18151 | 128 |
| 7 | 7 | 4 | 3 | 14202 | 100 |
| 8 | 8 | 4.5 | 3.5 | 11221 | 79 |
| 9 | 9 | 5 | 4 | 9089 | 64 |
| 10 | 10 | 5.5 | 4.5 | 7512 | 53 |
| 11 | 11 | 6 | 5 | 6312 | 45 |
| 12 | 12 | 6.5 | 5.5 | 5378 | 38 |

| 60 Degree Brace Strut | | | | | |
|---|---|---|---|---|---|
| Raker Strut Dimensions: (ft) | | | | Maximum Lateral | Allowable Wall |
| H | L | H* | L* | Force (lbs) | Pressure (psf) |
| 6 | 6 | 4.17 | 1.83 | 13068 | 65 |
| 7 | 7 | 4.80 | 2.20 | 9847 | 49 |
| 8 | 8 | 5.44 | 2.56 | 7684 | 38 |
| 9 | 9 | 6.07 | 2.93 | 6164 | 31 |
| 10 | 10 | 6.71 | 3.29 | 5053 | 25 |
| 11 | 11 | 7.34 | 3.66 | 4218 | 21 |
| 12 | 12 | 7.97 | 4.03 | 3574 | 18 |

### Instructions For Use of Tabulated Data:

For Applications to Resist Wind Loads:

1) Determine the maximum anticipated wind speed. The corresponding wind force can be found in Table 1.

2) Choose the strut and mid-point brace orientation to be used from the tables labeled "45 Degree Brace Strut" and "60 Degree Brace Strut". The required wall pressure from Table 1 must be less than the max wall pressure specified for the chosen strut and brace orientations.

For Applications to Resist Other Lateral Loads:

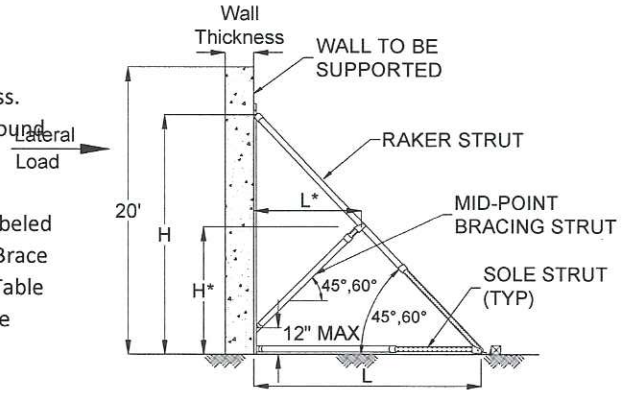
1) Determine the maximum lateral load or pressure that will be exerted on the wall to be supported.

2) Choose the strut and mid-point brace orientation to be used from the tables labeled "45 Degree Brace Strut" and "60 Degree Brace Strut". The required lateral load or wall pressure must be less than the max lateral load or wall pressure specified for the chosen strut and brace orientations.

For Applications to Resist Seismic Loads on Concrete Walls:

1) Determine the maximum wall thickness. The corresponding seismic force can be found in Table 2.

2) Choose the strut and mid-point brace orientation to be used from the tables labeled "45 Degree Brace Strut" and "60 Degree Brace Strut". The required wall pressure from Table 2 must be less than the max wall pressure specified for the chosen strut and brace orientations.





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| Predicted Lateral Force-Wind | |
|---|---|
| Wind Speed (mph) | Force PSF |
| 50 | 17.2 |
| 60 | 24.7 |
| 70 | 33.6 |
| 80 | 43.9 |
| 90 | 55.6 |
| 100 | 68.6 |

Table 1

| Seismic Force = 0.3 x Weight | |
|---|---|
| Concrete Wall Thickness (in) | Force PSF |
| 6 | 22.5 |
| 8 | 30.0 |
| 12 | 45.0 |

Table 2

## 45 Degree Raker Strut
## Maximum Wall Height = 20 ft
## Maximum Raker Spacing = 6 ft

| 45 Degree Brace Strut | | | | | |
|---|---|---|---|---|---|
| Raker Strut Dimensions: (ft) | | | | Allowable Lateral | Allowable Wall |
| H | L | H* | L* | Force (lbs) | Pressure (psf) |
| 6 | 6 | 3.5 | 2.5 | 18151 | 107 |
| 7 | 7 | 4 | 3 | 14202 | 84 |
| 8 | 8 | 4.5 | 3.5 | 11221 | 66 |
| 9 | 9 | 5 | 4 | 9089 | 54 |
| 10 | 10 | 5.5 | 4.5 | 7512 | 44 |
| 11 | 11 | 6 | 5 | 6312 | 37 |
| 12 | 12 | 6.5 | 5.5 | 5378 | 32 |

| 60 Degree Brace Strut | | | | | |
|---|---|---|---|---|---|
| Raker Strut Dimensions: (ft) | | | | Maximum Lateral | Allowable Wall |
| H | L | H* | L* | Force (lbs) | Pressure (psf) |
| 6 | 6 | 4.17 | 1.83 | 13068 | 54 |
| 7 | 7 | 4.80 | 2.20 | 9847 | 41 |
| 8 | 8 | 5.44 | 2.56 | 7684 | 32 |
| 9 | 9 | 6.07 | 2.93 | 6164 | 26 |
| 10 | 10 | 6.71 | 3.29 | 5053 | 21 |
| 11 | 11 | 7.34 | 3.66 | 4218 | 18 |
| 12 | 12 | 7.97 | 4.03 | 3574 | 15 |

### Instructions For Use of Tabulated Data:

For Applications to Resist Wind Loads:

1) Determine the maximum anticipated wind speed. The corresponding wind force can be found in Table 1.

2) Choose the strut and mid-point brace orientation to be used from the tables labeled "45 Degree Brace Strut" and "60 Degree Brace Strut". The required wall pressure from Table 1 must be less than the max wall pressure specified for the chosen strut and brace orientations.

For Applications to Resist Seismic Loads on Concrete Walls:

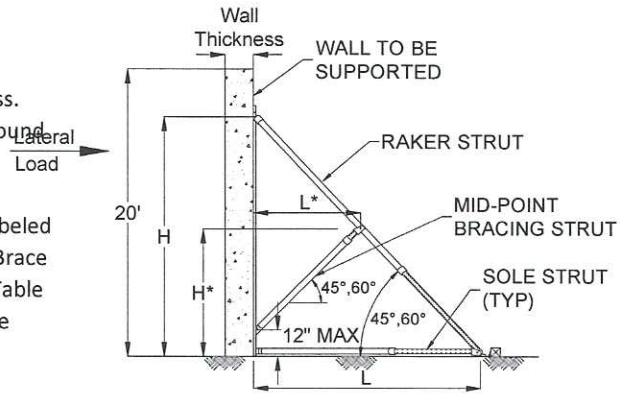
1) Determine the maximum wall thickness. The corresponding seismic force can be found in Table 2.

2) Choose the strut and mid-point brace orientation to be used from the tables labeled "45 Degree Brace Strut" and "60 Degree Brace Strut". The required wall pressure from Table 2 must be less than the max wall pressure specified for the chosen strut and brace orientations.

For Applications to Resist Other Lateral Loads:

1) Determine the maximum lateral load or pressure that will be exerted on the wall to be supported.

2) Choose the strut and mid-point brace orientation to be used from the tables labeled "45 Degree Brace Strut" and "60 Degree Brace Strut". The required lateral load or wall pressure must be less than the max lateral load or wall pressure specified for the chosen strut and brace orientations.





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| Predicted Lateral Force-Wind | |
|---|---|
| Wind Speed (mph) | Force PSF |
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| 60 | 24.7 |
| 70 | 33.6 |
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Table 1

| Seismic Force = 0.3 x Weight | |
|---|---|
| Concrete Wall Thickness (in) | Force PSF |
| 6 | 22.5 |
| 8 | 30.0 |
| 12 | 45.0 |

Table 2

## 60 Degree Raker Strut
## Maximum Wall Height = 10 ft
## Maximum Raker Spacing = 5 ft

| 45 Degree Brace Strut | | | | | |
|---|---|---|---|---|---|
| Raker Strut Dimensions: (ft) | | | | Allowable Lateral | Allowable Wall |
| H | L | H* | L* | Force (lbs) | Pressure (psf) |
| 6 | 3.46 | 2.83 | 1.83 | 21316 | 213 |
| 7 | 4.04 | 3.20 | 2.20 | 19519 | 195 |
| 8 | 4.62 | 3.56 | 2.56 | 17307 | 173 |
| 9 | 5.2 | 3.93 | 2.93 | 13250 | 133 |
| 10 | 5.77 | 4.29 | 3.29 | 10470 | 105 |
| 11 | 6.35 | 4.66 | 3.66 | 8480 | 85 |
| 12 | 6.93 | 5.03 | 4.03 | 7009 | 70 |

| 60 Degree Brace Strut | | | | | |
|---|---|---|---|---|---|
| Raker Strut Dimensions: (ft) | | | | Allowable Lateral | Allowable Wall |
| H | L | H* | L* | Force (lbs) | Pressure (psf) |
| 6 | 3 | 3.50 | 1.44 | 20380 | 204 |
| 7 | 4 | 4.00 | 1.73 | 18963 | 190 |
| 8 | 5 | 4.50 | 2.02 | 16832 | 168 |
| 9 | 5 | 5.00 | 2.31 | 13634 | 136 |
| 10 | 6 | 5.50 | 2.60 | 11268 | 113 |
| 11 | 6 | 6.00 | 2.89 | 9468 | 95 |
| 12 | 7 | 6.50 | 3.18 | 8067 | 81 |

### Instructions For Use of Tabulated Data:

For Applications to Resist Wind Loads:

1) Determine the maximum anticipated wind speed. The corresponding wind force can be found in Table 1.

2) Choose the strut and mid-point brace orientation to be used from the tables labeled "45 Degree Brace Strut" and "60 Degree Brace Strut". The required wall pressure from Table 1 must be less than the max wall pressure specified for the chosen strut and brace orientations.

For Applications to Resist Other Lateral Loads:

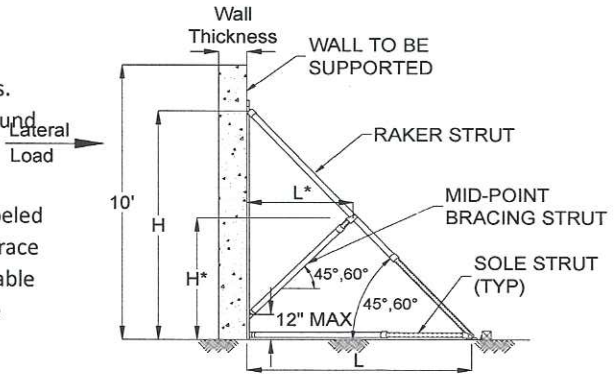
1) Determine the maximum lateral load or pressure that will be exerted on the wall to be supported.

2) Choose the strut and mid-point brace orientation to be used from the tables labeled "45 Degree Brace Strut" and "60 Degree Brace Strut". The required lateral load or wall pressure must be less than the max lateral load or wall pressure specified for the chosen strut and brace orientations.

For Applications to Resist Seismic Loads on Concrete Walls:

1) Determine the maximum wall thickness. The corresponding seismic force can be found in Table 2.

2) Choose the strut and mid-point brace orientation to be used from the tables labeled "45 Degree Brace Strut" and "60 Degree Brace Strut". The required wall pressure from Table 2 must be less than the max wall pressure specified for the chosen strut and brace orientations.




REGISTERED PROFESSIONAL ENGINEER
ADRIANUS J. VERMEULEN
No. 69082
Exp. 6/30/14
CIVIL
STATE OF CALIFORNIA

**AIRSHORE RAKER RAIL ASSEMBLY WITH MIDPOINT BRACING**

*J.M. TURNER ENGINEERING, INC.*
*CONSULTING ENGINEERS*
*1325 COLLEGE AVE., SANTA ROSA, CA. 95404*
*(707) 528-4503 FAX (707) 528-4505*

| DATE: | REV DATE: | JOB NO: |
|---|---|---|
| 3/10/2011 | 3/13/2012 | 13088-1 |

HURST JAWS OF LIFE® AIRSHORE

711 North Post Rd Shelby, NC 28150
704-487-6961 800-537-2659

# Airshore Raker Rail Assembly With Midpoint Bracing



| Predicted Lateral Force-Wind | |
|---|---|
| Wind Speed (mph) | Force PSF |
| 50 | 17.2 |
| 60 | 24.7 |
| 70 | 33.6 |
| 80 | 43.9 |
| 90 | 55.6 |
| 100 | 68.6 |

Table 1

| Seismic Force = 0.3 x Weight | |
|---|---|
| Concrete Wall Thickness (in) | Force PSF |
| 6 | 22.5 |
| 8 | 30.0 |
| 12 | 45.0 |

Table 2

## 60 Degree Raker Strut
## Maximum Wall Height = 10 ft
## Maximum Raker Spacing = 6 ft

| 45 Degree Brace Strut | | | | | |
|---|---|---|---|---|---|
| Raker Strut Dimensions: (ft) | | | | Allowable Lateral Force (lbs) | Allowable Wall Pressure (psf) |
| H | L | H* | L* | | |
| 6 | 3.46 | 2.83 | 1.83 | 21316 | 178 |
| 7 | 4.04 | 3.20 | 2.20 | 19519 | 163 |
| 8 | 4.62 | 3.56 | 2.56 | 17307 | 144 |
| 9 | 5.2 | 3.93 | 2.93 | 13250 | 110 |
| 10 | 5.77 | 4.29 | 3.29 | 10470 | 87 |
| 11 | 6.35 | 4.66 | 3.66 | 8480 | 71 |
| 12 | 6.93 | 5.03 | 4.03 | 7009 | 58 |

| 60 Degree Brace Strut | | | | | |
|---|---|---|---|---|---|
| Raker Strut Dimensions: (ft) | | | | Allowable Lateral Force (lbs) | Allowable Wall Pressure (psf) |
| H | L | H* | L* | | |
| 6 | 3 | 3.50 | 1.44 | 20380 | 170 |
| 7 | 4 | 4.00 | 1.73 | 18963 | 158 |
| 8 | 5 | 4.50 | 2.02 | 16832 | 140 |
| 9 | 5 | 5.00 | 2.31 | 13634 | 114 |
| 10 | 6 | 5.50 | 2.60 | 11268 | 94 |
| 11 | 6 | 6.00 | 2.89 | 9468 | 79 |
| 12 | 7 | 6.50 | 3.18 | 8067 | 67 |

### Instructions For Use of Tabulated Data:

For Applications to Resist Wind Loads:

1) Determine the maximum anticipated wind speed. The corresponding wind force can be found in Table 1.

2) Choose the strut and mid-point brace orientation to be used from the tables labeled "45 Degree Brace Strut" and "60 Degree Brace Strut". The required wall pressure from Table 1 must be less than the max wall pressure specified for the chosen strut and brace orientations.

For Applications to Resist Other Lateral Loads:

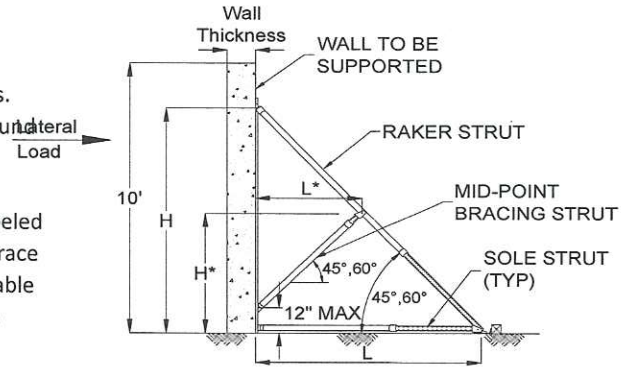
1) Determine the maximum lateral load or pressure that will be exerted on the wall to be supported.

2) Choose the strut and mid-point brace orientation to be used from the tables labeled "45 Degree Brace Strut" and "60 Degree Brace Strut". The required lateral load or wall pressure must be less than the max lateral load or wall pressure specified for the chosen strut and brace orientations.

For Applications to Resist Seismic Loads on Concrete Walls:

1) Determine the maximum wall thickness. The corresponding seismic force can be found in Table 2.

2) Choose the strut and mid-point brace orientation to be used from the tables labeled "45 Degree Brace Strut" and "60 Degree Brace Strut". The required wall pressure from Table 2 must be less than the max wall pressure specified for the chosen strut and brace orientations.





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# Airshore Raker Rail Assembly With Midpoint Bracing



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704-487-6961 800-537-2659

| Predicted Lateral Force-Wind | |
|---|---|
| Wind Speed (mph) | Force PSF |
| 50 | 17.2 |
| 60 | 24.7 |
| 70 | 33.6 |
| 80 | 43.9 |
| 90 | 55.6 |
| 100 | 68.6 |

Table 1

| Seismic Force = 0.3 x Weight | |
|---|---|
| Concrete Wall Thickness (in) | Force PSF |
| 6 | 22.5 |
| 8 | 30.0 |
| 12 | 45.0 |

Table 2

## 60 Degree Raker Strut
## Maximum Wall Height = 20 ft
## Maximum Raker Spacing = 5 ft

| 45 Degree Brace Strut | | | | | |
|---|---|---|---|---|---|
| Raker Strut Dimensions: (ft) | | | | Allowable Lateral Force (lbs) | Allowable Wall Pressure (psf) |
| H | L | H* | L* | | |
| 6 | 3.46 | 2.83 | 1.83 | 21316 | 107 |
| 7 | 4.04 | 3.20 | 2.20 | 19519 | 98 |
| 8 | 4.62 | 3.56 | 2.56 | 17307 | 87 |
| 9 | 5.2 | 3.93 | 2.93 | 13250 | 66 |
| 10 | 5.77 | 4.29 | 3.29 | 10470 | 52 |
| 11 | 6.35 | 4.66 | 3.66 | 8480 | 42 |
| 12 | 6.93 | 5.03 | 4.03 | 7009 | 35 |

| 60 Degree Brace Strut | | | | | |
|---|---|---|---|---|---|
| Raker Strut Dimensions: (ft) | | | | Allowable Lateral Force (lbs) | Allowable Wall Pressure (psf) |
| H | L | H* | L* | | |
| 6 | 3 | 3.50 | 1.44 | 20380 | 102 |
| 7 | 4 | 4.00 | 1.73 | 18963 | 95 |
| 8 | 5 | 4.50 | 2.02 | 16832 | 84 |
| 9 | 5 | 5.00 | 2.31 | 13634 | 68 |
| 10 | 6 | 5.50 | 2.60 | 11268 | 56 |
| 11 | 6 | 6.00 | 2.89 | 9468 | 47 |
| 12 | 7 | 6.50 | 3.18 | 8067 | 40 |

### Instructions For Use of Tabulated Data:

For Applications to Resist Wind Loads:

1) Determine the maximum anticipated wind speed. The corresponding wind force can be found in Table 1.

2) Choose the strut and mid-point brace orientation to be used from the tables labeled "45 Degree Brace Strut" and "60 Degree Brace Strut". The required wall pressure from Table 1 must be less than the max wall pressure specified for the chosen strut and brace orientations.

For Applications to Resist Seismic Loads on Concrete Walls:

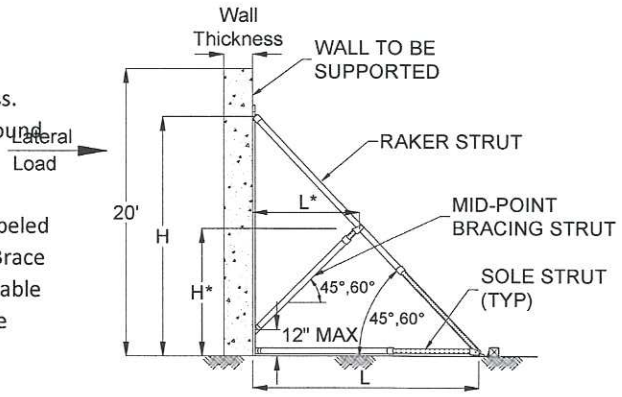
1) Determine the maximum wall thickness. The corresponding seismic force can be found in Table 2.

2) Choose the strut and mid-point brace orientation to be used from the tables labeled "45 Degree Brace Strut" and "60 Degree Brace Strut". The required wall pressure from Table 2 must be less than the max wall pressure specified for the chosen strut and brace orientations.

For Applications to Resist Other Lateral Loads:

1) Determine the maximum lateral load or pressure that will be exerted on the wall to be supported.

2) Choose the strut and mid-point brace orientation to be used from the tables labeled "45 Degree Brace Strut" and "60 Degree Brace Strut". The required lateral load or wall pressure must be less than the max lateral load or wall pressure specified for the chosen strut and brace orientations.





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| Predicted Lateral Force-Wind | |
|---|---|
| Wind Speed (mph) | Force PSF |
| 50 | 17.2 |
| 60 | 24.7 |
| 70 | 33.6 |
| 80 | 43.9 |
| 90 | 55.6 |
| 100 | 68.6 |

Table 1

| Seismic Force = 0.3 x Weight | |
|---|---|
| Concrete Wall Thickness (in) | Force PSF |
| 6 | 22.5 |
| 8 | 30.0 |
| 12 | 45.0 |

Table 2

## 60 Degree Raker Strut
## Maximum Wall Height = 20 ft
## Maximum Raker Spacing = 6 ft

| 45 Degree Brace Strut | | | | | |
|---|---|---|---|---|---|
| Raker Strut Dimensions: (ft) | | | | Allowable Lateral | Allowable Wall |
| H | L | H* | L* | Force (lbs) | Pressure (psf) |
| 6 | 3.46 | 2.83 | 1.83 | 21316 | 89 |
| 7 | 4.04 | 3.20 | 2.20 | 19519 | 81 |
| 8 | 4.62 | 3.56 | 2.56 | 17307 | 72 |
| 9 | 5.2 | 3.93 | 2.93 | 13250 | 55 |
| 10 | 5.77 | 4.29 | 3.29 | 10470 | 44 |
| 11 | 6.35 | 4.66 | 3.66 | 8480 | 35 |
| 12 | 6.93 | 5.03 | 4.03 | 7009 | 29 |

| 60 Degree Brace Strut | | | | | |
|---|---|---|---|---|---|
| Raker Strut Dimensions: (ft) | | | | Allowable Lateral | Allowable Wall |
| H | L | H* | L* | Force (lbs) | Pressure (psf) |
| 6 | 3 | 3.50 | 1.44 | 20380 | 85 |
| 7 | 4 | 4.00 | 1.73 | 18963 | 79 |
| 8 | 5 | 4.50 | 2.02 | 16832 | 70 |
| 9 | 5 | 5.00 | 2.31 | 13634 | 57 |
| 10 | 6 | 5.50 | 2.60 | 11268 | 47 |
| 11 | 6 | 6.00 | 2.89 | 9468 | 39 |
| 12 | 7 | 6.50 | 3.18 | 8067 | 34 |

### Instructions For Use of Tabulated Data:

For Applications to Resist Wind Loads:

1) Determine the maximum anticipated wind speed. The corresponding wind force can be found in Table 1.

2) Choose the strut and mid-point brace orientation to be used from the tables labeled "45 Degree Brace Strut" and "60 Degree Brace Strut". The required wall pressure from Table 1 must be less than the max wall pressure specified for the chosen strut and brace orientations.

For Applications to Resist Other Lateral Loads:

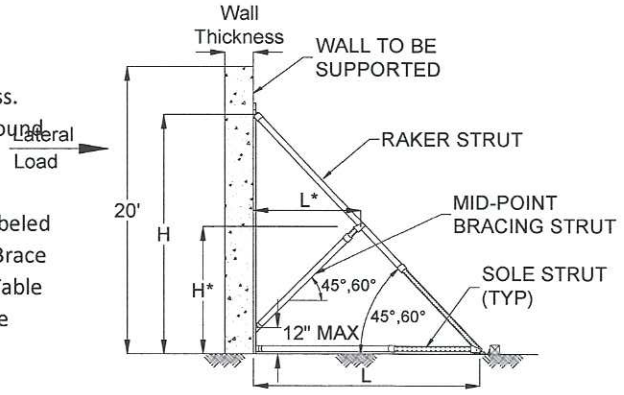
1) Determine the maximum lateral load or pressure that will be exerted on the wall to be supported.

2) Choose the strut and mid-point brace orientation to be used from the tables labeled "45 Degree Brace Strut" and "60 Degree Brace Strut". The required lateral load or wall pressure must be less than the max lateral load or wall pressure specified for the chosen strut and brace orientations.

For Applications to Resist Seismic Loads on Concrete Walls:

1) Determine the maximum wall thickness. The corresponding seismic force can be found in Table 2.

2) Choose the strut and mid-point brace orientation to be used from the tables labeled "45 Degree Brace Strut" and "60 Degree Brace Strut". The required wall pressure from Table 2 must be less than the max wall pressure specified for the chosen strut and brace orientations.





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